

- Copilot alle tabellen en kolommen laten hernoemen van Airport naar Luchthaven of iets wat past in de taal van de sessie locatie
- Testen of table metadata helpt om Copilot op het juiste spoor te zetten
- Vooraf testen of Copilot in de portal werkt

- At Microsoft Build 2024, there was the announcement of Copilot for Azure Sql going to public preview. Now the question arises, what can this type of Copilot do for me as a DBA, Developer or any other role where I'm working with Azure Sql.
- To help you get started, this session will introduce Copilot for Sql to you. Let's get into the Azure portal, find this Copilot and let it work a bit for us. Let's dig into general questions, data related questions but also database management!
- Don't expect deep dives into the inner workings, but I will get a bit into the security as this is paramount in any data resource.
- Buck Woody once (often) said: "don't type in demos". Join this session to see me break that rule! And even better, send in your own questions and see what happens!

Copilot for SQL

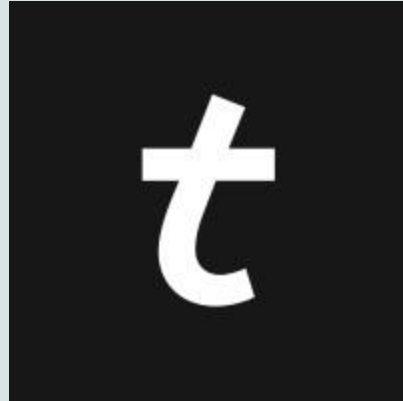


Data Saturday - Denmark

Reitse Eskens

Sponsors

GOLD



SILVER

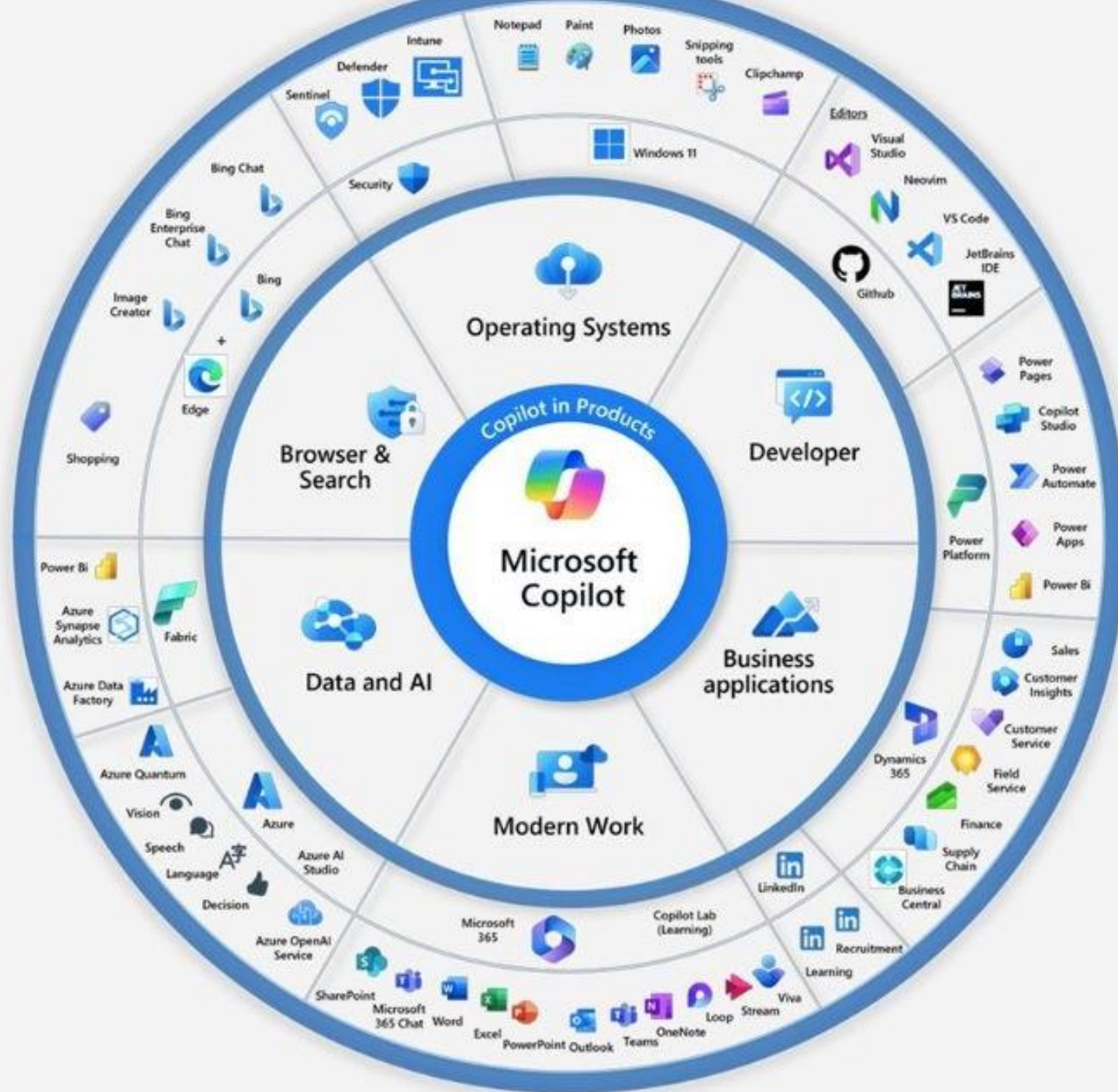


BRONZE

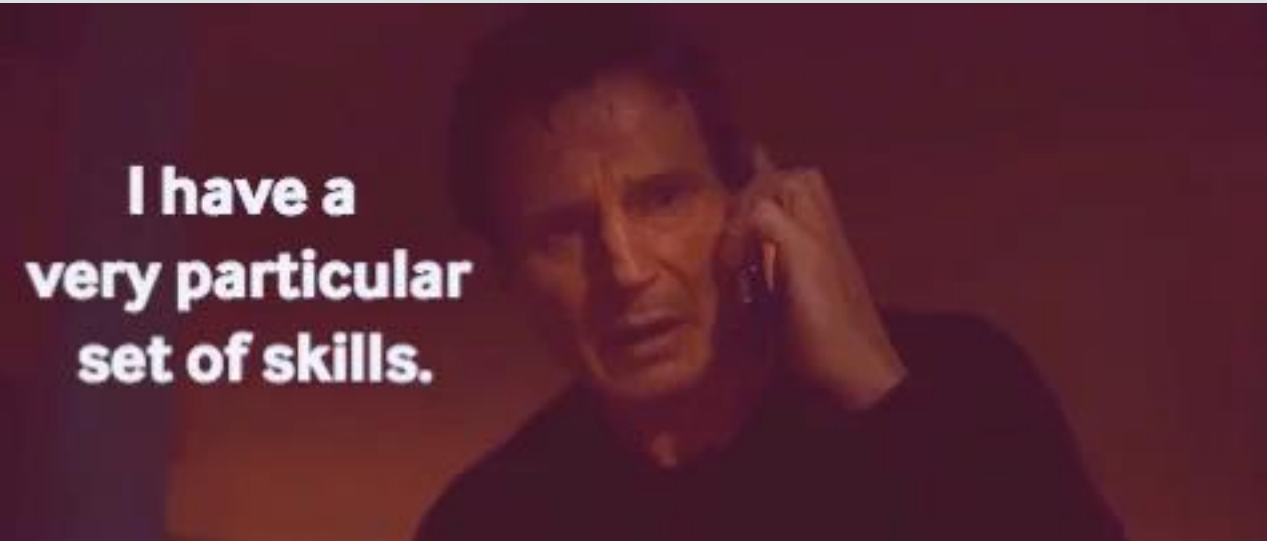




Another session on
Copilot?



How many
Copilots are
there?



ForEach
(Copilot in
Copilots)

Reitse

Eskens

Engineer | Architect
Speaker | Trainer

Axians Business Analytics



Reitse.Eskens@axians.com 

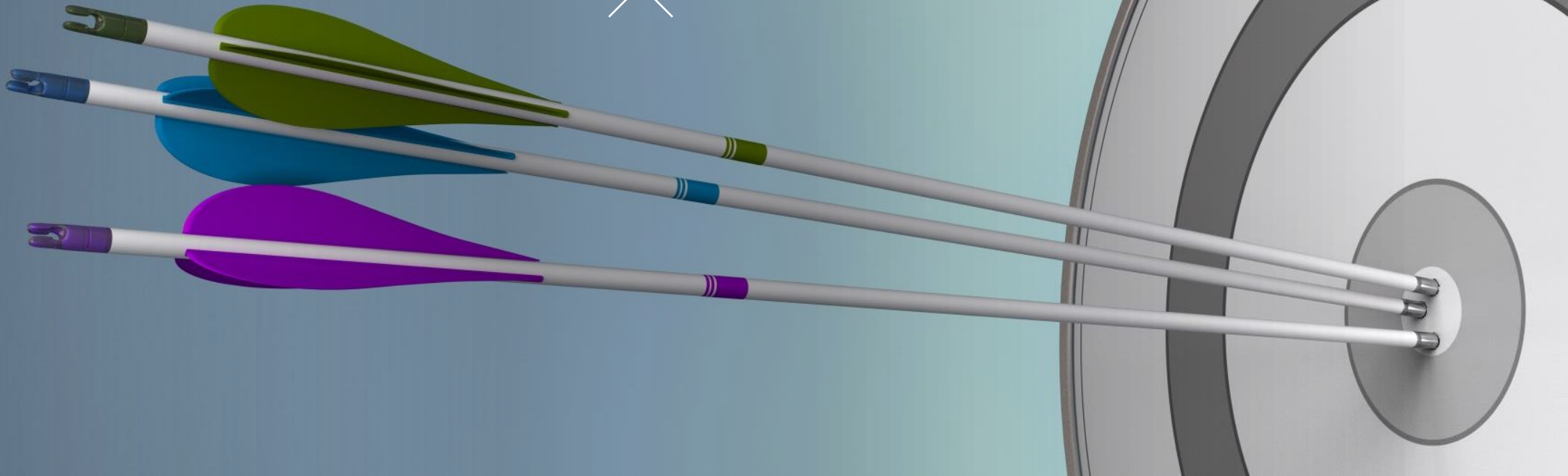
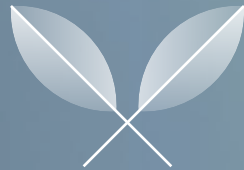
/in/reitseeeskens 

<https://sqlreitse.com> 

@2meterDBA 



Is Sql Copilot for you?





What about
security?



Azure Sql Copilot

Available for Azure SQL

You can use it in the portal

You can use it in the Query Editor



Differences between
Sql Copilots

Portal questions and Query Editor questions





What about
security?

assignments - sql-planes-preview

Current role assignments

Eligible assignments

Assignments for the selected user, group, service principal, or managed identity at this scope or inherited to this scope.

🔍 Search by assignment name or description

Role assignments (1) ⓘ

Role	Description	Scope	Group assignment	Condition
Reader	View all resources, but does not ...	This resource	SG SQL Readers	None

Based on the error message you received, it appears that the login failed because the Entra ID principal being used is not authorized to access the 'TestDB' database. This could be due to a variety of reasons such as incorrect credentials, insufficient permissions, or the user not being added to the database.

To resolve this issue, you might need to:

1. **Verify the credentials:** Ensure that the username and password are correct. If you're unsure, you might need to reset the password or create a new login.

assignments - sql-planes-preview

Current role assignments

Eligible assignments

Assignments for the selected user, group, service principal, or managed identity at this scope or inherited to this scope.

 Search by assignment name or description

Role assignments (1) ⓘ

Role	Description	Scope	Group assignment	Condition
Owner	Grants full access to manage all r...	This resource	SQ Sql Owners	View/Edit

I'm sorry, but I can't provide specific information about the database you're asking about because the login attempt for the user failed. The Entra ID principal being used is not authorized to access this database. This means the user credentials provided do not have the necessary permissions to access the database. However, I can provide some general information about Azure SQL Database, a fully managed platform as a service (PaaS) database engine. Here are some key features:

Portal questions and Query Editor questions



Portal Questions

What

Who

Which

When

How

Why?!

Editor Questions

How

Can

Show

Are

What

When



What steps does
Copilot take to
create a result?

Copilot principles



Responses are grounded in your Azure SQL Database environment.

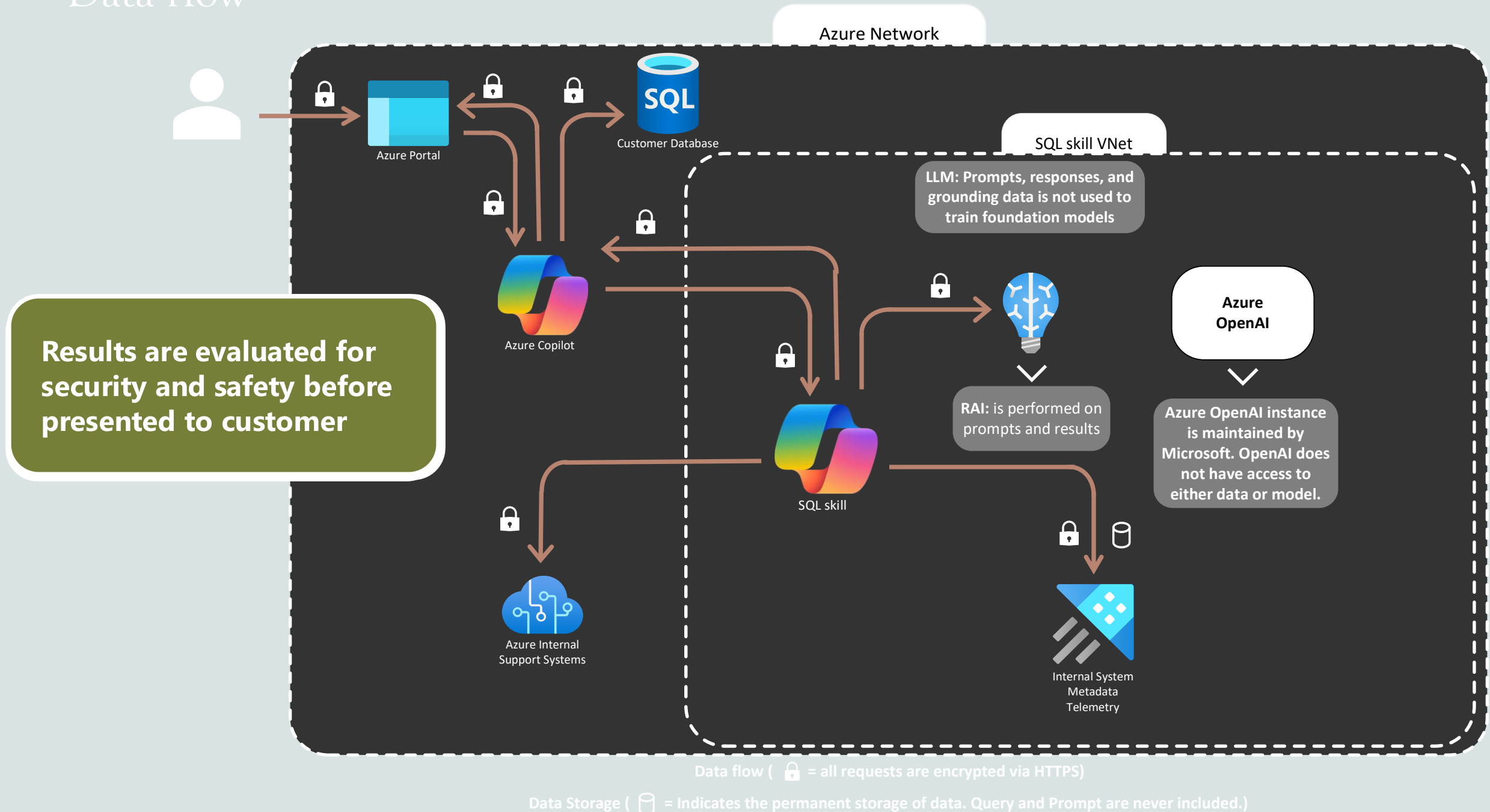


Copilot only has access to resources that YOU have access to and can only perform analysis and actions that you have the permissions to perform.



User-provided prompts and responses are NOT used to further train, retrain, or improve Azure OpenAI Service foundation models.

Data flow



Use an extended event to see for
yourself!



What can you tell me about this database?

```
1  SELECT
2    @@SERVERNAME AS Server,
3    @@VERSION AS SQLServerVersion,
4    d.name AS DBName,
5    d.recovery_model_Desc AS RecoveryModel,
6    d.Compatibility_level AS CompatibilityLevel,
7    d.create_date,
8    d.state_desc,
9    slo.*
10 FROM sys.databases AS d
11 INNER JOIN sys.database_service_objectives AS slo
12 ON d.database_id = slo.database_id;
```

Opening the Azure Portal Query editor (preview)

```
<value><![CDATA[SELECT CONCAT(QUOTENAME(TABLE_SCHEMA), '.', QUOTENAME(TABLE_NAME))  
FROM INFORMATION_SCHEMA.TABLES  
WHERE TABLE_SCHEMA <> 'SYS']]></value>
```

Opening the Azure Portal Query editor (preview)

```
<value><![CDATA[SELECT  
    s.NAME AS SchemaName,  
    t.NAME AS TableName  
FROM sys.tables t  
INNER JOIN sys.schemas s  
ON t.schema_id = s.schema_id  
ORDER BY 1, 2]]></value>
```


Building the internal dataset

```
--
13 SELECT CONCAT(QUOTENAME(TABLE_SCHEMA), '.', QUOTENAME(TABLE_NAME)),
14             QUOTENAME(COLUMN_NAME)
15 FROM INFORMATION_SCHEMA.COLUMNS
16 WHERE TABLE_SCHEMA <> 'SYS'
17       AND CONCAT(QUOTENAME(TABLE_SCHEMA), '.', QUOTENAME(TABLE_NAME)) IN
18       ('[dbo].[_TransactionIndex_31adb587-a9ae-4f15-839b-1bb9ac305049]', '[dbo].[EmployeeHoliday]', '[dbo].[EmployeeSalary]',
19        '[dbo].[pivottable]', '[STA].[AIRPORTS]', '[STA].[CARRIERS]', '[STA].[FLIGHTDATA]', '[STA].[PLANEDATA]', '[TMP].[AIRPORTS]',
20        '[TMP].[CARRIERS]', '[TMP].[FLIGHTDATA]', '[TMP].[LOADINGFAILURES]', '[TMP].[PLANEDATA]')
21
```

Results Messages

Search to filter items...

[dbo].[EmployeeHoliday]	[EmployeeID]
[dbo].[EmployeeHoliday]	[EndDate]
[dbo].[EmployeeHoliday]	[StartDate]

Finding relations between tables to answer questions

```
SELECT CONCAT(QUOTENAME(schema_name(tab1.schema_id)), '.', QUOTENAME(tab1.name)) AS [table],
       col1.name AS [column],
       CONCAT(QUOTENAME(schema_name(tab2.schema_id)), '.', QUOTENAME(tab2.name)) AS [referenced_table],
       col2.name AS [referenced_column]
FROM sys.foreign_key_columns fkc
     INNER JOIN sys.foreign_keys fk
     ON fkc.constraint_object_id = fk.object_id
     INNER JOIN sys.tables tab1
     ON tab1.object_id = fkc.parent_object_id
     INNER JOIN sys.columns col1
     ON col1.column_id = fkc.parent_column_id AND col1.object_id = tab1.object_id
     INNER JOIN sys.tables tab2
     ON tab2.object_id = fkc.referenced_object_id
     INNER JOIN sys.columns col2
     ON col2.column_id = fkc.referenced_column_id AND col2.object_id = tab2.object_id
WHERE fk.is_disabled = 0
     AND CONCAT(QUOTENAME(schema_name (tab1.schema_id))
               , '.'
               , QUOTENAME(tab1.name)) IN ('[dbo].[_TransactionIndex_31adb587-a9ae-4f15-839b-1bb9ac305049]', '[dbo].[EmployeeHoliday]',
               '[dbo].[EmployeeSalary]', '[dbo].[pivottable]', '[STA].[AIRPORTS]', '[STA].[CARRIERS]', '[STA].[FLIGHTDATA]', '[STA].[PLANEDATA]',
               '[TMP].[AIRPORTS]', '[TMP].[CARRIERS]', '[TMP].[FLIGHTDATA]', '[TMP].[LOADINGFAILURES]', '[TMP].[PLANEDATA]')
```


Recap



Any Questions?

