



cd collabdays | lisbon

November 13th, 2021

Work with Azure Virtual Desktop like a Pro

by Marcel Meurer

Our Sponsors

GOLD



COMMUNITY



About me



Microsoft Azure

Machine Learning

Azure Monitor / Log Analytics

Site: <https://www.itprocloud.com>

Mail: marcel.meurer@itprocloud.com

Twitter: <https://twitter.com/MarcelMeurer>

GitHub: <https://github.com/MarcelMeurer>

Blog: <https://blog.itprocloud.de/>



sepago®

ITProCloud

The challenges of managing AVD

Deployment

Management

- Create a “Golden Master” for the session hosts
- Configure your master
- Deploy Session Hosts
- Configure the session hosts

- Work with users
- Work with Azure resources
- Update session hosts
- Save some money while using AVD



Microsoft Azure Search resources, services, and docs (G+/)

Home > Windows Virtual Desktop > Design > Design - Session hosts >

Add virtual machines to a host pool

Basics Virtual Machines Tags Review + create

Project details

Subscription ① Microsoft MVP Subscription 12k

Resource group ① WVD.Design2

Host pool name Design

Location ①

Validation environment ① ☒ No ☐ Yes

Host pool type

If you select pooled (shared), users will still be able to access their personalization and user data, using FSLogix.

Host pool type Pooled

Review + create < Previous Next: Virtual Machines >

Approach #1

The AzurePortal

- Vanilla images or syspreped images
- You have to enter all parameters, like domain credentials, AVD SP, OU, ...
- Limited flexibility; fails if the DSC extensions cannot be load from the internet (policies, proxies,...)
- Experience for admins :-/

```
Help New-Image.ps1 - Scripts - Visual Studio Code
> _SetRuntime.ps1 > New-Image.ps1 x > Register-Apps.ps1 > New-WvdVm.ps1
1 # initialize variables
2 ..\_SetRuntime.ps1
3
4 # Template settings
5 $templateVm='T-WVD-Basic-00'
6 $resourceGroupName=$resourceGroupNameTemplates
7
8 # Creates a new image from the template vm
9 $sourceVm=Get-AzVm -ResourceGroupName $resourceGroupName -Name $templateVm
10
11 # configure parameters of the temporary vm
12 $VmName="TMP_ImageGen"
13 $osDiskName = 'Disk_0_'+$VmName
14 $virtualMachineName = $VmName
15 $resourceGroupNameTemp=$sourceVm.ResourceGroupName
16 $resourceGroupNameImages=$sourceVm.ResourceGroupName
17
18 Write-Host "Shutting down template vm" -ForegroundColor Cyan
19 $vmTemplate=get-AzVM -ResourceGroupName $sourceVm.ResourceGroupName -Name $sourceVm.name -Status
20 $vmTemplateCode=$vmTemplate.Statuses[$vmTemplate.Statuses.Count-1].Code
21 if ($vmTemplateCode -eq "PowerState/stopped" -or $vmTemplateCode -eq "PowerState/deallocated") {
22 } else {
23     Stop-AzVM -ResourceGroupName $sourceVm.ResourceGroupName -Name $sourceVm.name -Force -StayProvi
24 }
25
```

PROBLEMS 2 OUTPUT DEBUG CONSOLE TERMINAL

Name :

Building image

ResourceGroupName : WVD_Templates

SourceVirtualMachine : Microsoft.Azure.Management.Compute.Models.SubResource

StorageProfile : Microsoft.Azure.Management.Compute.Models.ImageStorageProfile

ProvisioningState : Succeeded

HyperVGeneration : V1

Id : /subscriptions/dcdce2ee-c9c0-4765-acd5-197126d21978/resourceGroups/WVD_Templates/providers/Mi
05

Name : WVD-HSH-Basic-Image-005

Type : Microsoft.Compute/Images

Location : westeurope

Tags : {}

Removing temporary vm for generalization

Approach #2

PowerShell

- You can do anything in a highly automated way
- You need PS know-how and have to work with the Azure resources directly
- High flexibility
- Experience for admins 😊

Approach #3

WVDAdmin & Hydra

- Like deployment from PowerShell with a friendly GUI
- Build-in image creation process from template VMs (re-usable)
- Manage user, session hosts, AVD in an easy way
- Mass-processing of session hosts and VMs
- Ephemeral Disk and "dynamic" disks
- Add hosts to Loadbalancer, ASGs, Azure Monitor directly
- Scaling, Auto-change disks, Multi-tenant
- Experience for admins ;-)

Azure

WVD V2

Workspaces

Host Pools

Microsoft MVP Subscription 12k

Canada

Default-Production-WUS2-A

Design

Session hosts

AVD-D-W11-001.ITProCloud.test

AVD-D-W11-002.ITProCloud.test

AVD-D-W11-003.ITProCloud.test

AVD-D-W11-004.ITProCloud.test

AVD-D-W11-005.ITProCloud.test

Reload all

Refresh WVD

Refresh Azure

Number of background processes:

0

Logs

Sessions V2

2021.09.15-18:28:13:298 Information Reading hostpools from ARM

2021.09.15-18:28:13:303 Information Reading app groups from ARM

2021.09.15-18:28:15:140 Information Reading subscription Microsoft MVP Subscription 12k (dcdce2ee-c9c0-4765-acd5-197126d21978)

2021.09.15-18:28:20:399 Information Reading user sessions from ARM

2021.09.15-18:28:20:629 Information Working on session hosts. Session host count: 0

2021.09.15-18:28:20:638 Information Working on session hosts. Session host count: 1

2021.09.15-18:28:20:639 Information Working on session hosts. Session host count: 2

2021.09.15-18:28:20:652 Information Working on session hosts. Session host count: 1

2021.09.15-18:28:20:652 Information Working on session hosts. Session host count: 3

2021.09.15-18:28:20:705 Information Working on session hosts. Session host count: 0

2021.09.15-18:28:21:134 Information Working on session hosts. Session host count: 1

2021.09.15-18:28:21:143 Information Working on session hosts. Session host count: 16

2021.09.15-18:28:21:158 Information Working on session hosts. Session host count: 0

2021.09.15-18:28:21:383 Information Reading app and desktops from ARM

2021.09.15-18:28:22:138 Information Getting the power state of all vms and Scale Set instances...

2021.09.15-18:28:28:942 Information Reading from Azure API finished.

Welcome

Custom Tags

Session Hosts

Select	Name	Sessions	S
<input type="checkbox"/>	AVD-D-W11-001.ITProCloud.test	0	U
<input type="checkbox"/>	AVD-D-W11-002.ITProCloud.test	0	
<input type="checkbox"/>	AVD-D-W11-003.ITProCloud.test	0	
<input checked="" type="checkbox"/>	AVD-D-W11-004.ITProCloud.test	0	
<input type="checkbox"/>	AVD-D-W11-005.ITProCloud.test	0	
<input checked="" type="checkbox"/>	AVD-D-W11-006.ITProCloud.test	0	
<input type="checkbox"/>	AVD-D-W11-007.ITProCloud.test	0	
<input checked="" type="checkbox"/>	AVD-D-W11-008.ITProCloud.test	0	
<input checked="" type="checkbox"/>	AVD-D-W11-009.ITProCloud.test	0	
<input checked="" type="checkbox"/>	AVD-D-W11-010.ITProCloud.test	0	
<input type="checkbox"/>	AVD-D-W11-011.ITProCloud.test	0	
<input type="checkbox"/>	AVD-D-W11-020.ITProCloud.test	0	
<input type="checkbox"/>	AVD-D-W11-021.ITProCloud.test	0	
<input type="checkbox"/>	AVD-D-W11-022.ITProCloud.test	0	

Disable logon

Enable logon

Logoff users

Run script:

Custom Script

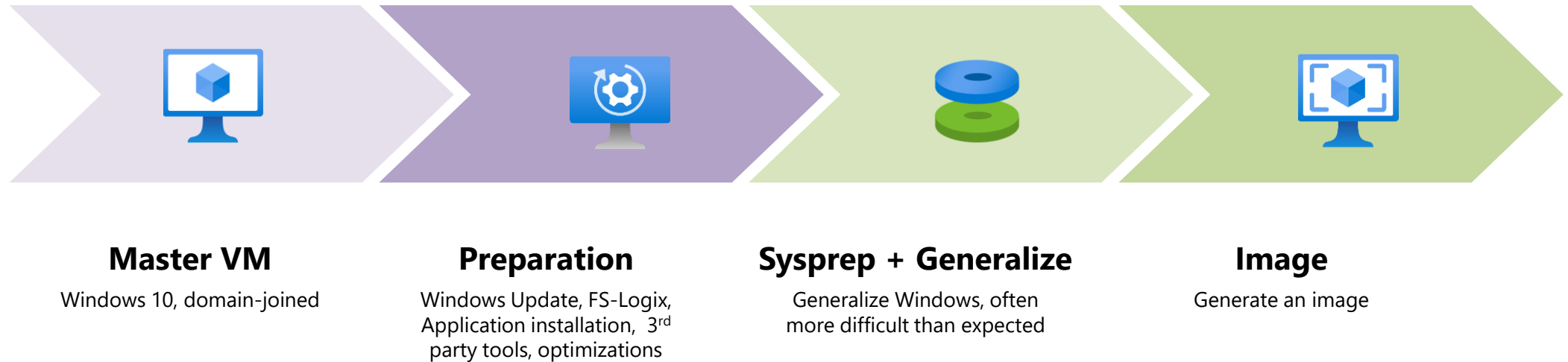
Refresh

Check

Un-Check

Sea

Golden Master -> Image



Golden Master -> Image

with WVDAdmin



Master VM

Windows 10, domain-joined

Preparation

Windows Update, FS-Logix,
Application installation, 3rd
party tools, optimizations

Temporary VM

Exact copy of the Golden
Master

Sysprep + Generalize

Generalize Windows, often
more difficult than expected

Image

Generate an image

- Makes a copy from the Golden Master
- Works with the copy (temporary VM)
 - Sysprep
 - Generalization
 - Grab the image

- Remove temporary VM
- The Golden Master can be reused



Demo Time

Updating Host Pools

The screenshot displays the Project Hydra web interface. The browser tab is labeled "Project Hydra". The URL bar shows a link to the Project Hydra documentation. The interface includes a sidebar with navigation options: Dashboard, User sessions, Scripts and Collections (selected), Scripts, Collections, Role Based Access, and Tenants. The main content area shows the configuration for a host pool update. At the top, there is a section for "Builtin: OS Install Windows Updates (Built-in - cannot be removed)" with a "Service account" dropdown and icons for information, copy, delete, and refresh. Below this is a section for "OS Install Windows Updates - With Shutdown" with a "Service account" dropdown and similar icons. The "Description" section states: "Install Windows security updates directly over the internet. VM downloads the packages directly from Microsoft using the Windows Update service. During the installation, users are logged off and the host will go into the drain-mode." The "Actions and Scripts" section lists several actions and scripts, each with a dropdown menu and a set of icons (information, copy, delete, refresh, and a small icon). The actions and scripts are: "Host - Drain mode on" (Enable the drain mode), "Host - Logoff users" (Logoff all users of the session host), "VM - Start" (Starts the VM), "Script" (Builtin: OS Install Windows Updates), "VM - Restart" (Restart the VM), "Host - Drain mode off" (Disable the drain mode), and "VM - Deallocate" (Deallocate the VM). The "On Error - Actions and Scripts" section lists two actions and scripts: "Host - Drain mode off" (Disable the drain mode) and "VM - Deallocate" (Deallocate the VM).

Project Hydra

Dashboard

User sessions

Scripts and Collections

Scripts

Collections

Role Based Access

Tenants

Builtin: OS Install Windows Updates (Built-in - cannot be removed)

Service account

OS Install Windows Updates - With Shutdown

Service account

Description:

Install Windows security updates directly over the internet. VM downloads the packages directly from Microsoft using the Windows Update service. During the installation, users are logged off and the host will go into the drain-mode.

Actions and Scripts:

Action/Script	Description	Icons
Host - Drain mode on	Enable the drain mode	Information, Copy, Delete, Refresh, Small icon
Host - Logoff users	Logoff all users of the session host	Information, Copy, Delete, Refresh, Small icon
VM - Start	Starts the VM	Information, Copy, Delete, Refresh, Small icon
Script	Builtin: OS Install Windows Updates	Information, Copy, Delete, Refresh, Small icon
VM - Restart	Restart the VM	Information, Copy, Delete, Refresh, Small icon
Host - Drain mode off	Disable the drain mode	Information, Copy, Delete, Refresh, Small icon
VM - Deallocate	Deallocate the VM	Information, Copy, Delete, Refresh, Small icon

On Error - Actions and Scripts:

Action/Script	Description	Icons
Host - Drain mode off	Disable the drain mode	Information, Copy, Delete, Refresh, Small icon
VM - Deallocate	Deallocate the VM	Information, Copy, Delete, Refresh, Small icon



Demo Time

Managed Disks \$5.89

TIER:
Standard HDD ⓘ

DISK SIZE:
S10: 128 GiB, \$5.888/month ▼

1 × \$5.89 = \$5.89
Disk Per month

Storage transactions \$0.05

Managed Disks \$9.60

TIER:
Standard SSD ⓘ

DISK SIZE:
E10: 128 GiB, \$9.600/month ▼

1 × \$9.60 = \$9.60
Disk Per month

Storage transactions \$0.20

Managed Disks \$19.71

TIER:
Premium SSD ⓘ

DISK SIZE:
P10: 128 GiB, 500 IOPS, 100 MB/sec, \$19.710/month

1 × \$19.71 = \$19.71
Disk Per month

Scaling – for Disks?

Project Hydra

Hydra

The engine is running in the trial mode up to 8/30/2021 11:09 AM

Marcel

Dashboard

User sessions

Scripts and Collections

Scripts

Collections

Role Based Access

Tenants

Built-in: OS Install Windows Updates (Built-in - cannot be removed)

Service account

OS Install Windows Updates - With Shutdown

Service account

Description:

Install Windows security updates directly over the internet. VM downloads the packages directly from Microsoft using the Windows Update service. During the installation, users are logged off and the host will go into the drain-mode.

Actions and Scripts:

Host - Drain mode on

Host - Logoff users

VM - Start

Script

VM - Restart

Host - Drain mode off

VM - Deallocate

On Error - Actions and Scripts:

Project Hydra

Hydra

The engine is running in the trial mode up to 8/30/2021 11:09 AM

Marcel

Dashboard

User sessions

Scripts and Collections

Scripts

Collections

Role Based Access

Tenants

User Sessions

Search for a specific user, host pool, session host, inactive or inactive

Select	State	User Principal Name	Host pool	Session host	Session id	Start time	Type
<input type="checkbox"/>		A\marcel@collabdays.com	PROD	AVD-PROD-102	29	8/17/21, 3:29 PM	RemoteApp
<input type="checkbox"/>		A\marcel@collabdays.com	PROD	AVD-PROD-119	9	8/17/21, 8:42 AM	RemoteApp
<input type="checkbox"/>		A\marcel@collabdays.com	PROD	AVD-PROD-128	2	8/17/21, 10:05 AM	Desktop
<input type="checkbox"/>		A\marcel@collabdays.com	PROD	AVD-PROD-132	7	8/17/21, 10:58 AM	RemoteApp
<input type="checkbox"/>		A\marcel@collabdays.com	PROD	WVD-EMP-002	3	8/17/21, 3:52 PM	Desktop
<input type="checkbox"/>		A\marcel@collabdays.com	Migration	WVD-ODM-004	2	8/13/21, 8:40 AM	Desktop
<input type="checkbox"/>		A\marcel@collabdays.com	PROD	AVD-PROD-111	16	8/17/21, 2:50 PM	RemoteApp
<input type="checkbox"/>		A\marcel@collabdays.com	PROD	AVD-PROD-123	9	8/17/21, 9:30 AM	Desktop
<input type="checkbox"/>		A\marcel@collabdays.com	PROD	AVD-PROD-101	27	8/17/21, 3:03 PM	Desktop

Project Hydra

Hydra

The engine is running in the trial mode up to 8/30/2021 11:09 AM

Marcel

Dashboard

User sessions

Scripts and Collections

Scripts

Collections

Role Based Access

Tenants

Azure Virtual Desktop Host Pools

Virtual Desktop

HPAD

DEVELOPMENT

EMPfang

Migration

PROD

PROD-2

Project Hydra

Project Hydra

The engine is running in the trial mode up to 8/30/2021 11:09 AM

Marcel

Dashboard

User sessions

Scripts and Collections

Scripts

Collections

Role Based Access

Tenants

Host Pool load - PROD

Capacity Sessions Connected

Session hosts for host pool PROD

Search for a specific host or for running, left or failed

Select	State	Session host name	Agent version	OS version	Allow	Sessions	Disconnected	Load
<input type="checkbox"/>		AVD-PROD-134	1.0.3130.2900	10.0.19042	<input checked="" type="checkbox"/>	2	0	28.6%

References

- <https://blog.itprocloud.de/Windows-Virtual-Desktop-Admin/>
- <https://www.itprocloud.com/Hydra>

Questions



Our Sponsors

GOLD



COMMUNITY



