Configuring Zebi on VirtualBox VM

This guide lays out the steps involved in installing ZebiOS on a VirtualBox VM (basically creating your own virtual Zebi device) on a Windows host and then creating a Storage Pool on it.

Verison

Version	Date	Author	Details
1.0	05/24/2013	Pradipmaya Maharana	Initial document describing the process of installing ZebiOS on a VirtualBox VM
1.1	05/28/2013	Pradipmaya Maharana	Added notes on how to create a storage pool on newly create Zebi VM
2.0	10/09/2014	Bapu Patil	Use latest network configurations to setup the ZEBI VMs

Setup used

- Host: Windows 8 64 bit
- ZebiOS Build: Zebi-3_0_0_64_82_14_10_07.iso or the latest from (\\10.10.10.26\repo_zebi)
- VirtualBox ver 4.2.12 or the latest (https://www.virtualbox.org/wiki/Downloads)

Pre-Requisites

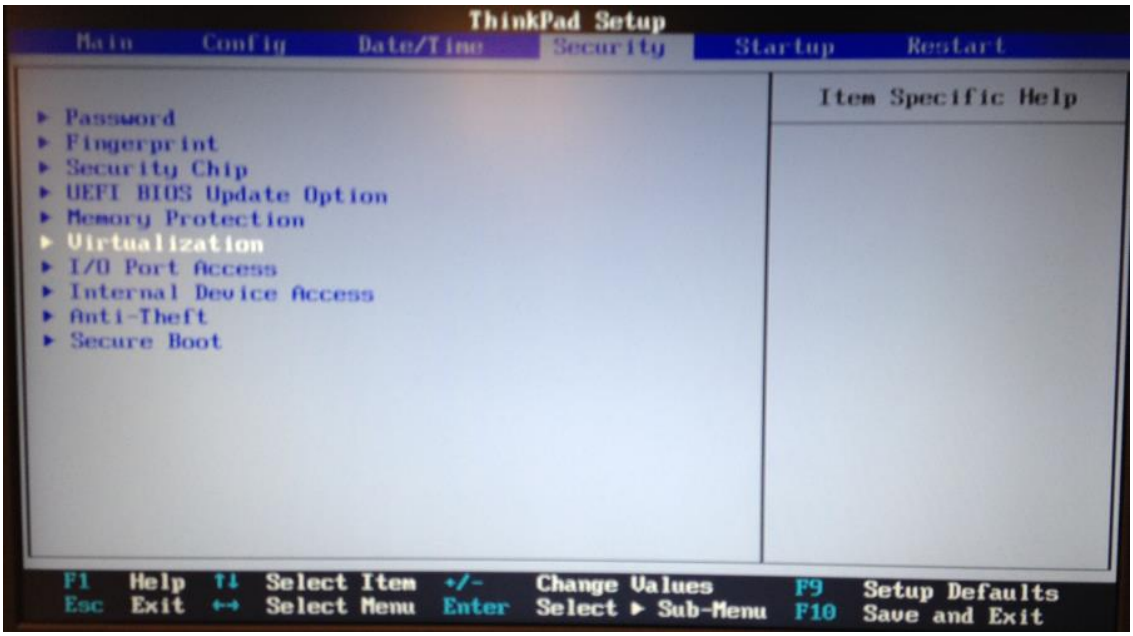
- Install VirtualBox on your Windows host (server/laptop)
- Verify Virtual Technology (VT-x) enabled in Laptop BIOS
- Download the latest ZebiOS build from repository server (we are using Zebi-3_0_0_64_82_14_10_07.iso for this guide) on to your Windows host, let's say at C:\Workarea\ZebiOS.
- Your Windows host should be on Wired network (we had issues setting it up on wireless network)

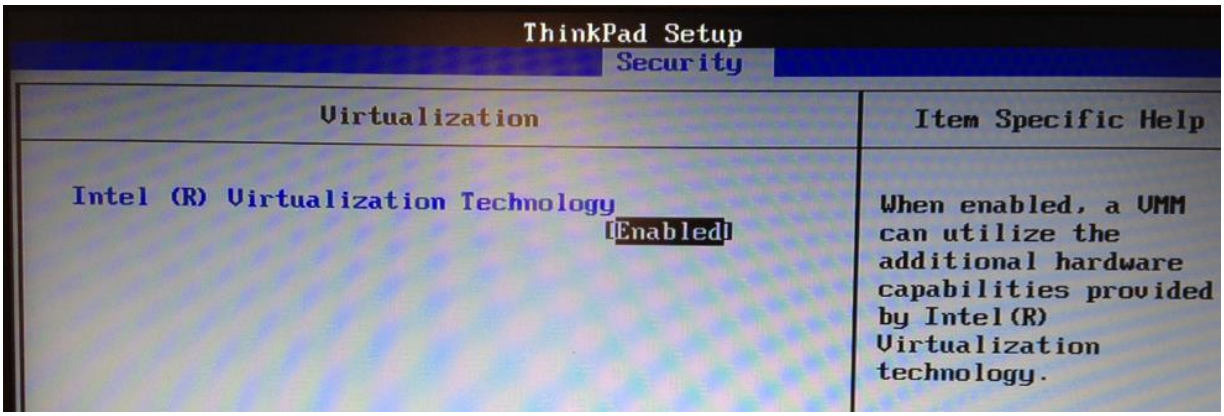
Notations

- Keywords or words from the Dialogs are shown in ***THIS FONT*** for emphasis and differentiation

Verify Host (Laptop) Virtual Technology enabled in BIOS

- If you are using Laptop verify BIOS has VT enabled, if not enable.
- To enable, reboot host and enter into BIOS setup and enabled virtual technology under 'Security' -> Virtualization

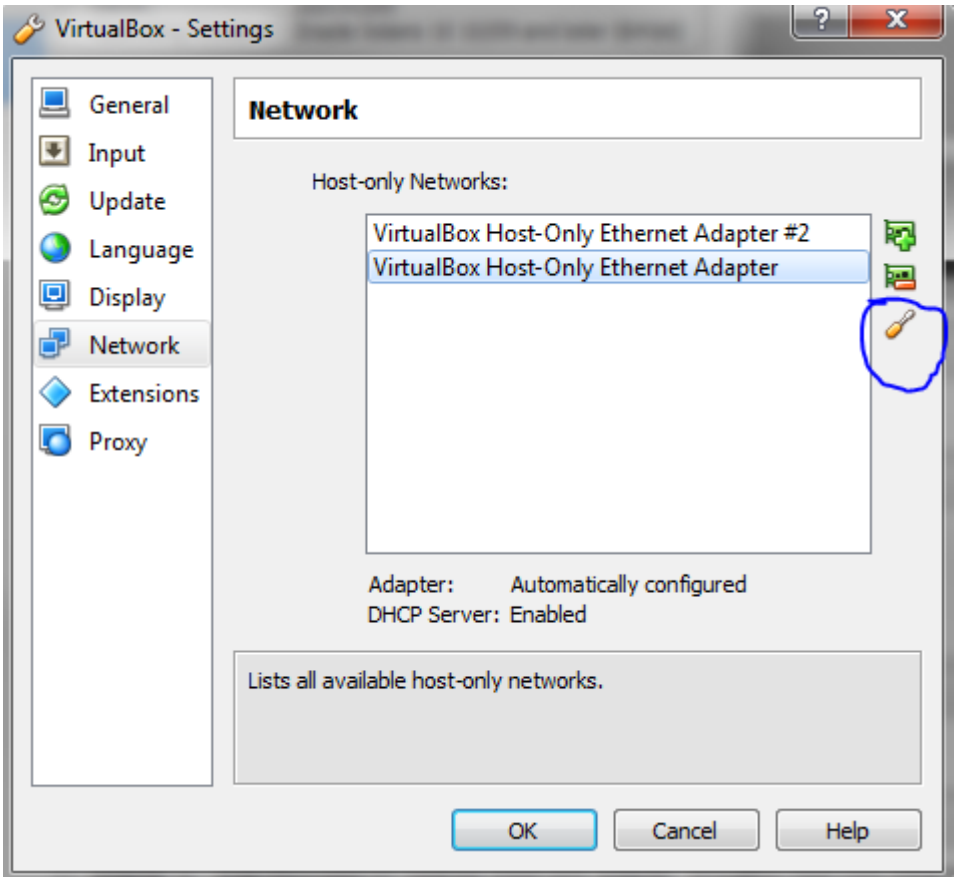




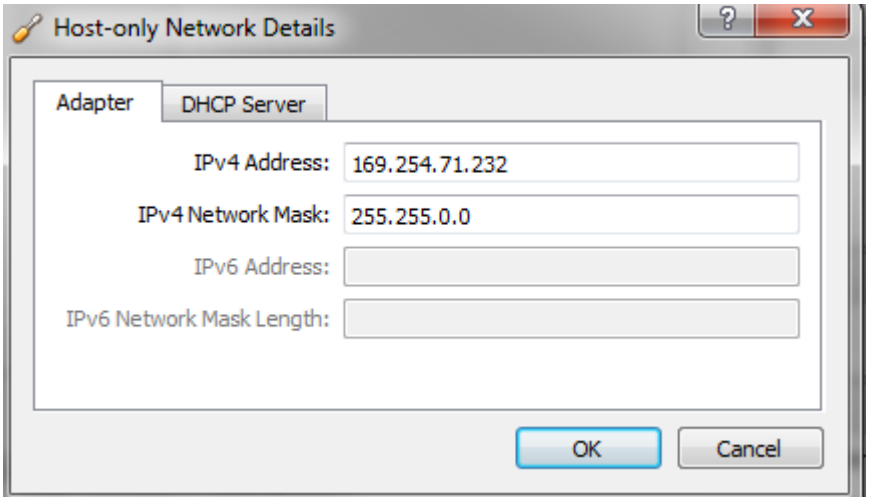
Steps to Add additional Network Adapters

- Zebi VMs will be using two (2) Network Adapters, create additional Network Adapters. For this, select ***File -> Preperences,*** select ***Network***

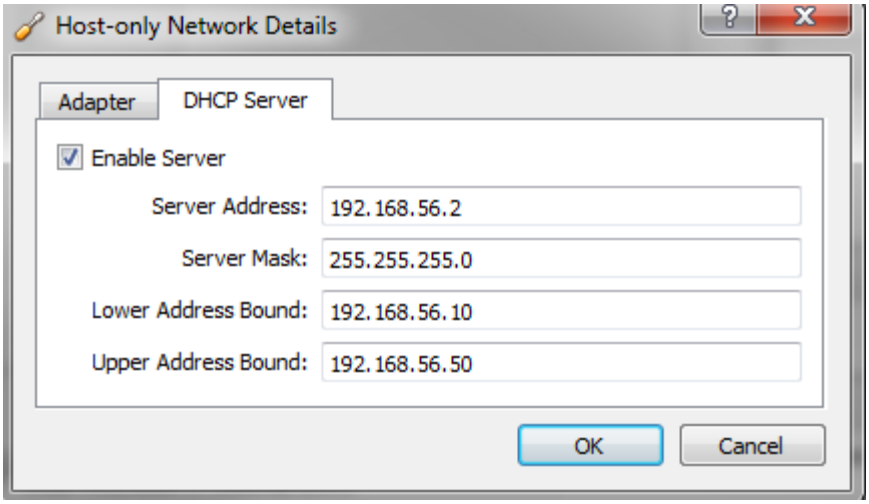
  Verify 'VirtualBox Host-Only Ethernet Adapter' has the Network settings. Select 'VirtualBox Host-Only Ethernet Adapter' and edit



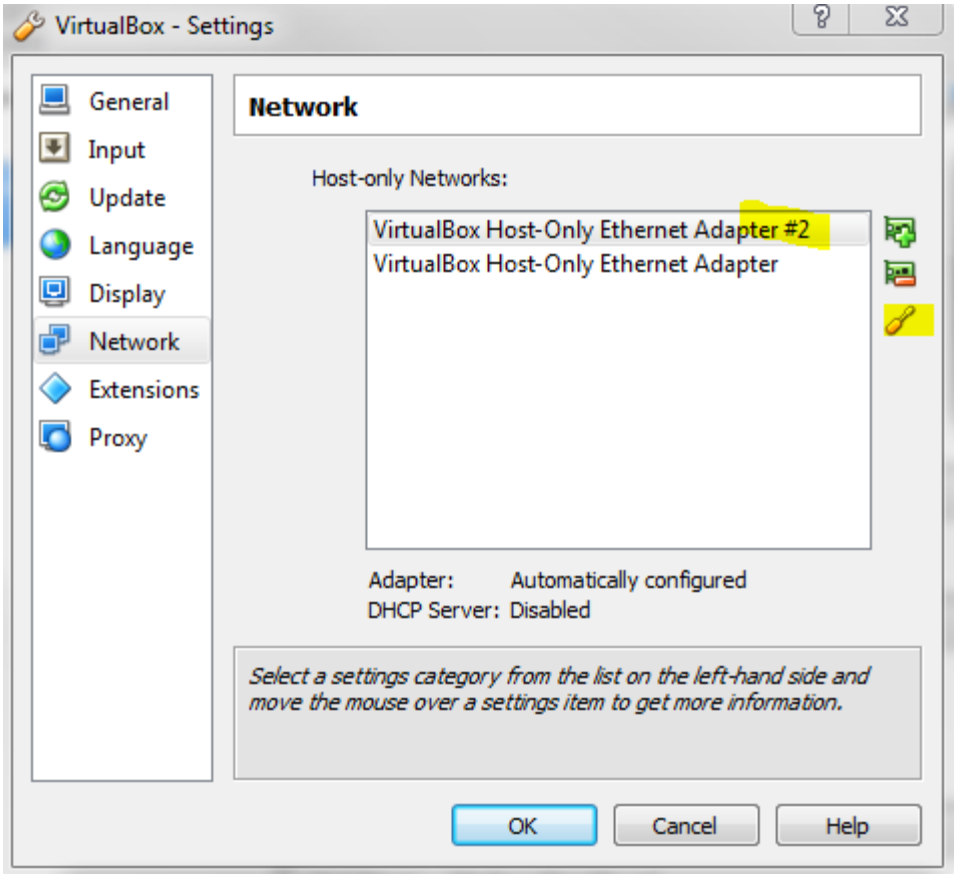
Host (virtual box) IP address



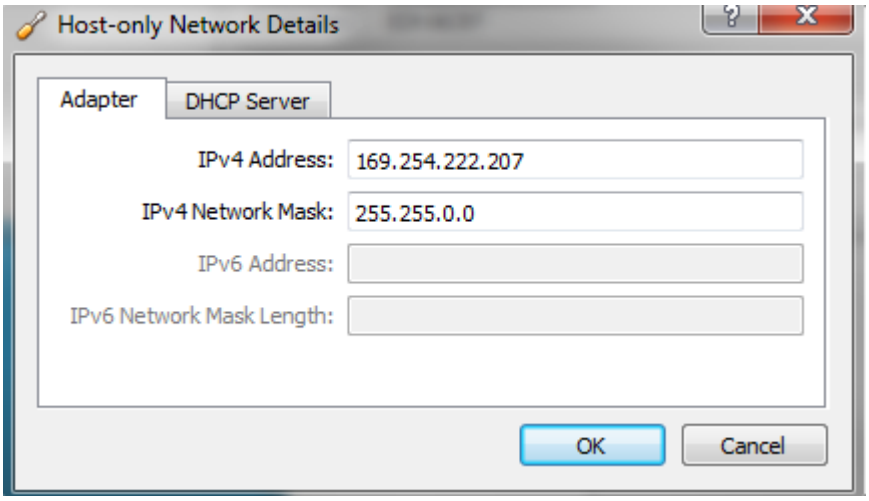
Default DHCP server created by VirtualBox. We will later use the IP addessed from this range to assign to Zebi Servers.



Click on "+" to Add Second Network Adapter 'VirtualBox Host-Only Ethernet Adapter 2' has the Network settings. Select 'VirtualBox Host-Only Ethernet Adapter #2' and edit

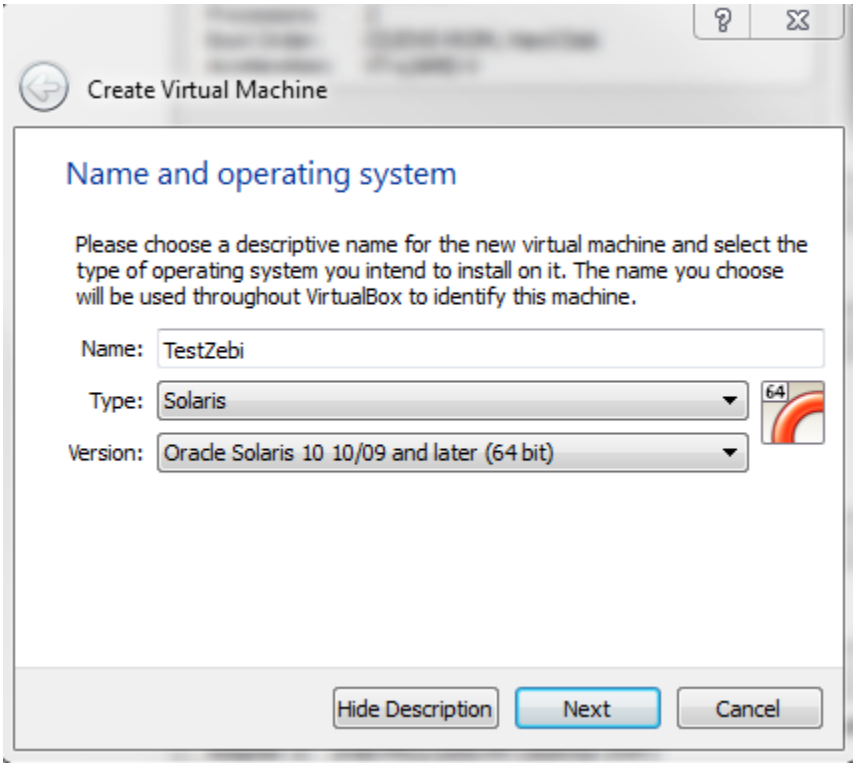


Verify Adapter has some default IP and DHCP Server is disabled

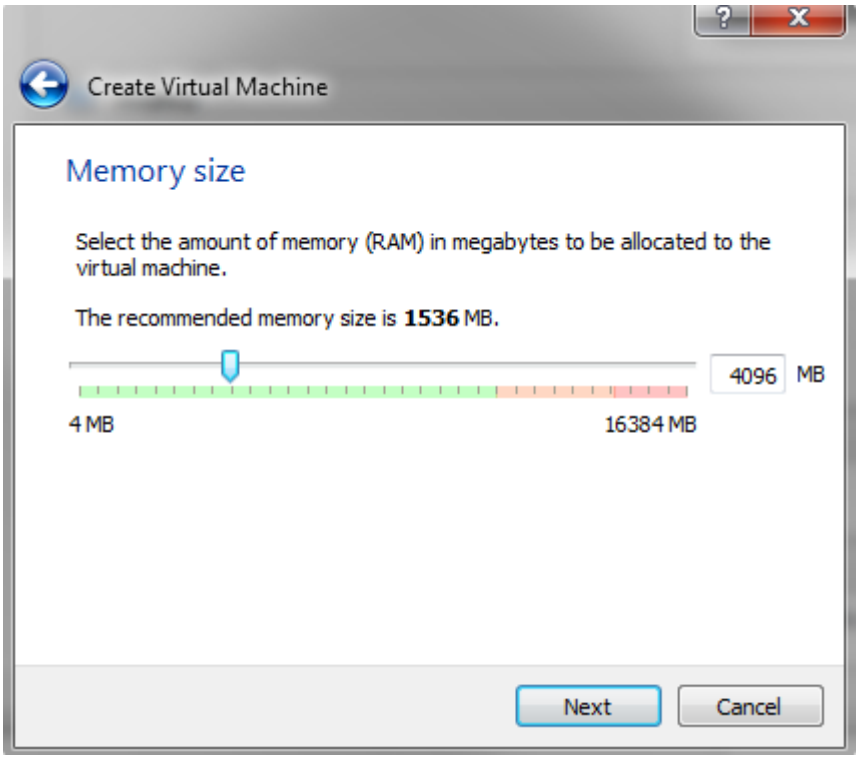


Steps to Create VM

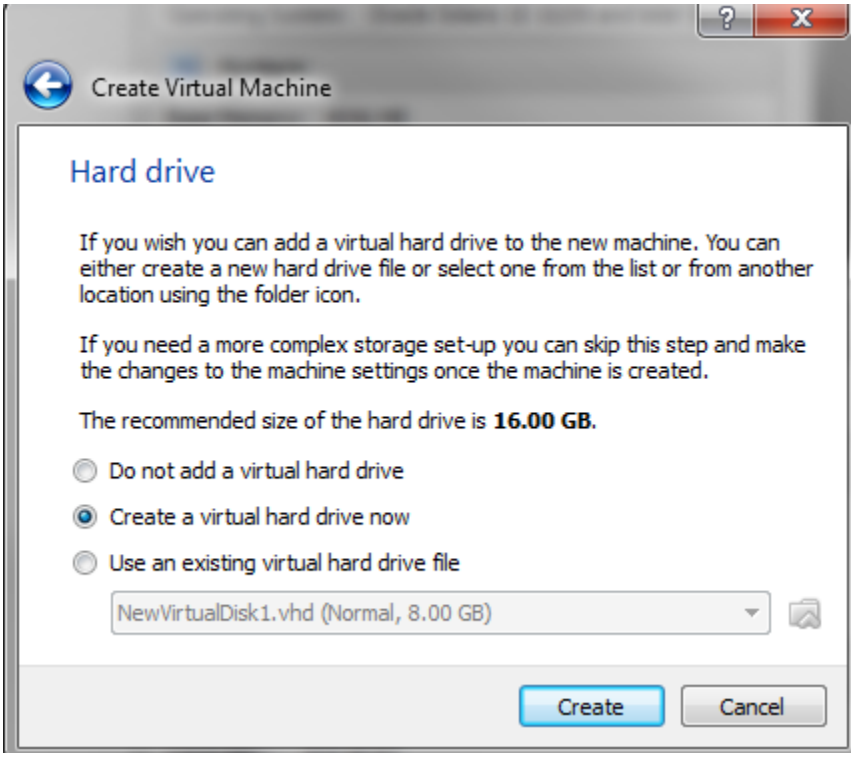
- Create a new ***Solaris*** type VM, ***with Oracle Solaris 10/09 and later (64 bit)*** as version. Let's name it ***TestZebi***.



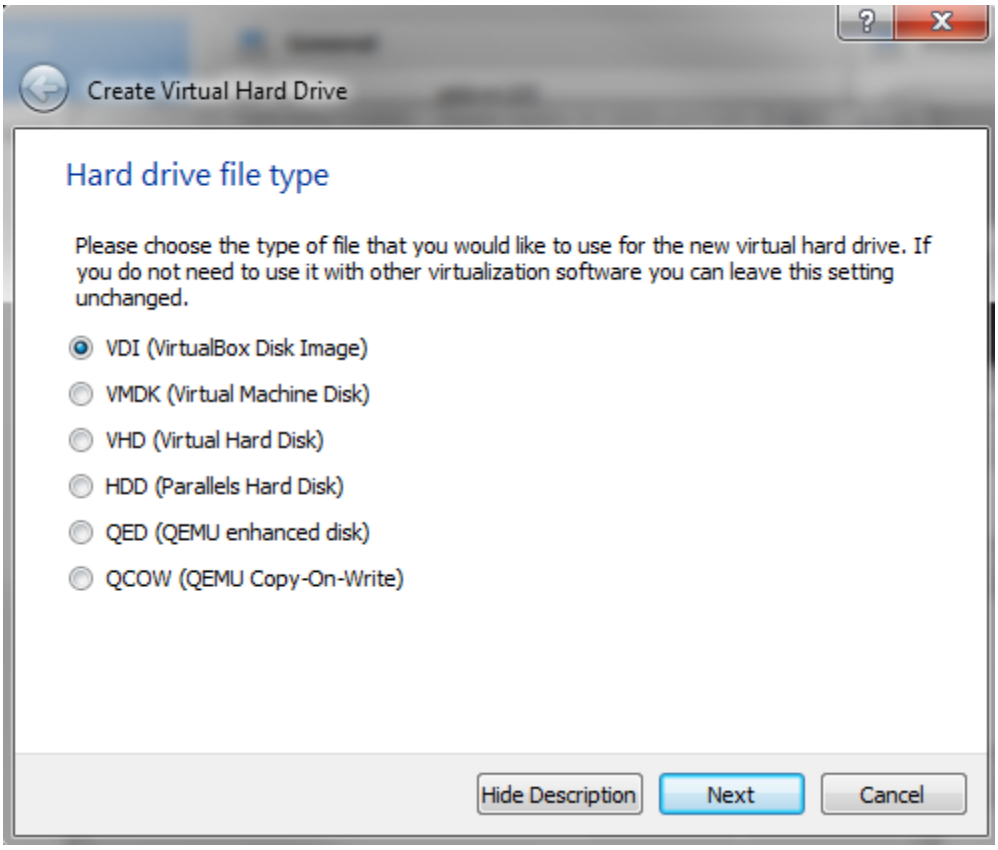
- Select 4G for Memory size



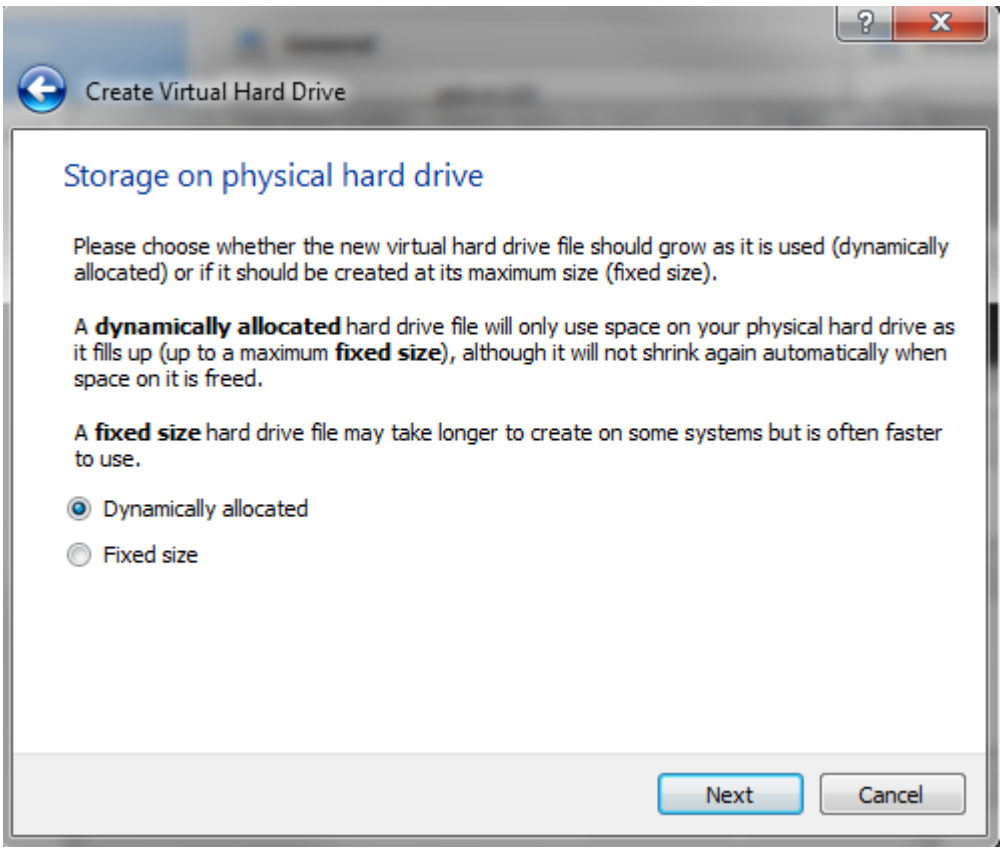
- Create a virtual hard drive, that is where we will install the ZebiOS

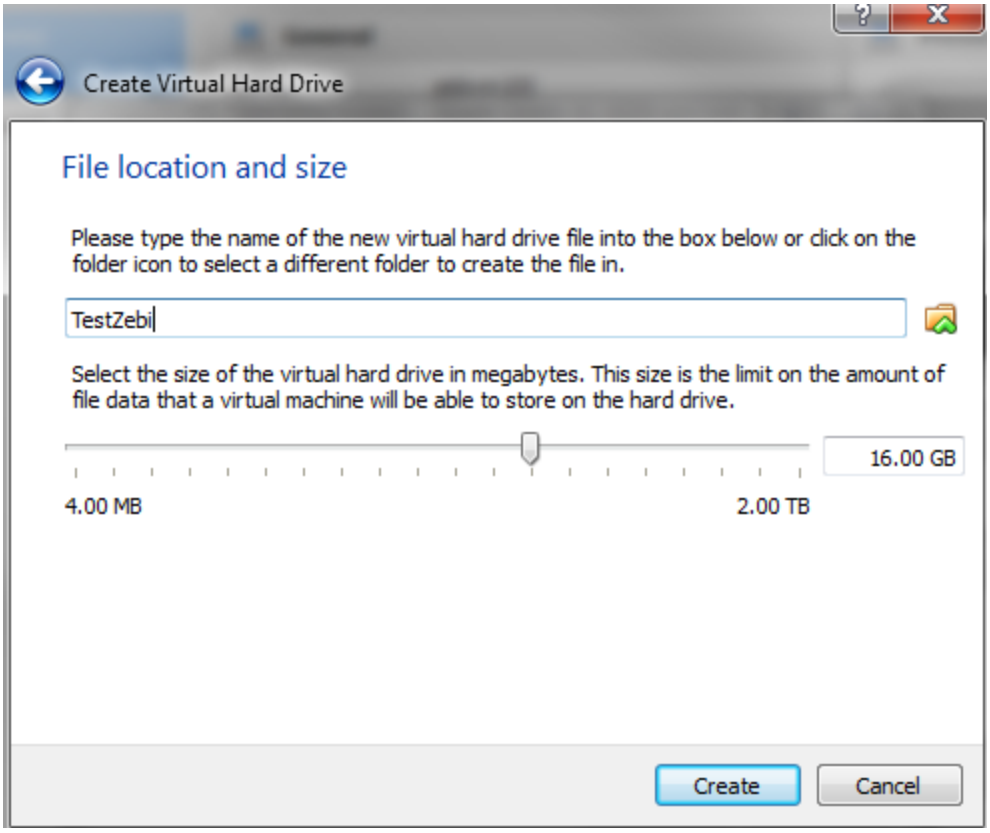


- Create a VDI Disk Image

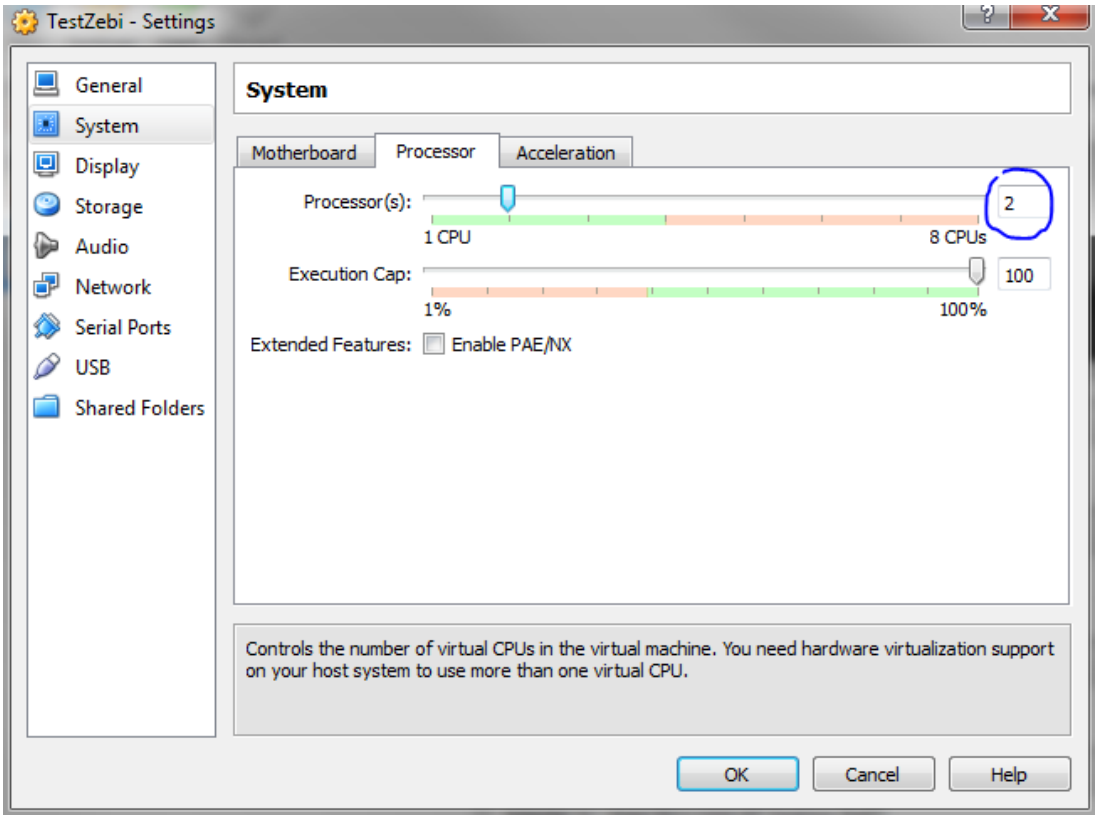


- Create ***Dynamically allocated*** 16G hard drive.

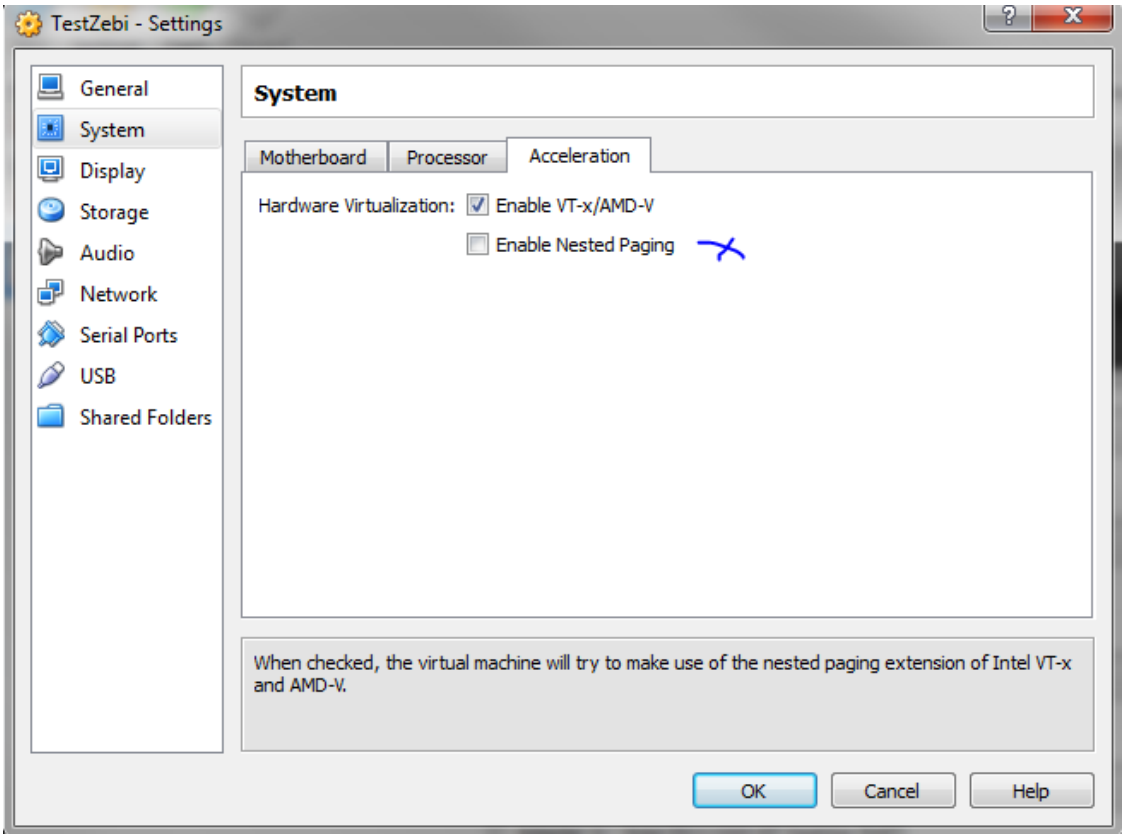




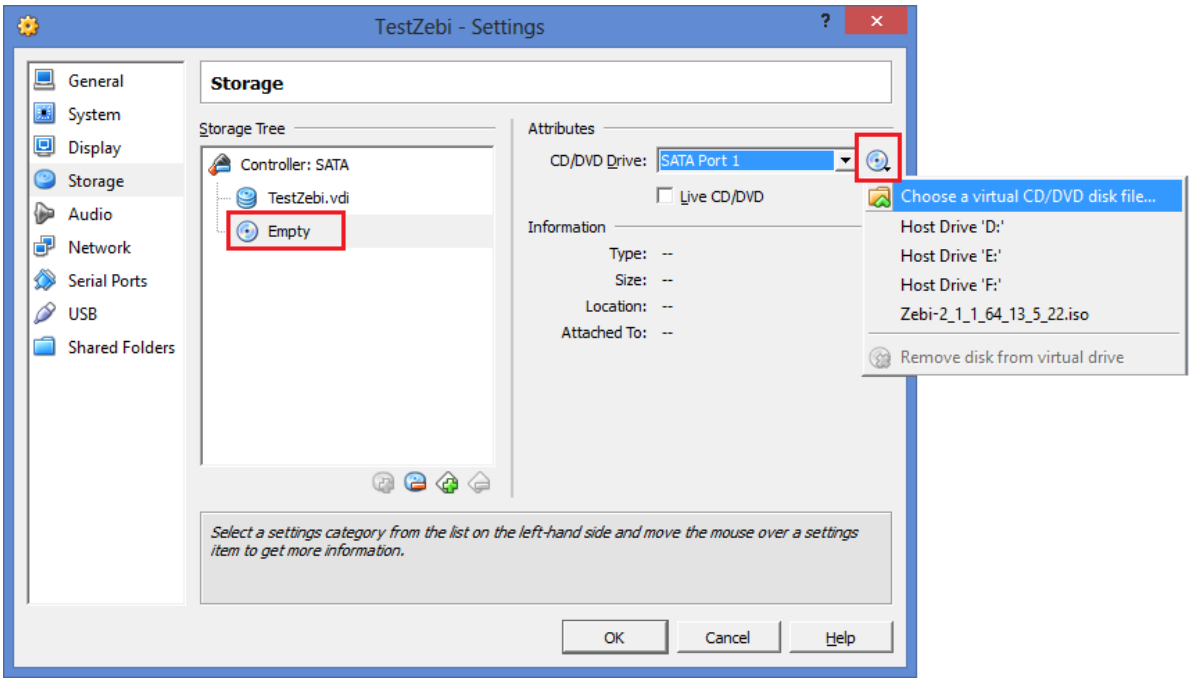
- Once the VM is created, go to the ***Settings*** and select ***System***. And under the ***Processor*** section, change the processors to 2



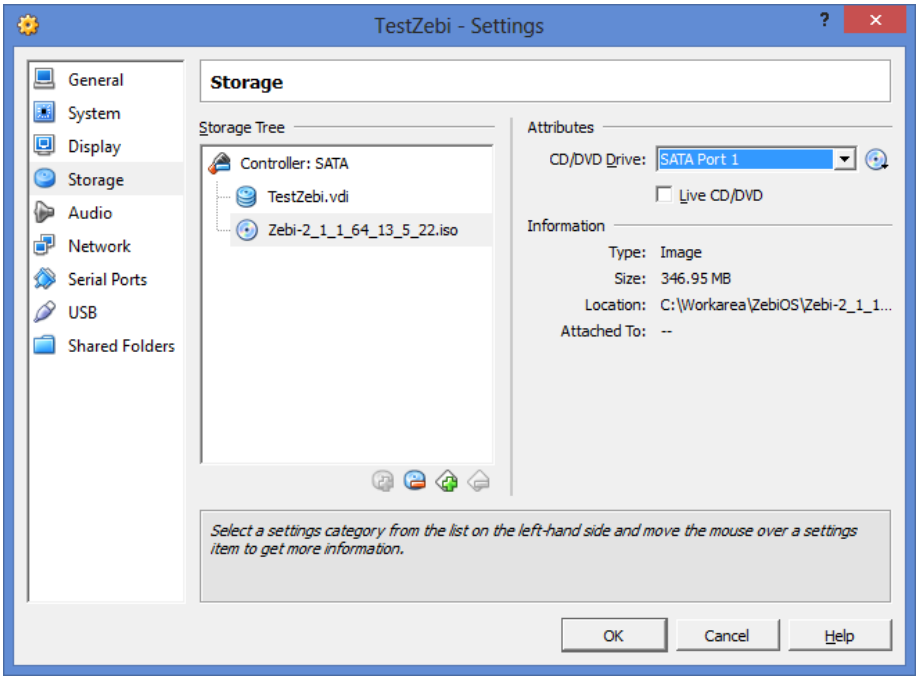
Uncheck 'Enable Netsted Paging'



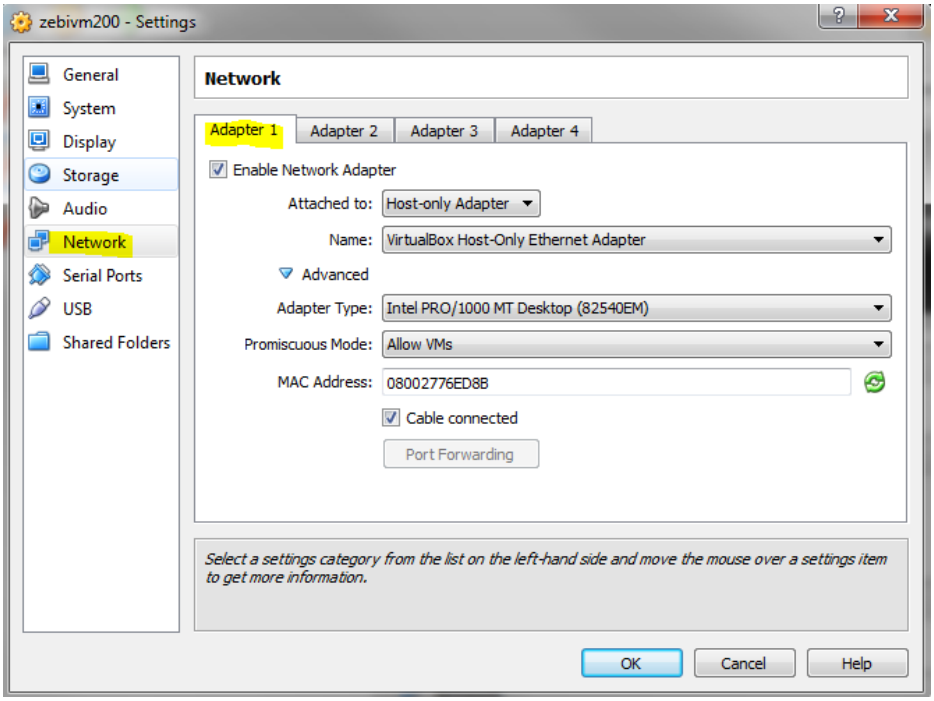
- Once the VM is created, go to the ***Settings*** and select ***Storage***. And under the ***Storage Tree*** section, select the CD (which should be empty for now). Once selected, Click on the CD icon ( ) under the ***Attributes*** section, which will give you a pop up to select the source for CD. This is where you select ***Choose a virtual CD/DVD disk file*** to specify the path to the ZebiOS image.



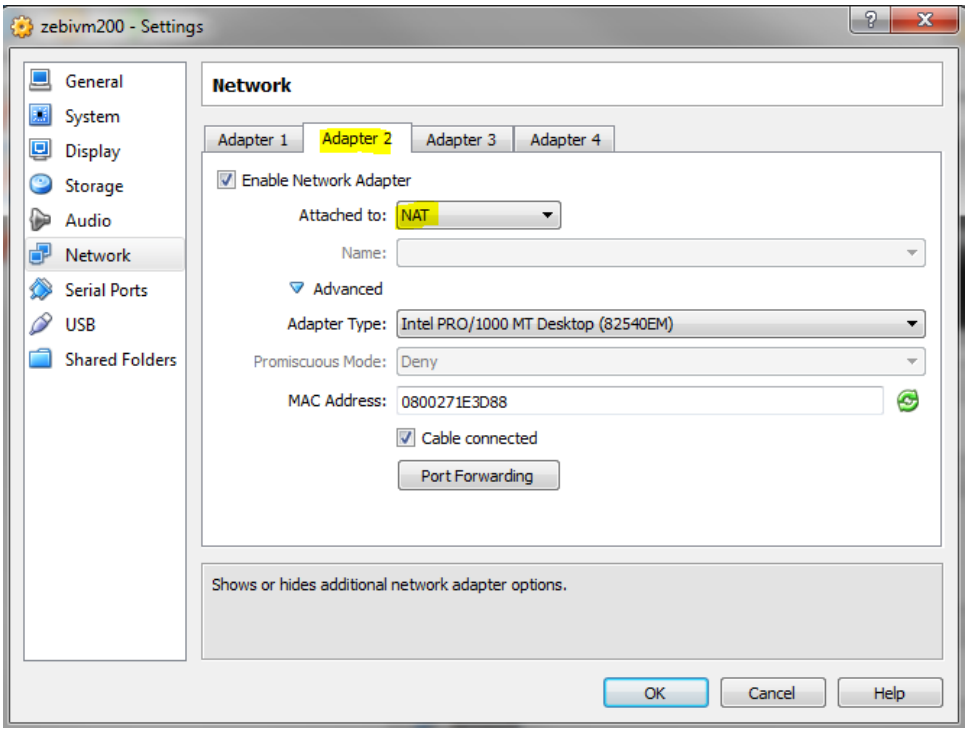
- The CD drive now should be pointing to the ZebiOS image specified.



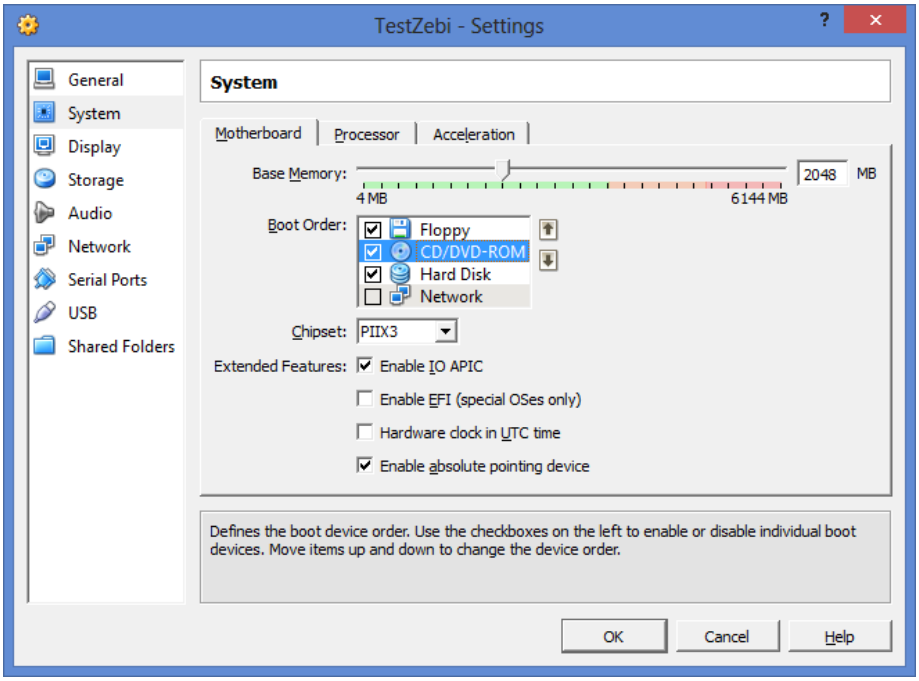
- Select the ***Network*** settings and make the followings changes for ***Adapeter 1***:
  - ***Attached to***: Host-only Adapter
  - ***Name***: Choose 'VirtualBox Host-Only Ethernet Adapter'
- Under ***Network*** => ***Advanced*** settings, make the following changes:
  - ***Adapter Type***: Intel PRO/1000 MT Desktop (82540EM)
  - ***Promiscuous Mode***: Allow VMs
  - Select ***Cable Connected***



- In the same ***Network*** settings and make the followings changes for ***Adapeter 2***:
  - ***Attached to***: NAT

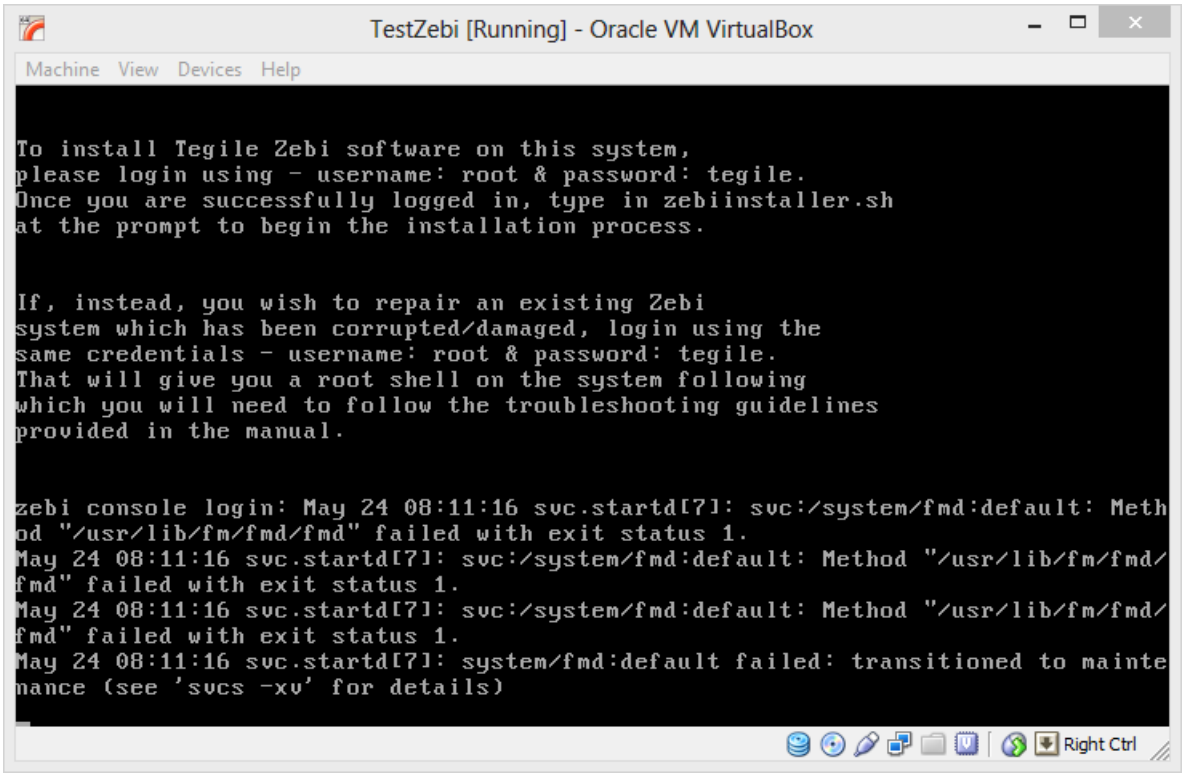


- Under the ***System*** settings, for the ***Boot Order***, make sure that the ***CD/DVD-ROM*** is on top of ***Hard Disk***.

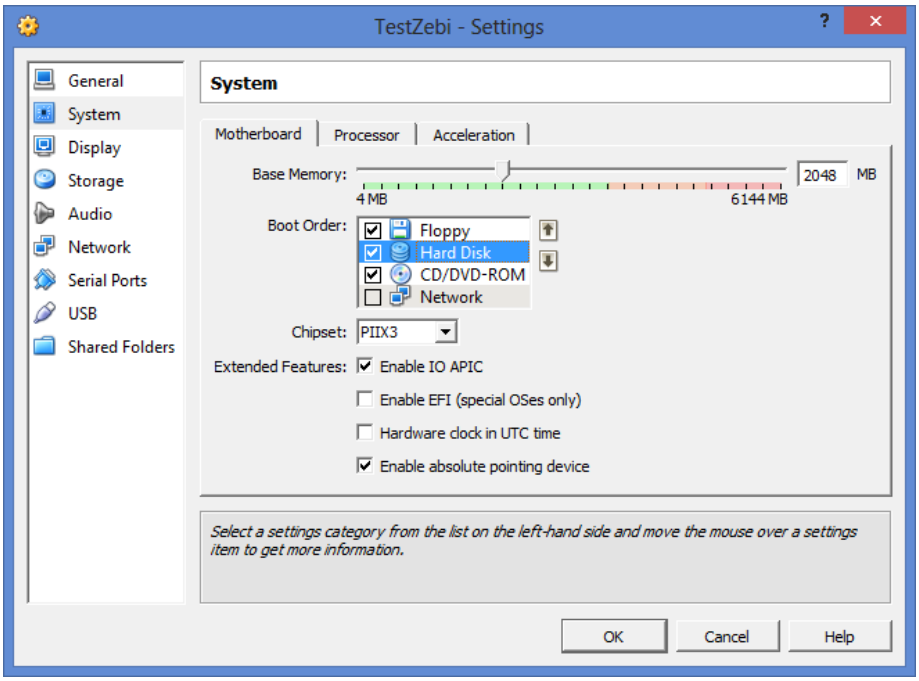


Configuring Zebi

- Start the VM, it should boot form the CD. And you should see something similar to the image below.



- Login using the credential username: ***root*** and password: ***tegile***. Once logged in, run ***zebiinstaller.sh***. This is an interactive process and you will be asked pretty self-explanatory questions through the installation.
- Once installation is complete, shutdown the VM as we need to change some settings.
- Once the VM is shutdown, go to the ***Settings*** => ***System*** settings page; change the ***Boot Order*** to bring ***Hard Disk*** on top of ***CD/DVD-ROM***.



- Start the VM again. This time the VM will boot from the ZebiOS that we installed in the previous steps.

- Login using the same credentials and then run zebiconfig.sh. Please read the information printed on the screen carefully, as you are about to lose your root credentials.
- Once started, please use the following settings:
    - DNS server's IP address: 10.79.16.100
    - IP Address: <from your Host-Only adapter IP range, 192.168.56.xxx>
    - Subnet Mask: 255.255.255.0
    - Gateway: 192.168.56.101 (from Host-Only Adapter)
    - Set all the passwords as tegile for now (just for simplicity)
- Once the configuration is done, the VM needs to reboot.
- Once rebooted, login as username: ***zebiadmin*** and password should be (***tegile*** or) whatever you set during the configuration process.
- After successful login, run ***su -*** and enter (***tegile*** or) the password you set for root during the configuration process. Then run ***ping 10.10.10.1***. If the command is successful, you are all set, go to the browser and enter the IP address you assigned to this Zebi VM; you should be able to login to the Web GUI (ignore the certification error).

Configure Second Adapter for Routing between VMs and Virtual-Box Host

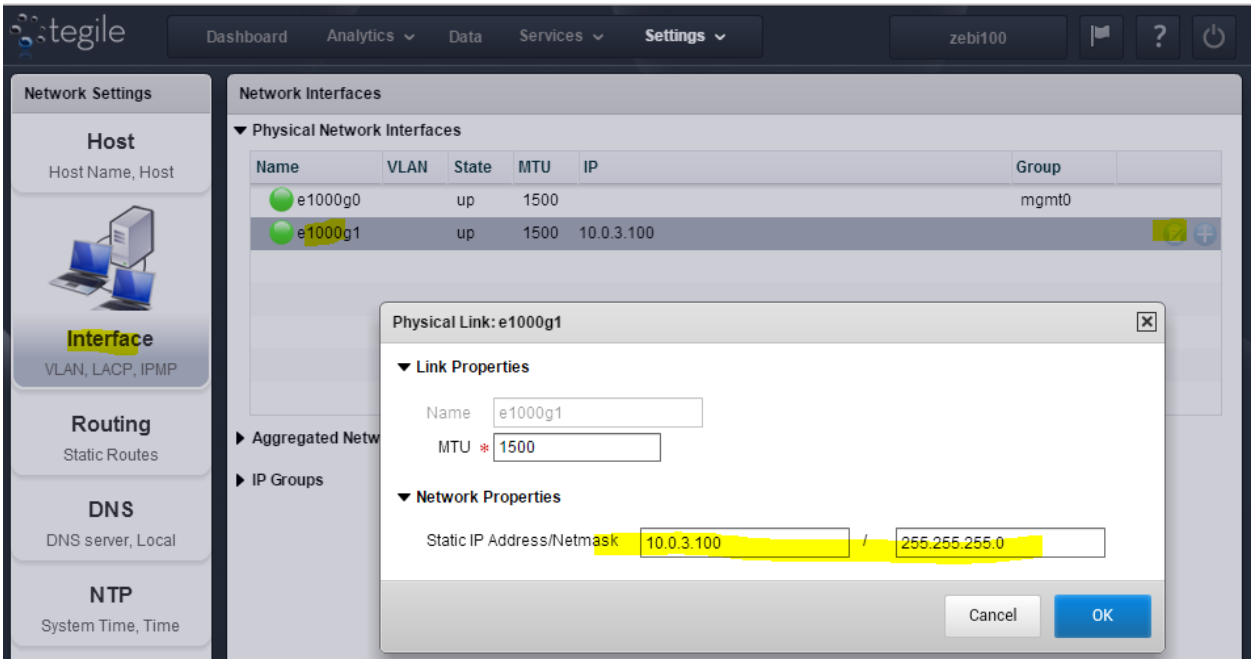
Since we use NAT for the second adapter, VirtualBox will allocate the IP addresses based on the Adapter number.

The virtual machine receives its network address and configuration on the private network from a DHCP server integrated into VirtualBox. The IP address thus assigned to the virtual machine is usually on a completely different network than the host. As more than one card of a virtual machine can be set up to use NAT, the first card is connected to the private network 10.0.2.0, the second card to the network 10.0.3.0 and so on.

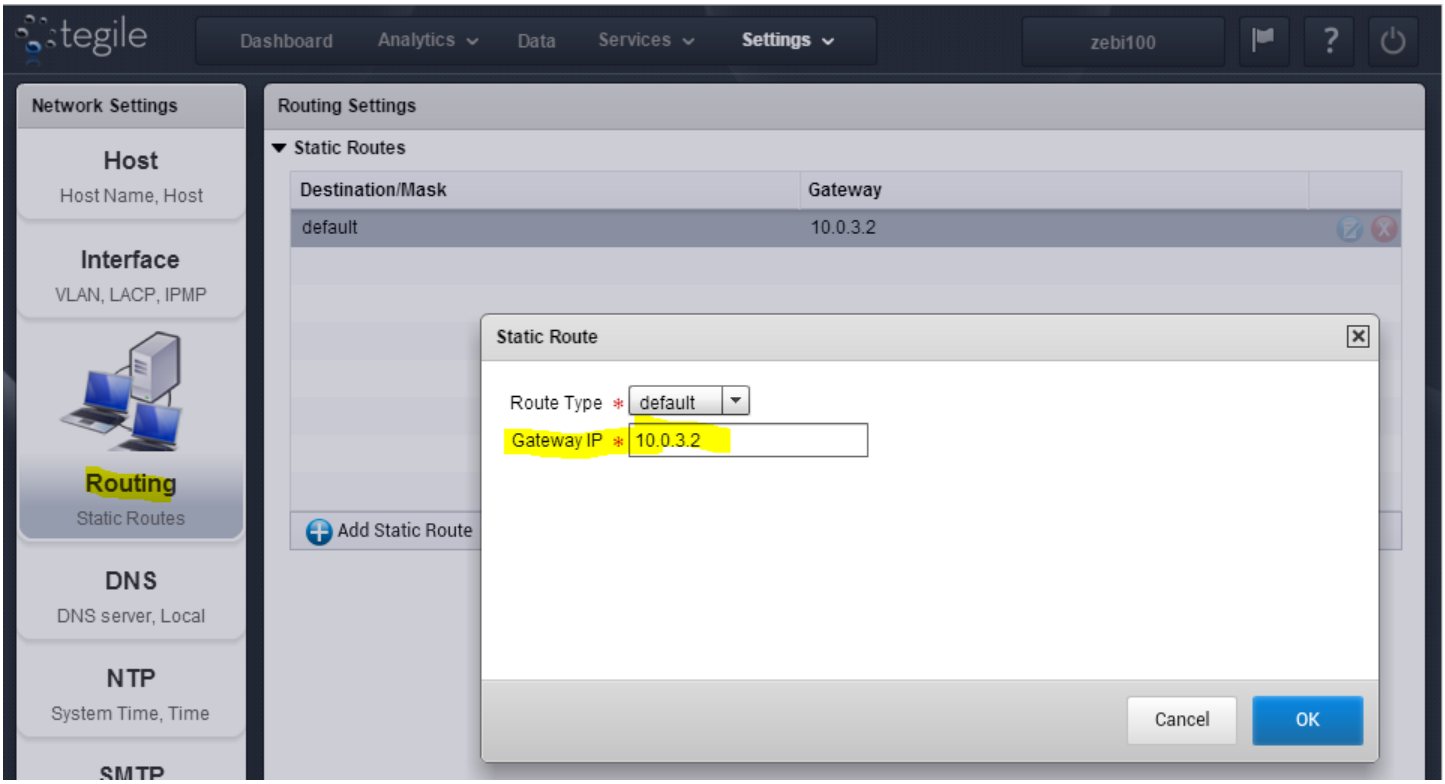
In NAT mode, the guest network interface is assigned to the IPv4 range 10.0.x.0/24 by default where x corresponds to the instance of the NAT interface +2. So x is 2 when there is only one NAT instance active. In that case the guest is assigned to the address 10.0.2.15, the gateway is set to 10.0.2.2 and the name server can be found at 10.0.2.3.

https://forums.virtualbox.org/viewtopic.php?f=1&t=49066

- Login into Zebi UI as username: ***admin*** and password should be (***tegile*** or) whatever you set during the configuration process.
- Goto ***Settings->Network***
- Select ***Interface, edit 2nd network (e1000g1) and set the static IP and subnet and save***

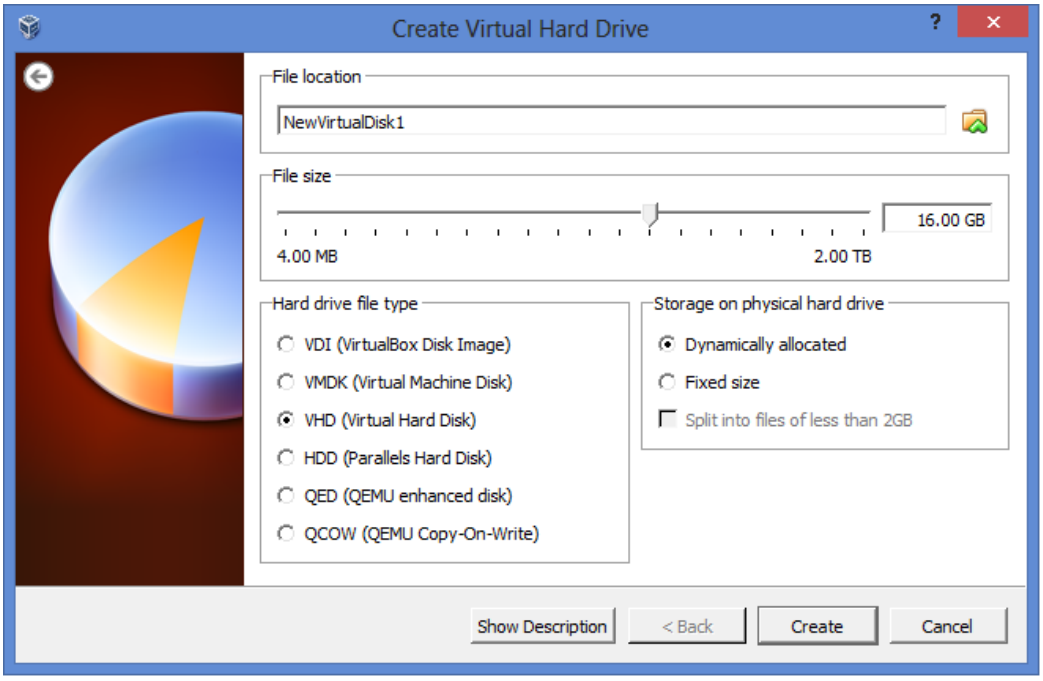


- Select ***Routing,*** ***set default route to 10.0.3.2 and save***

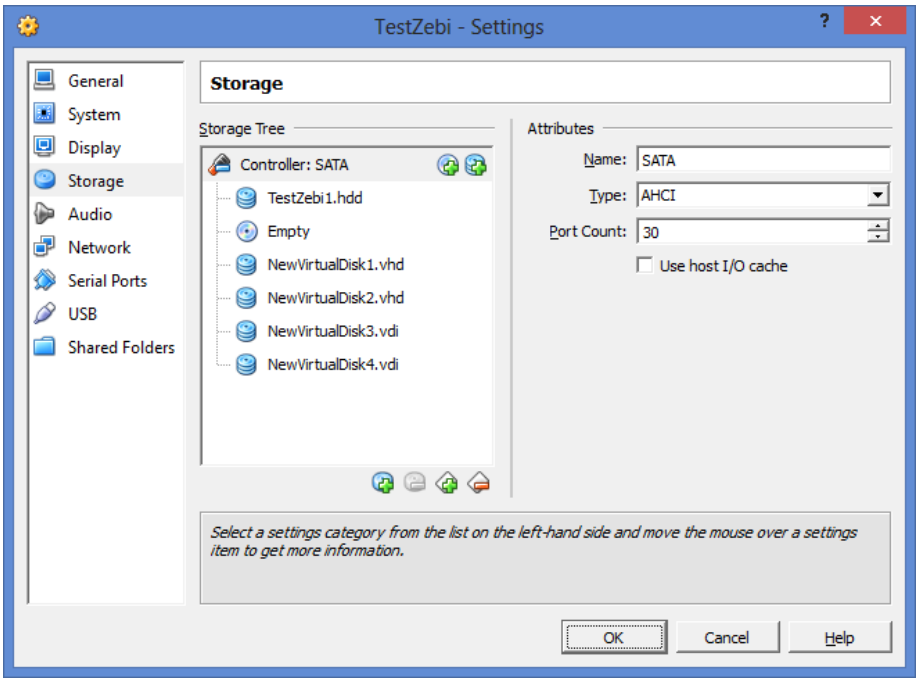


Creating Storage Pool

- Shutdown the VM if it is running and then go to the ***Settings*** => ***Storage*** settings page.
- Add few Virtual Hard Disks (lets for 4 for our case) by clicking on  .



- The ***Storage*** should now have 4 Hard Disks listed.



- Turn on the VM again, log in as discussed in earlier section.
- ***Note:*** At this point if you log in through Web GUI, you would not be able to create a storage pool as the disks created cannot be identified by the GUI. That is why we need to create the pool from CLI and then move on to GUI.
- Once logged as ***root*** as well, run the following commands:
  - **`format < /dev/null`**

This will list the Hard disks and the ids

- **`zpool create StoragePool1 mirror c1t1d0 c1t2d0 mirror c1t1d0 c1t2d0`**
  This will create a storage pool named StoragePool1, with 2 stripes, each of which is a mirror, inour case first mirror consists of c1t1d0 and c1t2d0 and the second mirror consists of c1t3d0 and c1t4d0

- **`zfs create StoragePool1/Local`**
- **`zfs create StoragePool1/Replica`**
- **`zfs create StoragePool1/System`**
- **`mkdir /StoragePool1/System/SUNW.nfs`**
- **`mkdir /StoragePool1/rrdFileStore`**
  These commands create the other necessary directories needed for newly created storage pool.

- After successful creation of the storage pool, log on to the Web GUI, by specifying the IP address of Zebi in address bar.
- Log in using username: ***admin*** and password: ***tegile*** (or whatever password you set previously during the configuration)
- Once logged in, go to the Data tab and you should be able to see the storage pool we created, StoragePool1.