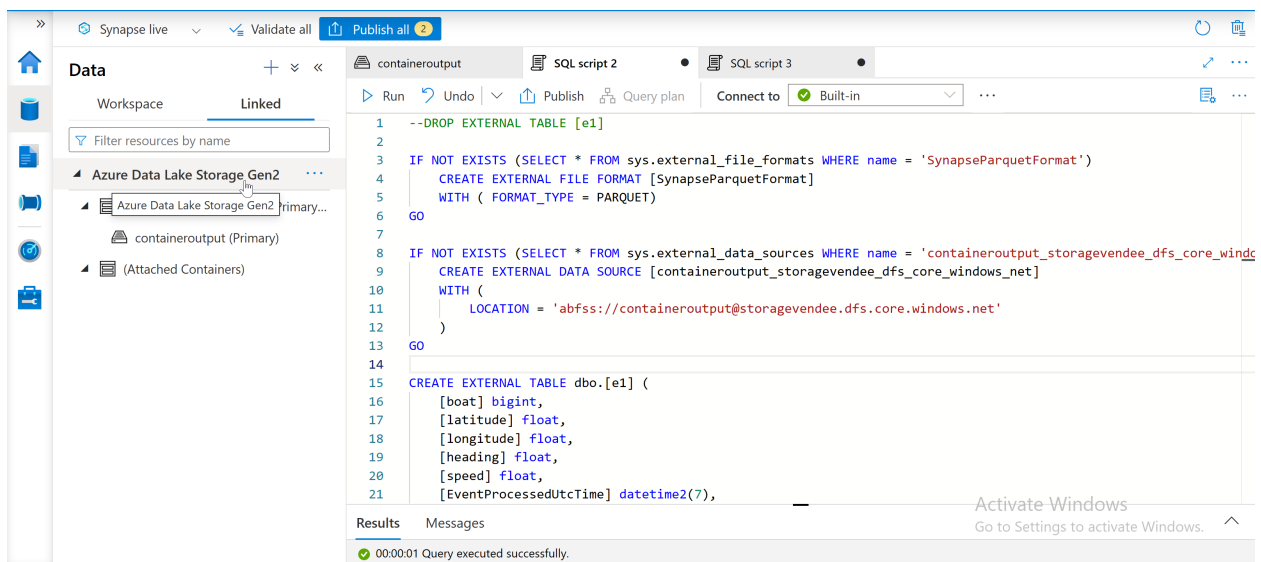


Business case : Vendee Sailing race

While Creating external table, got this error:

External table 'dbo.e1' is not accessible because content of directory cannot be listed.

While checking and breaking the query, found that external table has been formed but the query to read the table is not working or failing with the above error:



The screenshot displays the Synapse live SQL editor interface. On the left, the 'Data' pane shows the 'Workspace' and 'Linked' sections. Under 'Linked', 'Azure Data Lake Storage Gen2' is expanded, showing 'containeroutput (Primary)' and '(Attached Containers)'. The main editor area shows a SQL script with the following content:

```
1 --DROP EXTERNAL TABLE [e1]
2
3 IF NOT EXISTS (SELECT * FROM sys.external_file_formats WHERE name = 'SynapseParquetFormat')
4 CREATE EXTERNAL FILE FORMAT [SynapseParquetFormat]
5 WITH ( FORMAT_TYPE = PARQUET)
6 GO
7
8 IF NOT EXISTS (SELECT * FROM sys.external_data_sources WHERE name = 'containeroutput_storagevendee_dfs_core_windc
9 CREATE EXTERNAL DATA SOURCE [containeroutput_storagevendee_dfs_core_windows_net]
10 WITH (
11 LOCATION = 'abfss://containeroutput@storagevendee.dfs.core.windows.net'
12 )
13 GO
14
15 CREATE EXTERNAL TABLE dbo.[e1] (
16 [boat] bigint,
17 [latitude] float,
18 [longitude] float,
19 [heading] float,
20 [speed] float,
21 [EventProcessedUtcTime] datetime2(7),
```

The 'Results' pane at the bottom shows a green checkmark and the message: '00:00:01 Query executed successfully.' The 'Messages' pane is empty. A watermark 'Activate Windows' is visible in the bottom right corner.

Synapse live Validate all Publish all

Data

Workspace Linked

Filter resources by name

- Azure Data Lake Storage Gen2 2
 - workspacesynapsevendee (Primary...
 - containeroutput (Primary)
 - (Attached Containers)

containeroutput SQL script 2 SQL script 3

Run Undo Publish Query plan Connect to Built-in

```
14
15 CREATE EXTERNAL TABLE dbo.[e1] (
16     [boat] bigint,
17     [latitude] float,
18     [longitude] float,
19     [heading] float,
20     [speed] float,
21     [EventProcessedUtcTime] datetime2(7),
22     [PartitionId] bigint,
23     [EventEnqueuedUtcTime] datetime2(7)
24 )
25 WITH (
26     LOCATION = '/container output/',
27     DATA_SOURCE = [containeroutput_storagevendee_dfs_core_windows_net],
28     FILE_FORMAT = [SynapseParquetFormat]
29 )
30 GO
31
32
33 --SELECT TOP 100 * FROM dbo.[e1]
34 --GO
```

Results Messages

00:00:01 Query executed successfully.

Microsoft Azure Synapse Analytics workspacesynapsevendee Search group1vendee@outlook.com

Synapse live Validate all Publish all

Data

Workspace Linked

Filter resources by name

- Azure Data Lake Storage Gen2 2
 - workspacesynapsevendee (Primary...
 - containeroutput (Primary)
 - (Attached Containers)

containeroutput SQL script 2 SQL script 3

Run Undo Publish Query plan Connect to Built-in

```
8 IF NOT EXISTS (SELECT * FROM sys.external_data_sources WHERE name = 'containeroutput_stor
9 CREATE EXTERNAL DATA SOURCE [containeroutput_storagevendee_dfs_core_windows_net]
10 WITH (
11     LOCATION = 'abfss://containeroutput@storagevendee.dfs.core.windows.net'
12 )
13 GO
14
15 CREATE EXTERNAL TABLE dbo.[e1] (
16     [boat] bigint,
17     [latitude] float,
18     [longitude] float,
19     [heading] float,
20     [speed] float,
21     [EventProcessedUtcTime] datetime2(7),
22     [PartitionId] bigint,
23     [EventEnqueuedUtcTime] datetime2(7)
24 )
25 WITH (
26     LOCATION = '/container output/',
27     DATA_SOURCE = [containeroutput_storagevendee_dfs_core_windows_net],
28     FILE_FORMAT = [SynapseParquetFormat]
29 )
30 GO
```

Results Messages

00:00:01 Query executed successfully.

External table is created but when try to read that table then following error appears.

Microsoft Azure | Synapse Analytics | workspacesynapsever Search

Synapse live Validate all Publish all

Home Data Develop Integrate Monitor Manage

Data

Workspace Linked

Filter resources by name

SQL database 1

vendeeglobedatabase (SQL)

External tables

dbo.e1

Columns

- boat (bigint, null)
- latitude (float, null)
- longitude (float, null)
- heading (float, null)
- speed (float, null)
- EventProcessedUtcTime...
- PartitionId (begin...
- EventEnqueuedUtcTim...

containeroutput SQL script 2 SQL script 3

Run Undo Publish Query plan Connect to Built-in

```

1 SELECT TOP (100) [boat]
2 , [latitude]
3 , [longitude]
4 , [heading]
5 , [speed]
6 , [EventProcessedUtcTime]
7 , [PartitionId]
8 , [EventEnqueuedUtcTime]
9 FROM [dbo].[e1]

```

Messages

5:02:27 PM Started executing query at Line 1

External table 'dbo.e1' is not accessible because content of directory cannot be listed.

Total execution time: 00:00:00.332

00:00:00 Query completed with errors.

Activate Windows
Go to Settings to activate Windows.

To resolve this issue changed the access policies and IAM as follows:

Microsoft Azure Search resources, services, and docs (G+)

Home > storagevendee

storagevendee | Containers Storage account

Search

+ Container Change access level Restore containers Refresh Delete Give feedback

Search containers by prefix Show deleted containers

Name	Last modified	Public access level	Lease state
<input type="checkbox"/> \$logs	7/7/2023, 2:21:41 PM	Private	Available ...
<input type="checkbox"/> containeroutput	7/14/2023, 9:00:47 AM	Container	Available ...

Overview Activity log Tags Diagnose and solve problems Access Control (IAM) Data migration Events Storage browser Data storage Containers File shares Queues Tables

Activate Windows
Go to Settings to activate Windows.

Microsoft Azure

Search resources, services, and docs (G+)

group1vendeeglobe@o...
DEFAULT DIRECTORY

Home > storagevendee | Containers >

containeroutput

Container

Search

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

Authentication method: Access key (Switch to Azure AD User Account)
Location: containeroutput

Search blobs by prefix (case-sensitive) Show deleted objects

Name	Modified	Access tier	Archive status	Blob type	Size
-426825278_007b350f3e2c41a184a5296b15ffc8d7_1...	7/11/2023, 6:42:54 PM	Hot (Inferred)		Block blob	2.2
-426825278_00b088d334fd4dff9276fcdab560b2d2_1...	7/11/2023, 8:33:10 PM	Hot (Inferred)		Block blob	2.2
-426825278_00c3dc3b3a38476ca0b55975cce913a5_...	7/11/2023, 6:58:21 PM	Hot (Inferred)		Block blob	2.2
-426825278_011a2dd811274099bedccbf5c510182_1...	7/11/2023, 6:18:11 PM	Hot (Inferred)		Block blob	2.2
-426825278_019f667447f04d35bdd855b1c7fb4a91_1...	7/12/2023, 1:19:28 PM	Hot (Inferred)		Block blob	2.2
-426825278_028021b43981455394627f9a8d1757be_...	7/12/2023, 9:17:29 PM	Hot (Inferred)		Block blob	2.2
-426825278_02f2217c8c88421aa37b12b583ffa44a_1...	7/12/2023, 12:46:27 ...	Hot (Inferred)		Block blob	2.2
-426825278_02f334f242364adda4ec52bbf1043af7_1...	7/11/2023, 10:25:31 ...	Hot (Inferred)		Block blob	2.2
-426825278_035d3cd577149158e80cb359958c289_...	7/12/2023, 12:11:23 ...	Hot (Inferred)		Block blob	2.2

https://portal.azure.com/?synapse=true#

Give all the access as read or contributor roles:

Microsoft Azure

Search resources, services, and docs (G+)

group1vendeeglobe@o...
DEFAULT DIRECTORY

Home > storagevendee | Containers > containeroutput

containeroutput | Access Control (IAM)

Container

Search

Add Download role assignments Edit columns Refresh Remove Feedback

View my level of access to this resource.

View my access

Check access

Review the level of access a user, group, service principal, or managed identity has to this resource. [Learn more](#)

Check access

Grant access to this resource

Grant access to resources by assigning a role. [Learn more](#)

Add role assignment

View access to this resource

View the role assignments that grant access to this and other resources. [Learn more](#)

View

View deny assignments

View the role assignments that have been denied access to specific actions at this scope. [Learn more](#)

View

Home > storagevendee | Containers > containeroutput

containeroutput | Access Control (IAM)

Container

Search

Add Download role assignments Edit columns Refresh Remove Feedback

Name	Type	Role	Scope	Condition
Owner				
<input type="checkbox"/> Group1 Techionista group1vendeeglobe...	User	Owner	Subscription (Inherited)	None
Reader and Data Access				
<input type="checkbox"/> Group1 Techionista group1vendeeglobe...	User	Reader and Data Access	This resource	None
<input type="checkbox"/> student-javeria (Guest) student-javeria@tech...	User	Reader and Data Access	This resource	None
<input type="checkbox"/> workspacesynapsevend	App	Reader and Data Access	This resource	None
Reader				
<input type="checkbox"/> Group1 Techionista group1vendeeglobe...	User	Reader	This resource	None
<input type="checkbox"/> student-javeria (Guest) student-javeria@tech...	User	Reader	This resource	None
<input type="checkbox"/> workspacesynapsevend	App	Reader	This resource	None
Storage Account Contributor				

vendee | Containers > containeroutput

containeroutput | Access Control (IAM)

Container

Search

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Shared access tokens

Manage ACL

Access policy

Properties

Metadata

https://portal.azure.com/?synapse=true#

+ Add Download role assignments Edit columns Refresh Remove Feedback

	App	Reader	This resource	None
Storage Account Contributor				
<input type="checkbox"/>	Group1 Techionista group1vendeeglobe...	User	Storage Account Contributor	Parent resource (Inherited) None
<input type="checkbox"/>	student-javeria (Guest) student-javeria@tech...	User	Storage Account Contributor	Parent resource (Inherited) None
Storage Blob Data Contributor				
<input type="checkbox"/>	Group1 Techionista group1vendeeglobe...	User	Storage Blob Data Contributor	Parent resource (Inherited) None
<input type="checkbox"/>	saj-vendee	App	Storage Blob Data Contributor	Parent resource (Inherited) None
<input type="checkbox"/>	student-javeria (Guest) student-javeria@tech...	User	Storage Blob Data Contributor	Parent resource (Inherited) None
<input type="checkbox"/>	workspacesynapsevend	App	Storage Blob Data Contributor	Parent resource (Inherited) None
<input type="checkbox"/>	workspacesynapsevend	App	Storage Blob Data Contributor	This resource Add
Storage Blob Data Reader				
<input type="checkbox"/>	Group1 Techionista			

Activate Windows
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Microsoft Azure Search resources, services, and docs (G+)

group1vendeeglobe@... DEFAULT DIRECT

Home > storagevendee | Containers > containeroutput

containeroutput | Access Control (IAM)

Container

Search

Overview

Diagnose and solve problems

Access Control (IAM)

Settings

Shared access tokens

Manage ACL

Access policy

Properties

Metadata

+ Add Download role assignments Edit columns Refresh Remove Feedback

	App	Reader	This resource	None
Storage Blob Data Contributor				
<input type="checkbox"/>	Group1 Techionista group1vendeeglobe...	User	Storage Blob Data Contributor	Parent resource (Inherited) None
<input type="checkbox"/>	saj-vendee	App	Storage Blob Data Contributor	Parent resource (Inherited) None
<input type="checkbox"/>	student-javeria (Guest) student-javeria@tech...	User	Storage Blob Data Contributor	Parent resource (Inherited) None
<input type="checkbox"/>	workspacesynapsevend	App	Storage Blob Data Contributor	Parent resource (Inherited) None
<input type="checkbox"/>	workspacesynapsevend	App	Storage Blob Data Contributor	This resource Add
Storage Blob Data Reader				
<input type="checkbox"/>	Group1 Techionista group1vendeeglobe...	User	Storage Blob Data Reader	Parent resource (Inherited) None
<input type="checkbox"/>	student-javeria (Guest) student-javeria@tech...	User	Storage Blob Data Reader	Parent resource (Inherited) None
<input type="checkbox"/>	workspacesynapsevend	App	Storage Blob Data Reader	This resource Add

Activate Windows
Go to Settings to activate Windows

In containeroutput changed the access policy by clicking all the check boxes to give the maximum permission:

Microsoft Azure Search resources, services, and docs (G+/)

Home > storagevendee | Containers > containeroutput

containeroutput | Manage ACL

Container

Search

- Overview
- Diagnose and solve problems
- Access Control (IAM)

Settings

- Shared access tokens
- Manage ACL**
- Access policy
- Properties
- Metadata

Set and manage permissions for: root directory

[Learn more about access control lists \(ACLs\)](#)

Access permissions Default permissions

+ Add principal + Add mask

Security principal	Read	Write	Execute
Owner: saj-vendee (408bb517-31c6-4259-8d72-...	✓	✓	✓
Owning group: saj-vendee (408bb517-31c6-425...	✓	✓	✓
Other	✓	✓	✓

Read and write permissions will only work for a security principal if the security principal also has execute permissions on all parent directories, including the container (root directory).

Save Discard

Activate Windows
Go to Settings to activate Windows.

following is the print screen of properties of container :

Microsoft Azure Search resources, services, and docs (G+/)

Home > storagevendee | Containers > containeroutput

containeroutput | Properties

Container

Search Refresh Give feedback

- Overview**
- Diagnose and solve problems
- Access Control (IAM)

Settings

- Shared access tokens
- Manage ACL
- Access policy
- Properties**
- Metadata

NAME
containeroutput

URL
<https://storagevendee.blob.core.windows.net/containeroutput>

LAST MODIFIED
7/14/2023, 9:00:47 AM

ETAG
0x8DB84380CDE93D3

LEASE STATUS
Unlocked

LEASE STATE
...

Activate Windows
Go to Settings to activate Windows.

Microsoft Azure | Search resources, services, and docs (G+/)

Home > storagevendee | Containers > containeroutput

containeroutput | Properties

Container

Search Refresh Give feedback

- Overview
- Diagnose and solve problems
- Access Control (IAM)

Settings

- Shared access tokens
- Manage ACL
- Access policy
- Properties
- Metadata

ETAG
0x8DB84380CDE93D3

LEASE STATUS
Unlocked

LEASE STATE
Available

LEASE DURATION
-

ENCRYPTION SCOPE
\$account-encryption-key

VERSION-LEVEL IMMUTABILITY SUPPORT
Disabled

Activate Windows
Go to Settings to activate Windows

After making all the required changes when again went to my synapse analytics and run the query the same error persists:

Microsoft Azure | Synapse Analytics > workspacesynapsever

Synapse live Validate all Publish all 2

Data Synapse live

Workspace Linked

Filter resources by name

SQL database 1

- vendeeglobedatabase (SQL)
 - External tables
 - dbo.e1
 - Columns
 - boat (bigint, null)
 - latitude (float, null)
 - longitude (float, null)
 - heading (float, null)
 - speed (float, null)
 - EventProcessedUtcTim...
 - PartitionId (bigint, null)
 - EventEnqueuedUtcTim...

containeroutput SQL script 2 SQL script 3

Run Undo Publish Query plan Connect to Built-in

```
1 SELECT TOP (100) [boat]
2 ,[latitude]
3 ,[longitude]
4 ,[heading]
5 ,[speed]
6 ,[EventProcessedUtcTime]
7 ,[PartitionId]
8 ,[EventEnqueuedUtcTime]
9 FROM [dbo].[e1]
```

Messages

5:02:27 PM Started executing query at Line 1

External table 'dbo.e1' is not accessible because content of directory cannot be listed.

Total execution time: 00:00:00.332

00:00:00 Query completed with errors.

Activate Windows
Go to Settings to activate Windows

Please if you can help in this would be very thankful since we have the azure account subscription valid for this month only, and I really want to complete this business case so that I can add it into my portfolio/ CV. Hope to hear from you soon.

Regards,

Javeria Umer

email address :

javeria-u@hotmail.com