

QuickStart Guide

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Manager

for WVD

This document will guide you through the process of installing Nerdio Manager for WVD in your own environment. By following this guide, you are registering an *Enterprise Application* in your own Azure tenant, in a subscription that you select and into a new Resource Group. Once the install is completed, you'll gain access to a URL and be able to login to Nerdio Manager for WVD web application.

A list of resources will be created in the subscription in order to run the application and the permissions granted to service principals so that Nerdio Manager for WVD can manage your WVD environments and are available in the Security Appendix.

Prerequisites

- 1. You must be logged into **Azure AD as a Global Administrato**r before starting the deployment process via the Azure Marketplace.
- You need to have an Azure subscription that is accessible to your Azure AD user with owner role. The subscription must be able to deploy Azure SQL, Web Application, Key Vault, Application Insights and Automation account in your selected region.
- You must have a virtual network and subnet available to deploy WVD session host VMs. You will be prompted to select this virtual network and subnet during the installation process.
- 4. You must have Windows Active Directory or Azure AD DS deployment accessible from the virtual network where WVD session host VMs will be deployed. The custom default DNS server setting specified on the virtual network subnet must be pointing at a DNS server that is AD-aware.
- 5. Windows Active Directory must be synchronized with Azure AD.
- 6. You need an Active Directory user account with rights to join and un-join VMs from domain. This user account must be able to create computer objects in at least one OU in AD domain and be able to disable these computer objects.
- 7. You need an SMB file storage location for FSLogix Profile containers. This SMB share can be on a file server VM, Azure Files, Azure NetApp Files or any other location accessible via a UNC path (e.g. <u>\\server.domain.local\share\profiles</u>). Server name must be in FQDN format. This file share must be in Azure in the same region as the WVD session host VMS.
- 8. WVD app must be registered in your Azure AD tenant.



Installation

1. Visit Azure Marketplace and search for "Nerdio Manager for WVD."



Note: Be sure you're installing "Nerdio Manager for WVD" and not "Nerdio for Azure." Those are different products.

2. Click the Get It Now button and then click on the Continue button.



3. Once redirected to the Azure Portal, click on the Create button to proceed.





- 4. Fill out the **Basic** deployment blade.
 - Select subscription.
 - Create a new resource group.
 - Select location for the Nerdio Manager for WVD application deployment.
 - Click **OK**.

5. Fill out the "Run As" Admin Credentials

deployment blade. These credentials are needed only for the installation of Nerdio Manager for WVD and not needed for ongoing operation.

- This step requires an admin account with MFA
 disabled, global admin rights to Azure AD and Owner role on the subscription. Selecting No
 will require you to manually run an installation
 Powershell script on your local computer later on in the process.
- This information will be stored in Automation Account Credentials in your subscription and used to run the initial installation process. This admin user account must be the same as the user that you're currently logged in with and is being used for Nerdio Manager for WVD deployment.
- Type in the user's password.
- Confirm the user's password.
- Click **OK**.

6. Review the **Final Steps** deployment blade.

- Review the instructions on where to find the application URL once the deployment is done.
- Click **Yes**.
- Click OK.
- 7. Review the **Summary** deployment tab and click **OK**.

eate	Nerdio Manager fo	. « ×	Basics 🗆 🗅
1	Basics Configure basic settings	>	Select an Azure subscription, create a new resource group, and select a location to deploy the Nerdio Manager for WVD application. The subscription must be in the
2	Admin credentials Configure Admin credentials	>	same Azure AD tenant as the WVD application registration. The Azure AD user you're currently logged in with must be an Azure AD Global
3	Final Steps Review Final Steps	>	Administrator and have Owner role on the selected subscription. Subscription
			MfS Sponsored Subscription \checkmark
4	Summary	>	Resource group * ④
	Nerdio Manager for WVD		×
5	Buy	>	Create new Location *
~			(US) South Central US







- 8. Review the **Buy** deployment tab and click **Create**. The deployment will take approximately 20 minutes.
- 9. Click on the **Notifications** bell icon on the top right and then click on **Deployment in Progress**.

fore events in the activity log ->	Dismiss all 😒
Deployment in progress. Deployment to resource group NVM-testinstall' is in progress.	Running X
	2 minutes ago

 Once the deployment is complete, find the Nerdio Manager for WVD web application URL under Outputs and add it to your favorites.

Microsoft Asura C Search resources services and dors (Ga.0		ar a ar i annaí . 💿
Home > nerdio.nerdio.wd manager-preview-20200223204349 - Outputs		
nerdio.nerdio_wvd_manager-preview-20200223204349 - Outputs		×
	https://nwm-app-#	
le Overview		
🖳 Inputs		
Cutputs		
Template		

 Browse to the application URL copied in the previous step and click on Automation Runbook link, if you specified Admin Credentials in step 5 above. If you did not specify Admin Credentials, then download the Powershell script and run it on your computer from Administrator Powershell console.

	neralo
You're almos	st done!
The Nerdio Ma subscription ar RunAs credent script automat script and run i	Inager for WVD web application is now deployed to your Azure and needs to be initialize. Since you provided Azure Automation ials during the deployment process you can run the initialization ically via Azure Automation Runbook or you can download the t manually on your computer.
After completing	the initialization come back here and refresh this page.
See you soon!	



12. You will be taken to the Azure Portal. Click Start to run the Azure automation runbook and click **Yes** to confirm.



While the Automation runbook is running, the status will be Queued at first and then Running. This process will take about 5-10 minutes.

- When the runbook status changes to Completed, browse to the app URL recorded above to complete the configuration. Configure Network by clicking on the "None Selected" link.
- 14. Select the Network and subnet where you want the WVD session hosts to be created. The network selection will also determine the Azure region for these hosts.

NETWORK CONFIGURATION	
Resource group	
NWM-Demo	· · · · · · · · · · · · · · · · · · ·
Network	
NWM-Demo-Vnet	•
Subnet	
NWM (10.1.254.0/24)	· · · · · · · · · · · · · · · · · · ·
	Cancel OK

Welcome To Nerdio Manager for WDD You have successfully installed Nerdio Admin Portal in your subscription! Next, we need you to connect the portal to your IT environment. You will be able to start creating and managing Windows Virtual Desktop tenants once the configuration is done. Follow the checklist below to complete the configuration.
Nerdio Manager for WVD Configuration
Azure AD Tenant Tenant: ID: 553078fe4334-4ee6-9122-352bf41674ec
Azure subscription Name: MIS Sponsored Subscription ID: 73431ef6-cf54-4e50-a20f-1963e58970a4
WVD App Registration Before you can deploy and manage WVD resources, the WVD app must be registered in your Azure AD tenant.
 Network Select virtual network with access to Active Directory and FSLogix file share. vNet_mone selected
Resource Group Select Resource Group that will contain WVD session host VMs. Name: <u>NMW1.2.0-Test2</u>
 Active Directory Connect to an existing Active Directory or Azure AD DS. Name: none selected
 File storage Select a location where FSLogix profile containers will be stored, or create a new Azure Files share Location: <u>none selected</u>
Click the Done button once you have completed all steps above
Done





16. Configured **File Storage** location for FSLogix Profile containers by specifying the UNC path to a file share accessible from the network where WVD Manager application





Create New Desktop Image

1. Select **Desktop Images** in the WVD Manager menu and click **Add from Azure**

Library button.

rdio for WVD	Home > Desktop images							·
WVD TENANTS	DESKTOP IMAGES							6
DESKTOP IMAGES	NAME	VM CONFIG		DESCRIPTION	LAST UPDATED			
OST ESTIMATOR							Add from Azure VM	rom Azure library
EPORTS								
ILLING	DESKTOP IMAGES TASKS				Searc	h	Q ALL STATUSES	·] 0
NGS	TASK	RESOURCE NAME	USER	STATUS	CREATED	COMPLETED		
TINGS								
DATES								

 Enter a name of new VM to be crated as a Desktop Image, description, select an Azure Marketplace image, VM size and OS Disk. D2sv3 VM with E10 disk is recommended to start.

NOTE: During VM creation, the VM is joined to the AD domain specified during the installation process. If join domain task fails, verify that the domain name, username, password, and OU are correctly specified and the WVD

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for WVD

Add desktop image from Azure	image library.
NAME:	MyFirstImage
DESCRIPTION:	This is my first desktop image
MARKETPLACE IMAGE:	Windows 10 for WVD + Office Pr *
VM SIZE:	D2s_v3 (2C/8GB/Standard) *
HOST STORAGE TYPE:	128 GB (E10/Standard SDD) *
This task may take up to an hou progress in the Desktop Images	ur to complete. You can monitor : Tasks section.

Manager network can access the network where AD domain controller resides.

3. It will take about 15 minutes for the new Desktop Image VM created and you can track the progress in the DESKTOP IMAGES TASKS section. Once the Desktop Image is added, you can power it on and RDP to using the listed IP address or host name. After the changes are made to the Desktop Image, click **Power Off & Set As Image** button to commit these changes to an image that can be used to create WVD session host VMs.

DESKTO	OP IMAGES				ະ
	NAME	VM CONFIG	DESCRIPTION	LAST UPDATED	
ወ	EXECUTIVE NERDIO, INT 10.1.254.5	OS: Windows 10 for WVD + Office ProPlus VM Size: E4s_v3 (4C/32GB/Standard) OS Disk: 128 GB (P10/Premium SSD)	Personal Desktop Template for Executive Team	Feb 9, 2020 01:20 PM	Power off & set as image 🔹
ወ	FieldTechs01 FIELDTECHS01.NERDIOJINT 10.1.254.9	OS: Windows 10 EVD VM Size: D25_v3 (2C/8GB/Standard) OS Disk: 128 GB (E10/Standard SDD)	Field Techs desktop image with LOB apps	Feb 9, 2020 01:26 PM	Power on 👻

4. Once the changes to the Desktop Image are committed, the Last Updated date stamp will be updated, and the Desktop Image can be used to provision new session hosts are re-image existing session hosts.

Create New WVD Tenant

1. Select **WVD Tenants** in the WVD Manager menu and click **Add Tenant** button.

MANAGER	Tenants				
TENANTS	WVD TENANTS (1)				
CTOP IMAGES	NAME (D)	USER FRIENDLY NAME ①	USAGE (Past 30 days) ①	ADDITIONAL INFO ()	
S	Production Tenant Production WVD user environment	ACME Corp (Production)	Highest named users:16 Highest concurrent users:1 Highest CPU cores:87	Session desktop pools: 3 (8 hosts) Personal desktop pools: 1 (3 hosts) RemoteApp pools: 1 (4 hosts)	User sessions
ATES	Validation Tenant Validation WD tenant used to test various changes without affecting production.	ACME Corp (Validation)	Highest named users:0 Highest concurrent users:0 Highest CPU cores:-	Session desktop pools: 0 (0 hosts) Personal desktop pools: 0 (0 hosts) RemoteApp pools: 0 (0 hosts)	User sessions
					Add Tenar

2. Enter new tenant name, friendly name, and description and click OK.

Name (not visible to user and ca	not be change	d later)	
Tenant name			
Friendly Name (visible to user an	d can be chang	ed later)	
Friendly name			
Description			
			li
			_
		Cancel	ОК



Create New Dynamic Host Pool

1. Navigate to WVD Tenants and click on the WVD Tenant name.

MANAGER	Tenants				
FOR WVD	WVD TENANTS ©				
SKTOP IMAGES	NAME ()	USER FRIENDLY NAME ()	USAGE (Past 30 days) ①	ADDITIONAL INFO ①	
GS	Production Tenant Production WHD user environment	ACME Corp (Production)	Highest named users:16 Highest concurrent users:1 Highest CPU cores:87	Session desktop pools: 3 (8 hosts) Personal desktop pools: 1 (3 hosts) RemoteApp pools: 1 (4 hosts)	User sessions
DATES	Validation Tenant Validation WVD tenant used to test various changes without affecting production.	ACME Corp (Validation)	Highest named users:0 Highest concurrent users:0 Highest CPU cores:-	Session desktop pools: 0 (0 hosts) Personal desktop pools: 0 (0 hosts) RemoteApp pools: 0 (0 hosts)	User sessions
					Add Tenar

2. In the Dynamic Host Pools section click on Add Dynamic Host Pool.

MANAGER	Tenants > Host Pools					Tena	ant: New Empty Tenar
WVD TENANTS	STATIC HOST PO	OLS (NEW EMPTY TENANT) ()					÷
lost pools	NAME ()	FRIE	NDLY NAME ()	DESKTOP	EXPERIENCE ()	STATUS ()	
ser sessions ESKTOP IMAGES						Back Add st	tatic host pool
OGS	_						
ETTINGS	DYNAMIC HOST	POOLS (NEW EMPTY TENANT) @					Ð
PDATES	NAME @	FRIENDLY NAME @	DESKTOP EXPERIENCE @	STATUS @	AUTO-SCALE @	IMAGE ©	
						Back Add dyna	mic host pool

 Specify new host pool name, description, and select desktop experience. Specify the name prefix to be used when creating the hosts. Select the Desktop Image created previously and the VM size and OS Disk and click **OK**.

NOTE: At least a 2 CPU core VM with at least a Standard SSD disk are recommended. Common VM series used for WVD session hosts are Dsv3 and Esv3.

	Enter name displayed to end-users (cannot be left blank)	٢
DESCRIPTION:	Enter description for admin users	0
DESKTOP EXPERIENCE	E D	
Session desktop (p RemoteApp (select	ooled) () applications) ()	
Single user desktop	p (pooled) ①	
JAME DDEELY-		0
PARE PREFIX		Ĩ
DESKTOP IMAGE:		0
VM SIZE:	DS1_v2 (1C/3.5GB/Standard)	0
OS DISK:	128 GB (E10/Standard SSD)	' ©
ASSIGN TO POOL:	Type username	0
	ong time to complete. You can monitor progress in the Host Pools Ta	sks
This task may take a k		
This task may take a lo section.		



4. On the **Auto-Scale** configuration screen, click the **ON/OFF** switch on top right to turn auto-scale on. Click **Save** button at the bottom.

MANAGER	AUTO STALE O
ron WVD	
P TENANTS	Desistop Pools scale out or scale in based on user workload. Additional hosts are provisioned when collective CPU usage across below all existing hosts in the pool exceeds a preset threshold. Similary, hosts are detected when the collective CPU usage drops below acreatinal whenhold voca near an upper limit on the number of hosts added to the pool to avoid costs from spraining out of control. You can set an upper limit on the number of hosts added to the pool exceeds a preset threshold. Similary, hosts are lower limit to ensure base capacity. When a host is deleted the system will intelligently remove the host with least number of users, and only after it drains connections and warns existing users they are going to loose their session.
sessions	Hosts will be provisioned based on the template for pool:
CTOP IMAGES	NAME PREFUC LEGACY D
S	DESKTOP IMAGE (TEMPLATE): Skipjoin (Mar 27, 2020 01:49 PM) * 0
JETTINGS VM SIZE (TEMPLATE): D2s_v3 (2C/8GB/Standard) * 0	VM SIZE (TEMPLATE): D2s_v3 (2C/8GB/Standard) * 0
ATES	OS DISK (TEMPLATE): 128 G8 (E10/Standard SSD) * 0
	Changes will only be applied to new VM.
	● HOST POOL SIZING ^③
	Active host defined as: WVD agent Available * 0
	Base host pool capacity: 5 host(s) in the pool @
	Min active host capacity: 1 host(5) in the pool @
	Burst beyond base capacity: up to 4 extra host(s) in the pool (
	2 SCALING LOGIC ()
	Select autoscale trigger: CPU usage * 0
	Start or create (scale out) up to 2 host(s) if CPU utilization across all hosts exceeds 50 % for 5 * minutes 0
	Stronger remove (scale (a) up to 1 hostical (# CPU) utilization, arrows all hosts drongs heliow 30, % for 15, * minutes (0
	stop or remove (scale in) noss only from: b p.m. * to: a k.m. * (UIC-06:00) Central Time (US & Canada) * U
	3 PRE-STAGE HOSTS ① On
	Work days: Monday - Friday *
	Start of work hours: * UITC-06:00) Central Time (US & Canada) * 0
	Hosts to be active by start of work hours:
	MESSAGING ()
	Send a warning message to users on the host: 10 minutes * before scaling in host \odot
	The message should say: ①
	Sorry for the interruption. We are doing some housekeeping and need you to log out. You can log in right away to continue working. We will be terminating your session in 10 minutes if you haven't logged out by then.
	Cancel Save

NOTE: Turning on auto-scale will automatically create new session hosts and allow users to connect to the WVD desktop when the hosts are created. You can configure the auto-scale settings based on your requirements at any time.



Assign User to New Dynamic Host Pool

 Navigate to WVD Tenants and click on your Tenant Name. From the drop-down action menu next to the Dynamic Host Pool, select Manage Users.

Manager							Back	Add static host po	ol
VVD TENANTS	DYNAMIC HOST POO	OLS (ACME CORP (PROD	UCTION)) ©						0
lost pools	NAME @	FRIENDLY NAME (0)	DESKTOP EXPERIENCE @	STATUS @	AUTO-SCALE (0)	IMAGE (0)			
User sessions DESKTOP IMAGES LOGS SETTINGS UPDATES	Field Technicians Desktop pool for field techs' LOB apps	Field Technicians	RemoteApp Breadth first load balancing Max session limit: Unlimited (999,999)	Assigned users: 5 User sessions: 1 Hosts: 4 CPU Cores: 8	OFF	Executive D2s_v3 (2C/8GB/Standard) 128 G8 (E10/Standard SSD) Mar 27, 2020 06:00 PM		Manage Hosts	¥
	Legacy Applications Legacy Server 2012R2 applications	Legacy Applications	Session desktop (pooled) Breadth first load balancing Max session limit: Unlimited (999,999)	Assigned users: 10 User sessions: 0 Hosts: 2 CPU Cores: 4	OFF	Skipjoin D2s_V3 (2C/8GB/Standard) 128 GB (E10/Standard SSD) Mar 27, 2020 01:49 PM		Manage Hosts	•
	Single User Desktops Floating, random VDI desktops	Single User Desktops	Single-user desktop (pooled)	Assigned users: 1 User sessions: 0 Hosts: 3 CPU Cares: 6	Min: 1, Capacity: 3, Burst: 55 Scale trigger: up to 1 spare (available) desktops	Marketing01 D2s_v3 (2C/8GB/Standard) 128 GB (E10/Standard SSD) Mar 23, 2020 08:52 AM		Manage Hosts	¥
							Back	Message	
								Manage auto-scale	

2. Search for a group of users or an individual user, click **Select** the user or multiple users and click **Assign**.

nerdio Manager	Tenants > Host Pools > Manage users			Tenant: Production Ten
FOR WVD	MANAGE USERS FOR SINGLE USER DES	SKTOPS ()		As of Mar 29, 2020 02:21:34 PM 🕃 🔽 🖲 🚱
WVD TENANTS				
lost pools lser sessions	SEARCH	FILTER	I to host pool (1) ON ON	E PAGE () Show 25 rows
ESKTOP IMAGES	search by Name or Osername	Show users not assig	ned to host pool Show 50 rows Show 250 rows	Show 100 rows Show 1000 rows
OGS		select (h onlys	1 ° 1	
ETTINGS	NAME (1)	USERNAME (D)	ASSIGNED TO SINGLE USER DESKTOPS (1)	USER SESSIONS (1)
PDATES	A			
	A 10.000 Million	and provide the		
	1			
	1	1.1.2.2.4.4.5		
	A 10 10 1			
	A discussion of the	interference in the		
	2	processing and the second		
	A 100 100			
	A 12 F	the state of the second se		
	1	10 10 10 10 10 10		
	< < 1 of 27 > >		Back	Select all on page Unassign (4)



Use WVD HTML Client to Connect to Desktop

- Navigate to WVD HTML client URL (<u>http://aka.ms/wvdweb</u>) and log in as the user assigned to a host pool.
- 2. You will see all WVD tenants and Host Pools that the logged in user is entitled to. Click on a **Host Pool**.

III All Resources	众	2	۲	 Televine and the second
Tenant V ACME Corp (Production)				
Lossones Host Pool				

3. Type in the username and password again and click **Submit**. The user must be synchronized from Active Directory to Azure AD.

Enter your credentials			
User name			
Password			
Password			
	r.	Submit	Cancel

4. You will now be running a Windows Virtual Desktop Instance inside of a browser.



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Install WVD Remote Desktop Client for Windows and Connect

- Download and install Windows Remote Desktop client for WVD from <u>https://aka.ms/</u> wvdclient.
- 2. Open Remote Desktop client and **Subscribe** to the desktop feed using Azure AD username that's assigned to a WVD Host Pool.

		٢	
Let's get started			
Subscribe to access managed apps and des organization. These resources will be availal Start Menu.	ktops provided b ble from this clier	y your it and th	
Privacy settings for managed resources hav	e been preset by		janiz

 Double-click on the desktop name and type in user's credentials one more time. Click OK to connect. You can check Remember Me to avoid having to type in the password again.



4. You are now connected to your Windows Virtual Desktop session!



Security Appendix

In order to run the Nerdio Manager application, the following resources will be created in the new Resource Group you specify during the install process. All resources are native Azure PaaS services. No VMs are created.

- 1. App Service
- 2. App Service plan
- 5. Key vault
- 2. App service plan
 - •
- Azure SQL Database
 Application Insights
- 7. Automation account and Runbook

6. Storage accounts

The following roles and permissions are granted to the Nerdio Manager for WVD application in your environment. Remember, the application is private to your environment and no one has access to it unless you explicitly grant it.

Service	Permission	Function
Azure Resource Manager	Subscription – Reader Resource Group – Contributor vNet – Contributor	Manage WVD session host VMs
Azure Service Management	user_impersonation	Make requests to Azure resource manager on behalf of logged in user
Microsoft Graph	offline_access / openid / profile	User login
Microsoft Graph	AppRoleAssignment.ReadWrite.All	Assign users to NMW app to enable user login
Microsoft Graph	User.Read / User.ReadBasic.All	Read users from Azure AD
Microsoft Graph	Directory.Read.All	List service principals (to determine if WVD apps are installed)
Windows Virtual Desktop	TenantCreator (Application)	Tenant creator role for NMW service principal in WVD app
Windows Virtual Desktop	user_impersonation	Make requests to WVD on behalf of logged in user





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