

How to Load JSON File to Azure SQL Database Table in Azure Data Factory ADF Tutorial 2021

Issue: How to Load JSON File to Azure SQL Database Table in Azure Data Factory.

In this article, we are going to learn how to load .json file to Azure SQL database table in the Azure data factory, let's start our demonstration, first of all, we have to create a SQL database, to create SQL database open your Azure portal and click on SQL database at top of the dashboard, then click on + Create button, it will open a new window, as shown in the picture below, provide the required information, which is Azure subscription, Resource group, and database name, then select the server if you have already created if not, then create a new server to click create new under the server field, once you click on that it will open a window at the left side of the dashboard, provide the required information, which is the server name, server admin login, password and location and then click ok.

The screenshot shows the 'Create SQL Database' wizard. The 'Basics' tab is selected. The 'Project details' section shows 'Subscription' set to 'Azure subscription 1' and 'Resource group' set to 'techbrothersit-rg'. The 'Database details' section shows 'Database name' set to 'TechbrothesITDB'. The 'Server' dropdown is highlighted with a red border and contains the message 'Select a server'. Below it, a note says 'The value must not be empty.' The 'Compute + storage' section shows a note 'Please select a server first.' and a 'Configure database' link. At the bottom, there are 'Review + create' and 'Next : Networking >' buttons.

Fig-1: Create a new SQL database.

Once the Server is created click on the Configure database where you can find scalable compute and storage options, select the CPU's & Memory, etc as per your requirement, it will show you the total cost for that, and then click apply, then click

Review + Create button and then click create. as the database is in the deployment process, meanwhile click on the server name which we have created recently, click on firewalls & virtual networks under the security tab, and then click on "Allow azure service & resources to access this server" make it "Yes" and click on save. as shown in the picture below.

The screenshot shows the 'Firewalls and virtual networks' section of the Azure portal for a SQL server named 'techbrothersitserver'. On the left sidebar, under the 'Security' category, the 'Firewalls and virtual networks' option is selected and highlighted with a red box. At the top right, there are 'Save', 'Discard', and 'Add client IP' buttons. Below these are options for 'Deny public network access' (set to 'No'), creating a private endpoint, setting the 'Minimum TLS Version' to 1.2, and choosing the 'Connection Policy' (set to 'Default'). A large red box highlights the 'Allow Azure services and resources to access this server' checkbox, which is set to 'Yes'. The 'Save' button is also highlighted with a mouse cursor. The 'Client IP address' is listed as 65.188.112.196. There are sections for 'Rule name', 'Start IP', and 'End IP' with a 'No firewall rules configured' message. Under 'Virtual networks', there is a link to '+ Add existing virtual network + Create new virtual network'. The bottom section shows 'No vnet rules for this server'.

Fig-2: Firewalls and virtual networks settings of the Server.

once our SQL database is created let's go to the SQL Server Management Studio, provide the Azure SQL server name and password and it will ask you for the sign-in and then click to connect with the recently created Azure SQL server, and create a new table as shown in the picture below.

```
create table dbo.Customer
(id int identity(1,1),
FirstName varchar(100),
LastName varchar(100),
dob date,
Region varchar(100))
```

Fig-3: Create a table in SQL server management studio.

Once the table is created go to the Azure data factory and create a new pipeline, go to the pipelines and click on New pipeline, name the pipeline and search and drag Copy Data activity in the pipeline, click on copy data activity and go to the source, then create a new Source dataset, click on + New, then select Azure Blob storage, then select the file format in my case it is .JSON, then click on continue, which is shown in the picture below.

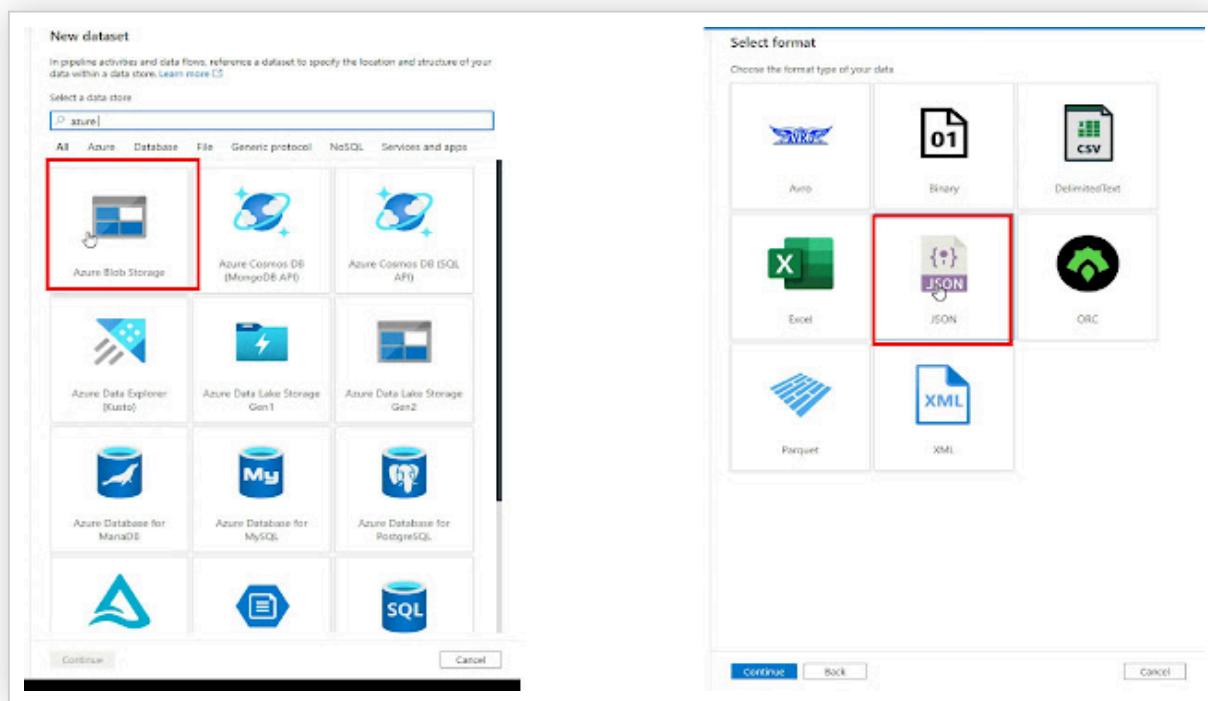


Fig-4: Create a new Source Dataset.

Then create linked service, click on new then select the Azure subscription and Storage account name and click on create, then select the file path which is input, then select the import schema, in my case it is From connection/store, then click ok.

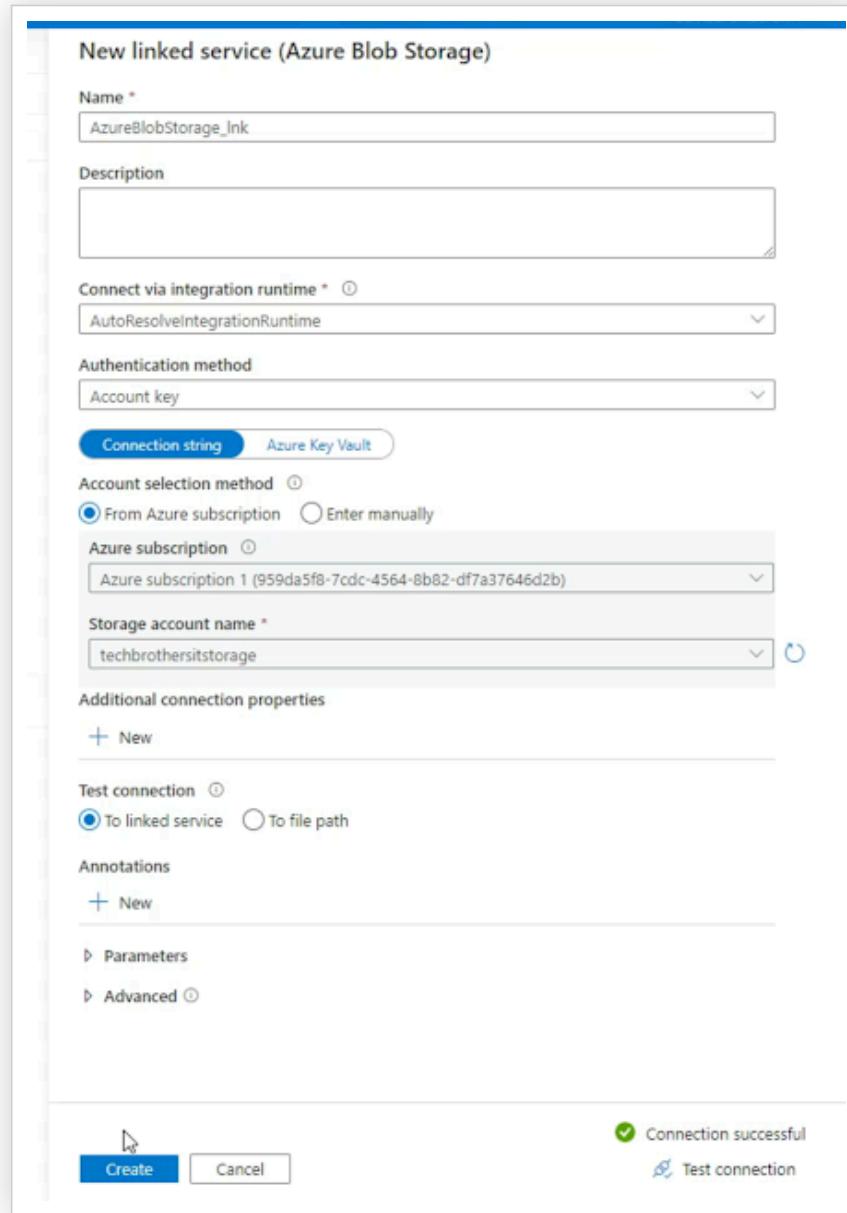


Fig-5: Create a new linked service in our pipeline.

Once our source dataset is created, click on the Sink tab and create a new Sink dataset, select Azure SQL database as connection, then create a new linked service, Provide the name, Select your Azure Subscription, Database name, Authentication Type, user name & Password, as shown in the picture below, click ok and select the table and import schema and click ok,

New linked service (Azure SQL Database)

Name *
AzureSqlDatabase_Json

Description

Connect via integration runtime * ⓘ
AutoResolveIntegrationRuntime

Connection string Azure Key Vault

Account selection method ⓘ
 From Azure subscription Enter manually

Azure subscription
Azure subscription 1 (959da5f8-7cdc-4564-8b82-df7a37646d2b)

Server name *
techbrothersitserver

Database name *
TechbrothesITDB

Authentication type *
SQL authentication

User name *
tbuser

Password Azure Key Vault

Password *
.....

Always encrypted ⓘ

Additional connection properties
+ New

Annotations

Fig-6: Create a linked service for our sink dataset.

Once our Sink dataset is created, go to the mapping and click on import schemas, if you want to change any column name or something you can do it otherwise just click on Debug. once debug process is completed go to the SQL Server Management Studio and run the query " Select * From dbo.cumstomer" and it will show the records. as shown in the picture below.

```
Select * from dbo.Customer
```

	ID	FirstName	LastName	dob	Region
1	1	Takk	Liss	2022-07-25	Saint Lucia
2	2	Lawrence	Josephine	2022-05-21	Uganda
3	3	Jamid	Cora	2022-09-01	Tanzania
4	4	Dante	Rae	2021-03-08	Sao Tome and Principe
5	5	Eagan	Bree	2022-05-06	Dominican Republic
6	6	Even	Gloss	2021-08-28	Mali
7	7	Wyatt	Audra	2021-02-25	Norway
8	8	Robert	Jessamine	2020-12-16	French Southern Territories
9	9	Clark	Deanon	2021-01-09	Czech Republic
10	10	Jelani	Kify	2020-09-13	Sweden
11	11	Willen	Hedy	2021-11-17	Noragua
12	12	Ronen	Cassandra	2020-12-17	Sri Lanka
13	13	Dorian	Micaela	2021-01-13	Holy See (Vatican City State)
14	14	Averino	Ivana	2022-07-05	Mosocco
15	15	Oleg	Abigail	2021-09-29	Somalia
16	16	Hector	Amber	2021-10-14	Luxembourg
17	17	Willen	Macy	2022-01-19	Suriname
18	18	Mariex	Clare	2021-02-11	French Southern Territories
19	19	Dansen	Candace	2021-07-27	Mosocco

> Query executed successfully.

techbrothersteve@database... - Dba (77) TechbrothersteveTDE | 00:00:00 | 100 rows