

VIRTUALIZE YOUR ENVIRONMENT INSTALL MANAGE MAINTAIN AND TROUBLESHOOT

Prepared By DIS APSCN LAN Support <u>ftp://disftp.state.ar.us/pub/APSCNLAN/Training Documents/</u>

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Going Virtual? What to do!

Things to consider before you virtualize your environment

- 1. Decide which type of virtualization (Hypervisor) you will implement. **Type 1** native hypervisors run directly on the system hardware. **Type 2** hosted requires a host operating system.
 - a. Type 1 examples VMware ESXi Server, Microsoft Hyper-V, Citrix/Xen Server
 - b. Type 2 examples VMware Workstation, Microsoft Virtual PC, Oracle Virtual Box
- 2. Why are you moving to a virtualized network? There are many things to consider before you decide if virtualizing your environment is the right thing for you.
 - a. Cost
 - b. Performance
 - c. Scalability
 - d. Usability
- 3. Improve your disaster recovery plan. Utilize the virtual environment to create an affordable replication site, and TEST!!!
- 4. Manage your VM's using SCVMM, Corefig and other free products.
- 5. Extend the life of your older applications. Need to upgrade to Server 2012 but your program is only compatible on Server 2008?

Configuring Hyper-V

Pre-configuration for Hyper-V Installation

We will need to create a separate disk drive to hold the Virtual Machines and Configuration Files.

1. Bring up **Disk Management**. **Right click** on the unallocated drive space and Select **New Simple Volume**

-			C	Disk Managen	nent			-		x
File Action V	/iew Help									
Volume	Layout	Туре	File System	Status	Capacity	Free Spa	% Free			
œ (C:) œ System Reserve	Simple ed Simple	Basic Basic	NTFS NTFS	Healthy (B Healthy (S	19.66 GB 350 MB	7.07 GB 61 MB	36 % 17 %			
Disk 0 Basic 120.00 GB Online	System Reserver 350 MB NTFS Healthy (System,	d Active, f	(C:) 19.66 GB NTFS Healthy (Boot, P	age File, Crash D	ump, Primai	100.00 GB Unallocated	New Simp	le Volume.		7771
CD-ROM 0 DVD (D:)			1		1		New Stripe New Mirro New RAID	ed Volume ored Volum -5 Volume	 ie	
No Media							Properties			
							Help			
Unallocated	Primary partition									

2. On New Simple Volume Wizard Page, Click Next



3. On Specify Volume Size Page, Enter Volume Size and Click Next

New Sim	ple Volume Wizard
Specify Volume Size Choose a volume size that is betwee	en the maximum and minimum sizes.
Maximum disk space in MB: Minimum disk space in MB: Simple volume size in MB:	102398 8 102393
	< Back Next > Cancel

4. On Assign Drive Letter or Path Page, Choose a drive letter and Click Next

New Simple Volume Wizard
Assign Drive Letter or Path For easier access, you can assign a drive letter or drive path to your partition.
Assign the following drive letter: Mount in the following empty NTFS folder: Browse Do not assign a drive letter or drive path
< Back Next > Cancel

5. On Format Partition Page under Volume label, Enter Virtual Disks and Click Next

New S	imple Volume V	Vizard	x
Format Partition To store data on this partition, yo	u must format <mark>i</mark> t first.		
Choose whether you want to form	nat this volume, and if	so, what settings you wa	nt to use.
O Do not format this volume			
Format this volume with the	e following settings:		
File system:	NTFS	¥	
Allocation unit size:	Default	~	
Volume label:	Virtual Disks		
Perform a quick form	at		
Enable file and folde	r compression		
	< Bac	k Next >	Cancel

6. Verify your settings and click Finish

New Simple Volume Wizard
Completing the New Simple Volume Wizard
Vizaro.
Volume type: Simple Volume
Disk selected: Disk 0 Volume size: 102398 MB Drive letter or path: V: File system: NTFS
Allocation unit size: Default Volume label: Virtual Disks Ouicle format: Ves
To close this wizard, click Finish.
< Back Finish Cancel

7. Your new volume should be created and ready to assign Virtual Disk

3			I	Disk Managen	nent			-	D X
File Action \	/iew Help								
	1 🖬 🕑 💕 🛛	12							
Volume	Layout	Туре	File System	Status	Capacity	Free Spa	% Free		
 □ (C:) □ System Reserve □ Virtual Disks (V 	Simple ed Simple :) Simple	Basic Basic Basic	NTFS NTFS NTFS	Healthy (B Healthy (S Healthy (P	19.66 GB 350 MB 100.00 GB	7.07 GB 61 MB 99.89 GB	36 % 17 % 100 %		
Disk 0 Basic 120.00 GB Online	System Reserve 350 MB NTFS Healthy (System	red n, Active, I	(C:) 19.66 GB NTFS Healthy (Boot, F	⁹ age File, Crash D	ump, Prima	Virtual Disks(100.00 GB NTFS Healthy (Prima	V:) y Partition)		
CD-ROM 0 DVD (D:) No Media									
Unallocated	Primary partition								

Installing Hyper-V

Installing Hyper-V as a Role in Windows Server

Pre-Installation Requirements

1. From the Server Manager Dashboard go to Manage, and then click Add Roles and Features



2. At **Before You Begin** page, Click **Next**



3. At Installation Type page, Click Next



4. On the Server Selection page, Click Next or select the server you will install Hyper-V on

	Add	Roles and Features W	lizard	- D X
Select destination	on server			DESTINATION SERVER WinServ2012
Before You Begin Installation Type Server Selection	Select a server or a v Select a server fro Select a virtual ha	irtual hard disk on which t om the server pool ard disk	o install roles and features.	
Server Roles Features Confirmation	Server Pool			
	Name WinServ2012	IP. Address 192.168.191.144	Operating System Microsoft Windows Server 2012 R2	Datacenter
	1 Computer(s) found This page shows serv Add Servers commar collection is still inco	vers that are running Wind nd in Server Manager. Offi mplete are not shown.	ows Server 2012, and that have been ine servers and newly-added servers	added by using the from which data
		< Prev	ious Next > Insta	Cancel

5. On the Server Roles page, Select Hyper-V

elect server ro	les	DESTINATION S WinSer	ERVE
Before You Begin Installation Type	Select one or more roles to install on the selected server. Roles	Description	
Server Selection	Active Directory Certificate Services	Active Directory Certificate Sen	vice
Features Confirmation Results	 Active Directory Domain Services Active Directory Federation Services Active Directory Lightweight Directory Services Active Directory Rights Management Services Application Server DHCP Server DNS Server Fax Server File and Storage Services (1 of 12 installed) W Hyper-V (Installed) 	certification authorities and rel role services that allow you to and manage certificates used in variety of applications.	atec issui n a
	Remote Desktop Services	~	

6. Click Add Features when the wizard comes up



- 7. On the Features page, Click Next
- 8. On the Hyper-V page, Click Next



9. On the **Virtual Switches** page, Click on the NIC you will use to manage your Virtual Machines if you have multiple NICs

B	Add Roles	s and Features Wizard	_ _ ×
Create Virtual Sv Before You Begin Installation Type Server Selection Server Roles Features	Virtual machines require vi role, you can create virtual One virtual switch will be c at least one virtual switch r can add, remove, and mod Network adapters:	DESTINATION SERVER WinServ2012 rs. After you install this ommend that you create o a physical network. You witch Manager.	
Hyper-V	Name	Description	
Virtual Switches Migration Default Stores Confirmation Results	 Ethernet0 We recommend that y network adapter, do n 	Intel(R) 82574L Gigabit Network Conne rou reserve one network adapter for remote access tot select it for use with a virtual switch.	ection to this server. To reserve a
		< Previous Next >	Install Cancel

10. On Virtual Machine Migration page, Click Next



11. On **Default Stores** page, Click **Browse** and select the folder under the Drive you created for the Virtual Hard Disk and Virtual Machine Configuration Files then click **Next**

Before You Begin Installation Type	Hyper-V use unless you s now, or you	Browse For Folder	x	chine configuration files, inge these default location
Server Selection Server Roles Features Hyper-V Virtual Switches Migration Default Stores Confirmation Results	Default loca C:\Users\Pu Default loca C:\Program	This PC Desktop Documents Downloads Difference Pictures Videos Floppy Disk Drive (A:) Elimeter Virtual Disks (V;) Make New Folder OK	Cancel	Browse.

B	Add Roles and Features Wizard		x
Default Stores Before You Begin Installation Type Server Selection	DESTINA Hyper-V uses default locations to store virtual hard disk files and virtual machine configura unless you specify different locations when you create the files. You can change these defa now, or you can change them later by modifying Hyper-V settings.	TION SER WinServ2 tion files, ult locatio	VER 012 ons
Server Roles	Default location for virtual hard disk files:		1
Features	V:\Virtual Machines	Brows	ie
Hyper-V	Default location for virtual machine configuration files:		
Virtual Switches	V:\Config Files	Brows	ie
Migration			
Default Stores			
Confirmation			
Results			
	< Previous Next > Install	Cance	:

12. Check the Restart destination server.... And choose **Yes**. Verify settings then click, **Install**. The Role will install and the server will automatically restart.

Ł	Add Roles and Features Wizard			x
Confirm inst	allation selections	NATION S WinSe	SERVE Irv201	R 2
Before You Begin Installation Type Server Selection Server Roles Features Hyper-V Virtual Switches Migration Default Stores Confirmation Results	To install the following roles, role services, or features on selected server, click Install. Restart the destination server automatically if required Optional features (such as administration tools) might be displayed on this page because been selected automatically. If you do not want to install these optional features, click Pre their check boxes. Hyper-V Add Roles and Features Wizard If a restart is required, this server restarts automatically, without additional notifications. Do you want to allow automatic restarts?	they ha	ive o clea	51"
	Yes No Export configuration settings Specify an alternate source path < Previous	Ca	ncel	



13. Once the server restarts and you login, the Installation progress will come up verifying Hyper-V has successfully installed. Click **Close**

b	Add Roles and Features Wizard	_ 🗆 🗙
Installation progre	ess	DESTINATION SERVER WinServ2012
Results	View installation progress	
N	() Feature installation	
	Installation succeeded on WinServ2012.	
	Hyper-V Remote Server Administration Tools Role Administration Tools Hyper-V Management Tools Hyper-V Module for Windows PowerShell Hyper-V GUI Management Tools	
	You can close this wizard without interrupting running tasks. View task pr page again by clicking Notifications in the command bar, and then Task I Export configuration settings	rogress or open this Details.
	< Previous Next >	lose Cancel

14. Go to **Tools** and you will **Hyper-V Manager**. Click on **Hyper-V Manager** to bring up the Hyper-V Management Console



You will see the Hyper-V Manager. Now we will add our Virtual Machines to our Hyper-V Management Console

Hyper-V Manager	- 0 X
File Action Wee Help	
Hyper-Vikinger	Actions
Value distance of the control base of the Control Dense Other	WINSERV2012
nems acce of oxyge Hanges - Annay opening access	New P
No witad insolves was found on the some	import Vidual Machine.
	Hyper V Settings.
	I Virtual Switch Manager.
	Virtual SAN Managera
	part Edit Dele.
	🚑 Inspect Dick.
	Stop Service
	Remove Sarver
	G Rufrush
	View +
	Halp Halp
Contraction (Contraction)	
Circlapoints .	
No vituelinachine selected	
Details	
No an adottal	
MNREHROZICE 0-issual muchine selected	177.114
	• 18 19 18 3/18/2015

Manage Hyper-V

Installing Virtual Machines in Hyper-V

1. Bring up **Hyper-V Manager**. Under Actions Click **New** and select **Virtual Machine** or Right Click on your Hyper-V Host and Select **New** > **Virtual Machine**

WINS	New	•	Virtual Machine		
	Import Virtual Machine		Hard Disk	State	CI
	Hyper-V Settings		Floppy Disk		
	Virtual Switch Manager Virtual SAN Manager	0.253			
	Edit Disk Inspect Disk				
	Stop Service Remove Server Refresh				
	View	•			
	Help		-		
			Checkpoints		

2. Click Next on Before You Begin.

3. On Specify Name and Location page, Name your new Virtual Machine. Click Next Do not change the Location as this was configured during the setup

3 .	New Virtual Machine Wizard	x
Specify Nan	ne and Location	
Before You Begin Specify Name and Location Specify Generation Assign Memory	Choose a name and location for this virtual machine. The name is displayed in Hyper-V Manager. We recommend that you use a name that helps you easi identify this virtual machine, such as the name of the guest operating system or workload.	ily
Configure Networking Connect Virtual Hard Disk Installation Options	You can create a folder or use an existing folder to store the virtual machine. If you don't select a folder, the virtual machine is stored in the default folder configured for this server. Store the virtual machine in a different location	
Summary	If you plan to take checkpoints of this virtual machine, select a location that has enough free space. Checkpoints include virtual machine data and may require a large amount of space.	<u>.</u>
	< Previous Next > Finish Cancel	

4. On Specify Generation Page, Click Next.



5. On **Assign Memory** page, assign the amount of memory to allocate to this virtual machine.

X	New Virtual Machine Wizard	x
Assign Mem	lory	
Before You Begin Specify Name and Location Specify Generation	Specify the amount of memory to allocate to this virtual machine. You can specify an amount from 3 MB through 856 MB. To improve performance, specify more than the minimum amount recommended for the operating system. Startup memory: 856 MB	2
Assign Memory	Use Dynamic Memory for this virtual machine.	
Connect Virtual Hard Disk Installation Options Summary	When you decide how much memory to assign to a virtual machine, consider how you intend to use the virtual machine and the operating system that it will run.	
	< Previous Next > Finish Cancel	

6. On Configure Networking page, select the NIC card from the list. Click Next

8	New Virtual Machine Wizard	x
Configure M	letworking	
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	Each new virtual machine includes a network adapter. You can configure the network adapter to us virtual switch, or it can remain disconnected. Connection: Not Connected Not Connected Intel(R) 82574L Gioabit Network Connection - Virtual Switch	ea
	< Previous Next > Finish Cance	

7. On Create Virtual Hard Disk page, click Next

3 4	New Virtual Machine Wizard	x
Connect Vir	tual Hard Disk	
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking	A virtual machine requires storage so that you can install an operating system. You can specify the storage now or configure it later by modifying the virtual machine's properties. Create a virtual hard disk Use this option to create a VHDX dynamically expanding virtual hard disk. Name: SCCM.vhdx	
Connect Virtual Hard Disk Installation Options Summary	Location: V:\Virtual Machines\ Browse Size: 100 GB (Maximum: 64 TB) O Use an existing virtual hard disk	
	Use this option to attach an existing virtual hard disk, either VHD or VHDX format. Location: V:\Virtual Machines\ O Attach a virtual hard disk later Use this option to skip this step now and attach an existing virtual hard disk later.	
	< Previous Next > Finish Cancel	

8. On Installation Operating System Options page, click Next

k.	New Virtual Machine Wizard			
Installation	Options			
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk	You can install an operating system now if you have access to the setup media, or you can install it later. Install an operating system later Install an operating system from a bootable CD/DVD-ROM Media Physical CD/DVD drive: D: Y			
Installation Options Summary	Install an operating system from a bootable floppy disk Media Virtual floppy disk (.vfd): Install an operating system from a network-based installation server			
	< Previous Next > Finish Cancel			

9. Confirm configuration and click Finish. The wizard will run through the installation and create the virtual disk.

39	New Virtual Machine Wizard
Completing	the New Virtual Machine Wizard
Before You Begin Specify Name and Location Specify Generation	You have successfully completed the New Virtual Machine Wizard. You are about to create the following virtual machine. Description:
Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	Name: SCCM Generation: Generation 1 Memory: 856 MB Network: Intel(R) 82574L Gigabit Network Connection - Virtual Switch Hard Disk: V: \Virtual Machines\SCCM.vhdx (VHDX, dynamically expanding) Operating System: Will be installed at a later time To create the virtual machine and dose the wizard, dick Finish.
	< Previous Next > Finish Cancel

10. Click on the Hyper-V server and you will see the new Virtual Machine you just created.

				Hyper-V
Virtual Machines				
Name	State	CPU Usage	Assigned Memory	Uptime
SCCM	Off			
	Virtual Machines	Virtual Machines Name State SCCM Off	Virtual Machines Name State CPU Usage SCCM Off	Virtual Machines Name State CPU Usage Assigned Memory SCCM Off

Name 📩	State	CPU Usage	Assigned Memory	Uptime	Status
SCCM	0#				
	Connect	•			
	Settings.				
	Start				
	Checkpo	int			
	Move				
	Export				
	Rename.				
	Delete				
	Enable R	eplication			
	Help				

11. Right click on your VM and click on settings

12. Under **IDE Controller 1**, select **DVD Drive**. Select either **Image File** or **Physical drive**. Click **OK** to close

SCCM	~	4 ▶ Q		
Hardware M Add Hardware BIOS Boot from CD	^	DVD Drive Select the controller and location on the cor Controller: DVD controller: D	ntroller to attach the CD/DVD Location:	drive.
S12 MB IDE Controller 0 SCCM.vhdx IDE Controller 1 SCCM.vhdx IDE Controller 1		Media Specify the media to use with your virtue None Image file:	al CD/DVD drive.	
DVD Drive Physical drive D: SCSI Controller Network Adapter Intel(R) 82574L Gigabit Networ COM 1 None COM 2 None COM 2 None Diskette Drive None Management		Physical CD/DVD drive: Drive 'D:' To remove the virtual CD/DVD drive from the vir	is virtual machine, click Remo	Browse,
Integration Services Some services offered Checkpoint File Location V:\Config Files Smart Paging File Location V:\Config Files				

Name 📩	State	CPU Usage	Assigned Memory	Uptime	Status
SCCM	0#	111 5988			
	Connec	t			
	Settings				
	Start				
	Checkp	oint 🛛			
	Move				
	Export				
	Rename	2			
	Delete	•			
	Enable	Replication			
	Help				

13. **Right click** on your VM and click on **Connect**

14. When the console screen pops up, click on the Green Start Button to power on the VM



You will be able to install the operation system normally



Installing VMware ESXi

Installing ESXi on a host machine

1. Boot from ESXi Installation media and allow the 8 second timeout or Press Enter to select "ESXi-xxxx-standard"

ESXi-5.5.0-20140902001-standard Boot Menu ESXi-5.5.0-20140902001-standard Installer Boot from focal disk Press [Tabl to edit options] Automatic boot in 6 seconds		
ESXi-5.5.0-20140902001-standard Installer BOOT FROM FOCAL GISK Press [Tabl to edit options] Automatic boot in 6 seconds	ESXi-5.5.0-20140902001-standard Boot	Menu
Press [Tab] to edit options Automatic boot in 6 seconds	ESXi-5.5.0-20140902001-standard Installer	
Press [Tab] to edit options Automatic boot in 6 seconds	BOOT IFOM IOCAI GISK	
Press [Tab] to edit options Automatic boot in 6 seconds		
Press [Tab] to edit options Automatic boot in 6 seconds		
Press [Tab] to edit options Automatic boot in 6 seconds		
Press [Tab] to edit options Automatic boot in 6 seconds		
Press [Tab] to edit options Automatic boot in 6 seconds		
Press [Tab] to edit options Automatic boot in 6 seconds		
Press [Tab] to edit options Automatic boot in 6 seconds		
Automatic boot in 6 seconds		
	Automatic boot in 6 seconds	

Loading ESXi installer				
Loading /tboot.b00 Loading /b.000 Loading /junpstrt.gz Loading /useropts.gz Loading /k.000 Loading /c.000 Loading /a.000 Loading /user.000 Loading /sb.000 Loading /s.v00				



2. At the initial Welcome screen, press Enter to Continue the Install of ESXi



3. Press F11 on the End User License Agreement screen



4. After scanning, Press Enter to select the default disk



Select a Disk to Install or Upgrade * Contains a VMFS partition # Claimed by VMware Virtual SAN (VSAN)				
Storage Device			Capacity	
Local: VMuare, VMuar Remote: (none)	e Virtual S (mpx	.vmhba1:C0:T0:L	.0) 60.00 GiB	
(Esc) Cancel	(F1) Details	(F5) Refresh	(Enter) Continue	

5. Press **Enter** to Select default keyboard

Ple	ase sele	ct a ke	yboard	layout
Swiss Frem Swiss Germ Turkish US Default US Dvorak Ukrainian United Kim	ch an gdom			
Us	e the ar	rou key:	s to sc	roll.
(Esc) Canc	e1 (F	9) Back	(En	ter) Continue

6. Type your root password and again to confirm it. Press Enter

	En	ter a root pa	assword	
Root∣ Confirm∣	password password	********* ********** Passwords mat	tch.	
(Esc)	Cancel	(F9) Back	(Enter)	Continue

7. Press F11 to Confirm Install



8. Allow the ESXi Server to install from the media. This will take several minutes. On the Installation complete console windows, Click **Enter** to Reboot the system



After rebooting, you will see a window with information about the ESXi configuration. Only two options are available. *<***F**2*> Customize System/View Logs* and *<***F**12*> Shutdown/Restart*



Configuring VMware ESXi

Setup custom configuration on ESXi host

1. We will need to configure the IP address, DNS, and host name (optional) of the ESXi host. Press **F2** to Customize System/View Logs.

VMware ESXi 5.5.0 (VMKernel Release Build 2068190)	
VMware, Inc. VMware Virtual Platform	
2 x Intel(R) Core(TM) i7-3528M CPU @ 2.98GHz 4 GiB Memory	
Download tools to manage this host from: http://192.168.191.140/ (DHCP) http://fe0#u:20c:29ff:feol:a8b51/ (STATIC)	
⟨F2⟩ Custonize System/View Logs	⟨F12⟩ Shut Down/Restart

2. Enter your root password then Press Enter to log into the Customization Screen



3. Select Configure Management Network and Click Enter



4. Select IP Configuration and Click Enter



5. Change the IP configuration to **Set static IP** and **assign the IP address**. Press **Enter** to OK changes and return to the Configure Management Network screen



6. Select DNS Configuration and Click Enter



 Change the option to Use the following DNS server addresses and hostname and configure the Primary and Alternate DNS Server. Change the hostname to *ESXihost*. Press Enter to Change and return to the Configure Management Network screen



8. Press **Esc** to Exit the Management Network configuration.

9. Press **Y** to Confirm the Changes



10. Press Esc to Log Out of the System Customization screen

Notice the host IP address has changed and now shows (**STATIC**). Now you are ready to vSphere Client.

KF2> Customize System/View Logs KF12> Shut Down/Restart
Download tools to manage this bost from: http://192.168.191.10/(STATIC) http://Ife80::20c:29ff:rec:.aou51/ (STATIC)
2 x Intel(R) Core(TM) i7-3520M CPU @ 2.90GHz 4 GiB Memory
VMware, Inc. VMware Virtual Platform
VMware ESXi 5.5.0 (VMKernel Release Build 2068190)

Manage VMware ESXi

Installing Virtual Machines using vSphere Client

You need to install the vSphere Client to manage your Virtual Machines

1. Open a browser and navigate to the **IP** or **hostname** or your ESXi host. Ignore the security certificate.

There is a problem with this website's sec	urity certificate.
The security certificate presented by this website w	as not issued by a trusted certificate authority.
The security certificate presented by this website w	as issued for a different website's address.
Security certificate problems may indicate an attem server.	npt to fool you or intercept any data you send to the
We recommend that you close this webpage an	d do not continue to this website.
Ø Click here to close this webpage.	
Scontinue to this website (not recommended).	
More information	

2. Click on the link Download the vSphere Client and Install



3. Accept the EULA and Click Next

Ø	VMwa	re vSphere Clie	nt 5.5	
End User Lic	ense Agreement			
Please read	the following license agre	eement carefully.		
	VMWARE END U	JSER LICENSE A	GREEMENT	^
PLEASE NO AGREEMEN REGARDLE	OTE THAT THE TERI IT SHALL GOVERN SS OF ANY TERMS	MS OF THIS END YOUR USE OF T THAT MAY APP	D USER LICENSI THE SOFTWARE PEAR DURING T	E , HE
INSTALLA	ION OF THE SOFT	WARE.		
USING THE AGREE TO	SOFTWARE, YOU BE BOUND BY THE		OADING, INSTAL OR LEGAL ENT S END USER LIC	LING, OR TITY) ENSE
 I accept the 	terms in the license agre	ement		
O I do not acc	ept the terms in the licens	se agreement		
nstallShield				

4. Click Next on Destination Folder



5. Click Install

뻻	VMware vSphere Client 5.5	1	VMware vSphere Client 5.5 – 🗆 🗙
Ready to In The wizard	is ready to begin installation.	Installing The pro	g VMware vSphere Client 5.5 gram features you selected are being installed.
Click Install If you wan exit the wiz	l to begin the installation. t to review or change any of your installation settings, click Back. Click Cancel to zard.	i de la companya de l	Please wait while the installation wizard installs VMware vSphere Client 5.5. This may take several minutes. Status: Installing the Microsoft Visual J# 2.0 Second Edition
InstallShield —	< Back Install Cancel	InstallShield	Cancel

6. Run the vSphere Client. Enter IP Address or Hostname Username and the Password. Click Login.

	VN	Mware vSphere Client
vmware ^{VMware v} Client	e [.] /Sphere ^{**}	
In vSj throu will co vSphe vSphe The v Mana (e.g. To directly	phere 5.5, all r gh the vSphern intinue to oper ere 5.0, but no ere 5.5. Sphere Client i ger (VUM) and Site Recovery manage a sing	new vSphere features are available only e Web Client. The traditional vSphere Client rate, supporting the same feature set as of exposing any of the new features in is still used for the vSphere Update I Host Client, along with a few solutions Manager).
VCenter Se	rver.	Log to 101 to
IF aud		192, 100, 191, 10
110.00	ame:	root
User n		

7. The first time opening the vSphere Client, you will prompted with a security warning. **Select** the check box to Install this certificate, then **Click Ignore**.

8	Security Warning	
Certificate Warnings		
An untrusted SSL certificate is installed guaranteed. Depending on your secu You may need to install a trusted SSL	on "192. 168. 191. 10" and secure o ity policy, this issue might not repre certificate on your server to preven	ommunication cannot be sent a security concern t this warning from
appearing.		
ppearing. The certificate received from "192, 168 ommunication with "192, 168, 191, 10" Iomain name on the certificate matche	. 191. 10" was issued for "localhost.l cannot be guaranteed. Ensure tha s the address of the server you are	ocaldomain". Secure the fully-qualified trying to connect to.
appearing. The certificate received from "192.168 communication with "192.168.191.10" domain name on the certificate matche lick Ignore to continue using the curre	. 191. 10" was issued for "localhost.l cannot be guaranteed. Ensure tha s the address of the server you are nt SSL certificate.	ocaldomain". Secure t the fully-qualified trying to connect to.

You will see the VMware Evaluation Notice screen. Although, VMware ESXi is free, it requires a valid license. You can enter your license from your VMware account by clicking on the **Assign a license link**.



1. Go to **File** > **New** > **Virtual Machine**

Maria				
New		Virtual Machine Ctrl-	+N	
Deploy OVF Temp	late	Resource Pool Ctrl-	+0	
Export	•	Add Permission Ctrl	+ P	
Report	► le	calhost.localdomain VMwar	e ESXi, 5.5.0, 2068190 Evaluati	on (52
Browse VA Market	place	Setting Started Summary	/irtual Machines Resource Allocatio	n Pe
	pideeiii	betting beareed balandary		
Print Maps	्रह	General		Re
Exit		Manufacturer:	VMware, Inc.	С
		Model:	VMware Virtual Platform	
		CPU Cores:	2 CPUs x 2.89 GHz	M
		Processor Type:	Intel(R) Core(TM) i7-3520M CPU @ 2.90GHz	-
		License:	Evaluation Mode -	-
		Processor Sockets:	2	
		Cores per Socket:	1	
		Logical Processors	2	
		Logical Frocessors		

2. On Configuration page choose Custom and click Next

Ø	Create New Virtual Machine -		×
Configuration Select the configura	tion for the virtual machine		
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUB Memory Network SCSI Controller Select a Disk Ready to Complete	Configuration Typical Create a new virtual machine with the most common devices and configuration options. Custom Create a virtual machine with additional devices or specific configuration options.		
Help	< Back Next >	Can	icel

3. On Name and Location page enter the name of the server and click Next

Configuration Name and Location	Name:
Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Ready to Complete	Virtual machine (VM) names may contain up to 80 characters and they must be unique within each vCenter Server VM folder. VM folders are not viewable when connected directly to a host. To view VM folders and specify a location for this VM, connect to the vCenter Server.
Help	< Back Next > Cancel

4. On **Storage** page select the datastore you want to install on and click **Next**

Ø	Cr	eate New Virtua	al Machine		-	×
Storage Select a destination stor	rage for the virtual machir	ne files				
Configuration	Select a destination s	storage for the virtual	machine files:	4		
Name and Location Storage	Name	Drive Type	Capacity	Provisioned	Free Type	Thin Prov
Virtual Machine Version	datastore1	Non-SSD	52.50 GB	972.00 MB	51.55 GB VMFS5	Supporte
Guest Operating System						
CPUs						
Network						
SCSI Controller						
Select a Disk						
Ready to Complete						
	<					>
	Disable Storage	DRS for this virtual n	nachine			
	Select a datastore:	l Dei er Terre l	C	and an and a	5	This Beerld
	Name	Drive Type	Capacity Pr	ovisioned	Free Type	Inin Provi
	<					>
Help				ر ایرو	Nexts	Cancel 1
				Dack	INEXC >	Cancel

5. On Virtual Machine Version page choose the latest version and click Next



6. On Guest Operating System page choose the OS you are installing and click Next

Ø		Create New Virtual Machine	- 🗆 ×
Gue	est Operating System Specify the guest operating	system to use with this virtual machine	Virtual Machine Version: 8
Confi Nam Stora Virtu Gue CPUs Mem Nettv SCSI Selec Read	figuration ie and Location age sal Machine Version est Operating System is nory work I Controller ct a Disk dy to Complete	Guest Operating System:	propriate defaults for
He	elp	< Back Net	xt > Cancel

7. On **CPUs** page click **Next**



8. On Memory page set the amount of memory for the operating system and click Next

Ø		Create New Virtual Machine	- 🗆 🗙
Memory Configure the virtual ma	achine's memory size.		Virtual Machine Version: 8
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUS Metwork SCSI Controller Select a Disk Ready to Complete	Memory Config 1011 GB 4 512 GB 256 GB 128 GB 6 128 GB 6 16 GB 7 32 GB 16 GB 7 16 GB 7	Memory Size: 1 Maximum recommended for this guest OS: 1011 GB. Maximum recommended for best performance: 4 GB. Default recommended for this guest OS: 4 GB. Minimum recommended for this guest OS: 512 MB.	
Help		< Back	Next > Cancel

9. On Network page select the NIC you want assigned to this VM and click Next

J	Create New Virtual Machine	
Network Which network connection	ns will be used by the virtual machine?	Virtual Machine Version
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Ready to Complete	Create Network Connections How many NICs do you want to connect? Network Adapter NIC 1: VM Network If supported by this virtual machine version, more than 4 NICs can be a virtual machine is created, via its Edit Settings dialog. Adapter choice can affect both networking performance and migration co the VMware KnowledgeBase for more information on choosing among th supported for various guest operating systems and hosts.	Connect at Power On added after the mpatibility. Consult ie network adapters
Help	< Back	lext > Cancel

10. On SCSI controller page click Next

Ø	Create New Virtual Machine	_ 🗆 🗙
5C5I Controller Which SCSI controller ty	be would you like to use?	Virtual Machine Version: 8
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Create a Disk Create a Disk Create a Disk Ready to Complete	SCSI controller BusLogic Parallel (not recommended for this guest OS) LSI Logic Parallel SI Logic SAS VMware Paravirtual	
Help	< Back	Next > Cancel

11. On Select a Disk page click Next



12. On Create a Disk page set the Disk Size allotted. Select Thin Provision and click Next

0	Create New Virtual Machine	_ 🗆 🗙
Create a Disk Specify the virtual disk	size and provisioning policy	Virtual Machine Version: 8
Configuration Name and Location Storage Virtual Machine Version Guest Operating System CPUs Memory Network SCSI Controller Select a Disk Create a Disk Advanced Options Ready to Complete	Capacity Disk Size: 40 - 68 - Disk Provisioning C Thick Provision Lazy Zeroed C Thick Provision Eager Zeroed C Thin Provision Location C Store with the virtual machine C Specify a datastore or datastore duster:	Browse
Help	< Back	Next > Cancel

13. On Advanced Options page click Next

Advanced Options These advanced options	to not usually need to be changed.	Version:
Configuration Name and Location Storage Virtual Machine Version Geuest Operating System CPUS	Specify the advanced options for this virtual disk. These options do not normally need to be changed.	
CPUs Memory Network SCSI Controller Select a Disk Create a Disk Advanced Options Ready to Complete	Mode Mode Independent Independent disks are not affected by snapshots. Persistent Changes are immediately and permanently written to the disk. Nonpersistent Changes to this disk are discarded when you power off or revert to the snapshot.	
Help	< Back Next > C	Cancel

14. Confirm configuration and click Finish

Ready to Complete		Virtual Machine Version:
Click Finish to start a tas	sk that will create the new virtual mach	ine
Configuration		ine
Name and Location	Name:	WINSERV2012
Storage	Host/Cluster:	localhost.localdomain
Virtual Machine Version	Datastore:	datastore1
CPUs	Guest OS:	Microsoft Windows Server 2012 (64-bit)
Memory	CPUs:	1
Network	Memory:	1024 MB
SCSI Controller	NICs:	1
Select a Disk	NIC 1 Network:	VM Network
Create a Disk	NIC 1 Type:	E1000E
Advanced Options	SCSI Controller:	LSI Logic SAS
Ready to Complete	Create disk:	New virtual disk
	Disk capacity:	40 GB
	Disk provisioning:	Thin Provision
	Datastore:	datastore1
	Virtual Device Node:	SCSI (0:0)
	Disk mode:	Persistent
	Anne and an and a	
	Edit the virtual machine settin	ngs before completion
	Creation of the virtual mach system. Install a guest OS of a system.	ine (VM) does not include automatic installation of the guest operating in the VM after creating the VM.
,		

- 15. Select your VM and click the Green Play button to start the VM
- 16. Click the CD button to bring up CD/DVD drive and select the option to install the OS



You will be able to install the operation system normally

WINSERV2012	
Getting Started, Summary, Resource Allocation, Performance, Events, Consola, Remissions,	
	~
Loading files	

Troubleshooting Hyper-V

Tips for maintaining virtual machines with Hyper-V Manager

Backing up Hyper-V and VM's using Windows Server Backup

- 1. Make sure you have added the Windows Server Backup Feature before.
- 2. Open Windows Server Backup. Under Actions choose Backup Schedule

]	_ 0 ×
	Actions
	Local Backup
	Backup Schedule
r one-time backup.	Backup Once
	Configure Performance Sett
	View
All Backups	
Total backups: 0 copies	
Latest copy: -	

3. On Getting Started page, click Next



4. On Select **Backup Configuration** page, click on **Custom** and click **Next**



5. On Select Items for Backup page, click on Add Items. Select the items you wish to backup and click OK. Click Next

20	Backup Schedule Wizard	x
Select Item	s for Backup	
Getting Started Select Backup Configurat	Select the items that you want to back up. Selecting bare metal recovery will provide you with the most options if you need to perform a recovery.	
Select Items for Backup	Name	
Specify Backup Time		
Specify Destination Type		
Confirmation		
Summary		
	< III	2
	Add Items Remove Items	
	Advanced Settings	1
		_
	< Previous Next > Finish Cancel	



∳ ⊕	Backup Schedule Wizard
Select Item	s for Backup
Getting Started Select Backup Configurat Specify Backup Time Specify Destination Type Confirmation Summary	Select the items that you want to back up. Selecting bare metal recovery will provide you with the most options if you need to perform a recovery.

6. On **Specify Backup Time** page, select the specified time you want the backup to run. Click **Next**

₹	Backup Schedule Wizard	X
Specify Bac	kup Time	
Getting Started Select Backup Configurat Select Items for Backup Specify Backup Time Specify Destination Type Confirmation Summary	How often and when do you want to run backups? ● Once a day Select time of day: 9:00 PM O More than once a day Click an available time and then click Add to add it to the backup schedule. Available time: Scheduled time: 12:00 AM 12:30 AM 1:30 AM 2:00 AM 3:00 A	
	< Previous Next > Finish Cancel	

7. On **Specify Destination Type** page, choose where you want to store the backup and click **Next**

š 🏠	Backup Schedule Wizard
Specify Des	tination Type
Getting Started Select Backup Configurat Select Items for Backup Specify Backup Time Specify Destination Type Select Destination Volume Confirmation Summary	 Where do you want to store the backups? Back up to a hard disk that is dedicated for backups (recommended) Choose this option for the safest way to store backups. The hard disk that you use will be formatted and then dedicated to only store backups. The hard disk that you use the backup to a volume Back up to a volume and the volume may be reduced by up to 200 percent while it is used to store backups. We recommend that you do not store other server data on the same volume. Back up to a shared network folder Choose this option if you do not want to store backups locally on the server. Note that you will only have one backup at a time because when you create a new backup it overwrites the previous backup.
	< Previous Next > Finish Cancel

8. On the next page, click **Add** to add either the **Destination Volume**, **Disk**, or **Remote Share Folder**

	Add volumes		
Volume	Disk	Capacity	Free Space
Virtual Disk (V:)	VMware, VMware Virtual	100.00 GB	77.30 GB
		OK	Cancel

9. Verify your settings and click **Finish**

20	Backup Schedule Wizard	x
Confirmatio	on	
Modify Scheduled Backu Select Backup Configurat Select Items for Backup Specify Backup Time	You are about to create the following backup schedule. Backup times: 9:00 PM Files excluded: None Advanced option: VSS Copy Backup	
Specify Destination Type Keep or Change Backup Confirmation Summary	Name Size Used Space Virtual Disk (V:) 100.00 GB 19.72 GB	-
	Backup items Name Host Component SCCM(Online) Previous Next > Finish Cancel	

10. Once your backup has been successfully created, click Close

	Backup Schedule Wizard
Summary	
Modify Scheduled Backu Select Backup Configurat Select Items for Backup Specify Backup Time Specify Destination Type Keep or Change Backup Confirmation Summary	Status: You have successfully modified the backup settings. Your first scheduled backup will happen at 5/18/2015 9:00 PM.
	< Previous Next > Close Cancel