Deployments

Virtual Desktop Service

NetApp
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Deployments

Provisioning Collections

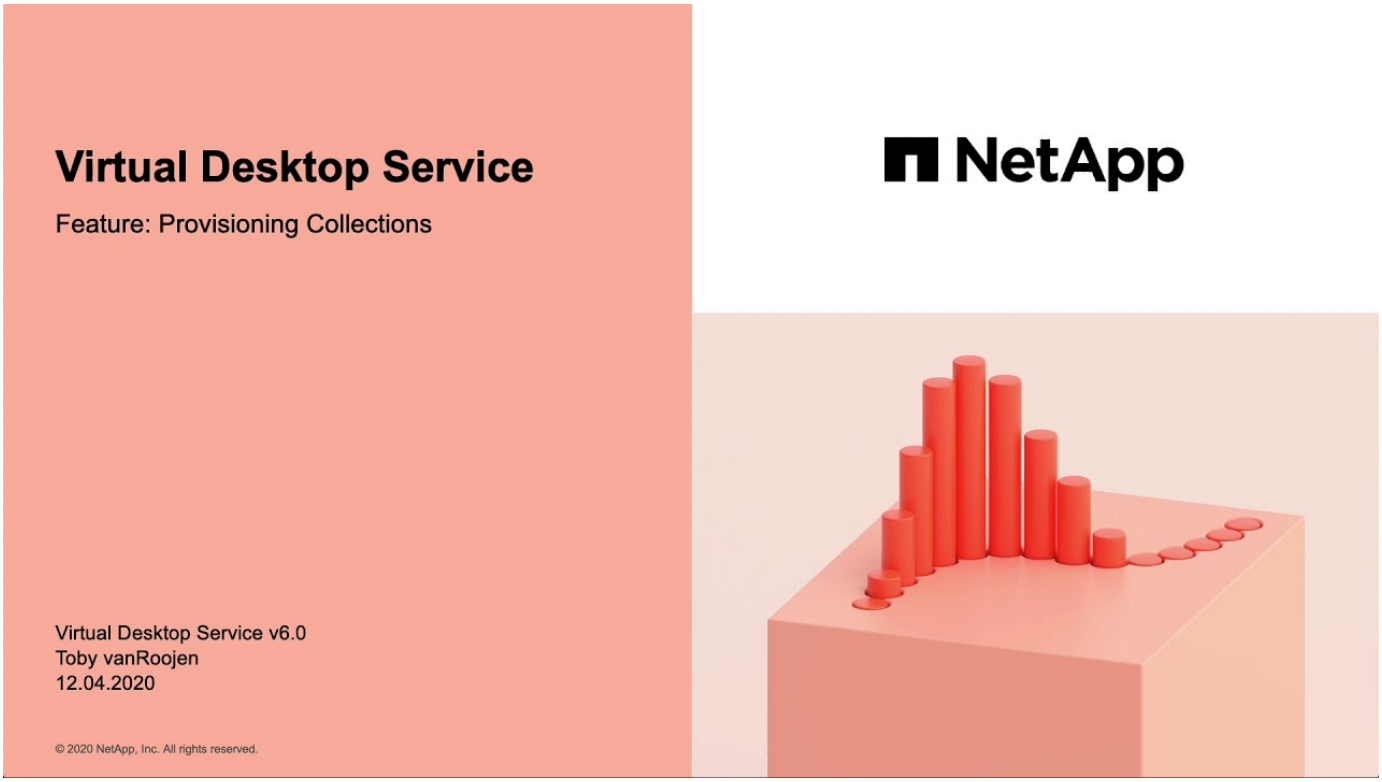
Overview

Provisioning Collections is a function of VDS related to the creation and management of VM images.

At a high level, the Provisioning Collection workflow is as follows:

1. A temporary VM (e.g. "CWT1") is built based on an existing image (either a stock image or a previously saved Provisioning Collection).
2. The VDS Administrator customizes the temporary VM to match their requirements using Scripted Events, Connect to Server and/or 3rd party management tools.
3. Once customized, the VDS Admin click **Validate** and triggers a validation process that automates finalizing the image, running SysPrep, deleting the temporary VM and making the image available for deployment throughout VDS.

Video Demo - Managing VM images for VDI Session Hosts



Provisioning Collection Types

There are two distinct types of collection with specific use cases, ***Shared*** and ***VDI***.

Shared

The ***Shared*** type is a collection of VM images(s) designed to deploy an entire environment with multiple, distinct VM images and VM roles.

VDI

The ***VDI*** type is a single VM image designed to be used and reused to deploy multiple identical VMs, typically used for hosting user sessions. For all types of AVD session hosts, the *VDI* type should be selected, even for hosts that run multiple sessions per VM.

Creating a new Provisioning Collection

Provisioning Collections are found in the VDS interface within each deployment, under the ***Provisioning Collections*** sub-tab.

To create a new collection

1. Click the ***+ Add Collection*** button.
2. Complete the following fields:
    a. **Name**
    b. **Description**(Optional)
    c. **Type** - Shared or VDI
    d. **Operating System**
    e. **Share Drive** - If this VM will be used to host users profiles or company share data, pick the drive letter on which is will be hosted. If not, leave as "C"
    f. **Minimum Cache** - IF you and VDS to create VMs to hold for instant deployment, specify the minimum number of cached VMs that should be maintained. If deploying new VMs can wait for as long as it takes the hypervisor to build a VM, this can be set to "0" to save costs.
    g. **Add Servers**
        i. **Role** (If "Shared" type is selected)
            A. **TS** - This VM will act only as a session host
            B. **Data** - This VM will not host any user sessions
            C. **TSData** - This VM will be both the session host and the storage host (Maximum: one TSData per workspace)
        ii. **VM Template** - Select from the available list, both stock hypervisor images and previously saved Provisioning Collections are available to select.
            A. NOTE: Windows 7 images from the Azure Marketplace do not have PowerShell Remoting enabled. To use a Windows 7 image, you'll need to provide a custom image in your shared image gallery with powerShell Remoting enabled.
            B. NOTE: By using an existing Provisioning Collection you can update and re-deploy existing images as part of a planned image upgrade process.
        iii. **Storage Type** - Select the speed of the OS disk considering cost and performance
        iv. **Data Drive** - Optionally enable a 2nd disk attached to this image, typically for the data storage layer referenced above in 2.e.
            A. **Data Drive Type** - Select the speed of the 2nd (data) disk considering cost and performance

B. **Data Drive Size (GB)** - Define the size of the 2nd (data) disk considering capacity, cost and performance

h. **Add Applications** - Select any application from the Application Library that will be (1) installed on this image and (2) managed by VDS application entitlement. (This is only applicable to RDS deployments. It should remain empty for AVD workspaces)

Customizing the Temporary VM

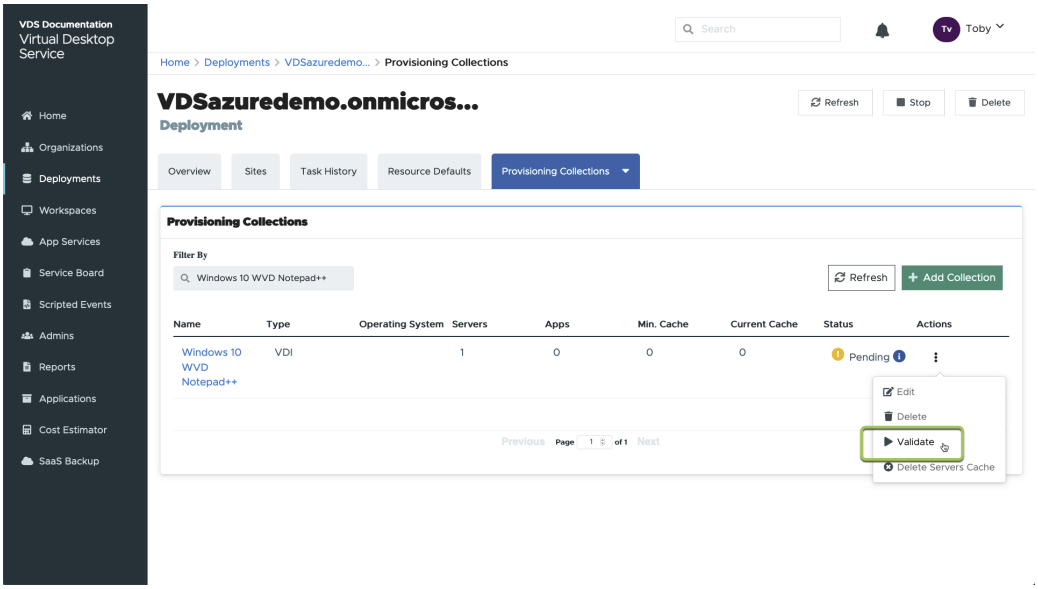
VDS includes functionality that will allow remove VM access from within the VDS web interface. By default a local Windows admin account is created with a rotating password and passed through to the VM allowing the VDS admin local admin access without needing to know local admin credentials.

> The Connect to Server function has an alternative setting where the VDS admin will be prompted for credentials with each connection. This setting can be enabled/disabled by editing the VDS admin account from within the "Admin" section of VDS. the functionality is called *Tech Account* and checking the box will require credential to be entered when using Connect to Server, unchecking this box will enable the automatic injection of local Windows admin credentials at each connection.

The VDS Admin simply needs to connect to the temporary VM using Connect to Server or another process and make the changes required to meet their requirements.

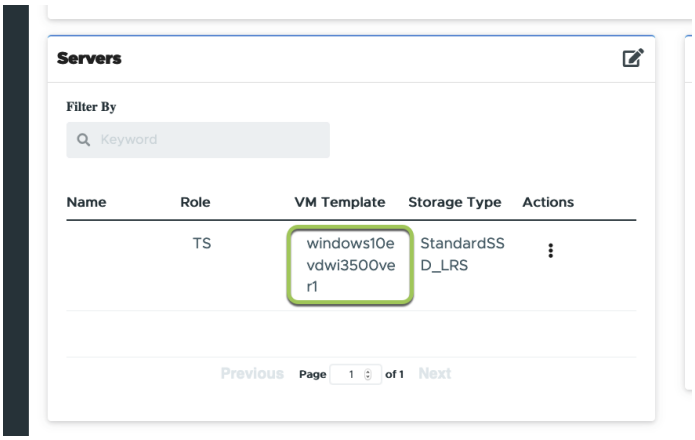
Validating the Collection

Once customization is complete, the VDS Admin can close the image and SysPrep it by clicking **Validate** from the Actions icon.



Using the Collection

After validation has completed, the Status of the Provisioning Collection will change to **Available**. From within the Provisioning Collection the VDS Admin can identify the **VM Template** name which is used to identify this provisioning collection throughout VDS.



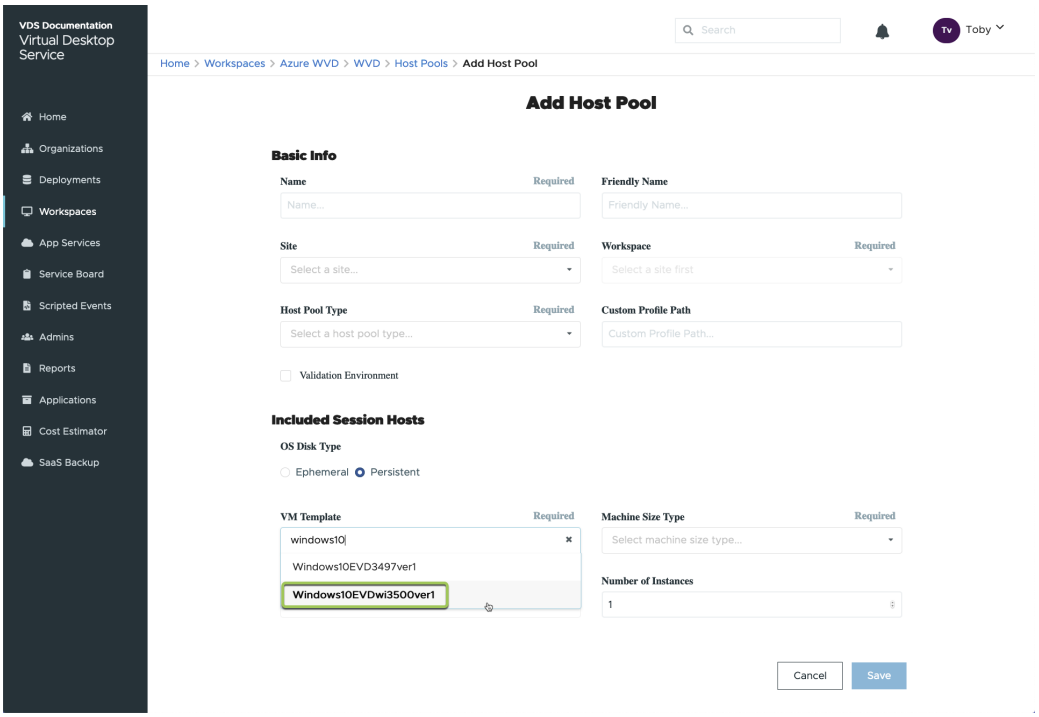
New Server

From the Workspace > Servers page, a new server can be created and the dialog box will prompt for the VM Template. The template name from above will be found on this list:

VDS provides for an easy way to update session hosts in an RDS environment by using Provisioning Collections and the **Add Server** functionality. This process can be done without impacting end users and repeated over and over with subsequent image updates, building on previous image iterations. For a detailed workflow on this process, see the **RDS Session Host Update Process** section below.

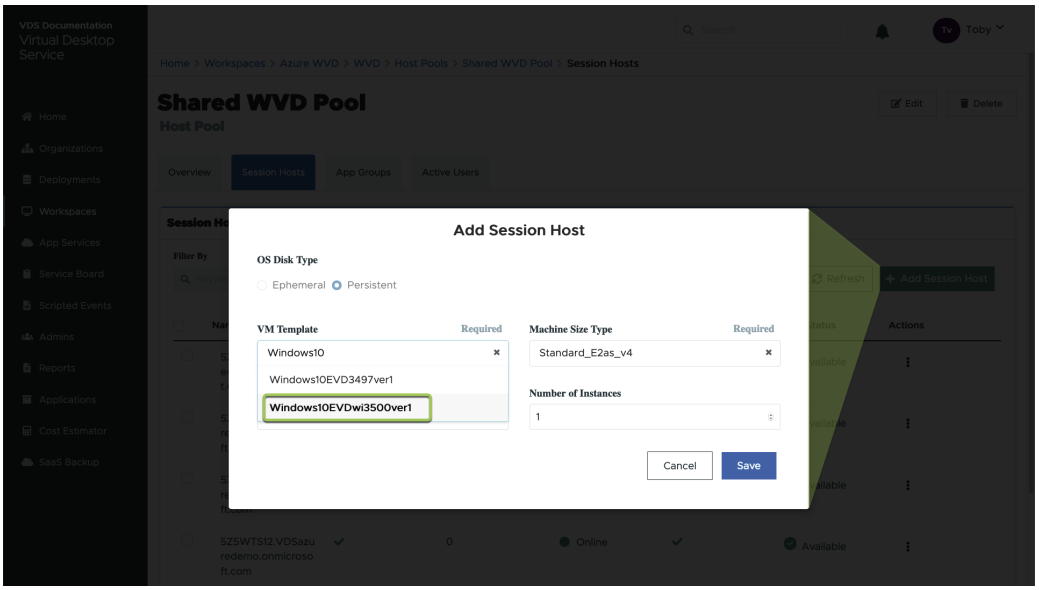
New AVD Host Pool

From the Workspace > AVD > Host Pools page, new AVD Host Pool can be created by clicking **+ Add Host Pool** and the dialog box will prompt for the VM Template. The template name from above will be found on this list:



New AVD Session Host(s)

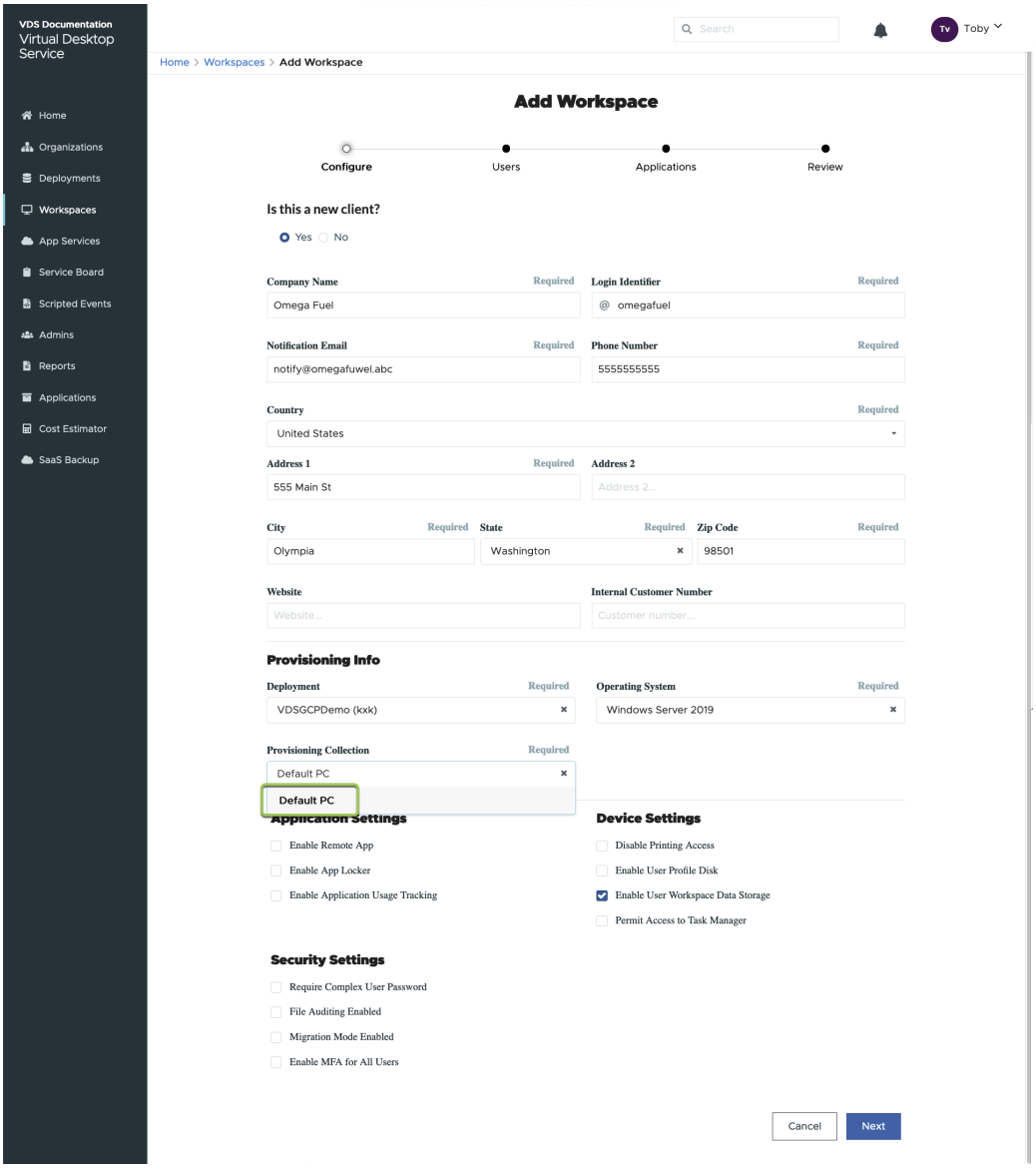
From the Workspace > AVD > Host Pool > Session Hosts page, new AVD session host(s) can be created by clicking **+ Add Session Host** and the dialog box will prompt for the VM Template. The template name from above will be found on this list:



VDS provides for an easy way to update session hosts in a AVD Host Pool by using Provisioning Collections and the **Add Session Host** functionality. This process can be done without impacting end users and repeated over and over with subsequent image updates, building on previous image iterations. For a detailed workflow on this process, see the **AVD Session Host Update Process** section below.

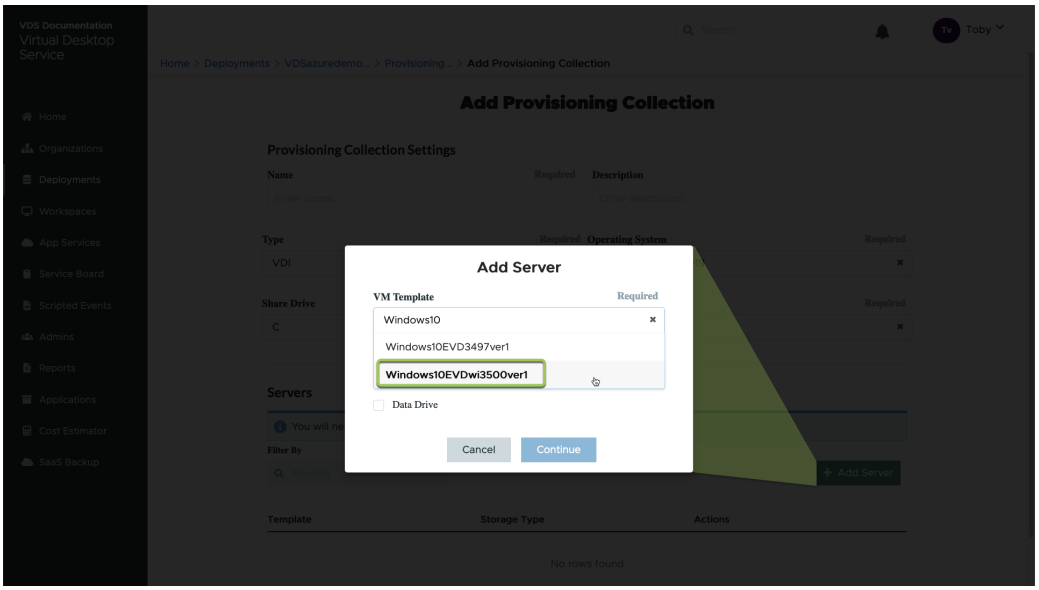
New Workspace

From the Workspaces page, a new workspace can be created by clicking **+ New Workspace** and the dialog box will prompt for the Provisioning Collection. The Shared Provisioning Collection name will be found on this list.



New Provisioning Collection

From the Deployment > Provisioning Collection page, a new Provisioning Collection can be created by clicking **+ Add Collection**. When adding servers to this collection the dialog box will prompt for the VM Template. The template name from above will be found on this list:



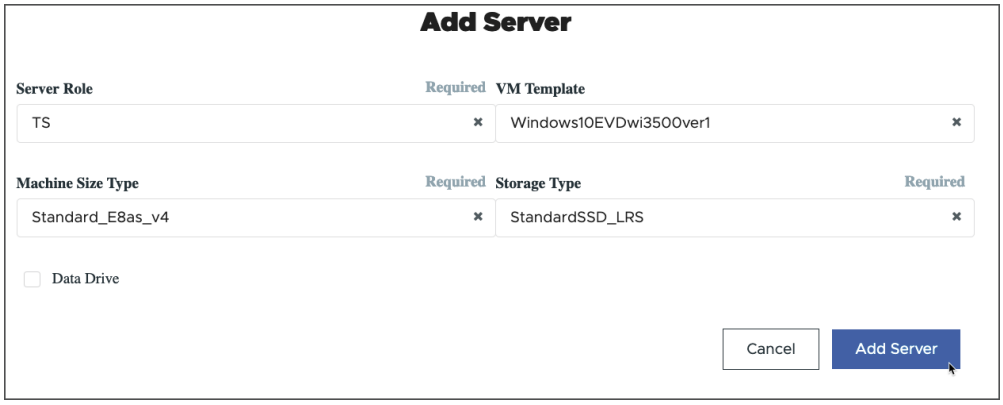
Addendum 1 - RDS Session Hosts

RDS Session Host Update Process

VDS provides for an easy way to update session hosts in a RDS environment by using Provisioning Collections and the **Add Server** functionality. This process can be done without impacting end users and repeated over and over with subsequent image updates, building on previous image iterations.

The RDS Session Host update process is as follows:

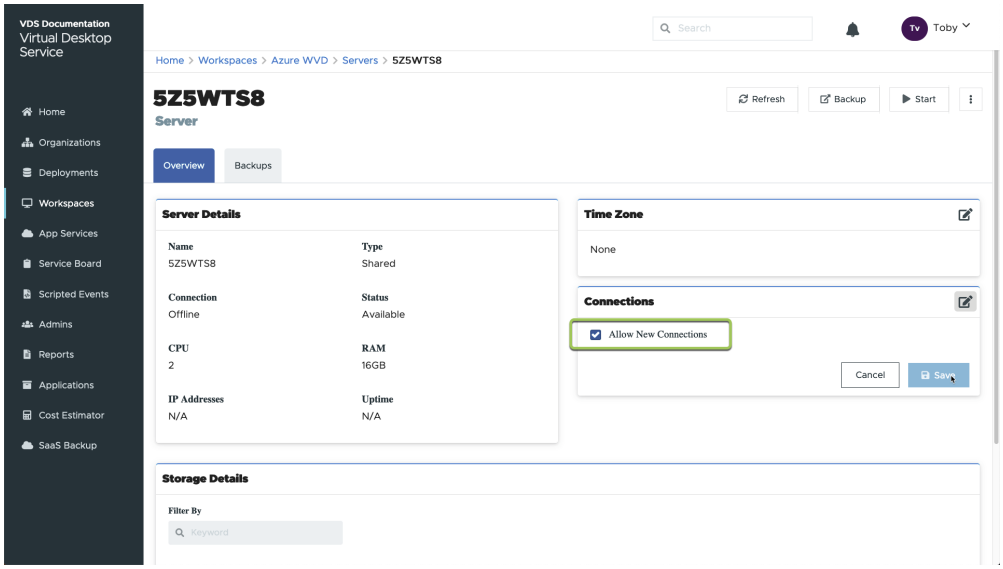
1. Build a new VDI Provisioning Collection, customize and validate the collection per the instructions above.
    a. Generally this Provisioning Collection will be built on the previous VM Template, emulating an "Open, Save As" process.
2. Once the Provisioning Collection has validated, navigate to the *Workspace* > *Servers* page, click **+ Add Server**



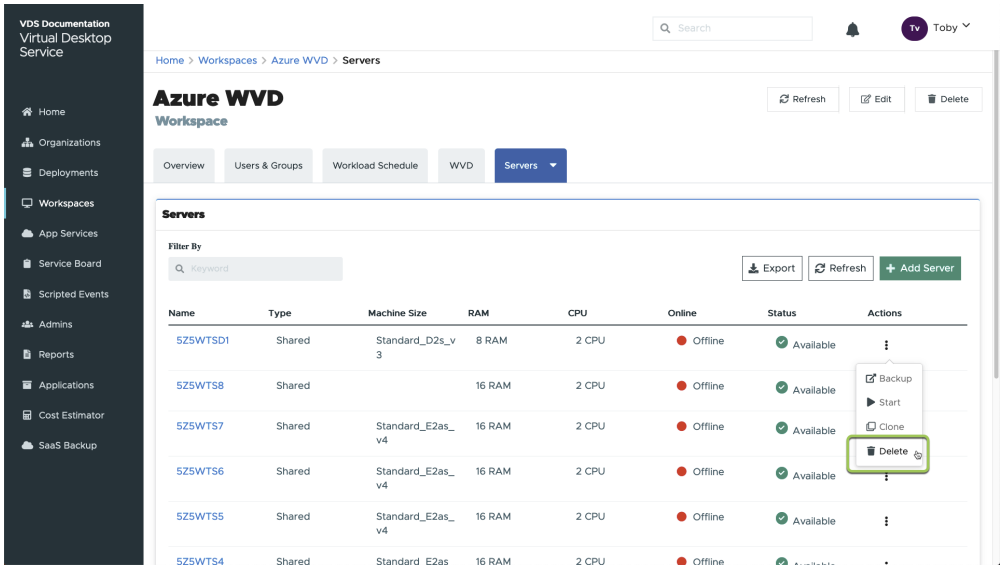
3. Select **TS** as the **Server Role**
4. Select the latest **VM Template**. Make the appropriate **Machine Size** and **Storage Type** selections based on your requirements. Leave **Data Drive** unchecked.
5. Repeat this for the total number of Session Hosts required for the environment.
6. Click **Add Server**, the session hosts will build based on the selected VM Template and starting coming online in as soon as 10-15 minutes (depending on the hypervisor).

a. Note that the Session Hosts currently in the environment will ultimately be decommissioned after these new host come online. Plan to build enough new hosts to be sufficient to support the entire workload in this environment.

7. When a new host comes online, the default setting is to stay in **Disallow New Sessions**. For each session host, the **Allow New Sessions** toggle can be used to manage which hosts can receive new user sessions. This setting is accessed by editing the settings of each individual session host server. Once sufficient new hosts have been built and functionality has been confirmed, this setting can be managed on both the new and old hosts to route all new sessions to the new hosts. The old hosts, with **Allow New Sessions** set to **disabled**, can continue to run and host existing user sessions.



8. As users log off of the old host(s), and with no new user sessions joining the old host(s), the old host(s) where **Sessions = 0** can be deleted by clicking the **Actions** icon and selecting **delete**.



Addendum 2 - AVD Session Hosts

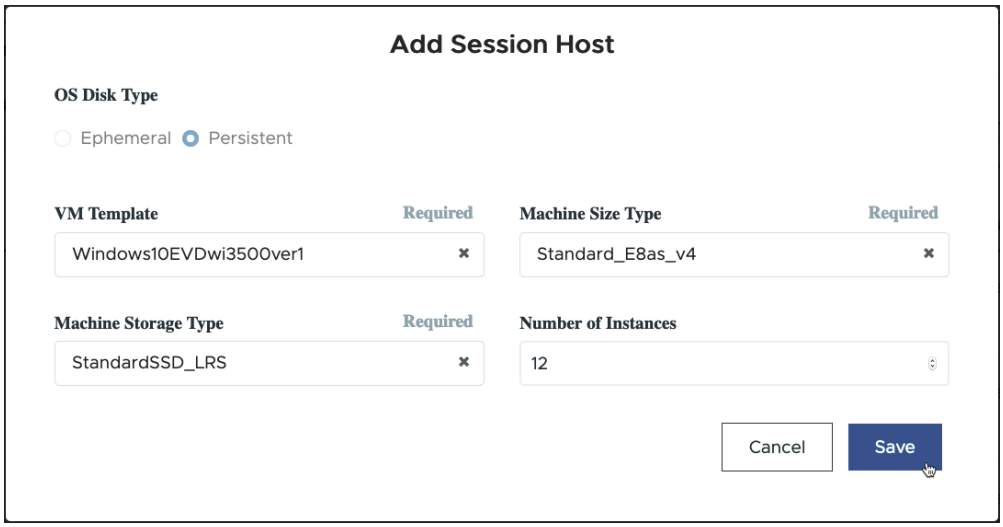
AVD Session Host Update Process

VDS provides for an easy way to update session hosts in a AVD Host Pool by using Provisioning Collections and the **Add Session Host** functionality. This process can be done without impacting end users and repeated

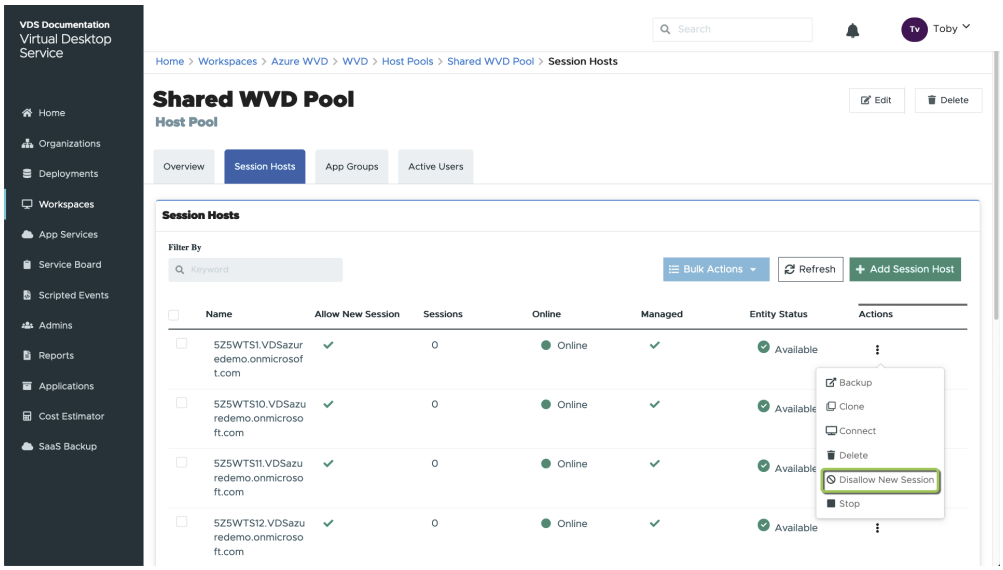
over and over with subsequent image updates, building on previous image iterations.

The AVD Session Host update process is as follows:

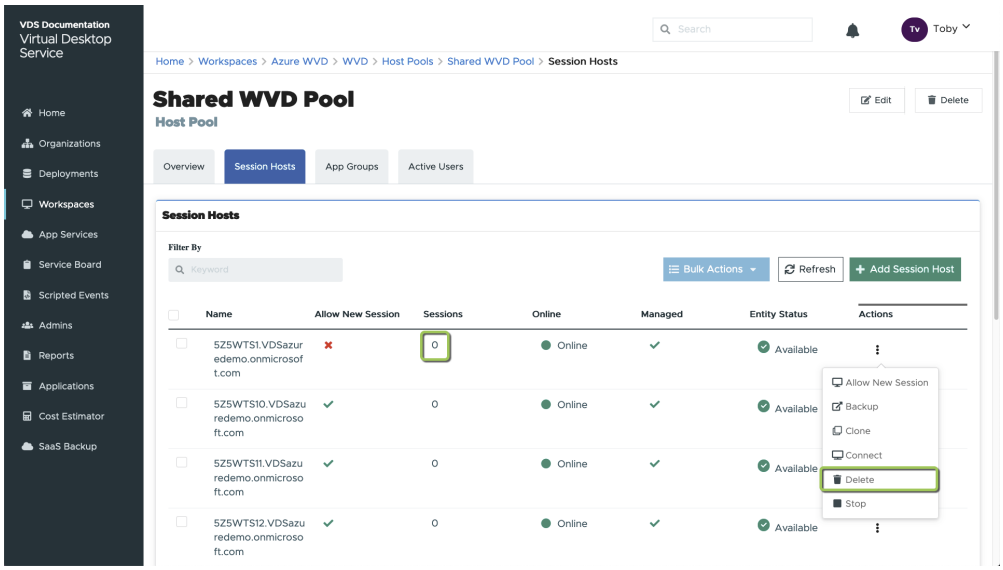
1. Build a new VDI Provisioning Collection, customize and validate the collection per the instructions above.
    a. Generally this Provisioning Collection will be built on the previous VM Template, emulating an "Open, Save As" process.
2. Once the Provisioning Collection has validated, navigate to the *Workspace* > *AVD* > *Host Pools* page and click the name of the Host Pool
3. From within the *Host Pool* > *Session Hosts* page, click **+ Add Session Host**



4. Select the latest **VM Template**. Make the appropriate **Machine Size** and **Storage Type** selections based on your requirements.
5. Enter the **Number of Instances** equal to the total number of required Session Hosts. Typically this will be the same number as are currently in the Host Pool but it can be any number.
    a. Note that the Session Hosts currently in the Host pool will ultimately be decommissioned after these new host come online. Plan for the **Number of Instances** entered to be sufficient to support the entire workload in this Host Pool.
6. Click **Save**, the session hosts will build based on the selected VM Template and starting coming online in as soon as 10-15 minutes (depending on the hypervisor).
7. When a new host comes online, the default setting is to stay in **Disallow New Sessions**. For each session host, the **Allow New Sessions** toggle can be used to manage which hosts can receive new user sessions. Once sufficient new hosts have been built and functionality has been confirmed, this setting can be managed on both the new and old hosts to route all new sessions to the new hosts. The old hosts, with **Allow New Sessions** set to **disabled**, can continue to run and host existing user sessions.



8. As users log off of the old host(s), and with no new user sessions joining the old host(s), the old host(s) where **Sessions = 0** can be deleted by clicking the **Actions** icon and selecting **delete**.



VDS Logical Hierarchy Overview

Overview

VDS organizes concepts into various layers of a logical hierarchy. This article helps to outline how they fit together.

VDS Organizational Scheme

The VDS management portal is found at https://manage.vds.netapp.com. This web interface is a single pane of glass for managing all VDS-related objects. Within the VDS web UI, the following hierarchy of components and logical containers exist.

VDS Deployment

The *Deployment* is a VDS concept that organized and contains *VDS Workspace(s)*. In certain deployment architectures a deployment can contain multiple VDS Workspaces.

Running multiple VDS Workspaces within a single Deployment is called "Multi-Tenancy" and is only an option in RDS deployments, AVD deployments do not support this approach.

A deployment is defined by its Active Directory domain and there is a 1:1 relationship between the AD domain and a Deployment.

There are certain VM resources that are deployed to support a deployment that are shared across all VDS Workspaces in the deployment. E.g. every Deployment contains a VM named "CWMGR1" which is a server that run VDS applications, a SQL Express database and facilitates management of the VDS Workspace(s) (and the contained resources) within the Deployment.

VDS Workspace

There is a difference between a "**VDS** Workspace" and a "**AVD** Workspace".

A VDS Workspace is a logical container inside the deployment for the client (end user) resources. These resources include Virtual Machines (for session hosts, application servers, database servers, file servers etc.), virtual networking, storage and other hypervisor infrastructure.

The VDS Workspace also contains management functionality to manage Users, Security Groups, Workload Scheduling, Applications, Automation, VMs, and AVD configuration.

Typically a VDS Workspace is aligned with a single company, or (in enterprise deployments), a business unit.

VDS Sites

Within a deployment, multiple Sites can be created to represent different infrastructure providers, all managed within a single deployment.

This is helpful when a single company or business unit needs to host users and apps across multiple physical locations (e.g North America and EMEA), hypervisor subscriptions (to align costs to business units)and even hypervisors (E.g. users in Azure, Google Compute and on-premises HCI on vSphere).

AVD Workspaces

There is a difference between a "**VDS** Workspace" and a "**AVD** Workspace".

A AVD Workspace is a logical container that sits inside a VDS Workspace and VDS Site. It that can be used similarly to a VDS Site for segmenting management and operational policies in the same deployment.

AVD Host Pools

AVD Host Pools are logical container that sit inside a AVD Workspace and hold the Session Hosts and App Groups users to server the user sessions and control access to individual resources.

AVD App Groups

Each AVD Host Pool starts with a single "Desktop" App Group. Users and/or groups can be assigned to this (or other) App Group to allow access to the resources in the App Group to the assigned users.

Additional App Groups can be created within a host pool in VDS. All Additional App Groups are "RemoteApp" App Groups and serve RemoteApp resources as opposed to a full windows desktop experience.