

Demo 1: SQL Server 2019 VM sync to ADLSgen2

This demo targets to demonstrate a typical data movement scenario that, on-prem database loading data to the cloud.

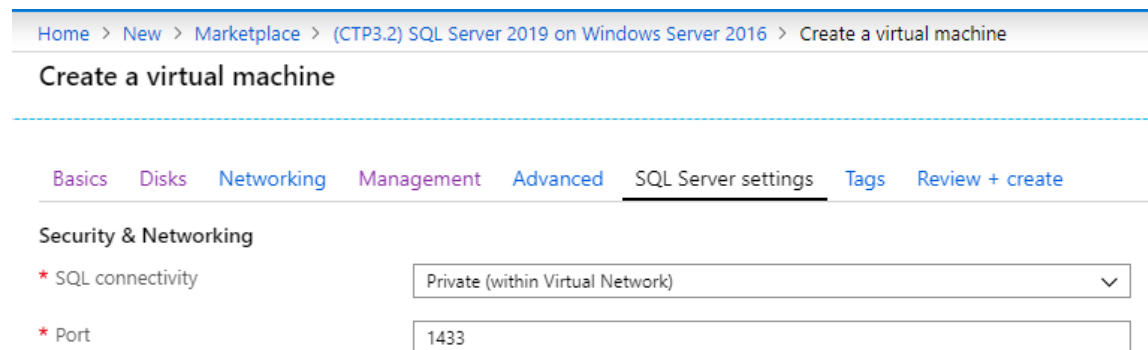
Step 1: VM Setup

This step is not relevant to ADF therefore skipped screenshot, only thing to notice is the machine used:

VM Image: (CTP3.2) SQL Server 2019 on Windows Server 2016

Size: Standard D4s v3 (4 vcpus, 16 GiB memory)

Connectivity: Private (within Virtual Network)



Home > New > Marketplace > (CTP3.2) SQL Server 2019 on Windows Server 2016 > Create a virtual machine

Create a virtual machine

Basics Disks Networking Management **Advanced** SQL Server settings Tags Review + create

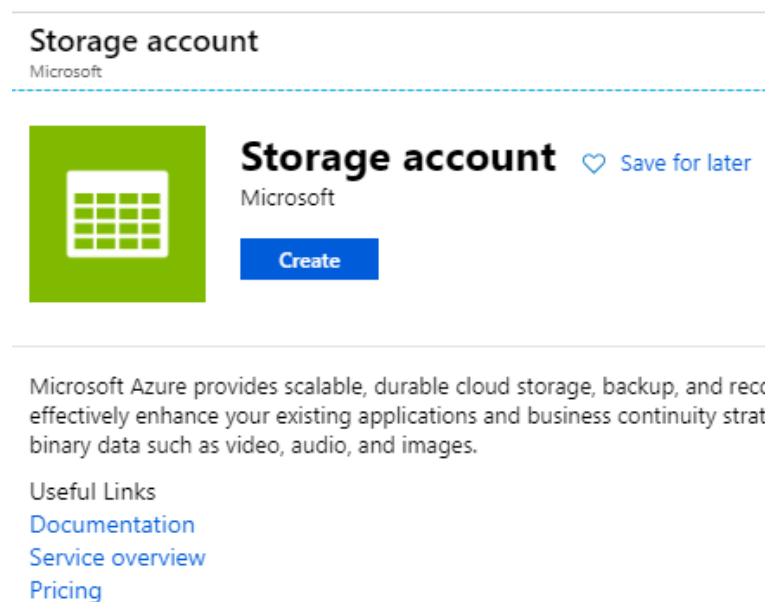
Security & Networking

* SQL connectivity

* Port

Step2: Create ADLSgen2

- On Azure portal, [New Service], then search for Storage Account, [Create]



Storage account

Microsoft



Storage account

Microsoft

[Save for later](#)

[Create](#)

Microsoft Azure provides scalable, durable cloud storage, backup, and recovery to effectively enhance your existing applications and business continuity strategies. Store binary data such as video, audio, and images.

Useful Links

- [Documentation](#)
- [Service overview](#)
- [Pricing](#)

- Define below attributes for the ADLSgen2, do note the Storage Account Name has to be unique

Basics Advanced 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](#)

Project details

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

* Subscription	Visual Studio Enterprise
* Resource group	(New) storageRG

[Create new](#)

Instance details

The default deployment model is Resource Manager, which supports the latest Azure features. You may choose to deploy using the classic deployment model instead. [Choose classic deployment model](#)

* Storage account name ⓘ	gen2demo321
* Location	(Asia Pacific) East Asia
Performance ⓘ	<input checked="" type="radio"/> Standard <input type="radio"/> Premium
Account kind ⓘ	StorageV2 (general purpose v2)
Replication ⓘ	Locally-redundant storage (LRS)
Access tier (default) ⓘ	<input checked="" type="radio"/> Cool <input type="radio"/> Hot

- And in the Advanced Tab:

[Basics](#)
[Advanced](#)
[Tags](#)
[Review + create](#)

Security

Secure transfer required ⓘ ☐ Disabled ☒ Enabled

Virtual networks

Allow access from ☒ All networks ☐ Selected network
 ⓘ All networks will be able to access this storage account. [Learn more](#)

Data protection

Blob soft delete ⓘ ☒ Disabled ☐ Enabled
 ⓘ Blob soft delete and hierarchical namespace cannot be enabled simultaneously.

Data Lake Storage Gen2

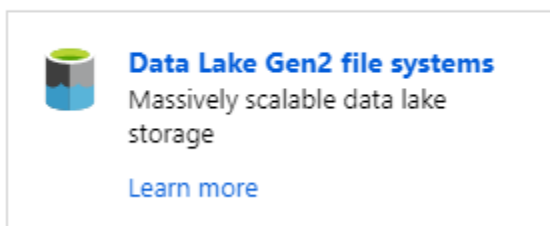
Hierarchical namespace ⓘ ☐ Disabled ☒ Enabled

- And click though [Next>] in Tags, then [Create]

Step 3: Configure the ADLSgen2

Once the resource creation is done, click on the resource name (or enter the resource name in the search bar). Click on below button to enter ADLSgen2 configuration page:

Services




- [+ File System] to create a new file system. Enter [adlsfs] to create a new file system. Your ADLSgen2 is ready to use.

Step 4: Install and configure self-hosted Integration runtime (SHIR)

RDP to the VM, Download the SHIR from Internet (optionally deploy via design studio)





Azure Data Factory Integration Runtime

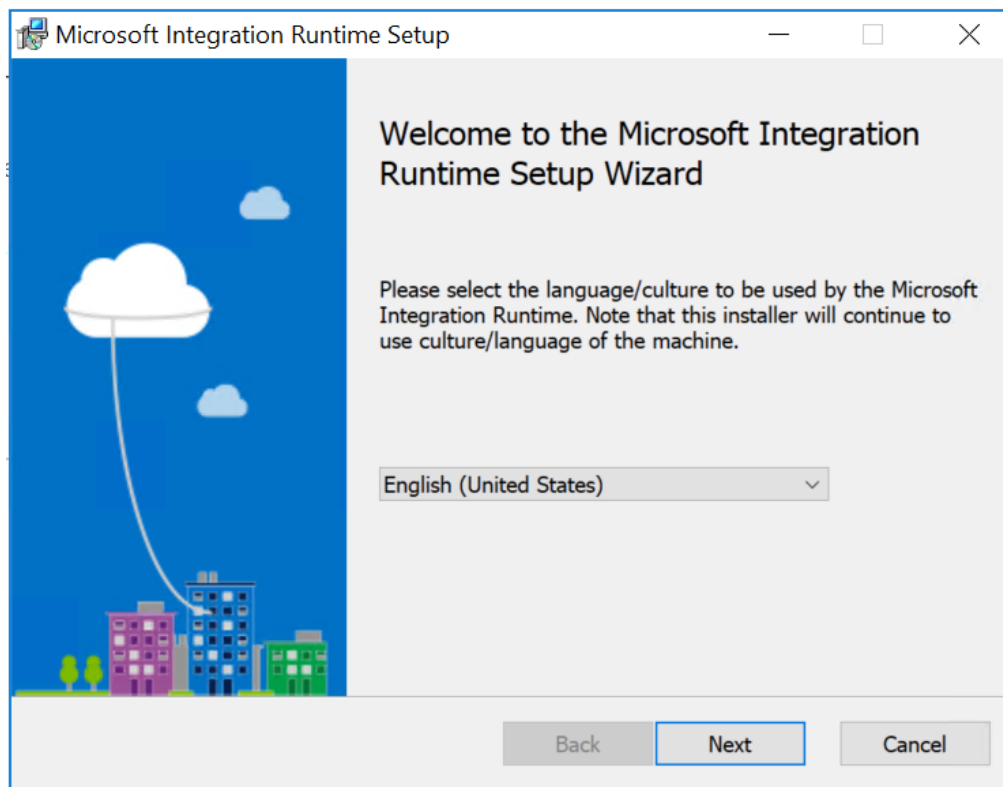
Important! Selecting a language below will dynamically change the complete page content to that language.

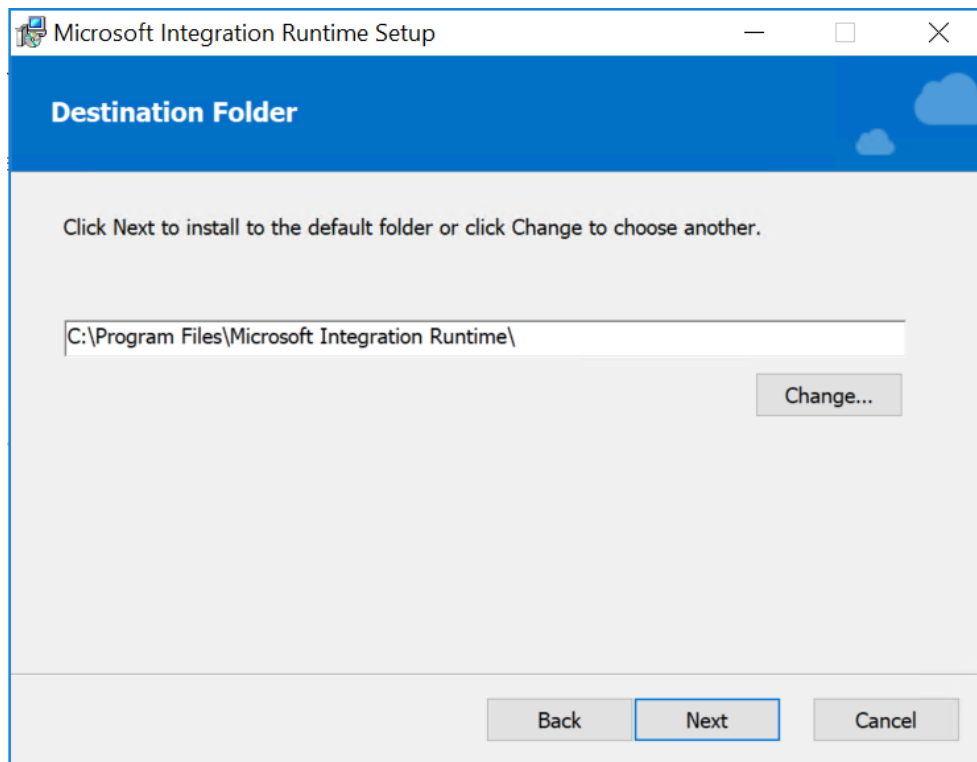
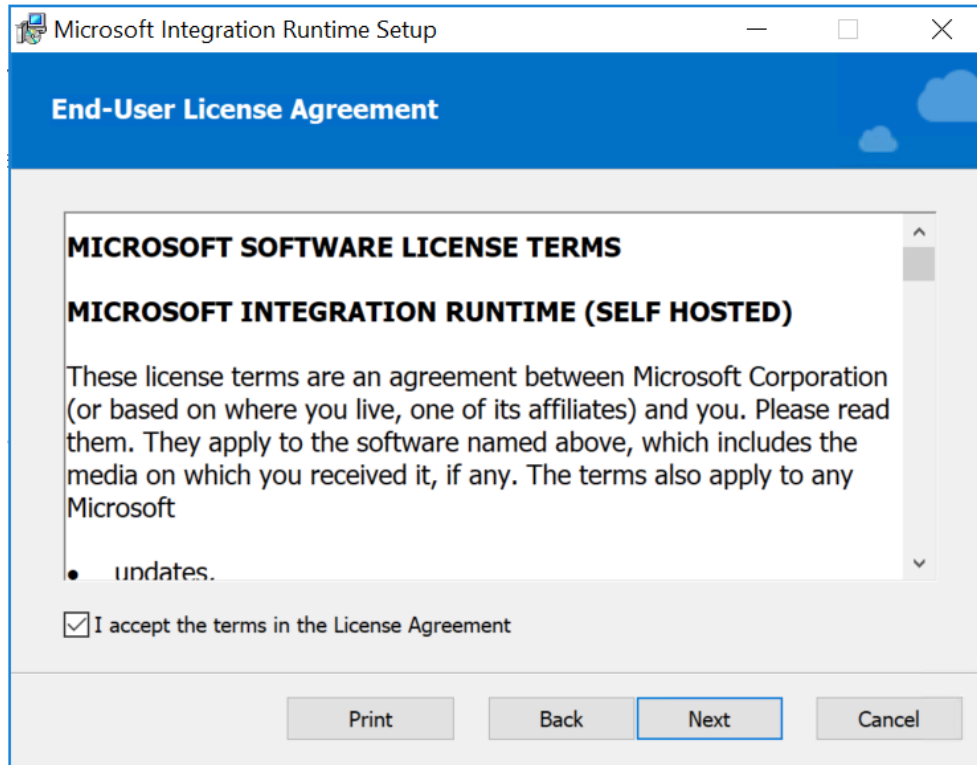
Select Language: 


[Download](#)

The Integration Runtime is a customer managed data integration infrastructure used by Azure Data Factory to provide data integration capabilities across different network environments. It was formerly called as Data Management Gateway.

-  [Details](#)
-  [System Requirements](#)
-  [Install Instructions](#)
-  [Related Resources](#)





 Microsoft Integration Runtime Configuration Manager ×

Register Integration Runtime (Self-hosted)

Welcome to Microsoft Integration Runtime Configuration Manager. Before you start, register your Integration Runtime (Self-hosted) node using a valid Authentication Key.

☐ Show Authentication Key [Learn how to find the Authentication Key](#)

HTTP Proxy

Current Proxy: No proxy [Change](#)



Register

Cancel

- In Azure portal, search for [Data Factory], and click Create



- Name: Have to be unique globally, time for creativity
- Resource Group: up to you reuse or create new one, no dependencies
- Version: always V2 please
- Location: East Asia – This location is for orchestration and metadata only NOT compute, i.e. if your source and target is HK to HK, if your ADF is in Southeast Asia, then physically it is HK => HK, NOT HK => SG => HK.

 Integrate with GIT source control (Azure DevOps GIT or GitHub) to do collaboration, source control, change tracking, change difference, continuous integration and deployment etc 

In your ADF portal, click [Connections], tab [Integration Runtimes], [+New], create a new self-hosted IR.

Integration Runtime Setup



Private network support is realized by installing integration runtime to machines in the same on-premises network/VNET as the resource the integration runtime is connecting to. Follow below steps to register and install integration runtime on your self-hosted machines.

Name *

demosqlldb



Description

Enter description here...

Type

Self-Hosted

Copy one of the key and register.

Register Integration Runtime (Self-hosted)

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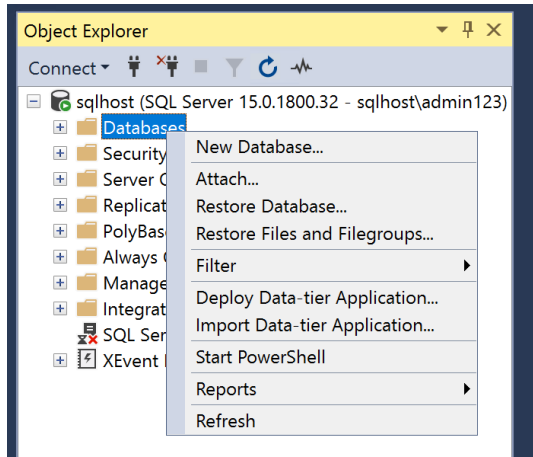


☐ Show Authentication Key

[Learn how to find the Authentication Key](#)

Step 6: Restore DB backup as source data

Download the AdventureWorks2017.bak from <https://docs.microsoft.com/en-us/sql/samples/adventureworks-install-configure?view=sql-server-2017>, then restore database as below:



In Security, ensure your user has permission to select on restored database.

Step 7: Exam different options of full output

Once the setup is done, you can try to export all data in csv to ADLSgen2 / export all data to SQL DW with table autocreation feature.