

WA2490 Apache Spark from the Ground Up

Lab Server VM Setup Guide

Web Age Solutions Inc.

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Part 1 - Minimum Hardware Requirements

The Lab server is a 64-bit VM that requires a 64-bit host OS and a virtualization product that can support a 64-bit guest OS. **This VM uses 6 GB of total RAM and 2 vCPU.** The total system memory required varies depending on the size of data sets used in labs and on the other processes that are running in the VM.

- 8 GB RAM
- 80 GB Hard Disk

Part 2 - Minimum Software Requirements

- Windows XP / Vista / 7 - 64 bit
- VMware player 6.x or higher
- Chrome

Part 3 - Software Provided

You will receive the following file (further referred to as the **VM ZIP** file) containing the VMware player-compatible virtual machine:

- **VM_WA2341_CDH5-REL_2_2-Sep-2016.zip**

Part 4 - Preparation

1. Extract the **VM ZIP file** to C:\

Note: Every student in the class will need a dedicated Lab Server. So the class setup will require as many Lab Servers as there are students in the class. In other words, you will need to perform this setup as many times.

It is recommended to have each Lab Server VM installed on a separate physical machine, although they can be collocated as long as their *Network Connectivity* is setup with the *Bridged* option (see details further in the document).

Part 5 - Installing the VMWare image

1. Open a file browser and navigate inside the unzipped **VM ZIP** folder. Locate the VMware player executable file **vmplayer.exe**.

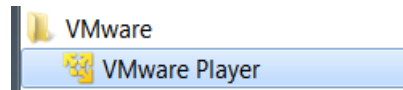
Note. If you don't find the VMware player executable file in this folder, download the VMware player **6.x** or higher from the VMware website using the following link:

<http://www.vmware.com>

__2. Install the VMware player accepting all the defaults during the installation.

__3. Restart the computer.

__1. From the Start menu, select **All Programs > VMware > VMware Player**.



__2. If prompted to download a new version of VMware player decline the update.

__3. Press **Ctrl-O**.

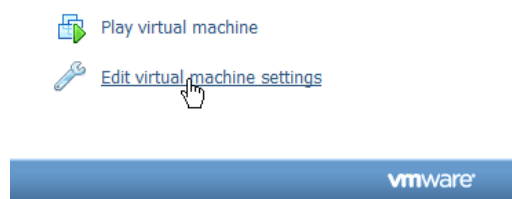
The *Open Virtual Machine* dialog opens

__4. Locate and select the **cloudera-quickstart-vm-5.4.0-0-vmware.vmx** file located under the unzipped **VM ZIP** folder and click **Open**.

The **cloudera-quickstart-vm-5.4.0-0-vmware** menu option will appear on the list of available virtual machines.



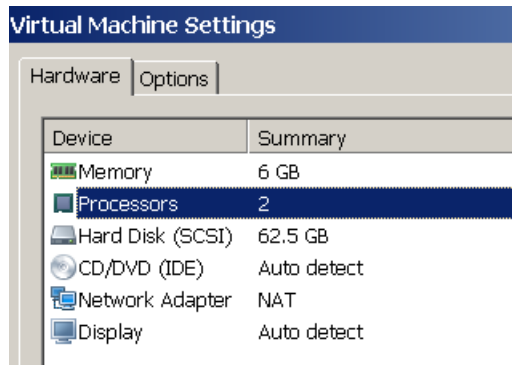
__5. Click **Edit virtual machine settings** at the bottom of the VMWare Player



The *Virtual Machine Settings* screen opens with the **Hardware** tab opened by default.

__6. Change the Memory VM size attribute to **6 G (6144 M)**

__7. Change the Number of Processors VM attribute from 1 to **2**

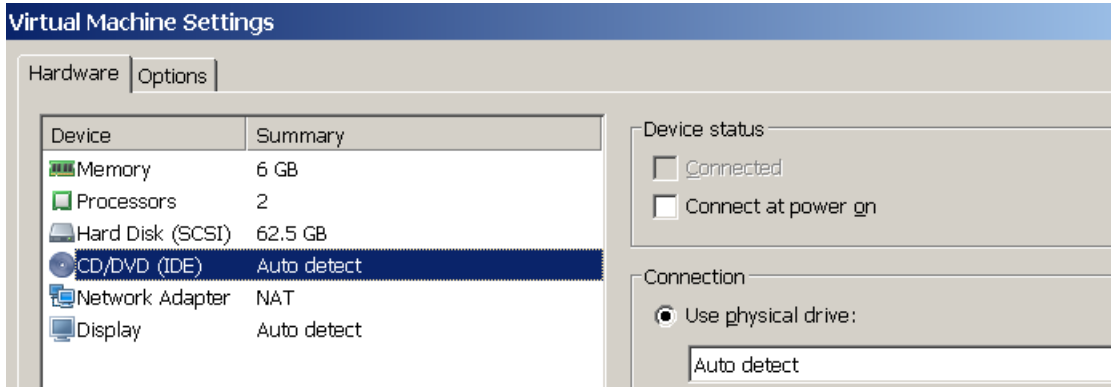


__8. The **Network Adapter** VM attribute can be configured for the **Bridged** or **NAT** connection options.

- ✓ As a rule of thumb, use **NAT** for the **VM** being installed locally on the physical student machine, use **Bridged** on remote machines. If these suggestions do not work, use the options that best suite your environment.
- ✓ The NAT options is preselected by default; for the Bridged option, see the **Setting Up the IP Address of the Lab Server VM** lab step at the end of the document

__9. Click **CD/DVD (IDE) Device**

__10. Uncheck the **Connect at power on** (or keep it clear if it is already unchecked) *Device status*



__11. If **Floppy** is present, click **Floppy** (if this option is **not** present, skip to the next numbered step)

- ✓ Uncheck the **Connect at power on** (or keep it clear if it is already unchecked)

__12. If **Sound Card** is present, click **Sound Card** (if this option is **not** present, skip to the next to the next numbered step)

- ✓ Uncheck the **Connect at power on** (or keep it clear if it is already unchecked)

__13. If **Printer** is present, click **Printer** (if this option is **not** present, skip to the next to the next numbered step)

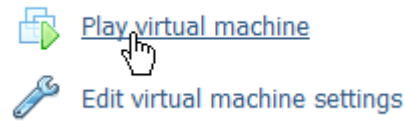
- ✓ Uncheck the **Connect at power on** (or keep it clear if it is already unchecked)

__14. Click **OK** at the bottom of the *Virtual Machine Settings Screen* to close it.

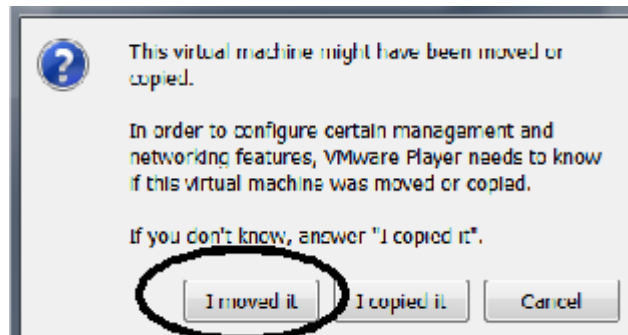


Part 6 - Running the VM

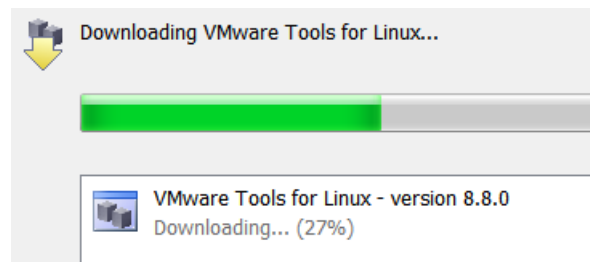
__1. Select the **cloudera-quickstart-vm-5.4.0-0-vmware** virtual machine (it should already be pre-selected) and click **Play virtual machine**.



__2. Click "**I moved it**", if prompted.



__3. If you are prompted to download and install the VMware Tools for Linux, accepted the option.



Accept reasonable options if and when they appear.

VM bootstrapping may take some time, and when it completes, you should be automatically logged in the Lab Server VM as the *cloudera* user and presented with the Cloudera Desktop.



The installation of the Lab Server virtual machine is completed.

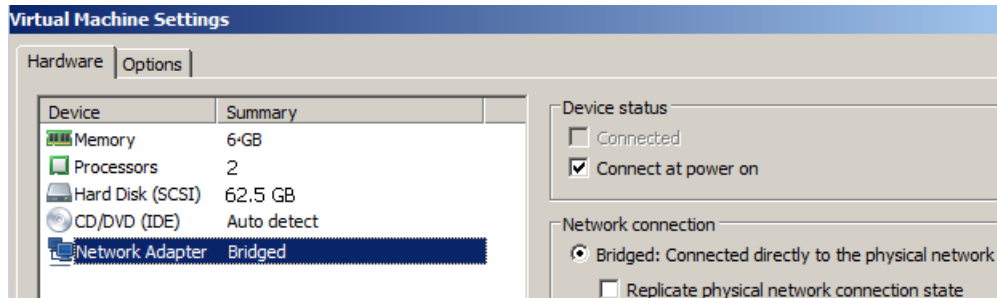
The last Lab setup step is required if you want to set up the student VMs with the Bridged network configuration option.

Note: The remote (SSH) access to the Lab Server VM is done under the *cloudera* username with *cloudera* password.

The *cloudera* account has sudo privileges in the Lab Server. The root account password is **cloudera**

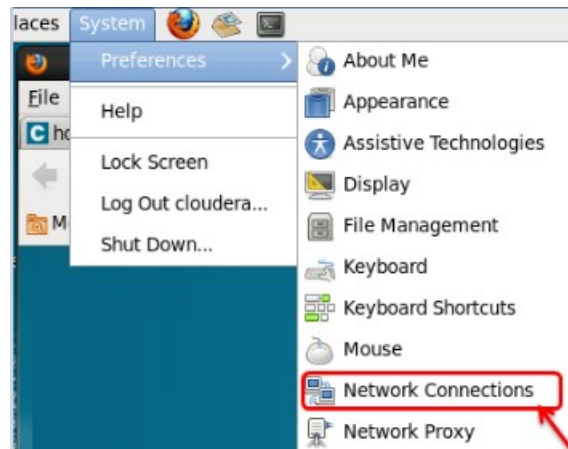
Part 7 - Setting Up the IP Address of the Lab Server VM

If you setup your VM Network Adapter with the *Bridged* option as shown in the screen-shoot below, by default, you will have a DHCP leased IP address assigned to the Lab Server. It may be a convenient feature from the administration perspective, but will affect student SSH connections during the class as they will always be required to change the Lab Server IP address whenever the IP address of the Lab Server changes (IP lease may be configured to expire every day and the class runs for four days).



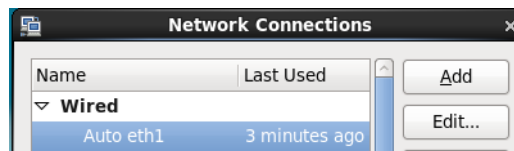
Considering the inconvenience to the students, it may be worthwhile to assign each Lab Server a unique IP address.

__1. From the Lab Server toolbar, select *System > Preferences > Network Connections*.



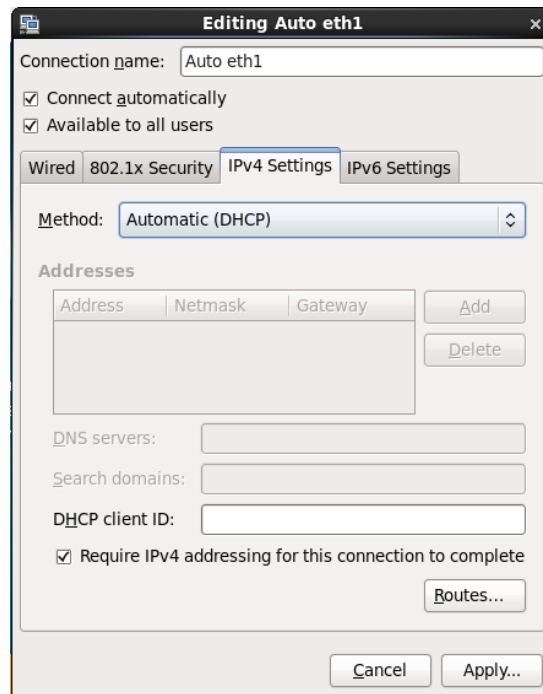
The *Network Connections* Dialog opens.

__2. Select **Wired / Auto eth1** and click **Edit ...**



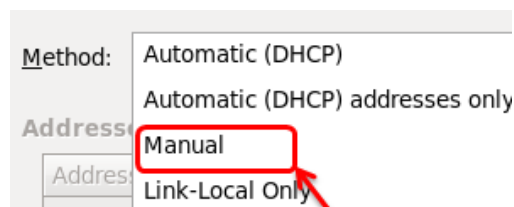
The **Editing Auto eth1** Dialog opens.

3. Select the **IPv4 Settings** Tab.



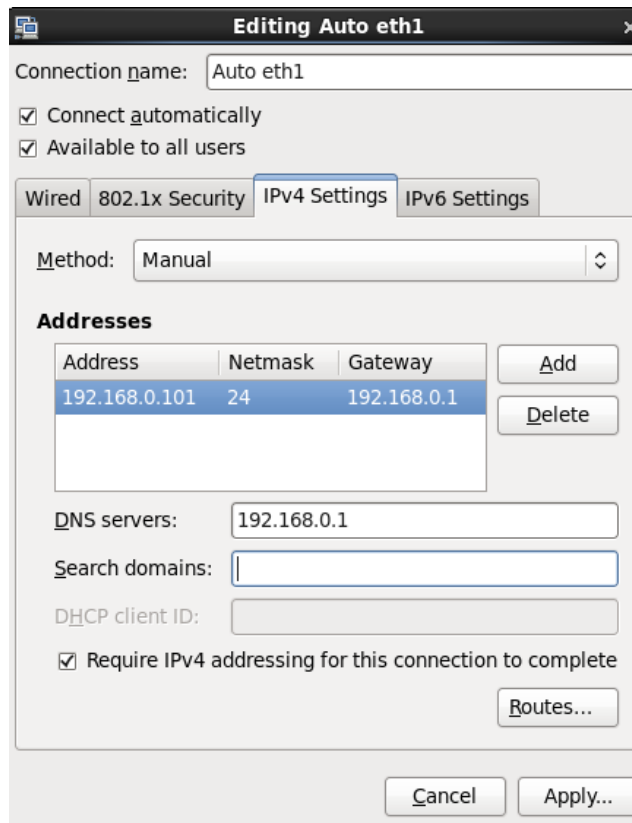
In the screen-shoot above the network adapter is configured to receive IP address from the DHCP server.

4. For setting up the static IP address, select **Manual** from the *Method:* drop-down.



5. Click **Add** to add an *IP Address*, *Netmask*, *Gateway* and *DNS* as per your network settings.

Sample input screen is shown below.



__6. Click **Apply ...**

The *Authenticate* Dialog opens up.

__7. In the *Password for root:* text window, enter **cloudera** and click **Authenticate**.

You should be returned to the *Network Connections* Dialog.

__8. Click **Close**

This is the final step of the Lab Server setup.

You have successfully installed the software for this course for the Server.