

# **ABS Enterprise®**

## **Virtualization Guide - StorageCraft**

May 2013

Windows 7/2008 appliances



## Contents

Accessing ABS Appliance® .....	3
Creating Virtual Machine .....	4
Configuring Virtual Machine .....	9
Production Failover Mode .....	12
Testing with Host-Only Mode .....	13
Testing with Secondary Network .....	14
Quick Virtual Machine Testing .....	15
Advanced Configuration of Virtual Machine .....	16
Virtual Machine Troubleshooting .....	26
Shutdown and Cleanup of Virtual Machine .....	34

## Accessing ABS Appliance®

### 1. Remote Desktop

**i** The following steps must be performed on a computer that is connected to the **same network** as the ABS Appliance

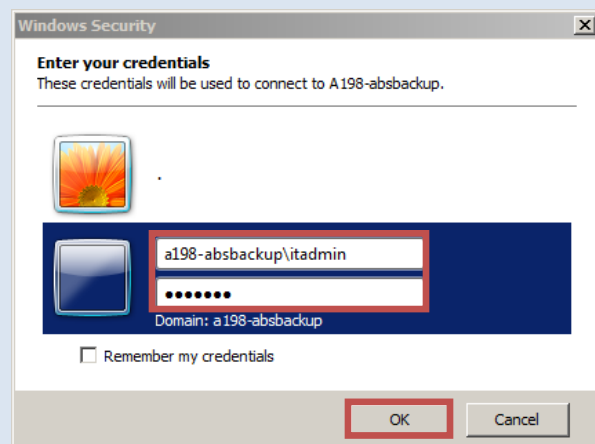
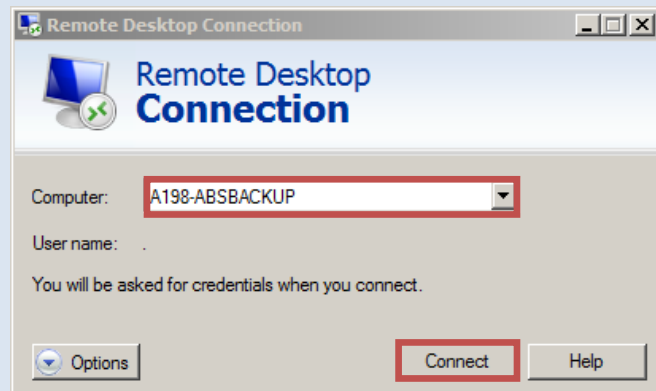
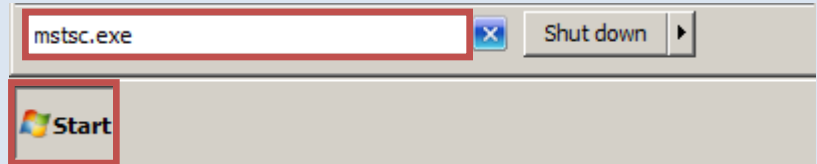
- Click the **Start Menu**
- In the search box, type **mstsc.exe**, hit **Enter**

**i** You can also access Remote Desktop by going to:  
**Start>All Programs>Accessories>Remote Desktop Connection**

- In the **Computer** section, type in the name of the ABS Appliance or the static IP you assigned to the appliance, click **Connect**

**i** If you do not know the name of the ABS Appliance, refer to your **Activation Letter**

- Select **Use Another Account**
- Use the following username to log in:  
**axxx-absbackup\itadmin**  
(replace "xxx" with the appliance number)
- Use the password provided in the **Activation Letter**
- Click **OK**



## Creating Virtual Machine

### 1. Selecting Recovery Image

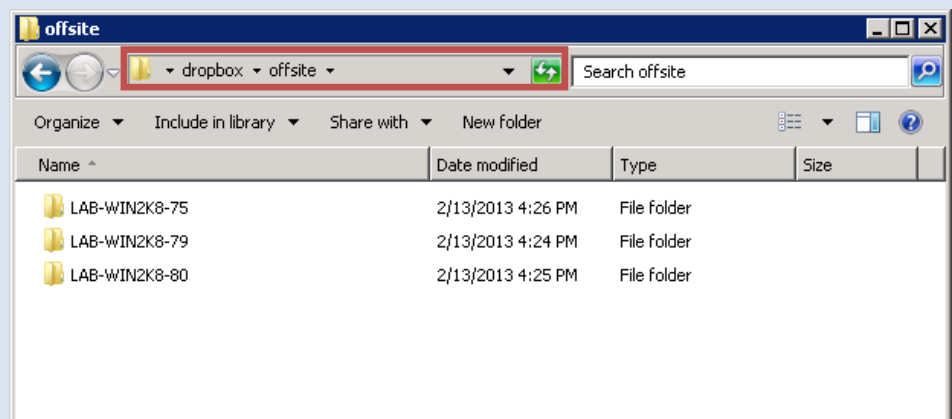
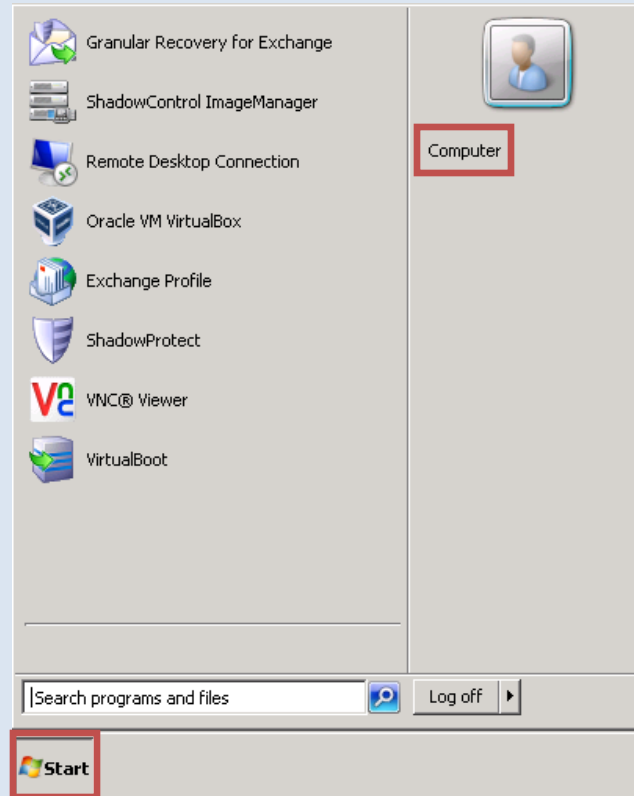
- Click the **Start Button**, select **Computer**
- Navigate to **D:\dropbox**
- Double click on the appropriate storage folder

**i** You will find an **offsite** and an **onsite** folder under **dropbox**

The **offsite** folder is used for storing snapshots that are being replicated to the **ABS Cloud**

The **onsite** folder is used for storing snapshots locally on the appliance (not replicated to the **ABS Cloud**)

- Double click the **name of the machine** you want to boot up as a virtual machine on the ABS Appliance



- e. Select the **Image File** you wish to boot up the virtual machine from

**i** Feel free to organize the recovery images by the "date modified" for easier navigation.

The naming scheme for the images follows this format:  
**Volume name-Base number-Incremental number**

CD = Consolidated Daily  
CW = Consolidated Weekly  
CM = Consolidated Monthly

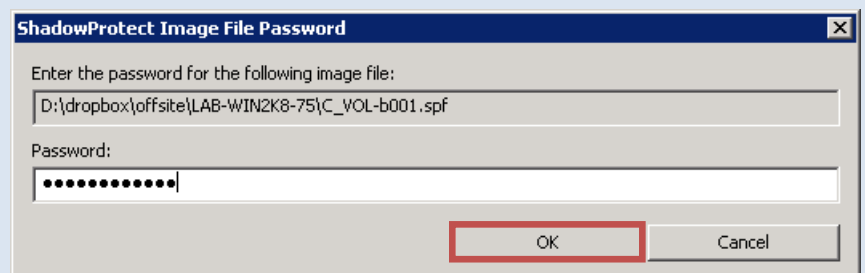
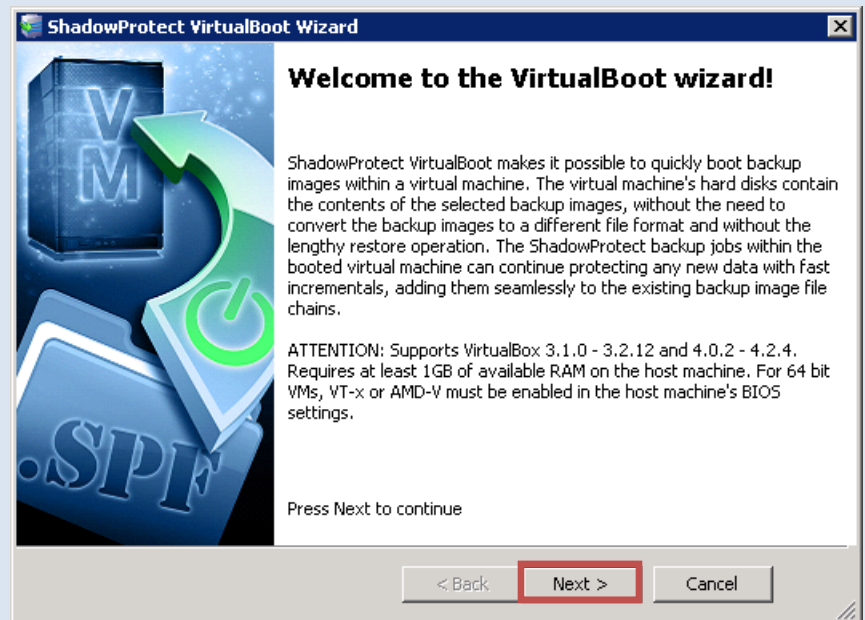
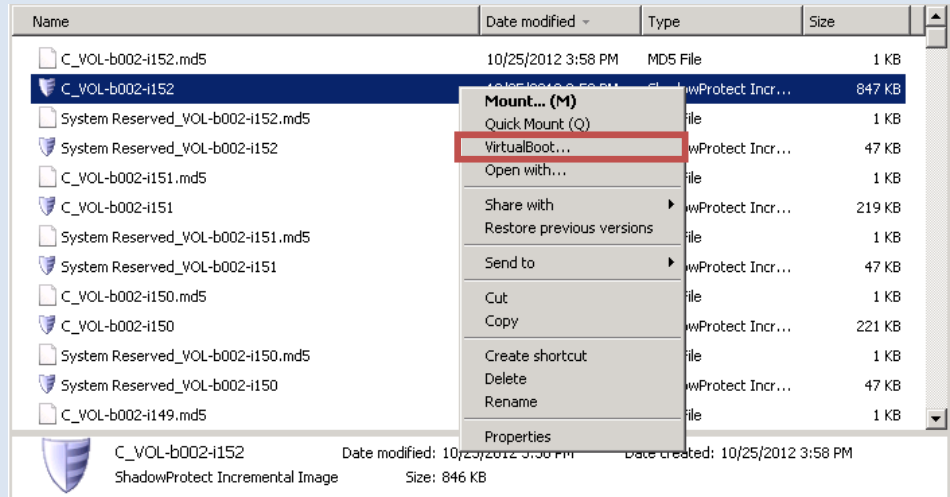
## 2. Virtual Boot From Image

- a. Right click the **Image File**, select **VirtualBoot...**
- b. The **ShadowProtect VirtualBoot Wizard** will open
- c. Click **Next**

- d. When prompted, type in the **ABS Encryption Password**

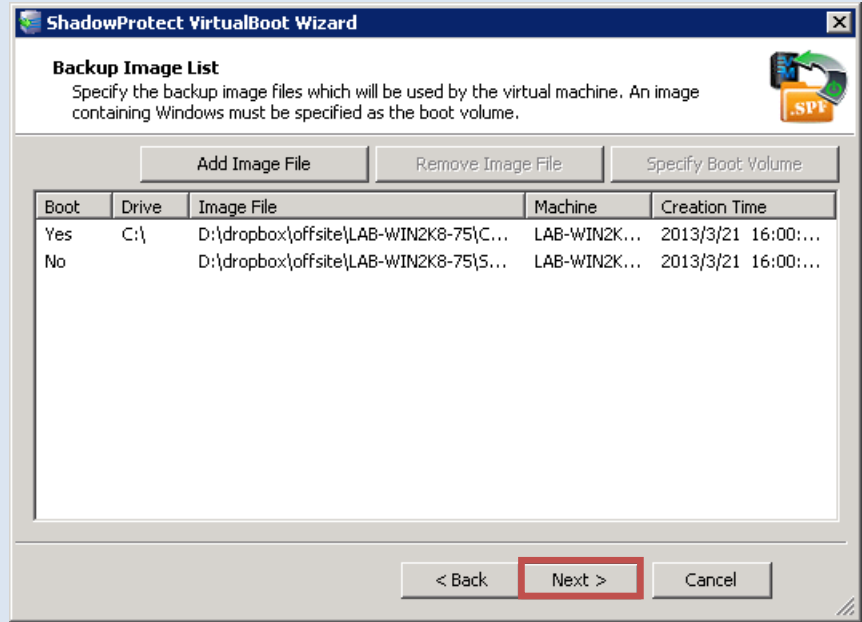
**i** Use the same encryption password as the initial setup of the machine. If you used the ABS provided password, you can find it in the **Activation Letter**.

- e. Click **OK**



**!** Verify that all the appropriate drives of the machine are present and the boot volume is configured accordingly. Use the **Add Image File**, **Remove Image File**, and **Specify Boot Volume** to edit the configuration if necessary.

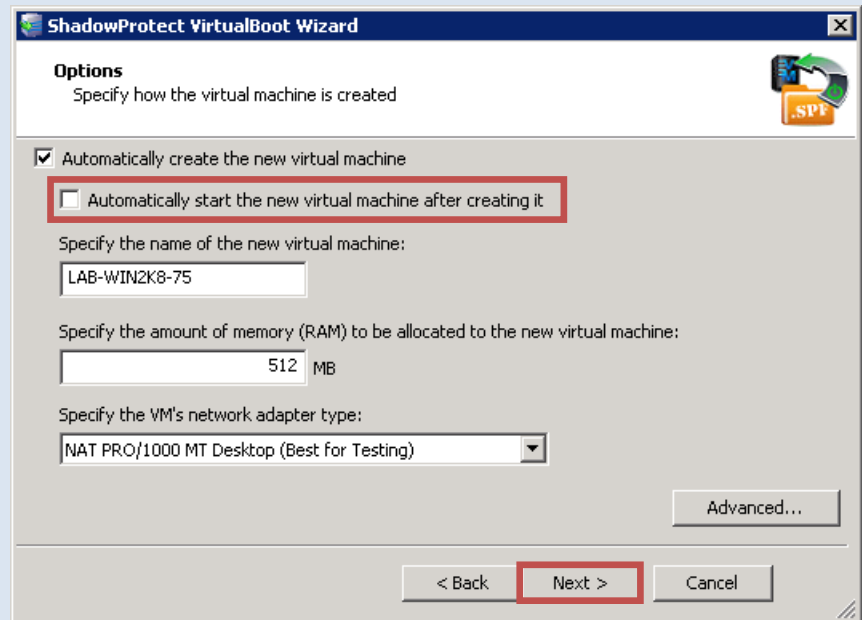
f. Click **Next**



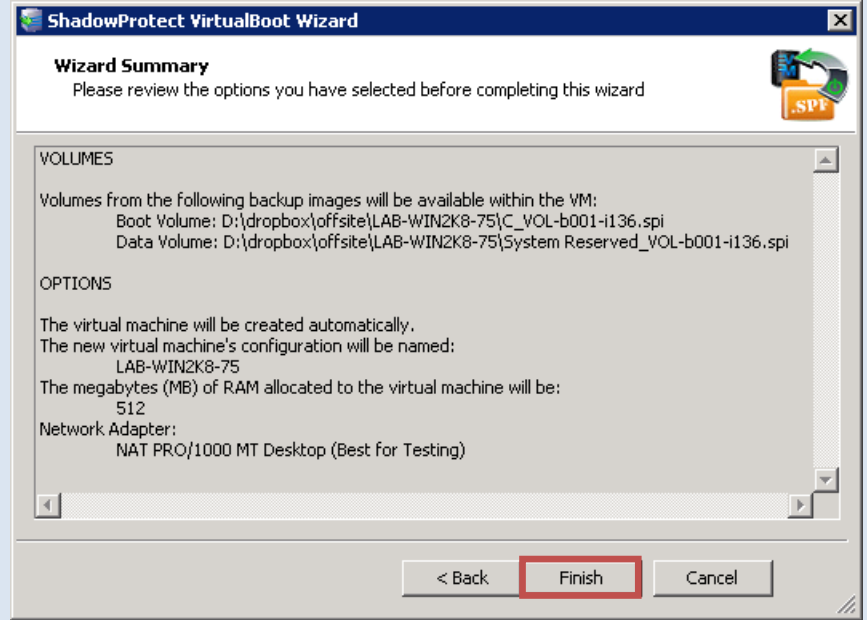
g. Uncheck **Automatically start the new virtual machine...**

h. Click **Next**

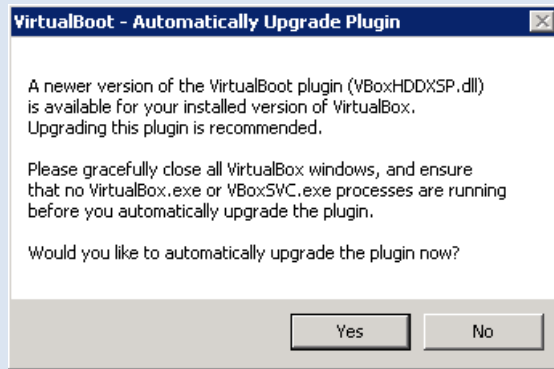
**i** It is not necessary to specify the amount of **RAM** and **Network Adapter** at this time. These settings will be configured later.



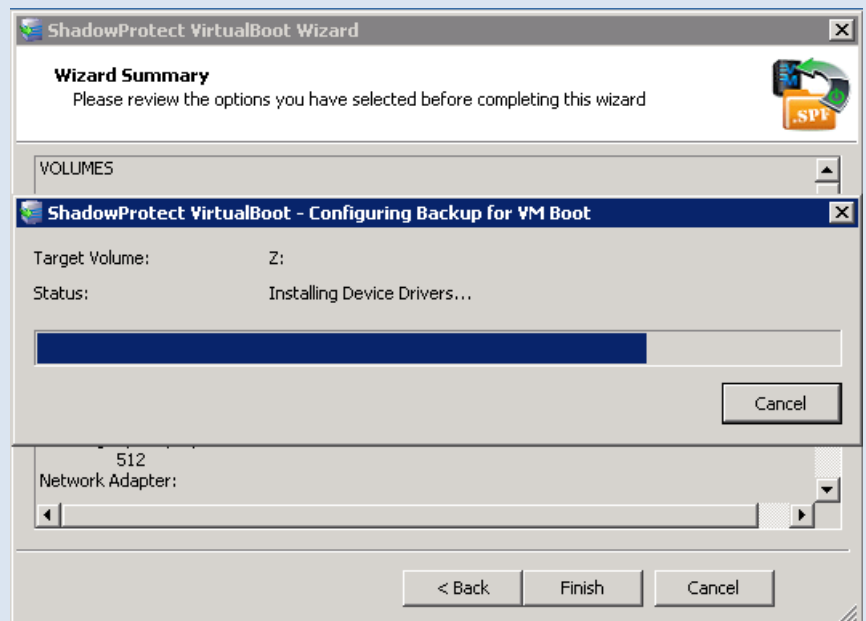
i. Click **Finish**



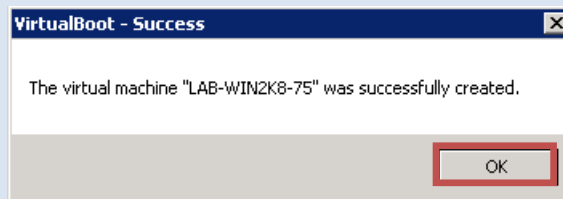
! If the VirtualBoot wizard prompts you to install a newer version of the VirtualBoot plugin, click **Yes**



j. The virtual machine will now be built, this can take a few minutes



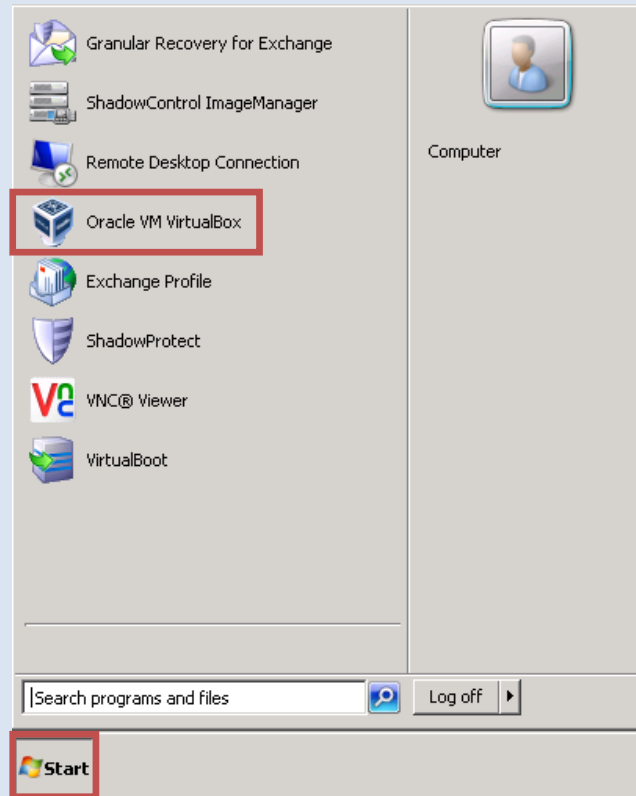
k. Once the virtual machine is built, click **OK**



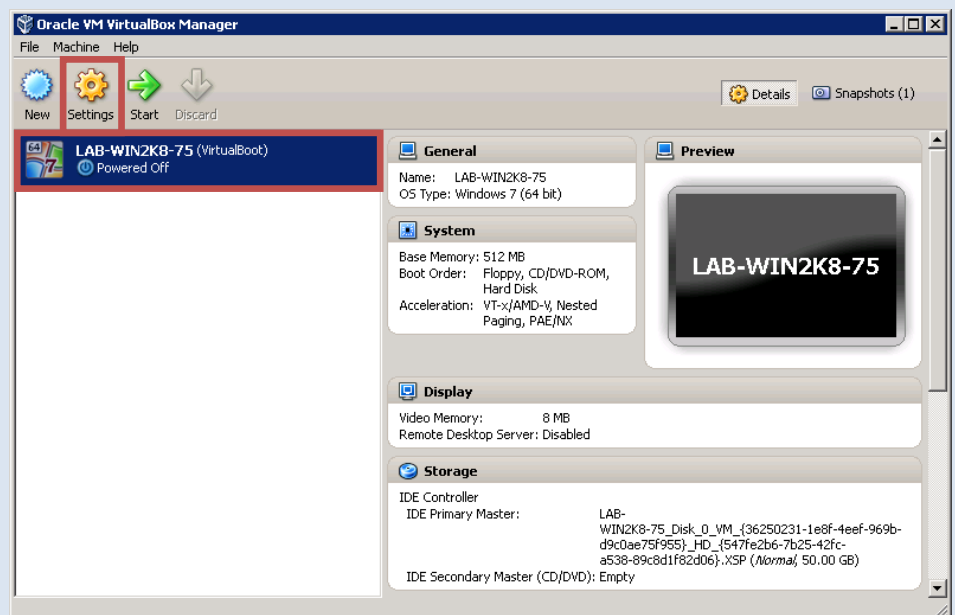
## Configuring Virtual Machine

### 1. Edit VM Settings

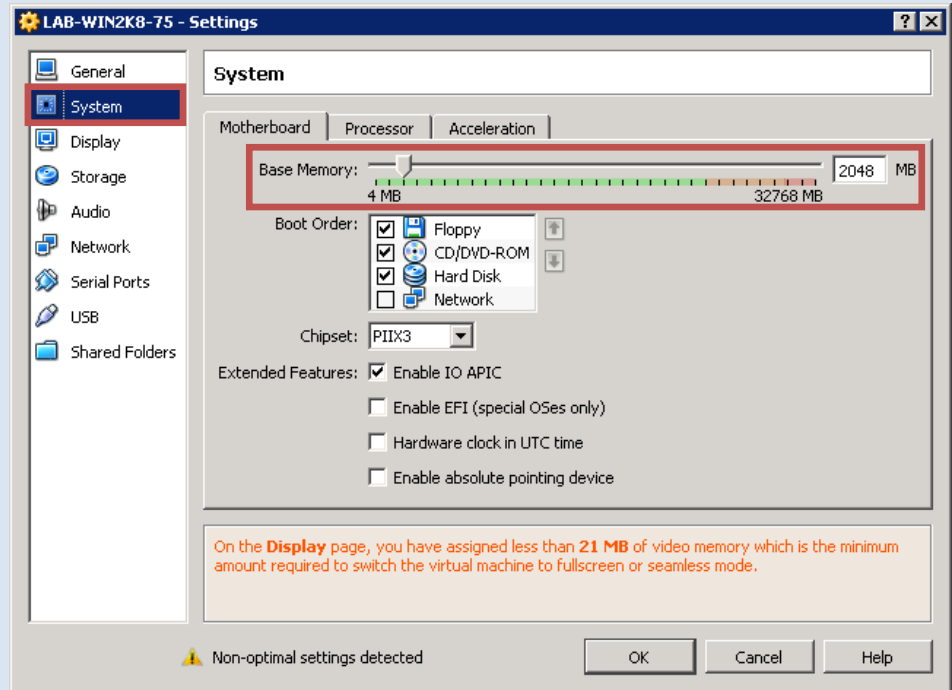
- Click the **Start Button**
- Open **Oracle VM VirtualBox**



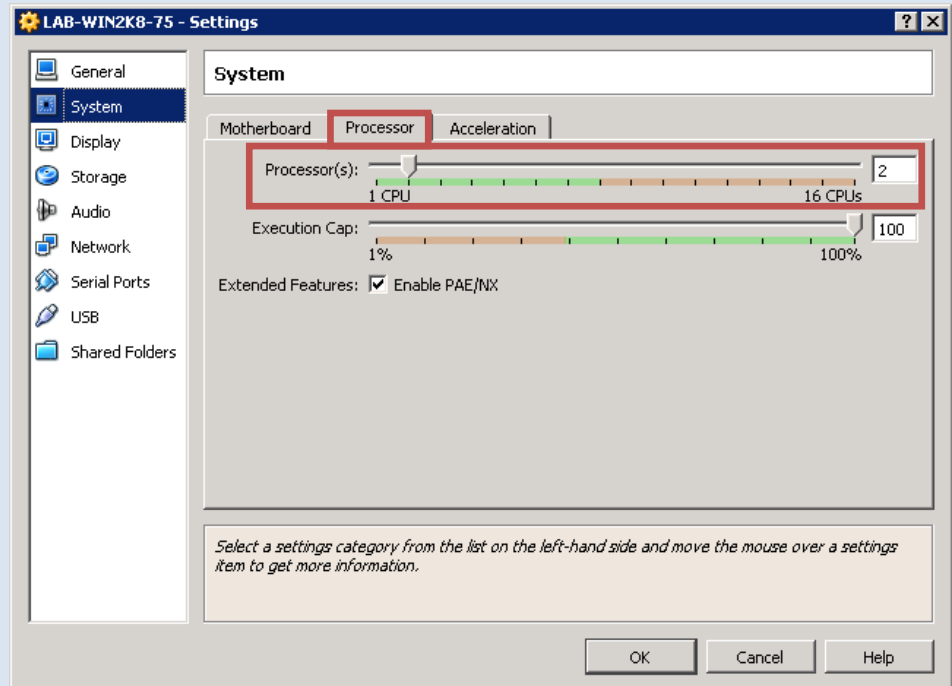
- Click on the Virtual Machine that was created
- Click **Settings**




- e. Click **System**
- f. Specify the amount of **Base Memory** you wish to allocate to the virtual machine



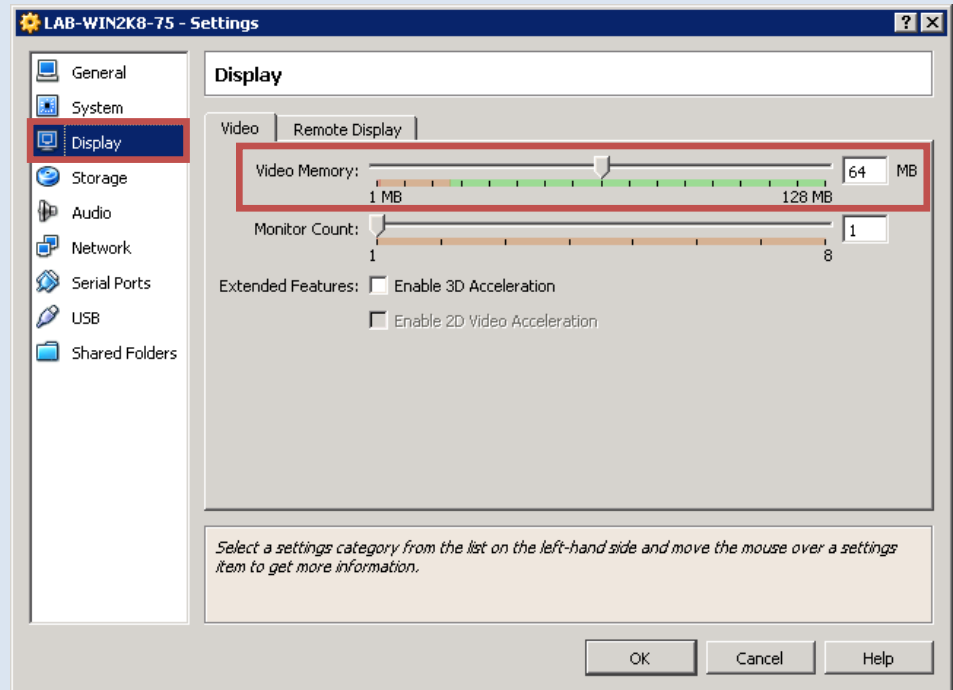
- g. Click the **Processor** tab
- h. Select the number of **Processors** to be allocated to the system



- i. Click **Display**
- j. Change **Video Memory** to **64MB**

 Proceed to the one of the following sections of the guide to setup the network configuration:

- Production Failover - pg #12
- Testing with Host Only- pg #13
- Testing with Secondary Network- pg #14
- Quick Virtual Machine Testing- pg #15



## Production Failover Mode

### 1. Network Adapter

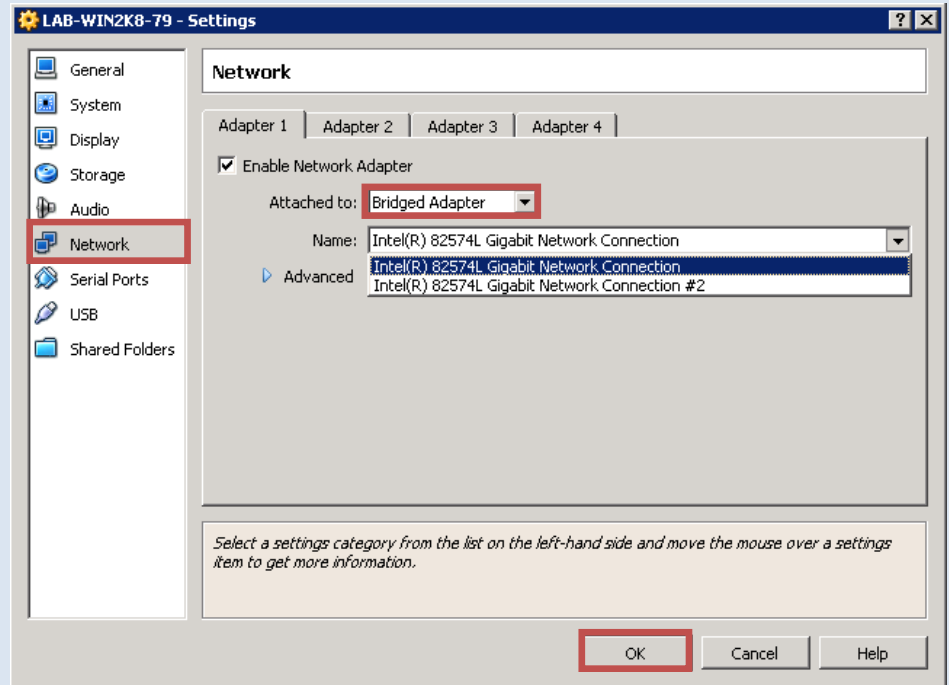
**i** This configuration is designed to be used as a failover in case the protected server goes down.

- Click **Network**
- From the **Attached to:** drop down, select **Bridged Adapter**
- Select the network adapter that is connected to your **corporate network**

**i** To verify what network adapter of the ABS Appliance is connected to the corporate network, go to the desktop, right click **Network**, click Properties, click **Change Adapter Settings**

- Click **OK**

**!** Proceed to the **Advanced Configuration of Virtual Machine** (page #16) section of the guide to complete the VM Boot process.



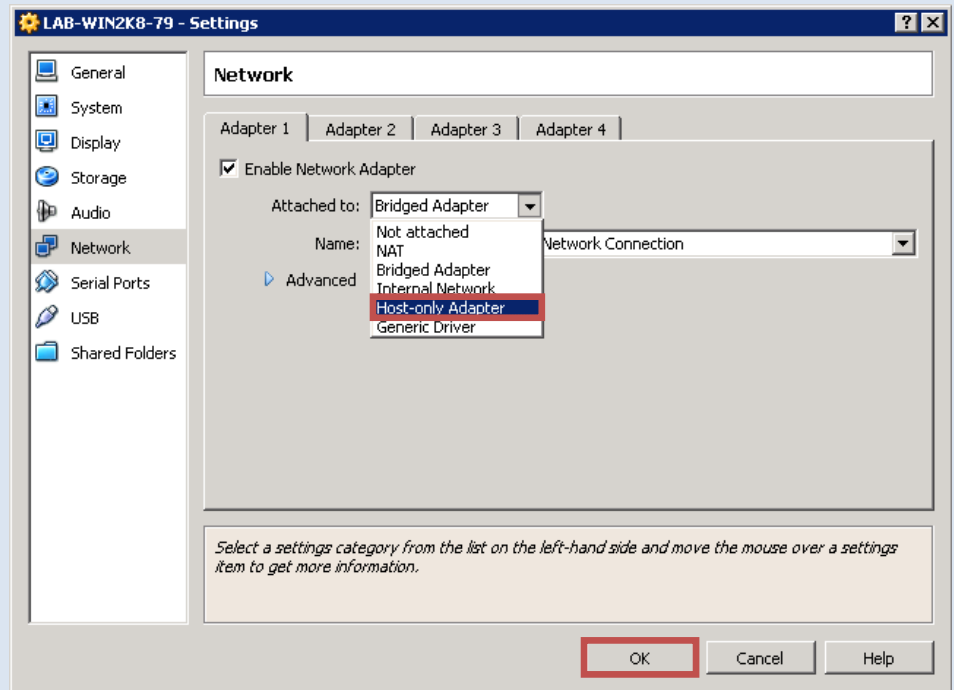
## Testing with Host-Only Mode

### 1. Network Adapter

**i** This configuration is designed to be used as a testing platform which allows isolated network communication between virtual machines booted up on the appliance. This testing method connects the VM to a virtual switch.

- Click **Network**
- From the **Attached to:** drop down, select **Host-only Adapter**
- Click **OK**

**!** Proceed to the **Advanced Configuration of Virtual Machine** (page #16) section of the guide to complete the VM Boot process.



## Testing with Secondary Network

### 1. Network Adapter

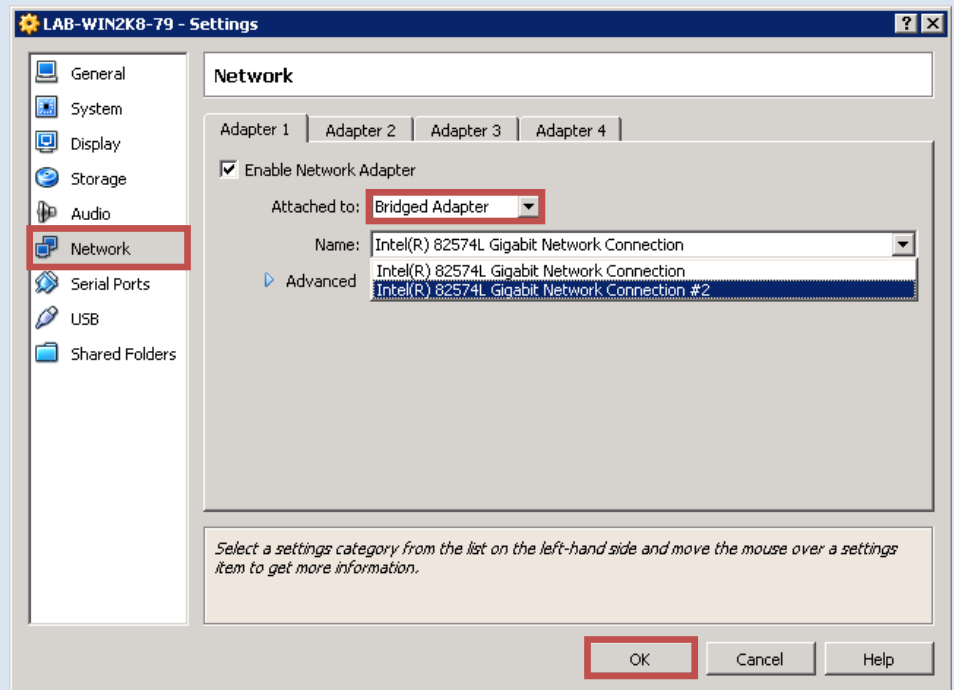
**i** This configuration is designed to be used as a testing platform which allows isolated network communication between virtual machines on the appliance and networks connected to the selected network card.

- Click **Network**
- From the **Attached to:** drop down, select **Bridged Adapter**
- Select the network adapter that is either **unused** or connected to a **test network**

**i** To verify what network adapter of the ABS Appliance is connected to the testing network, go to the desktop, right click **Network**, click **Properties** and click **Change Adapter Settings**

- Click **OK**

**!** Proceed to the **Advanced Configuration of Virtual Machine** (page #16) section of the guide to complete the VM Boot process.

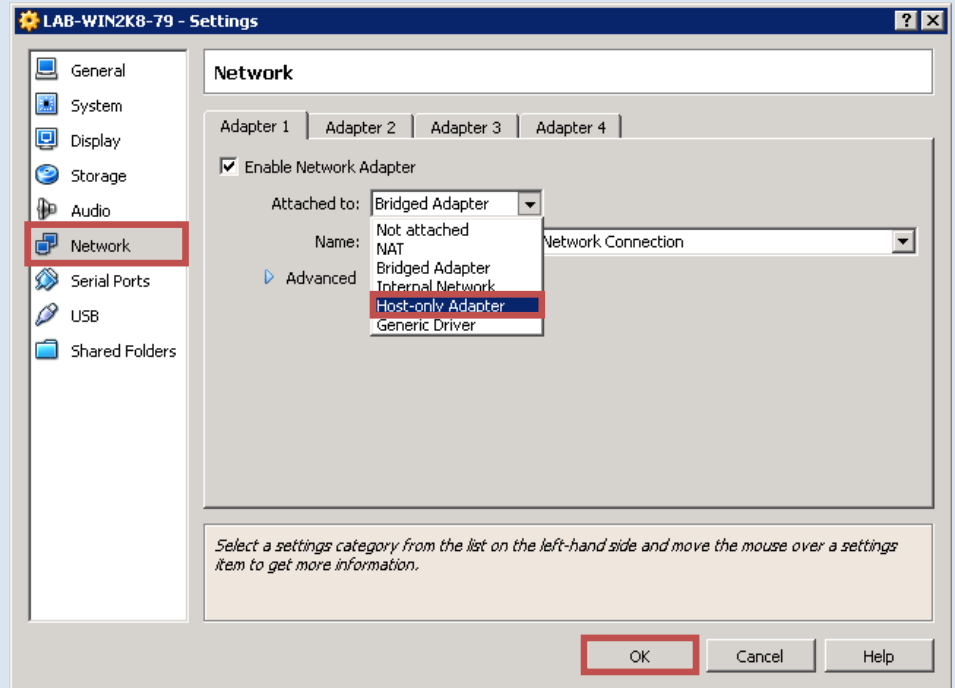


## Quick Virtual Machine Testing

### 1. Network Adapter

**i** This configuration is designed to be used for quick testing without any further need for configuration. Note that this testing method may not always be successful.

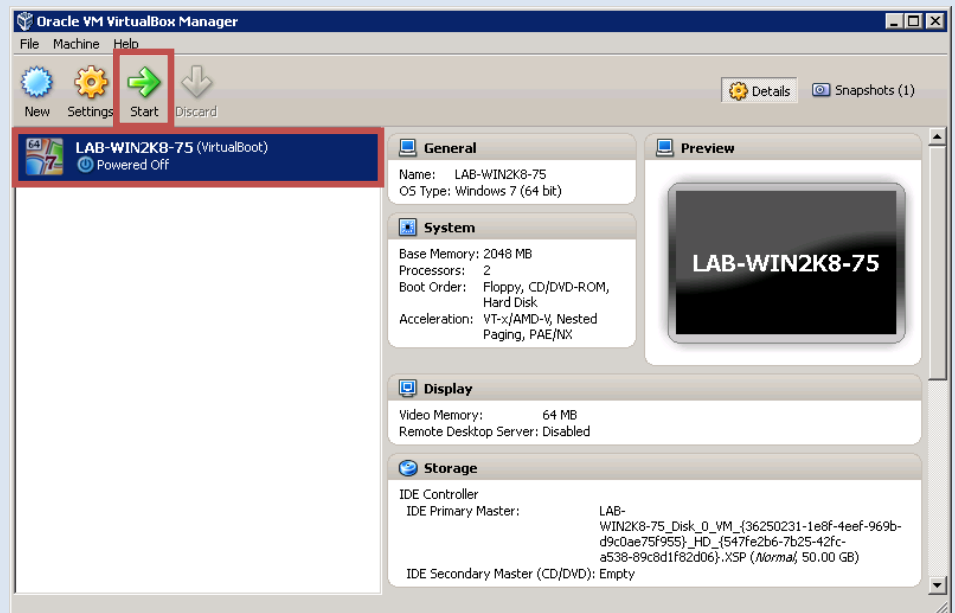
- d. Click **Network**
- e. From the **Attached to:** drop down, select **Host-only Adapter**
- f. Click **OK**



### 2. Start VM

- a. Click the **Virtual Machine**
- b. Click **Start**


**i** Feel free to login to the machine to test out functionality. If the boot process is not successful, refer to the **Advanced Configuration of Virtual Machine**(page#16) and **Virtual Machine Troubleshooting** (page#26) sections of this guide.



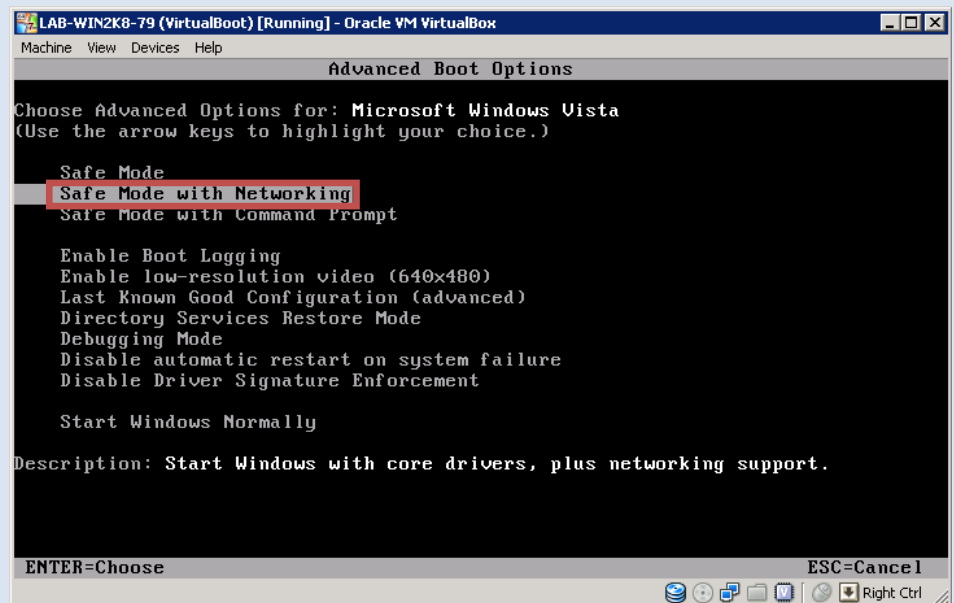
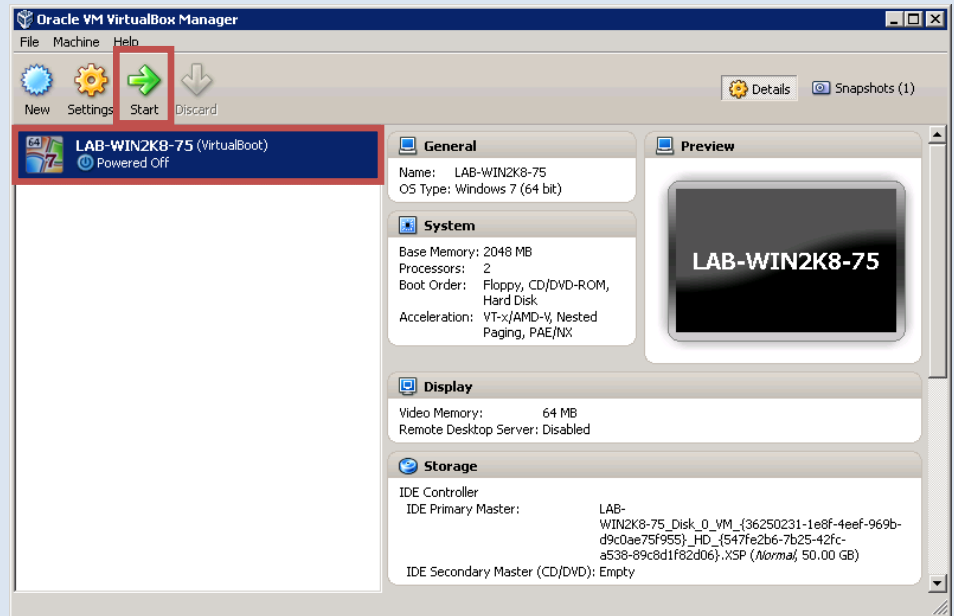
## Advanced Configuration of Virtual Machine

### 1. Safe Mode

- Click the **Virtual Machine**
- Click **Start**
- Click inside the Virtual Machine window and keep pressing **F8** until the **Advanced Boot Options** comes up
- Select **Safe Mode with Networking** using the arrow keys
- Hit **Enter**

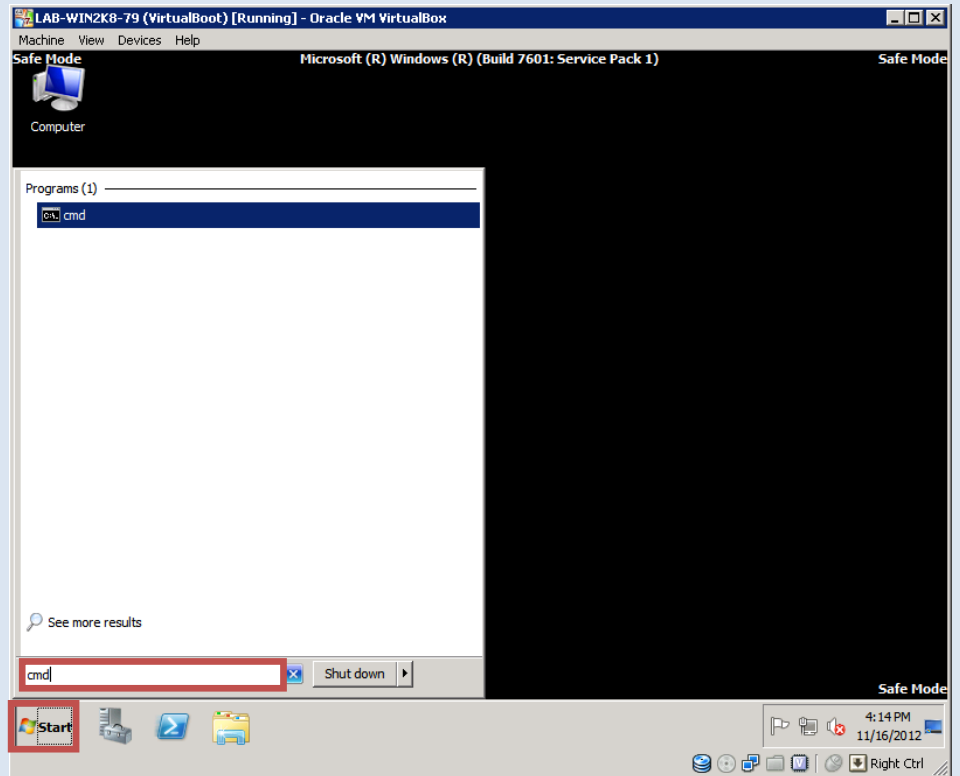
 The VM will now begin booting, this might take a few minutes

- Log into the machine using normal credentials

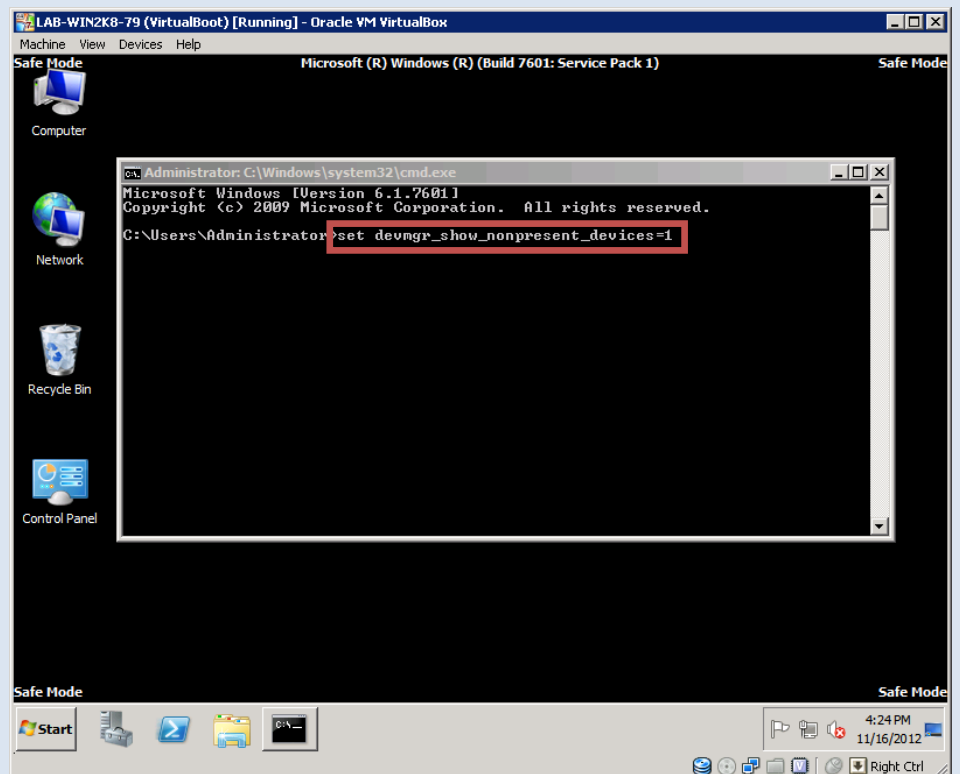


## 2. Phantom Network Adapter

- Click **Start**
- In the search window, type in **cmd**, hit **Enter**

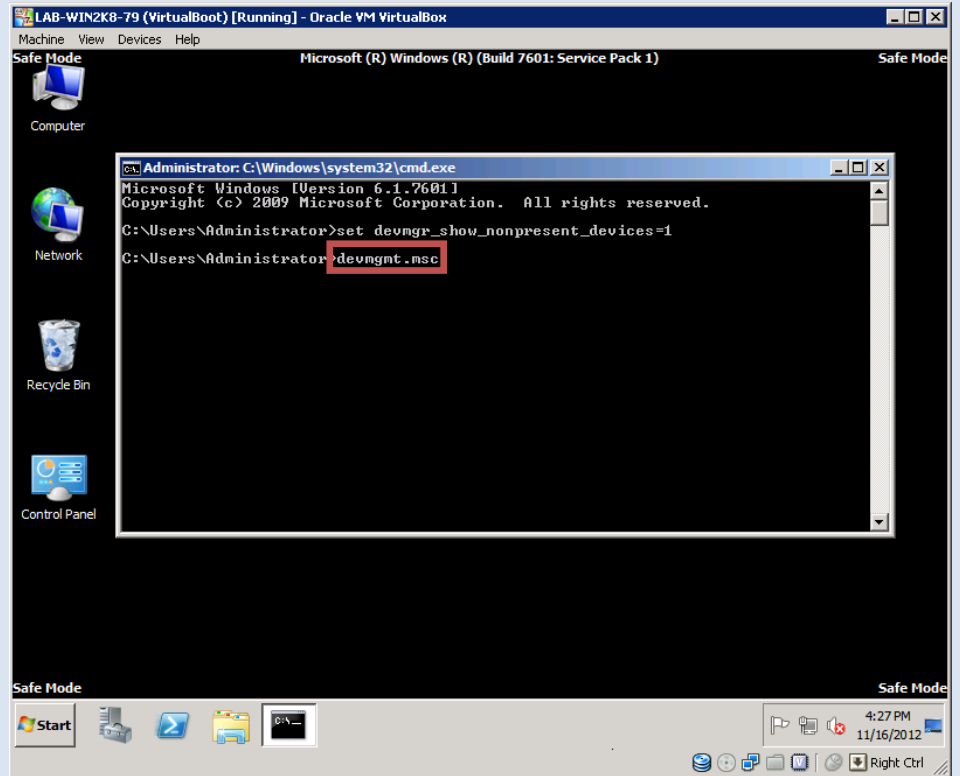


- Type in the following command:  
`set devmgr_show_nonpresent_devices=1`
- Hit **Enter**



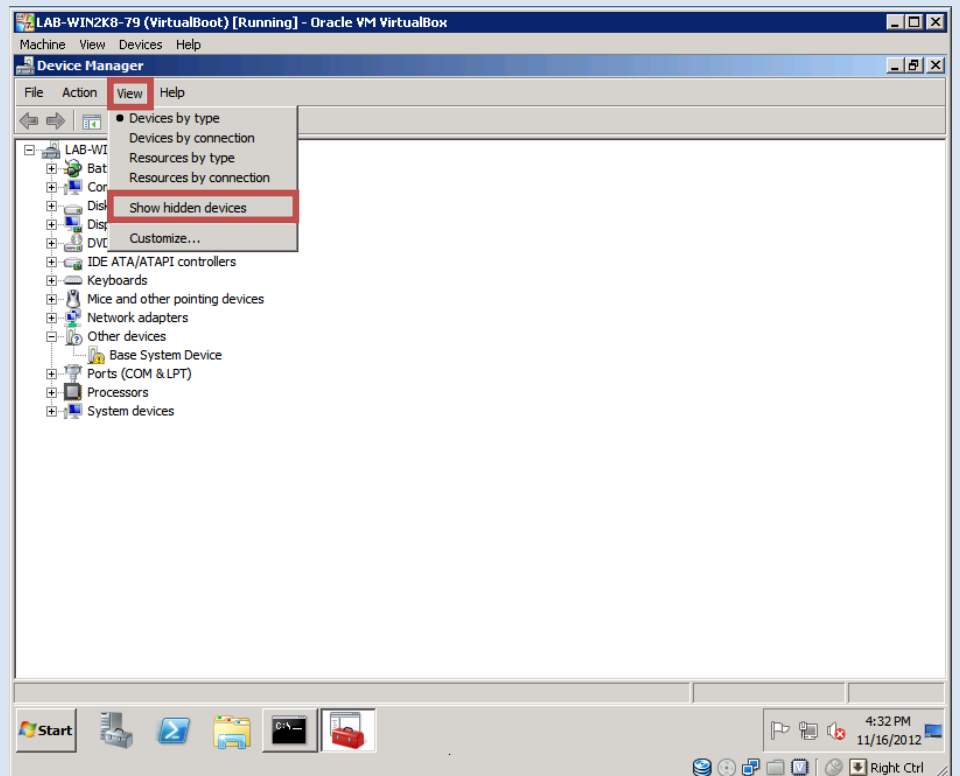
e. Type in **devmgmt.msc**

f. Hit **Enter**

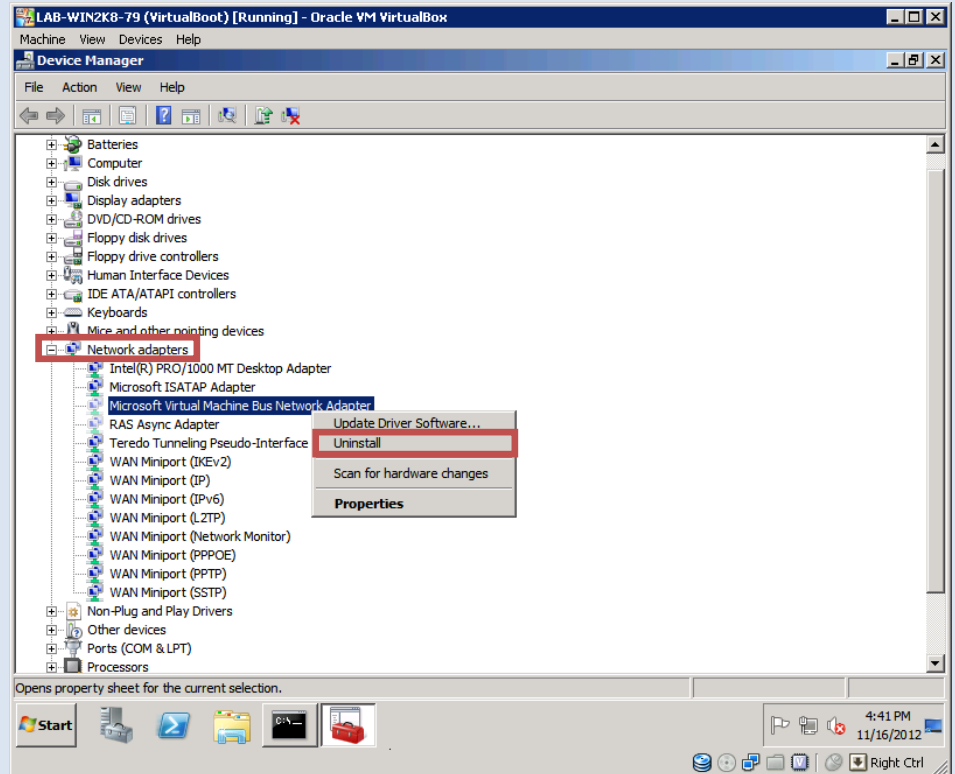


g. In **Device Manager**, click **View**

h. Click **Show hidden devices**

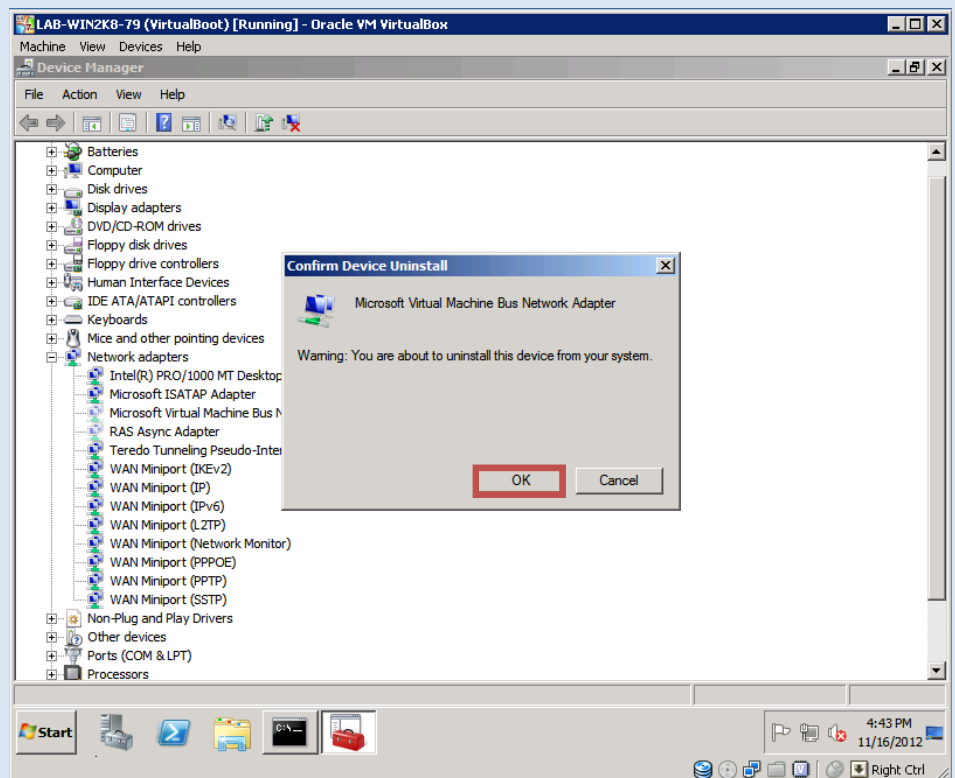


- i. Expand **Network adapters**
- j. Find any **Grayed Out** (Network icon is transparent) network adapters
- k. Right click the adapters and select **Uninstall**



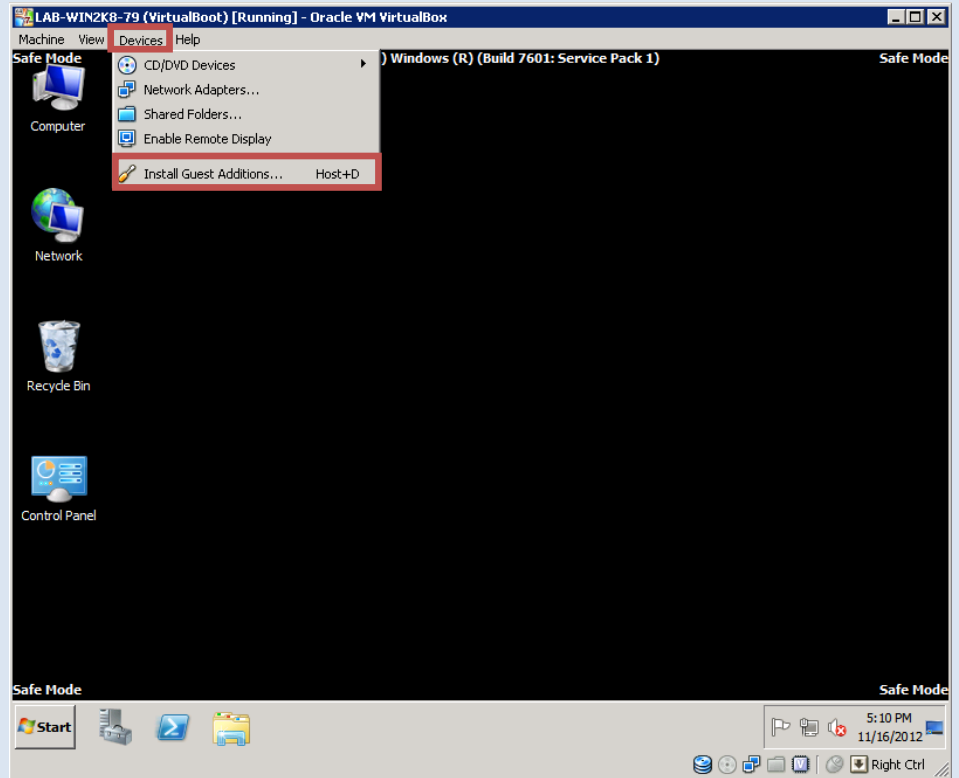
- l. Click **OK**

**i** Repeat with any other **Grayed Out** network adapters

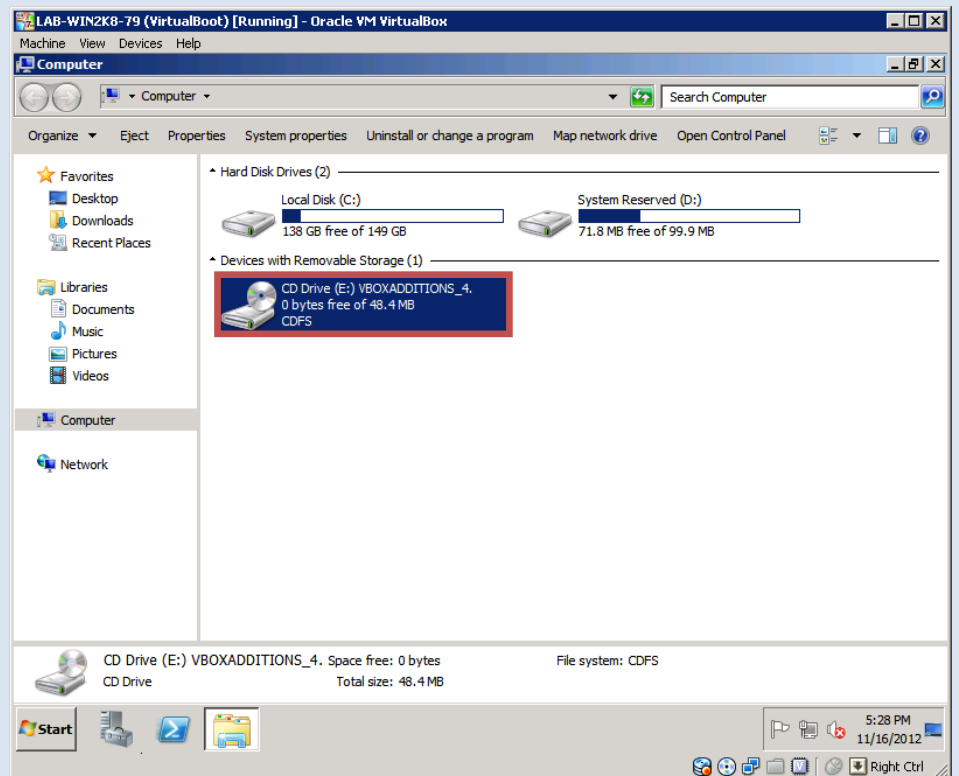


### 3. Install Guest Additions

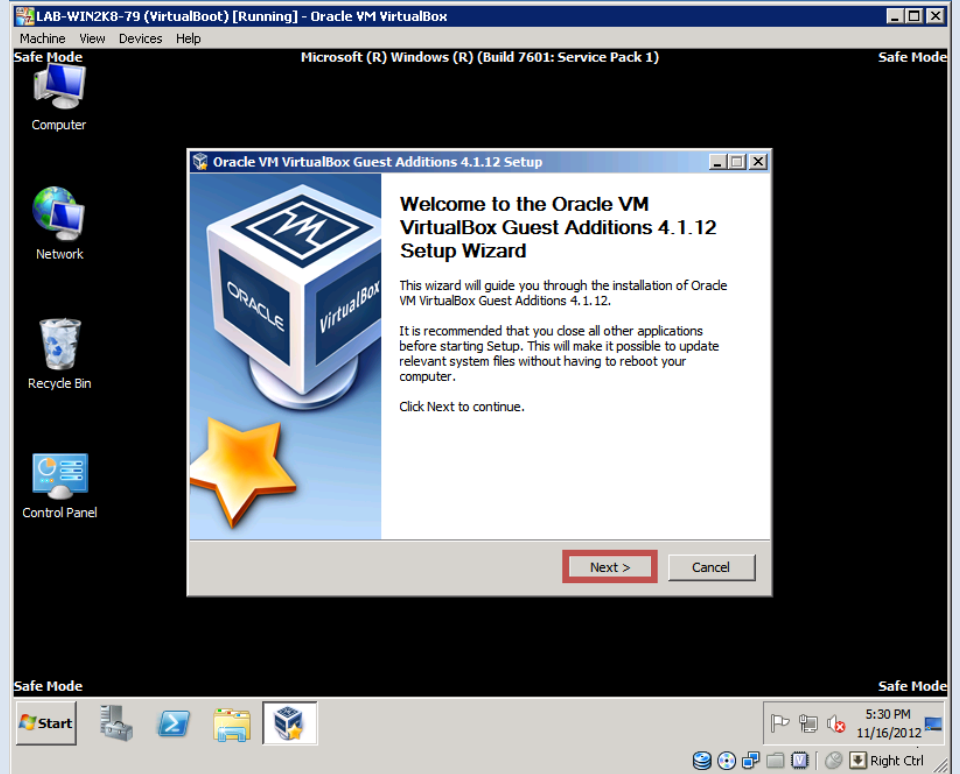
- a. Click **Devices**
- b. Click **Install Guest Additions...**



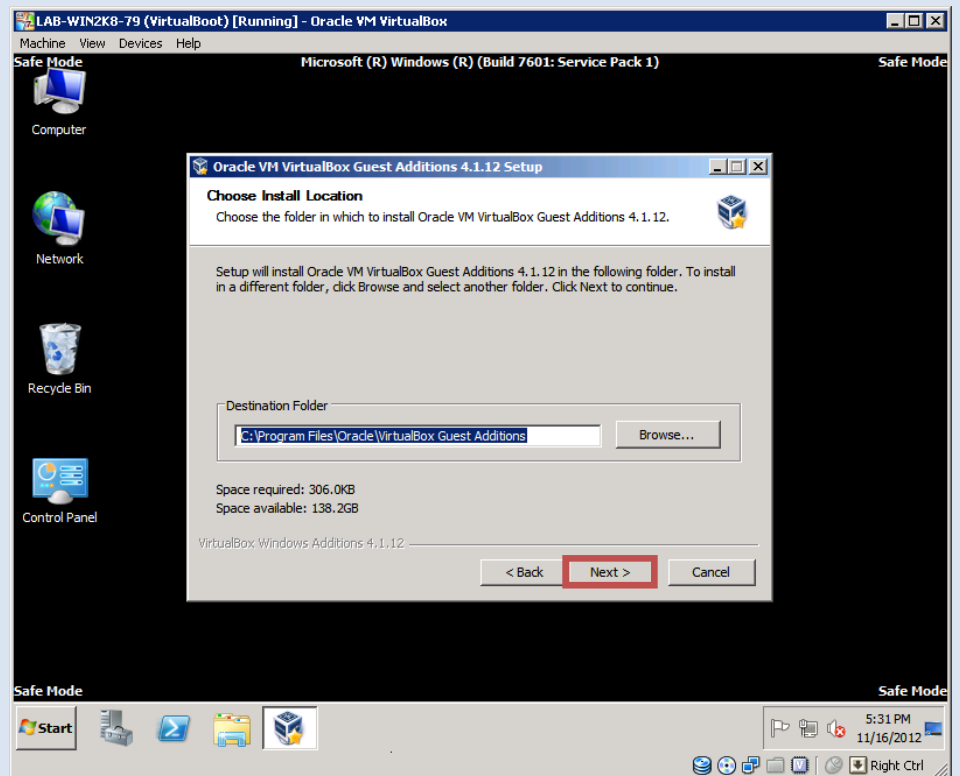
- c. Go to **Computer**
- d. Double-click **VBOXADDITIONS CD**



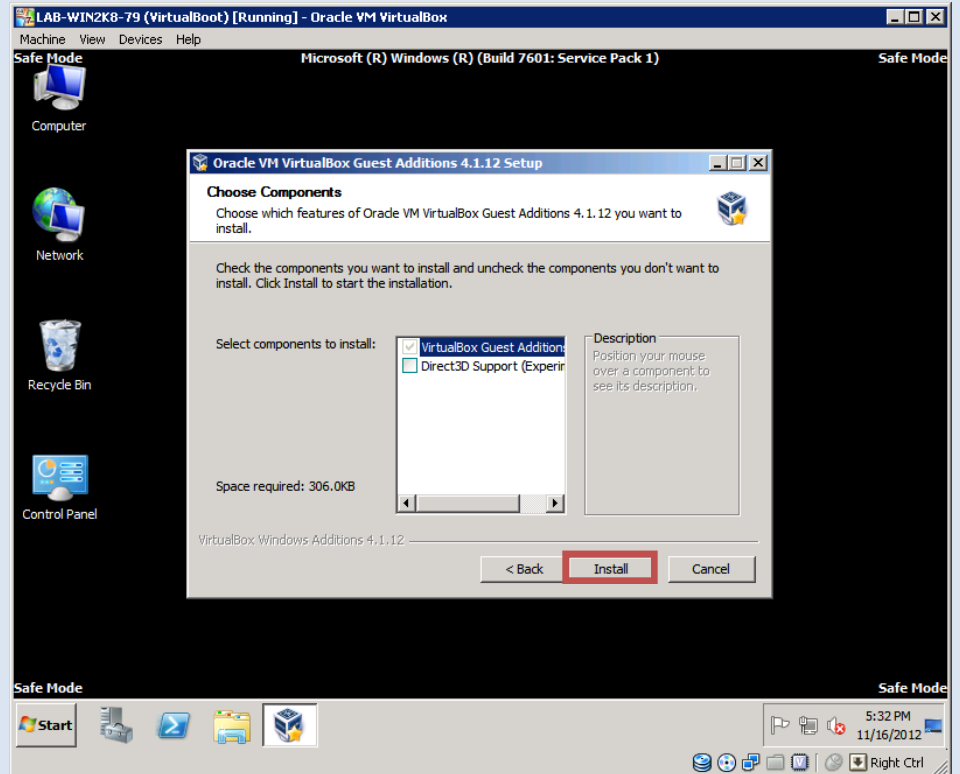
e. Click **Next**



f. Click **Next**



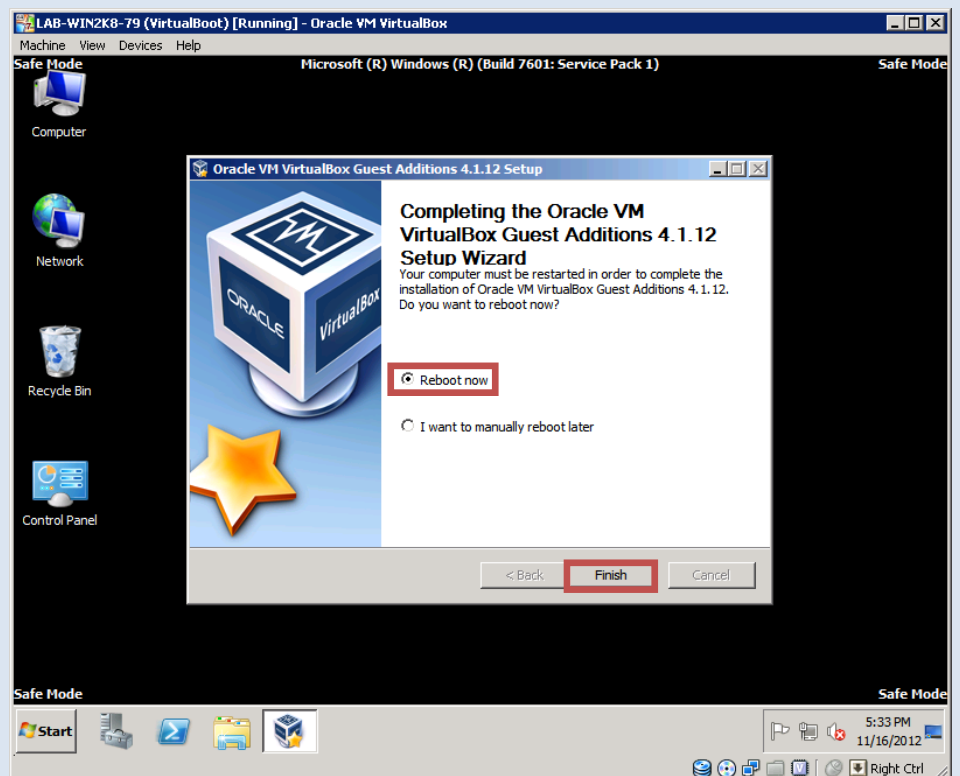
g. Click **Install**



h. Select **Reboot now**

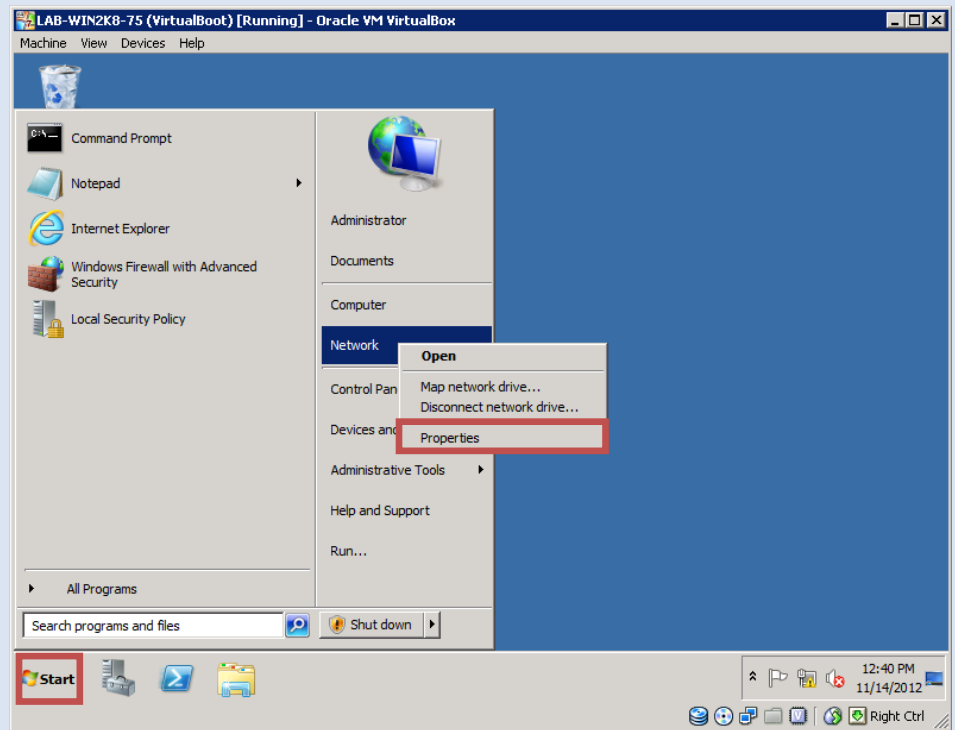
i. Click **Finish**

j. Allow the machine to boot into **Normal Mode**

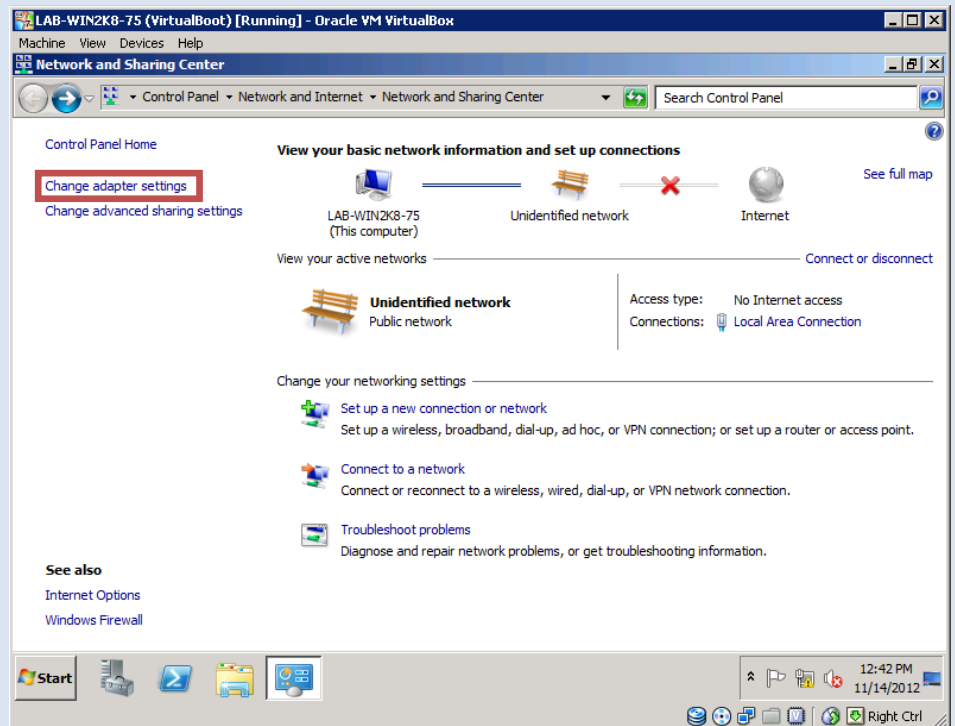


## 4. Configure Networking

- Click the **Start Button**
- Right click **Network**
- Click **Properties**

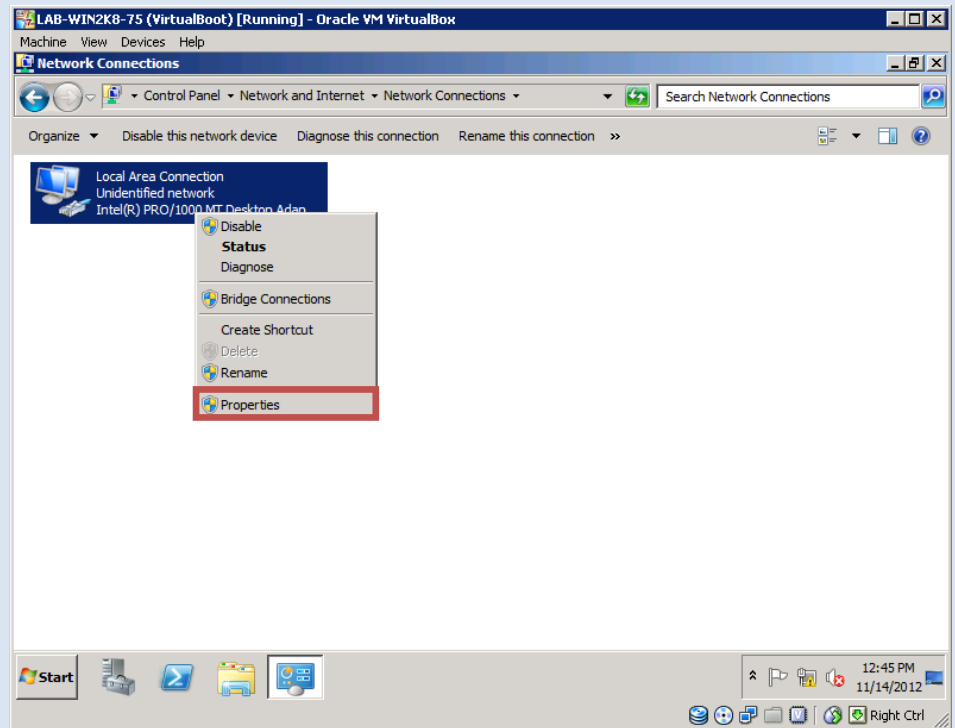


- Click **Change adapter settings**



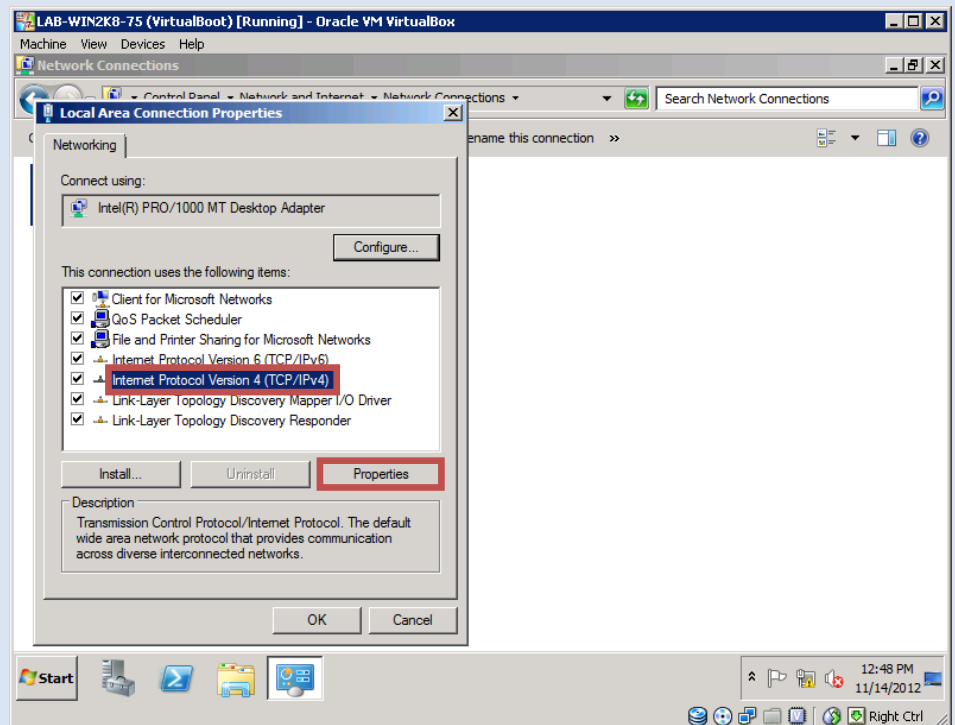
e. Right click the available **Network Adapter**

f. Click **Properties**



g. Select **Internet Protocol Version 4 (TCP/IPv4)**

h. Click **Properties**



- i. Populate the network configuration according to the type of VirtualBoot network required

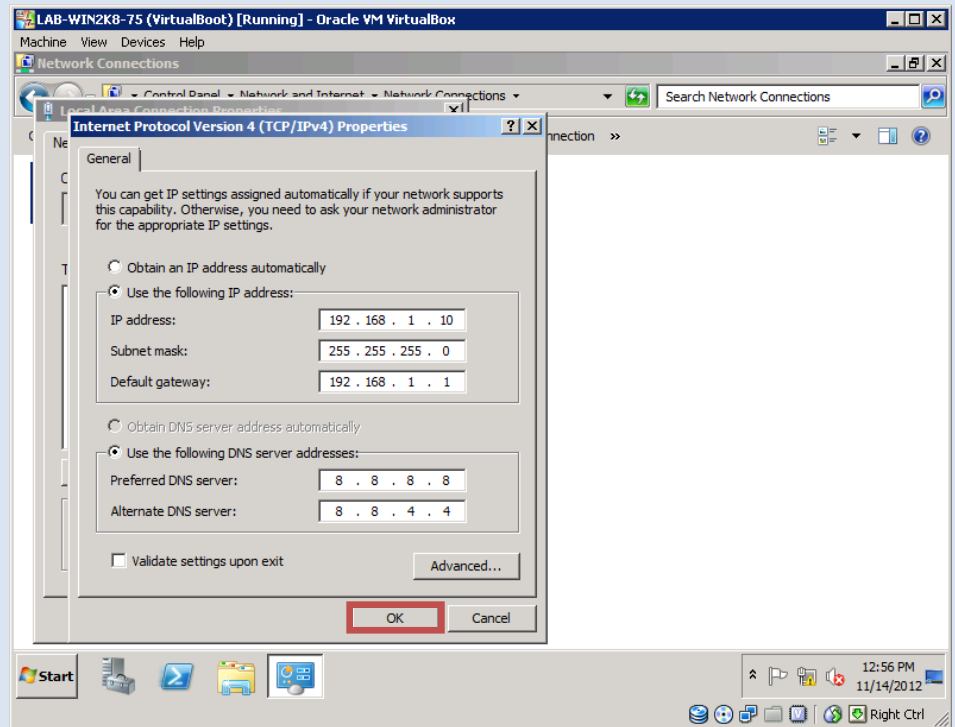
**Failover Mode** - populate network settings identical to the original client machine.

**Host-Only Mode** - an automatic IP address will be provided using DHCP. If you wish to configure a different IP address, you may do so.

**Secondary Network** - populate the network settings according to the network requirements of the testing network.

- j. Click **OK**

**i** The machine should now be operational and accessed on the network. Remember to **Disconnect** the Remote Desktop session on the ABS Appliance. **Logging Off** would result in a VM shutdown and is not recommended.

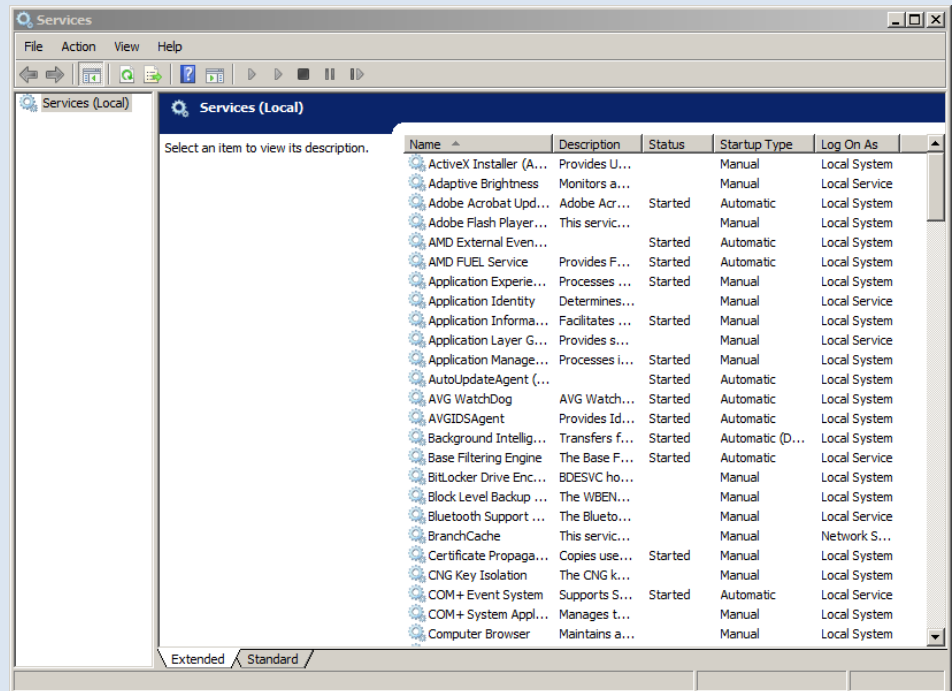


## Virtual Machine Troubleshooting

### 1. Physical Machine

If booting a previously physical machine, some proprietary manufacturer's services might cause slow performance or failure to boot in normal mode.

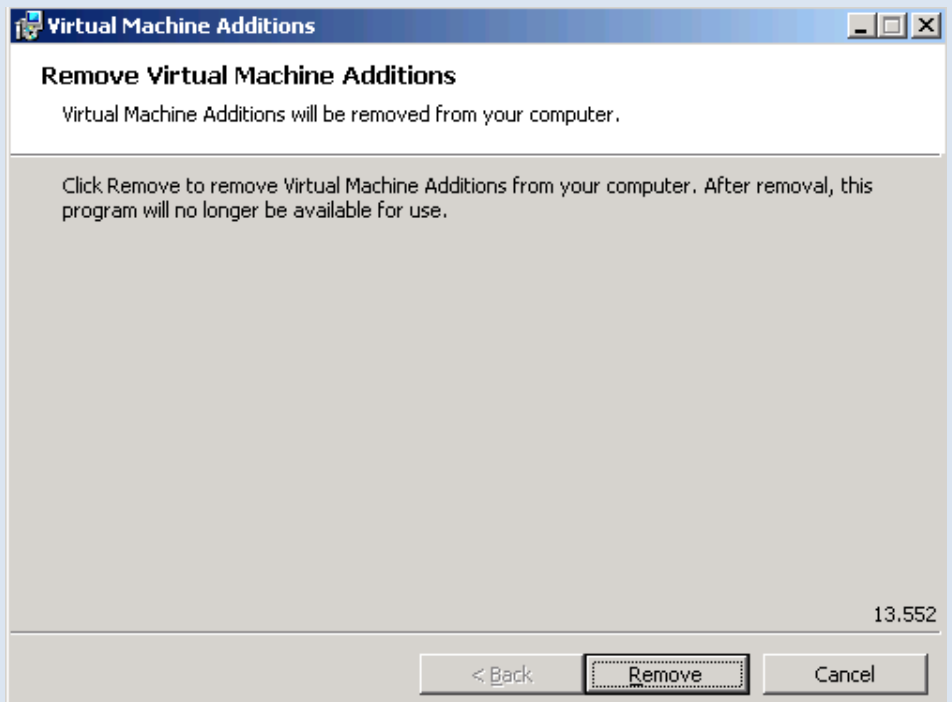
- Boot into **Safe Mode**
- Open **Services.msc**
- Locate any manufacturer's services
- Change the Startup type to **Disabled** for these services



### 2. Hyper-V Extensions

If booting a previously Hyper-V virtual machine, Hyper-V Extensions might cause an issue booting the machine up.

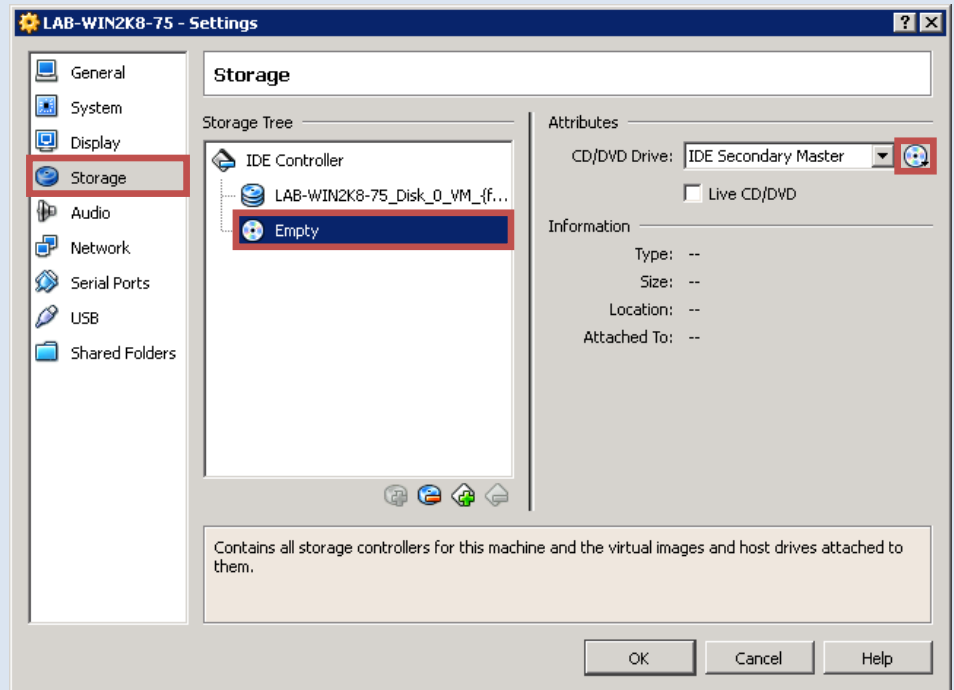
- Boot into **Safe Mode**
- Open **Uninstall Programs and Features**
- Remove Virtual Machine Additions



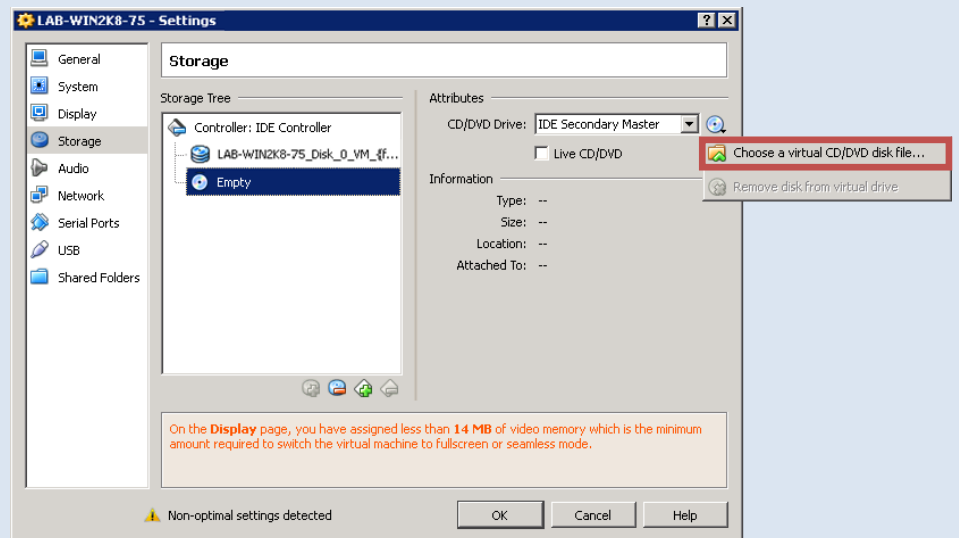
### 3. Hardware Independent Restore

In extreme cases, a StorageCraft HIR utility needs to be ran on the operating system volume to resolve some boot issues.

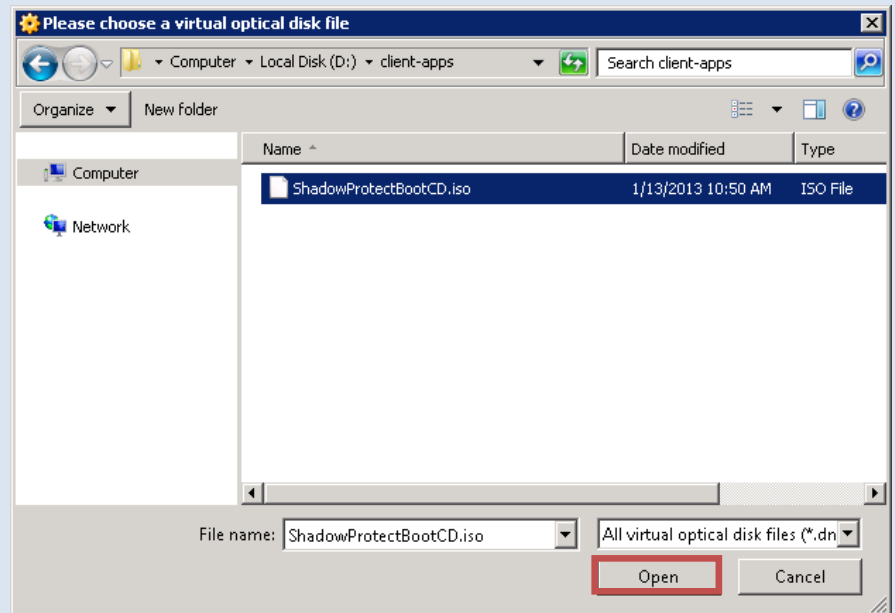
- Under VM Settings, select the **Storage** category
- Select the **Empty Disk Drive**
- Click the **Disk Icon**



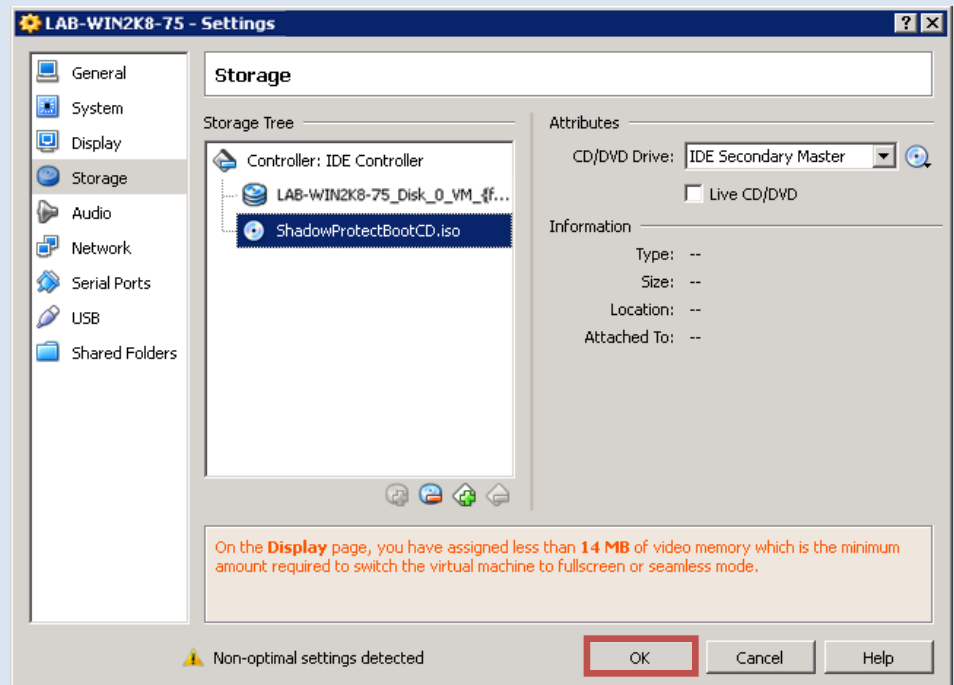
- Click **Chose a virtual CD...**



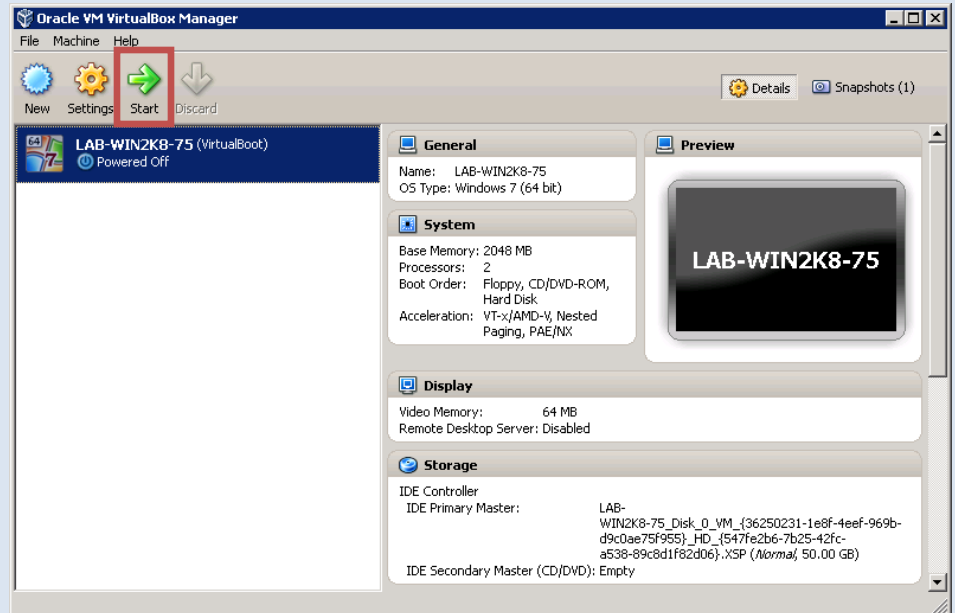
- e. Navigate to the D:\client-apps folder.
- f. Select **ShadowProtectBoot.iso**
- g. Click **Open**



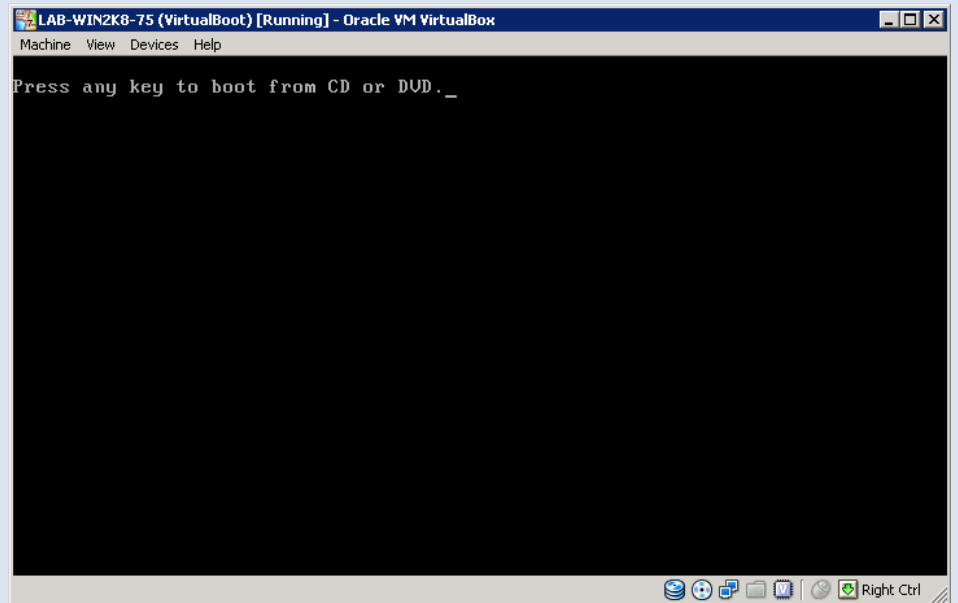
- h. Click **OK**



i. Click **Start**

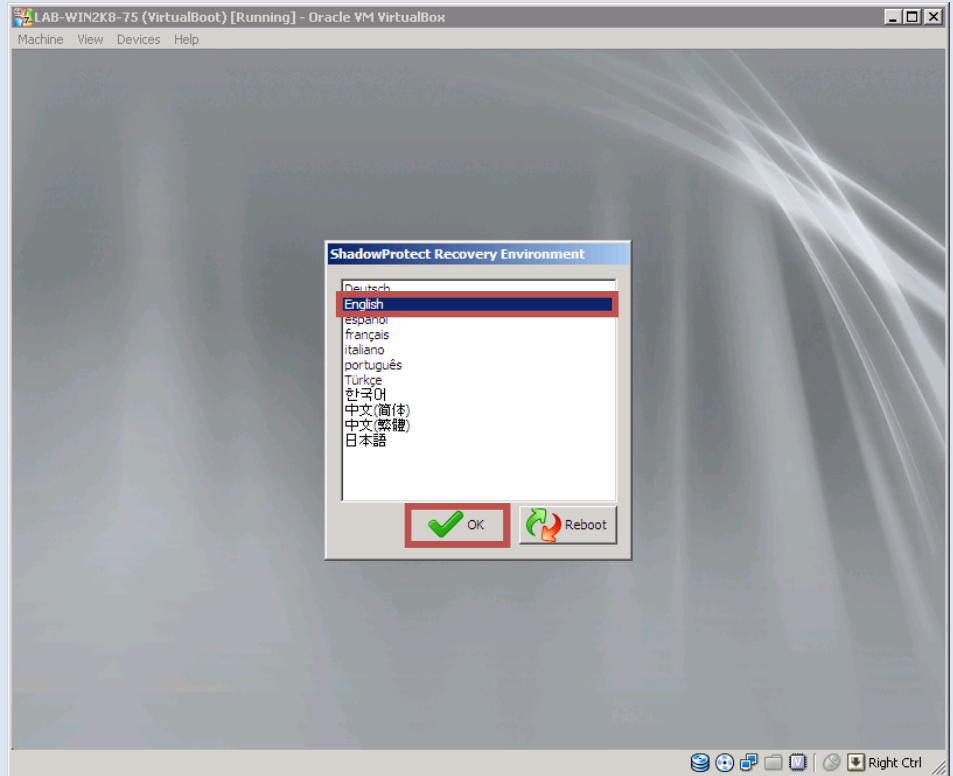


- j. Double click the VirtualBox window
- k. Hit the **Space Bar** on the keyboard

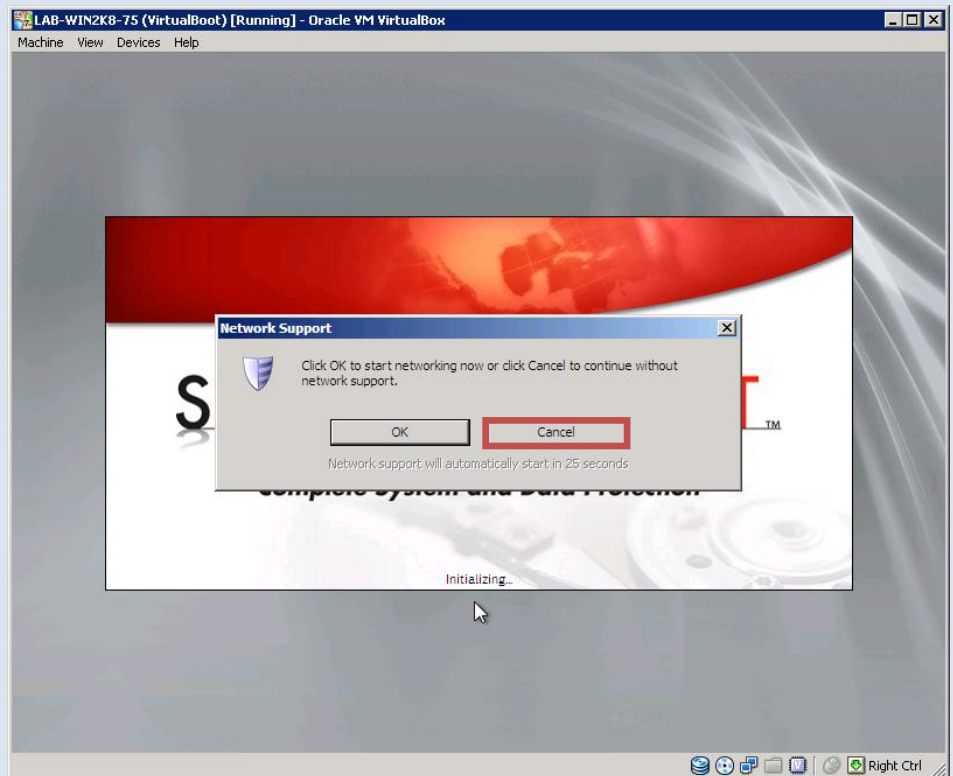


l. Select **English**

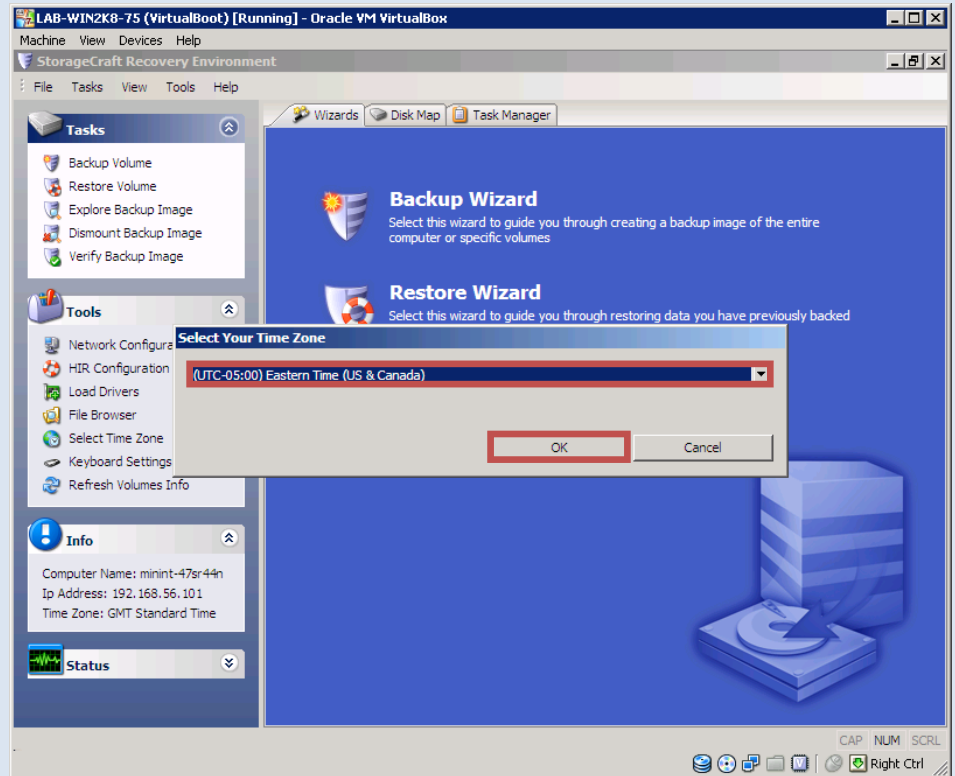
m. Click **OK**



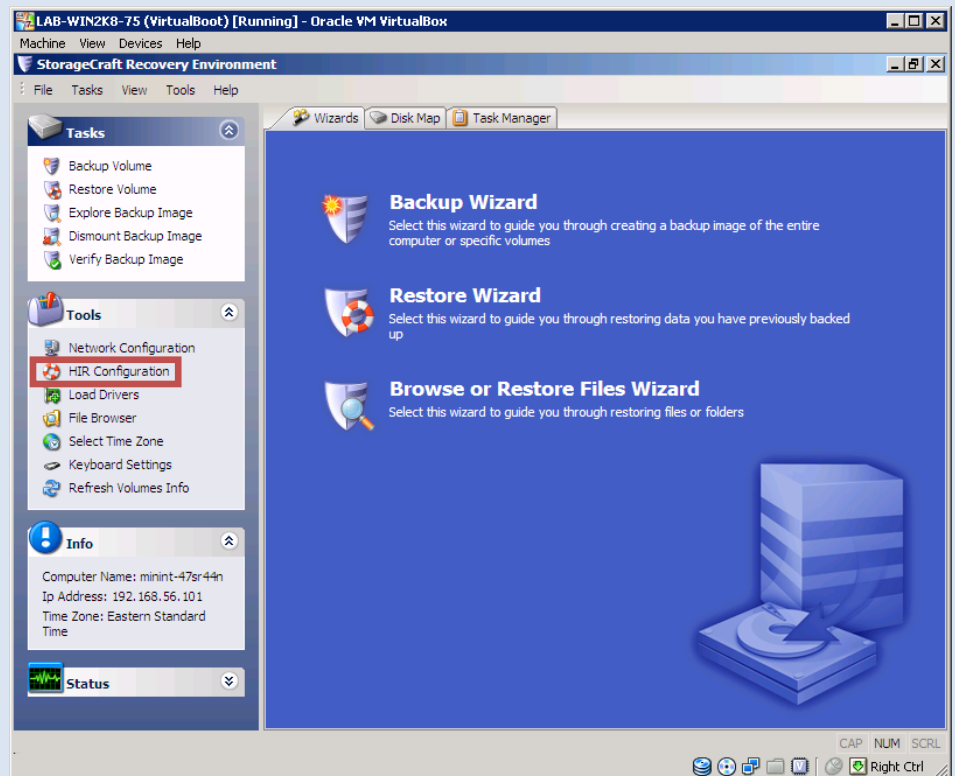
n. Click **Cancel**



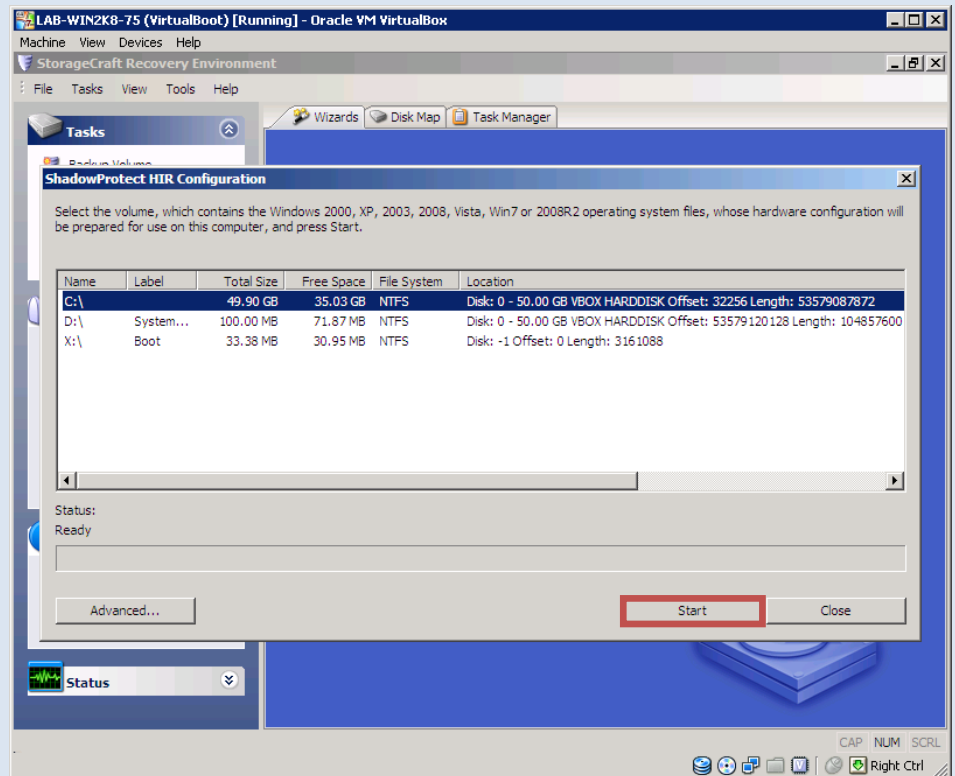
- o. Select the appropriate time zone
- p. Click **OK**



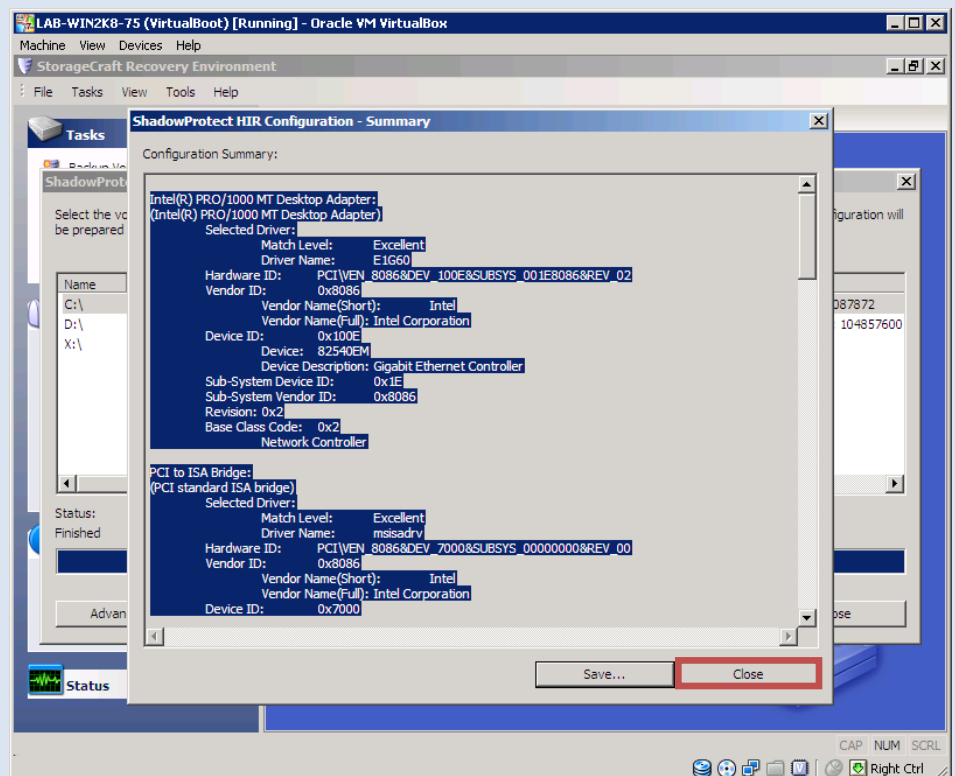
- q. Click **HIR Configuration**



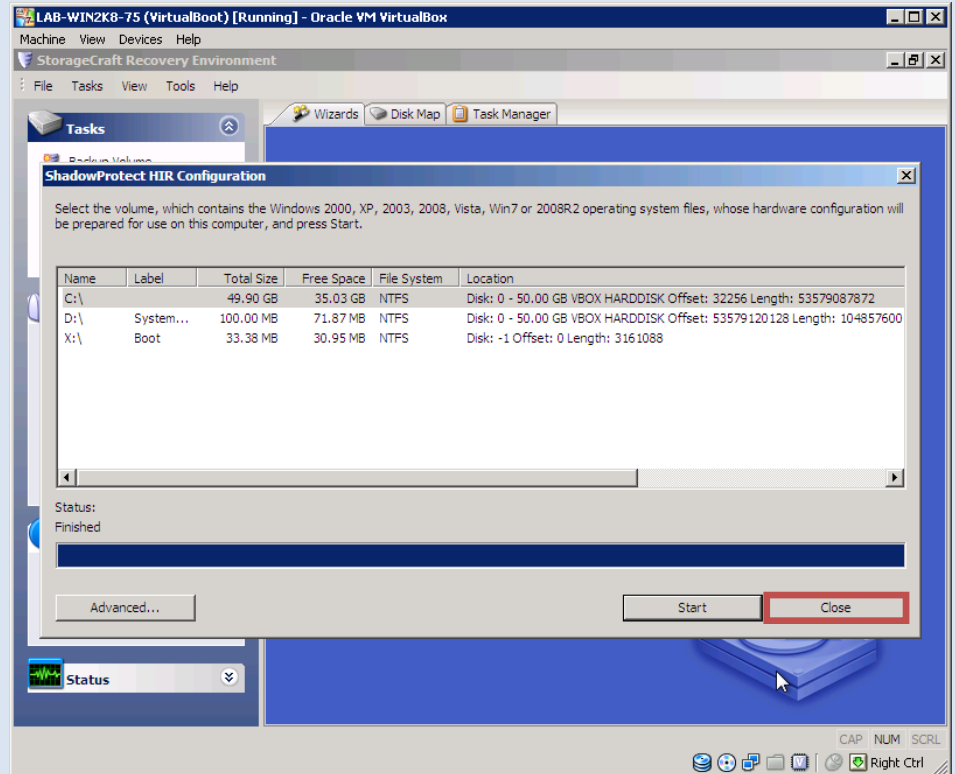
- r. Select the volume which contains the operating system files
- s. Click **Start**



- t. A summary window will pop up when the process is complete
- u. Click **Close**



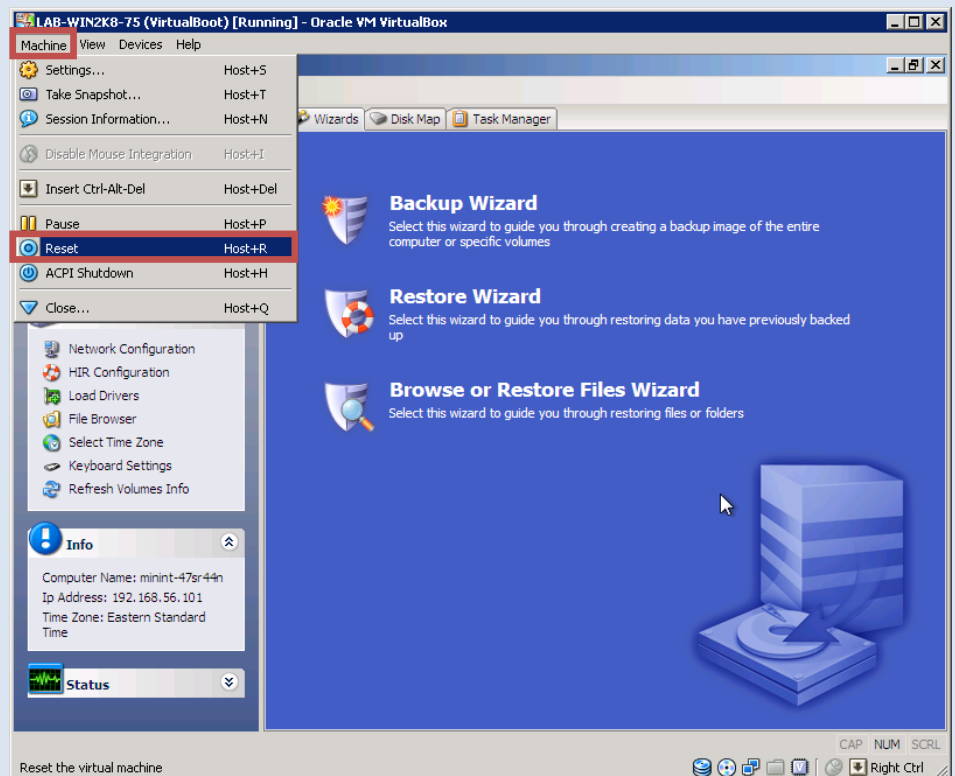
v. Click **Close**



w. Click **Machine**

x. Click **Reset**

Allow the system to reboot into normal mode and see if the issue is resolved.

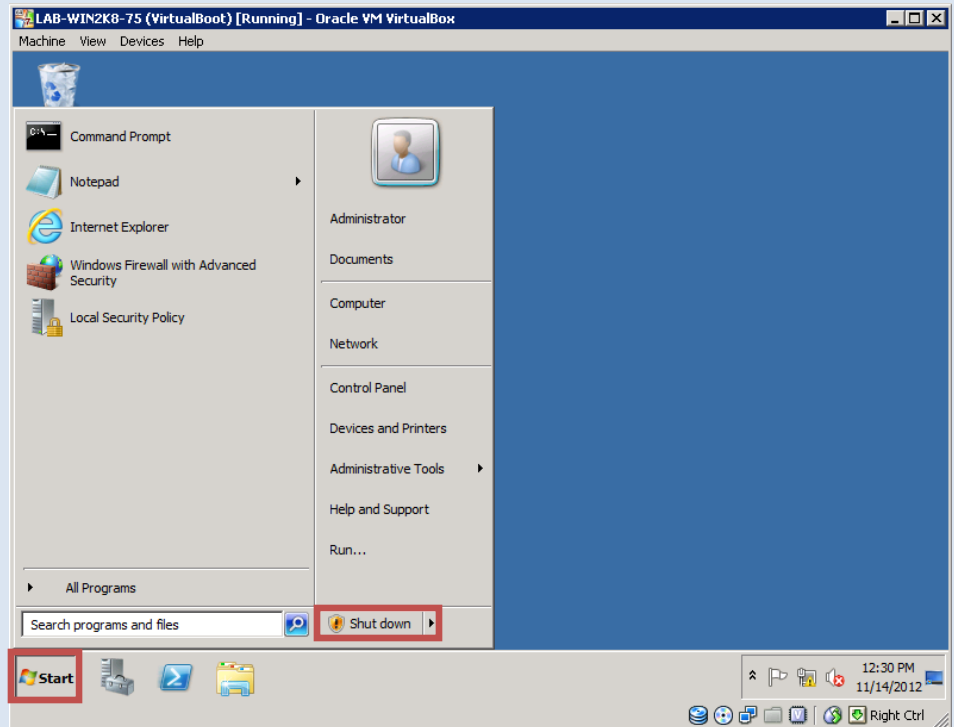


## Shutdown and Cleanup of Virtual Machine

### 1. Shutdown

**i** Perform these steps on the Virtual Machine after it is no longer needed.

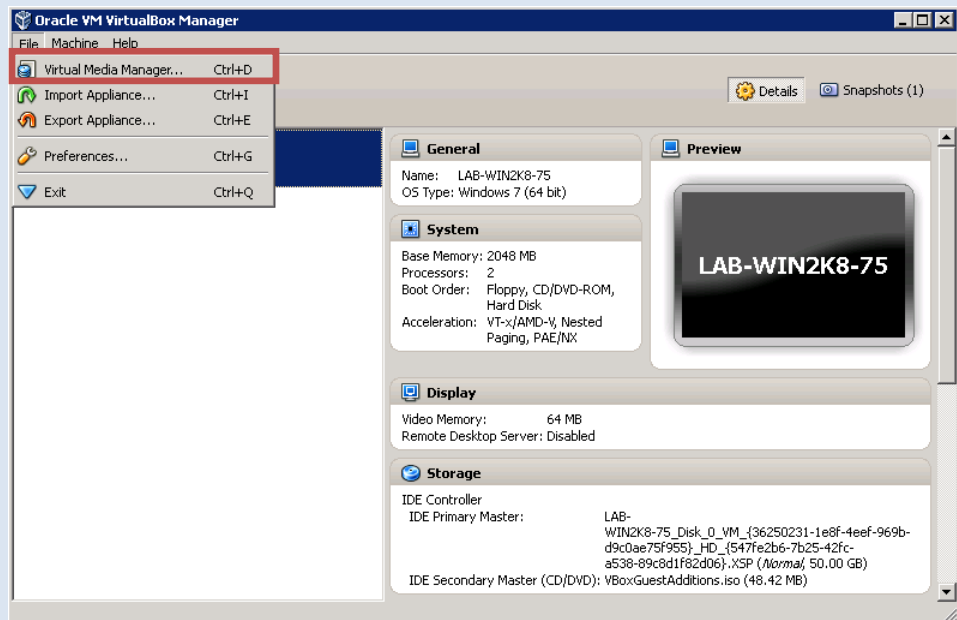
- Click the **Start Button**
- Click **Shut down**



### 2. Cleanup

**i** When creating the Virtual Machine, VirtualBox creates **.vdi** files in the **dropbox** directory. In an effort to maintain a clean environment, follow these steps after the shutdown process

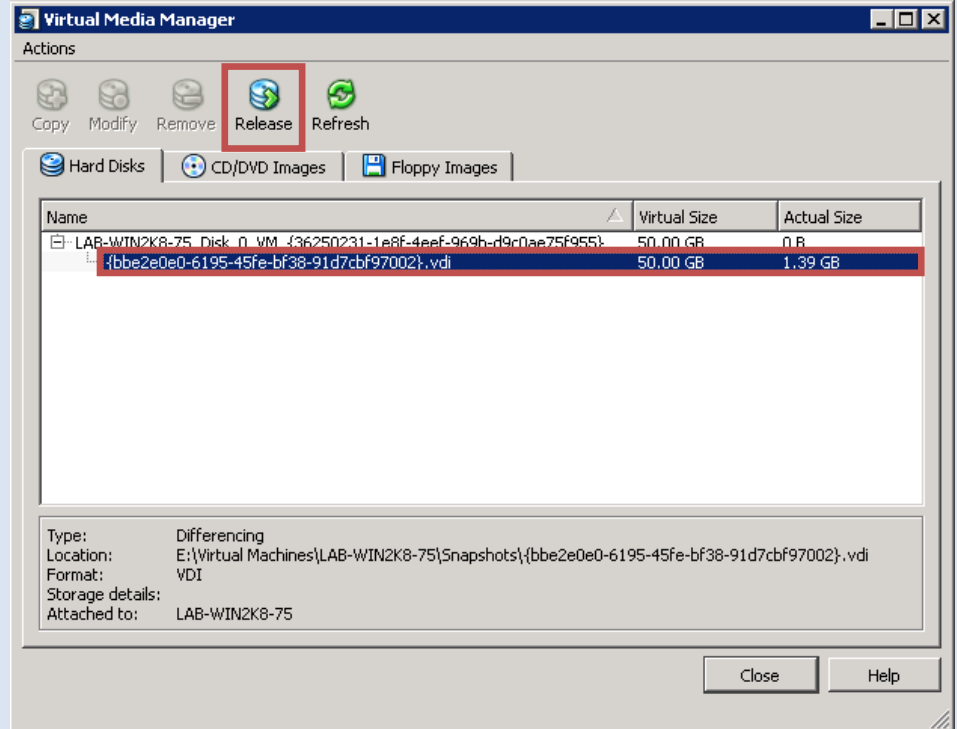
- Click the **Virtual Machine**
- Click **File**
- Click **Virtual Media Manager**



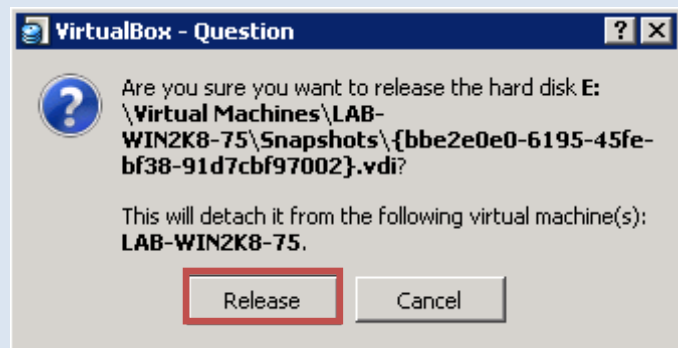
d. Expand **Virtual Machine Disk**

e. Click on the **.vdi** file

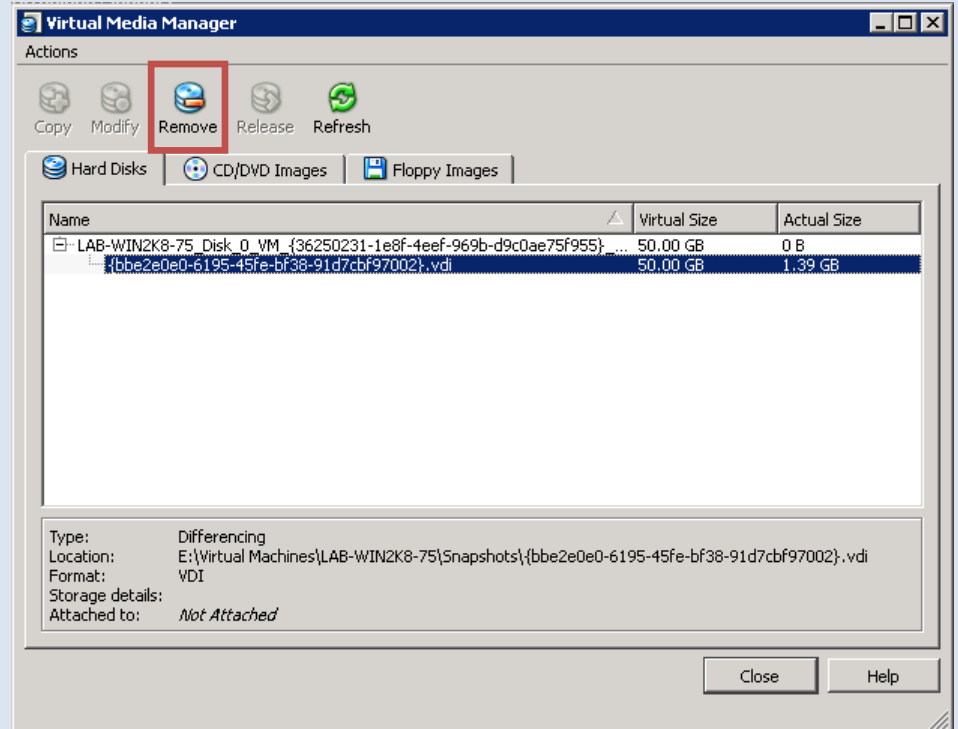
f. Click **Release**



g. Click **Release**

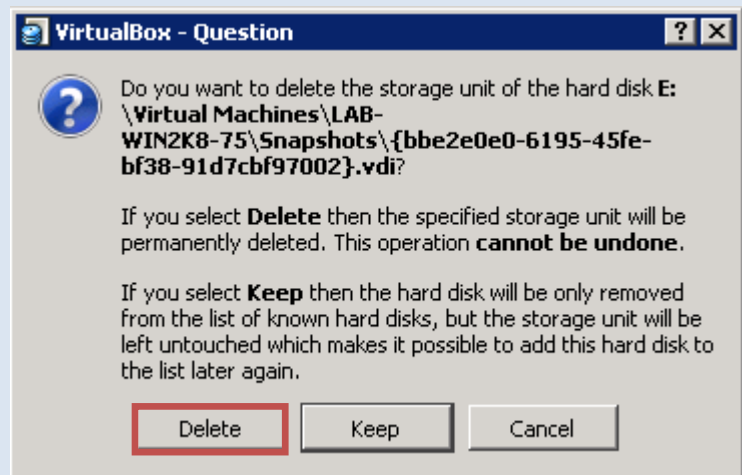


h. Click **Remove**

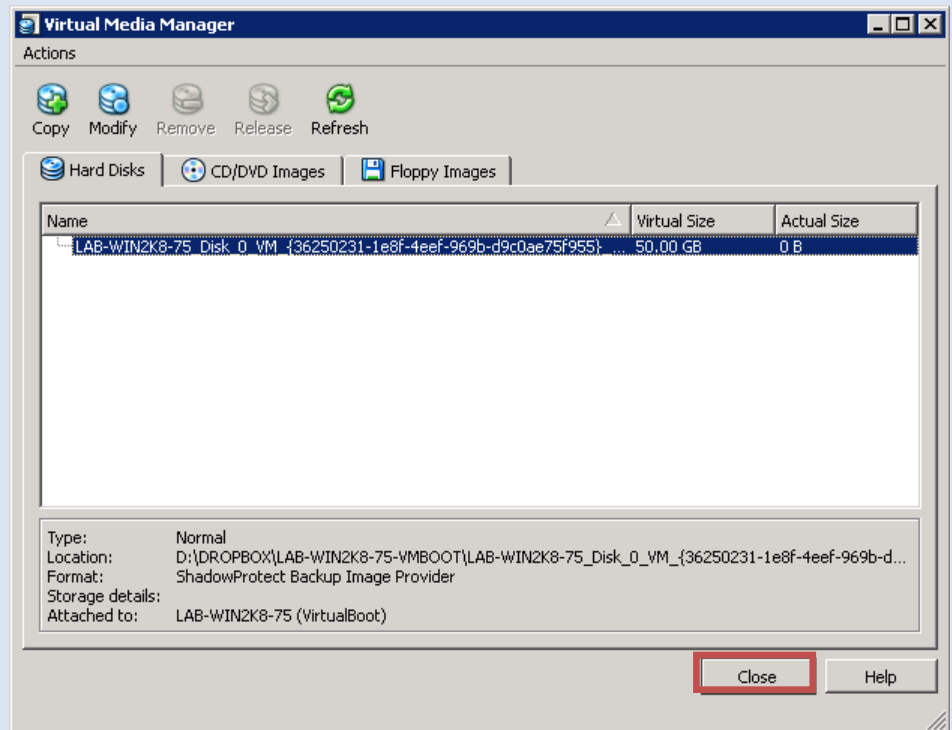


i. Click **Delete**

**i** Repeat steps **e-i** for any other **.vdi** files found in **Virtual Media Manager** under the Virtual Machine

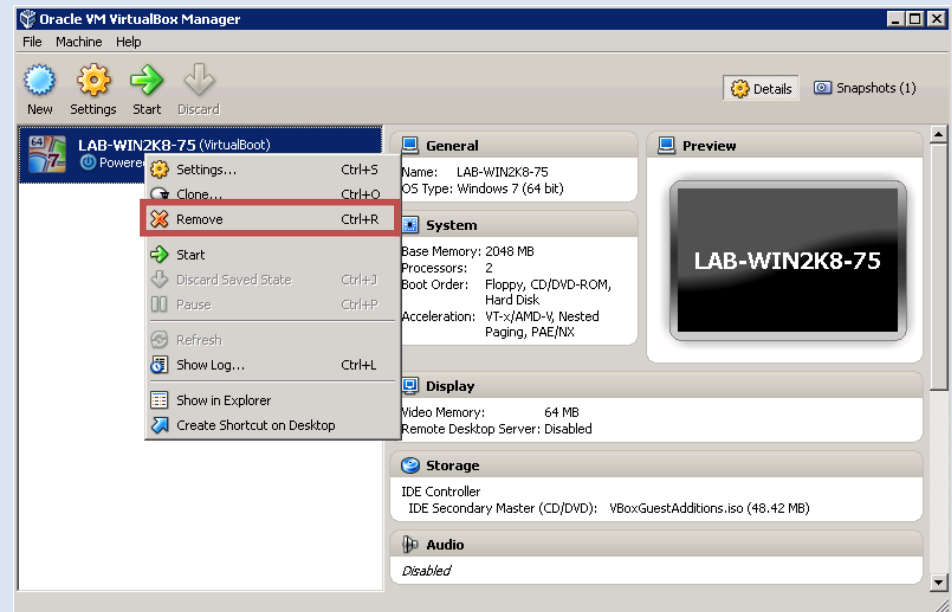


j. Click **Close**

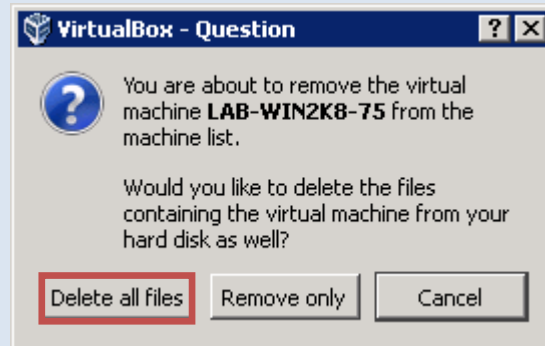


k. Right click the **Virtual Machine**

l. Click **Remove**



m. Click **Delete all files**



**i** Once the deletion process is complete and all machines have been cleaned up from VirtualBox, you may close VirtualBox and Log off.

