QUICK-START TUTORIAL FOR VMWARE HORIZON CLOUD WITH HOSTED INFRASTRUCTURE
VMware Horizon
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QS-HC-Hosted (copied)

VMware Horizon Cloud Service with Hosted Infrastructure

Introduction
VMware Horizon® Cloud Service™ is a family of cloud services that delivers virtual desktops and applications to end users on any supported device. Horizon Cloud is available as a VMware-hosted infrastructure, or as an on-premises infrastructure. In both modes, the Horizon Cloud application manages the infrastructure.

Purpose
This tutorial helps you evaluate the VMware Horizon Cloud Service with Hosted Infrastructure by introducing you to the benefits, features, and components. It includes exercises to install and set up a service evaluation environment. Additional exercises help you explore the core capabilities and how to use them, as well as the ability to integrate with products such as VMware Identity Manager™ and VMware User Environment Manager™.

Note: This tutorial describes a basic deployment and some key features. To explore features beyond the scope of this tutorial, see the VMware Horizon Cloud Service Documentation.

Audience
This tutorial is for IT decision-makers, architects, administrators, and others who want to familiarize themselves with, or are in the process of, a Horizon Cloud with Hosted Infrastructure deployment.

You should be familiar with basic VMware components, virtual machines, virtual desktop infrastructure (VDI) concepts, and Remote Desktop Session Host (RDSH) servers. You should also be familiar with cloud computing, site-to-site (S2S) VPNs, and Multi-Protocol Label Switching (MPLS) networks.

Navigating This Tutorial
Using the navigation bar on the left, you can access the following exercises to set up and configure a Horizon Cloud environment and explore some of the key features. It is recommended that you complete these sections in order, as they build upon one another.

Section A takes you step-by-step through setting up a Horizon Cloud tenant and configuring a Horizon Cloud Hosted Infrastructure environment. Section B explores the Administration Console and how to customize your environment. Section C shows you how to create an image.

• A: Deploying and Configuring VMware Horizon Cloud Service
• B: Exploring the Horizon Administration Console
• C: Creating a Desktop Image

The subsequent sections show you how to assign access to desktops, native applications, and remote applications. These sections are independent of each other, so you can start at the beginning of any section and proceed in any order.

• D: Assigning Access to a Desktop
• E: Assigning Access to a Native Application
• F: Assigning Access to a Remote Application
• G: Assigning Customizations

The final sections demonstrate integrating Horizon Cloud with other VMware products to provide an enhanced and optimized end-user experience.

• H: Integrating and Using Workspace One with Horizon Cloud
• I: Using VMware User Environment Manager with Horizon Cloud
Technical Overview

About Horizon Cloud with Hosted Infrastructure

The Horizon Cloud service delivers virtual desktops and applications using a purpose-built cloud platform that is scalable across multiple deployment options, including on-premises infrastructure or fully managed infrastructure from VMware. The service supports a cloud-scale architecture to deliver virtualized Windows desktops and applications to multiple devices, simplifying setup and scalability.

Horizon Cloud with Hosted Infrastructure simplifies delivering Windows desktops and applications as a cloud service while maintaining enterprise requirements for security and control. End users benefit from a complete workspace that they can access from a variety of device types from almost any location. Horizon Cloud with Hosted Infrastructure also offers an on-demand, flexible desktop and application delivery platform that can grow or shrink based on the needs and demands of your business.
The need to reevaluate desktop strategies is driving many companies to consider VDI. VDI solves many traditional challenges of physical desktops. With VDI, desktops are centralized onto virtual machines that run in corporate data centers. Cloud-hosted virtual desktops take that one step further. They make day-to-day tasks, such as deploying new desktops and applications and supporting distributed workers, easier and less labor-intensive. Users access their virtual desktops via remoting technology, making it possible for IT to finely control the movement of data into and out of the data center. If a laptop or mobile device is stolen or lost, your enterprise is at less risk because data is not stored on the local device.

**Service Models**

Horizon Cloud is available in two subscription options:

- **Per named user**: Use in virtual environments with end users that require dedicated access to virtual machines throughout the day.
- **Per concurrent connection**: Use in virtual environments with a high number of users who share machines throughout the day, such as students or shift workers.

You can purchase Horizon Cloud hosted infrastructure directly from VMware or bring your own certified hyper-converged infrastructure appliances to host your virtual desktops and applications. For more information, see [How to Buy](#).

**Features and Benefits**

You can streamline the effort of infrastructure management and application delivery by transferring to the cloud with managed infrastructure from VMware. Horizon Cloud with Hosted Infrastructure provides you with optimum security and support, with an infrastructure that can scale faster than traditional on-premises environments. You can choose from a variety of desktop configurations, application delivery methods, and data center locations. You can reduce costs and forecast them with simple and predictable per-user pricing.

For the most current list of benefits, see the Benefits section of [VMware Horizon Cloud Hosted](#).
Components and Architecture

About System Architecture and Components
Horizon Cloud with Hosted Infrastructure consists of the following major components:

- **Horizon Cloud Administration Console**: The web-based portal used by IT administrators to provision and manage Horizon Cloud desktops and applications, resource entitlements, and images. The Horizon Cloud Management Console provides full life-cycle management of desktops, VMware App Volumes™, and RDSH through a single, easy-to-use web-based console. Organizations can securely provision and manage desktop models and entitlements, as well as native and remote applications, through the centralized Horizon Cloud Management Console. The console also provides usage and activity reports for various user, administrative, and capacity-management activities.
- **Horizon Cloud user portal**: A web-based portal offering users clientless access to Horizon Cloud desktops and applications using HTML5.
- **VMware Horizon Client™**: Software-based client installed on a desktop, thin client, mobile device, or tablet that facilitates connectivity to Horizon Cloud-hosted desktops and applications.
- **Horizon Cloud tenant appliance**: A hardened Linux appliance that provides desktop and application brokering, provisioning, and entitlement services. It hosts the end-user and administrative portals.
- **Image or image template**: A desktop or RDSH server image that can be used in a Horizon Cloud tenant to create desktop or application assignments. It is used as the base image from which virtual machines (VMs) are cloned.
- **Horizon Cloud–hosted virtual desktop**: A virtualized and optimized desktop that is hosted in Horizon Cloud. A virtual desktop supports a single connection, delivering a fully functional desktop to the end user. Horizon Cloud agents are installed on the virtual desktop to support a connection from the Horizon Client.
- **Horizon Cloud–hosted RDSH**: A server-based model for delivering applications and shared full desktops in Horizon Cloud using Microsoft Remote Desktop Services and VMware Horizon technology. Compared to a single connection for each virtual desktop, RDSH servers can support multiple desktop and application sessions from different users. Horizon Cloud agents are installed on the RDSH servers to support connections from the Horizon Client.
- **Desktop and services subnets**: Unique IP subnets that you assign to allow for desktop, application, and administrative connectivity. The Desktop Zone uses the desktop subnet for virtual desktops and RDSH servers. The Services Zone uses the services subnet for tenant appliances and other utility services.
- **Edge Gateway**: A gateway that provides network edge security and gateway services to isolate security zones and virtualized networks along with NAT, DHCP, VPN, and a load balancer.
- **VMware Unified Access Gateway™**: A hardened Linux appliance that allows for secure remote access into the Horizon Cloud environment and is part of the Security Zone (for external Horizon Cloud access) and the Services Zone (for internal Horizon Cloud access).

Note: For more information about features, components, and capabilities, see Service Description: VMware Horizon Cloud Service with Hosted Infrastructure.

About Integration with VMware Products
Horizon Cloud with Hosted Infrastructure can be integrated with additional VMware products to provide an enhanced and optimized end-user experience, including:

- **VMware User Environment Manager™**: Provides personalization and dynamic policy configuration across virtual, physical, and cloud-based Windows desktop environments for managing a user’s persona across devices and locations. For more information, see User Environment Manager with Horizon Cloud.
- **VMware Identity Manager™**: Provides a central location from which to manage access policies and user provisioning with enterprise-class directory integration, identity federation, and user analytics. VMware Identity Manager provides end users with one-touch access to applications from any device, from any location. For more information, see VMware Identity Manager.

Deploying and Configuring VMware Horizon Cloud Service

Introduction to Deployment and Configuration
Before launching Horizon Cloud, it is recommended that you verify that the service is deployed properly, that you have the necessary information to proceed smoothly at your fingertips, and that the required resources are aligned. You can accomplish these verifications
Gathering Data for Initial Configuration
Gather the data required during configuration so the process runs smoothly without delays:

<table>
<thead>
<tr>
<th>What Is Required</th>
<th>Your Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDAP bind account (can be read-only)</td>
<td></td>
</tr>
<tr>
<td>NETBIOS name</td>
<td></td>
</tr>
<tr>
<td>DNS domain name</td>
<td></td>
</tr>
<tr>
<td>Bind username</td>
<td></td>
</tr>
<tr>
<td>Bind password</td>
<td></td>
</tr>
<tr>
<td>Auxiliary bind username</td>
<td></td>
</tr>
<tr>
<td>Auxiliary bind password</td>
<td></td>
</tr>
<tr>
<td>Join username</td>
<td></td>
</tr>
<tr>
<td>Join password</td>
<td></td>
</tr>
<tr>
<td>Primary DNS server IP address</td>
<td></td>
</tr>
<tr>
<td>Secondary DNS server IP address</td>
<td></td>
</tr>
</tbody>
</table>

**Table A1: Data Required During Setup**
After gathering the data that you need to configure Horizon Cloud, proceed to the next exercise and log in.

Logging in to VMware Horizon Cloud
The setup and administration of your tenant takes place in the Horizon Cloud Administration Console, which you access using a URL supplied by the Horizon Cloud service provider.

**Note:** These exercises use self-signed certificates, unlike for a production environment in which live certificates are exchanged during deployment.

The first time you log in to the tenant, you must provide a one-time username and password. After Horizon Cloud is added to your Active Directory domain, these credentials no longer allow access.

1 Log In to the Horizon Cloud Administration Console
In your browser, navigate to the Horizon Cloud tenant.
1. On the Horizon Cloud login page, enter the credentials provided.
2. Click Login.
3. After logging in, proceed to the next exercise to register Active Directory in the Horizon Cloud tenant.

**Configuring Active Directory**

After the Horizon Cloud service provider provisions your Horizon Cloud environment, also known as a tenant, you must register your Active Directory with Horizon Cloud before you can allocate services or assign specific roles and permissions.

1** Getting Started Page Overview**
The Horizon Cloud Administration Console defaults to the Getting Started page on the first login. This page provides a high-level overview of the initial configuration process that you must complete.

2 Navigate to Active Directory

1. In the navigation bar on the left, select Settings.
2. In the Settings menu, select Active Directory.

3 Register
On the Active Directory page, click Register.

4 Register Active Directory

1. In the Register Active Directory window, enter the following information:
   - NETBIOS name
   - DNS domain name
   - Bind username
   - Bind password
   - Auxiliary bind username
   - Auxiliary bind password

2. Click Domain Bind.

5 Join Domain
On the Domain Join page, add the following information to join to the Active Directory domain:

1. Primary DNS server IP address
2. Secondary DNS server IP address
3. Default OU
4. Join username
5. Join password

Click Save.

After joining Active directory to Horizon Cloud, you must use a domain account that is a member of the domain group added to the Super Administrator role during the initial configuration. The one-time password that was supplied by your provider no longer works. Proceed to the next exercise to define this administrator account.

### Configuring the Administrative Account

In Horizon Cloud, the domain user or group with full administrative control within the tenant is defined as the Super Administrator.

#### 1 Search for the Tenant

1. Click the Search icon in the upper right.
2. Enter your username, and click Go.
4. Verify that DF/Tenant Admins appears under Selected User Group.
5. Click Save.

After registering the Active Directory, additional services and functionality are available. Configuring the administrative account enables you to access these resources. You are ready to proceed to Section B to tour the Horizon Administration Console and complete the configuration of your tenant.
Exploring the Horizon Administration Console

Introduction to the Horizon Administration Console
You can explore the services and functionality of the Horizon Cloud Services through the Horizon Cloud Administration Console by accessing the following exercises in the navigation bar to the left:

- Exploring the Settings Options
- Modifying Contact Data
- Adding a User to a Role
- Defining an Agent
- Selecting the Default View

Exploring the Settings Options
You can manage the Horizon Cloud tenant using the Horizon Cloud Administration Console.

1 Explore General Settings

1. In the navigation bar in the lower left, click Settings.
2. In the Settings menu, click General Settings.

This is where you can view and modify the general configuration.

2 Explore Active Directory Settings
In the navigation bar, click **Settings**.

1. In the Settings menu, click **Active Directory**.

Here, you add domain bind and domain join data, which is required before you can do anything else.

### 3 Explore Roles & Permissions Settings

1. In the navigation bar, click **Settings**.
2. In the Settings menu, click **Roles & Permissions**, where you can create and assign roles to control who has access to the console.

The Horizon Cloud environment has two built-in roles:

- **Super Administrator**: A mandatory role that includes the ability to view all tenant options and apply configuration changes. A minimum of one Active Directory group must be assigned to this role. In these exercises, the **Tenant Admins** group is assigned to this role.
- **Demo Administrator**: An optional role that includes the ability to view all options within the console but cannot change the configuration.
4 Explore Infrastructure Settings

1. In the navigation bar, click **Settings**.
2. In the Settings menu, click **Infrastructure**, where you can create and manage file shares that are used to import data from your environment into Horizon Cloud. Infrastructure includes file shares used to import data into Horizon Cloud from your environment. You can add, import, and modify these file shares. In most cases, files placed in a file share are uploaded to the tenant. You can also manually import files.

   The two types of file shares support different sets of functions:
   - **Application/Images**: Stores AppStacks created by App Volumes.
   - **Agents**: Houses agent software updates. After the location has been defined, the agent is available on the Assignments page.

3. **Note**: When creating an application or image file share, the name can be anything you choose. You must house file shares on the Utility VM, which performs functions within the tenant and helps avoid latency issues.

5 Explore Storage Management Settings

1. In the navigation bar, click **Settings**.
2. In the Settings menu, click **Storage Management**, where you can view and manage the AppStacks in your environment when using App Volumes technology in your tenant.

For more information about how App Volumes technology can enhance administrative capabilities within the Horizon Cloud environment, see *E: Assigning Access to a Remote and Native Application*, on the navigation bar to the left.

6 Explore Getting Started Settings

1. In the navigation bar, click **Settings**.
2. In the Settings menu, click **Getting Started**, the default view when you first log in to Horizon Cloud, which you can reset using the **Show at Startup** slider at the bottom.

7 Explore Utility VMs Settings

1. In the navigation bar, click **Settings**.
2. In the Settings menu, click **Utility VMs**, where you can view and manage utility VMs.
The utility VM is a discovered VM that does not have a supported operating system for desktop use. The utility VMs provide infrastructure services within the environment, such as DNS or DHCP, and are required for housing AppStacks. You can use the Utility VMs settings to perform management tasks and implement User Environment Manager. The first utility server is free. You can add subsequent utility servers for an additional cost.

Note: The Horizon Cloud environment does not require a utility VM, but it is recommended for services such as Active Directory, DNS, and DHCP to avoid latency issues.

8 Explore 2 Factor Auth Settings

1. In the navigation bar, click **Settings**.
2. In the Settings menu, click **2 Factor Auth**, where you can configure two-factor authentication for your end users using either RSA SecureID or Radius Authentication.

9 Explore Identity Management Settings

1. In the navigation bar, select **Settings**.
2. In the Settings menu, select **Identity Management**, where you can oversee all of your Identity Manager providers, and sort...
them by URL, Timeout Setting for Single Sign On Token, Data Center, Tenant Address, and Status. You can click Edit to add a new URL or modify an existing one.

For more information, see VMware Horizon Cloud with Hosted Infrastructure Administration and VMware Horizon Cloud with Hosted Infrastructure 17.1 Documentation Center.

After this brief tour of the settings options in a Horizon Cloud environment, proceed to the next section to use some of these options to set up your environment.

Modifying Contact Data
You can modify the contact information through the General Settings option in the Horizon Cloud Administration Console.

1 Edit General Settings

1. In the Horizon Cloud Administration Console, select Settings.
2. In the Settings menu, click General Settings.

2 Edit General Settings
View the information that is displayed when other administrators log in to the Administrative Console.

3 Contact Info Page

1. Scroll to the Contact Info section, and enter the name, phone, and email information.
2. Click Save.
4 Verify Contact Info Pane

1. Scroll to the bottom of the General Settings page to the Contact Info section.
2. Verify that the contact information is correct.

After using General Settings to modify the contact information, proceed to the next exercise to use the Roles & Permissions settings to add a user or group to a role.

Adding a User to a Role

You can control who has access to the console and assign or modify membership to roles. Horizon Cloud provides two built-in roles.

- **Super Administrator**: This mandatory role can view all options in the tenant and apply configuration changes. At least one Active Directory group must be assigned to this role. In this exercise, the Tenant Admins group is assigned to this role.
- **Demo Administrator**: An optional role that can view all console options, but cannot make configuration changes.

1 Navigate to Roles & Permissions

1. In the navigation bar, select Settings.
2. In the Settings menu, click Roles & Permissions.
2 Select Role

1. Under Roles, select Demo Administrator.
2. To add a user or group, click Edit.

3 Search for a User or Group

1. In the User Group field in the upper left, search your Active Directory for a user or group to add.
2. In this example, the Guests group is selected.

4 Save Changes
In the Edit page, verify that your selection is displayed under Selected User Group.
1. Click Save.
2. After using the Roles & Permissions setting to add a user group, proceed to the next exercise to use the Locations settings to define an agent.

Defining an Agent

Infrastructure includes file shares that are used to import data into Horizon Cloud from your environment. You can choose between the following two different types of file shares:

- **Application/Images**: Stores AppStacks created by App Volumes.
- **Agents**: Houses agent software updates. After you define the location, the agent is available on the Assignments page.

When you define a file share as an agent, you must name the folder `agentFiles`. (Unlike Agent shares, you can give Applications/Images shares any name.) You must house the file share on the utility VM, which performs functions within the tenant and helps avoid latency issues.

1. Navigate to Infrastructure

1. In the Horizon Cloud Administration Console, select Settings.
2. In the Settings menu, click Infrastructure.
2 Enter the New File Share Information

1. In the New File Share page, enter the following information:
   - **Name**: Enter the name of the file share.
   - **Domain**: Select the domain of the file share from the drop-down list.
   - **Username**: Enter the username of the file share administrator.
   - **Password**: Enter the administrator password for the file share.
   - **Type**: Select the type of file share from the drop-down menu:
     - **Agents**: Used to import agent software updates only
     - **Applications/Images**: Used to import AppStacks
   - **Source Path**: Enter the network path to the file share.

2. Click **Save**.

3 Confirm Status

- Verify that the Agents share is now listed with a status of green.

After using the Locations options to define an agent, proceed to the next exercise to change the default view upon start up.
Selecting a Default View

The Getting Started page is the default view when you log in to Horizon Cloud for the first time. You can change the default view to the Dashboard page at any time.

1 Navigate to the Getting Started Preferences

1. Navigate to the Getting Started Preferences.
   - In the Horizon Cloud Administration Console, select **Settings**.
2. Set the Startup Default
   - Scroll to the end of the Getting Started window.
   - In the Preferences box at the bottom, use the slider to indicate whether you want the Getting Started page to appear at startup.
     - **Yes**: The Getting Started page is displayed upon login.
     - **No**: The Dashboard page is displayed upon login.
3 Verify the Getting Started Preferences

In the confirmation page, click Yes to confirm your selection.

For more information, see VMware Horizon Cloud with Hosted Infrastructure Administration.

After using Getting Started settings to set the default view upon startup, you have completed the exploration of the settings available to you in a Horizon Cloud environment. Proceed to the next section to create an image.

Creating a Desktop Image

Introduction to Image Creation
After you complete the initial configuration and exploration of your Horizon Cloud environment, you are ready to create a desktop image through the following exercises. You can use the image to assign your desktops, also referred to as publishing a desktop.

- Reviewing Template Options
- Creating an Image

Reviewing Template Options
You can populate your tenant with virtual machine templates in a number of ways:

- Receive a pre-packaged image from VMware
- Create an image from a template that you request from VMware
- Create an image from your own template

For this exercise, contact your VMware service representative and request a VMware template.

For more information, see Getting Started Horizon Cloud with Hosted Infrastructure.

After you receive a VMware template and your provider uploads it to your tenant, proceed to the next exercise to create your image.

Creating an Image
An image is a pattern that you use to create assignments. Images are created from a template VM that is configured to meet the needs of a particular user type. You can use a pre-packaged image from VMware, create an image from a VMware template, or create an image from your own template.

When creating an image, you can choose between a traditional clone and an instant clone. With a traditional clone, a full copy of the image is used for each desktop deployed. With an instant clone, you gain the benefits of VMware JMP technology, which allows for faster provisioning, using less space. In this exercise, an instant clone is used.

For more information, see VMware Instant Clone Technology for Just-In-Time Desktop Delivery in Horizon 7 Enterprise Edition.

1 Navigate to the Images Dashboard
1. In the Horizon Cloud Administration Console, select **Inventory**.
2. Click **Images**.

### 2 Create New Image

- On the Images page, click **New**.

### 3 New Image
1. On the New Image page, navigate to the Convert Desktop to Image section.
2. Enter the first few letters of a template name to trigger a display of all desktops that you can convert to an image.

Note: The desktop inventory takes a few minutes to display. Make sure that the desktop you want to use is powered on.

4 Convert Desktop to Image

1. Scroll down to the OS Properties section, and provide the following information:
   - **Instant Clone**: Set to Yes.
   - **Image Name**: Enter the name for the new image.
○ **Domain**: Required for instant clones only. Select the domain from the drop-down menu.
○ **Company Name**: Enter your company name.
○ **Timezone**: Select your time zone from the drop-down menu.
○ **Note**: Depending on the size of the file, the publishing process can take some time.

2. Click **Publish**.

### 5 New Desktop Image Is Displayed

On the Images page, verify that the status of the new desktop image is **Published**.

After you complete the image creation process, proceed to the next section to assign a desktop to a user or group.

### Assigning Access to a Desktop

#### Introduction to Desktop Assignments

Once you have created an image, you can assign desktops to users and groups as dedicated, floating, or RDSH virtual desktops or desktop sessions. You can explore these options by accessing the following exercises in the navigation bar to the left:

- Checking Desktop Capacity Allocation
- Assigning a Desktop to a User
- Accessing a Desktop Via a Browser
- Reviewing Recent Activity
- Exporting a Report
- Checking System Notifications

#### Checking Desktop Capacity Allocation

Before you assign a desktop to a user or group, check the capacity allocation on the Dashboard page. The Dashboard provides information about your environment, including notifications, activities, and reports.

1. Navigate to the Dashboard
1. In the Horizon Cloud Administration Console, select **Monitor**.
2. In the Monitor menu, click **Dashboard**.
3. In the Capacity window, see the percentage currently allocated.

### 2 Hover to Change the Display

1. Hover over the Capacity window, which changes the display.
2. Click **More** to see more details.

### 3 View Desktop Capacity Allocation Details
In the Desktop Model section, note the amount used so that you can compare after assigning the desktop. In this example, 232 units of capacity are remaining.

2. Hover over each section to see details such as memory and CPU.

For information about the capacity model, see Service Description: VMware Horizon Cloud Service with Hosted Infrastructure.

After checking the Desktop Capacity Allocation, proceed to the next exercise to assign the desktop and see how the numbers are affected.

Assigning a Desktop to a User
You can choose which type of desktop to assign to a user or group in the Assignments window. You can use the Assignments window to create, edit, and delete an assignment, and update the agent software for any existing assignments.

1 Navigate to the Assignments Window

1. In the Horizon Cloud Administration Console, select Assign.
2. In the Assignments window, click New.

2 Start Creating a New Assignment
1. In the New Assignment page under Desktops, click Select.

2. **Note**: You would select **Applications** if you wanted to assign AppStacks or RDSH applications. For this example, a desktop is assigned.

### 3 Assign a Floating Desktop

1. On the Assign Desktops page, select **Floating** to define the desktop type.

   - **Dedicated**: Assigns the user to a specific, persistent VDI desktop every time the user logs in.
   - **Floating**: Assigns the user to any available non-persistent VDI desktop, which multiple users can use at different times and resets after each user session. This desktop type is required when using an instant clone.
   - **Session**: Assigns the user to a personal, non-persistent RDSH published desktop shared across multiple users.
4 Select the Fixed Attributes

1. In the Desktop Model menu, select **Premium**.
2. Click **Details** to view the resource specifications of the model. In the above example, the desktop model has 8 GB of vRAM and four vCPUs.

**Note:** In the Fixed Attributes section, you can choose from several types of desktop models with various compute, storage, and feature resources. The desktop model determines how the computers are provisioned. For more information, see the Service Description: VMware Horizon Cloud Service with Hosted Infrastructure.

5 Select the Flexible Attributes
1. Scroll to Flexible Attributes.
2. Define how the user connects to a desktop. You can change this information at any time:
   - **Image**: Select the image created earlier from the drop-down menu.
   - **Assignment Name**: Enter the assignment name.
   - **Default Protocol**: Select either BLAST or PCoIP. This example uses Blast.
   - **Preferred Client Type**: Select either Browser or Horizon Client. This example uses Browser.
   - **Capacity**: Select the capacity up to the maximum remaining available. This example shows 58 remaining.

6 Select the Advanced Properties

1. At the bottom of the Flexible Attributes section, click Advanced Properties, an option to configure additional desktop assignment parameters.
2. Set the following advanced properties:
   - **VM Names**: Accept the default VM name that you created earlier.
   - **Computer OU**: Leave blank. This indicates the Active Directory (AD) Organizational Unit where VMs are located, such as `OU=NestedOrgName,OU=RootOrgName,DC=DomainComponent`.
   - **Run Once Script**: Leave blank. This indicates the location of scripts that run after system preparation completes.
Session Timeout Interval: Accept the default. This sets the amount of time users can have an idle session before the system forces a log off, which would result in the loss of unsaved data.

Enable Windows Hot-Plug: Accept the default. If enabled, this allows users to add or remove a device such as a NIC or disk, which can interfere with connectivity if done improperly.

3. Click Next.

7 Assign the Desktops to the User

1. Verify that you are in the Users tab.
2. In the Active Directory Search field, enter the user name to assign the desktop to. As you enter, the list appears.
3. From the list, select the user groups to assign the desktop. You can select multiple users and groups. In this example, only one user group is selected.

8 Verify the Selected User
1. In Selected Users/User Groups, confirm that the correct user(s) or group(s) are listed.
2. Click Next.

9 Submit the Desktop Assignment

1. In the Summary tab, review the settings you entered.
2. When you are ready, click Submit.

Note: You must wait until the creation process is complete before you proceed. This process can take several minutes. You might need to refresh your browser periodically to expedite the process.
10 Verify the Desktop Assignment

1. On the Assignments page, confirm that the desktop was created.
2. Verify that the desktop assignment has a status of green.

After you finish assigning a desktop to the user, proceed to the next exercise to launch the desktop from a browser.

Accessing a Desktop via a Browser
You can access the desktop via the Horizon Client, which includes versions for all major operating systems, as well as a browser-based HTML 5 client. For this exercise, you can verify the desktop assignment by launching from a browser.

1 Select a Desktop

1. Launch a browser.
2. Navigate to your tenant URL.
3. From the desktops assigned to you, select a desktop to launch.
2 Wait as Windows Prepares Your Profile

- Wait for Windows to build the profile.
  **Note:** It can take several minutes for a fully functional desktop to display.

3 Navigate to the Dashboard

1. Return to the Horizon Cloud Administration Console, and in the navigation bar, select Monitor.
2. In the Monitor menu, click Dashboard.

4 Proceed to Details

1. Hover over the Dashboard window to change the display.
2. In the lower right, click More.
5 Verify the Desktop Capacity Allocation

1. In the Capacity window, verify that the connection with the desktop is active, and that the host allocation has increased.
2. In the upper right, click Download Full Service Report.

6 Review the Desktop Capacity Report

- Review the desktop allocation details in the Full Service Report.

After you verify that the desktop is assigned and connected properly, proceed to the next exercise to review the recent activity.

Reviewing Recent Activity

You can use the Horizon Cloud Administration Console to monitor recent activities, including the desktop assignment you just completed. The Activity page displays both administrative and user activity for time spans ranging from 24 hours to 30 days.
1 Navigate to the Activity Window

1. In the Horizon Cloud Administration Console, select Monitor.
2. In the Monitor menu, click Activity.

2 Review Desktop Assignment Activity

- On the Activity page, review the desktop assignment activity you just completed.

After you review the most recent activity, proceed to the next exercise to review reports.

Exporting a Report

The Reports page displays resource mappings, including user and desktop mappings.

1 Navigate to the Reports
1. In the Horizon Cloud Administration Console, select Monitor.
2. In the Monitor menu, click Reports.

**2 Review Desktop Assignment Report**

- On the Reports page, review the desktop assignment you completed in the previous exercise.

**3 Export the Report**
1. Click Desktop Mapping.
2. Select the Export Data icon to export the report as a zipped CSV file.

After you review the reports, proceed to the next exercise to review notifications.

Checking System Notifications
You can use the Horizon Cloud Administration Console to review system notifications. As with reports, you can view notifications data ranging from 24 hours to 30 days.

1 Navigate to the Notifications Window

1. In the Horizon Cloud Administration Console, select Monitor.
2. In the Monitor menu, click Notifications.

2 Select a Time Span
1. In the Notifications window, select a time span from the Show menu.
2. In the upper right, click the bell-shaped notification icon to see notifications in an abbreviated list format.

You now have a fully functional desktop ready for your users to access. The next section shows you how additional VMware products, such as App Volumes, can enhance your experience in the Horizon Cloud environment.

Assuming Access to a Native Application

Introduction to Native Application Assignments

In the following exercises, you use AppStacks, an App Volumes feature, to assign applications to Horizon Cloud virtual desktops. A Chrome browser is recommended for the best experience.

- Reviewing the Dynamic Application Delivery Process
- Importing an AppStacks File Share
- Assigning an AppStacks Application to a User or Group
- Provisioning a Desktop
- Accessing an Application via Browser to Verify Success

Reviewing the Dynamic Application Delivery Process

The dynamic delivery of applications to virtual desktops includes the following steps, the first of which is performed before starting this exercise:

- **Package applications with AppCapture**: Package the application using the AppCapture utility, which allows Horizon Cloud to attach the package to the virtual machine upon login.
  You use the AppCapture utility to get the *before* state of the virtual machine. After the applications and any dependencies are installed, AppCapture takes an *after* state of the virtual machine. The *after* state includes the files, folders, and registry entries that were changed in an application package.
  When the application capture is complete, the application package is moved to a staging file share. The virtual machine is reset to a clean snapshot. You use the AppCapture utility to test the application. When the application is validated, it is converted into an application package in VMDK format and moved into the production file share, where it is imported into Horizon Cloud.
- **Configure and synchronize the AppStacks file share**: Import the AppStacks into Horizon Cloud. For more information, see the Adding AppStack File Share video.
- **Assign a native application to a virtual desktop**: Assign an AppStacks application to a user or group.

Importing an AppStacks File Share

You import AppStacks applications to Horizon Cloud virtual desktops to make them available.
1 Verify the File Share Contains AppStacks Packages

1. Navigate to the file share that you set up for synchronizing AppStacks packages.
2. Verify that the file share contains at least one package. The file share in this example contains two packages.

2 Navigate to the Infrastructure Window

1. In the Horizon Cloud Administration Console, select Settings.
2. In the Settings menu, click Infrastructure.
3. In the Infrastructure window, click New.
3 Provide New File Share Information

1. On the New File Share page, provide the following information:
   - **Name**: Enter a name for the file share.
   - **Domain**: Select the domain from the drop-down menu.
   - **Username**: The User account requires read-only permission to the file share.
   - **Password**: Enter the password.
   - **Type**: Select **Applications/Images** from the drop-down menu.
   - **Source Path**: Enter the source path URL.
   - **Destination Pod**: Click the field and select the destination pod, required only for the Applications/Images type.

2. Click **Save**.

4 Verify Success

1. Wait until the green banner appears at the top to verify success.
2. Confirm that the file share is now listed with a green active status.
5 Verify Import Status

- In the upper right, click the Notifications bell icon to see the status of the import.

6 Check Import Status

1. In the navigation bar, select Monitor.
2. In the Monitor menu, select Notifications.
3. In the Notifications window, Show field, select a time frame to see the status of the imported file share using an alternative route.

7 Check Application Inventory
In the navigation bar, select **Inventory**.

1. In the Inventory menu, select **Applications** to verify that the process of importing the AppStacks is complete.

2. After you finish importing the AppStacks file share, proceed to the next exercise to assign an application to a user.

### Assigning an AppStacks Application to a User or Group

To deliver an AppStacks application to Horizon Cloud virtual desktops, you assign it to a user or user group.

1. **Navigate to the Assignment Window**

   1. In the Horizon Cloud Administration Console, select **Assign**.
   2. In the Assignments window, click **New**.

2. **Select the New Application Assignment**

   1. In the Horizon Cloud Administration Console, select **Assign**.
   2. In the Assignments window, click **New**.
On the New Assignment page under Applications, click **Select**.

### 3 Define the Attributes

1. On the New Assignment page, enter the following information:
   - **Type**: Select **Native**, which enumerates all AppStacks applications.
   - **Assignment Name**: Enter the name of the application. For this example, FileZilla is entered.
   - **OS**: Accept the default **Windows 10 (x64)**.
   - **Computer Name Prefix**: Leave this field blank.

2. In the lower right, click **Next**.

### 4 Select the New Application Assignment
In the New Application window, select the box to the left of the application.
1. In the lower right, click Next.

5 Identify the User

1. In the Users/User Group field, start entering the name of the user to assign.
2. In the list pops up, click the user to select it.

6 Save and Exit
In the Selected Users/User Groups field, verify that the user name is displayed.

1. In the lower right, click **Save & Exit**.

### 7 Verify the Assignment is Completed

- When the application is assigned, you can close the browser window.

After assigning the native application, proceed to the next exercise to assign and provision a desktop.

**Provisioning a Desktop**

To verify that the application assignment was successful, you can launch the native application in Horizon Cloud. But first, you must provision a desktop to be used for launching native AppStacks applications.

### 1 Navigate to the Assignments Window
1. In the Horizon Cloud Administrative Console, select Assign.
2. In the Assignments menu, click New.

2 Get Started Assigning Desktops

- In the New Assignment window under Desktops, click Select.

3 Assign a Floating Desktop

- In the Definition tab of the New Desktop Assignment window, click the Floating type.
- This type is required for instant clones.
4 Provide the Fixed Attributes

1. In the Fixed Attributes field, select a desktop model from the pop-up menu.
2. Scroll down to Flexible Attributes.

5 Select the Flexible Attributes

1. In the Flexible Attributes field, provide the following information:
   - **Image**: Confirm the default image, or select a different one from the drop-down menu.
   - **Assignment Name**: Enter the name of the assignment, which in this example is CorpDesktop.
   - **Default Protocol**: Confirm that BLAST is selected.
   - **Preferred Client Type**: Confirm that Browser is selected.
   - **Capacity**: Enter 2.

6 Select the Advanced Properties
1. Click Advanced Properties.
2. Confirm that the VM Names field is pre-populated with the name of your selected application.
3. In the lower right, click Next.

7 Select the Users

1. In the Users tab of the New Desktops Assignment window, in the Active Directory Search field, start entering the first few letters of the user or group name.
2. From the list that generates, select the user or group to assign.

8 Select the User
In the Selected User/User Groups field, verify that the name you selected is displayed.
In the lower right, click Next.

**9 Verify and Submit**

In the Summary tab of the New Desktop Assignment window, confirm the information.
In the lower right, click Submit.

**10 Wait for Completion**
11 Confirm the Desktop Assignment

1. In the Assignments window, confirm that a green success banner is displayed.
2. In the details, confirm that the desktop is displayed with a capacity of 2.

Now you are ready to proceed to the next exercise, to verify the application assignment that you made earlier by launching the desktop and accessing the application as the end user would.

Accessing an AppStacks Application to Verify Success
You can verify that you properly assigned an AppStacks (native) application and provisioned a desktop by launching the desktop and accessing the application in Horizon Cloud as a user would.

1 Launch the Horizon Client
On the desktop, click the VMware Horizon Client icon to launch it.

2 Log In

Log in to the Horizon Cloud client.

3 Select the Newly Provisioned Desktop
From the available applications and desktops, click the desktop you just provisioned, and wait for the desktop connection to launch and Horizon Cloud to attach the application to the desktop.

4 Verify the Application is Displayed

![Application Icon Displayed](image)

- Verify that the application icon is displayed.

6 Launch the Application
1. Launch the application to verify that it opens.
2. Explore the application features to verify that it works properly.

**7 Exit**

1. When you are ready to exit, navigate to the upper left and select **Options**.
2. Click **Disconnect and Log Off**.

**8 Confirm the Log Off**
In the Horizon Client prompt, click OK to confirm that you want to disconnect and log off.

After launching the desktop and accessing the application, proceed to the next exercise to use Horizon Cloud to deliver remote applications.

### Assigning Access to a Remote Application

#### Introduction to Remote Application Assignments

The following exercises demonstrate how to deliver applications using RDS integration capabilities. A Chrome browser is recommended for the best experience.

- Uploading and Deploying RDSH Servers
- Creating a Desktop Assignment
- Assigning Remote Applications to Users and Groups
- Accessing a Remote Application to Verify Success

#### Uploading and Deploying RDSH Servers

Horizon Cloud Published Applications simplifies managing line-of-business applications and allows the delivery of Windows applications to non-Windows devices. This strategy can reduce CapEx and OpEx costs by minimizing installation, upgrades, and troubleshooting. With a VMware implementation, end users launch VMware Horizon Client or the HTML Access web client and then log in to the server that brokers connections to the published applications. Users see a catalog of published applications and session-based or single-user virtual desktops, if desktops have been configured.

With published applications, you install applications on servers with the RDSH role and entitle the applications to users through the Horizon Cloud Administration Console. After applications are authenticated to Horizon Cloud, users can launch an application, save files, and use network resources from a remote RDSH server, just as if the users had the application installed on their local computer, tablet, or phone.

1. Navigate to the Imported VMs
1. In the Horizon Cloud Administration Console, select **Inventory**.
2. In the Inventory menu, click **Imported VMs**.

### 2 Select the Pre-Populated VM

1. Select the check box of the pre-populated VM in the optimized image provided in the tenant.
2. If you do not have an image, contact your VMware representative to request one.

### 3 Power On
In the Imported VMs window, click More.

1. In the More menu, select Power On.

5 Verify that OS Properties Is Disabled

- On the New Image page, make sure that OS Properties is set to **NO**.

6 Provide OS Properties Parameters

1. In the OS Properties fields, provide the information for the other OS properties.
2. In the Admin credentials for the desktop fields, provide the username and password.
3. In the lower right, click **Publish**.
7 Verify the Publication

1. In the navigation bar, select Inventory.
2. In the Inventory menu, click Images.
3. In the Status column, verify that the image is published.
4. If necessary, click Refresh in the upper right to update the window and see the most current conversion status.

For more information, see the Uploading and Deploying RDSH Hosts in Horizon Cloud video.

After you finish uploading and deploying RDSH hosts in Horizon Cloud, proceed to the next exercise to create a desktop assignment.

Creating a Remote Application Assignment

This exercise describes how to create a remote application assignment.

1 Navigate to the Assignments Window

1. In the Horizon Cloud Administration Console, select Assign.
2. In the Assignments menu, click New.

2 Start the New Assignment
In the New Assignment window under Applications, click Select.

3 Select the Remote Type

1. In the New Application Assignment window, in the Type field, select Remote.
2. In the Assignment name field, enter a name that starts with a letter, and consists only of letters, numbers, and dashes.
3. In the lower right, click Next.

4 Select Applications to Publish
In the New Application Assignment window, click the check box of each application to select it.
1. In the lower right, click **Next**.

5 Start the Active Directory Search

In the Active Directory Search field, start entering the first few letters of the user or group name.
1. When the search automatically generates, click the user or group to select it.

6 Review and Submit
In the Summary tab, review and verify that the information is correct.

1. In the lower right, click **Submit**.

### 7 Verify Success Banner

1. Verify that the green success banner is displayed.
2. Confirm that the status is green, which indicates the server is ready to receive users.

8 Select the Assignment

- When the status turns green, select the assignment to view details.

9 Review Assignment Details

- View the assignment summary details.
For more information about how to deploy RDSH servers and create assignments for Horizon Cloud remote applications, see the Uploading and Deploying RDSH Hosts in Horizon Cloud video.

After creating a desktop assignment, proceed to the next exercise to assign remote applications to users and groups.

Assigning Remote Applications to Users and Groups
You can entitle RDSH applications to a user or group from the Horizon Cloud Administration Console.

1 Navigate to the Assignments Window

1. In the Horizon Cloud Administration Console, click Assign.
2. On the Assignments page, select an assignment to add a user to.
3. In the upper left, click Edit.

2 Define the Type
1. On the Definition tab, in the Type field, select Remote.
2. In the lower right, click Next.

3 See the Applications Already Assigned
1. On the Applications tab, scroll down the list to see the applications assigned to this entitlement.
2. You can add or remove applications to the assignment here, but for this exercise, leave them selected.
3. Click **Next**.

### 4 Identify the User
On the Users tab, enter the username to search for the user to assign.
1. Select the user from the drop-down list.
2. Click **Save & Exit**.
3. After you finish entitling the user to the RDSH Application entitlement, proceed to the next exercise to launch the remote application hosted in Horizon Cloud.

**Accessing a Remote Application to Verify Success**

You can verify that you properly entitled a user to an RDSH application by launching the desktop and accessing the application in Horizon Cloud as a user would.

1. **Launch the Horizon Client**
On the desktop, click the **VMware Horizon Client** icon.

2 Log In

Log in to the Horizon Cloud client.

3 Select a Desktop
From the available applications and desktops, click the desktop you just provisioned.

4 Launch the Application

1. Launch the application to verify that it opens properly.
2. Explore the features to verify that they work. For this example, Calculator is selected.

5 Disconnect and Log Off

1. After closing the application, select Options to exit.
2. Click Disconnect and Log Off.

6 Verify Log Off
Assigning Customizations

About Customizations
You can configure assign settings to customize your end users' environments. One type of customization is URL redirection. You define URL handling rules so the Horizon Client redirects URLs from the end user's client machine to a desktop or application that is provided by your Horizon Cloud environment.

When the user logs in to their local Horizon Client, it fetches the user's assigned URL redirection rules. When the user clicks a link that matches a URL pattern rule, Horizon Client selects the handler that you configured, to process the link. Depending upon the circumstances, the process can vary:

- If the handler specifies that a desktop be used, the desktop's default application for the link's specified protocol processes the URL.
- If the handler specifies that an application be used, the assigned application processes the URL.
- If the user is not entitled to the desktop or application specified in the handler, Horizon Client displays a message to the user (unless you set `Strict Match` to `No`.
- If `Strict Match` is set to `No`, Horizon Client locates a resource to use, based on the following fall-back behavior:
  1. The system searches the user's assignments using a substring match of the target resource specified for the handler. If the system finds an assignment that matches the substring, that assigned desktop or application is used to open the link.
  2. When the `Resource Type` is set to `Application`, if the search for a substring match fails, the system searches the user's application assignments for an assigned application that can handle the protocol specified in the `Scheme` field.
  3. **Note:** This applies only if the `Resource Type` is set to `Applications`. If the `Resource Type` is set to `Desktops`, this step is skipped.
  4. If the system cannot locate a resource that can handle the protocol, Horizon Client displays a message to the user.

**Note:** The Customization window is provided for you to configure client-to-agent URL redirection. For configuring agent-to-client URL redirection, you use a different procedure. For more information about agent-to-client URL redirection, see Configuring Agent-to-Client Redirection.

Adding Redirection Customization
You can customize your end users' environments by making URL redirection assignments. You do this by configuring the client-to-agent URL redirection rules that tell the Horizon Client to redirect URLs from the end user's client machine to a desktop or application within your Horizon Cloud environment.
1 Verify Prerequisites are Met

Verify that the following prerequisites must be met:

- The user's Horizon Client must be installed with the `URL_FILTERING_ENABLED=1` option so the client can handle URL redirection. For more information, see the *Installing Horizon Client for Windows with the URL Content Redirection Feature* topic in the *VMware Horizon 7* documentation.
- The Horizon agent in the base image used by the farm was installed using the `URL_FILTERING_ENABLED=1` parameter on the command line.
- Your Horizon Cloud inventory has the desktops and remote applications that you intend to use in the configuration.
- If the customization has Strict Match set to Yes, assignments must exist that entitle the specific desktops and remote applications to the end users specified in the customization.

2 Navigate to the Assignments Window

1. In the navigation bar, select Assign.
2. In the Assignments window, select New.

3 Select Customization Option

- **Desktops**: Assign desktops to users and groups.
- **Applications**: Assign Windows applications to users and groups using App Volumes AppStacks or remote applications.
- **Customizations**: Assign customization settings conditionally to customize users' environments.
In the New Assignment window, click Select.

4 Provide an Assignment Name

1. In the Definition tab of the New Customization Assignment window, enter an Assignment Name. Note: Provide a unique name to help you distinguish this URL redirection customization assignment from others in the system. It must start with a letter, and contains only letters, dashes, and numbers.
2. In the lower right, click Next.

5 Define URL Patterns to be Intercepted
In the Configuration tab of the New Customization Assignment window, define the URL patterns to be intercepted.

**Note:** In your URL patterns, you can use the following special characters:
- To specify that all URLs be redirected for all schemes, enter the star symbol (*).
- To specify that all http URLs be redirected, enter `http://.*`

2. On your keyboard, press *Enter* after each entry to save it and add multiple URL patterns.
3. Enter as many additional URL patterns as you want.

**6 Define the Search Rules**
1. Under Rules, provide the following information:
   - **Scheme**: Enter the URL scheme type for the URL pattern you entered earlier. This specifies which schemes to consider when matching any scheme-less URL patterns defined earlier. For example, if there is any content for the URL patterns specified that uses or matches the `http` protocol, it is redirected.
   - **Resource Type**: Select one of the following options from the pop-up menu to indicate where the URL content should be redirected:
     - **Desktop**: The system searches the user’s assignments, and if it finds a match, the desktop is used to open the link.
     - **Application**: The system searches the user’s assignments, and if it finds a match, the application is used to open the link. If the search fails, the system searches for an application that can handle the protocol in the scheme.
   - **Target Resource**: Enter a target source for the type you selected. For example, an application or assignment name, or `http` or `mailto`, and so on.
   - **Strict Match**: Indicate whether to search for a strict match or a next best match:
     - **Yes**: Select Yes to search the Resource Type for the exact match to the Target Resource. For example, if Chrome is entered but the user is not entitled to use it, a message is displayed to the user.
     - **No**: Select No to search the Resource Type for the next best match to the Target Resource. For example, if Chrome is entered but is not installed on the desktop, a default browser is used.
2. In the lower right, click **Next**.

7 Start the Active Directory Search
In the Users tab of the New Customization Assignment window, click the Active Directory Search field to begin.

8 Search for User Groups

1. In the search hit list, select as many users or groups as you want to include.
2. On your keyboard, press Enter to save your selections.

9 Select User Groups
When you have selected all the users or groups that you want to include, click Next.

10 Review the Summary
1. Review the Summary window.
2. In the lower right, click Submit.

Using Workspace One with Horizon Cloud

Introduction to Integration with Workspace One

VMware Identity Manager, optimized with VMware AirWatch® Conditional Access, delivers one-touch access to nearly any application from any device. At the same time, VMware Identity Manager provides you a central place to manage access policies and user provisioning with enterprise-class directory integration, identity federation, and user analytics. Components of VMware Identity Manager include the VMware Workspace™ ONE™ portal, AirWatch Directory integration, access policy integration, and Horizon Cloud integration.

VMware Identity Manager includes the following key benefits:

- Promotes productivity by removing traditional barriers to mobility, such as complex passwords, multiple configuration steps, traditional VPNs, and tokens
- Increases security by optimizing authentication for each device type rather than the lowest common denominator
- Frees businesses to roll out new software-as-a-service (SaaS) and mobile apps immediately to address changing business processes and customer engagements while maintaining a single point of user entitlement and license monitoring
- Simplifies IT maintenance by leveraging existing directory infrastructure and extending to SaaS and mobile applications with automated provisioning, utilization reporting, and conditional access policies
- For more information, see VMware Identity Manager.

You can explore the benefits of integrating VMware Identity Manager and Horizon Cloud in the following exercises:

- Setting up VMware Identity Manager within Horizon Cloud
- Creating the Federation Artifact
- Configuring Horizon Cloud for Integration
- Accessing a Horizon Cloud Desktop from VMware Identity Manager
- Accessing an Application from VMware Identity Manager
Setting Up VMware Identity Manager with Horizon Cloud
You can enable Horizon Cloud desktops and applications in VMware Identity Manager by configuring the cloud-based version of VMware Identity Manager with Horizon Cloud with Hosted Infrastructure. It is assumed that you already have a VMware Identity Manager deployment set up with users and groups synchronized with your Active Directory.

1 Log In to VMware Identity Manager

![Login to VMware Identity Manager](image)

- Log in to VMware Identity Manager using your Active Directory domain.

2 Switch to the Administration Console

![Switch to Administration Console](image)

1. In the upper right corner, click the person icon.
2. Select Administration Console from the drop-down menu.

3 Navigate to the Virtual Apps Catalog
1. In the VMware Identity Manager Administration Console, select Catalog.
2. In the drop-down menu, click Virtual Apps.

4. Navigate to Virtual App Configuration

- In the Virtual Apps window, select Virtual App Configuration in the upper row.

5. Select Horizon Cloud
In the Virtual App Configuration window, click **Add Virtual Apps**.

1. In the drop-down menu, click **Horizon Cloud**.

### 6 Provide Initial Horizon Cloud Parameters

1. In the Horizon Cloud window, provide the following parameters:
   - **Name**: Enter a friendly name for the virtual applications.
   - **Sync Connectors**: Select from the drop-down menu, or **Add Connector**.

2. In the Tenants pane, click **Add Tenant**.

### 7 Provide Tenant Parameters
1. Scroll down the Horizon Cloud window to the Tenants pane.
2. Provide the following information:
   - **Tenant Host**: Enter the fully qualified domain name (FQDN) of the Horizon Cloud Tenant URL.
   - **Tenant Port**: Accept the default port of 443.
   - **Admin User**: Enter the username of the tenant host.
   - **Admin Password**: Enter the password for the tenant administrator account.
   - **Admin Domain**: Enter the Active Directory NETBIOS domain name where the tenant administrator resides.
   - **Domains to Sync**: Enter the Active Directory NETBIOS domain names for synchronizing Horizon Cloud resources and entitlements.
   - **Assertion Consumer Service URL**: Enter the IP address or hostname of the Horizon Cloud tenant, such as https://example.url.com.
   - **True SSO enabled on Horizon Cloud**: Check the check box if True SSO is enabled for this Horizon Cloud tenant.
8 Provide Custom ID Mapping Parameters

1. Scroll to the bottom of the Horizon Cloud window, and provide the Custom ID Mapping:
   - Name ID Format
   - Name ID Value
2. Provide the following additional parameters:
   - Default Launch Client
   - Sync Frequency
   - Activation Policy
3. Click Save.

When the parameters are saved and the operation is completed, proceed to the next exercise to configure the Federation Artifact.

Configuring Horizon Cloud for Integration

Your Horizon Cloud infrastructure must be configured to communicate with VMware Identity Manager.

1 Navigate to Identity Management
1. In the Horizon Cloud Administration Console, select **Settings**.
2. In the Settings menu, click **Identity Management**.
3. In the Identity Manager window, click **New**.

## 2 Provide Parameters

1. In the New Identity Manager window, provide the following information:
   - **VMware Identity Manager URL**: Enter the URL, such as `https://horizon.vmware.com/idp.xml`
   - **Timeout SSO Token**: Accept the default.
   - **Data Center**: Select the data center from the drop-down menu.
   - **Tenant Address**: Enter the address, such as `cloud.horizon.vmware.com`
2. Click **Save**, and verify that a message appears saying the settings have been saved successfully.

After you finish configuring Horizon Cloud to communicate with VMware Identity Manager, proceed to the next exercise to entitle a user to applications and desktops, synchronize VMware Identity Manager manually, and launch a connection to an application or desktop through VMware Identity Manager.

### Establishing Trust Between Horizon Cloud and VMware Identity Manager

In this exercise, you gather information in the Workspace ONE administration console, that you then provide to Horizon Cloud in the Horizon Cloud Administration Console, to establish the connection.
1 Navigate to Workspace ONE Web Apps

1. In the Workspace ONE console, select the Catalog tab.
2. In the Catalog menu, select Web Apps.
3. In the upper right of the Web Apps window, click Settings.

2 Gather the SAML Metadata

1. On the navigation bar to the left under SaaS Apps, click SAML Metadata.
2. In the SAML Metadata pane on the right, click **Copy URL**.
3. When the green banner appears confirming the data is copied to the clipboard, you can paste it and save to use later.

### 3 Navigate to Identity Manager

1. Return to the Horizon Cloud Administration Console, and click **Settings**.
2. In the Settings menu, select **Identity Manager**.
3. In the Identity Manager window, click **New**.

### 4 Provide the Identity Manager Parameters

1. In the New Identity Manager window, provide the following parameters:
   - **VMware Identity Manager URL**: Paste the VMware Identity Manager SAML IdP metadata URL that you copied earlier.
   - **Timeout SSO Token**: You can enter an optional period of time in minutes before the session times out. In this example, that time period is 0 minutes.
   - **Data Center**: Click the down arrow and select a Data Center from the menu for the Identity Manager.
   - **Tenant Address**: Enter the address of the tenant appliance.
2. In the lower right, click **Save**.

When you complete this exercise, proceed to the next exercise to verify that the integration is working.
Accessing an Application from VMware Identity Manager
You can verify that you integrated Horizon Cloud with VMware Identity Manager by launching a Horizon Cloud application and accessing it in VMware Identity Manager as a user would.

1 Select an Application

1. From the VMware Identity Manager User Portal, click Bookmarks.
2. Select an application.

2 View the Application Details

1. Right-click an application to view details.
2. Choose one of the following options:
   - To launch the application using the Horizon Client, click Launch in Client.
   - To launch the application using the HTML5 Client, click Launch in Browser.

3 Verify That the Application Launches Properly
Verify that the application launches properly.

Explore the features of the application.

After you launch the Horizon Cloud application from VMware Identity Manager to verify that the integration works properly, you have finished this section of the Quick-Start Tutorial. This also concludes the exercises of the Quick-Start Tutorial. To find out more about additional products that enhance Horizon Cloud, see I: VMware User Environment Manager with Horizon Cloud.

Using VMware User Environment Manager with Horizon Cloud

Introduction to Integration with VMware User Environment Manager

VMware User Environment Manager complements Horizon Cloud by managing application and desktop settings for all users at a granular level. You can explore the benefits of integrating VMware User Environment Manager and Horizon Cloud in this section.
About VMware User Environment Manager

VMware User Environment Manager offers personalization and dynamic policy configuration across any virtual, physical, and cloud-based Windows desktop environment. It simplifies end-user profile management by providing organizations with a single, lightweight, and scalable solution that leverages existing infrastructure. It accelerates time-to-desktop and time-to-application by replacing bloated roaming profiles and unmaintainable, complex login scripts. It maps environmental settings, such as networks and printers, and dynamically applies end-user security policies and personalization.

About Installation

Installing and configuring User Environment Manager with Horizon Cloud is similar to using User Environment Manager with traditional virtual desktops and applications. The primary difference is where the data is stored. To maintain an optimal end-user experience, VMware User Environment Manager in Horizon Cloud stores the data on a Windows-based file server housed in your enterprise network in Horizon Cloud.

For more information about using VMware User Environment Manager to dynamically deliver user persona and application settings in Horizon Cloud, see the following:

- VMware User Environment Manager
- VMware User Environment Manager Deployed in 60 Minutes or Less
- VMware User Environment Manager Hands-on-Lab HOL-1851-04-ADV
Summary and Additional Resources

Summary
This tutorial provides an overview of the VMware Horizon Cloud family of products, including the system architecture, components, and features. A series of exercises takes you through the processes for setting up a Horizon Cloud infrastructure and initial configuration. You explore the key features of Horizon Cloud through exercises, including creating and publishing a desktop image and assigning access to desktops and remote and native applications. It also addresses how additional VMware products can enhance a user’s experience in the Horizon Cloud environment, such as VMware Identity Manager, App Volumes, and VMware User Environment Management.

Terminology Used in This Guide
The following terms are used in this tutorial:

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog</td>
<td>The VMware Identity Manager UI that displays desktops and applications available to a user or group of users</td>
</tr>
<tr>
<td>Cloud</td>
<td>A set of securely accessed Internet-hosted services</td>
</tr>
<tr>
<td>Traditional full clone</td>
<td>A complete copy created from an existing virtual machine (VM) template</td>
</tr>
<tr>
<td>Full-clone desktop</td>
<td>An independent copy of a VM that shares nothing with the master image, and operates entirely separately from the VM used to create it</td>
</tr>
<tr>
<td>Instant clone</td>
<td>A copy of an existing VM that, like a linked-clone, shares virtual disks with the parent VM, but that, at creation time, shares the memory of the running parent VM from which it is created</td>
</tr>
<tr>
<td>Master image</td>
<td>A VM that has been created and configured for desktop deployment and which will serve as the core image for clones. For full clones, the master image is a VM template. For linked clones, the master image is the parent VM plus a selected VM snapshot. The master image can also be referred to as a desktop image, a golden image, or a linked-clone desktop image.</td>
</tr>
<tr>
<td>Virtual appliance</td>
<td>A virtual machine created and configured by VMware to perform a product-based function, such as VMware Workstation</td>
</tr>
<tr>
<td>Virtual machine</td>
<td>A software computer running an operating system or application environment that is backed by the physical resources of a host</td>
</tr>
</tbody>
</table>

For more information about terms, see the VMware Technical Publications Glossary or VMware Technical Publications Glossary Online.

Additional Resources
For more information about Horizon Cloud, you can explore the following resources:

- Adding AppStack File Share video
- Horizon Cloud Service with Hosted Infrastructure – July 2017 Technical Updates blog post
- Horizon Desktop-as-a-Service Platform for Service Providers (formerly Desktone)
- How to Buy VMware Horizon Cloud Service
- Moving Virtual Desktops to the Cloud
- Service Description: VMware Horizon Cloud Service with Hosted Infrastructure
- Uploading and Deploying RDSH Hosts in Horizon Cloud video
- VMware App Volumes product page
- VMware App Volumes Documentation
- VMware App Volumes Technical FAQ
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Feedback
The purpose of this tutorial is to assist you. Your feedback is valuable. To comment on this tutorial, contact VMware End-User-Computing Technical Marketing at euc_tech_content_feedback@vmware.com.