

VMware App Volumes Deployment Guide for Amazon AppStream 2.0

Technical Preview

You can find the most up-to-date technical documentation on the VMware website at:

<https://docs.vmware.com/>

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About App Volumes for Amazon AppStream 2.0

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The App Volumes deployment guide for Amazon AppStream 2.0 provides instructions for installing and configuring App Volumes. App Volumes can be used to manage and deliver applications to users of Amazon AppStream 2.0.

This deployment option is intended for applications packages and not Writable Volumes.

Intended Audience

This information is intended for experienced IT system administrators who are familiar with virtual machine technology and data center operations.

App Volumes Documentation

App Volumes is a real-time application delivery system that enterprises can use to dynamically deliver and manage applications. For information about installing App Volumes, see the *VMware App Volumes 4 Installation Guide*. For information about configuring and using App Volumes for delivering and managing applications, see *VMware App Volumes 4 Administration Guide*.

For more information about App Volumes, you can see various information resources on the App Volumes product documentation page.

App Volumes documentation is available at [VMware Docs](#).

Preparing for App Volumes for Amazon AppStream 2.0

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To deploy App Volumes in the AppStream 2.0 service, you must have the required permissions to access AWS services. It is necessary that you are aware of these requirements before the deployment.

The prerequisites for deploying App Volumes in the AppStream 2.0 service are as follows:

- Ensure that you have an AWS account.
- Ensure that you have permissions to access the AppStream 2.0 service.
- Ensure that you have access to Amazon EC2.
- To set up SAML, ensure that you have permissions to access either the IAM (Identity and Access Management) or the IAM Identity Center (Successor to AWS Single Sign-On).
- Ensure that you have permissions to set up AWS Managed Microsoft Active Directory (AD).
- To create a file share, ensure that you have permissions to use Amazon FSx for Windows.

To use Amazon FSx for Windows, see the *Getting Started* section in the *Amazon FSx for Windows File Server User Guide*.

For more information about AWS and the services, see the corresponding AWS documentation.

Workflow of App Volumes for Amazon AppStream 2.0

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To deploy App Volumes in Amazon AppStream 2.0, you must set up an Active Directory and file share, install App Volumes Manager in a persistent Amazon Elastic Compute Cloud (EC2) instance, and install App Volumes agent in the Amazon AppStream 2.0 service.

It is recommended to use Amazon Elastic Compute Cloud (EC2) t3.xlarge instance.

AWS services such as AWS Managed Microsoft AD and Amazon FSx, App Volumes Manager, and App Volumes agent are required for deploying App Volumes. This task gives you an overview of the steps that are necessary for this deployment.

At the end of the deployment, to create and manage applications and packages, you can use App Volumes workflows as described in the App Volumes documentation.

App Volumes documentation is available at [VMware Docs](#).

Note When using any of the AWS services mentioned in this task, see the relevant AWS documentation.

Prerequisites

Ensure that you are aware of the requirements necessary for deploying App Volumes in the AppStream 2.0 service.

For more information about these requirements, see [Chapter 2 Preparing for App Volumes for Amazon AppStream 2.0](#).

Procedure

- 1 Log into your AWS account.
- 2 Set up AWS Managed Microsoft AD.

Note Ensure that the AWS Managed Microsoft AD is created in the targeted Availability Zone and subnet in the Virtual Private Cloud (VPC).

- 3 To create a domain-joined Windows file share, use Amazon FSx.
 - Associate the file share with a security group that allows inbound SMB traffic over TCP at port 445 and custom TCP port, with the protocol as TCP and at port 8080.

- Ensure that you apply NTFS folder permissions required by App Volumes to the newly created file share.

For more information about these permissions, see the *Configurations Required When Hypervisor Connection Type is VHD In-Guest Services* section in the *App Volumes 4 Administration Guide* at [VMware Docs](#).

4 Perform the following steps in the AWS console:

- a Create a security group.
- b Enable port 443 for HTTPS.

Enabling the port for HTTPS ensures that App Volumes Manager and App Volumes agent communicate with each other.

5 Install App Volumes Manager in an Amazon EC2 instance.

For the install procedure, see *Install App Volumes Manager* section in the *VMware App Volumes 4 Installation Guide* at [VMware Docs](#).

6 Configure App Volumes Manager.

For more information about configuring App Volumes Manager, see the *Configuring App Volumes Manager* section in the *VMware App Volumes 4 Administration Guide* at [VMware Docs](#).

7 Install App Volumes agent in an Amazon EC2 instance.

For the install procedure, see *Install App Volumes Agent* section in the *VMware App Volumes 4 Installation Guide* at [VMware Docs](#).

8 Assign the previously created security group to App Volumes Manager and App Volumes agent.

9 For packaging, assigning, and testing the captured application, take snapshots of the App Volumes agent EC2 instance.

The snapshots allow you to revert between application captures.

10 Install App Volumes agent in the AppStream 2.0 service.

- a To create a Windows instance bound to the AWS Managed Microsoft AD, use the image builder in the AppStream 2.0 service.
- b Associate the previously created security group with this Windows instance.
The security group allows the HTTPS traffic on port 443.
- c Connect to the Windows instance.
- d Install App Volumes agent.

- e In the machine where App Volumes agent is installed, configure the following parameters:
 - 1 Navigate to `HKLM\SYSTEM\CurrentControlSet\Services\svdriver\Parameters` and add `*\start-amazon-cloudwatch-agent.exe|*` to the `HookInjectionWhitelist` parameter.

Configuring this parameter ensures that you are able to use the **Connect** button in the AppStream 2.0 service console and connect to the image. For information about this `svdriver` parameter, see *Configuration of svdriver* in the *VMware App Volumes 4 Administration Guide* at [VMware Docs](#).
 - 2 Navigate to `HKLM\SYSTEM\CurrentControlSet\Services\svservice\Parameters` and set the value of `DelayVirtualizationType` parameter to 1.

Configuring this parameter to that specific value ensures that the applications are virtualized after the end user enters the login credentials. For information about this `svservice` parameter, see *Configuration of svservice* in the *VMware App Volumes 4 Administration Guide* at [VMware Docs](#).
 - f Restart the Windows instance.
- 11** To enable dynamic app providers, perform the following steps:
- a Connect to the Windows instance created in the previous step.
 - b Navigate to `C:\ProgramData\Amazon\AppStream\AppCatalogHelper\DynamicAppCatalog\` and open the `Agents.json` configuration file.
 - c Update the **DisplayName** to `App Volumes Agent`.
 - d Update the path to the location where App Volumes agent is installed in the previous step.

The default installation location is `C:\Program Files (x86)\CloudVolumes\Agent`.
 - e Open AppStream 2.0 Image Assistant on the desktop.
 - f Select **Enable dynamic app providers**.
 - g To complete the image creation, proceed through the remaining steps in the AppStream 2.0 Image Assistant.
- 12** In the AppStream 2.0 service, use the image created from the previous step and create a fleet.
- 13** Create a stack and associate the fleet with the stack.
- 14** Set up SAML 2.0 to allow domain users to access the AppStream 2.0 stack.

To set up SAML 2.0, see *User Authentication > SAML 2.0 Integration > Setting up SAML* in the *Amazon AppStream 2.0 Administration Guide*.
- App Volumes is ready to deliver and manage applications.

15 To validate the application delivery and launch flow, perform the following steps:

- a Connect to App Volumes Manager and assign applications to the domain user.

To assign an application, see the *Assign an Application to an Entity* section in the *VMware App Volumes 4 Administration Guide*.

- b Log into the AppStream 2.0 stack as the domain user.

Application icons are updated in the AppStream 2.0 application catalog.

- c To launch an application, click an icon.

What to do next

To perform other tasks in App Volumes Manager admin UI, see the *VMware App Volumes 4 Administration Guide*. Here are a few examples:

- To create a packaged application, see the *Create an Application* section.
- If you already have .vhd application packages created in another App Volumes Manager deployment, you can import these packages to the current deployment.

For more information about importing application packages, see the *Import an Application to App Volumes* section.