## **Installing Virtual Machine Manager 2019 (VMM)**

In this post, I will show you the steps for installing Virtual Machine Manager 2019. I will be installing it on a virtual machine running Server 2019 and SQL Server 2017.

First we will take care of these pre req.

- 1. ADK 1903
- 2. SQL Server 2017 + Latest CU
- 3. ODBC Driver 11 for SQL Server
- 4. SQL Server Command Line Utilities 11
- 5. Service Account (Group Managed Service) Create this on the Domain Controller using PS
- 6. Install all updates for Server 2019
- 7. Restart the server

## ADK 1903:

VMM > WD1 (\\DC) (Z:) > Trekstor Backup Jul 2017 > SCCM CB Various Version > Windows Kits ADK 1903 >

	Name	Date modified	Туре	Size
	<u>10</u>	01-May-2019 11:1	File folder	
7	😸 adksetup	30-Apr-2019 11:20	Application	<u>1,884 KB</u>
Я	i adkwinpesetup	30-Apr-2019 11:20	Application	<u>1,327 KB</u>
🚽 Wii	ndows Assessment and Deployment Kit - Windows 10			

## **Specify Location**

Install the Windows Assessment and Deployment Kit - Windows 10 to this computer

Install Path:

C:\Program Files (x86)\Windows Kits\10\	Browse
---	--------

 Download the Windows Assessment and Deployment Kit - Windows 10 for installation on a separate computer

Download Path:		
C:\Users\ADMINISTRATOR.RAMLAN\Downloads\Wind	lows Kits\10\ADK	Browse
Estimated disk space required:	1.1 GB	
Disk space available:	232.5 GB	

Next Cancel

#### Windows Kits Privacy

Windows 10 Kits collect and send anonymous usage data to Microsoft about how our customers use Microsoft programs and about some of the problems they encounter. Microsoft uses this information to improve the products and features. Participation in the program is voluntary, and the end results are software improvements to better meet the needs of our customers. No code or software produced by you will be collected.

Tell me more about the Windows 10 program.

Send anonymous usage data to Microsoft for the Windows 10 Kits?

Yes O No

\* Participation applies to all Windows Kits installed on this computer.

Privacy Statement

Back	Next	Cancel		
	_	-	$\times$	

#### License Agreement

H Windows Assessment and Deployment Kit - Windows 10

You must accept the terms of this agreement to continue. If you do not accept the Microsoft Software License Terms, click Decline.

MICROSOFT SOFTWARE LICENSE	E TERMS			^	
MICROSOFT WINDOWS ASSESSMEN WINDOWS 10	T AND DEPL	OYMENT K	IT (ADK) FO	R	
MICROSOFT WINDOWS HARDWARE	LAB KIT (H	LK) FOR WI	NDOWS 10		
MICROSOFT WINDOWS DRIVER KIT	(WDK) FOR	WINDOWS	10		
These license terms are an agreement between you They apply to the software named above and any M extent such services or updates are accompanied by different terms apply prospectively and do not alter software or services). IF YOU COMPLY WITH THESE BY USING THE SOFTWARE, YOU ACCEPT THESE TE	icrosoft services new or additior your or Microsof LICENSE TERM	or software upo al terms, in whi t's rights relating	lates (except to t ch case those g to pre-updated	he	
1. INSTALLATION AND USE RIGHTS.					
a. ADK.					
<ul> <li>You may install and use any nu solely for the purpose of deploying, mai</li> </ul>				~	
		Back	Accept	Decli	ine
岁 Windows Assessment and Deployment Kit - Windows 10			_		$\times$
Select the features you want to in	stall				
Click a feature name for more information.					
Application Compatibility Tools	Microsoft	Application	Virtualizatio	n	
Deployment Tools	(App-V) A	uto Sequen	cer		

- Imaging And Configuration Designer (ICD)
- Configuration Designer
- User State Migration Tool (USMT)
- Volume Activation Management Tool (VAMT)
- Windows Performance Toolkit
- Microsoft User Experience Virtualization (UE-V) Template Ger
- Microsoft Application Virtualization (App-V) Sequencer
- Microsoft Application Virtualization (App-V) Auto Sequencer
- Media eXperience Analyzer

<

Size: 913 KB

Microsoft Application Virtualization (App-V) Auto Sequencer.

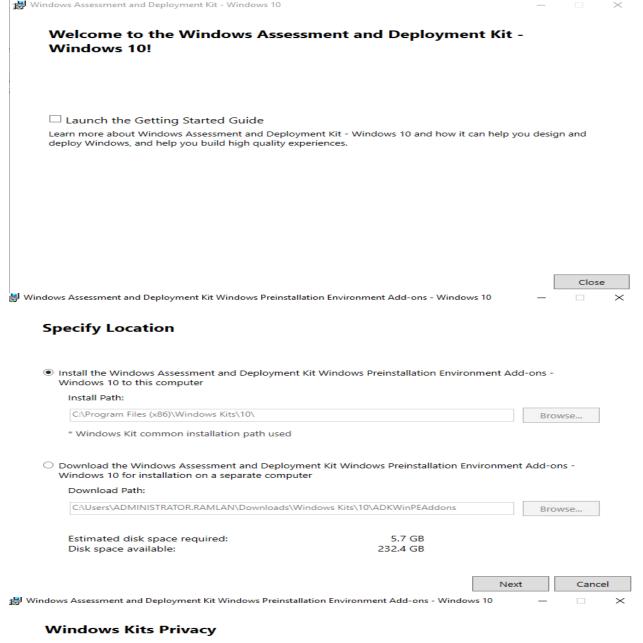
The Application Virtualization (App-V) Auto Sequencer is a helper tool for batch sequencing packages.

Estimated disk space required: Disk space available:

96.3 MB 232.5 GB

Back Install Cancel

摢	Windows	Assessment	and	Deployment	Kit -	Windows	10
---	---------	------------	-----	------------	-------	---------	----



Windows 10 Kits collect and send anonymous usage data to Microsoft about how our customers use Microsoft programs and about some of the problems they encounter. Microsoft uses this information to improve the products and features. Participation in the program is voluntary, and the end results are software improvements to better meet the needs of our customers. No code or software produced by you will be collected.

Tell me more about the Windows 10 program.

Send anonymous usage data to Microsoft for the Windows 10 Kits?

- Yes

\* You are currently participating in the CEIP program. Participation applies to all Windows kits installed on this computer.

Privacy Statement

Back	Next	Cancel
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#### Select the features you want to install

Click a feature name for more information.
✓ Windows Preinstallation Environment (Windows PE)

#### Windows Preinstallation Environment (Windows PE)

Size: 5.7 GB

Minimal operating system designed to prepare a computer for installation and servicing of Windows.

Includes:

- Windows PE (x86)
- Windows PE (AMD64)
  Windows PE (ARM)
  Windows PE (ARM64)

	Estimated disk space required: Disk space available:	:	5.7 GB 232.4 GB
	Back Install		Cancel
😸 Windows Assessment and Deployment Kit Windows Preinstallation	Environment Add-ons - Windows 10	_	

#### License Agreement

You must accept the terms of this agreement to continue. If you do not accept the Microsoft Software License Terms, click Decline.

MICROSOF	T SOFTWARE LICENSE TERMS	1
MICROSOFT WINDOWS	WINDOWS ASSESSMENT AND DEPLOYMENT KIT (ADK) FOR 10	1
MICROSOFT	WINDOWS HARDWARE LAB KIT (HLK) FOR WINDOWS 10	
MICROSOFT	WINDOWS DRIVER KIT (WDK) FOR WINDOWS 10	
They apply to the extent such servi different terms a software or servi	ms are an agreement between you and Microsoft Corporation (or one of its affiliates). e software named above and any Microsoft services or software updates (except to the ices or updates are accompanied by new or additional terms, in which case those pply prospectively and do not alter your or Microsoft's rights relating to pre-updated ces). IF YOU COMPLY WITH THESE LICENSE TERMS, YOU HAVE THE RIGHTS BELOW.	
	OFTWARE, YOU ACCEPT THESE TERMS.	
	ION AND USE RIGHTS.	
1. INSTALLAT a. ADK. i.	-	,

Welcome to the Windows Assessment and Deployment Kit Windows Preinstallation Environment Add-ons - Windows 10!

0	10	-	0

	Name	Date modified	Туре	Size
*	1033 ENU LP	23-Aug-2017 1:55	File folder	
	redist	23-Aug-2017 1:55	File folder	
*	resources	23-Aug-2017 1:55	<u>File folder</u>	
A	Tools	23-Aug-2017 1:55	<u>File folder</u>	
A	<u>x64</u>	23-Aug-2017 5:52	<u>File folder</u>	
	autorun	04-Aug-2017 10:0	Setup Information	<u>1 KB</u>
	Medialnfo	23-Aug-2017 1:57	XML Document	<u>1 KB</u>
	💹 setup	22-Aug-2017 8:38	Application	<u>107 KB</u>
	setup.exe.config	18-Aug-2017 4:41	CONFIG File	<u>1 KB</u>
	SqlSetupBootstrapper.dll	22-Aug-2017 8:20	Application extens	<u>235 KB</u>

🐮 SQL Server Installation Center

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	Mar COL Commentered along first little and difference define an edition in the little
Planning	New SQL Server stand-alone installation or add features to an existing installation
Installation	Launch a wizard to install SQL Server 2017 in a non-clustered environment or to add features to an existing SQL Server 2017 instance.
Maintenance	
Tools	Install SQL Server Reporting Services
Resources	Launch a download page that provides a link to install SQL Server Reporting Services. An internet connection is required to install SSRS.
Advanced	Install SQL Server Management Tools
Options	Launch a download page that provides a link to install SQL Server Management Studio, SQL Server command-line utilities (SQLCMD and BCP), SQL Server PowerShell provider, SQL Server Profiler and Database Tuning Advisor. An internet connection is required to install these tools.
	Install SQL Server Data Tools
	Launch a download page that provides a link to install SQL Server Data Tools (SSDT). SSDT provides Visual Studio integration including project system support for Azure SQL Database, the SQL Server Database Engine, Reporting Services, Analysis Services and Integration Services. An internet connection is required to install SSDT.
	New SQL Server failover cluster installation
	Launch a wizard to install a single-node SQL Server 2017 failover cluster.
	Add node to a SQL Server failover cluster Launch a wizard to add a node to an existing SQL Server 2017 failover cluster.
	Upgrade from a previous version of SQL Server
	Launch a wizard to upgrade a previous version of SQL Server to SQL Server 2017.
Microsoft SQL Server 2017	New Machine Learning Server (Standalone) installation
	Launch a wizard to install Machine Learning Server (Standalone) on a Windows

🃸 SQL Server 2017 Setup	-		×
Product Key			
Specify the edition of SQL Se	rver 2017 to install.		
Product Key License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Feature Configuration Rules Ready to Install Installation Progress Complete	Validate this instance of SQL Server 2017 by entering the 25-character key from the Microso of authenticity or product packaging. You can also specify a free edition of SQL Server. Deve Evaluation, or Express. Evaluation has the largest set of SQL Server features, as documented Books Online, and is activated with a 180-day expiration. Developer edition does not have a has the same set of features found in Evaluation, but is licensed for non-production databas development only. To upgrade from one installed edition to another, run the Edition Upgrade for Specify a free edition:  Evaluation  Evaluatio	eloper, in SQL Sen n expiration se application	/er h,
	< Back Next >	Cancel	
🚡 SQL Server 2017 Setup	-		×
License Terms To install SQL Server 2017, y	ou must accept the Microsoft Software License Terms.		
Product Key License Terms	MICROSOFT SOFTWARE LICENSE TERMS		^
Global Rules Microsoft Update	MICROSOFT SQL SERVER 2017 ENTERPRISE		
Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Feature Configuration Rules Ready to Install Installation Progress	<ul> <li>These license terms are an agreement between Microsoft Corporation (or based you live, one of its affiliates) and you. Please read them. They apply to the softw above, which includes the media on which you received it, if any. The terms also any Microsoft</li> <li>updates,</li> <li>supplements,</li> <li>Internet based consists and</li> </ul>	are name	
Complete	Internet-based services, and		¥
		Сору	🞒 Print
	☑ I accept the license terms.		
	SQL Server 2017 transmits information about your installation experience, as well as other u performance data, to Microsoft to help improve the product. To learn more about SQL Serve processing and privacy controls, please see the <u>Privacy Statement</u> .		ta
	< Back Next >	Cance	•
	S DUCK NCAL P	Carree	

< Back	Next >	Cancel

🐮 SQL Server 2017 Setup			-		×
Microsoft Update					
• Use Microsoft Update to check	for important updates				
Product Key License Terms Global Rules <b>Microsoft Update</b> Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Feature Configuration Rules Ready to Install Installation Progress Complete	Microsoft Update offers security and other important updat software, including SQL Server 2017. Updates are delivered the Microsoft Update website. I Use Microsoft Update to check for updates (recommende <u>Microsoft Update FAQ</u> <u>Microsoft Update Privacy Statement</u>	using Aut			isit
	<	Back	Next >	Cance	
📸 SQL Server 2017 Setup			_		×
Install Rules Setup rules identify potential p can continue.	roblems that might occur while running Setup. Failures must be co	orrected b	efore Setup		
Product Key	Operation completed. Passed: 3. Failed 0. Warning 1. Skipped	40.			
License Terms	operation completed, Passed, 5, Tailed 0, Wanning 1, Skipper				
Global Rules					
Microsoft Update	Hide details <<			Re-r	run
Product Updates	View detailed report				
Install Setup Files					
Install Rules	Rule		atus		_
Feature Selection	Fusion Active Template Library (ATL)		ssed		_
Feature Rules	Consistency validation for SQL Server registry keys		ssed		_
Feature Configuration Rules	Computer domain controller	Pa	ssed		_
Ready to Install	🛕 Windows Firewall	<u>W</u>	arning		
Installation Progress					
Complete					
	<	Back	Next >	Cance	

📸 SQL Server 2017 Setup					_		$\times$
Feature Selection							
Select the Enterprise features to	o install.						
Product Key License Terms	Looking for Reporting Serv	rices? Download it fro	om the web				
Global Rules	Features:		Feature descrip	tion:			
Microsoft Update Product Updates	Instance Features Database Engine Service		instance featur	tion and operation re of a SQL Serve other SQL Server	er instan	ce is	Ŷ
Install Setup Files Install Rules	Machine Learning Se			r selected featur			
Feature Selection	R		Already install				^
Feature Rules	Python Full-Text and Seman	tic Extractions for Sea	Windows P	owerShell 3.0 or	-		
Instance Configuration	Data Quality Services	5		NET Framework	4.6		~
Server Configuration	PolyBase Query Servi	ice for External Data	Disk Space Requ				
Database Engine Configuration Feature Configuration Rules	Analysis Services	>	Drive C: 1001 N available	/IB required, 232	039 MB		$\hat{}$
Ready to Install	Select All Unselect All						
Installation Progress Complete	Instance root directory:	C:\Program Files\Mi	icrosoft SQL Serve	er\			]
	Shared feature directory:	C:\Program Files\Mi	icrosoft SQL Serve	er\		 	1
	Shared feature directory (x86):	C:\Program Files (x8	6)\Microsoft SQL	Server\		]	1
	onarea reacare an anny (cara).		-				
			< Back	Next >		Cancel	
髋 SQL Server 2017 Setup					ſ		×
Instance Configuration	I ID for the instance of SQL Server. Ir	nstance ID becomes par	t of the installatic	on path.			
Product Key	O Default instance						
License Terms							
Global Rules	Named instance: VMM						
Microsoft Update							
Product Updates	Instance ID: VMM						
Install Setup Files							
Install Rules		51 M	110001141				
Feature Selection	SQL Server directory: C:\Program	m Files\Microsoft SQL S	erver\MSSQL14.v	MM			
Feature Rules Instance Configuration	Installed instances:						
Server Configuration	Instance Name Instance	ID Features	Editio	n	Version	n	
Database Engine Configuration		,I					
Feature Configuration Rules							
Ready to Install							
Installation Progress							
Complete							
Complete							
			< Back	Next >		Cancel	

## Server Configuration

Specify the service accounts and collation configuration.

Product Key	Service Accounts Collation				
License Terms	Microsoft recommends that you	use a separate account for each	SOL Senier centit		
Global Rules		•	SQL Server servic		
Microsoft Update	Service	2L Server Agent RAMLAN\Administrator •••••• Auto			e
Product Updates	SQL Server Agent				~
Install Setup Files	SQL Server Database Engine	RAMLAN\Administrator	•••••	Automatic	~
Install Rules	SQL Server Browser	NT AUTHORITY\LOCAL		Automatic	~
Feature Selection	Const Defense Values Mainte	Tarla a i ilana ta COL Car	Detabase Fra	in a Comitan	
Feature Rules		nance Task privilege to SQL Serv			
Instance Configuration	This privilege enables instant file initialization by avoiding zeroing of data pages. This may lead to information disclosure by allowing deleted content to be accessed.				
Server Configuration	Click here for details		cessea		
Database Engine Configuration	<u>Circk Here for details</u>				
Feature Configuration Rules					
Ready to Install					
Installation Progress					
Complete					
		< Back	k Next	> Can	cel
SQL Server 2017 Setup Server Configuration Specify the service accounts and	d collation configuration.				
Server Configuration					
Server Configuration Specify the service accounts and	d collation configuration. Service Accounts Collation			_ 0	
Server Configuration Specify the service accounts and Product Key					
Server Configuration Specify the service accounts and Product Key License Terms Slobal Rules	Service Accounts Collation Database Engine:				Ze
Server Configuration Specify the service accounts and Product Key License Terms Slobal Rules Microsoft Update	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS				ze
Server Configuration Specify the service accounts and Product Key License Terms Global Rules Microsoft Update Product Updates	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Slobal Rules Microsoft Update Product Updates Install Setup Files	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Rules	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Slobal Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Slobal Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Slobal Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Instance Configuration	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Setup Files Eature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Instance Configuration Server Configuration	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Slobal Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Ready to Install	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Setup Files Install Rules Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Ready to Install Installation Progress	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Slobal Rules Microsoft Update Product Updates Install Setup Files Install Rules Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Ready to Install	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and Product Key License Terms Global Rules Microsoft Update Product Updates Install Setup Files Install Setup Files Install Rules Feature Selection Feature Rules Instance Configuration Server Configuration Database Engine Configuration Feature Configuration Rules Ready to Install Installation Progress	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze
Server Configuration Specify the service accounts and roduct Key icense Terms ilobal Rules Aicrosoft Update roduct Updates install Setup Files install Rules eature Selection eature Rules instance Configuration eature Rules instance Configuration eature Configuration eature Configuration Rules eady to Install installation Progress	Service Accounts Collation Database Engine: SQL_Latin1_General_CP1_CI_AS Latin1-General, case-insensitive, a insensitive for Unicode Data, SQL			Customi	ze

< Back Next > Cancel

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## **Database Engine Configuration**

Specify Database Engine authentication security mode, administrators, data directories and TempDB settings.

Product Key	Server Configuration Data Directories Ter	npDB FILE	STREAM		
License Terms	Specify the authentication mode and administrators for the Database Engine.				
Global Rules					
Microsoft Update	Authentication Mode				
Product Updates	Windows authentication mode				
Install Setup Files Install Rules	O Mixed Mode (SQL Server authentication	and Windo	ows authentication	n)	
Feature Selection	Specify the password for the SQL Server sy	stem admir	strator (sa) acco	unt.	
Feature Rules		Sterr Garm			
Instance Configuration	Enter password:				
Server Configuration	Confirm password:				
Database Engine Configuration	Specify SQL Server administrators				
Feature Configuration Rules					
Ready to Install	RAMLAN\Administrator (Administrator) RAMLAN\ramlan (Ram Lan)				administrators ricted access
Installation Progress	RAMLAN\ram (Ram)				oase Engine.
Complete	VMM\Administrator (Administrator)				
	Add Current User Add Remo	ve			
			< Back	Next >	Cancel
🃸 SQL Server 2017 Setup					
Ready to Install					
,					
Verify the SQL Server 2017 feature	es to be installed.				
Product Key	Ready to install SQL Server 2017:				
License Terms					
Global Rules	Summary				^
	Edition: Enterprise				
Microsoft Update	Action: Install (Product Update)				
Product Updates	Prerequisites Already installed:				
Install Setup Files	Windows PowerShell 3.0 or his	ther			
Install Rules	Microsoft .NET Framework 4.6	·			
Feature Selection	□ To be installed from media:				
Feature Rules	Microsoft Visual C++ 2015 Red	distributable	2		
Instance Configuration	General Configuration				
	- Features				
Server Configuration	Database Engine Services				
Database Engine Configuration	instance configuration				
Feature Configuration Rules	Instance Name: VMM				
Ready to Install	Instance ID: VMM				
Installation Progress	instance IDs				
Complete	SQL Database Engine: MSS				×
	<				>
	Configuration file path:				
	C:\Program Files\Microsoft SOL Server\140\S	etun Rootet	ran\  og\20101226	110017 Configu	rationFile ini
	C:\Program Files\Microsoft SQL Server\140\S	crap bootst	100/100/20191220	_ nosn (coningu	autorn nearn
			< Back	Install	Cancel

髋 SQL Server 2017 Setup			-	×
Complete				
Your SQL Server 2017 installation	on completed successfully with product updat	25.		
Product Key	Information about the Setup operation or p	ossible next steps:		
License Terms	Feature	Chatran		
Global Rules		Status		
Microsoft Update	Database Engine Services     SOL Browser	Succeeded Succeeded		
Product Updates	SOL Writer	Succeeded		
Install Setup Files	SQL Client Connectivity	Succeeded		
Install Rules	SQL Client Connectivity SDK	Succeeded		
Feature Selection	Setun Sunnort Filer	Succeeded		×
Feature Rules				
Instance Configuration	Details:			
Server Configuration	Install successful.			 
Database Engine Configuration				
Feature Configuration Rules				
Ready to Install				
Installation Progress				
Complete				
	Summary log file has been saved to the follo	wing location:		
	C:\Program Files\Microsoft SQL Server\140	-		
	Summary VMM 20191226 110917.txt	Serup Bootstrap/Log/20191220 110917		

Close

## SQL 2017 KB4527377:

02 SQLServer2017-KB4527	<u>/377-x64</u>	<u>25-Dec-2019 2:05</u>	Application	<u>541,841 KB</u>	
🐻 Install a SQL Server 2017 update				—	
License Terms To install the update, you must	accept the Microsoft So	oftware License Terms.			
SQL Server 2017 update License Terms Select Features Check Files In Use Ready to update Update Progress Complete	PLEASE NOTE: Ref "software") to iden may use a copy of	ROSOFT SQL SERVER 2017 fer to your license terms for tify the entity licensing this s this supplement with each v rou do not have a license for f this supplement.	Microsoft SQL Server supplement to you and ralidly licensed copy of	for support informat the software. You m	ay not use
	SQL Server transmits performance data, to	e terms and <u>Privacy Stateme</u> information about your instal Microsoft to help improve th I to turn off the collection of th	lation experience, as we e product. To learn moi	re about data processi	py Print
			< Back	Next >	Cancel

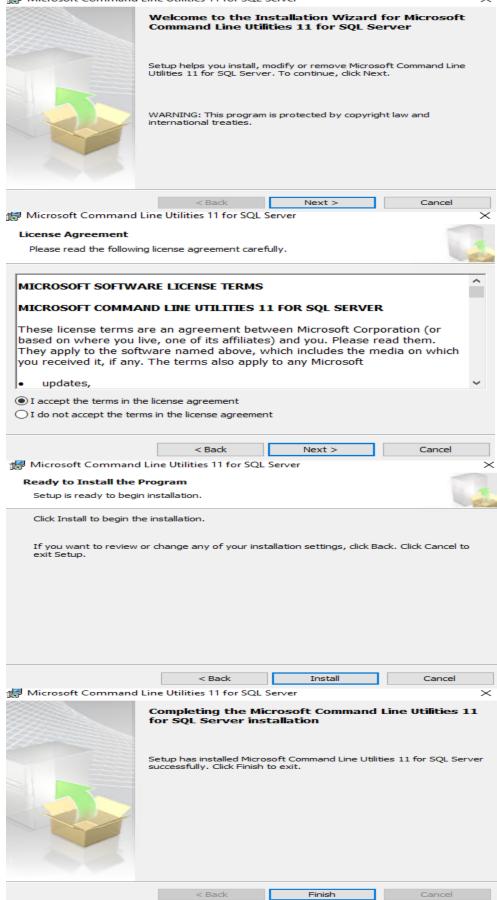
🐻 Install a SQL Server 2017 update				- 🗆 ×
Select Features Specify the features to update.				
SQL Server 2017 update License Terms Select Features Check Files In Use Ready to update Update Progress Complete	Instances: VMM Database Engine Services Shared Features SQL Client Connectivity SDK	Description: Language: Edition: Patch Level: Architecture Service Pack Upgrade Stat		
		< Back	Next >	Cancel
Install a SQL Server 2017 update			_	- 🗆 X
Check Files In Use The following services and app restart, stop the applications an	lications are using files that Setup needs to complete the i d services.	nstallation. To avoi	id a computer	
SQL Server 2017 update License Terms Select Features <b>Check Files In Use</b> Ready to update Update Progress Complete	Files in use check completed.		Stop check	Refresh check
		< Back	Next >	Cancel
🐻 Install a SQL Server 2017 update			-	- 🗆 ×
Ready to update Verify the list of features to be a	updated.			
SQL Server 2017 update License Terms Select Features Check Files In Use <b>Ready to update</b> Update Progress Complete	Ready to update: 			~
		< Back	Update	Cancel

🐻 Install a SQL Server 2017 update			_		$\times$
Complete Your SQL Server 2017 update of	operation is complete.				
SQL Server 2017 update License Terms Select Features Check Files In Use Ready to update Update Progress <b>Complete</b>	Information about the Setup operation or po Feature Solution Services (VMM) SQL Browser (VMM) SQL Writer (VMM) Setup Support Files (VMM)	Status Status Succeeded Succeeded Succeeded Succeeded Succeeded			
	Summary log file has been saved to the follo <u>C:\Program Files\Microsoft SQL Server\140\</u> <u>\Summary_VMM_20191226_112516.txt</u>	-	_	Close	

## **ODBC Driver & Command Line Utility:**

Name		Date modified	Туре	Size	
🛃 <u>msodbcsql</u>		<u>26-Dec-2019 9:00</u>	Windows Installer	<u>3,764 KB</u>	
🛃 <u>MsSqlCmdLnUtils</u>		<u>26-Dec-2019 8:59</u>	Windows Installer	<u>2,620 KB</u>	
🖟 Microsoft ODBC Driv	er 11 for SQL Server Setu	p	×		
	Welcome to the In 11 for SQL Server		for ODBC Driver		
	Setup helps you install, r Server. To continue, clid		Driver 11 for SQL		
	WARNING: This program international treaties.	is protected by copyrigh	nt law and		
	< Back	Next >	Cancel		
Microsoft ODBC Drive License Agreement Please read the following		-	×		
Please read the following license agreement carefully.  MICROSOFT SOFTWARE LICENSE TERMS  MICROSOFT ODBC DRIVER FOR MICROSOFT SQL SERVER 2014  These license terms are an agreement between Microsoft Corporation (or					
based on where you They apply to the sof	live, one of its affiliate tware named above, v v. The terms also apply	s) and you. Please re which includes the me	ead them.		
<ul> <li>I accept the terms in the</li> </ul>	he license agreement ms in the license agreemer	nt			
	< Back	Next >	Cancel		

🖟 Microsoft ODBC Driv	er 11 for SQL Server Setu	p	×
Feature Selection			
Select the program fea	atures you would like to inst	all.	1
Click an icon in the follo	owing list to change how a	feature is installed.	
			description
	nponents ver for SQL Server SDK	Microsoft SQL Serve	ODBC Driver for er SDK
Tastallation anth			
Installation path			
			Browse
			Disk Cost
			Disk Cost
	< Back	Next >	Cancel
/ Microsoft ODBC Driv	ver 11 for SQL Server Setu	р	×
Ready to Install the	Program		
Setup is ready to begi	n installation.		1 A.
Click Install to begin th	ne installation.		
exit Setup.	or change any of your inst	ana don setungs, cick ba	
	< Back	Install	Cancel
滑 Microsoft ODBC Driv			×
	Completing the OD installation	BC Driver 11 for S	SQL Server
	Setup has installed ODBC Finish to exit.	Driver 11 for SQL Serv	er successfully. Click
	< Back	Finish	Cancel



#### Group Managed Service Account (GMSA):

- New-ADServiceAccount SCVMMSVC –DNSHostName SCVMMSVC.ramlan.ca PrincipalsAllowedToRetrieveManagedPassword VMM\$ –KerberosEncryptionType RC4, AES128, AES256
- get-adserviceaccount -identity scvmmsvc

```
      Make sure to add this account to local admin group on VMM machine where you install VMM2019.

      S C:\Users\Administrator> New-ADServiceAccount SCVMMSVC -DNSHostName SCVMMSVC.ramlan.ca -PrincipalsAllowedToRetrieveMan

      gedPassword VMM$ -KerberosEncryptionType RC4, AES128, AES256

      S C:\Users\Administrator> get-adserviceaccount -identity scvmmsvc

      istinguishedName : CN=SCVMMSVC,CN=Managed Service Accounts,DC=RAMLAN,DC=CA

      nabled
      : True

      ame
      : SCVMMSVC

      bjectClass
      : msDS-GroupManagedServiceAccount

      bjectGUID
      : ec9cdf19-f85d-4b59-99f3-6400fb43b2ee

      amAccountName
      : SCVMMSVC$

      ID
      : S-1-5-21-2663475566-2463441597-3031320717-1219

      serPrincipalName :
```

### Install VMM 2019:

VMM > OS (C:) > Temp > System Center Virtual Machine Manager >

	Name	Date modified	Туре	Size
	amd64	<u>26-Dec-2019 11:54</u>	File folder	
*	<u>i386</u>	<u>26-Dec-2019 11:55</u>	File folder	
A	Prerequisites	<u>26-Dec-2019 11:55</u>	File folder	
A	SAV	<u>26-Dec-2019 11:55</u>	<u>File folder</u>	
*	Scripts	26-Dec-2019 11:55	File folder	
	autorun	04-Feb-2019 8:47	Setup Information	<u>1 KB</u>
	msvcr110.dll	<u>16-Jul-2014 12:50</u>	Application extens	<u>855 KB</u>
	setup	<u>08-Feb-2019 1:47</u>	Application	<u>371 KB</u>

Microsoft

```
System Center 2019
          Virtual Machine Manager
           Install
                                                                         0
               Restart may be required
                                                                         Release Notes
               Ø Before you begin
                                                                         Installation Guide
                 VMM Privacy Statement
                                                                         Browse the CD
                                                                         System Center Online
          Optional Installations
             Local Agent
               Installs agent on local machine.
© Microsoft Corporation. All rights reserved.
                                                                                                 Close
```

Microsoft System Center 2019 Virtual Machine Manager Setup Wizard

Getting started	

Report a probler

Select	eatures to install			
VMM r	nanagement server			
	e Virtual Machine Manager service, which processes commands and c	ontrols commu	nications wi	th the VMM
	, library servers, and virtual machine hosts. are requires a SQL Server database and Windows Assessment and Dep	lovment Kit (AD	K) for Wind	lows 10 (View
	ation requirements )	loyment kit (AD	ky for wine	10WS 10. ( <u>VIEW</u>
VMM c	onsole			
	program that allows you to connect to a VMM management server to			resources,
such as r	osts, virtual machines, private clouds, and services. ( <u>View all installatio</u>	n requirements	)	
		Previous	Next	Cancel
Microsoft Sys	tem Center 2019 Virtual Machine Manager Setup Wizard			×
Getting started				Report a problem
Product	registration information			
Name:	Administrator			
Organization:	RAMLAN INC			
Product key:	BXH69-M62YX-QQD6R-3GPWX-8WMFY			
Microsoft Sust		Previous	Next	
	om Contor 2010 Virtual Machine Manager Setup Wizard			Cancel
Getting started	em Center 2019 Virtual Machine Manager Setup Wizard			×
				×
				×
Please				×
Please				×
Please	read this license agreement	he terms and	l condition	Report a problem
Please	read this license agreement PLEASE NOTE: Your use of this software is subject to the license agreement by which you (or your company) acc	juired the Mid	rosoft se	Report a problem
Please	read this license agreement	juired the Mid	rosoft se	Report a problem
Please	read this license agreement PLEASE NOTE: Your use of this software is subject to the license agreement by which you (or your company) acc software or gained access to the online service from Mi	uired the Mic crosoft. For i	rosoft se nstance,	Report a problem
Please	PLEASE NOTE: Your use of this software is subject to the incense agreement by which you (or your company) acc software or gained access to the online service from Mid are: • a volume license customer or service provider, use of your volume license agreement or service provider li	uired the Mic crosoft. For i of this softwa cense agreer	rosoft se instance, re is subj nent;	Report a problem
Please	<ul> <li>PLEASE NOTE: Your use of this software is subject to the license agreement by which you (or your company) access software or gained access to the online service from Midare:</li> <li>a volume license customer or service provider, use of your volume license agreement or service provider, use of your volume that received the software separately for or system builder, use of this software is subject to</li> </ul>	uired the Mic crosoft. For i of this softwa cense agreer om a hardwa	rosoft se instance, re is subj ment; re manuf	Report a problem
Please	<ul> <li>PLEASE NOTE: Your use of this software is subject to the license agreement by which you (or your company) acc software or gained access to the online service from Mid are:</li> <li>a volume license customer or service provider, use of your volume license agreement or service provider lies a customer that received the software separately from or system builder, use of this software is subject to that part;</li> </ul>	uired the Mic crosoft. For i of this softwa cense agreer om a hardwa the license a	rrosoft se nstance, re is subj ment; re manuf greemen	Report a problem
Please	<ul> <li>PLEASE NOTE: Your use of this software is subject to the license agreement by which you (or your company) access software or gained access to the online service from Midare:</li> <li>a volume license customer or service provider, use of your volume license agreement or service provider, use of your volume that received the software separately for or system builder, use of this software is subject to</li> </ul>	uired the Mic crosoft. For i of this softwa cense agreer om a hardwa the license a	rrosoft se nstance, re is subj ment; re manuf greemen	Report a problem
	<ul> <li>PLEASE NOTE: Your use of this software is subject to the license agreement by which you (or your company) access software or gained access to the online service from Midare:</li> <li>a volume license customer or service provider, use or your volume license agreement or service provider limits a customer that received the software separately from or system builder, use of this software is subject to that part;</li> <li>an online service customer, use of this software is suf-</li> </ul>	uired the Mic crosoft. For i of this softwa cense agreer om a hardwa the license a	rrosoft se nstance, re is subj ment; re manuf greemen	Report a problem
	<ul> <li>PLEASE NOTE: Your use of this software is subject to the license agreement by which you (or your company) acc software or gained access to the online service from Mid are:</li> <li>a volume license customer or service provider, use of your volume license agreement or service provider lie a customer that received the software separately for or system builder, use of this software is subject to that part;</li> <li>an online service customer, use of this software is subscription agreement.</li> </ul>	uired the Mic crosoft. For i of this softwa cense agreer om a hardwa the license a	rrosoft se nstance, re is subj ment; re manuf greemen	Report a problem

III Microsoft System Center 2019 Virtual Machine Manager Setup Wizard

Getting sta	arted	

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Getting started			1	Report a problem
Diagnostic ar	nd Usage Data			
improve the quality, se reliability, such as what any problems you expe	v collects usage and performance data over the internet ("Data"). N curity and integrity of Microsoft products and services. For exampl features you use, how quickly the features respond, device perfor erience with the product. Data will also include information about to u are currently running, and the IP address.	le, we analyz mance, user	e performand interface inte	e and eractions, and
Choice/Control: This for workspace of the VMM	eature is on by default. Administrators can turn off this feature any l console.	/time by cha	nging the Se	ttings
This Notice replaces the	the other data collection and usage, see <u>Privacy Statement for Sys</u> e Customer Experience Improvement Program (CEIP) description in ctions of the Privacy Statement apply.			
		Previous	Next	Cancel
Microsoft System Cer	nter 2019 Virtual Machine Manager Setup Wizard		, iterat	>
Getting started				Report a proble
Installation	location			
installation	location			
The recommended	location for program files is displayed.			
Location: C:\Progra	am Files\Microsoft System Center\Virtual Machine Manager			Browse
Free spac	e 223.41 GB			
	Г	Previous	Next	Cancel
Microsoft System Cen	ter 2019 Virtual Machine Manager Setup Wizard		- Heat	×
Configuration				Report a problem
Database co	nfiguration			
	pout the database that you would like to use for your VMM manag	ement serve	r	
		concent serve		
Server name:	VMM			Browse
Port:				
Use the following (	credentials			
User name:				
	Format: Domain\UserName			
Password:				
Instance name:	VMM			~
Select an existing data	base or create a new database.			
New database:	VirtualManagerDB			
<ul> <li>Existing database:</li> </ul>				~
		Previous	Next	Cancel

 $\times$ 

Cont	figu	irati	ion	

Report a problem

Conne	Jule service	e account and	austributed	key m	anagem	ent	
Virtual N	lachine Manage	r Service Account					
	account to be used e of account should	by the VMM service. Hi luse?	ighly available VMM i	nstallations	require the use	e of a domain a	ccount.
O Local S	ystem account						
O Domain							
User na	ame and domain:			Password:			
C Crown	Manager Carries A.						Select
	Managed Service Ao ame and domain:	count					
ramlar	n.ca\SCVMMSVC\$						
Distribut	ed Key Manager	ment					
Select whe		otion keys in Active Dire	ectory instead of on th	e local mad	chine. Highly av	ailable VMM in	stallations
	ny keys in Active Dir						
Provide	e the location in Act	ive Directory. For exam	ple, CN=DKM,DC=co	ntoso,DC=o	iom.		
	MM,DC=RAMLAN,D						
How do I d	configure distributed	d key management?					
					Previous	Next	Cancel
Microsoft S	System Center 2019	Virtual Machine Manag	ger Setup Wizard				×
Configuration						Re	port a problen
Port co	onfiguratio	n					
	onnguration						
Manager	nent Server						
Please sele	ct the ports for vario	ous VMM features.					
8100	Communicatio	on with the VMM conso	ble				
5985	Communicatio	on to agents on hosts a	nd library servers				
443	File transfers to	o agents on hosts and	library servers				
8102	Communicatio	on with Windows Deplo	yment Services				
8101	Communicatio	on with Windows Preins	stallation Environment	t (Windows	PE) agents		
8103		on with Windows PE ag					
0.000	connenteatio	in man made of the ag	eneror and synchron	20000			
					Previous	Next	Cancel

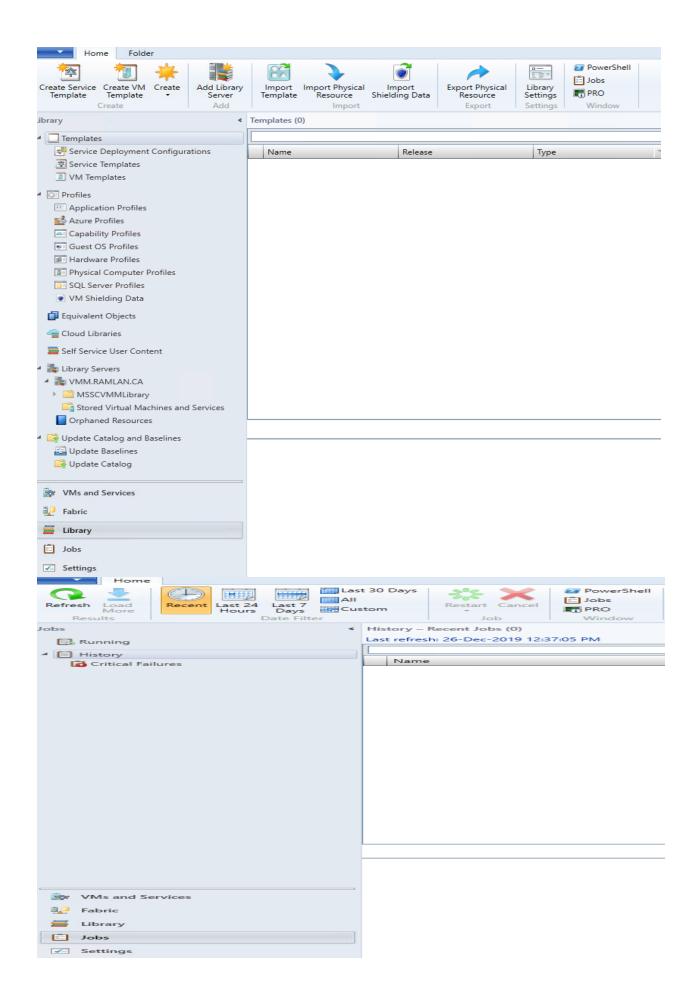
Microsoft System Cen	ter 2019 Virtual Mac	hine Manager Setup W	/izard			×
Configuration					Ē	Report a problen
Library confi	guration					
Specify a share for	the Virtual Mac	hine Manager libra	ary			
<ul> <li>Create a new librar</li> </ul>	ry share					
Share name:	MSSCVMMLibrary					
Share location:	C:\ProgramData\V	irtual Machine Manag	er Library Files		[	Select
Share description:	VMM Library Share	2				
<ul> <li>Use an existing libr</li> </ul>	rary share					
Share name:	MSSCVMMLibrary					
Share location:						
Share description:						
share description.						
				Previous	Next	Cancel
Configuration						Report a p
						<u>nepore o p</u>
Review the selections Features selected to VMM management VMM console	for features you ar be added	re installing. To contin	ue, click Install. To cl	hange these se	lections, click	Previous.
Installation Location C:\Program Files\W		enter\Virtual Machi	ne Manager\			
Database Informatio VirtualManagerDB		created on VMM\VM	М			
Service Account ramlan.ca\SCVMM	svc\$					
443 - File transfers 8102 - Communica 8101 - Communica	tion with the VMN tion to agents on l to agents on host tion with Window tion with Window	M console hosts and library ser s and library servers s Deployment Servic rs Preinstallation Env P agent for time sync	es ironment (Window	vs PE) agents		
Library Share Name ar MSSCVMMLibrary C:\ProgramData\Virt		ger Library Files				~
						] [
				Previous	Install	Cancel

# C

eport a problen

omplete	<u>Report a pr</u>
Setup completed successfully	
For detailed information, review the Setup log files that are located in the Note that the ProgramData folder is a hidden folder.	%SYSTEMDRIVE%\ProgramData\VMMLogs folder.
<b>O</b> VMM management server	0
<b>O</b> VMM console	Release Notes
	Installation Guide
	Read Documentation
	System Center Online
<ul> <li>Check for the latest Virtual Machine Manager updates</li> <li>Open the VMM console when this wizard closes</li> </ul>	
	Close
Microsoft	
System Center 2019	
Virtual Machine Manager	
5	
This product is licensed to:	
© Microsoft Corporation. All rights reserved.	
Server Version: 10.19.1013.0 Product information	

	Home	Folder									
1	1	*			-2		1	d.	R& >	Power	Shell
Create	Create Virtua	I Create	Create Hos	Create VM	Assign		Services	VM	Select Clea	ar Jobs	
Service	Machine •	Cloud	Group	Network	Cloud	Sh	Ne	etworks	Tenant Filte		202
/Ms and !	Services	CT CT CT	<	VMs (0)	0.000				121101121111		
Ten											
				Name		Status		Virtual	Machine State	- Host	
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M			EM. 7		0		Ó.	0	1	PowerShell	
Create	Add	Overvie	w Fabric	Compliance	Scan F	emediate Compliance	Update	Reassocia		Jobs	
Create	Resources • Add		Resource			Properties Compliance	Agent	gent		PRO Indow	
Fabric				lanaged Compu	ters (1)			2			
· ?? Sen	vers										
	II Hosts		1	Name						Agent Status	9
In	frastructure			VMM.RAML	AN.CA					🔇 Respond	ling
🕨 📥 Net	working										
🕨 🧾 Sto	rage										
			_								
N VM	Is and Service	5									
Fat											
🚟 Lib											
Job	os										
🔽 Set	tings										



Home		
Create Create Run Create Servicing	Import     Backup       Console Add-in         Import         Backup         Import         Backup         Import         Backup         Import         Backup         Import         Backup         Import         Import <td></td>	
User Role As Account Window Create	Console Add-in Import Backup Window Properties	
Settings	< Settings (6)	
🗐 General		_
😻 User Roles	Name	
Run As Accounts	Diagnostic and Usage Data Settings	
Servicing Windows	<ul> <li>Database Connection</li> <li>Library Settings</li> </ul>	
🙀 Configuration Providers	Remote Control	
	<ul> <li>Network Settings</li> </ul>	
System Center Settings	Host Guardian Service Settings	
🖞 Console Add-ins		
Microsoft Azure Site Recovery		
w VMs and Services		
Fabric		
🧮 Library		
🗄 Jobs		
Settings		

This concludes the installation of VMM 2019

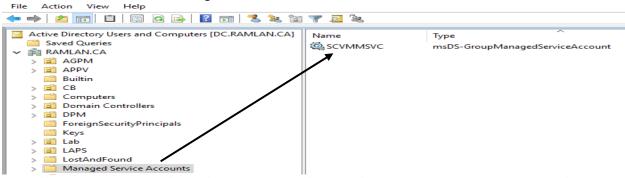
Thanks

Ram Lan 26<sup>th</sup> Dec 2019 **GMSA** – **Group Managed Service Account**: This account is created in AD on Domain Controller using PowerShell. There is no password set. You do have the option to set how frequent the password will be updated.

One of the newest features of GMSA is VMM Server will request the password from AD on a consistent basis and update SCVMMSVC with the new Service Account password, all in the background, allowing you and your security team peace of mind that the Service account password is reset regularly and unknown to any humans.

One important note is when installing VMM 2019 make sure to add SCVMMSVC account to Local Administrator Group – if not you will get pop up message to complete before you can proceed.

The account is visible under Managed Service Accounts in AD



https://docs.microsoft.com/en-us/windows-server/security/group-managed-service-accounts/getting-

started-with-group-managed-service-accounts

Parameter	String	Example
Name	Name of the account	ITFarm1
DNSHostName	DNS host name of service	ITFarm1.contoso.com
KerberosEncryptionType	Any encryption types supported by the host servers	RC4, AES128, AES256
ManagedPasswordIntervalInDays	Password change interval in days (default is 30 days if not provided)	90
PrincipalsAllowedToRetrieveManagedPassword	The computer accounts of the member hosts or the security group that the member hosts are a member of	ITFarmHosts
SamAccountName	NetBIOS name for the service if not same as Name	ITFarm1
ServicePrincipalNames	Service Principal Names (SPNs) for the service	http/ITFarm1.contoso.com/contoso.com, http/ITFarm1.contoso.com/contoso, http/ITFarm1/contoso.com, http/ITFarm1/contoso

**EXAMPLE:** New-ADServiceAccount ITFarm1 -DNSHostName ITFarm1.contoso.com -PrincipalsAllowedToRetrieveManagedPassword ITFarmHosts\$ -KerberosEncryptionType RC4, AES128, AES256 -ServicePrincipalNames http/ITFarm1.contoso.com/contoso.com, http/ITFarm1.contoso.com/contoso, http/ITFarm1/contoso.com, http/ITFarm1/contoso