Windows Virtual Desktop on Azure Bootcamp

Hands-on lab step-by-step

January 11, 2018

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# Windows Virtual Desktop on Azure Bootcamp

## Abstract and learning objectives

Understand how to deploy Windows Virtual Desktop private preview (WVD) in Microsoft Azure to deliver secure remotely accessed virtual applications and desktops for end-user computing (EUC).

## Overview

In this lab, attendees will deploy the [Windows Virtual Desktop (WVD) Private Preview](https://azure.microsoft.com/en-us/services/virtual-desktop/). Exclusively available as an Azure cloud service, Windows Virtual Desktop allows you to choose a flexible end user virtualized application or desktop delivery model that best aligns with your enterprise Azure cloud strategy. WVD simplifies the IT model to virtualize and deploy modern and legacy desktop app experiences with unified management—without needing to host, install, configure and manage components such as diagnostics, networking, connection brokering, and gateway. WVD brings together Microsoft Office 365 and Azure to provide users with the only multi-session Windows 10 experience with exceptional scale and reduced IT costs while empowering today’s modern digital workspace.



## Virtual Machines

|  |  |  |
| --- | --- | --- |
| VM Name | IP Address | Description |
| adVM | 10.0.0.4 | Domain Controller in Azure for contosowvd01.com, DNS Server, AD, AD Sync, Profile Store |
|  |  |  |



## Requirements and Notes

In this lab scenario, attendees will be provided an overview of the Windows Virtual Desktop Preview on Microsoft Azure platform.

1. Microsoft Azure Subscription - **7eebb4d6-6d24-4c04-8540-1b2170f854b8**
2. Azure AD tenant - **f56f50fa-f3a0-4039-8a0c-4cdc327cc9d9**
3. Domain name - **wvdbootcamp.onmicrosoft.com**
4. WVD configuration
   1. WVD Tenant - **WVDBootcamp**
   2. WVD Tenant Group - **WVDValidation**
5. Domain controller virtual machine – **10.0.0.4 / 104.43.252.181**
   1. Azure AD Connector installed and configured
6. Win 10 MS master image
   1. Storage account - **win10wvdimg**
   2. Blob – **image**
   3. VHD - **https://win10wvdimg.blob.core.windows.net/image/17763.17.amd64fre.rs5\_release\_svc\_im\_wvd.181212-1700\_client\_serverrdsh\_en-us\_vl.vhd**
7. Whitelist subscription for Marketplace entry - **Windows Virtual Desktop- Provision host pool (Staged)**
8. Profiles share - **\\advm\profiles**
9. Additional URL

|  |  |
| --- | --- |
| **Description** | **Vanity URL** |
| **Github template** | **Aka.ms/WVDHostPool** |
| **Web client** | **Aka.ms/WVDWeb** |
| **WVD bits** | **Aka.ms/WVDBits** |
| **WVD master image guidance** | **Aka.ms/WVDMasterImage** |
| **WVD OOB client** | **Aka.ms/WVDObb** |
| **WVD Bootcamp document** | **Aka.ms/WVDdoc** |

## Entries for Azure Marketplace template

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Field** | **Value** | **Notes** |
| **Blade 1: Basics** | Hostpool name | <alias>HP |  |
|  | WVD Region | East US 2 | Only option |
|  | Subscription | Microsoft Azure | Only option |
|  | Resource group | <alias>RG |  |
|  | Location | Central US | Mandatory location for the bootcamp |
| **Blade 2: Configure number of VMs based on profile usage** | Total users | 5 |  |
|  | Virtual machine size | Standard B1ms |  |
|  | Virtual machine name prefix | <alias>Host |  |
| **Blade 3: configure the VMs for Azure** | Custom VHD | <https://win10wvdimg.blob.core.windows.net/image/17763.17.amd64fre.rs5_release_svc_im_wvd.181212-1700_client_serverrdsh_en-us_vl.vhd> | Select |
|  | ImageURI |  |  |
|  | Disk type | SSD |  |
|  | Domain UPN | userXXX@wvdbootcamp.onmicrosoft.com | Assigned domain admin |
|  | Use managed disks | Yes | Select |
|  | Virtual network | adVNET |  |
|  | Subnets | adSubnet |  |
| **Blade 4: WVD tenant information** | Tenant group name | WVDValidation |  |
|  | Tenant name | WVDBootcamp |  |
|  | Tenant admin authentication type | UPN | Select |
|  | UPN | userXXX@wvdbootcamp.onmicrosoft.com | Assigned domain admin |

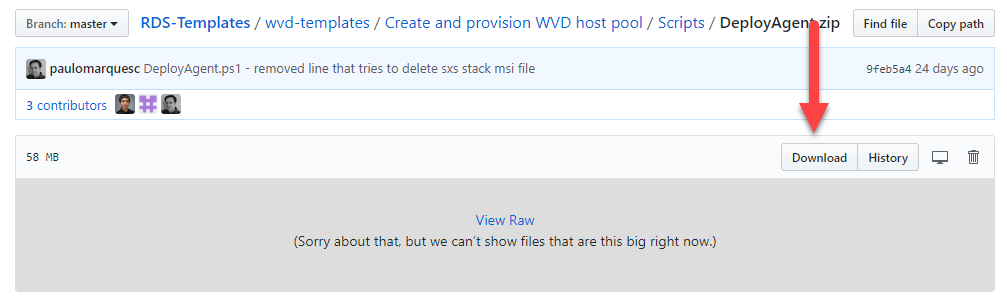
## Entries for VM creation

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Steps/ Field** | **Value** | **Notes** |
|  | Open Images |  |  |
|  | Win10Image |  |  |
|  | Create VM |  |  |
| **Blade 1: Basics** | Subscription |  | One and only |
|  | Resource group | <alias>RG |  |
|  | Virtual machine name | <alias>HostM |  |
|  | Region |  | Leave default |
|  | Availability options |  | Leave default |
|  | Image | Win10image | Leave default |
|  | Size | Standard B1ms |  |
|  | Username | userXXX | Assigned domain admin minus the domain qualification |
|  | Public inbound port | Allow selected ports | From drop down select RDP |
| **Blade 2: Disk** | OS disk type |  | Leave default |
| **Blade 3: Networking** | Virtual Network | ADVNET |  |
|  | Subnet | adSubnet |  |
|  | Public IP |  | Leave default |
|  | Nic network security group |  | Leave default |
|  | Public inbound ports | Allow selected ports |  |
|  | Select inbound ports | RDP |  |
| **Blade 4: Management** |  |  | Leave default |
| **Blade 5: Guest config** |  |  | Leave default |
| **Blade 6: Tags** |  |  | Leave default |

## Windows Virtual Desktop installable components

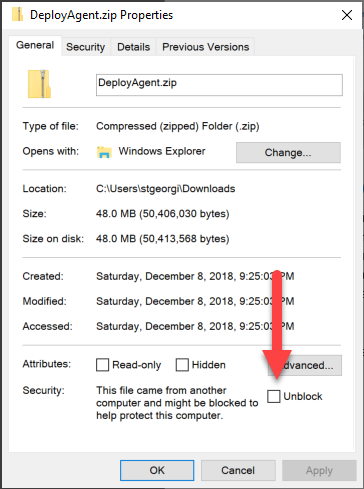
Duration: 10 minutes

Navigate to **Aka.ms/WVDBits** and download **DeployAgent.zip.**



## Import Windows Virtual Desktop PowerShell modules

1. Navigate to folder where **DeployAgent.zip** is downloaded.
2. Right click on it and select **Unblock**. Click **Apply**.



1. Unzip the **DeployAgent.zip.**
2. Navigate to the unzipped content and locate folder **PowerShell Modules**. Copy path.
3. Open a **PowerShell** editor (Visual Studio Code, PowerShell ISE) as **Administrator.**
4. **(Optional)** Create new **PowerShell** file
5. Type

$path = “<path from step 2>”

1. Copy paste the below snippet and run it. This will import the **Windows Virtual Desktop PowerShell** module

cd $path

import-module ".\Microsoft.RdInfra.RdPowershell.dll"

**Caution:** Do not close the **PowerShell** editor for the duration of the bootcamp. If closed steps in Task 2 will need to be repeated.



## Connect to Windows Virtual Desktop Infra

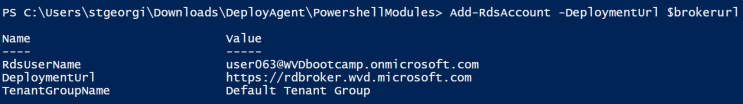
Steps below assume that section **Import Windows Virtual Desktop PowerShell modules** is completed.

1. Navigate to **PowerShell** editor
2. Create a variable to store the broker URL

$brokerurl = "https://rdbroker.wvd.microsoft.com"

1. Connect to the WVD infrastructure. Enter WVD tenant credentials

Add-RdsAccount -DeploymentUrl $brokerurl



1. Set context to the **WVDValidation** tenant group

Set-RdsContext -TenantGroupName "WVDValidation"



## Export existing registration token

Notes below assume that section **Connect to Windows Virtual Desktop Infra** is completed.

1. Navigate to **PowerShell** editor
2. Setup up path where exported token is going to be stored

$regfile = "C:\temp\reg.edit"

1. Run below cmdlet

Export-RdsRegistrationInfo WVDBootcamp <alias>HP| Select-Object -ExpandProperty Token > $regfile

## FSLogix setup

1. Connect to session host VM
2. Navigate to **C:\Program Files\FSLogix\Apps**
3. Run **ConfigurationTool.exe**

Check **Enable FSLogix profiles**

1. Under **VHD Locations** add **[\\advm\profiles](\\\\advm\\profiles)**
2. Under **Volume Type** select **VHDX**
3. Leave other values at default
4. Click **Save**
5. Connect to second host repeat steps 1 to 7

## Publishing remote desktop and remote application

This section assumes that **WVD** **PowerShell** is imported, user executing the commands has connected to the WVD infra and has permissions.

1. Navigate to **PowerShell** editor
2. Execute to add an user to the **Desktop Application Group** aka published a remote desktop

Add-RdsAppGroupUser "WVDBootcamp" <hostpool> "Desktop Application Group" -UserPrincipalName <1st user provided>

1. Sign in with **<1st user provided>** in the HTML5 client at **aka.ms/webclient.** Confirm published desktop is visible.
2. Execute command below to create new app group of type remote application

New-RdsAppGroup -TenantName "WVDBootcamp" -HostPoolName <alias>HP -Name "RemoteApp Application Group" -ResourceType RemoteApp

1. Execute command below to add user to the **RemoteApp Application Group** aka publish a remote app

Add-RdsAppGroupUser -TenantName "WVDBootcamp" -HostPoolName <alias>HP -Appgroup "RemoteApp Application Group" -UserPrincipalName <2nd user provided>

1. Get list of application installed on the session hosts

Get-RdsStartMenuApp -TenantName "WVDBootcamp" -HostPoolName <alias>HP -Appgroup "RemoteApp Application Group"

1. Publish standard applications via app alias options

$tenant = "WVDBootcamp"

$pool = “<alias>HP”

$appgroup = "RemoteApp Application Group"

New-RdsRemoteApp $tenant $pool $appgroup -Name "Visual Studio Code" -AppAlias visualstudiocode

New-RdsRemoteApp $tenant $pool $appgroup -Name "MS Word" -AppAlias word

New-RdsRemoteApp $tenant $pool $appgroup -Name "WordPad" -AppAlias wordpad

New-RdsRemoteApp $tenant $pool $appgroup -Name "Excel" -AppAlias excel

New-RdsRemoteApp $tenant $pool $appgroup -Name "FireFox" -AppAlias firefox

New-RdsRemoteApp $tenant $pool $appgroup -Name "Chrome" -AppAlias googlechrome

New-RdsRemoteApp $tenant $pool $appgroup -Name "Notepad PlusPlus" -AppAlias notepad

New-RdsRemoteApp $tenant $pool $appgroup -Name "OneNote" -AppAlias onenote2016

1. Publish modern applications (**edge**)

New-RdsRemoteApp $tenant $pool $appgroup -Name Edge -FilePath shell:Appsfolder\Microsoft.MicrosoftEdge\_8wekyb3d8bbwe!MicrosoftEdge -IconPath C:\Windows\SystemApps\Microsoft.MicrosoftEdge\_8wekyb3d8bbwe\MicrosoftEdge.exe

**Caution:** Other modern applications needs to have their icons downloaded and specified in the path. To get other modern applications use the below:

$packageList = Get-AppxPackage

$packageList | ForEach-Object {

$package = $\_

$manifest = Get-AppxPackageManifest $package.PackageFullName

$manifest.Package.Applications.Application | ForEach-Object {

if ($\_.Id -ne $null -and $\_.Id -ne "") {

Write-Host "shell:AppsFolder\$($package.PackageFamilyName)!$($\_.Id)"

}

}

}

1. Download the MSI installable WVD client available at [**\\scratch2\scratch\MRS\Install\_MRS\_OOB\_Client.bat**](file:///\\scratch2\scratch\MRS\Install_MRS_OOB_Client.bat) or **aka.ms/wvdoob**
2. Sing in with the **<2nd user provided>** in the MSI WVD client. Confirm published applications are visible.











## Publishing remote desktop and remote application

This section assumes that **WVD** **PowerShell** is imported, user executing the commands has connected to the WVD infra and has permissions.

1. Navigate to **PowerShell** editor
2. Execute command below to get list of session host.

Get-RdsSessionHost “WVDBootcamp” <alias>HP

1. Execute command below to get list of sessions and their ids. Note if the command shows no output move to **step 6**.

Get-RdsUserSession “WVDBootcamp” <alias>HP

1. Execute command below to log off user with a sessionId

Invoke-RdsUserSessionLogoff -TenantName WVDBootcamp -HostPoolName <alias>HP -SessionHostName <**output from step 2**> -SessionId <**output from step 3**> -NoConfirm

1. Repeat steps 2 to 4 until command from **step 2** returns no result.



1. Connect to remote desktop using the **<1st user provided>** via HTML5 client. Create file or folder on the desktop.
2. Navigate to **PowerShell** editor and execute command bellow to get the name of the session host to which the user was connected

Get-RdsUserSession “WVDBootcamp” <alias>HP

**Note:** If more than one session host is returned restart from **step 1**.

1. Return to remote desktop session and sign out via the **Start menu**.
2. Confirm sign out was completed by executing command bellow and getting no output.

Get-RdsUserSession “WVDBootcamp” <alias>HP



1. Return to **PowerShell** editor and set the host (where **<1st user provided>** was connected) to not allow new sessions aka **Drain mode** by executing command below

Set-RdsSessionHost -TenantName WVDBootcamp -HostPoolName <alias>HP-Name <**host name from step 7**> -AllowNewSession:$false

1. Connect to remote desktop using the **<1st user provided>** via HTML5 client. Confirm file or folder created in **step 6** are present.

## Troubleshooting user connections

This section assumes that **WVD** **PowerShell** is imported, user executing the commands has connected to the WVD infra and has permissions.

1. Navigate to **PowerShell** editor
2. Execute command below to get activity id

Get-RdsDiagnosticActivities -UserName <**user having the error**> -TenantName “WVDBootcamp”

1. Execute command below to get detailed error

(Get-RdsDiagnosticActivities -UserName <**user having the error**> -TenantName $tenant -ActivityId <**activity id from step 2>** -Detailed).Errors

## Authors

The following authors contributed to the creation of this deliverable.

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| --- | --- |
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|  |  |

## Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Revision | Change Description | Updated By | Date |
| 1.0 | Boot camp revision | Stefan Georgiev | January 2019 |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |