



OPENROWSET for JSON files

OPENROWSET is a function in SQL that allows users to access and query data from remote sources, such as Azure Storage or other SQL Server instances. It can be used to read files from an external data source and return the content as a set of rows. The rows returned can be treated as a record set or derived table, and worked with as if they were a local table.

1. In this lab, we will use the OPENROWSET function to read the content from our JSON-based file.
2. So, first we will upload the JSON file to our data container inside our data lake.

Upload Add Directory Refresh Rename Delete Change tier Acquire lease Break lease Give feedback

Authentication method: Access key ([Switch to Microsoft Entra user account](#))

Location: data

Search blobs by prefix (case-sensitive)

Show deleted objects

	Name	Modified	Access tier	Archive status	Blob type	Size	Lease state	
<input type="checkbox"/>	ActivityLog01.csv	12/13/2024, 12:26:21...	Hot (Inferred)		Block blob	1.91 MiB	Available	...
<input type="checkbox"/>	ActivityLog01.json	12/13/2024, 10:38:20...	Hot (Inferred)		Block blob	2.8 MiB	Available	...
<input type="checkbox"/>	ActivityLog01.parquet	12/13/2024, 10:15:21...	Hot (Inferred)		Block blob	230.51 KiB	Available	...
<input type="checkbox"/>	ActivityLog02.parquet	12/13/2024, 10:29:03...	Hot (Inferred)		Block blob	294.49 KiB	Available	...

3. After that in your Synapse Workspace create a new SQL Script. Then copy the code you get in the downloaded file for this lab.
4. First, we will run the code shown below, and also change the database to appdb. Then change the storage account name as well line 3. Now run this command.

```
02-ExternalTableParq... 01-ExternalTableCSV OPENROWSET
Run Undo Publish Query plan Connect to Built-in Use database appdb
1 SELECT *
2 FROM OPENROWSET(
3     BULK 'https://thestorageaccount1201.blob.core.windows.net/data/ActivityLog01.json',
4     FORMAT = 'csv',
5     FIELDTERMINATOR = '0x0b',
6     FIELDQUOTE = '0x0b',
7     ROWTERMINATOR='0x0a')
8 WITH
9     (
10         jsonContent varchar(MAX)
11     )
12 AS ROWS
```

5. You will see that the data displayed is in the form of an Array.

02-ExternalTableParq... 01-ExternalTableCSV OPENROWSET

Run Undo Publish Query plan Connect to Built-in Use database appdb

```

1 SELECT *
2 FROM OPENROWSET(
3     BULK 'https://thestorageaccount1201.blob.core.windows.net/data/ActivityLog01.json',
4     FORMAT = 'csv',
5     FIELDTERMINATOR = '0x0b',
6     FIELDQUOTE = '0x0b',
7     ROWTERMINATOR='0x0a')
8 WITH

```

Results Messages

View Table Chart Export results

Search

jsonContent

{"Correlationid":"c5cf5ce4-d26f-4910-bc9d-715a40620256","Operationname":"Delete Storage Account","Status":"Succeeded","Eventcateg...
{"Correlationid":"c5cf5ce4-d26f-4910-bc9d-715a40620256","Operationname":"Delete website","Status":"Started","Eventcategory":"Admini...
{"Correlationid":"c5cf5ce4-d26f-4910-bc9d-715a40620256","Operationname":"Delete Namespace","Status":"Started","Eventcategory":"Ad...
{"Correlationid":"c5cf5ce4-d26f-4910-bc9d-715a40620256","Operationname":"Delete website","Status":"Started","Eventcategory":"Admini...
{"Correlationid":"c5cf5ce4-d26f-4910-bc9d-715a40620256","Operationname":"Delete SQL database","Status":"Started","Eventcategory":"A...
{"Correlationid":"c5cf5ce4-d26f-4910-bc9d-715a40620256","Operationname":"Delete Storage Account","Status":"Started","Eventcategory":"...
{"Correlationid":"c5cf5ce4-d26f-4910-bc9d-715a40620256","Operationname":"Delete hosting plan","Status":"Started","Eventcategory":"Ad...
{"Correlationid":"c5cf5ce4-d26f-4910-bc9d-715a40620256","Operationname":"Delete Container Registry","Status":"Started","Eventcategor...

00:00:06 Query executed successfully.

6. Then we will use the below script to displace our data in the form of table using the OPENROWSET function.

```

14 SELECT JSON_VALUE(jsonContent,'$.Correlationid') As Correlationid,
15     JSON_VALUE(jsonContent,'$.Operationname') AS Operationname,
16     JSON_VALUE(jsonContent,'$.Status') AS Status,
17     JSON_VALUE(jsonContent,'$.Eventcategory') AS Eventcategory,
18     JSON_VALUE(jsonContent,'$.Level') AS Level,
19     CAST(JSON_VALUE(jsonContent,'$.Time') AS datetimeoffset) AS Time,
20     JSON_VALUE(jsonContent,'$.Subscription') AS Subscription,
21     JSON_VALUE(jsonContent,'$.Eventinitiatedby') AS Eventinitiatedby,
22     JSON_VALUE(jsonContent,'$.Resource') AS Resource,
23     JSON_VALUE(jsonContent,'$.Resourcegroup') AS Resourcegroup,
24     JSON_VALUE(jsonContent,'$.Resource') AS Resource
25 FROM OPENROWSET(
26     BULK 'https://thestorageaccount1201.blob.core.windows.net/data/ActivityLog01.json',
27     FORMAT = 'csv',
28     FIELDTERMINATOR = '0x0b',
29     FIELDQUOTE = '0x0b',
30     ROWTERMINATOR='0x0a')
31 WITH
32 (
33     jsonContent varchar(MAX)
34 )
35 AS ROWS

```

7. Now you can see that the data is being displayed in the form of a table.

```
14 SELECT JSON_VALUE(jsonContent,'$.Correlationid') AS Correlationid,
15        JSON_VALUE(jsonContent,'$.Operationname') AS Operationname,
16        JSON_VALUE(jsonContent,'$.Status') AS Status,
17        JSON_VALUE(jsonContent,'$.Eventcategory') AS Eventcategory,
18        JSON_VALUE(jsonContent,'$.Level') AS Level,|
19        CAST(JSON_VALUE(jsonContent,'$.Time') AS datetimeoffset) AS Time,
```

Results Messages

View Table Chart [Export results](#) ▾

<div><div><div></div></div><div>Search</div></div>						
Correlationid	Operationname	Status	Eventcategory	Level	Time	Subscription
c5cf5ce4-d26f-...	Delete Namesp...	Started	Administrative	Informational	2024-05-30T14:...	387407e5-94af
c5cf5ce4-d26f-...	Delete hosting ...	Started	Administrative	Informational	2024-05-30T14:...	387407e5-94af
c5cf5ce4-d26f-...	Delete SQL dat...	Accepted	Administrative	Informational	2024-05-30T14:...	387407e5-94af
c5cf5ce4-d26f-...	Delete role assi...	Succeeded	Administrative	Informational	2024-05-30T14:...	387407e5-94af
c5cf5ce4-d26f-...	Delete website	Succeeded	Administrative	Informational	2024-05-30T14:...	387407e5-94af
c5cf5ce4-d26f-...	Delete Contain...	Succeeded	Administrative	Informational	2024-05-30T14:...	387407e5-94af
62e88e28-952a...	Delete hosting ...	Succeeded	Administrative	Informational	2024-05-30T14:...	387407e5-94af

✓ 00:00:05 Query executed successfully.