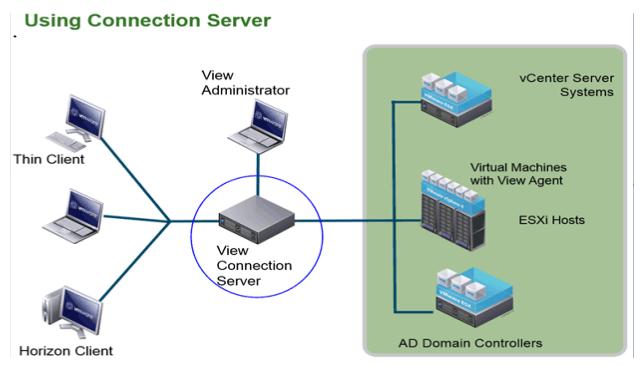
# VMWARE HORIZON VIEW LAB CONFIGURATION – Version 8.4.2111

In this post, I am going to install and configure Horizon View Products. Will be covering the following:

- 1. Connection Server
- 2. Horizon Recording Server
- 3. Horizon Recording Agent
- 4. Horizon Agent
- 5. Horizon Client
- 6. Horizon Helpdesk Agent
- 7. Horizon OS Optimization Tool
- 8. Postgre SQL Database <u>How to install PostgreSQL14 on Windows Server 2019 INFOTECHRAM</u> INC.

### My home lab will be:

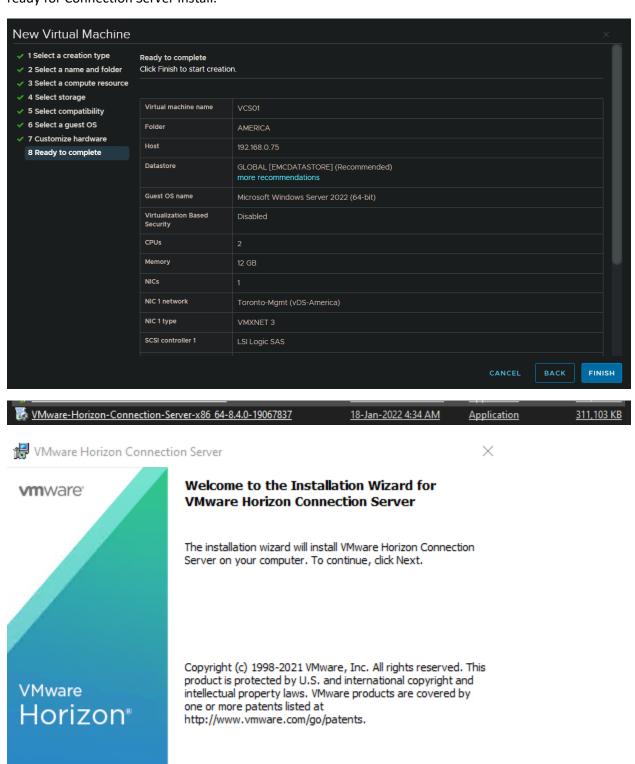
- 1. Connection Server VCS01.RAMLAN.CA
- 2. vCenter Servers VCPD.RAMLAN.CA, VCDR.RAMLAN.CA
- 3. Remote Desktop Session Server VRDS.RAMLAN.CA
- 4. Windows 10 Golden Image workstation for Desktop Pool & Instant Clone Pool
- 5. Windows 10 Workstaion for testing WS-W10.RAMLAN.CA
- 6. Windows 11 Workstation for testing WS-W11.RAMLAN.CA



# This is my OU layout in ADUC



**CONNECTION SERVER** - Just completed creating a VM within vCenter. Installed all the updates and ready for Connection Server Install.

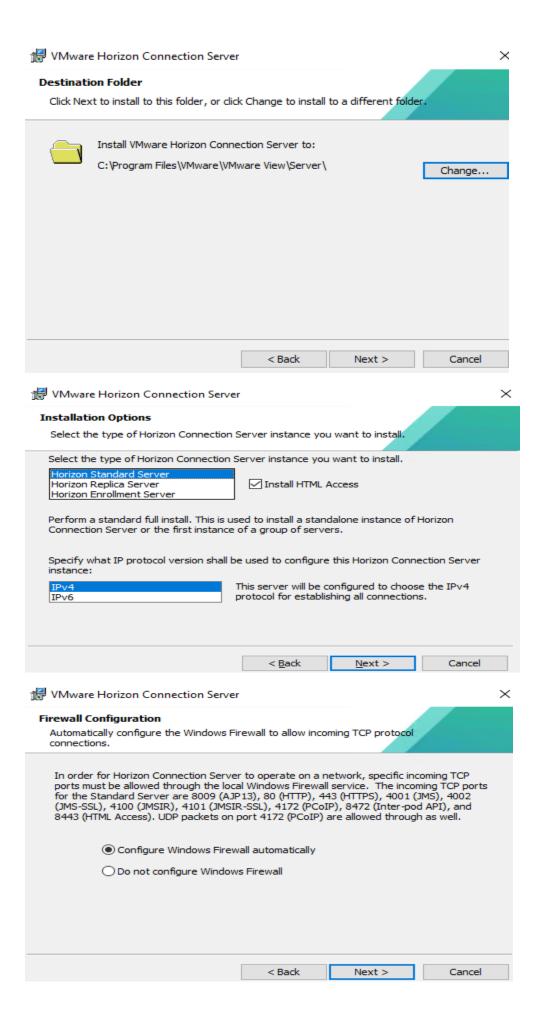


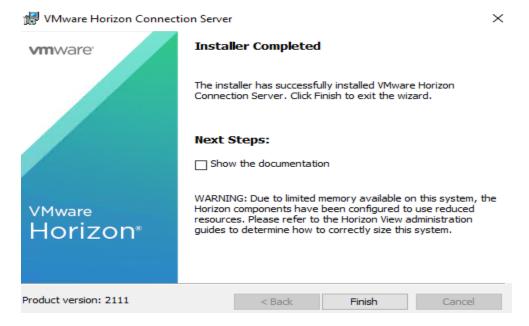
< Back

Next >

Cancel

Product version: 2111

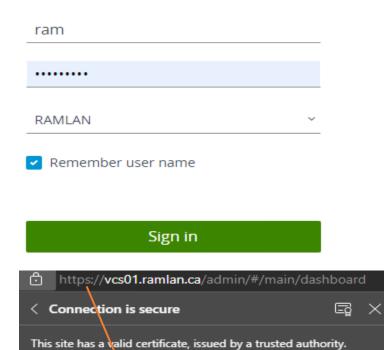




Open Horizon Administrator Console

# VMware Horizon®

Version 2111



This means information (such as passwords or credit cards) will be

Always be sure you're on the intended site before entering any

securely sent to this site and cannot be intercepted.

information.

Learn more

I did use Let's Encrypt SSL certificate for this exercise. Did import the certificate prior to installing Connection Server.

<u>ymwarevcs</u>

10-May-2022 11:26 PM



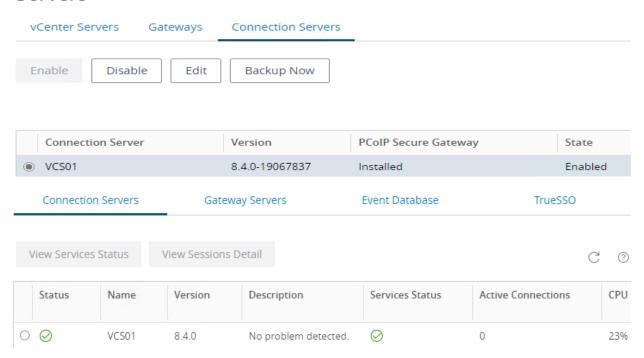
### VMware Horizon Administrator

8.4.0 build - 19067837 Version 2111

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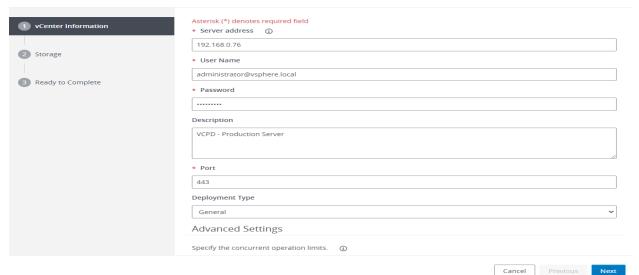
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# Servers



# vCenter Server - Settings - Servers

Add vCenter Server



# Add vCenter Server vCenter Information Reclaim VM disk space 2 Storage Enable View Storage Accelerator Default Host Cache Size 1024 3 Ready to Complete Cache must be between 100 MB and 32,768 MB. Hosts Show All Hosts Edit Cache Size Cache Size (MB) /AMERICA/host/TORONTO/192.168.0.75 Default Rows per page 20 **∨** 1 · 1 of 1 row(s) Previous Add vCenter Server vCenter Server 192.168.0.76 vCenter Information administrator@vsphere.local User Name Storage Password Description VCPD - Production Server 3 Ready to Complete Server Port 443 Max Provision 20 Max Power 50 Max concurrent maintenance 12 operations Max Instant Clone Engine Provision 20 Enable View Storage Accelerator Default host cache size (MB) 1,024 VM Disk Space Reclamation

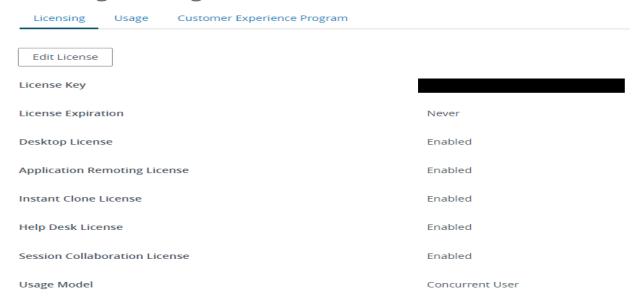
<u>Domains</u> - Settings – Domains – Instant Clone Engine Domain Accounts – Here you can add Domain Accounts

Cancel Previous Submit



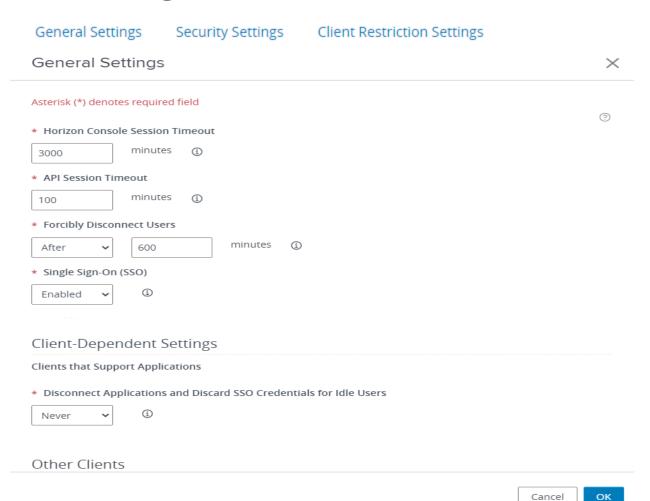
<u>Licensing and Usage</u> – Settings – Product incensing and Usage - Enter license for Connection Server

# Licensing and Usage



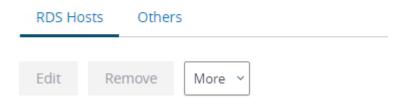
<u>Global Settings</u> – Settings – Global Settings – Here you can change timeout settings and others. I am not changing anything for Security Settings and Client Restriction Settings

# **Global Settings**



Registered Machines - Settings - Registered Machines - We will add RDS server later

# Registered Machines



<u>Administrators</u> – Settings – Administrators – Here you can add Administrators and Groups who will have access to VMWare Horizon Admin Console

## Global Administrators View

Administrators and Groups Role Privile	eges	Role Permissions	Access Groups	
Add Remove		Add Permissions	Remove Permissions	
Name	T	Role		Access Groups
● 答 RAMLAN.CA\HorizonAdmins		☐	ors	□ Root(/)

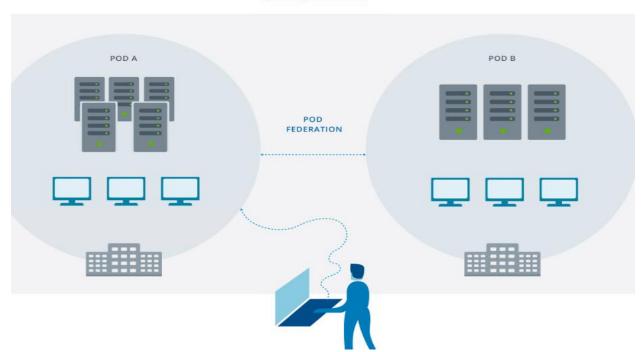
<u>Cloud Pod Architecture</u> – Settings – Cloud Pod – I don't have anything in the cloud to add. If you have go ahead and do it.

# Cloud Pod Architecture

With Cloud Pod Architecture, you can link together multiple pods to create a single desktop and brokering environment called a pod federation. A pod federation can span multiple sites and data centers.

Initialize the Cloud Pod Architecture feature

Join the pod federation



<u>Event Configuration</u> – Settings – Event Configuration – For Event Configuration, I am going to use Postgre SQL. I already installed the software and created database called HorizonEvents. I don't have Syslog Server. So will ignore Syslog configuration for now.

If you need help on how to install and configure database – check this link - <u>How to install PostgreSQL14</u> on <u>Windows Server 2019 - INFOTECHRAM INC.</u>

# **Event Configuration Event Database** Edit No database has been defined, events will not be recorded. Click 'Edit' to specify a database server. Edit Event Database $\times$ \* Database Server dc.ramlan.ca Database Type PostgreSQL \* Port 5432 Database Name HorizonEvents \* User Name postgres Password ..... Confirm Password Table Prefix

**Global Policies** – Settings – Global Policies – Not much to configure here.

# **Global Policies**

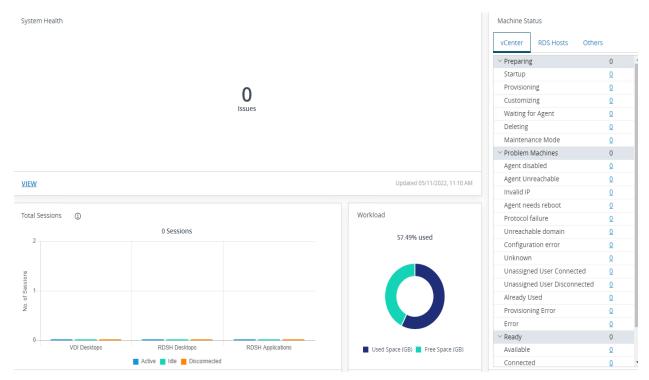


With this we have completed all the configuration under Settings Menu.

I will go over Users and Groups + Inventory later.



<u>Monitor</u> - Under Monitor there is not much to configure. Here you can see any issues or events as and when reported by Connection Server, vCenter, SQL and RDS Server.



**HORIZON RECORDING SERVER & AGENT** – I will be installing these 2 on a server running DC. It can be installed on any machine/workstation/server.

The VMware Horizon Recording feature allows administrators to record desktop and applications sessions to monitor user behavior for Windows remote desktops and applications.

Administrators can observe a user's exact keystrokes, cursor and mouse activity, and user behavior in a recorded desktop or application session. Recording provides greater security and auditing for user behavior. It also helps with troubleshooting and reproducing issues the user experiences during a session. Administrators can play back, store, and audit the recordings.

Horizon Recording consists of the following components:

- Horizon Recording Server: Collects information about the session as well as raw recording data for storage and playback.
- Horizon Recording Agent: Records a user session, registers the session with the Horizon Recording Server, and uploads recording data.

# Install the Horizon Recording Server

To use the VMware Horizon Recording feature, install the Horizon Recording Server component on a machine to collect information about the session as well as raw recording data for storage and playback.

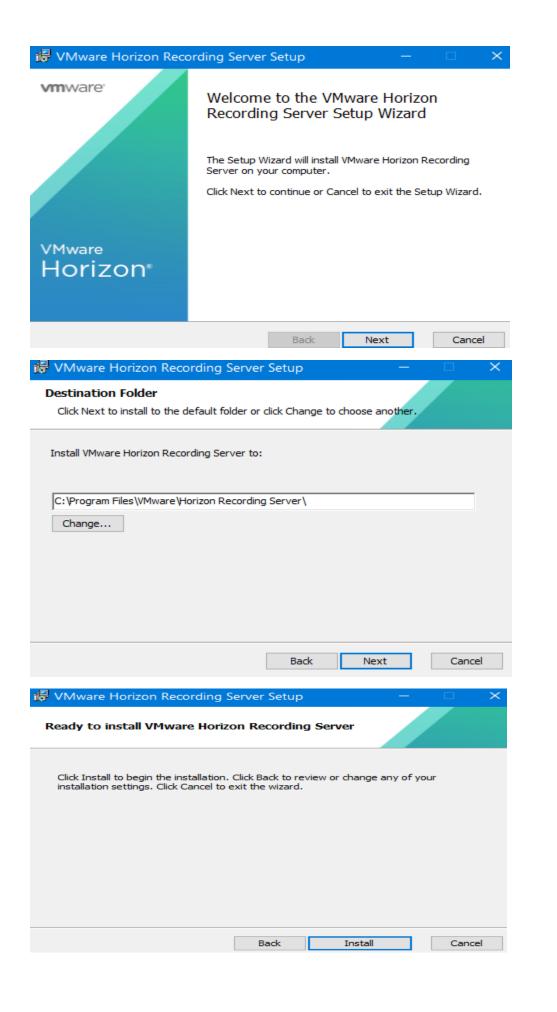
The Horizon Recording Server component consists of these items:

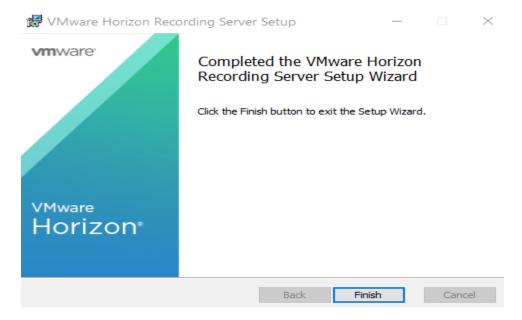
- A database for session information storage and configuration
- A Windows NTFS folder for recording storage
- A web service for collecting recording data, administration, and playback

You can deploy the Horizon Recording Server as a standalone setup where the server is installed on a machine that leverages a local SQLite database stored in the installation directory as local.db, and a local NTFS folder.

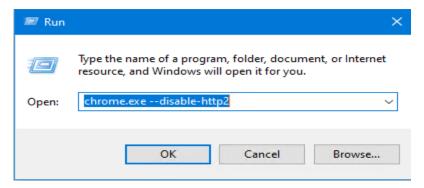
You can also deploy the Horizon Recording Server in a high available environment using multiple servers behind a load balancer, leveraging Microsoft SQL or PostgreSQL databases, as well as a shared NTFS folder on all servers for storing recording data. Load balancers configured with L4 load distribution are supported.

The Horizon Recording Server is built in .Net Core and requires a 64-bit Windows server operating system that is a member of the domain if you use group extraction. The server operating system must be Windows Server 2016 or later (64-bit).





You can access Recording Server – <a href="https://dc.ramlan.ca:9443">https://dc.ramlan.ca:9443</a> – If you get error in Chrome try this fix



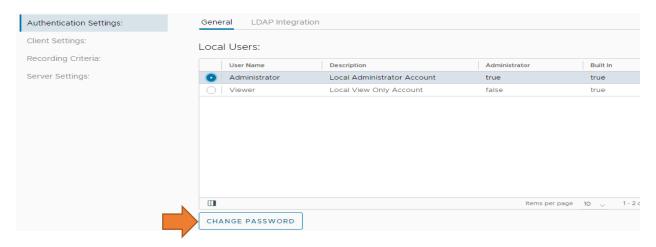
Username/Password: administrator/Recording123

The server is now available on https://<localservername>:9443

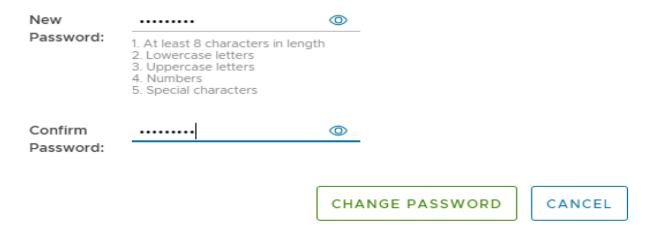


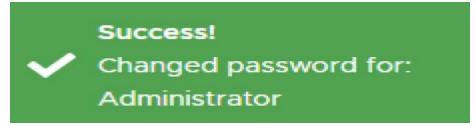




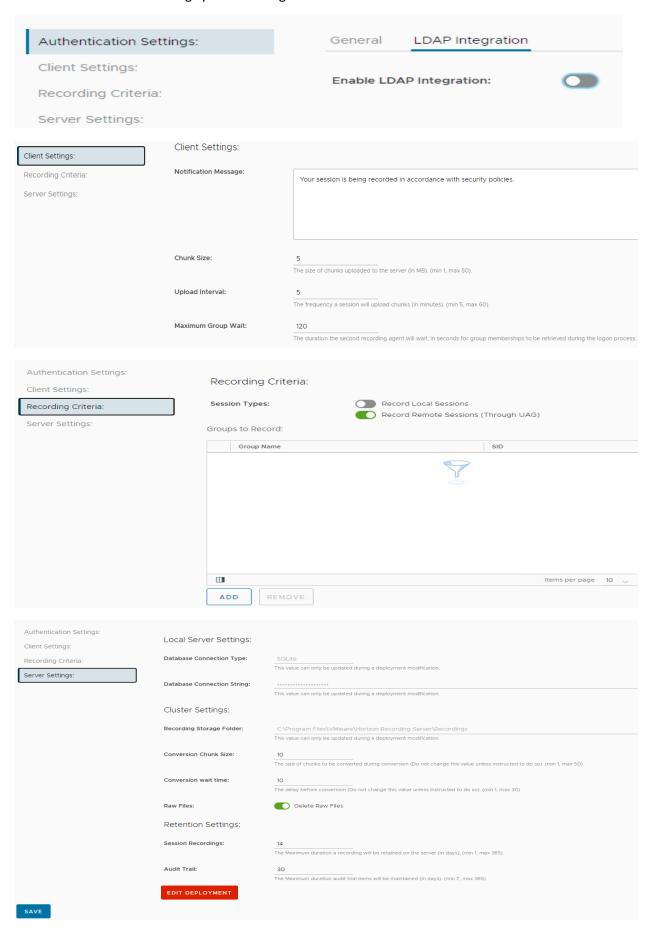


# Change Password for user: Administrator





# Below are some of the settings you can change if needed.



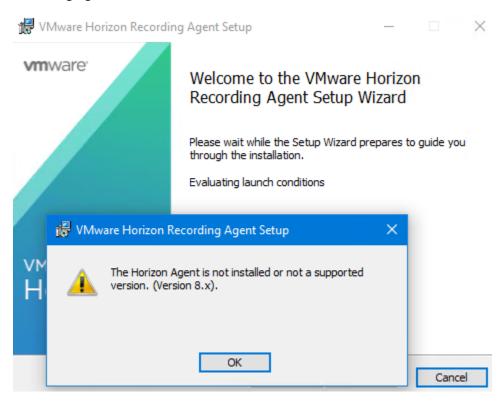
<u>RECORDING AGENT</u> – I will install Horizon Agent & Recording Agent on WS-W10 workstation. Later we will install the same on the golden image that will be used for instant clone/desktop pool.

To use the VMware Horizon Recording feature, install the Horizon Recording Agent component on all Horizon machines where you want to record sessions.

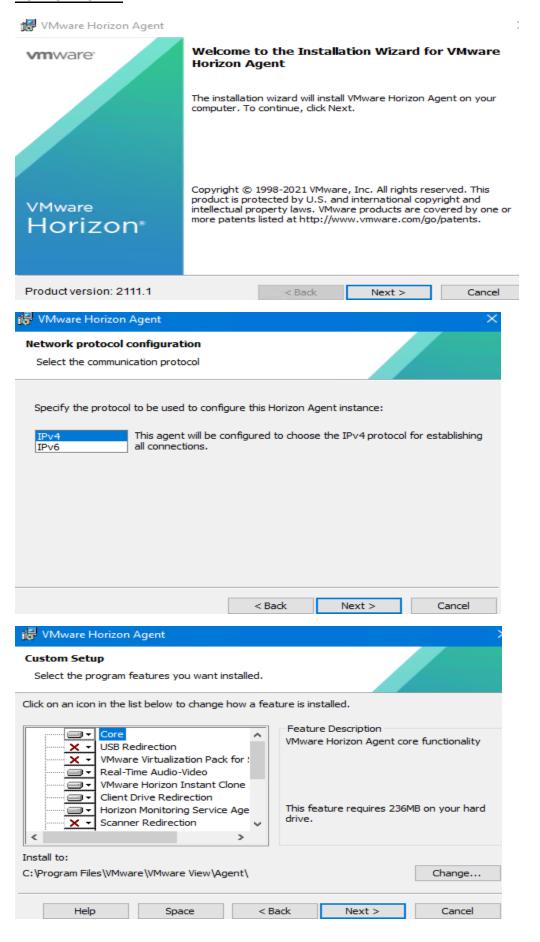
To install the Horizon Recording Agent, perform the following steps.

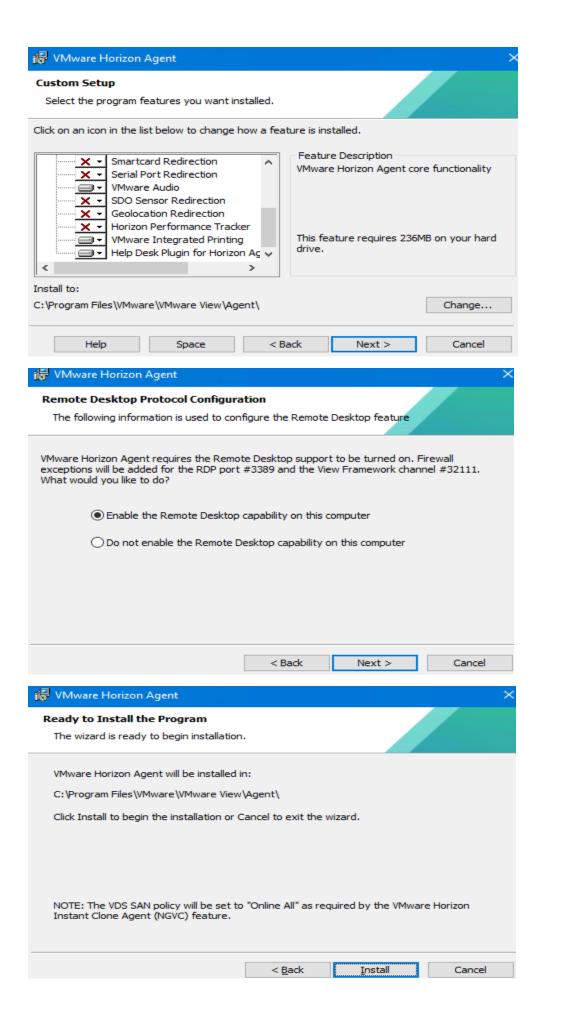
- 1. Download the HorizonRecordingAgent.exe file and copy it to a local folder.
- 2. Run the installer and follow the steps.
- 3. When prompted for the connection, provide the correct URL of the recording server in the format https://<FQDN or IP address of recording server>:9443 along with the User Name and Password.
  - a. Select the **This machine is a template** check box if the machine is a parent VM and a pool will be created from it.
  - b. Click Register.
  - c. If the certificate of the server is untrusted, accept the thumbprint of the server when prompted.

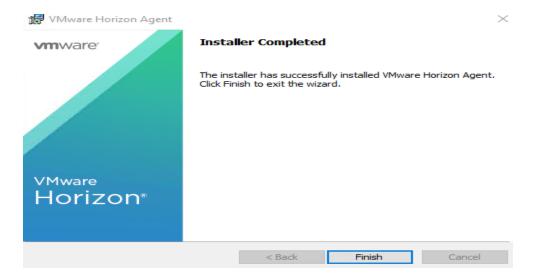
You will get below error when you try to install Recording Agent. Install Horizon Agent first and then Recording Agent.



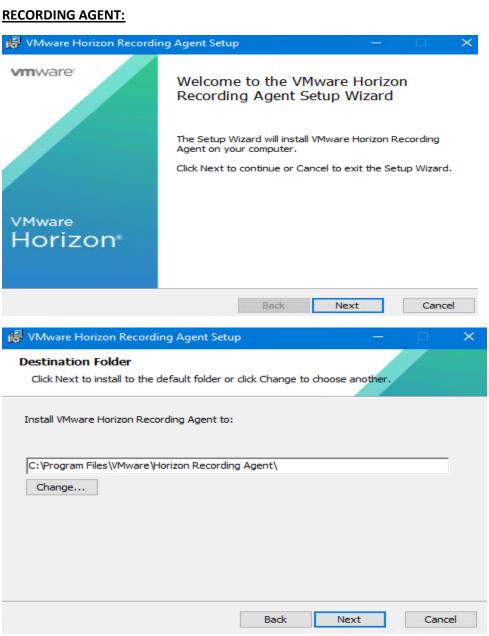
### **HORIZON AGENT:**

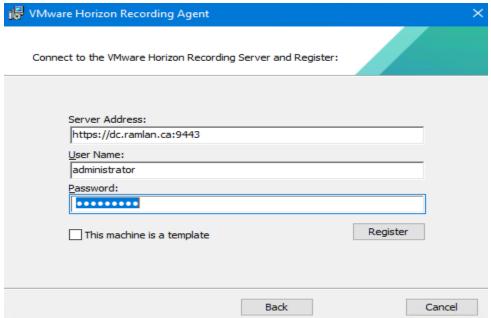


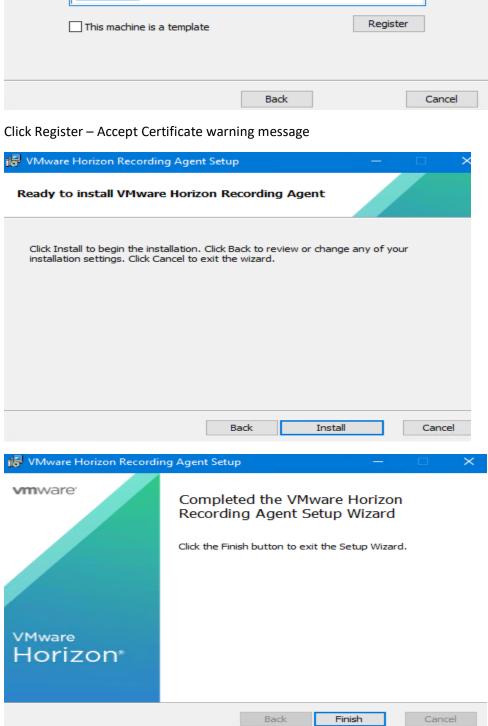




Restart the system.



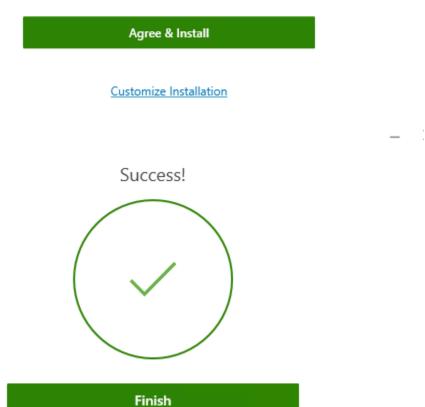


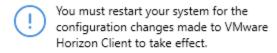




Version 2111

You must agree to the Privacy Agreement and License Terms before you can install the product

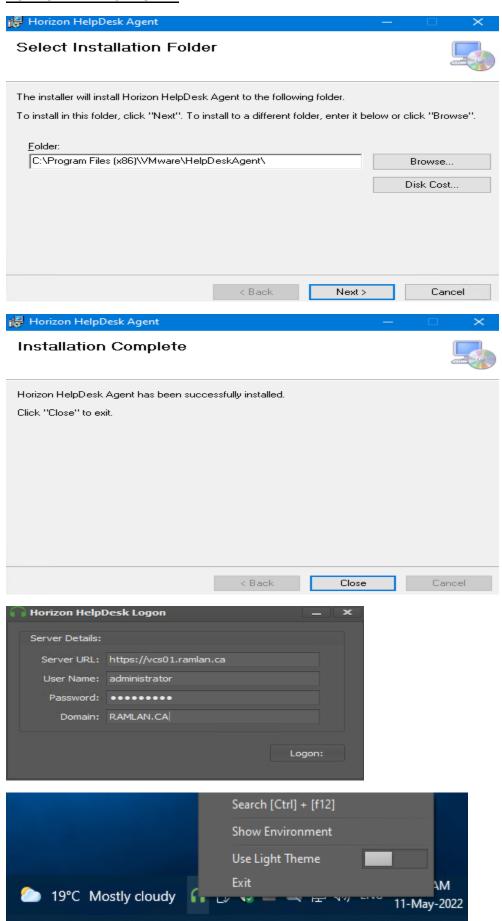


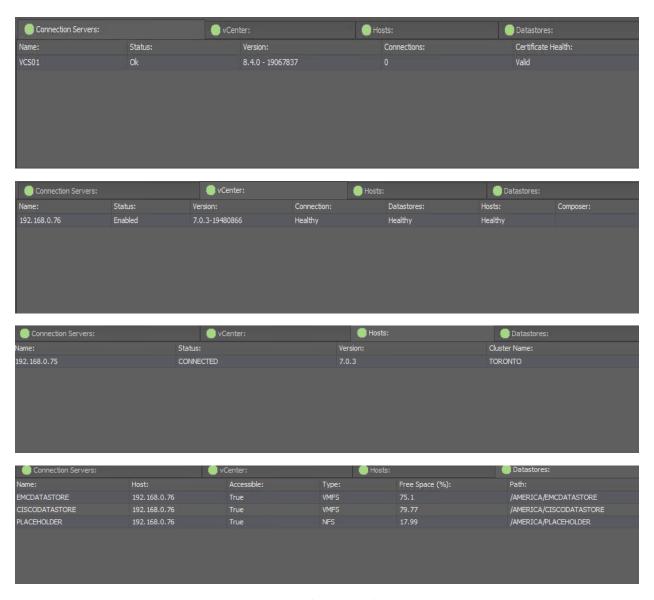


**Restart Now** 

Restart Later

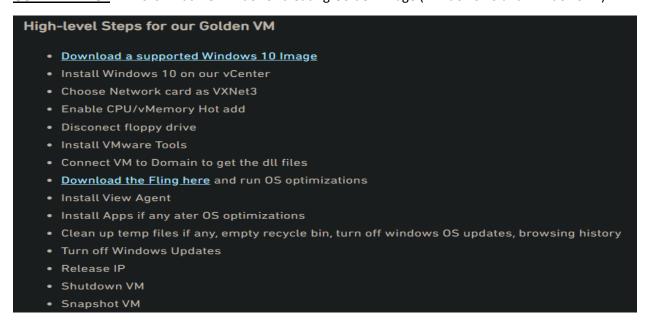
## **HORIZON HELPDESK AGENT:**



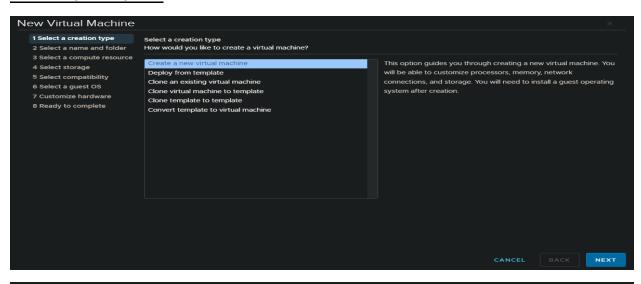


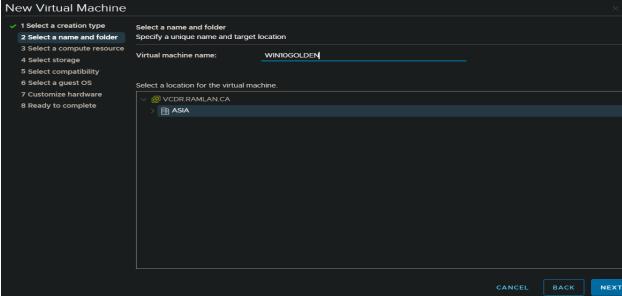
With this we have completed all the required configuration for VMWare Horizon View.

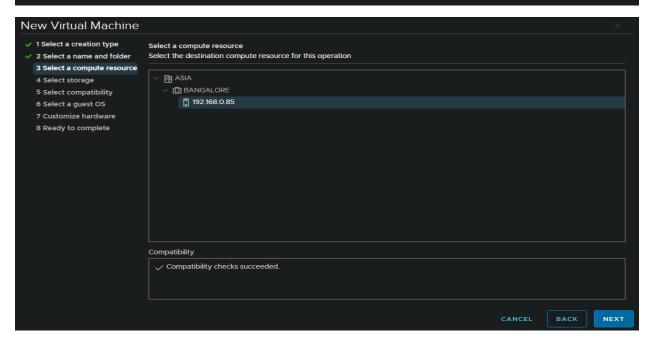
GOLDEN IMAGE - This is what we will do for creating Golden Image (Windows 10 and Windows 11)

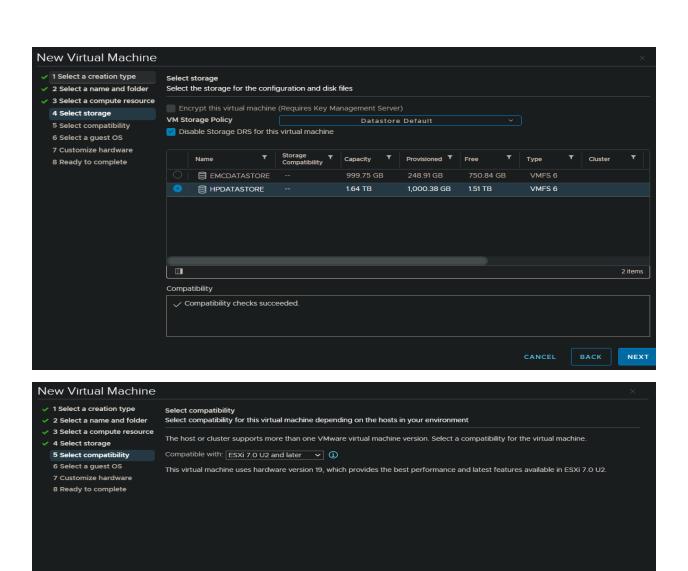


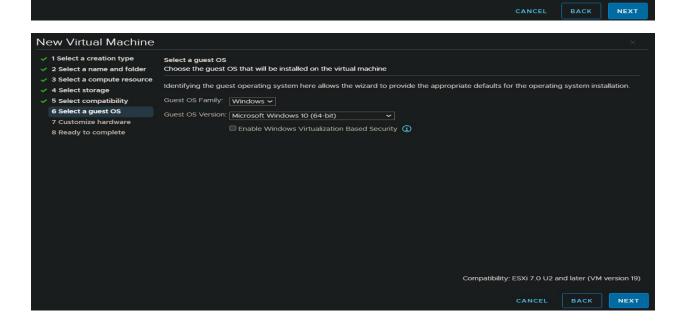
### **NEW VIRTUAL MACHINE:**

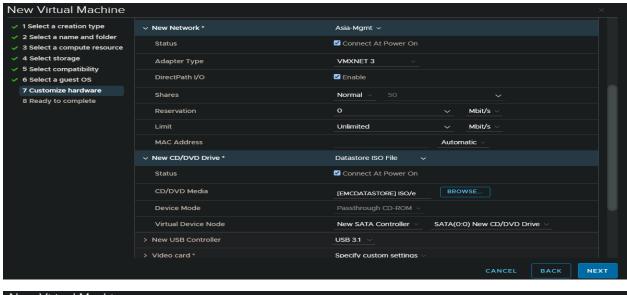


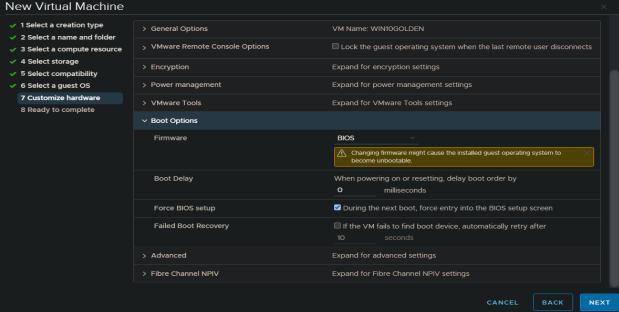


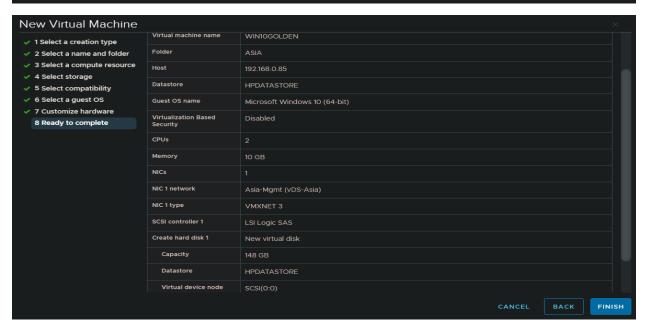


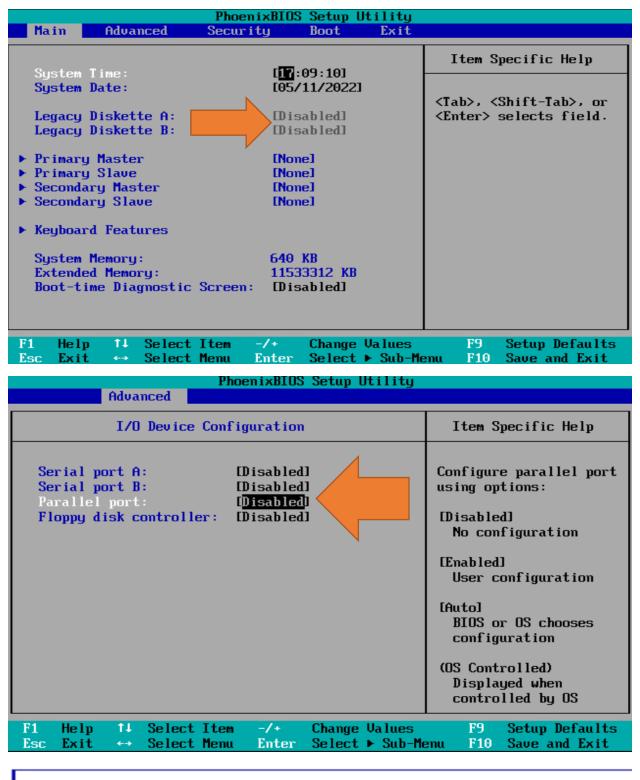










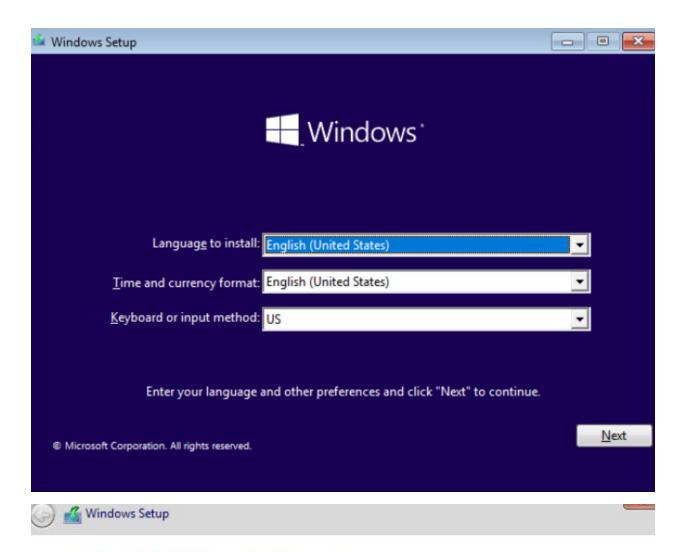


# Setup Confirmation

Save configuration changes and exit now?



[No]



Select the operating system you want to install

Operating system	Architecture	Date modified	^
Windows 10 Education	x64	3/3/2022	
Windows 10 Education N	x64	3/3/2022	
Windows 10 Enterprise	х64	3/3/2022	
Windows 10 Enterprise N	x64	3/3/2022	
Windows 10 Pro	x64	3/3/2022	H
Windows 10 Pro N	x64	3/3/2022	
Windows 10 Pro Education	x64	3/3/2022	v
W. 1 400 E1 1 N		2 (2 (2022	

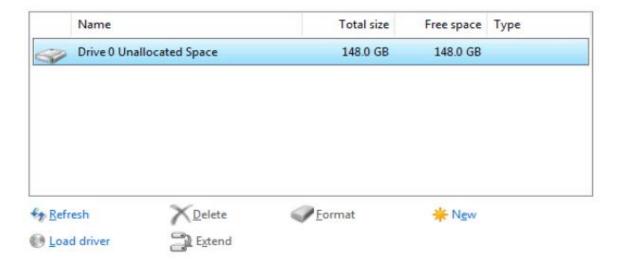
Description:

Windows 10 Enterprise

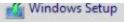
Next



# Where do you want to install Windows?







# **Installing Windows**

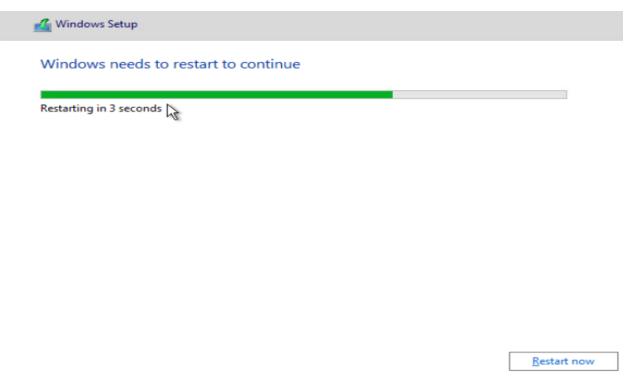


# Status



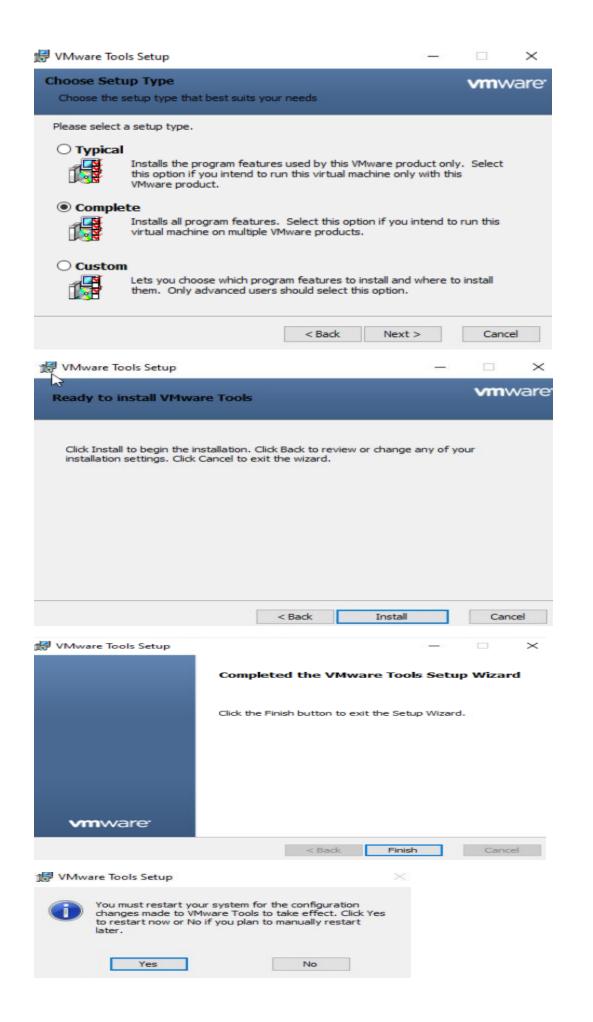
# Getting files ready for installation (37%)

Installing features Installing updates Finishing up

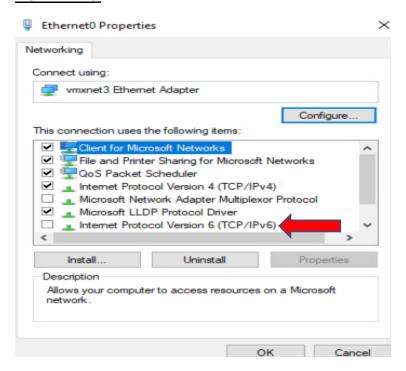


<u>INSTALL VMWARE TOOLS</u> – I will start with VMWare tools first and then install all the windows updates and finally few applications like chrome, Firefox, office 2021, 7zip, WinRAR, Adobe Reader, Horizon Agent, Horizon Client, Horizon Recording Agent, VLC Player & Notepad.

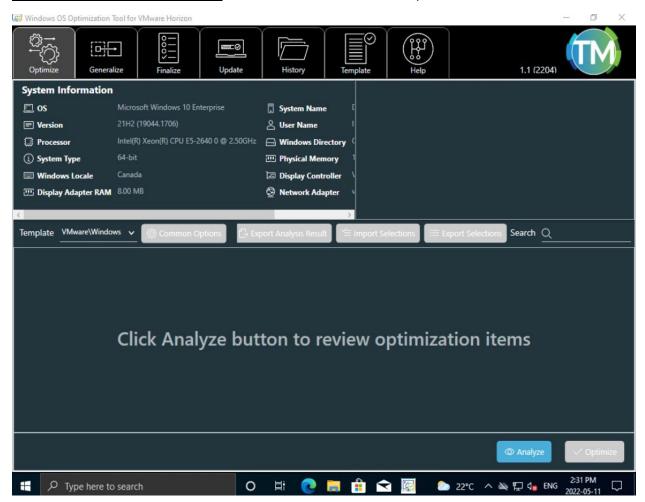


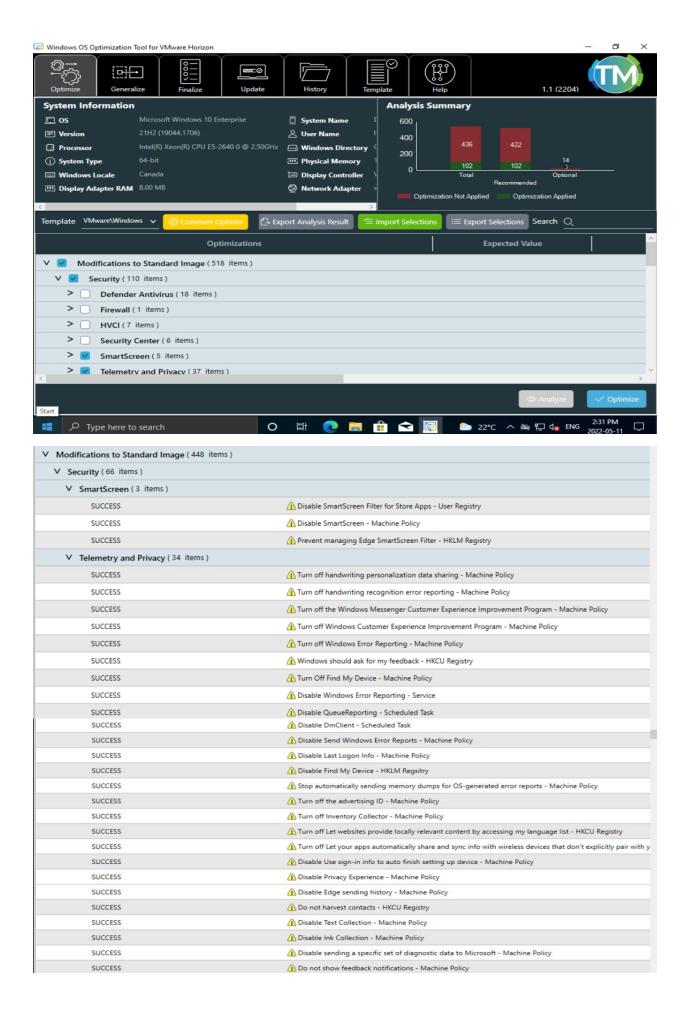


### **DISABLE IPV6:**



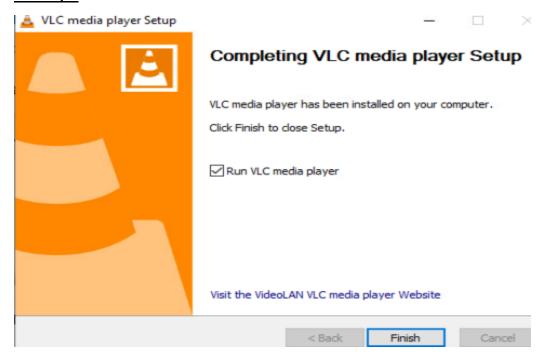
**HORIZON OS OPTIMIZATION TOOL** – Now, I will install this tool to optimize the OS.



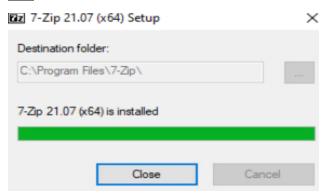


SUCCESS	⚠ Disable Linguistic Collection - Machine Policy	^
SUCCESS	${\color{red}\underline{\Lambda}}$ Turn off Automatically send memory dumps for OS-generated error reports - Machine Policy	
SUCCESS	⚠ Disable Windows Error Reporting - Machine Policy	
SUCCESS	⚠ Disable extended telemetry for the Books tab - Machine Policy	
SUCCESS	⚠ Disable Microsoft Compatibility Telemetry - Scheduled Task	
SUCCESS	⚠ Turn off Application Telemetry - Machine Policy	
SUCCESS	⚠ Disable Telemetry Collection - Machine Policy	
SUCCESS	⚠ Do not Accept Privacy Policy - HKCU Registry	
V Windows Update (29 items)		
SUCCESS	⚠ Disable pre-release features or settings - Machine Policy	
SUCCESS	⚠ Disable user control over Insider builds - Machine Policy	
SUCCESS	⚠ Disable scanning for updates as user - Scheduled Task	
SUCCESS	⚠ Disable scan For Updates - Scheduled Task	
SUCCESS	⚠ Disable Install Service Smart Retry - Scheduled Task	
SUCCESS	⚠ Disable Windows Update - Service	
SUCCESS	⚠ Disable Automatic Update - Machine Policy	
SUCCESS	⚠ Disable Windows Update scan access - Machine Policy	
SUCCESS	⚠ Turn off access to all Windows Update features - Machine Policy	V

# **VLC Player**



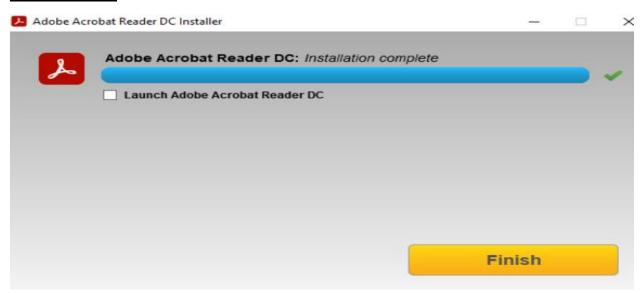
# 7Zip



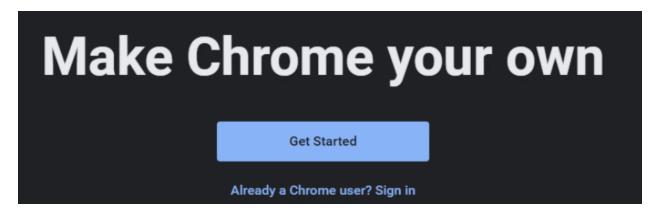
## Notepad++



# **Adobe Reader DC**

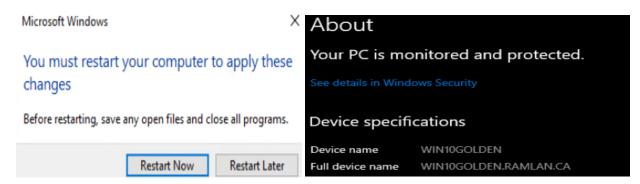


### **Google Chrome**

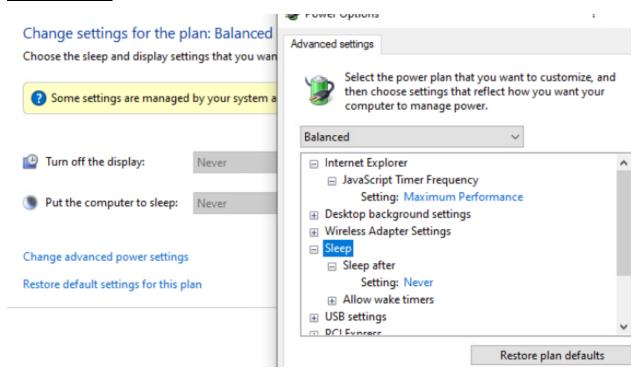


# JOIN TO DOMAIN:

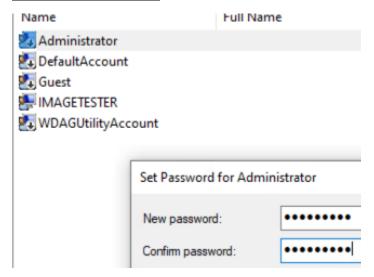
Now we can join the workstation to domain.



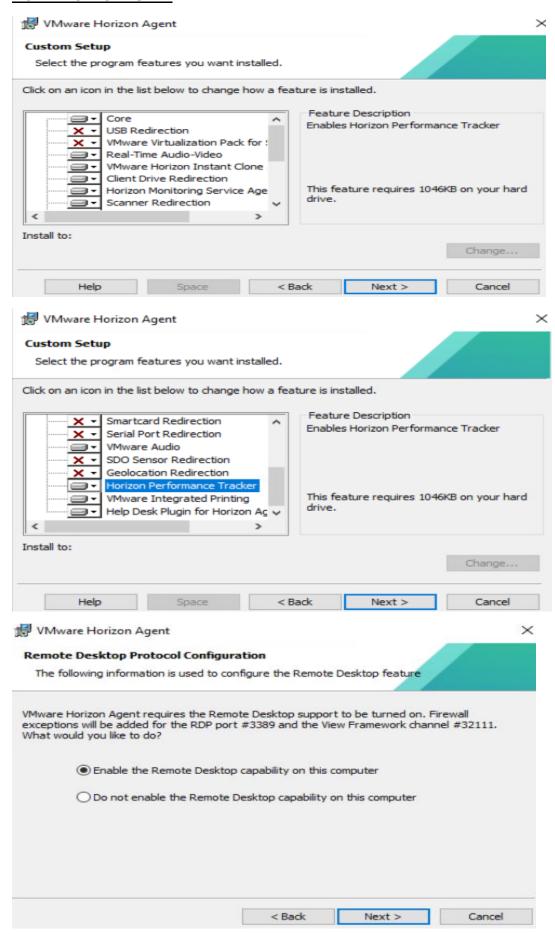
# **POWER SETTING:**

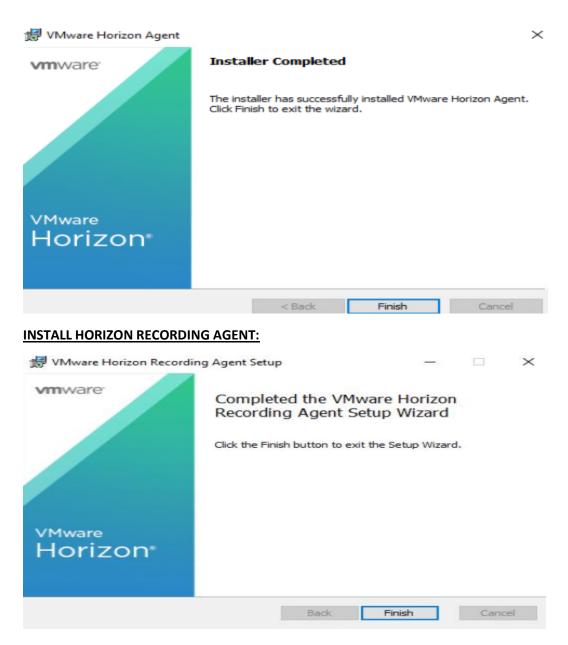


# **SET ADMIN PASSWORD:**



# **INSTALL HORIZON AGENT:**





<u>CLEAR LOGS</u> – I am using a batch file to clear all the logs.

```
C:\Windows\System32\cmd.exe

clearing "UIManager_Channel"
clearing "Uac/Debug"

clearing "Windows\System32\cmd.exe

clearing "Windows\System3\cmd.exe

clearing
```

# **RELEASE IP ADDRESS:**

```
Command Prompt

Microsoft Windows [Version 10.0.19044.1706]

(c) Microsoft Corporation. All rights reserved.

C:\Users\IMAGETESTER>ipconfig /release

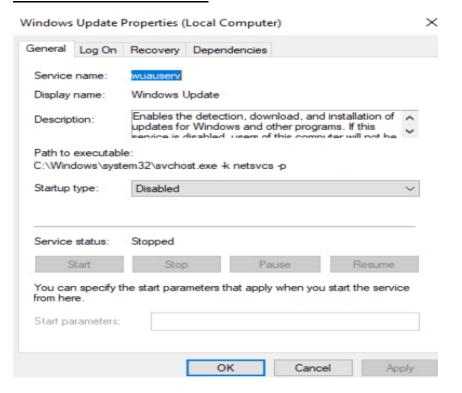
Mindows IP Configuration

Cthernet adapter Ethernet0:

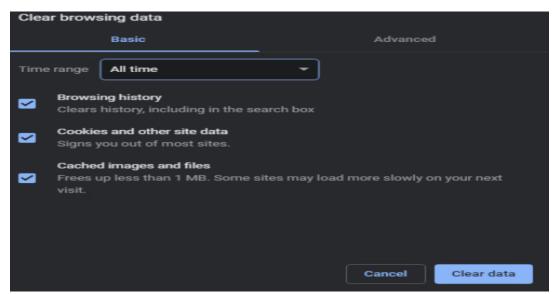
Connection-specific DNS Suffix .:

Default Gateway . . . . . . . . . . . . .
```

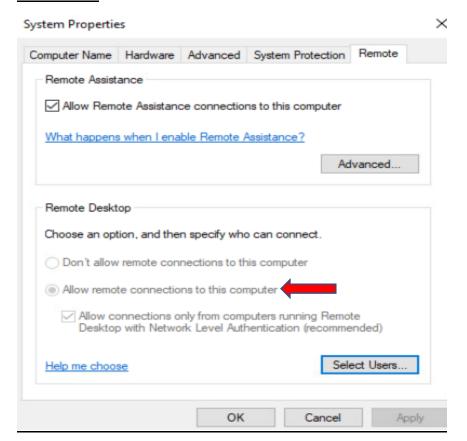
# **TURN OFF WINDOWS UPDATES:**



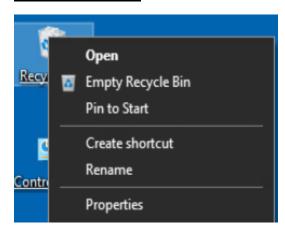
# **EMPTY BROWSER HISTORY:**



# **RDP Enabled:**



# **EMPTY RECYCLE BIN:**

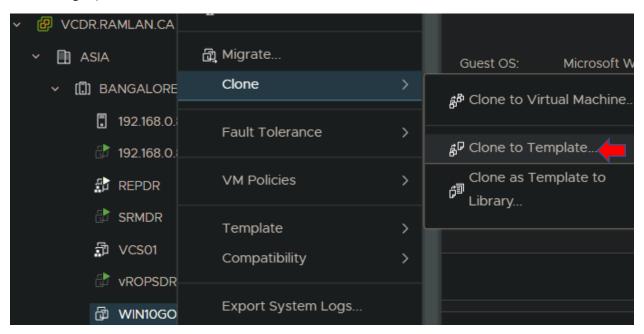


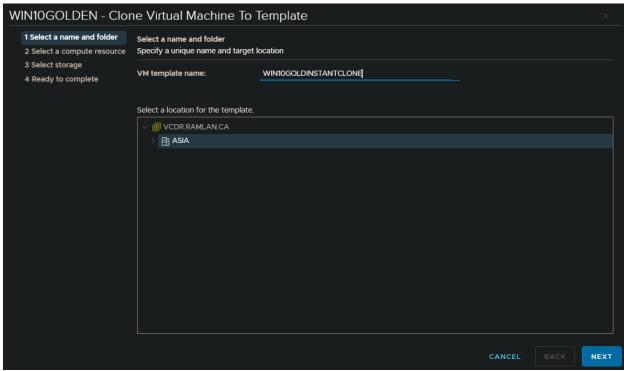
# **SHUTDOWN VM:**

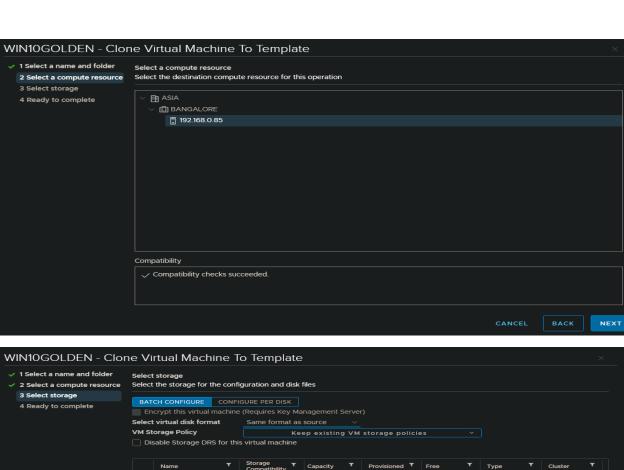


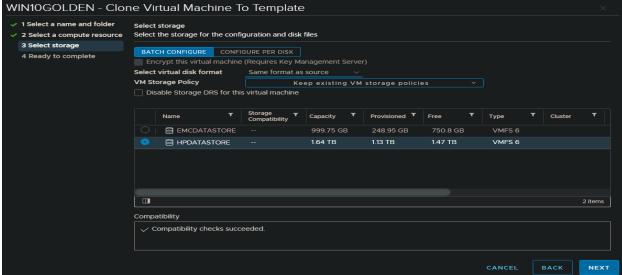
<u>CLONE VM – GOLDEN IMAGE</u> - We will now create a clone of this VM which then becomes a new VM with a new GUID, we will use this clone for our instant clones.

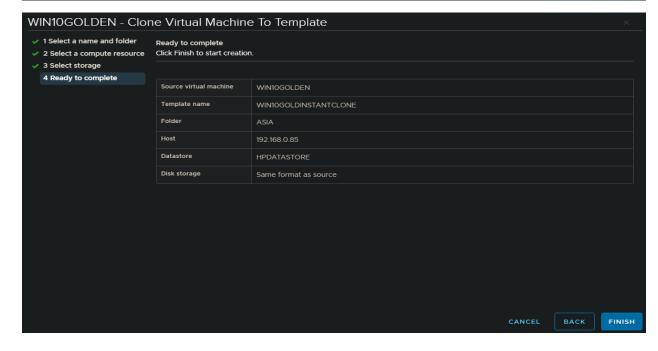
We will also create a snapshot of the base image which we are going to use for dedicated desktops (full-blown images).



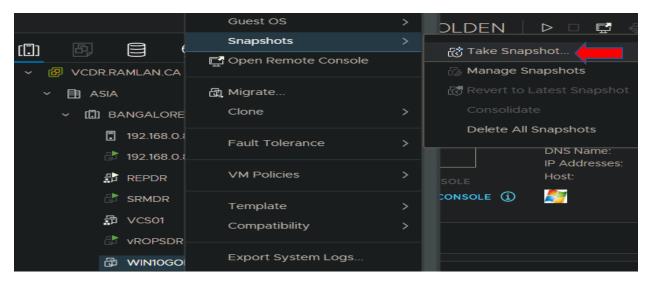


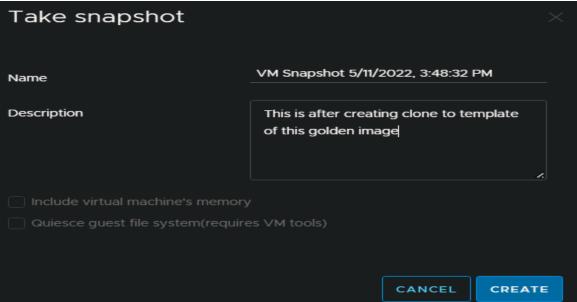




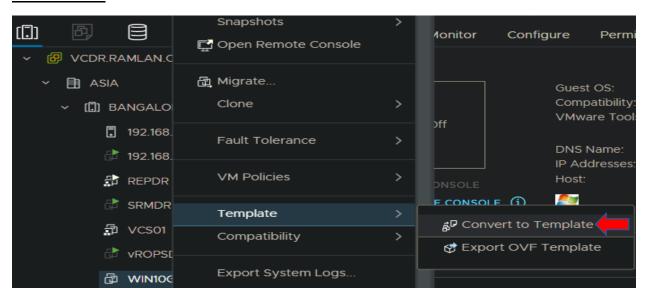


# TAKE A SNAPSHOT:

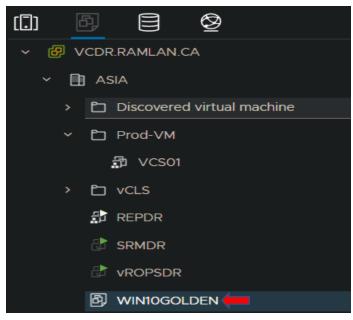




# VM TEMPLATE:

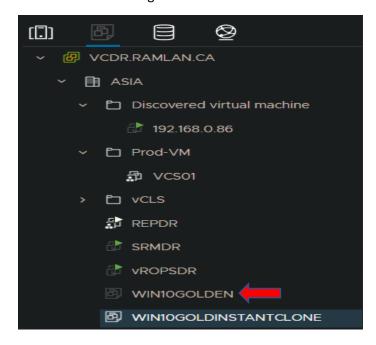






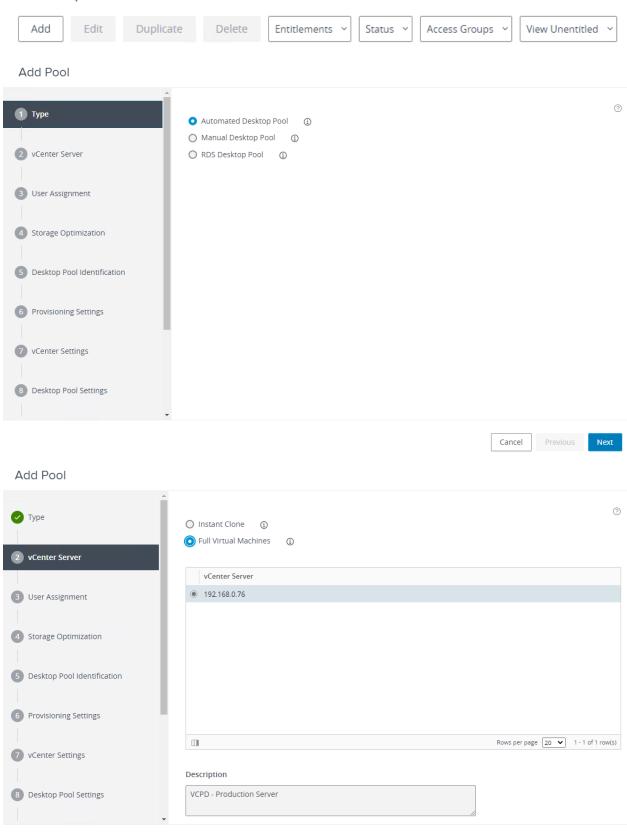
<u>DESKTOP POOL</u> - Dedicated desktop pools contain desktops that are provisioned by the vCenter server from a master image. Dedicated desktops thus provisioned are allocated to a particular user and remains his own throughout the lifecycle of that VM.

We did create a golden image in one of our previous blogs, so we will now create a desktop for a user from the VM template we created. Because this is a full desktop, the VM provisioning from View will look the same as doing a full clone of a VM.

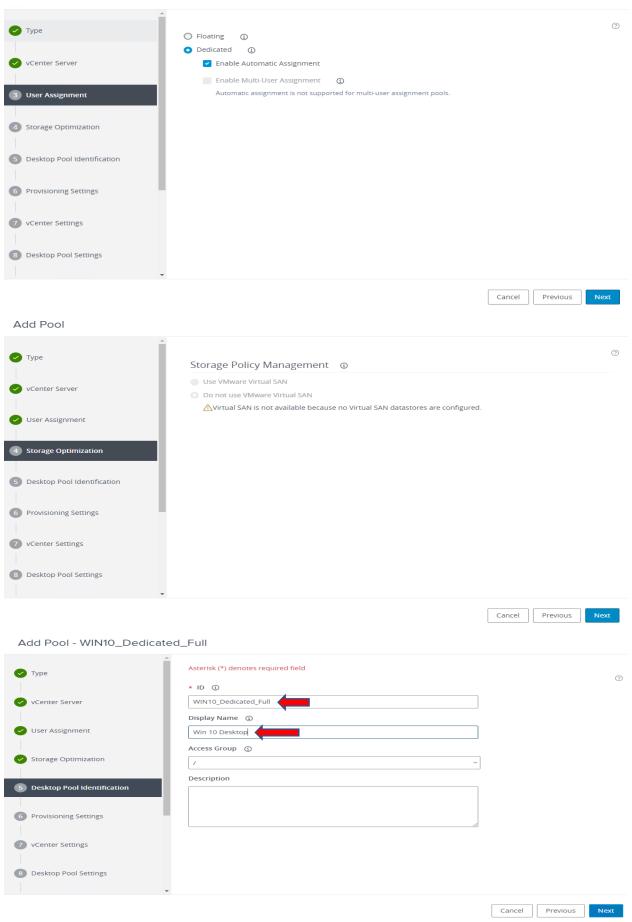


# Inventory – Desktops – Desktop Pools

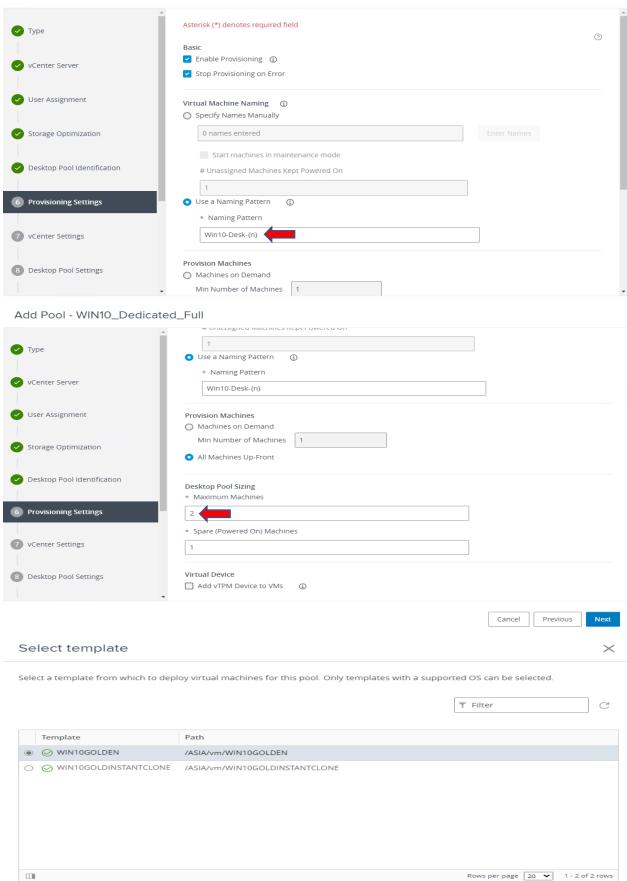
# **Desktop Pools**

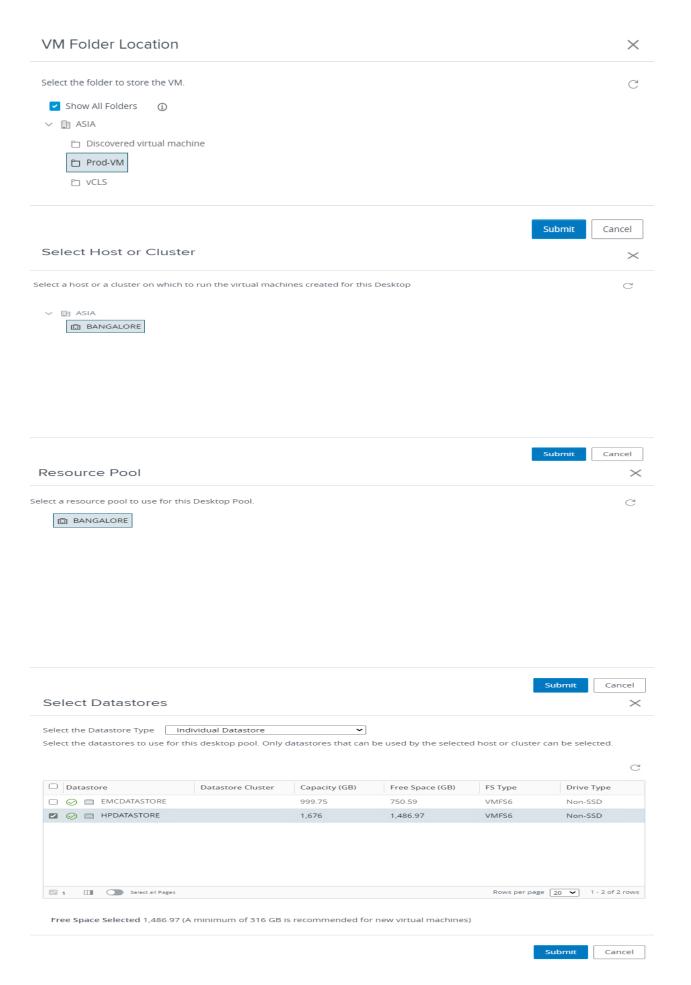


# Add Pool

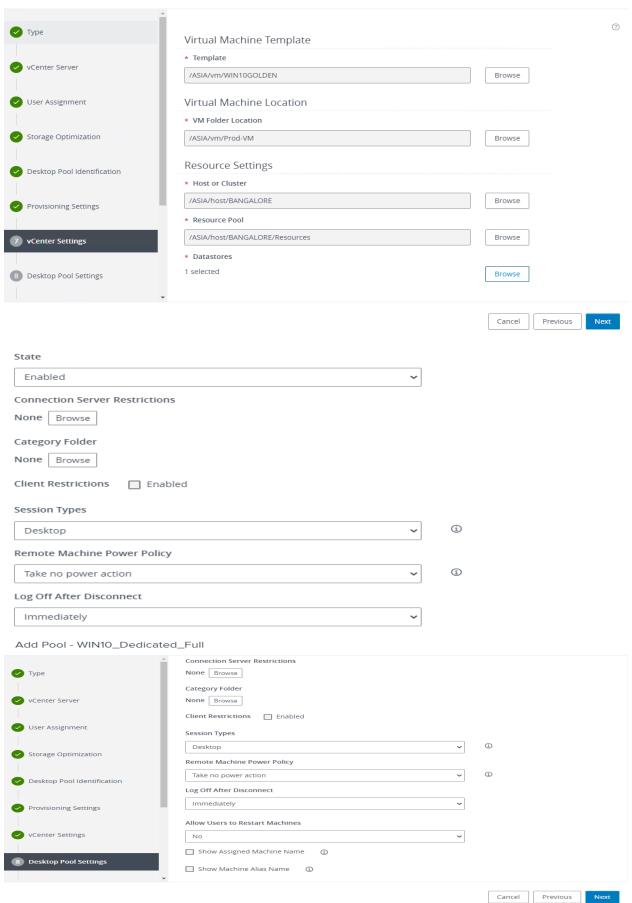


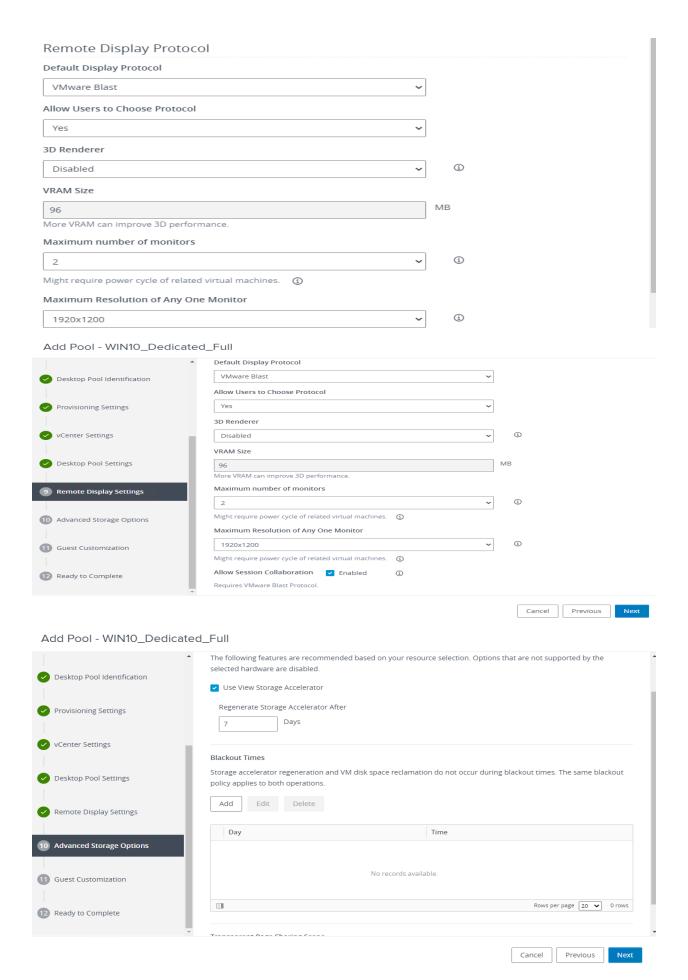
# Add Pool - WIN10\_Dedicated\_Full



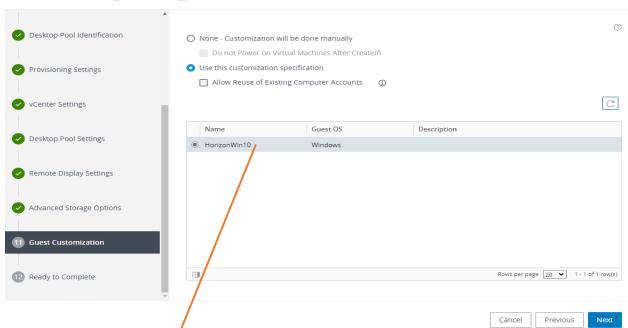


# Add Pool - WIN10\_Dedicated\_Full

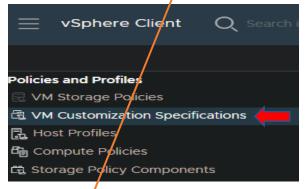




# Add Pool - WIN10\_Dedicated\_Full



I used this customization for the above. You can create one from vCenter -





☐ Entitle Users After Adding Pool	
Туре	Automated Desktop Pool
User Assignment	Dedicated Assignment
Assign on First Login	Yes
Enable Multi-User Assignment	No
vCenter Server	192.168.0.86
Unique ID	WIN10_Dedicated_Full
Description	-
Display Name	Win 10 Desktop
Access Group	/
Desktop Pool State	Enabled
Session Types	Desktop
Show Assigned Machine Name	Disabled
Show Machine Alias Name	Disabled
Client Restrictions	Disabled
Remote Machine Power Policy	Take no power action
Log Off After Disconnect	Immediately
Connection Server Restrictions	None
Category Folder	None
Allow Users to Restart Machines	No
Default Display Protocol	VMware Blast
Allow Users to Choose Protocol	Yes
3D Renderer	Disabled

VRAM Size 96.00 MB

Maximum number of monitors 2

Maximum Resolution of Any One Monitor 1920x1200

Allow Session Collaboration Enabled

Enable Provisioning Yes

Stop Provisioning on Error Yes

VM Naming Pattern Win10-Desk-{n}

Provision All Machines Up-Front No

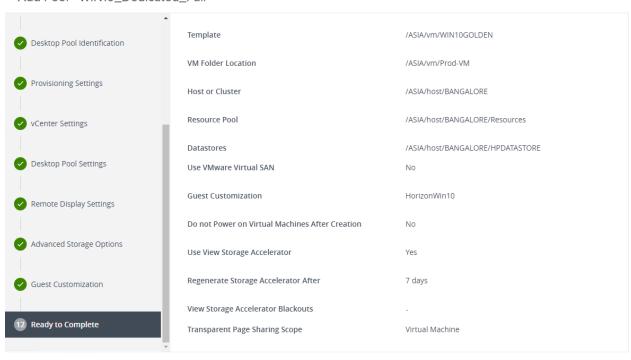
Maximum Machines 2

Spare (Powered On) Machines

Add vTPM Device to VMs No

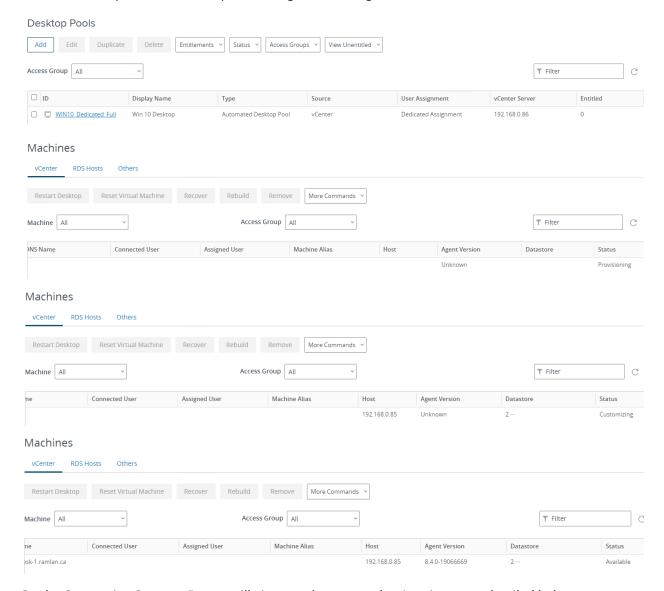
Template /ASIA/vm/WIN10GOLDEN

# Add Pool - WIN10\_Dedicated\_Full

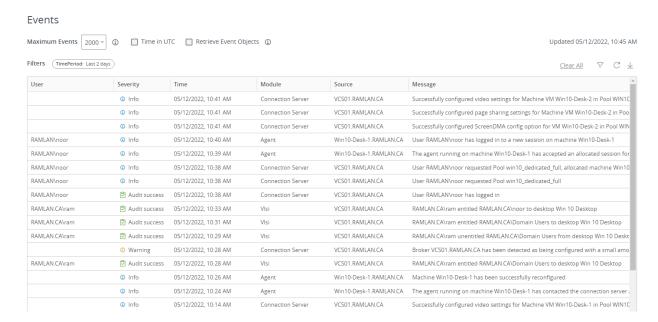


Cancel Previous Submit

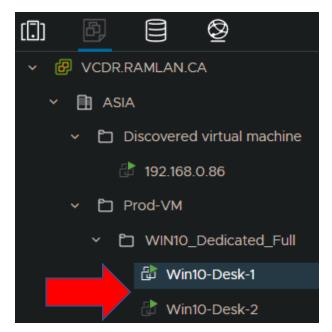
# Now the Desktop Pool is created, provisioning, customizing and it is available for use.



# On the Connection Server – Events will give you the status what is going on as detailed below.

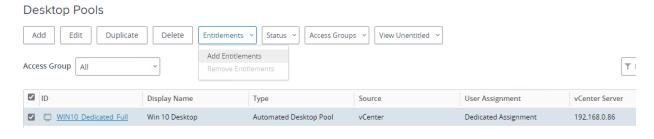


You can see the desktops are visible in vCenter.





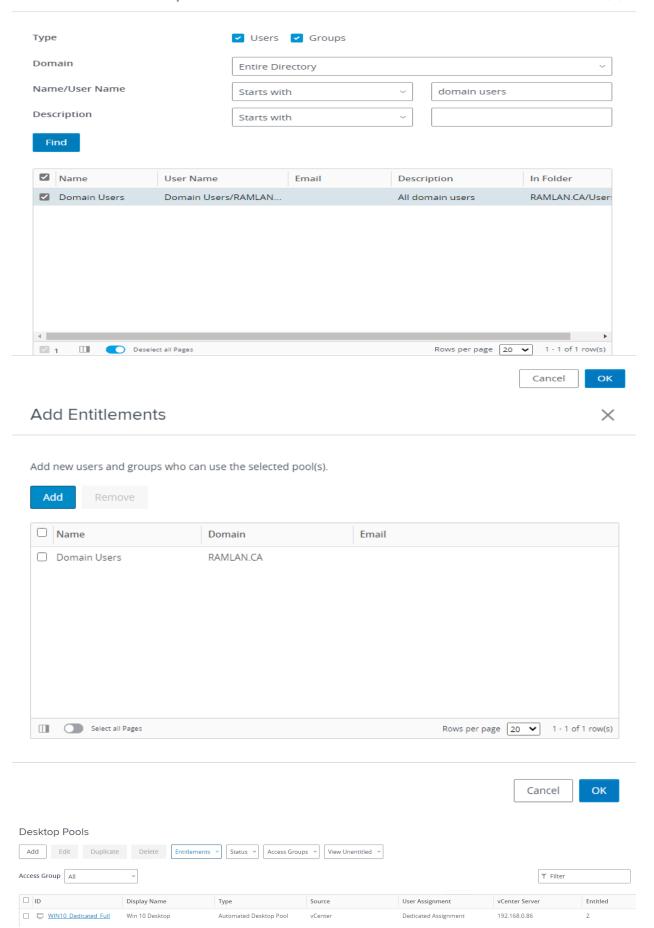
<u>ASSIGNING USERS TO DESKTOP POOL</u> - Our desktops are ready but for users to connect to the desktop, we will need to grant them permissions. Select the Desktop Pools – Click Entitlements – Add Entitlements.



# Add Entitlements

Add new users and groups who can use the selected pool(s).





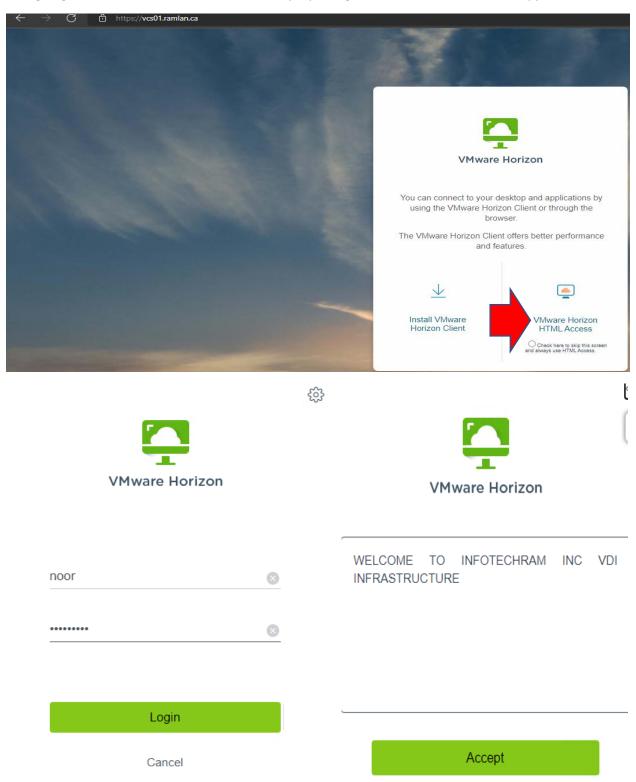
<u>ACCESSING VDI DESKTOP BY USERS</u> - In order to access the VDI Desktop, users can log in through Edge or Chrome or Firefox browser or via horizon client from their laptop and type in connection server.

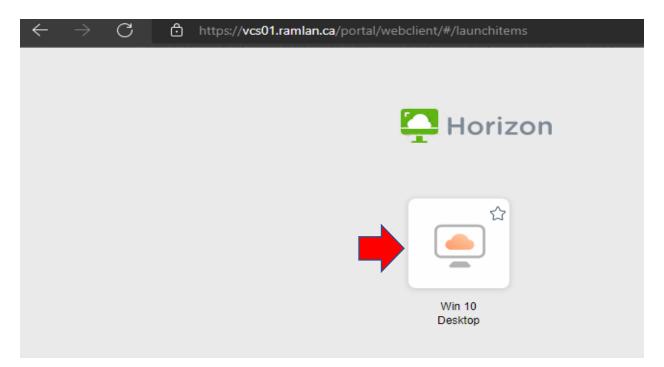
VMware Horizon HTML Access

HTML access is via VMware's Blast protocol.

# https://vcs01.ramlan.ca

I am going to access above URL from another laptop using the browser and see what happens.







# About

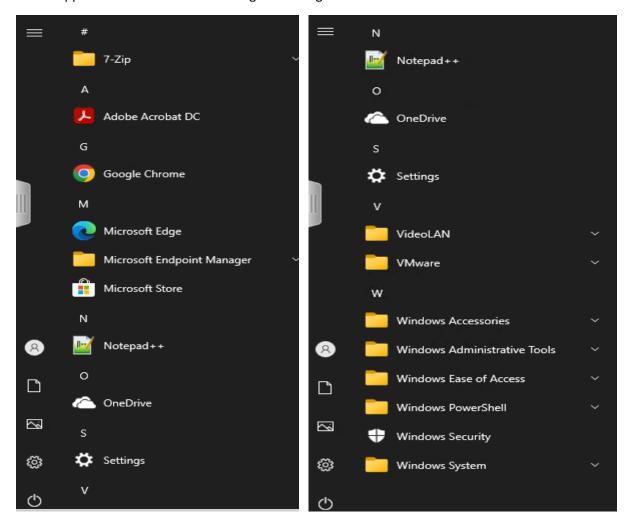
Your PC is monitored and protected.

See details in Windows Security

# Device specifications

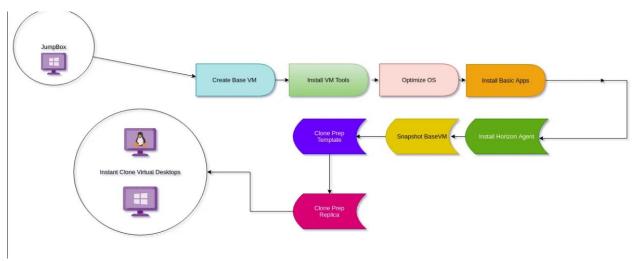


All the applications we installed on the golden image are available for the users.



<u>FLOATING DESKTOP POOL USING INSTANT CLONE</u> - Instant Clone provisions in few minutes using the VMware fork technology. Comparing itself to the old Linked Clones in old Horizon versions, the typical issues with Boot Storms are eliminated as instant clones are always live and ready for use.

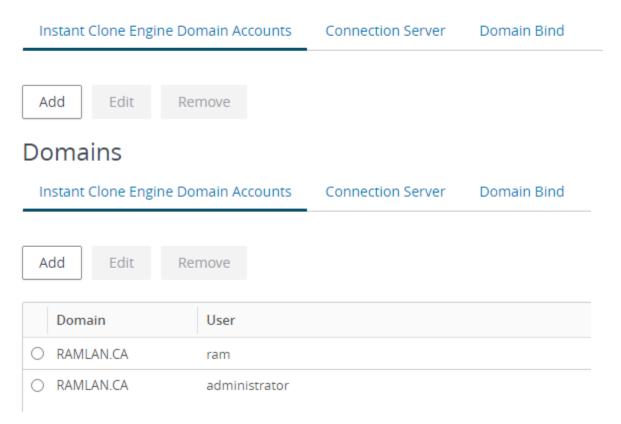
We did create a golden template in one of our previous blogs, so we will now create a desktop for a user from the VM template we created. Instant Clones can be deployed either as a floating desktop or as a dedicated desktop.



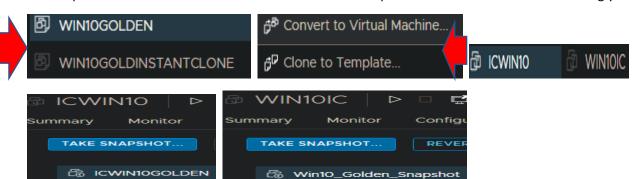
# Prerequisites of Instant Clone An Instant Clone Domain Account VMotion, VMWare High Availability, and vSphere Distributed Resource Scheduler (DRS) are not supported Solid-State Disks (SSDs) or NVme to be used for Instant Clones If you have a cluster of two or more ESXi hosts with local datastores, select the local datastore from each of the hosts in the cluster. Instant clone creation fails otherwise. Advantages of Instant Clone Instant Clone uses VMware fork technology which provisions VM in minutes. Load on vCenter is less No need to recomposing or refresh operations for Instant Clones

Create Instant Close Domain Accounts – Login to Connection Server – Inventory – Domains – Instant Close Domain Accounts – Add

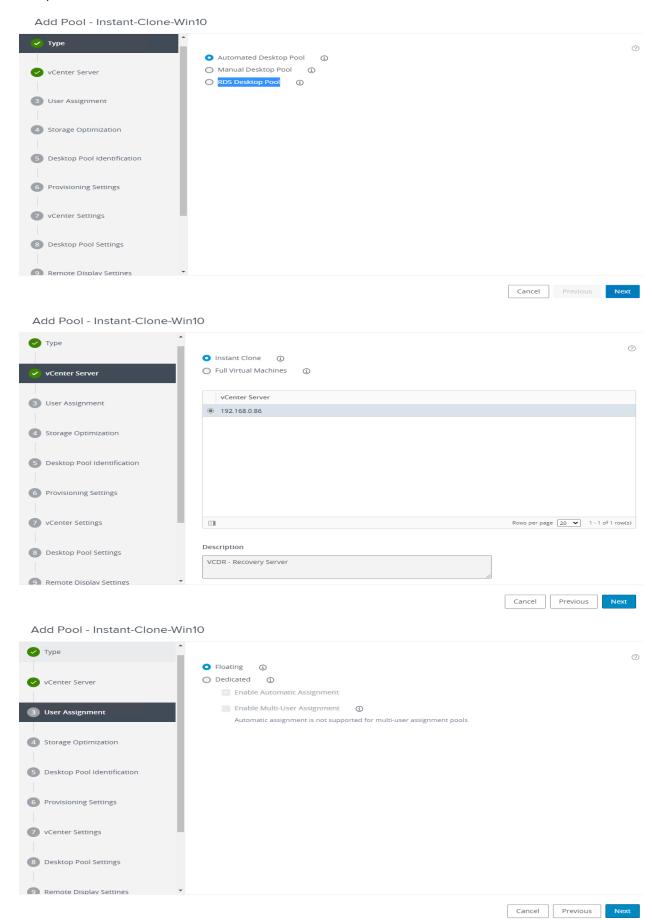
# **Domains**

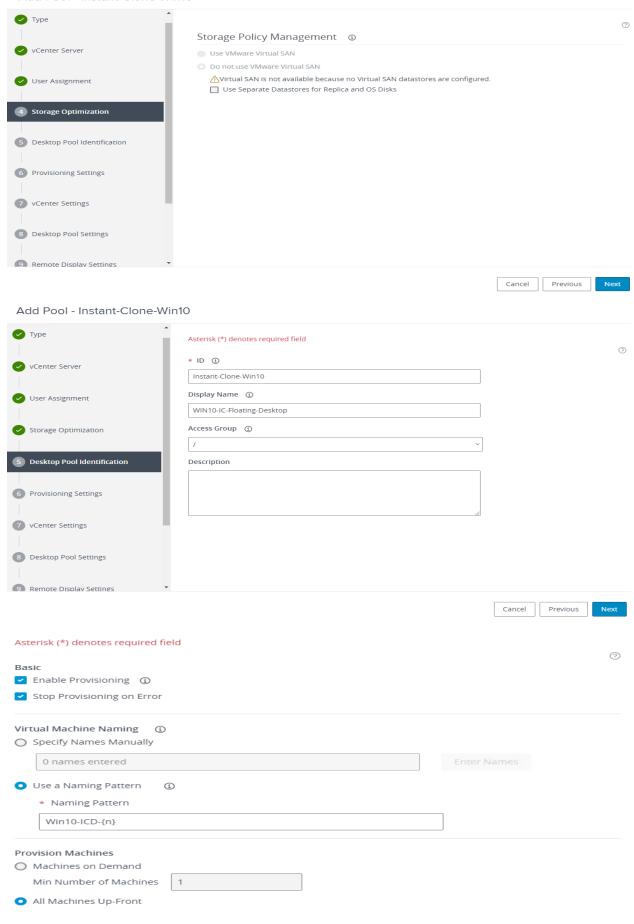


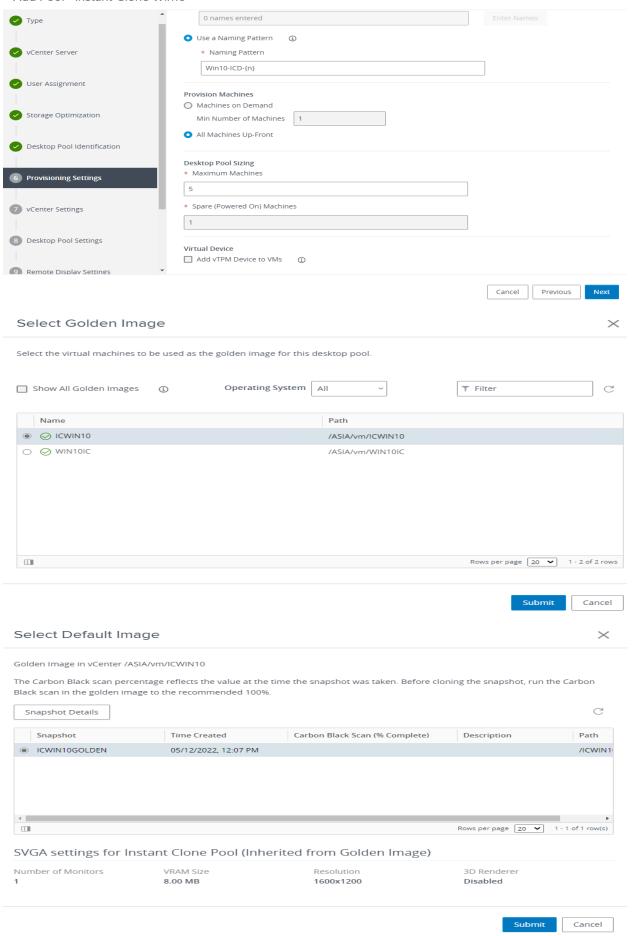
When, I started creating Desktop Instant Pool – I had issue to select the golden image for Instant Clone. So, I selected Golden Image – Clone to Template and then Convert to VM. I named it as WIN10IC and as a backup did another one as well ICWIN10. Then took a snapshot of each and named it accordingly.

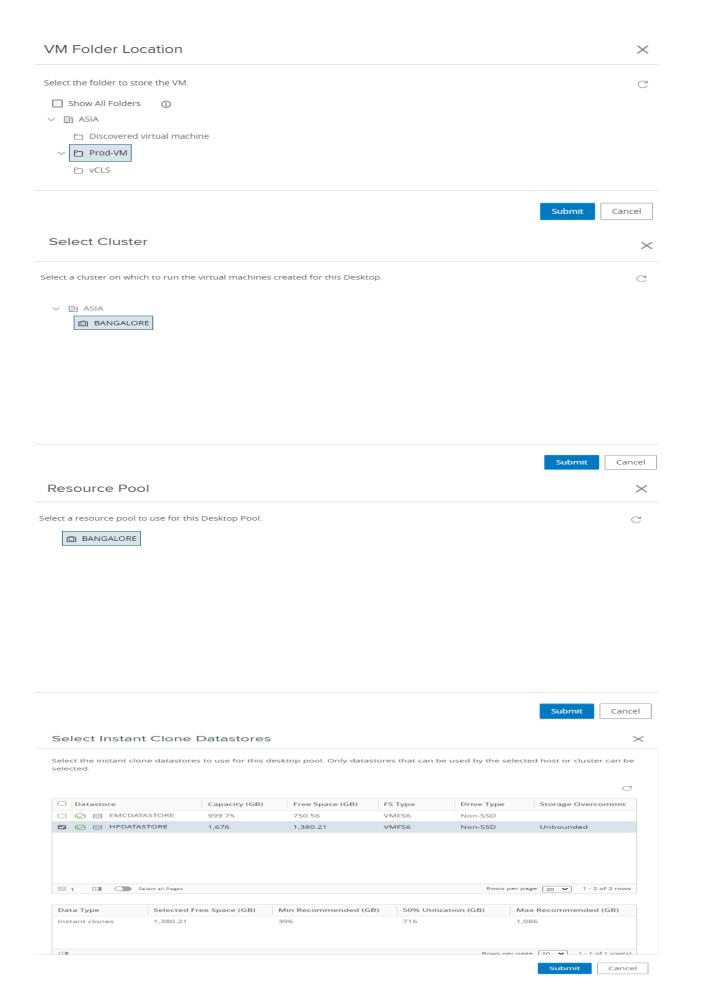


# Now, I can select either one for this exercise.







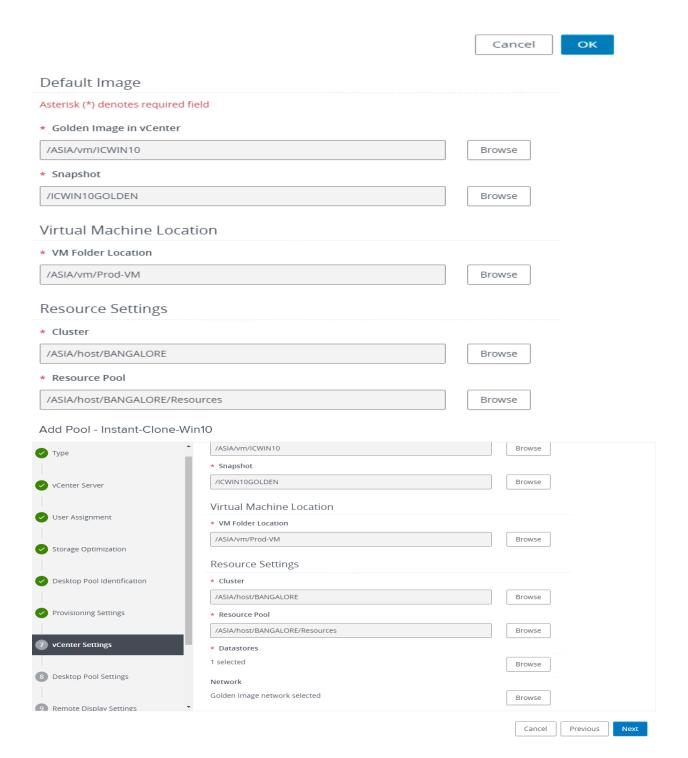


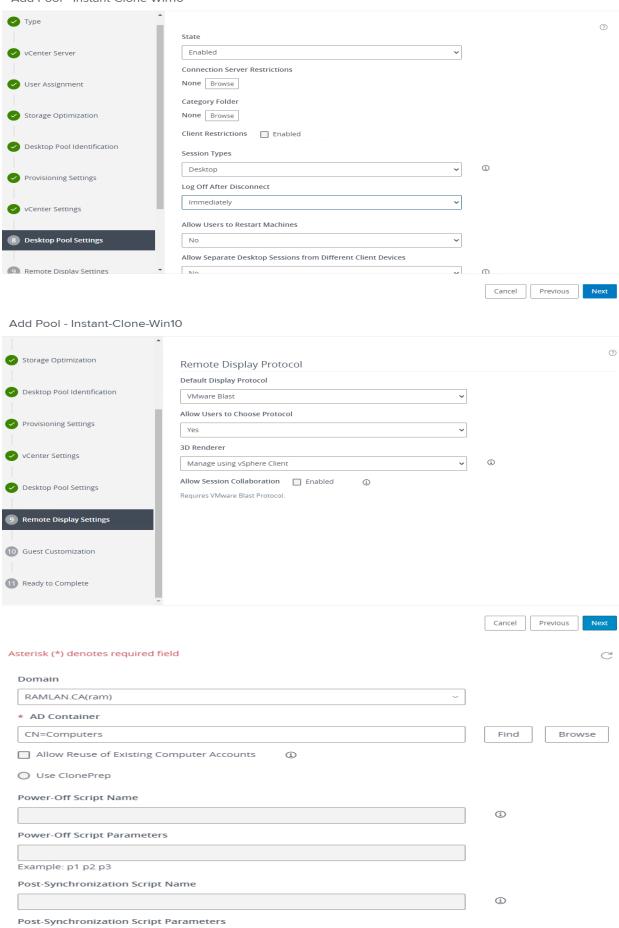


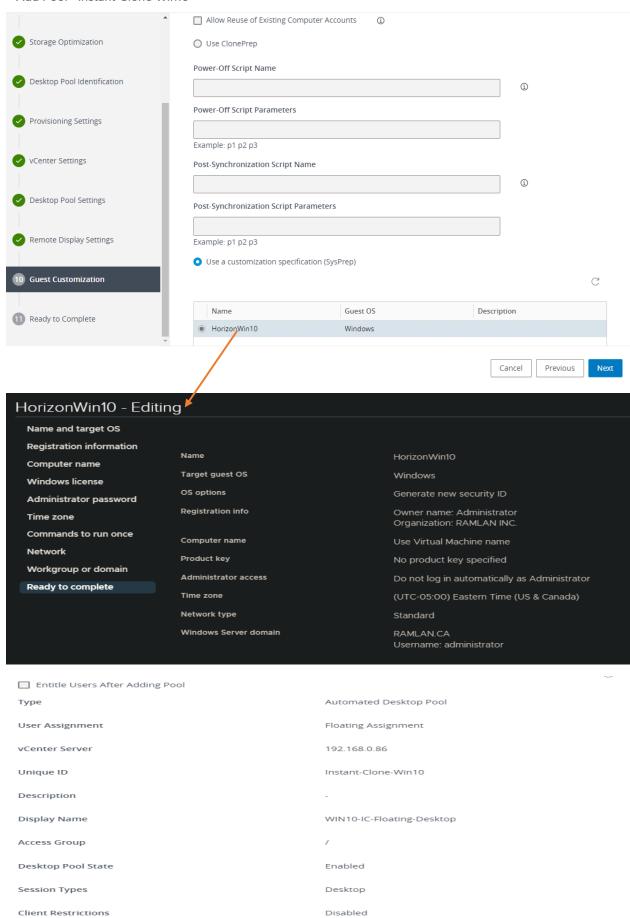


You have selected a local datastore for your instant clone pool. Please note the following.

- 1. If you are deploying instant clones on a single ESXi host with local datastore, you must configure a cluster containing that single ESXi host. If you have a cluster of two or more ESXi hosts with local datastores, select the local datastore from each of the hosts in the cluster. Instant clone creation fails otherwise.
- VMotion, VMWare High Availability, and vSphere Distributed Resource Scheduler (DRS) are not supported.
- We recommend that you use direct Solid-State Disks (SSDs). Local spinning-disk drives may not have the throughput required by instant clones.

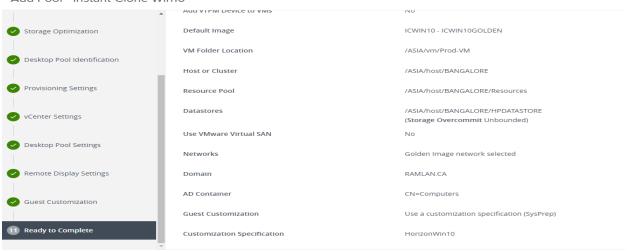




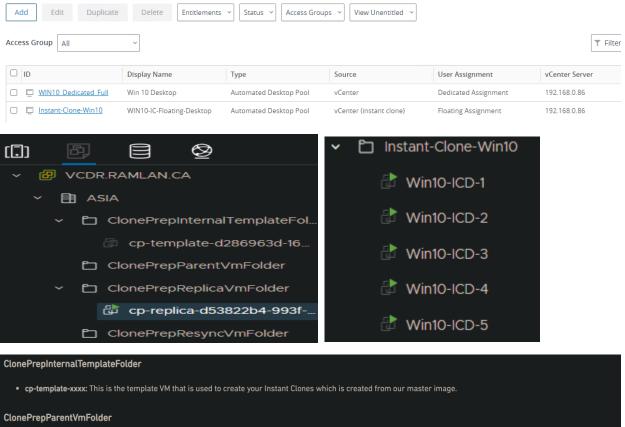


Log Off After Disconnect Immediately Connection Server Restrictions None Category Folder None Allow Users to Restart Machines No Allow Separate Desktop Sessions from Different Client No Default Display Protocol VMware Blast Allow Users to Choose Protocol 3D Renderer Manage using vSphere Client VRAM Size 8.00 MB Maximum number of monitors 1 Maximum Resolution of Any One Monitor 1600x1200 Allow Session Collaboration Disabled **Enable Provisioning** Yes Stop Provisioning on Error Yes Win10-ICD-{n} VM Naming Pattern Provision All Machines Up-Front Yes Maximum Machines 5 Spare (Powered On) Machines 1 Add vTPM Device to VMs No Default Image ICWIN10 - ICWIN10GOLDEN VM Folder Location /ASIA/vm/Prod-VM Host or Cluster /ASIA/host/BANGALORE

Resource Pool /ASIA/host/BANGALORE/Resources



# **Desktop Pools**



# • cp-parent-xxxx: The number of these VMs should match the number of hosts in your cluster. Each ESXi server will have 1 of these powered on and in memory to create the Instant Clone VMs.

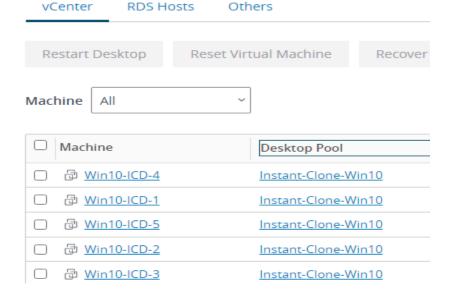
# ClonePrepReplicaVmFolder

• cp-replica-xxxx: This VM is used to create the cp-parent VMs. It is used to provision additional co-parent VMs.

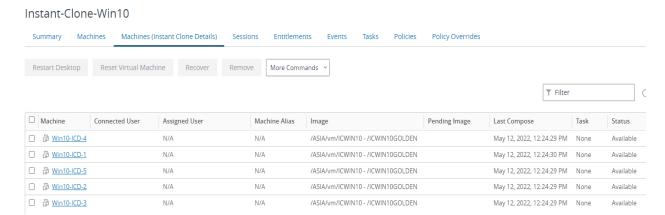
# ClonePrepResyncVmFolder

• If you want to update/modify the Clones with a new image it will create a VM in here for staging.

# Machines

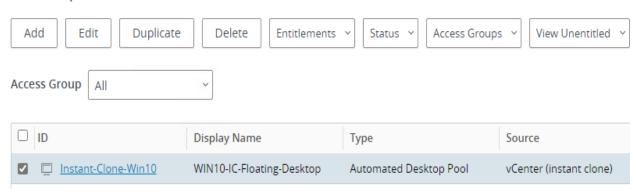


# Now all the Instant Clone Pool machines are available for use.



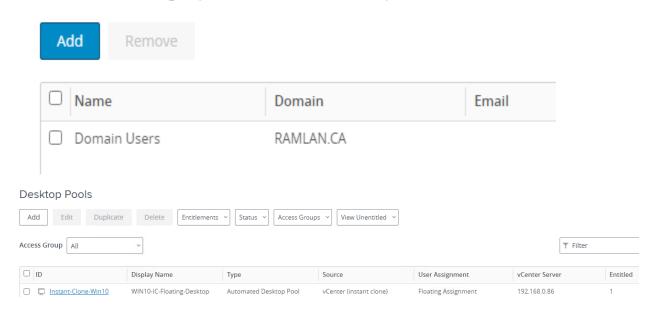
# **ASSIGN TO USERS – DESKTOP INSTANT CLONE POOL** – Now we can assign to users.

# **Desktop Pools**



# Add Entitlements

Add new users and groups who can use the selected pool(s).



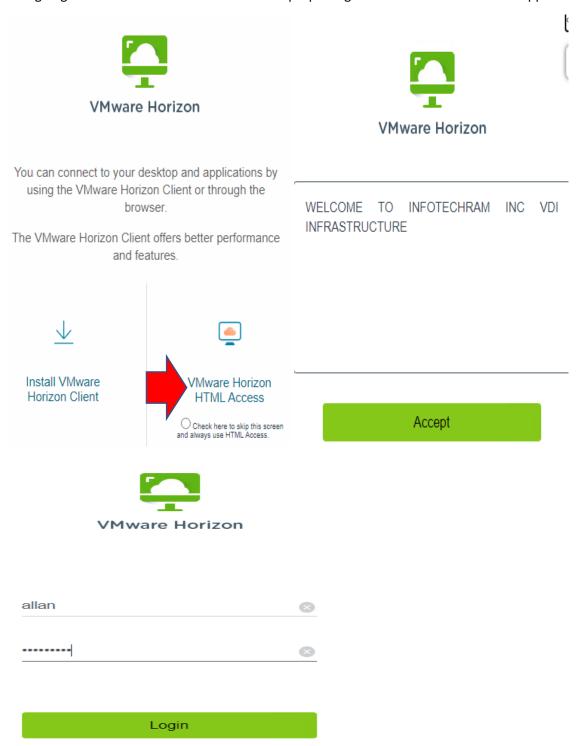
<u>ACCESSING VDI DESKTOP INSTANT CLONE POOL MACHINES</u> - In order to access the VDI Desktop, users can log in through Edge or Chrome or Firefox browser or via horizon client from their laptop and type in connection server.

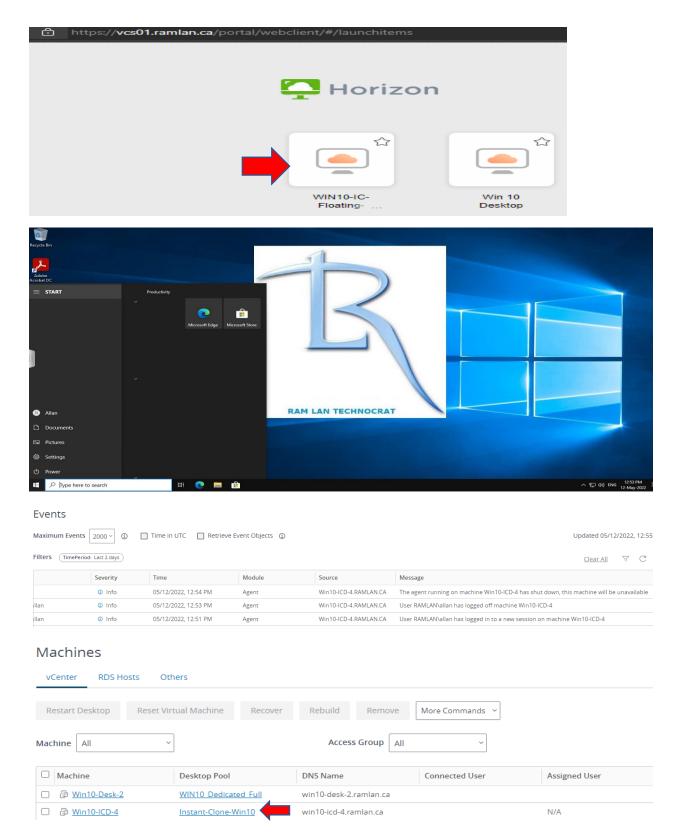
**VMware Horizon HTML Access** 

HTML access is via VMware's Blast protocol.

# https://vcs01.ramlan.ca

I am going to access above URL from another laptop using the browser and see what happens.

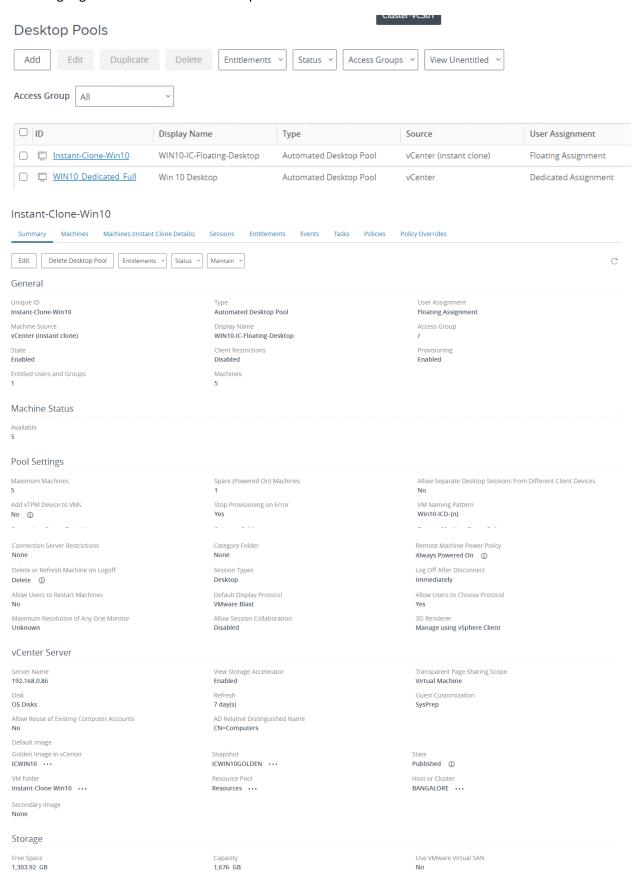


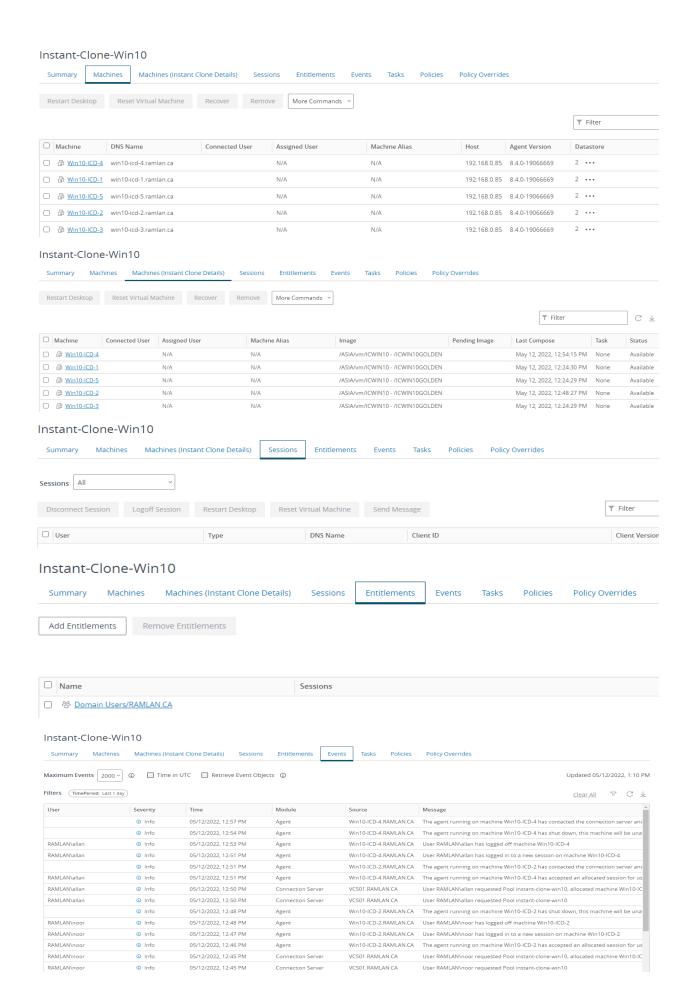


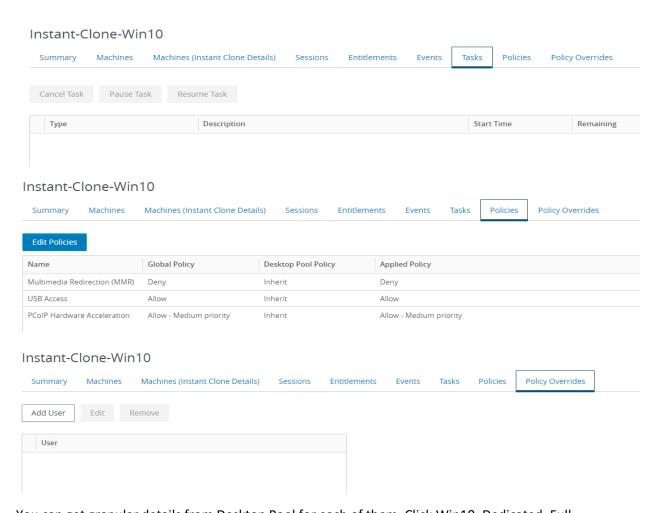
If you see above screen shot it is not assigned to any user. When user Allan used WIN10-ICD-4 for a brief moment the use was able to use the system. Once the user logged off – it is back to the pool for any other user to use it. That is the advantage of Floating Pool. Any user can use the system as long as they are available.

When user log off from Instant Clone Pool desktop it is back to its original state. Any changes made to the system by the user are not saved.

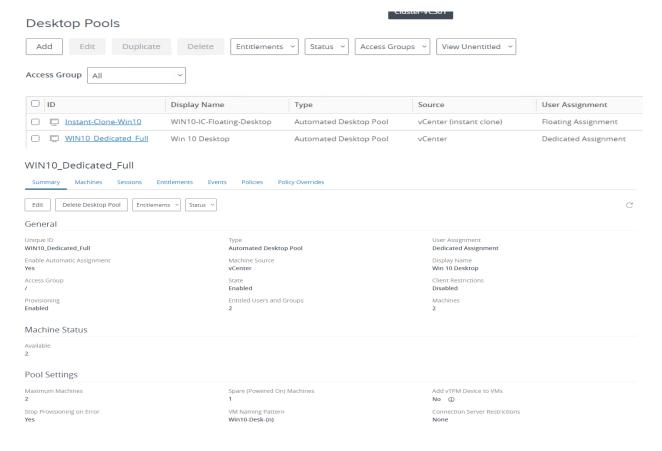
## You can get granular details from Desktop Pool for each of them. Click Instant-Clone-Win10



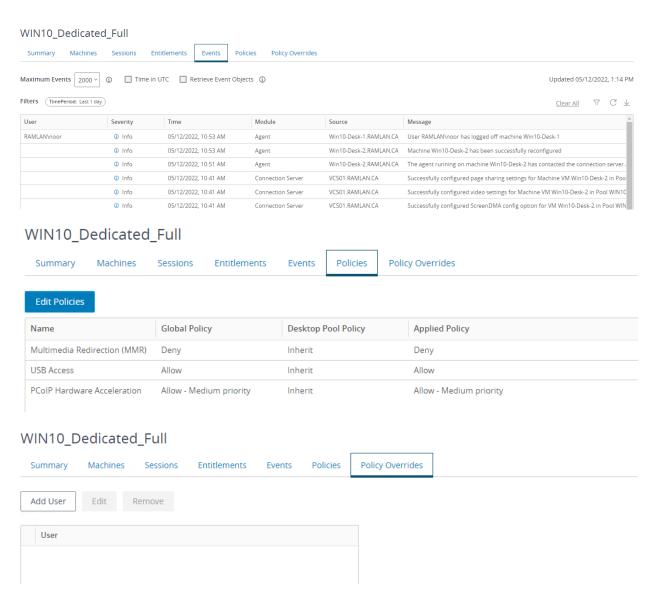




# You can get granular details from Desktop Pool for each of them. Click Win10\_Dedicated\_Full

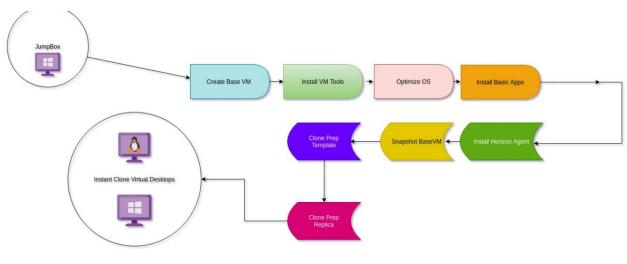


					Session Types Desktop		
Log Off After Disconnect		Allow Users <b>No</b>	s to Restart Machines	Default Display Protocol  VMware Blast			
Allow Users to Choose Protocol			number of monitors		Maximum Resolution of Any One Monitor 1920x1200		
Allow Session Collaboration Enabled		3D Rendere Disabled	er		Show Assigned Machine Disabled	Name	
Show Machine Alias Name Disabled							
/Center Server							
Server Name 192.168.0.86		VM folder WIN10_Dec	dicated_Full •••		Host or Cluster BANGALORE •••		
Resource Pool Resources			View Storage Accelerator		Transparent Page Sharing Scope Virtual Machine		
Disk OS Disks		Refresh			Blackout Periods		
Guest Customization			e of Existing Computer Accounts		Not Set  Customization Specificat	tion	
SysPrep Do not Power on Virtual Machines	After Creation	<b>No</b> Template			HorizonWin10		
Disabled		WIN10GOL	DEN ···				
Storage		k			Lieo Whiteness West and Service		
Free Space 1,303.77 GB		Capacity 1,676 GB			Use VMware Virtual SAN <b>No</b>		
Datastore							
WIN10_Dedicated	Full						
Summary Machines		ements Events	Policies Policy Overrides				
Restart Desktop Reset	: Virtual Machine	Rebuild Remove	e More Commands 🔻				▼ Filter
	: Virtual Machine	Rebuild Remove	e More Commands 🔻				Y Filter
□ Machine DNS N	lame	Rebuild Remove	More Commands V  Assigned User	Machine Alias	Host	Agent Version	Datastore
□ Machine         DNS N           □	iame desk-2.ramlan.ca		Assigned User	Machine Alias	192.168.0.85	8.4.0-19066669	Datastore 2 ···
□ Machine DNS N	iame desk-2.ramlan.ca			Machine Alias	192.168.0.85	8.4.0-19066669	Datastore
□ Machine         DNS N           □	lame desk-2.ramlan.ca desk-1.ramlan.ca		Assigned User	Machine Alias	192.168.0.85	8.4.0-19066669	Datastore 2 ···
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□ Machine         DNS N           □ ∰ Win10-Desk-2         win10-           □ ∰ Win10-Desk-1         win10-	ame  desk-2.ramlan.ca  desk-1.ramlan.ca	Connected User	Assigned User  RAMLAN.CA\noor		192.168.0.85	8.4.0-19066669	Datastore 2 ···
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□ Machine DNS N □ ૐ Win10-Desk-2 win10- □ ૐ Win10-Desk-1 win10- WIN10_Dedicate Summary Machines  Sessions All	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions	Connected User  Entitlements Eve	Assigned User  RAMLAN.CA\noor  ents Policies Policy	Overrides	192.168.0.85 192.168.0.85	8.4.0-19066669	Datastore 2 ···
□ Machine DNS N □ ② Win10-Desk-2 win10- □ ③ Win10-Desk-1 win10- WIN10_Dedicate Summary Machines  Sessions All  Disconnect Session	desk-1.ramlan.ca desk-1.ramlan.ca ed_Full Sessions	Connected User	Assigned User  RAMLAN.CA\noor	Overrides	192.168.0.85 192.168.0.85	8.4.0-19066669	Datastore 2 ···
□ Machine DNS N □ ૐ Win10-Desk-2 win10- □ ૐ Win10-Desk-1 win10- WIN10_Dedicate Summary Machines	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions		Connected User	Connected User Assigned User  RAMLAN.CA\noor	Connected User Assigned User Machine Alias  RAMLAN.CA\noor	Connected User Assigned User Machine Alias Host 192.168.0.85  RAMLAN.CA\noor 192.168.0.85	Connected User
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DNS N win10- win10- licate achines	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions	Connected User  Entitlements Eve	Assigned User  RAMLAN.CA\noor  ents Policies Policy  Reset Virtual Machine		Overrides Send Message	192.168.0.85 192.168.0.85 Overrides Send Message	192.168.0.85 8.4.0-19066669 192.168.0.85 8.4.0-19066669  Overrides  Send Message
Machine  DNS N  Win10-Desk-2 win10- Win10-Desk-1 win10- VIN10_Dedicate Summary Machines  essions All  Disconnect Session  User	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions  Logoff Session	Connected User  Entitlements Eve	Assigned User  RAMLAN.CA\noor  ents Policies Policy  Reset Virtual Machine	Overrides  Send Message	192.168.0.85 192.168.0.85	8.4.0-19066669	
Machine DNS N  Min10-Desk-2 win10- Min10-Desk-1 win10- Dedicate Summary Machines  Sissions All  Disconnect Session  User	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions  Logoff Session	Connected User  Entitlements Eve	Assigned User  RAMLAN.CA\noor  ents Policies Policy  Reset Virtual Machine  DNS Name	Overrides  Send Message	192.168.0.85 192.168.0.85	8.4.0-19066669	Datasto 2 ···
□ Machine DNS N □ ∰ Win10-Desk-2 win10- □ ∰ Win10-Desk-1 win10- WIN10_Dedicate Summary Machines  Sessions All  Disconnect Session □ User  WIN10_Dedicate Summary Machines	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions  Logoff Session	Connected User  Entitlements Even  Restart Desktop  Type  Entitlements	Assigned User  RAMLAN.CA\noor  ents Policies Policy  Reset Virtual Machine  DNS Name	Overrides  Send Message	192.168.0.85 192.168.0.85	8.4.0-19066669	Datastor 2 ···
□ Machine DNS N □ ૐ Win10-Desk-2 win10- □ ૐ Win10-Desk-1 win10- WIN10_Dedicate Summary Machines  Sessions All  Disconnect Session □ User  WIN10_Dedicate	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions  Logoff Session	Connected User  Entitlements Even  Restart Desktop  Type  Entitlements	Assigned User  RAMLAN.CA\noor  ents Policies Policy  Reset Virtual Machine  DNS Name	Overrides  Send Message	192.168.0.85 192.168.0.85	8.4.0-19066669	Datastor
□ Machine DNS N □ ∰ Win10-Desk-2 win10- □ ∰ Win10-Desk-1 win10- WIN10_Dedicate Summary Machines  Sessions All  Disconnect Session □ User  WIN10_Dedicate Summary Machines	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions  Logoff Session	Connected User  Entitlements Even  Restart Desktop  Type  Entitlements	Assigned User  RAMLAN.CA\noor  ents Policies Policy  Reset Virtual Machine  DNS Name	Overrides  Send Message	192.168.0.85 192.168.0.85	8.4.0-19066669	Datastor 2 ···
□ Machine DNS N □ ② Win10-Desk-2 win10- □ ③ Win10-Desk-1 win10- WIN10_Dedicate Summary Machines  Sessions All  Disconnect Session □ User  WIN10_Dedicate Summary Machines	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions  Logoff Session	Connected User  Entitlements Even  Restart Desktop  Type  Entitlements	RAMLAN.CA\noor  Policies Policy  Reset Virtual Machine  DNS Name  Events Policies	Overrides  Send Message	192.168.0.85 192.168.0.85	8.4.0-19066669	Datastor
□ Machine DNS N □ ∰ Win10-Desk-2 win10- □ ∰ Win10-Desk-1 win10- WIN10_Dedicate Summary Machines  Sessions All  Disconnect Session □ User  WIN10_Dedicate Summary Machines	desk-2.ramlan.ca desk-1.ramlan.ca ed_Full Sessions  Logoff Session  ced_Full es Sessions  Remove Entitlem	Connected User  Entitlements Even  Restart Desktop  Type  Entitlements	Assigned User  RAMLAN.CA\noor  ents Policies Policy  Reset Virtual Machine  DNS Name	Overrides  Send Message	192.168.0.85 192.168.0.85	8.4.0-19066669	Datastore 2 ···

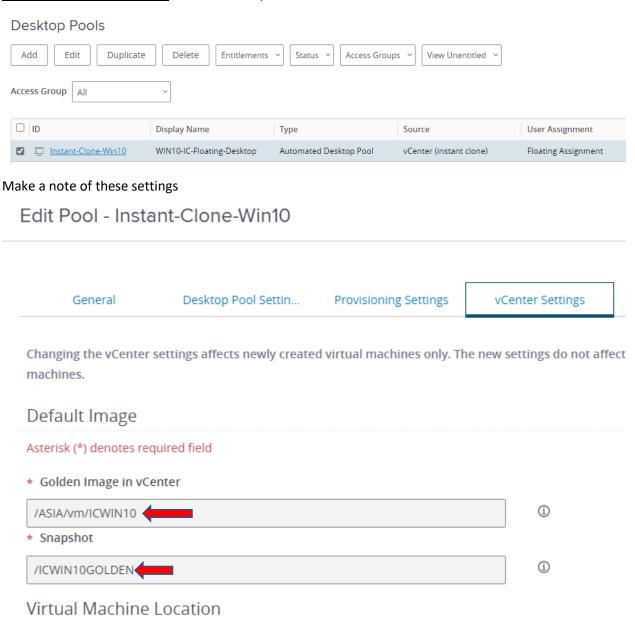


<u>PUSH NEW APPLICATION TO INSTANT CLONE DESKTOP POOL</u> - We will use the Push Image feature on the Instant clone desktop pool so as to upgrade/modify our existing instant clone desktop pool.

We will install FileZilla & Office 2021 onto our master image and then use the push feature on Instant clone to modify all our live VM's.



# Modify Instant Close Image - Go to Desktop Pool - Select Instant-Clone-Win10 and click Edit

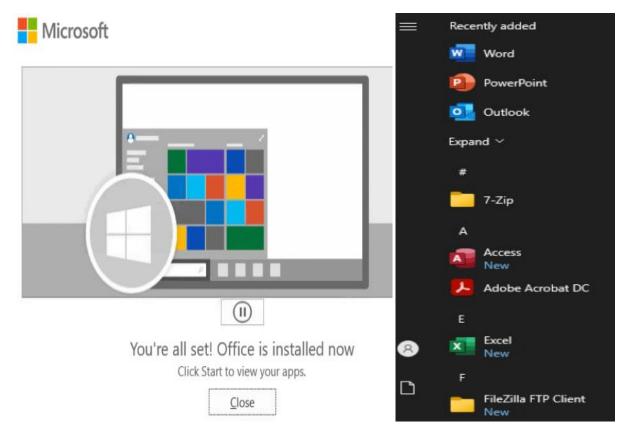


Now go to vCenter and Power On ICWIN10 VM and install the apps.

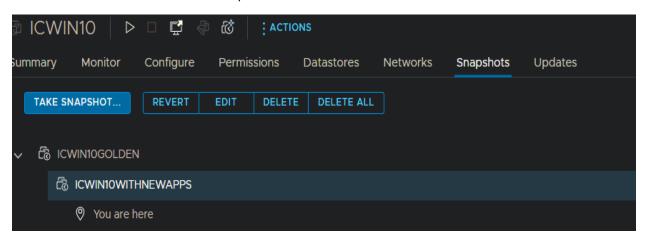


\* VM Folder Location

/ASIA/vm/Prod-VM/Instant-Clone-Win10



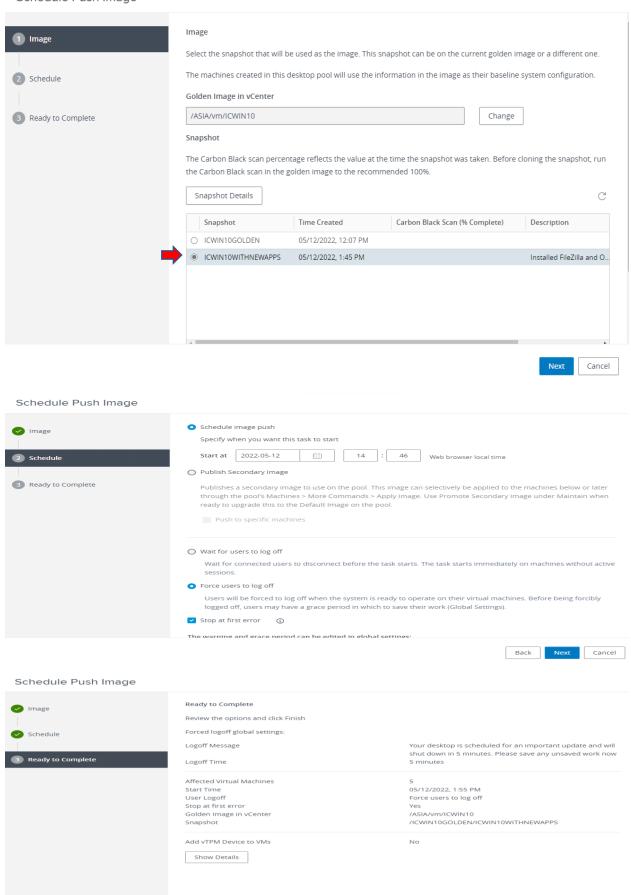
# Shutdown the VM and take a new snapshot



Go to Desktop Pools - Click Instant-Clone-Win10 - Maintain - Schedule

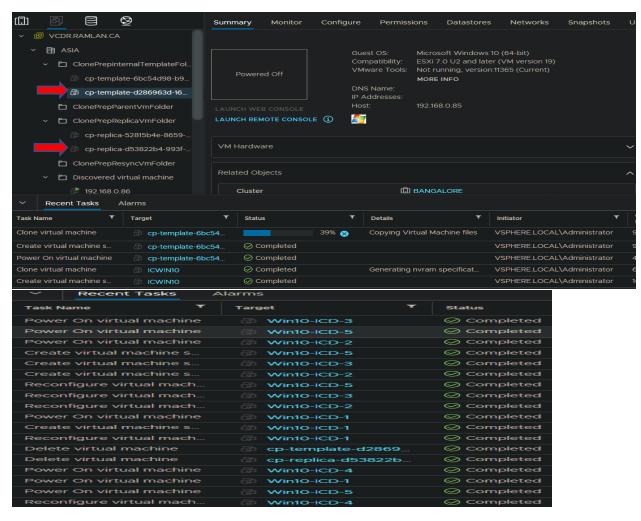


#### Schedule Push Image



Back **Finish** Cancel

You should start seeing changes in these folders

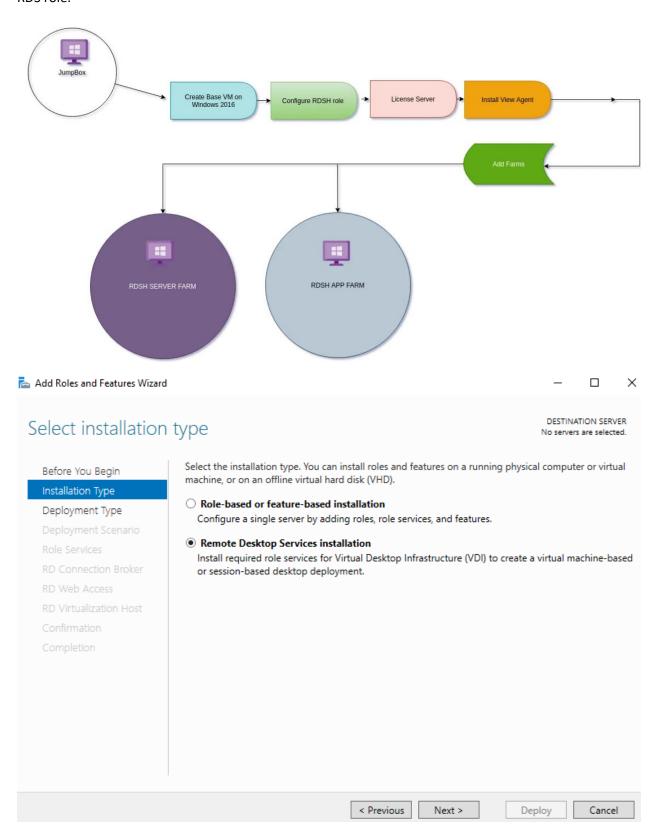


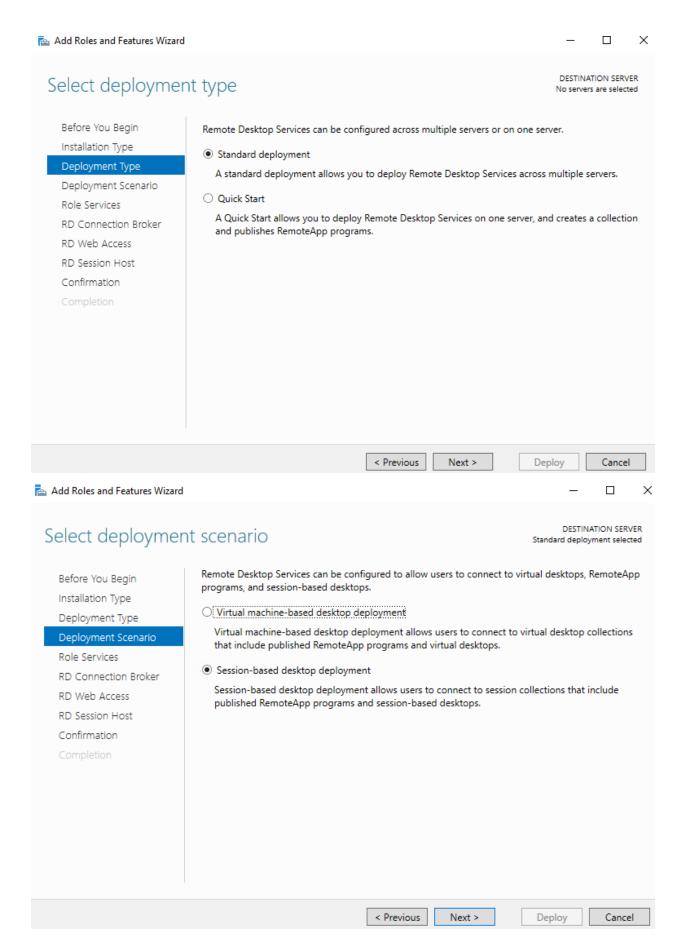
Now login to one of the VID floating desktops and see the changes. This is how you can update your golden image with whatever you need in the future.

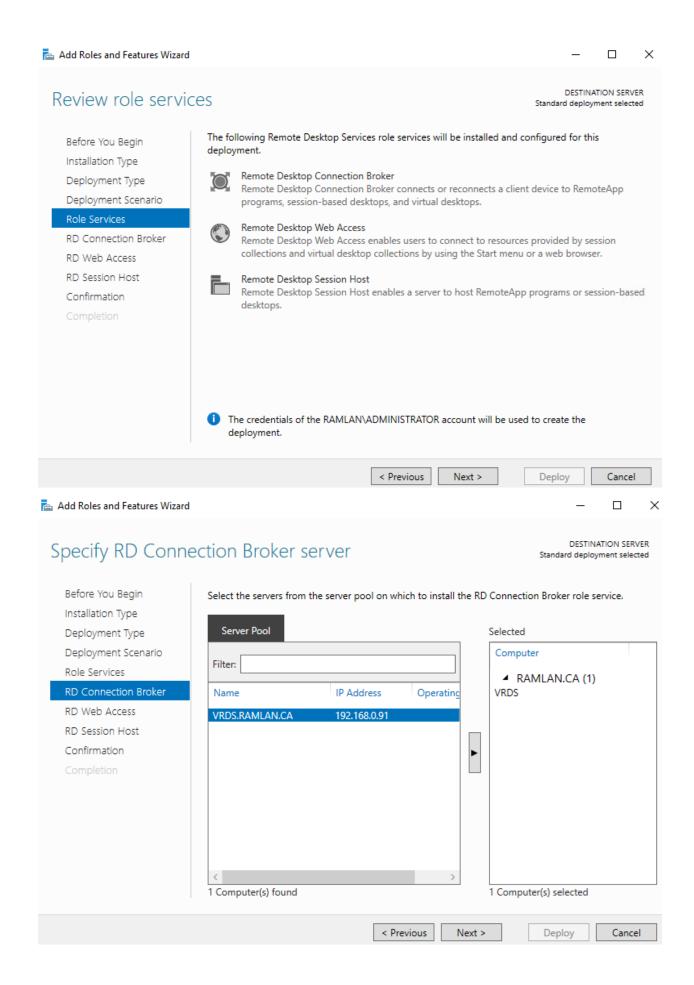


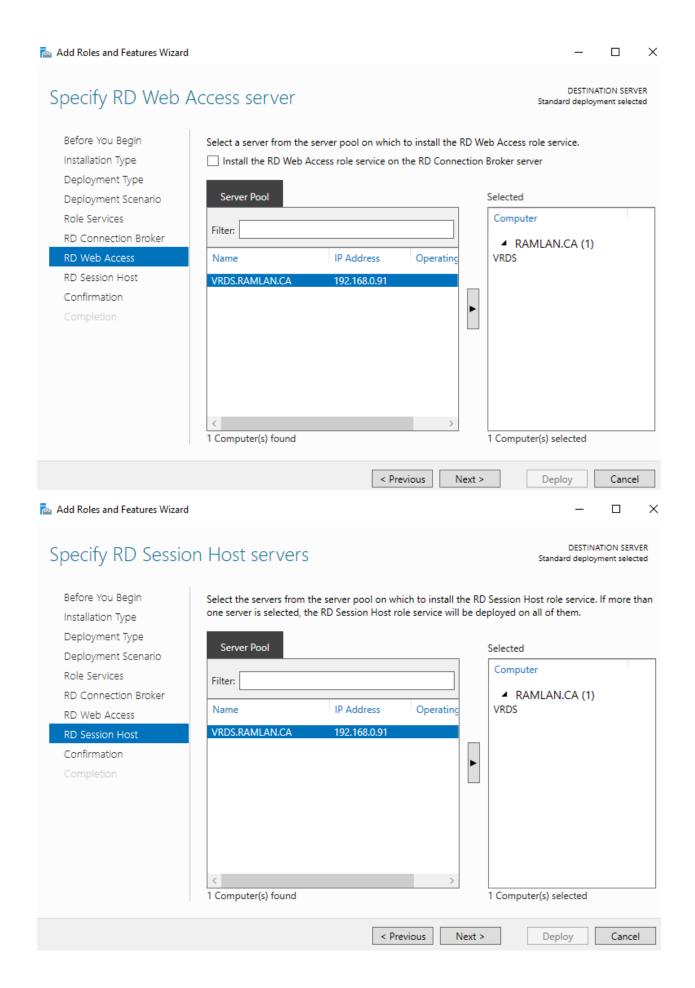
<u>REMOTE DESKTOP SERVICE HOST</u> - RDSH is a role in Microsoft Remote Desktop Services (RDS) with which a server can host applications and desktop sessions for remote access by users. RDSH can offer organizations cost savings. A full operating system does not have to be deployed for each user.

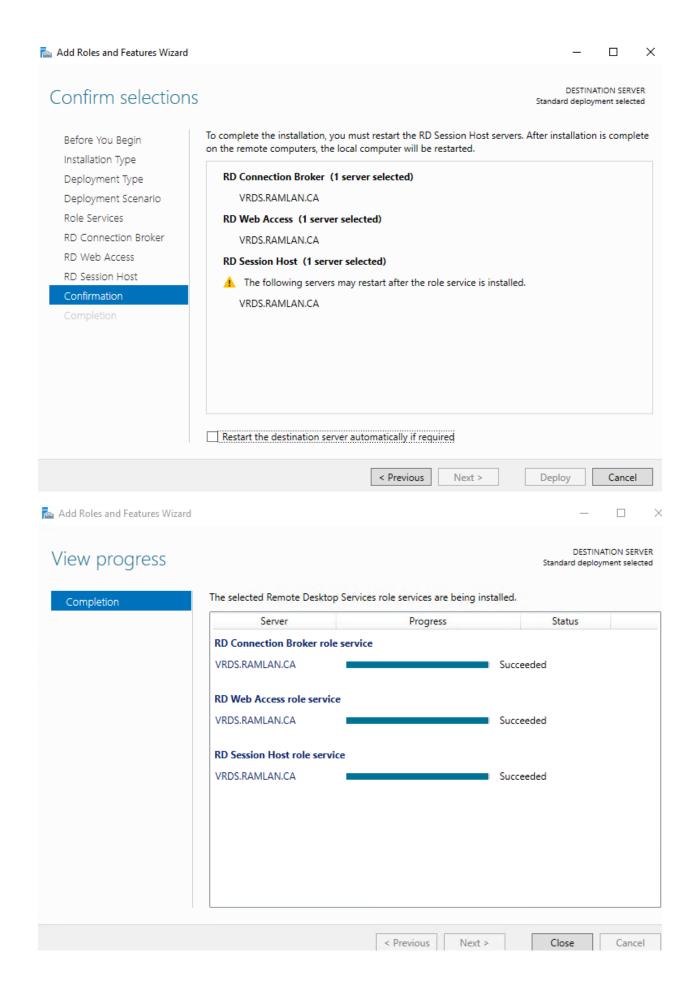
I will be using just a Single RDSH Server for this exercise. Created a VM and patched. Now will install RDS role.



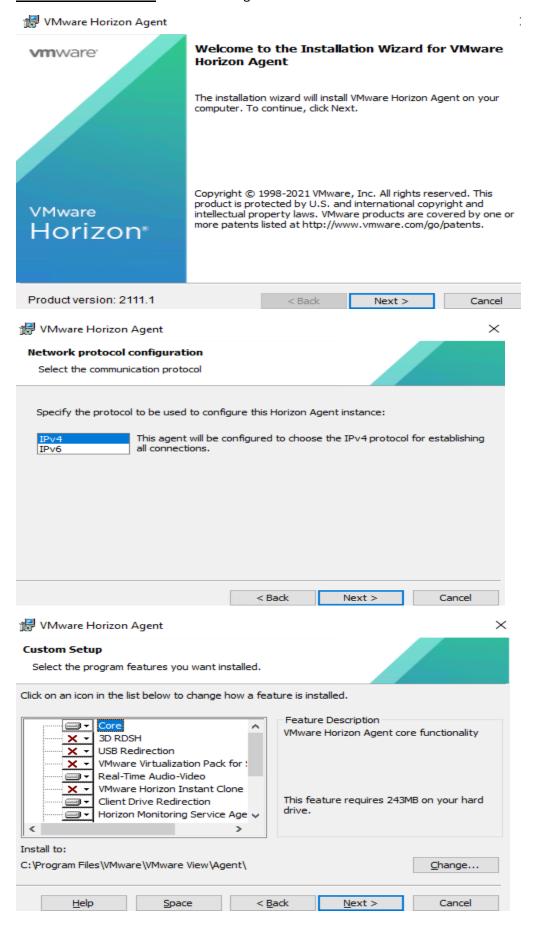


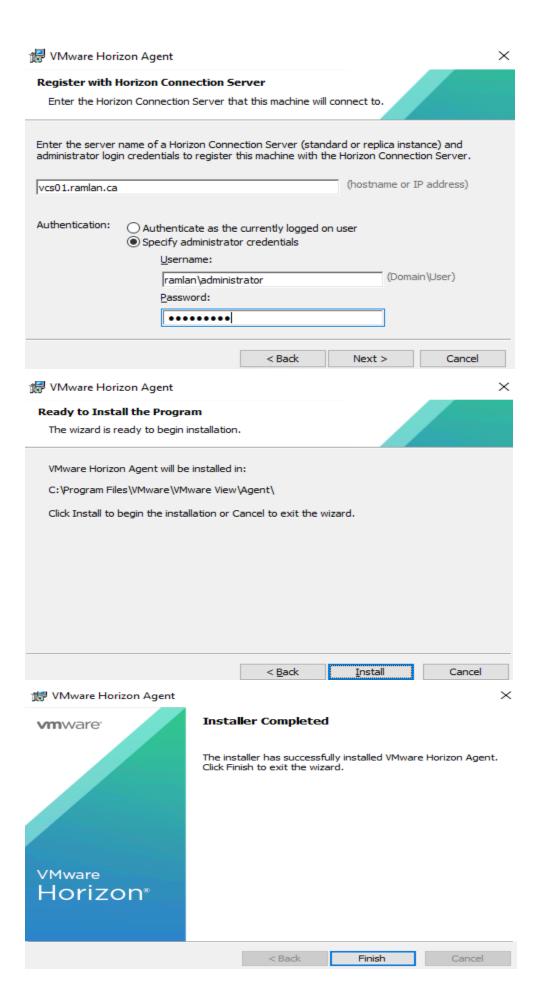




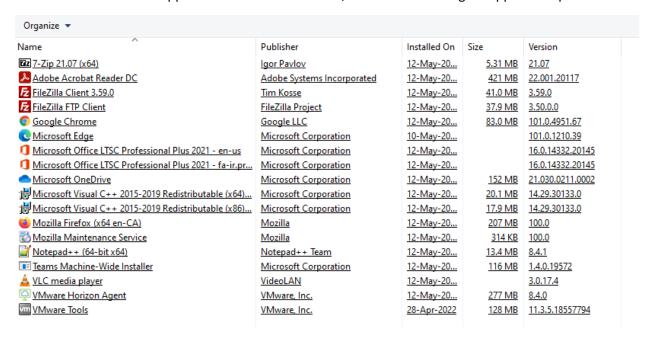


## **HORIZON VIEW AGENT** – Will install Agent and restart the server.



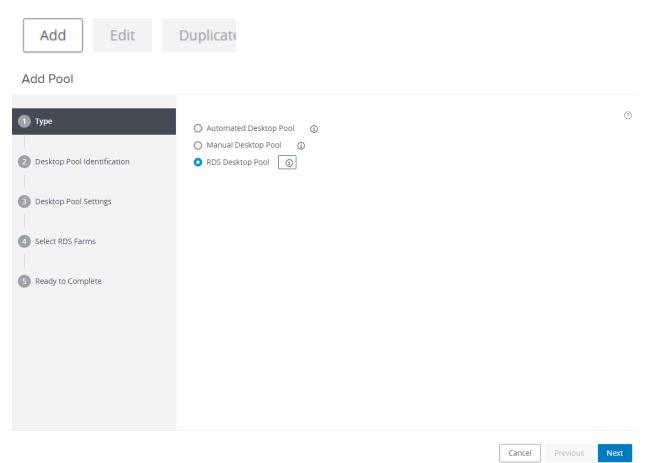


I will install a number of applications on the RDS server, if we have to configure application pool later.

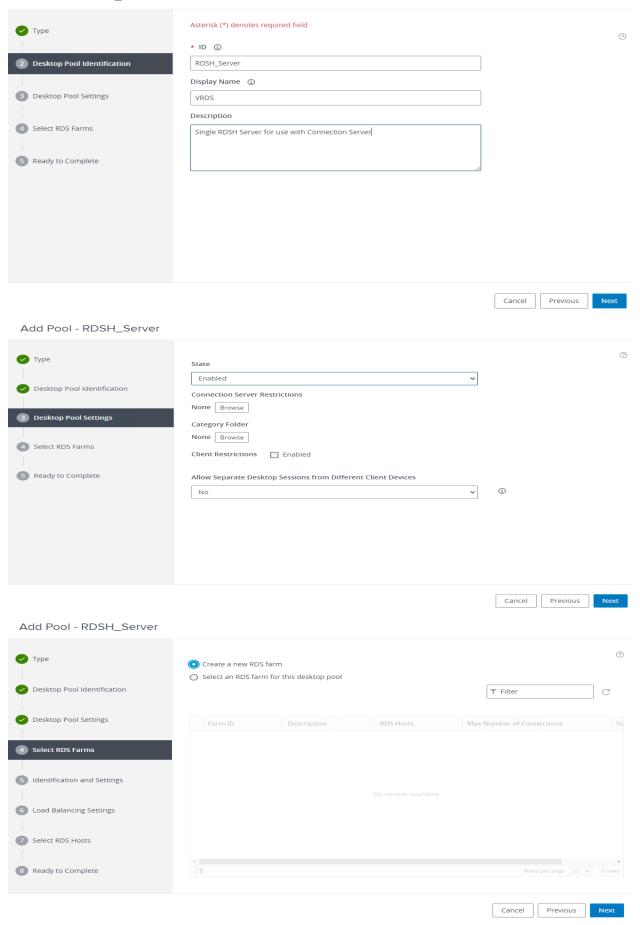


**RDSH Horizon View Configuration** – Now we can complete the configuration on Connection Server.

# **Desktop Pools**



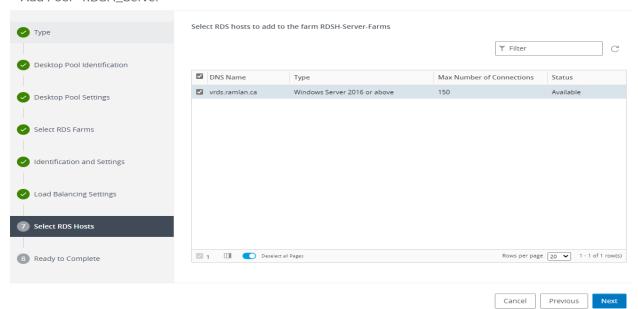
#### Add Pool - RDSH\_Server



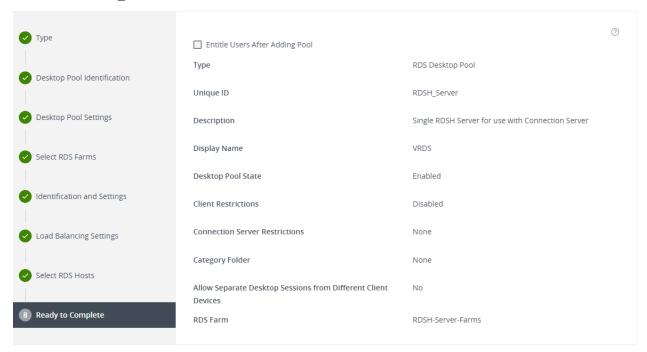
## Asterisk (\*) denotes required field \* ID RDSH-Server-Farms Description Access Group Farm Settings Default Display Protocol ① VMware Blast Allow Users to Choose Protocol Yes Pre-launch Session Timeout (Applications Only) ① After 10 Add Pool - RDSH\_Server Default Display Protocol ③ Туре VMware Blast Allow Users to Choose Protocol Desktop Pool Identification Pre-launch Session Timeout (Applications Only) ③ Desktop Pool Settings ~ 10 Empty Session Timeout (Applications Only) ③ Select RDS Farms After 5 Identification and Settings When Timeout Occurs Disconnect 6 Load Balancing Settings Logoff Disconnected Sessions Never Select RDS Hosts Allow Session Collaboration Enabled ③ 8 Ready to Complete Requires VMware Blast Protocol. Cancel Previous Next Add Pool - RDSH\_Server Use Custom Script 🔲 Enabled 🛈 🕜 Туре Include Session Count 🔽 Enabled 🛈 Asterisk (\*) denotes required field Desktop Pool Identification \* CPU Usage Threshold 1 Desktop Pool Settings \* Memory Usage Threshold 1 Select RDS Farms \* Disk Queue Length Threshold 1 Identification and Settings \* Disk Read Latency Threshold 1 0 6 Load Balancing Settings \* Disk Write Latency Threshold 0 1 Select RDS Hosts \* Connecting Session Threshold 1 8 Ready to Complete 0 \* Load Index Threshold

Cancel Previous Next

#### Add Pool - RDSH\_Server



## Add Pool - RDSH\_Server





Access Groups

View Unentitled

Status Y

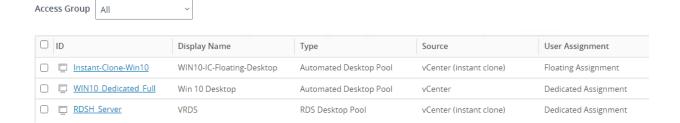
# **Desktop Pools**

Add

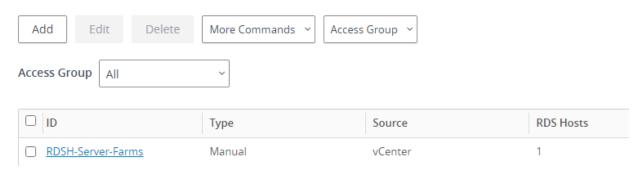
Duplicate

Delete

Entitlements v

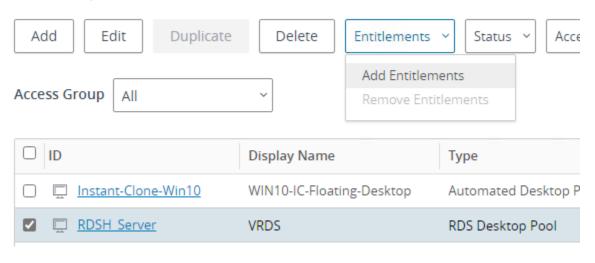


# **Farms**



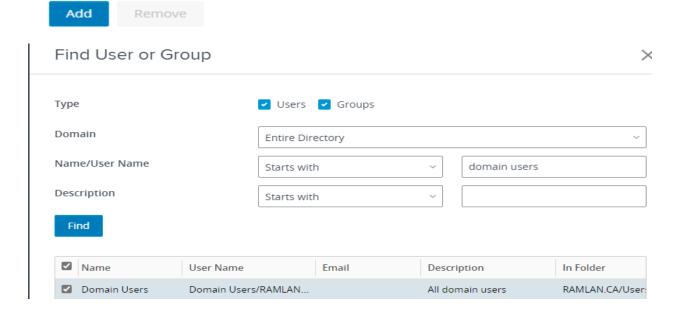
**Entitlements** – Now we can add users that can use RDSH Farm

# **Desktop Pools**



# Add Entitlements

Add new users and groups who can use the selected pool(s).



Add Entitlements Add new users and groups who can use the selected pool(s). Remove Add □ Name Domain Email ☐ Domain Users RAMLAN.CA RDSH\_Server Summary Sessions Entitlements Events Delete Desktop Pool | Entitlements > | Status > Edit General RDSH\_Server RDS Desktop Pool Remote Desktop Services Display Name Access Group VRDS Enabled Client Restrictions Entitled Users and Groups Sessions Disabled Single RDSH Server for use with Connection Server **Pool Settings** Allow Separate Desktop Sessions from Different Client Devices Connection Server Restrictions Category Folder None None Maximum Resolution of Any One Monitor Unknown RDS Farm Application Pools Number of RDS Hosts in the Farm RDSH-Server-Farms RDSH\_Server Summary Sessions Entitlements Events Sessions All Disconnect Session Logoff Session Restart Desktop Reset Virtual Machine Send Message T Filter User DNS Name Client ID Client Version Type ☐ & RAMLAN.CA\Administrator Desktop vrds.ramlan.ca RDSH\_Server Entitlements Summary Sessions Events Add Entitlements Remove Entitlements Name Sessions ☐ 答 Domain Users/RAMLAN.CA RDSH\_Server Summary Sessions Entitlements Events Maximum Events 2000 ∨ ⑤ ☐ Time in UTC ☐ Retrieve Event Objects ⑥ Updated 05/12/2022, 3:42 PM

VCS01.RAMLAN.CA

VRDS.RAMLAN.CA

VRDS.RAMLAN.CA

VCS01.RAMLAN.CA

RAMLAN.CA\ram entitled RAMLAN.CA\Domain Users to desktop VRDS

The agent running on machine vrds.ramlan.ca has shut down, this machine will be unav

Machine vrds.ramlan.ca has been successfully reconfigured

RAMLAN.CA\ram added Pool rdsh\_server

Filters TimePeriod: Last 1 day

Audit success 05/12/2022, 3:41 PM

Audit success 05/12/2022, 3:38 PM

05/12/2022, 3:38 PM

05/12/2022, 3:38 PM

Agent

① Info

① Info

RAMLAN.CA\ram

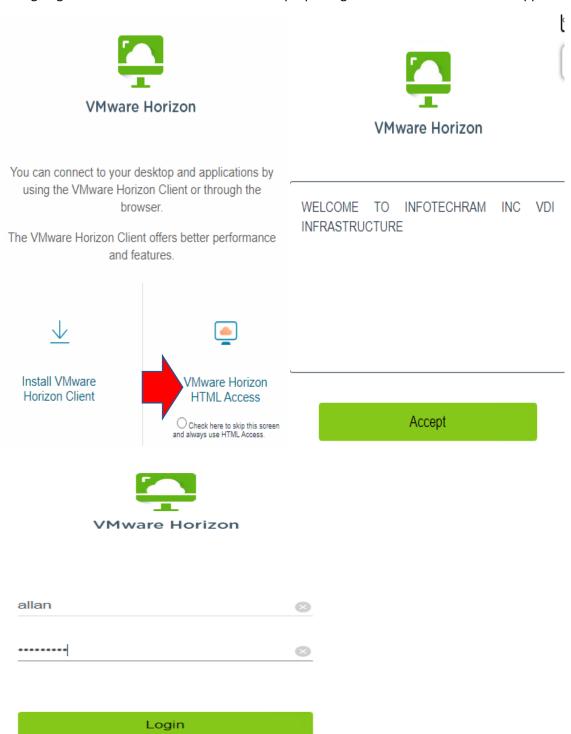
<u>ACCESSING VDI DESKTOP</u> - In order to access the VDI Desktop, users can log in through Edge or Chrome or Firefox browser or via horizon client from their laptop and type in connection server.

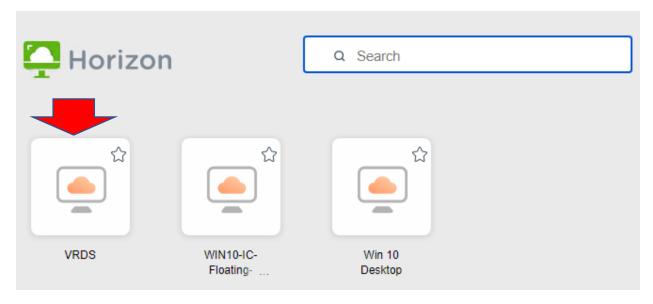
VMware Horizon HTML Access

HTML access is via VMware's Blast protocol.

# https://vcs01.ramlan.ca

I am going to access above URL from another laptop using the browser and see what happens.

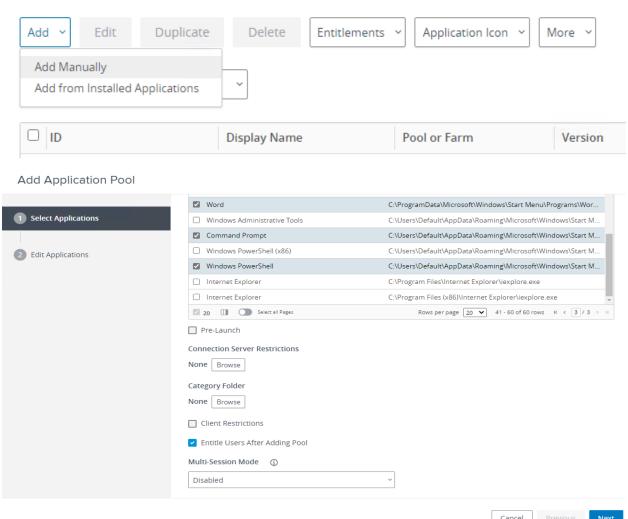




If you want to just publish the applications so users can use through Connection Server that is also possible. I will describe the steps below.

On the RDSH Server, I did install a number of applications which, I will use for publishing.

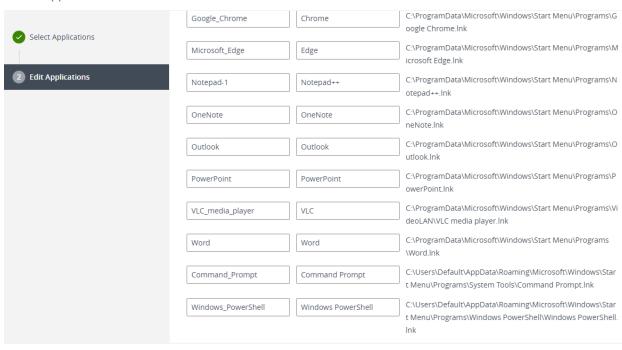
# **Application Pools**



Edit the ID and display name for selected applications.

ID	Display Name	Path
7-Zip_File_Manager	7-Zip	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\7- Zip\7-Zip File Manager.lnk
Access	Access	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\A ccess.lnk
Calculator	Calculator	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\A ccessories\Calculator.lnk
Notepad	Notepad	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\A ccessories\Notepad.lnk
Paint	Paint	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\A ccessories\Paint.lnk
Snipping_Tool	Snipping Tool	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\A ccessories\Snipping Tool.lnk
Acrobat_Reader_DC	Acrobat Reader DC	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\A crobat Reader DC.lnk
Excel	Excel	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Excel.lnk
FileZilla_FTP_Client	FileZilla	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Fi
Firefox	Firefox	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\Fi refox.lnk
Google_Chrome	Chrome	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\G oogle Chrome.lnk
Microsoft_Edge	Edge	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\M icrosoft Edge.lnk
Notepad-1	Notepad++	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\N otepad++.lnk
OneNote	OneNote	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\O neNote.lnk
Outlook	Outlook	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\O utlook.lnk
PowerPoint	PowerPoint	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\P owerPoint.lnk
VLC_media_player	VLC	C:\ProgramData\Microsoft\Windows\Start Menu\Programs\VideoLAN\VLC media player.lnk
Word	Word	C:\ProgramData\Microsoft\Windows\Start Menu\Programs \Word.lnk
Command_Prompt	Command Prompt	C:\Users\Default\AppData\Roaming\Microsoft\Windows\Star t Menu\Programs\System Tools\Command Prompt.lnk

#### Add Application Pool



Cancel Previous Submit

# Add Entitlements

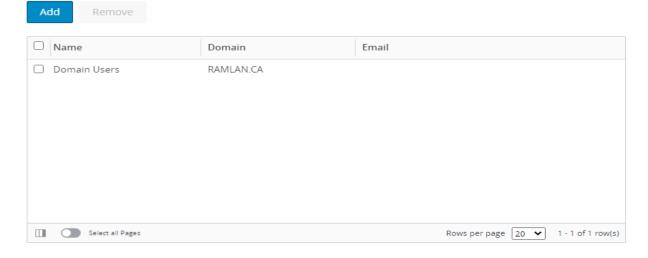
Add new users and groups who can use the selected pool(s).



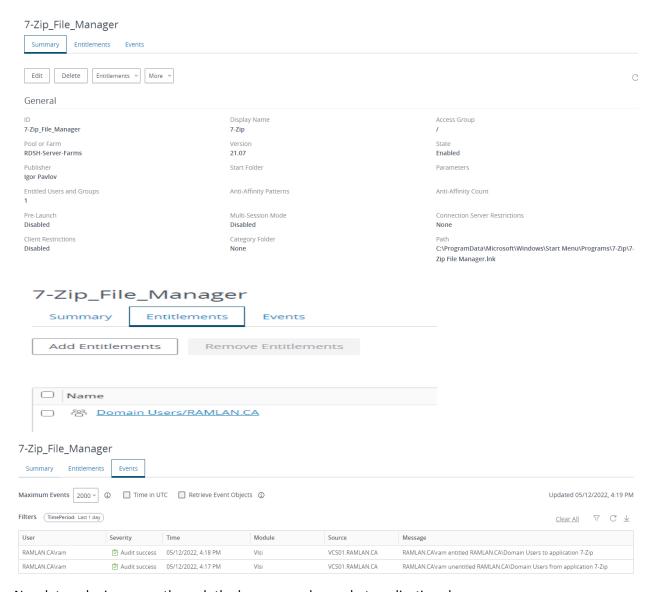
## Add Entitlements



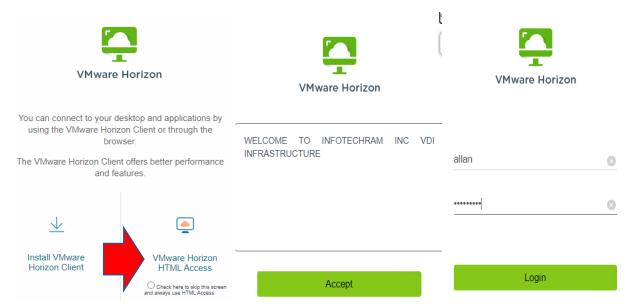
Add new users and groups who can use the selected pool(s).

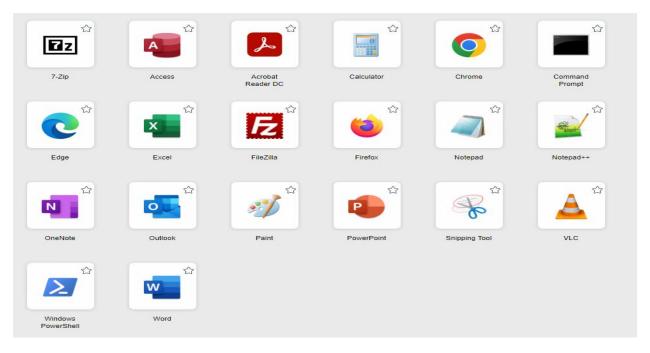


# Just an example for an application

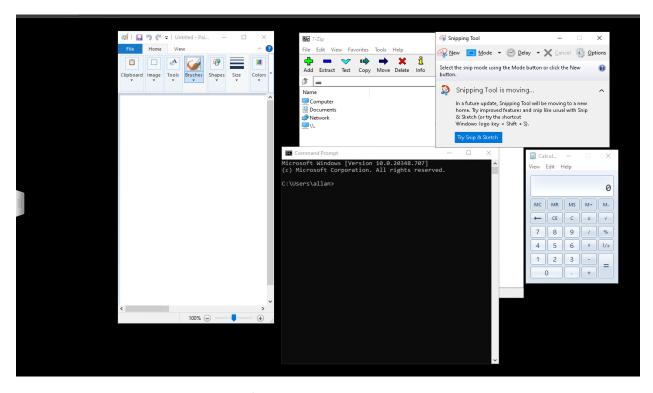


# Now let me login as user through the browser and see what application shows up <a href="https://vcs01.ramlan.ca">https://vcs01.ramlan.ca</a>





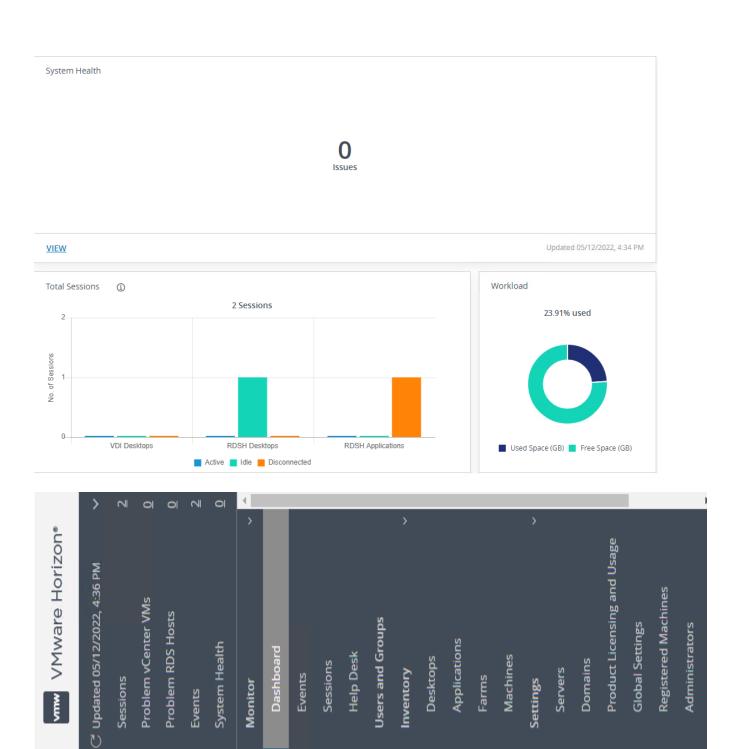
I was able to open multiple applications as well. You can publish any application that is installed on the RDSH Server.



With this, I have completed everything for VMWare Horizon View 2111.

Thanks

Ram 12<sup>th</sup> May 2022



WIN10\_Dedicated\_Full Win 10 Desktop Win10-Desk-{n} Instant-Clone-Win10 WIN10-IC-Floating-Desktop Win10-ICD-{n}