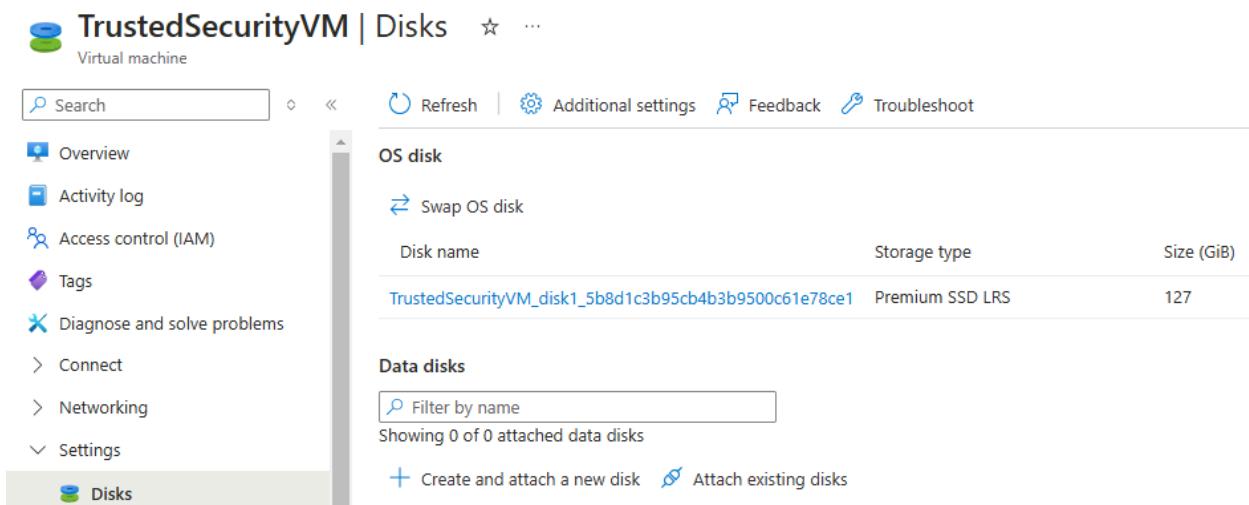


Summary

- This document is focused on providing instructions for 'Converting a Trusted Launch VM to a Standard VM' as a step toward completing the Containerization Project.
 - Reference:
<https://learn.microsoft.com/en-us/answers/questions/1380011/converting-trusted-azure-vms-to-standard-vms>

1. Exporting OS Disk / Prepare vhd file to upload it to the Container

- *Each VM has an OS disk attached to it.*
<https://learn.microsoft.com/en-us/azure/virtual-machines/managed-disks-overview#:~:text=your%20virtual%20machine.-,OS%20disk,when%20the%20VM%20was%20created.%20This%20disk%20contains%20the%20boot%20volume.,-Generally%2C%20you%20should>



The image above shows you can access the Disk Service through the linked disk connection. After accessing the Disk Service, navigate to the 'Settings' menu and use the 'Disk Export' option, as illustrated in the image below. Click the 'Generate URLs' button to download the VHD file.

- If the 'Generate URLs' button is not visible or is disabled, you may need to stop the VM that is attached to this disk to enable the button.

TrustedSecurityVM_disk1_5b8d1c3b95cb4b3b9500c61e78ce17da | Disk Export

Search Save Discard Give feedback

Overview Activity log Access control (IAM) Tags Diagnose and solve problems

Settings Configuration Size + performance Encryption Networking

Disk Export Properties Locks

Data access authentication mode

Allow Data Access with Azure Active Directory Authentication for disk upload/export. [Learn more](#)

Enable data access authentication mode

If you'd like to provide a restricted access to your disk you can choose this mode.

Generate a secure URL

Generate a secure URL and a secure VM Guest State URL for direct download

URL expires in (seconds) * 3600

Generate URLs

The image below shows what it looks like after clicking 'Generate URLs.' To prepare the VHD for uploading as a blob to the storage account's container, click 'Download the VHD file' to download it locally.

- Later, when creating a VM OS disk using a blob, it may not be easy to proceed if the file is not in VHD format. Therefore, download the file to your local machine using the 'Download the VHD file' link and manually change the file extension to VHD.

TrustedSecurityVM_disk1_5b8d1c3b95cb4b3b9500c61e78ce17da | Disk Export

Search Save Discard Give feedback

Starting from 2/15/2025, the maximum Shared Access Signature (SAS) URI expiry time will be 60 days. These changes are necessary to improve the security of SAS usage with our service. [Learn more](#)

Generate a secure URL

The following URL can be used to download the VHD file for this disk. Copy it and keep it secure, it will not be shown again.

Download the VHD file

The following URL can be used to download the VM Guest State for this disk. Copy it and keep it secure, it will not be shown again. VM Guest State is a blob containing UEFI secure boot signature databases and other security information. [Learn more](#)

Download the VM Guest State VHD

A SAS URL has been generated for this disk for export. While in this state, it can't be edited or attached to a running virtual machine. You can cancel the export by clicking the button below. This will revoke the SAS URL, and may cancel any in-progress transfers if the disk is currently being downloaded to another location.

Cancel export

The file downloaded and changed file extension to .vhd format.

 trustedVMGen28GiB.vhd	2024-11-05 12:13 PM	Hard Disk Image File	133,171,201 KB
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2. Creating a ‘Container’ to store the ‘vhd’ file as a blob

Create a storage account where the VHD file will be stored as a blob.

Create a storage account

Basics Advanced Networking Data protection Encryption Tags Review + create

Azure Storage is a Microsoft-managed service providing cloud storage that is highly available, secure, durable, scalable, and redundant. Azure Storage includes Azure Blobs (objects), Azure Data Lake Storage Gen2, Azure Files, Azure Queues, and Azure Tables. The cost of your storage account depends on the usage and the options you choose below. [Learn more about Azure storage accounts](#)

Project details

Select the subscription in which to create the new storage account. Choose a new or existing resource group to organize and manage your storage account together with other resources.

Subscription *



Resource group *

SecurityTypechange

[Create new](#)

Instance details

Storage account name * ⓘ

trusted2standard

Region * ⓘ

(Canada) Canada Central

[Deploy to an Azure Extended Zone](#)

Primary service ⓘ

Azure Blob Storage or Azure Data Lake Storage Gen 2

Performance * ⓘ

Standard: Recommended for most scenarios (general-purpose v2 account)

Premium: Recommended for scenarios that require low latency.

Redundancy * ⓘ

Zone-redundant storage (ZRS)

Using the created storage account, go to the 'Containers' menu to add a container where the VHD file will be stored.

- *The 'vhd-container' has been created and will serve as the container for storing the trustedVMGen28GiB.vhd (the VM OS disk file) in this instruction.*

Name	Last modified	Anonymous access level
Slogs	11/6/2024, 3:32:24 PM	Private
vhd-container	11/6/2024, 3:34:49 PM	Private

Reference:

<https://learn.microsoft.com/en-us/azure/storage/common/storage-account-create?tabs=azure-portal>

3. Upload the vhd file to the Container using AzCopy

Azure provides the azcopy copy feature for 'copying source data to a destination location.' To use this feature locally, the following prerequisites are required.

1. AzCopy V10 executable file:

<https://learn.microsoft.com/en-us/azure/storage/common/storage-use-azcopy-v10?tabs=dnf#:~:text=dnf%20install%20azcopy-.Download%20the%20AzCopy%20portable%20binary.tar%20file%20on%20Linux%2C%20see%20the%20documentation%20for%20your%20Linux%20distribution..-For%20detailed%20information>

2. Blob SAS URL:

<https://learn.microsoft.com/en-us/kusto/api/connection-strings/generate-sas-token?view=microsoft-fabric>

azcopy.exe	Application	23,194 KB	No	54,534 KB	58%	2024-10-30 11:20 PM
NOTICE.txt	Text Document	21 KB	No	501 KB	96%	2024-10-30 11:23 PM

Before generating the SAS Token and URL, add the necessary permissions.

A shared access signature (SAS) is a URI that grants restricted access to an Azure Storage container. Use it when you want to grant access to storage account resources for a specific time range without sharing your storage account key. Learn more about creating an account SAS

Container

Shared access tokens

Sigining method: Account key (selected), User delegation key

Sigining key: Key 1

Stored access policy: None

Permissions: 7 selected

- Read
- Add
- Create
- Write
- Delete
- List
- Immutable storage

Allowed IP addresses: For example, 10.1.1.65 or 168.1.65-168.1...

Allowed protocols: HTTPS only (radio button selected), HTTPS and HTTP

Generate SAS token and URL:

Blob SAS token: sp=racwldi&st=2024-11-06T20:36:45Z&se=2024-11-02&sr=c&sig=288%2F6BuMWjAiQKGHvoK9zbZWS5ws4%2BL7viF%2F9SdhPi0%3D

Blob SAS URL: https://trusted2standard.blob.core.windows.net/vhd-container?sp=racwldi&st=2024-11-06T20:36:45Z&se=2024-11-02&sr=c&sig=288%2F6BuMWjAiQKGHvoK9zbZWS5ws4%2BL7viF%2F9SdhPi0%3D

Use the AzCopy executable file, the local path of the VHD file, and the Blob SAS URL in the command line to upload the VHD file to the container.

```
Microsoft Windows [Version 10.0.22631.4317]
(c) Microsoft Corporation. All rights reserved.

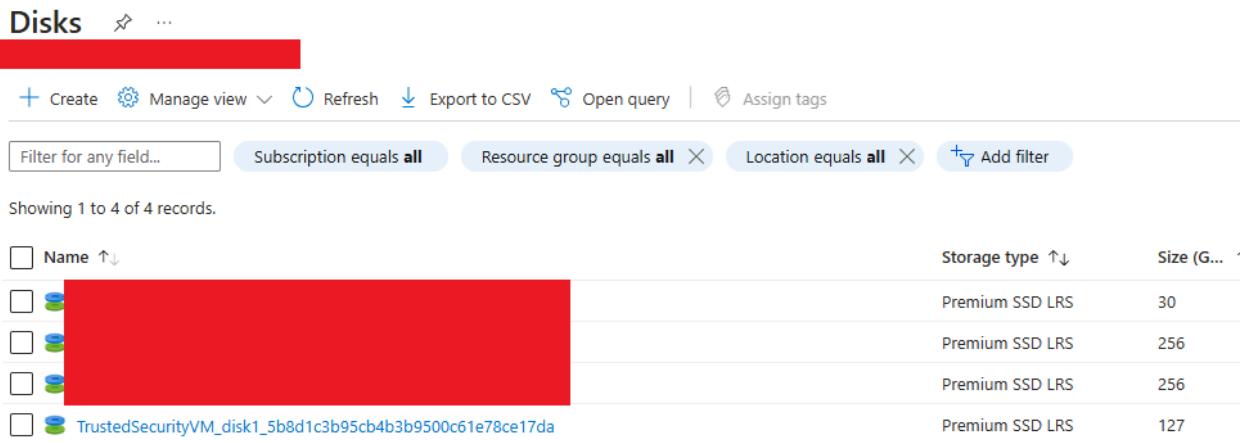
C:\Users\blitz>azcopy copy "C:\Users\blitz\Downloads\trustedVMGen28GiB.vhd" "https://trusted2standard.blob.core.windows.net/vhd-container?sp=racwldi&t=2024-11-06T20:36:45Z&se=2024-11-08T04:36:45Z&sv=2022-11-02&sr=c&sig=288%2F6BuMWjAiQKGHvoK9zbZWS5ws4%2BL7viF%2F9SdhPi0%3D"
INFO: Scanning...
INFO: Any empty folders will not be processed, because source and/or destination doesn't have full folder support
Job dc404760-6f73-714e-631c-39d6140ec0e0 has started
Log file is located at: C:\Users\blitz\.azcopy\dc404760-6f73-714e-631c-39d6140ec0e0.log
0.4 %, 0 Done, 0 Failed, 1 Pending, 0 Skipped, 1 Total, 2-sec Throughput (Mb/s): 27.9115
```

Successfully the vhd file uploaded in the ‘Container’

Reference:

<https://learn.microsoft.com/en-us/azure/storage/common/storage-ref-azcopy-copy>

4. Create a OS disk with new configuration, using vhd file in the Container



The screenshot shows the Azure portal's 'Disks' blade. At the top, there are navigation links for 'Create', 'Manage view', 'Refresh', 'Export to CSV', 'Open query', and 'Assign tags'. Below these are filter options: 'Subscription equals all', 'Resource group equals all', 'Location equals all', and a 'Add filter' button. A message indicates 'Showing 1 to 4 of 4 records.' The main table lists four disks:

Name	Storage type	Size (G...)
[Redacted]	Premium SSD LRS	30
[Redacted]	Premium SSD LRS	256
[Redacted]	Premium SSD LRS	256
TrustedSecurityVM_disk1_5b8d1c3b95cb4b3b9500c61e78ce17da	Premium SSD LRS	127

Create a disk using the saved blob (VHD file).

- *In particular, it is recommended to use the values for OS type, VM generation, VM architecture, and size that were originally configured in the existing VM.*
- *Finally, the primary objective is to change the Security Type to Standard.*

Home > Disks >

Create a managed disk

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Resource group * ⓘ

 SecurityTypechange

[Create new](#)

Disk details

Disk name * ⓘ

 StandardType ✓

Region * ⓘ

 (Canada) Canada Central

Availability zone

 Zone 1

Source type ⓘ

 Storage blob

Source subscription ⓘ

Source blob * ⓘ

 https://trusted2standard.blob.core.windows.net/vhd-container/trustedVMGen... ✓

[Browse](#)

OS type ⓘ

None (data disk)

Linux

Windows

Security type ⓘ

 Standard

VM generation ⓘ

Generation 1

Generation 2

VM architecture ⓘ

x64

Arm64

Size * ⓘ

128 GiB (P10 performance tier)

Premium SSD LRS

[Change size](#)

[Review + create](#)

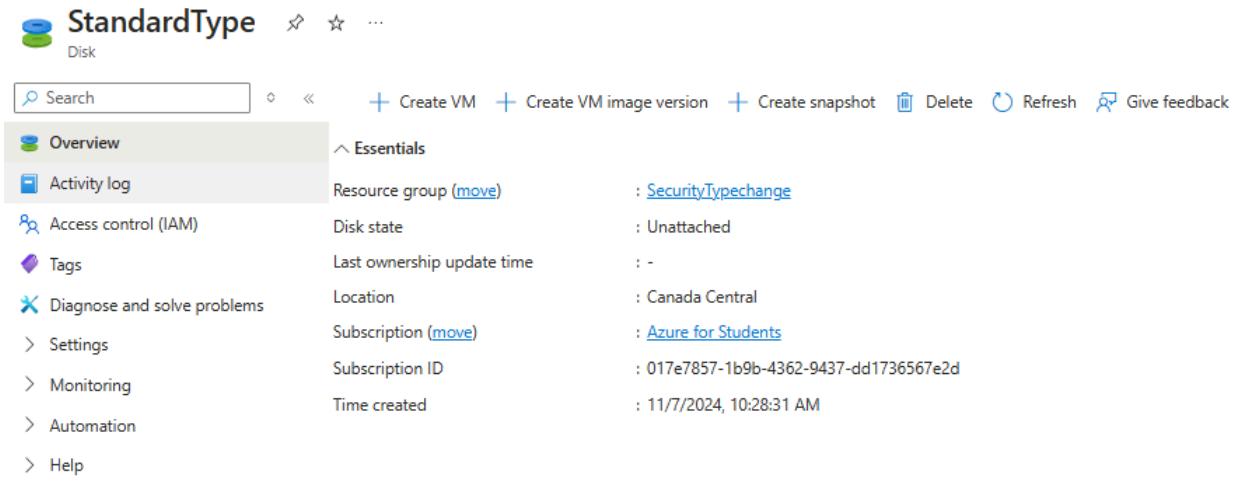
[< Previous](#)

[Next : Encryption >](#)

References:

<https://learn.microsoft.com/en-us/answers/questions/792044/how-to-create-a-vm-from-vhd-file-in-azure>

5. Create a new VM using the OS disk



The screenshot shows the Azure portal interface for a disk named 'StandardType'. The left sidebar lists navigation options: Overview (selected), Activity log, Access control (IAM), Tags, Diagnose and solve problems, Settings, Monitoring, Automation, and Help. The main content area displays the 'Essentials' section with the following details:

Property	Value
Resource group (move)	: SecurityTypechange
Disk state	: Unattached
Last ownership update time	: -
Location	: Canada Central
Subscription (move)	: Azure for Students
Subscription ID	: 017e7857-1b9b-4362-9437-dd1736567e2d
Time created	: 11/7/2024, 10:28:31 AM

The new virtual machine with the 'Standard Security Type'

 **StandardType** ⚡ ⭐ ...

Virtual machine

Search

Help me copy this VM in any region

Overview

Activity log

Access control (IAM)

Tags

Diagnose and solve problems

Connect

Networking

Settings

Availability + scale

Security

Backup + disaster recovery

Operations

- Auto-shutdown
- Run command
- Updates
- Health monitoring
- Configuration management
- Policies

Agent status Ready

Agent version 2.7.41491.1139

Hibernation Disabled

Host group -

Host -

Proximity placement group -

Colocation status N/A

Capacity reservation group -

Disk controller type SCSI

 **Azure Spot**

Azure Spot -

Azure Spot eviction policy -

 **Availability + scaling**

Availability zone (edit) 1

Availability set -

Scale Set -

 **Security**

Security type	Standard
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