VIRTUAL NETWORK COMMUNICATION

STEP-BY-STEP USER GUIDE

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Section 0 - Doc-Control Information

Document Information

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Introduction:

This document provides step-by-step guide on how to setup Virtual Machine (VM) on Host Computer and establish communication between them.

This documentation covers following topics:

- 1. Inside Host Computer, create a folder structure and copy two VM Folders
- 2. Create Shared Folder inside Host Computer and each of the Virtual Machines
- 3. Configure each of the Virtual Machine to communicate with one another as well as the Host Computer
- 4. Manually assign IP Addresses to each of the Virtual Machine
- 5. Issue IP Config and Ping commands to verify the IP Information and Communication
- 6. Few Troubleshooting Tips to solve some common configuration errors

Reference Documents

DOC #	DOCUMENT DESCRIPTION

Revision History

REV #	DATE	HISTORY DETAIL
А	06/01/2018	Initial Release

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Section 1 - Basic Host Computer Setup

NOTE: Refer to Figure 1-1 and Figure 1-2 and Figure 1-3

- **1.1** Host Computer Setup:
 - **1.1.1** In C:\ Drive, create a folder and name it as xHOST Share Folder.
 - **1.1.2** In newly created folder, create or add any Word or Text document.
 - **1.1.3** In newly created folder, add two VMware Virtual Machine folders. Name these folders as follows:
 - Name one VMware virtual machine folder to VM1
 - Name other VMware virtual machine folder to VM2





Figure 1-2 VM1 Folder Content



Figure 1-3 VM2 Folder Content



NOTE: Refer to Figure 1-4 and Figure 1-5 and Figure 1-6.

- **1.2** Add VM1 to VMware Player:
 - **1.2.1** Double click on VMware icon to open VMware Player application.
 - **1.2.2** In VMware Player Application window, select Open a Virtual Machine link.
 - **1.2.3** Navigate to the C:\xHOST Share Folder\VM1 folder and double click on file name which has extension .vmx (Windows 7x64.vmx) to open VM1.
 - **1.2.4** VM1 will be added to the VMware Player.

• At the moment name of VM1 is set to default file name (Windows 7 x64), which will change in next few steps

Figure 1-4 VMware Player - Home Screen

Home	Welcome to VMware Player
	Create a New Virtual Machine Create a new virtual machine, which will then be added to the top of your library.
	Open a Virtual Machine Open an existing virtual machine, which will then b added to the top of your library.
	Upgrade to VMware Workstation Get advanced features such as snapshots, developer tool integration, and more.
	Help View VMware Player's help contents.

Figure 1-5 Navigate to .vmx File

🔂 Home			Welcome to VMware Pla	yer
53 (Open Virtual I	Machine		×
	Look in:	퉬 VM1	💌 🚱 🏂 📂 🎞 -	
Re	ecent Places	Name Caches	▼ Date modified ▼ Type 4/5/2018 1:04 PM File folder 3/23/2018 1:36 PM VMware virtual	
	Desktop Libraries Computer) be
	Network	File name: I Files of type: VMware	Configuration Files (*.vmx)	

Figure 1-6 VMware Player - VM1 Added

Home	
Windows 7 x64	
	Windows 7 x64
	State: Powered Off OS: Windows 7 x64 Version: Workstation 8.0 virtual machine RAM: 2 GB
	Play virtual machine

1.3 Repeat the above Step 1.2 and add VM2 to VMware Player (from C:\xHOST Share Folder\VM2 folder).

Section 2 - Configure VM Hardware

NOTE: Refer to Figure 2-1. 2.1 Follow these steps to Configuration VM Settings: 2.1.1 In VMware Player window, click on default VM (Windows 7 x64) for VM1. 2.1.2 From the right-side of the window, click on Edit virtual machine settings. 2.1.3 Virtual Machine Settings dialog box will display. • Same dialog box can also be accessed through the top menu bar Virtual Machine > Virtual Machine Settings (or shortcut key Ctrl + D) 2.1.4 In the Virtual Machine Settings dialog box, by default Hardware tab is selected. Left-side displays list of devices and right-side displays the settings for any selected device. • It is possible that your device list may differ from the one that is shown in Figure 2-1; however, the process is still the same • From the Device list, devices can be added or removed (except Memory, Processors, Hard Disk and Display) • To remove any device, select a device and click Remove button at the bottom of the section • To add a device, click the Add button; then in Add Hardware Wizard, follow the step-by-step process to install a device

Figure 2-1 VM Player - Home Screen

Home	
Windows 7 x64	
	Windows 7 x64
	State: Powered Off
	OS: Windows 7 x64
	Version: Workstation 8.0 virtual machine
	10101 2 00
	Play virtual machine
	Edit virtual machine settings
·	

Figure 2-2 VM Settings - Hardware 1

Device Memory Processors Hard Disk (SCSI) CD/DVD (IDE) Floppy Network Adapter USB Controller Sound Card Printer Display	Summary 2 GB 4 60 GB Auto detect Auto detect NAT Present Auto detect Present Auto detect	Memory Specify the amount of memory allocated to this virtual machine. The memory size must be a multiple of 4 MB. Memory for this virtual machine: 2048 ★ Memory for this virtual machine: 2048 ★ MB 64 GB - 32 GB - Image: Comparison of the system of the syste

NOTE: Refer to Figure 2-3.

- 2.2 Configure Networks Adapter settings for VM1.
 - **2.2.1** From the left-side, select Network Adapter device.
 - **2.2.2** On the right-side verify the following settings are checked.
 - For Device Status, make sure Connect at power on is checked
 - For Network Connection, make sure Host-only: A private network shared with the host is selected

Brief explanation about each of the available networks option:

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- Bridge: Allows VM to communicate with other Computers or VMs that are outside of Host Computer, but are on the same network
 - NAT: NAToption is similar to the Bridge option
 - Host-only: This VM can only communicate with Host Computer and other VM which are inside the Host Computer
 - LAN segment: LAN options is similar to Host-only option

Figure 2-3 VM Settings - Hardware 2

|--|

2.3 Repeat the above process to configure hardware for VM2.

Section 3 - Configure VM Options

NOTE: Refer to Figure 3-1.

- **3.1** Follow these steps to Configuration VM Settings:
 - **3.1.1** In VMware Player window, click on default VM (Windows 7 x64) for VM1.
 - **3.1.2** From the right-side of the window, click on Edit virtual machine settings.
 - **3.1.3** Virtual Machine Settings dialog box will display.
 - Same dialog box can also be accessed through the top menu bar Virtual Machine > Virtual Machine Settings (or shortcut key Ctrl + D)
 - In the Virtual Machine Settings dialog box, select the Options tab. Left-side displays list of options and right-side displays the settings for any selected option.
 - It is possible that your option list may differ from the one that is shown in Figure 3-2; however, the process is still the same

Figure 3-1 VM Player - Home Screen

Home Home	
Windows 7 x64	
	Windows 7 x64
	State: Powered Off
	OS: Windows 7 x64
	Version: Workstation 8.0 virtual machine
	KAMI: 2 GB
	Play virtual machine
	Edit virtual machine settings

Figure 3-2 VM Settings - Options

Settings ■ General Power Shared Folders Tolks Unity Autologon	Summary Windows 7 x64 Disabled Default Not available	Virtual machine name Virtual machine name Guest operating system Microsoft Windows Linux Novell NettWare Sun Solaris Other Version: Vindows 7 x64 Vorking directory C:\vtHOST Share Folder\VM1 Browse Vworking directory C:\vtHOST Share Folder\VM1 Browse Enhanced virtual keyboard Off
---	--	---

- **3.2** Configure General settings for VM1 (see Figure 3-2).
 - **3.2.1** From the left-side, select General.
 - **3.2.2** On the right-side, change the Virtual Machine Name to VM1.
 - 3.2.3 Verify that Working Directory is set to C:xHOST Share Folder\VM1
- **3.3** Configure Shared Folder settings for VM1, (see Figure 3-3).
 - **3.3.1** From the left-side, select Shared Folders.
 - **3.3.1.1** On the right-side (top-half), in the Folder Sharing section, select the Always enabled.
 - **3.3.1.2** On the right-side (top-half), in the Folder Sharing section, check the Map as a network drive in Windows guests.

Figure 3-3 VM Settings - Folder Sharing

Settings	Summary	Folder sharing	
General	VM1	Shared for	olders expose your files to programs in the
Power		virtual ma	achine. This may put your computer and
Shared Folders	Disabled	your data	a at risk. Only enable shared folders if you
VMware Tools	Default	C Disch	
Unity		O Disab	ieu us anablad
🍰 Autologon	Not available	• Alway	ys enabled
		U Enabl	ea until next power off or suspend
		Map as a r	network drive in Windows guests
		Folders	
		Name	Host Path
			Add Remove Properties

NOTE: Now assign a shared folder, this folder will be a common folder (for easy access to transfer files) between Host Computer and VM1. Additional folders can be added as necessary.

- **3.3.2** Assign Shared Folder (see Figure 3-4).
 - **3.3.2.1** In the right-side (bottom-half), click on the Add button.
 - **3.3.2.2** In the Add Shared Folder Wizard will display, click Next.
 - **3.3.2.3** In next screen, for the Host Path, click on the Browse button.
 - **3.3.2.4** In the Browse For Folder dialog box, navigate to C:\ Drive and select the xHOST Share Folder. Then click OK.

- **3.3.2.5** Host Path is set and default Name is also set (same as Host Path). Click Next.
- **3.3.2.6** In the next screen, check the box next to the Enable This Share and then click Finish.
- **3.3.2.7** Shared Folder will be added to the Folders list.

Figure	3-4	VM	Settings	- Add F	older
rigaro	U .		Counigo	71001	oraor

Tirtual Machine Settir Hardware Options	igs	×
Settings	Summary	Folder sharing
General	VM1	A Shared folders expose your files to programs in the virtual machine. This may put your computer and
Shared Folders	Disabled	trust the virtual machine with your data.
VMware Tools	Default Not available	C Disabled Always enabled
		✓ Map as a network drive in Windows guests Folders Name Host Path ▼ xHOST Share Folder C:\xHOST Share Folder ▲dd Remove Properties

3.4 Repeat the above process to configure options for VM2.

Section 4 - Basic VM Setup

NOTE: Refer to Figure 4-1.

- **4.1** Open Virtual Machine VM1:
 - **4.1.1** In VMware Player window, select on VM1 and then click on Play Virtual Machine link.
 - If message displays "Virtual Machine might have been moved or copied", click I
 Copied It button
 - If message displays "Can not connect the Virtual Device", click Yes button
 - If Software Update dialog box displays, click Remind Me Later button
 - If Removable Devices dialog box displays, click OK
 - **4.1.2** Virtual machine will start the Windows Operating System.

Figure 4-1 Open Virtual Machine

Home	
🚽 VM1	
₩12	
	VM1
	State: Powered Off
	Version: Workstation 8.0 virtual machine
	RAM: 2 GB
	Play virtual machine
	Edit virtual machine settings

NOTE: Refer to Figure 4-2 and Figure 4-3.

- **4.2** Change VM1 Computer Name.
 - **4.2.1** When Windows Operating System has started, click on the Start button.
 - **4.2.2** Then from the pop-up menu, right click on Computer, then from the context menu, click on Properties.

Figure 4-2 PC Name Change - 1

🤫 VM1 - VMware Player File 🕶 Virtual M	achine 🔻 Help 👻	_ 🗆 ×
Recycle Bin		
Calculator	aixtron	
Remote Desktop Connection	Documents Pictures Music Comments Open Cont Manage Device Device Defat Show on Deskton	
	Help Rename Properties	
All Programs Search programs and files	Shut down	
		 ₩ 1:18 PM ₩ 1:18 PM ₩ 1:18 PM

- **4.2.3** This will open Systems Window. System window displays computer system related information including Computer Name.
- **4.2.4** To change Computer Name, follow these steps:
 - **4.2.4.1** Click Change Settings link, located in section Computer name, domain, and workgroup settings.
 - 4.2.4.2 System properties dialog box displays and Computer Name tab is selected.Full computer name and workgroup information are displayed.
 - **4.2.4.3** Click on the Change button to rename this computer.

- **4.2.4.4** In Computer Name/Domain Changes dialog box, type in the Admin-VM1 as new computer name and then click OK.
- **4.2.4.5** Message will pop-up saying, "You must restart the computer to apply the changes". To close pop-up, click OK.
- **4.2.4.6** Close System Properties dialog box by clicking Close button.
- **4.2.4.7** When message pops-up again to restart the system, click on Restart Now.
- **4.2.4.8** When Windows Operating System has started, re-check the Computer Name.

Computer name should be changed to VM1

Figure 4-3 PC Name Change - 2



- **4.2.5** Repeat this section for VM2, and change the Computer Name to Admin-VM2.
- **4.3** Check the Host Shared Folder:
 - **4.3.1** Open Virtual Machine VM1
 - **4.3.2** When Windows Operating System has started, click on the Windows Explorer button to open file manager.
 - **4.3.3** In the folder tree (on the left-side) under computer section, along with the C:\ drive, there should be an additional Shared Folders drive.

NOTE: Shared Folders drive is mapped as a Z: drive (\\vmware-host).

- **4.3.4** Expand the Shared Folders drive and xHOST Shared Folder will be displayed. This folder was setup earlier during the Section 3 .
 - This folder is located on the Host Computer and now available to share files between Host Computer and Virtual Machine
 - Select the xHOST Share Folder and content of the folders will be visible on the right-side of the screen as shown in Figure 4-4

Figure 4-4 xHost Shared Folder



4.3.5 Repeat this section for VM2, and check the Host Shared Folder.

Section 5 - Setup VM Shared Folders

- 5.1 Create VM Shared Folder for VM1:
 - **5.1.1** Click on the Windows Explorer button to open file manager.
 - **5.1.2** From the left-side under Computer section, select C:\ drive.
 - **5.1.3** On the right-side, create a new folder and name it as xVM1 Share Folder (see Figure 5-1).

Figure 5-1 VM Shared Folder



NOTE: Refer to Figure 5-2.

- **5.2** Configure VM Shared Folder:
 - **5.2.1** Click on the Windows Explorer button to open file manager.
 - **5.2.2** From the left-side under Computer section, select C:\ drive.
 - **5.2.3** On the right-side, right-click on xVM1 Share Folder and then select Properties from the context menu.
 - **5.2.4** Properties dialog box displays for xVM1 Share Folder.
 - 5.2.5 Click on the Sharing tab. Note that in Network File & Folder Sharing section, Network Path is set to Not Shared.

Figure 5-2 Properties Dialog Box - Sharing Tab 1

🤏 VM1 - VMware Player File 🕶 Virtual Machin	e 🕶 Help 👻	_ 🗆 ×
		_ 0 ×
🔆 💭 🗕 💺 Computer 🕨 Local Disk (C:) 🕨	▼ 4	😙 Search Loc 🔎
Organize 👻 😭 Open 🛛 Include in library 🕚	 Share with	= • 🔟 🔞
★ Favorites	xVM1 Share Folder Properties	Туре
Desktop	General Sharing Security Previous Versions Customize	File folder
Recent Places	Network File and Folder Sharing	File folder
Recycle Bin	vVM1 Share Folder	File folder
	Not Shared	File folder
😭 Libraries	Network Path:	File folder
Documents	Not Shared	File folder
🚽 Music	Share	
Pictures		
Videos	Advanced Sharing	
	Set custom permissions, create multiple shares, and set other advanced sharing options	
Computer		
Local Disk (C:)	🚱 Advanced Sharing	
Shared Folders (\\vmware-host) (Z:)		
xHOST Share Folder		
	People must have a user account and password for this computer to access shared folders.	
VIVIZ	To change this setting, use the Network and Sharing Center	
🛐 Network	······································	
TREMOR		
	OK Cancel Apply	
		- F
🚱 e 🔚) 📆 12:13 PM
		vmware ///

NOTE: Refer to Figure 5-3 and Figure 5-4.

- **5.2.6** Set the Sharing properties for xVM1 Share Folder as follows:
 - **5.2.6.1** In the Sharing tab, click on Advance Sharing button.
 - **5.2.6.2** In the Advance Sharing pop-up box, check the Share this folder box.
 - **5.2.6.3** Share name field displays default name, xVM1 Share Folder.
 - **5.2.6.4** Click OK to accept default name and close the Advance Sharing pop-up box.
- **5.2.7** Now, note that in sharing tab, Network Path is set to \ADMIN-VM1\xVM1 Share Folder.
- **5.2.8** Click OK to close the Properties dialog box.

NOTE: Now VM1 has shared folder (xVM1 Shared Folder) which can be shared with Host Computer as well as any other Virtual Machine(s).



Figure 5-3 Properties Dialog Box - Advance Sharing Pop-up

Figure 5-4 Properties Dialog Box - Sharing Tab 2



5.3 Repeat the above process for VM2, however in VM2 C:\ drive, create a new folder and name it as xVM2 Share Folder.
Note that in sharing tab, Network Path will be set to \\ADMIN-VM1\xVM2 Share Folder.

NOTE: Refer to Figure 5-5. Communication between VMs & Host Computer is established automatically; therefore, following section may or may not work. In the next chapter, we will configure the VM & Host communication manually to make everything work properly.

5.4 Check the VM Shared Folder:

- 5.4.1 Restart VM1 and VM2.
- **5.4.2** When Windows Operating System has started, click on the Windows Explorer button to open file manager.
- **5.4.3** In the folder tree (on the left-side), click on Network and expand the Network section including folders and sub-folders.
- **5.4.4** All shared folders from VM1, VM2 and Host Computer are displayed. Now files and folders between each computer can be shared through these folders.

Figure 5-5 VM Network Folders



Section 6 - Check VM IP Address

6.1 To check VM1 IP Address, follow these steps:

- **6.1.1** From the system tray, click on Network icon.
- **6.1.2** From the pop-up, click on the Open Network and Sharing Center link.
- **6.1.3** Network and Sharing Center window displays following information, see Figure 6-1 :
 - Options to change Adapter Settings and Advance Sharing Settings
 - List of active networks and connections to those networks
 - Options to setup new networks or to make changes to existing networks

Figure 6-1 Network & Sharing Center

😼 VM1 - VMware Player File	▼ Virtual Machine ▼ Help ▼	_ 🗆 ×
🔘 🗸 👯 🕨 Control Panel 🕨	All Control Panel Items Network and Sharing Center	- 🍫 Search Con 🔎
		0
Control Panel Home	View your basic network information and	set up connections
Change adapter settings	📃 —— 🚑 —	🗙 🔘 See full map
Change advanced sharing settings	ADMIN-VM1 Unidentified network (This computer)	Internet
	View your active networks	Connect or disconnect
	Unidentified network	Access type: No Internet access
	Public network C	Connections: 📱 Local Area Connection
	I	
	Change your networking settings	
	Set up a new connection or network	or VPN connection; or set up a router or
	access point.	
	🃷 Connect to a network	
	Connect or reconnect to a wireless, wired, dia	Il-up, or VPN network connection.
	Choose homegroup and sharing options	
	Access files and printers located on other net	work computers, or change sharing settings.
See also	Troubleshoot problems	
HomeGroup	Diagnose and repair network problems, or get	t troubleshooting information.
Windows Firewall		
		🧞 🚾 🍡 🚸 抗 7:17 AM
		Norale Noral Antonio National Antonio Natio Antonio National Antonio Natio

Section 6 - Check VM IP Address

- **6.1.4** In Network and Sharing Center, from the View your active networks section, click on Local Area Connections link.
- **6.1.5** Local Area Connection Status dialog box displays as shown in Figure 6-2.

🥸 VM1 - VMware Player File	 Virtual Machine → Help → 	_ 🗆 ×
		X
Control Panel	All Control Panel Items Network and Sharing Center	- 4 Search Con 🔎
Control Panel Home	Local Area Connection Status)nnections
Change advanced sharing settings	General	Internet
	IPv4 Connectivity: No Internet access IPv6 Connectivity: No Internet access Media State: Enabled	Connect or disconnect
	Duration: 01:49:14 Speed: 1.0 Gbps	s: 🖗 Local Area Connection
	Activity Sent Received	nnection; or set up a router or
	Bytes: 42,369 58,445	N network connection.
See also	Properties Diagnose Diagnose	uters, or change sharing settings.
HomeGroup Internet Options	Close	ooting information.
Windows Firewall		
		🍾 🚾 🍡 🌗 📆 8:33 AM 📗
		🕽 🖶 🕐 🔤 💽 🛛 vm ware: 🎢

Figure 6-2 Local Area Connection Status

- **6.1.6** Click on Details button, this will open up Network Connection Details dialog box, as shown in Figure 6-3.
- **6.1.7** Note the following details:
 - DHCP Enabled is set to Yes, which means this IP Address is assigned dynamically (auto-assigned)

- IPv4 Address, this is the IP Address of the Computer, VM1
- IPv4 Subnet Mask, this is the Subnet Mask of the Computer, VM1
- **6.1.8** Close Network Connection Details and Local Area Connection Status dialog boxes.
- **6.1.9** Finally, close the Network and Sharing Center window.

VM1 - VMware Player File	Virtual Machine Help All Control Panel Items N	letwork and Sharing Center	X
Control Panel Home Change adapter settings	Local Area Connection St	atus 🛛 🖾	nnections See full map
settings	Network Connection Details: Property Connection-specific DN Description Physical Address DHCP Enabled IPv4 Address IPv4 Subnet Mask Lease Obtained Lease Expires IPv4 Default Gateway IPv4 DHCP Server IPv4 DHCP Server IPv4 WINS Server IPv4 WINS Server NetBIOS over Tcpip En Link-local IPv6 Address IPv6 Default Gateway IPv6 DNS Server	Value localdomain Intel(R) PRO/1000 MT Network Connecti 00-0C-29-AA-40-B2 Yes 192.168.56.133 255.255.255.0 Tuesday, April 17, 2018 6:44:36 AM Tuesday, April 17, 2018 6:44:36 AM 192.168.56.254 192.168.56.1 Yes fe80::98e fa8d:8fdc:6886%.11	Internet Connect or disconnect No Internet access Local Area Connection nection; or set up a router or I network connection.
See also	IPV6 DNS Server	11 N	iters, or change sharing settings.
HomeGroup Internet Options Windows Firewall		Close	oting information.
			VII AM

Figure 6-3 Network Connection Details

6.2 Repeat the above process to check IP Addresses of VM2 and Host Computer.

NOTE: Network Connection Details for VM2 and Host Computer, refer to images below.

Figure 6-4 VM2 Network Connection Details



Figure 6-5 Host Computer - Network Connection Details



Section 7 - Change VM IP Address

NOTE: For additional information about images, refer to the Section 6 - .

- 7.1 To change VM1 IP Address, follow these steps:
 - 7.1.1 From the system tray, click on Network icon.
 - **7.1.2** From the pop-up, click on the Open Network and Sharing Center link.
 - 7.1.3 Network and Sharing Center window displays following information.
 - Options to change Adapter Settings and Advance Sharing Settings
 - List of active networks and connections to those networks
 - Options to setup new networks or to make changes to existing networks
 - **7.1.4** In Network and Sharing Center, from the View your active networks section, click on Local Area Connections link.
 - **7.1.5** Local Area Connection Status dialog box displays.
 - **7.1.6** Click on Properties button, this will open up Local Area Connection Properties dialog box, as shown in Figure 7-1.



📆 VM1 - VMware Player File	→ Virtual Machine → Help →
Control Panel	All Control Panel Items 🕨 Network and Sharing Center 🗾 🗸 Search Con 🔎
Control Panel Home Change adapter settings Change advanced sharing settings	Internet Internet Connect on disconnect Networking Internet Connect or disconnect Internet Connect or disconnect Networking Connect or disconnect Internet Connect or disconnect No Internet access Local Area Connection Configure Configure This connection uses the following items: Local Area Connection Internet Internet access Internet Local Area Connection Internet Internet Protocol Version 6 (TCP/IPv6) Internet Link-Layer Topology Discovery Responder
	Install Uninstall Properties network connection.
See also	Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
HomeGroup	ting information.
Internet Options Windows Firewall	OK Cancel
	🖏 🚾 🍡 9:41 AM
	See State St

- **7.1.7** From the Local Area Connection Properties dialog box, select Internet Protocol Version 4 (TCP/IPv4) and then click on Properties button.
- **7.1.8** Internet Protocol Version 4 (TCP/IPv4) Properties dialog box displays. In General tab, make the following changes (see Figure 7-2):
 - 1. Click on Use the following IP Addresses option
 - 2. Set IP Address to 192.168.1.101
 - 3. Set Subnet Mask to 255.255.255.0
 - 4. Click OK to save the settings and close the IPv4 Properties dialog box.
- **7.1.9** Close all the dialog boxes and the Network and Sharing Center window.

Figure 7-2 IPV4 Properties for VM1

😵 VM1 - VMware Player 🛛 File 🗕 Virtual M	lachine 🔻 Help 🔸	_ 🗆 ×					
		_ D X					
🕢 🗸 😨 🕨 Control Panel 🕨 All Cont	rol Panel Items Network and Sharing Center	Search Con 🔎					
Control Band Home		0					
	Area Connection Statue XX Innection	ons					
Change adapter settings	Ical Area Connection Properties	See full map					
settings Ne	Internet Protocol Version 4 (TCP/IPv4) Properties						
	General	nect or disconnect					
	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator						
	for the appropriate IP settings.						
	Obtain an IP address automatically						
	Use the following IP address:						
	IP address: 192.168.1.101	un a router or					
	Default dateway:						
	Obtain DNS server address automatically Obtain DNS server addresses	ection.					
	Preferred DNS server:						
	Alternate DNS server:	sharing settings.					
See also							
HomeGroup	Validate settings upon exit Advanced	on.					
Windows Firewall	OK Cancel						
4	Cance						
	to 100 (🛓 🌒 📆 🛛 9:42 AM 🧧					
		🖬 💽 🗸 vmware: ///					

7.2 Repeat the above process to change IP Address for VM2, (see Figure 7-3).

NOTE: In VM2, set IP Address to 192.168.1.102 and set Subnet Mask to 255.255.255.0

Figure 7-3 IPV4 Properties for VM2

🗩 🗸 🔻 🕺 🕹 🗸 🕹	etwork and I	nternet Protocol Version 4 (TCP/IPv4	4) Properties
Control Panel Home	View	General	
Change adapter settings	conn	You can get IP settings assigned aut this capability. Otherwise, you need for the appropriate IP settings.	tomatically if your network supports to ask your network administrator
settings		Obtain an IP address automatic	-ally
	(Th	Use the following IP address: –	Lun y
	View y	IP address:	192.168.1.102
		Subnet mask:	255.255.255.0
		Default gateway:	
		Obtain DNS server address aut	comatically
		• Use the following DNS server a	ddresses:
	Chang	Preferred DNS server:	
		Alternate DNS server:	
See also			
HomeGroup		Validate settings upon exit	Advanced
Internet Options	-		
Windows Firewall			OK Cance
			🧞 🏧 💦 🌒 🌇 9:47 AI

For VMs to communicate with each other, following requirements must match:

- First three Octates of IP Address (192.168.1)
- All four Ocates of Subnet Mask (255.255.255.0)
- Last Octate of the IP Address must be different

These matched IP Address octates (and Subnet Mask) indicates that both VMs are located on the same network.

Section 8 - Check VM Communication

- **8.1** In this section, we will use Command Line instructions IPCONFIG and PING.
 - IPCONFIG is used to view the IP Address related information of the present Computer
 - PING command is used to check the communicate with other Computer.

NOTE: Refer to Figure 8-1.

- 8.1.1 In Windows Operating System, click on the Start button.
- **8.1.2** In the search box, type-in CMD, then from search result, click on cmd.exe to open the Command Prompt.
- 8.1.3 Dos Command Prompt will open in a new window.

Figure 8-1 Search for Command Prompt



- 8.2 IPCONFIG View IP Address Information (see Figure 8-2 and Figure 8-3).
 - **8.2.1** At the DOS command prompt, type-in ipconfig and press Enter (or Return) key.
 - 8.2.2 Check the Ethernet Adapter Local Area Connection information.
 - Displays IPv6, IPv4, Subnet Mask and Default Gateway information
 - Also displays other Local Area Connection information

NOTE: If you are connected to your network through Wireless Connection or Wifi, it should also be listed here. Alternatively, you an also type-in ipconfig /all command, to display detailed information about the Windows IP Configuration.

8.2.3 Repeat the above steps to display IP Address information for VM1, VM2 and Host Computer.

Figure 8-2 IPCONFIG - VM1



Figure 8-3 IPCONFIG - VM2



- **8.3** PING Check Communication (see Figure 8-4 and Figure 8-5).
 - **8.3.1** To check communication from VM1 to VM2: In VM1, at the DOS command prompt, type-in ping 192.168.1.102, then press Enter (or Return) key.

NOTE: VM1 will send Test Packets to VM2. Upon successful communication, Packets Sent equals to Packets Received, and Packets Lost is Zero. As shown in our example Packets Sent = 4, Packets Received = 4 and Packets Lost = 0.

8.3.2 To check communication from VM2 to VM1: In VM2, at the DOS command prompt, type-in ping 192.168.1.101, then press Enter (or Return) key. **NOTE:** VM2 will send Test Packets to VM1. Upon successful communication, Packets Sent equals to Packets Received, and Packets Lost is Zero.

As shown in our example Packets Sent = 4, Packets Received = 4 and Packets Lost = 0.

Figure 8-4 PING - VM1



Figure 8-5 PING - VM2



8.4 Repeat the above process to change check the communication between VM1 to Host Computer and VM2 to Host Computer.

Section 9 - VMware Networking

NOTE: Refer to Figure 9-1. Communication between VMs & Host Computer is manually established and reviewed, therefore, Network is working and ready to use.

- **9.1** Restart Host Computer and then restart VM1 and VM2.
- **9.2** Check the VM1 Shared Folder:
 - **9.2.1** When Windows Operating System has started, click on the Windows Explorer button to open file manager.
 - **9.2.2** In the folder tree (on the left-side), click on Network and expand the Network section including folders and sub-folders.
 - **9.2.3** All shared folders from VM1, VM2 and Host Computer are displayed. Now files and folders between each computer can be shared through these folders.

NOTE: For any reason, if VMware Networking is not communicating then refer to Section 7 - and make sure IPCONFIG and PING commands are working as expected. Furthermore, refer to Section 7 - in order to make any necessary changes in IP Address.

Figure 9-1 VM Network Folders



9.3 Repeat the above process to view Network folder and available networks of VM2 and Host Computer.