

NO. _____

Title:

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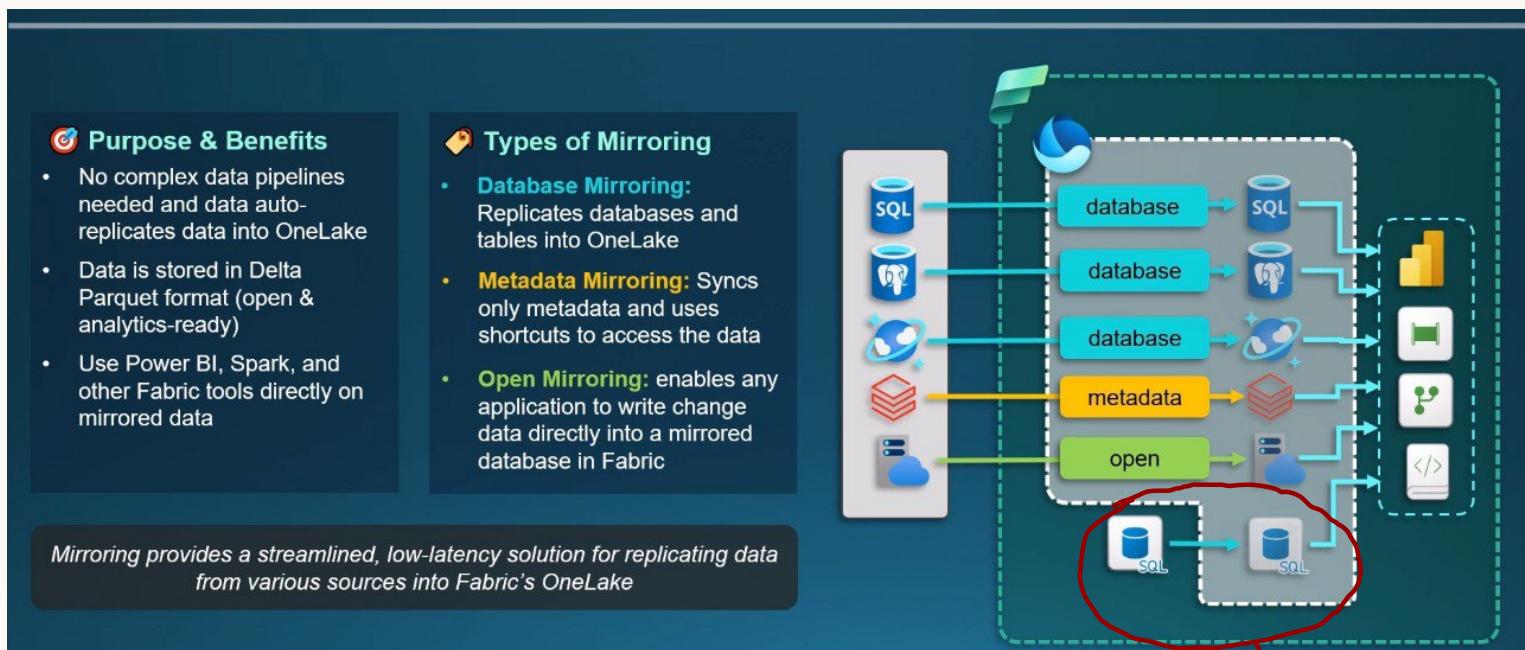


Creative notes

By reading we enrich the mind;
by writing we polish it.

Mirroring

- allows you to bring data from various different sources to fabric without building complex data pipelines and have that data in near real time in delta parquet format available to fabric to use (Fast & Simple)
- Data is synchronized (always fresh data)



Fabric does internal mirroring for raw Delta/Parquet files that are optimized for spark, Batch processing, and mirror its Metadata, Column Mappings, statistics Transaction State and other optimized internal structure for SQL Engine access.

(The source of truth remains OneLake)

Database Mirroring

- Copies full tables and data from a source database into OneLake
- Mirrored data is written to Delta tables
- Keeps data fresh with near real-time sync
- No need to build ETL pipelines manually to the source
- Mirror is read only
- Changes in the source are automatically reflected in the mirror

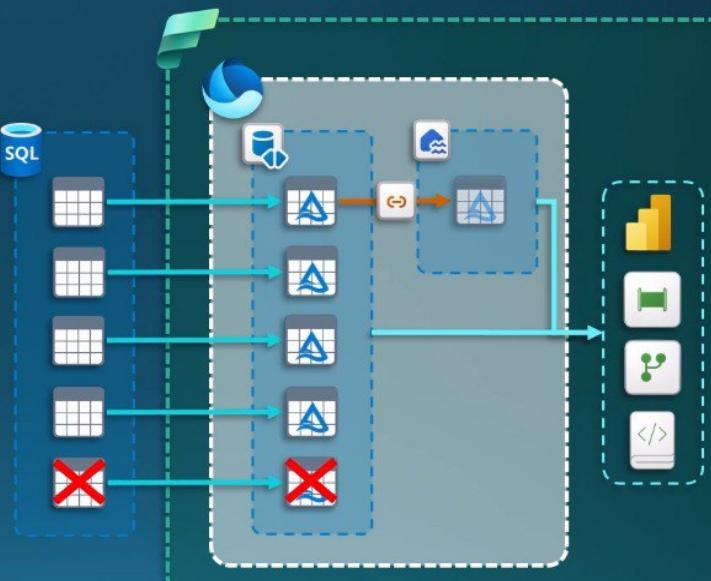
What gets mirrored?

- Table data (rows and columns)
- Schema (table structure, data types, etc.)
- Basic metadata

What can you do with it?

- Query with T-SQL using SQL Analytics endpoint
- Use data directly in Power BI, Spark, or Notebooks
- Create shortcuts

Database Mirroring is currently supported for 5 different external databases:
Azure Cosmos DB, Azure SQL DB, Snowflake, Azure SQL Managed Instance,
Azure Database for PostgreSQL flexible server



- you Cannot update / insert any data
in The mirror table

Changes in any way:
adding Columns, Tables
rows or even removing
Them.

- It happens automatically through
source tables

So, The physical data are same needed
format (parquet) and is easily accessible
for Fabric to read it.

Metadata Mirroring

- Only mirrors the metadata without copying the actual data
- Is made possible by having data in Azure Blob Storage in Delta parquet format already
- Uses shortcuts to point to the data but uses metadata to display data in more easily usable way
- Handles managing and creating those shortcuts

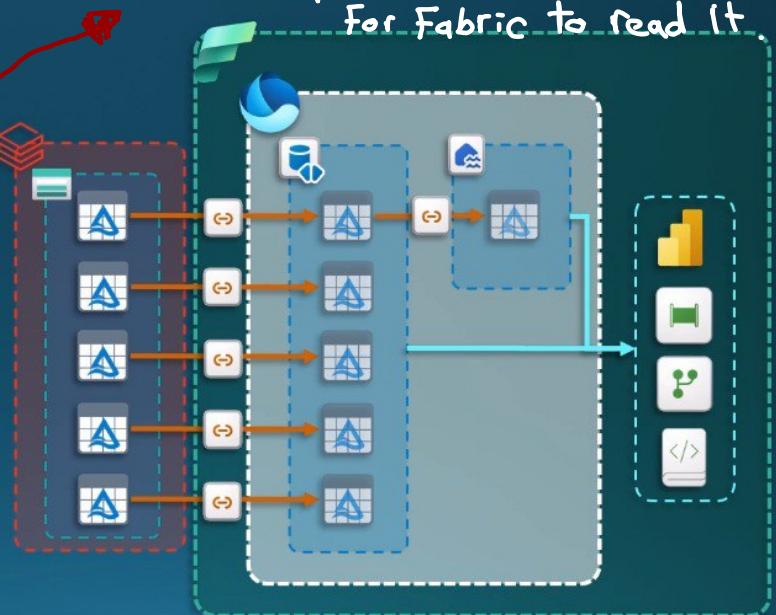
What gets mirrored?

- Source data store metadata
- Schema (table structure, data types, etc.)

What can you do with it?

- Query with T-SQL using SQL Analytics endpoint
- Use data directly in Power BI, Spark, or Notebooks
- Create shortcuts

Currently Metadata Mirroring is only available for Azure Databricks Unity Catalog

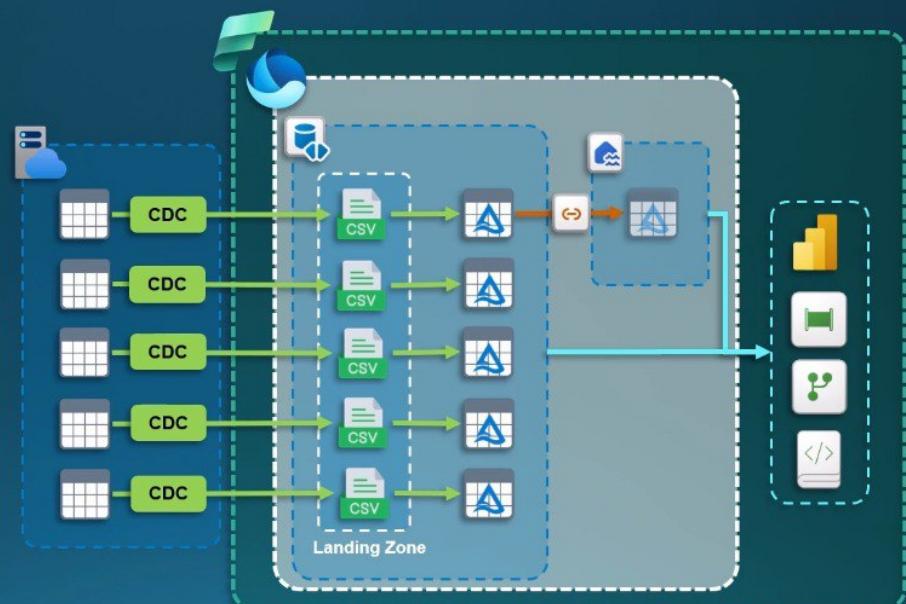


It pairs Those shortcuts with The data store metadata

Open Mirroring

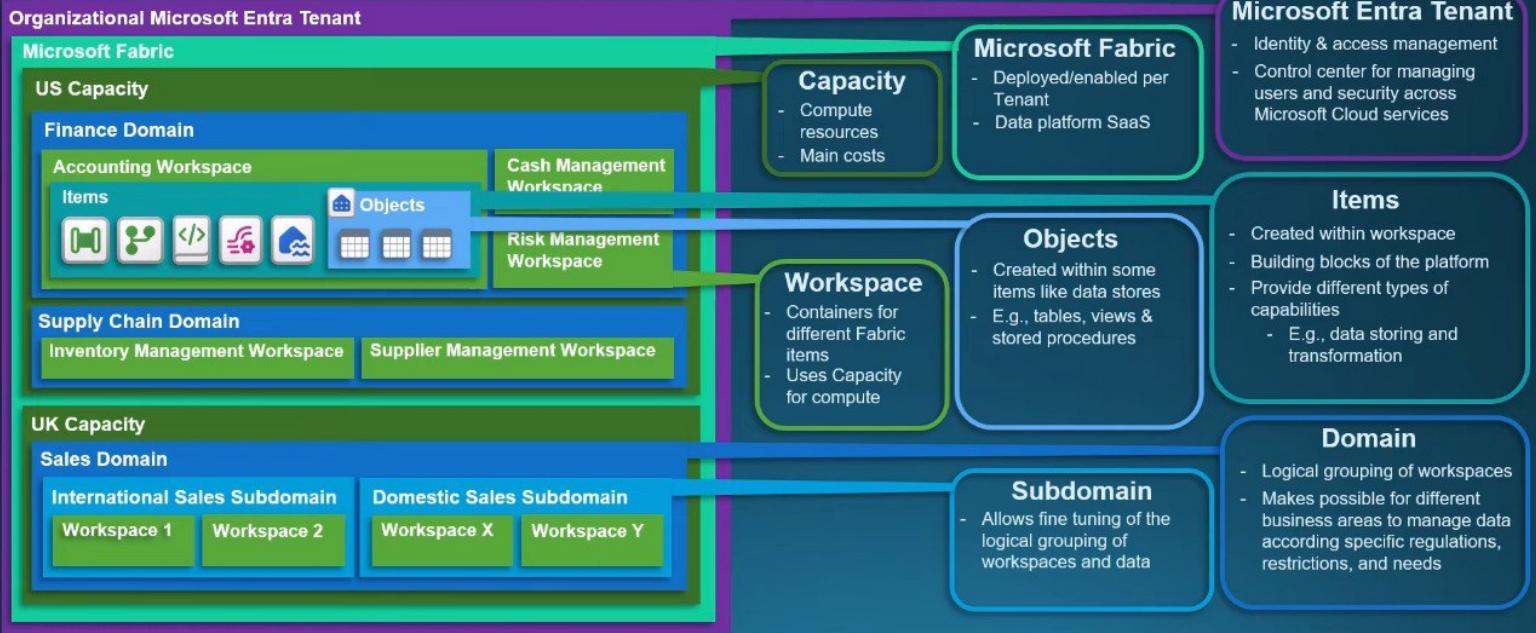
- Open mirroring allows you to mirror data from basically any source system or data store
- Uses CDC (Change Data Capture) to track inserts, updates, and deletes
- CDC can be written as CSV or Parquet files to landing zone in OneLake
- After data has been written to the landing zone using CDC format Fabric creates and updates Delta tables based on it
- Works like database mirroring but CDC logic is not provided out of the box

Several third-party vendors offer products that handle CDC logic for many popular systems like Oracle and SAP

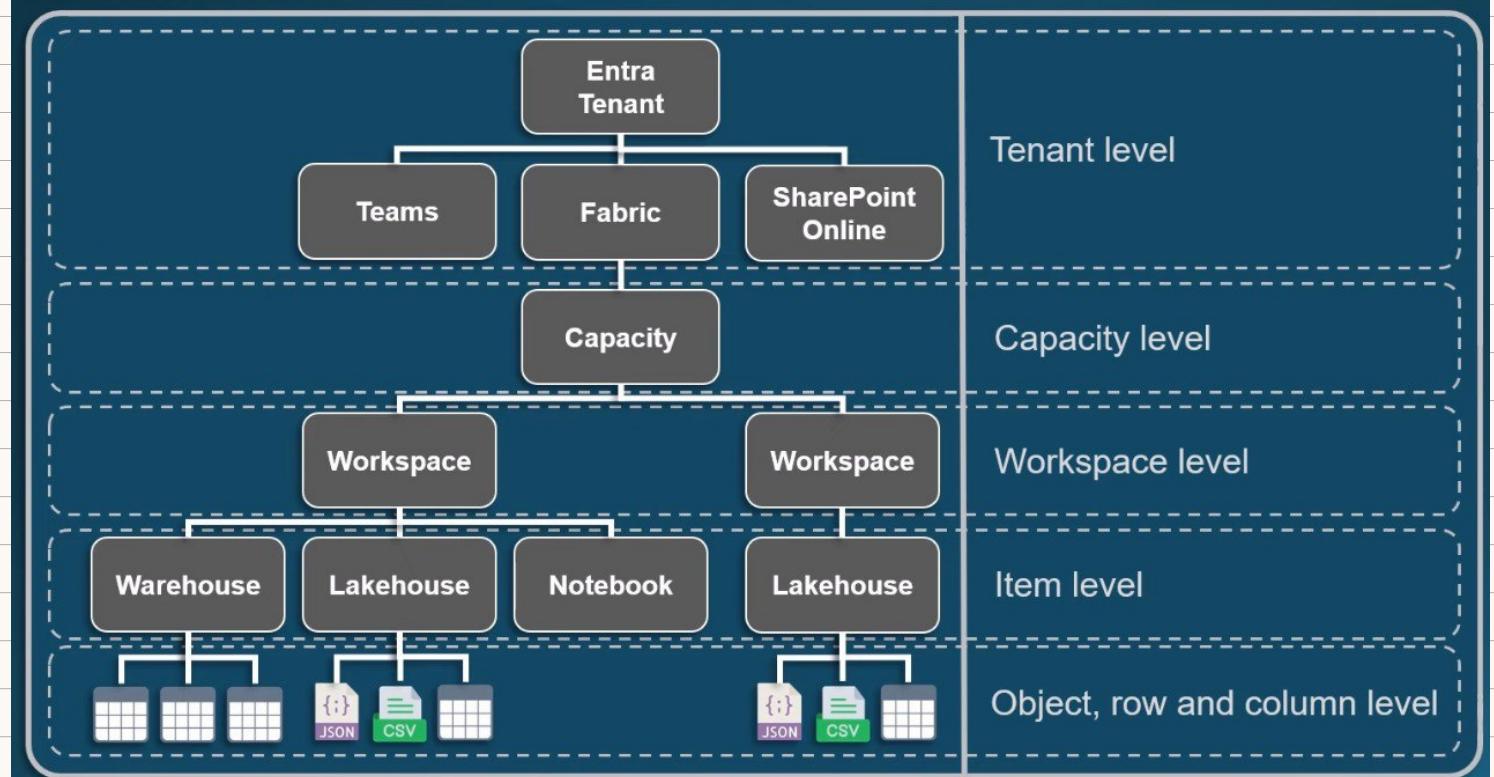


Recap on Fabric structure

Microsoft Fabric Structure



Microsoft Fabric Structure



The Principle of Least Privilege (PoLP)

to do their job

Give users the minimum level of access they need and nothing more

Why It Matters in Microsoft Fabric?

Reduces risk of data leaks, accidental changes, or misuse

Improves manageability by keeping access clear and purposeful

Limits blast radius if an account is compromised

Supports auditability and role-based access reviews

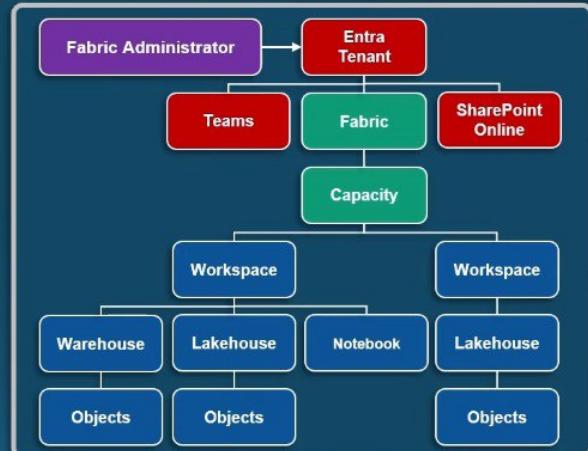
When permissions are clearly defined and limited, it's then easier to keep track who can do what & why

It helps contain the damage in case something goes wrong.

It's easier to validate the access when you know that each user has only the permission they actually need.

Fabric Administrator

	Global Administrator	Fabric Administrator
Scope	Entire Microsoft tenant	Only Microsoft Fabric
Access Level	Full access to all services	Access to Fabric settings only
Access Management	Can manage all users, groups, and roles	Can manage access only in Fabric context
Fabric Settings	Can enable/disable Fabric and assign Fabric Admins	Can configure Fabric settings if Fabric is already enabled
Security Settings	Controls org-wide MFA, Conditional Access, and security policies	No access to security policies or identity settings (Settings of Fabric only)
Limitations	None and can do anything in the tenant	Bound by Fabric-related scope only
Use Case	Use for full-tenant control	Use for managing Fabric without broader risk



Note: Also, Power Platform Administrator role grants admin rights to Microsoft Fabric but gives admin access to other services as well.

Role

Can promote themselves to any role if needed

Grants admin access

NOTE Can't get admin access to
IN Created by Notein

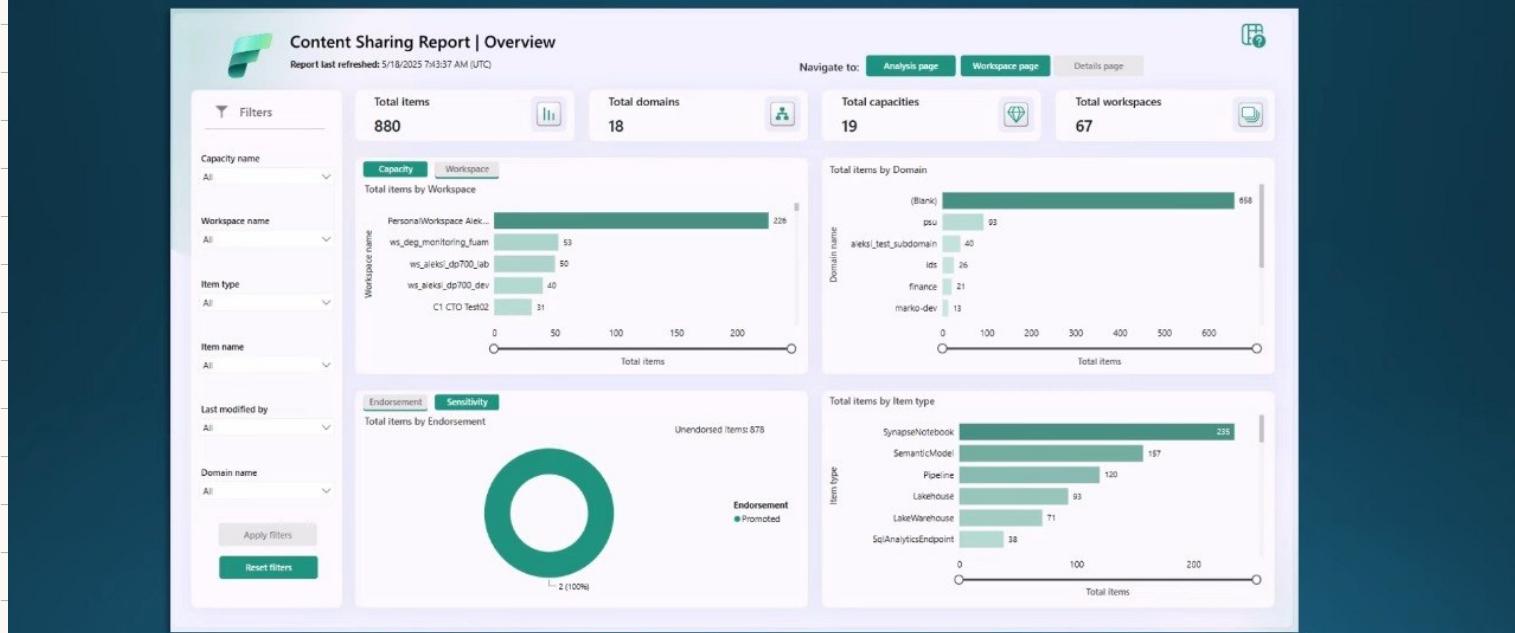
- Global Administrator has access to other services in the tenant like SharePoint, Teams,.....

Unlike Fabric Administrator

- Global Administrator Can even assign or remove global admin rights from others.

While Fabric Admin Cannot touch entra ID or tenant wide user settings a.k.a They Can not remove / Grant other people with Fabric admin role.

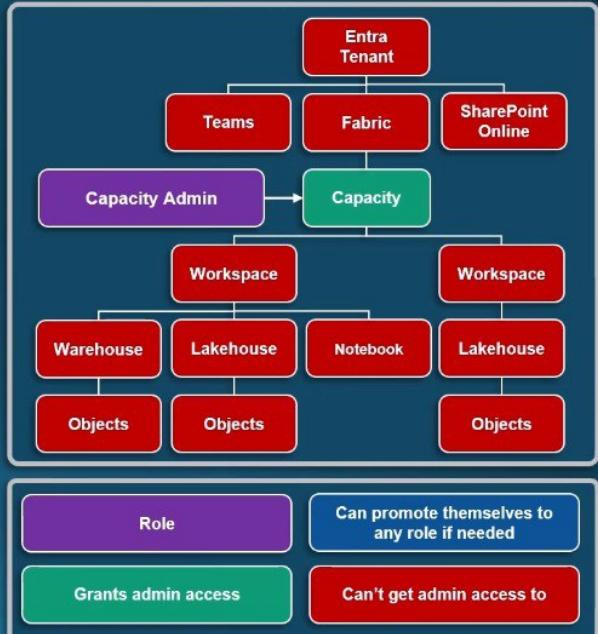
Admin Monitoring Workspace



Capacity Admin

- Manages a specific capacity in Microsoft Fabric (not tenant-wide)
- Controls which workspaces are assigned to the capacity
- Configures workload settings (e.g., memory, concurrency, Spark behavior)
- Can override some tenant level settings for the capacity
- Can be assigned from Fabric admin portal or in Azure to a Fabric capacity resource *(if managed through Power BI)*
- Does not grant any access to workspaces in the capacity

"A Capacity Admin is like a building manager. They control which teams are allowed to use the building, how much electricity or water each floor gets, and when maintenance is done. But they do not have the keys to enter the rooms."



②

They Can divide which teams or solutions get access to The Compute power of That Capacity unit

③

This allow finetuning how different data workloads run on shared Capacity

Workspace Level Accesses and Roles

Capability	Admin	Member	Contributor	Viewer
Update and delete the workspace.	✓			
Add or remove people, including other admins.	✓			
Add members or others with lower permissions.	✓		✓	
Allow others to reshare items.	✓	✓	✓	
Create or modify database mirroring items.	✓	✓		✓
Create or modify warehouse items.	✓	✓	✓	
Create or modify SQL database items.	✓	✓	✓	
View and read content of data pipelines, notebooks, Spark job definitions, ML models and experiments, and eventstreams.	✓	✓	✓	✓
View and read content of KQL databases, KQL query-sets, and real-time dashboards.	✓	✓	✓	✓
Connect to SQL analytics endpoint of Lakehouse or the Warehouse	✓	✓	✓	✓
Read Lakehouse and Data warehouse data and shortcuts with T-SQL through TDS endpoint (ReadData).	✓	✓	✓	✓
Read Lakehouse and Data warehouse data and shortcuts through OneLake APIs and Spark (ReadAll).	✓	✓	✓	
Read Lakehouse data through Lakehouse explorer (ReadAll).	✓	✓	✓	
Subscribe to OneLake events.	✓	✓	✓	
Write or delete data pipelines, notebooks, Spark job definitions, ML models, and experiments, and eventstreams.	✓	✓	✓	
Write or delete Eventhouses, KQL Querysets, Real-Time Dashboards, and schema and data of KQL Databases, Lakehouses, data warehouses, and shortcuts.	✓	✓	✓	
Execute or cancel execution of notebooks, Spark job definitions, ML models, and experiments.	✓	✓	✓	
Execute or cancel execution of data pipelines.	✓	✓	✓	
View execution output of data pipelines, notebooks, ML models and experiments.	✓	✓	✓	✓
Schedule data refreshes via the on-premises gateway.	✓	✓	✓	
Modify gateway connection settings.	✓	✓	✓	

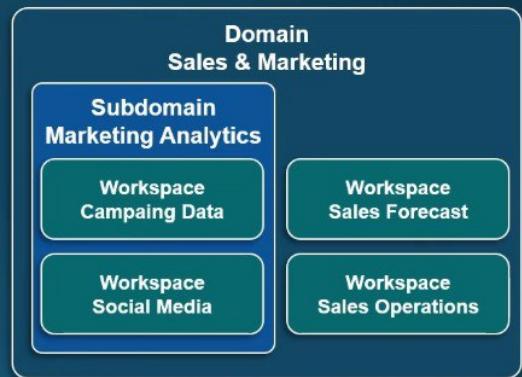
Domain Role Assignments

Capability/Task	Fabric Admin Roles*	Domain Admin**	Domain Contributor***
Admin access to all the domains	Yes	No	No
Add and remove domain admins	Yes	No	No
Access to domain tab in admin portal	Yes	Yes	No
Assign and remove workspace from domains	Yes	Yes	No
Edit domain	Yes	Yes	No
Add and remove domain contributors	Yes	Yes	No
Override tenant level endorsement setting for the domain	Yes	Yes	No
Add workspaces to a domain	Yes	Yes	Yes
Access to workspaces without additional role assignments	No	No	No

* Global Administrator, Power Platform Administrator & Fabric Administrator

** Only in the scope of the domain(s) they are assigned as admin to

*** Domain contributors are workspace admins whom a domain or Fabric admin has authorized to assign the workspaces they're the admins of to a domain, or to change the current domain assignment.



Subdomains don't have their own domain admins.
A subdomain's domain admins are the domain admins of its parent domain.

- They don't automatically get access to The workspaces unless They are added to those separately

(Note) Domain admin is a not higher level role from The workspace level in a sense →

since granting domain admin role to somebody does not grant workspaces accesses and domain admin can't grant those access to themselves like Fabric Admin can

Domain Contributor → Add / connect workspaces They are admin of to The domains They are assigned as Contributors

Item Level Access

The screenshot shows the Databricks workspace interface. On the left, there's a sidebar with various navigation links like Home, Workspaces, OneLake catalog, Monitor, Real-Time, Workloads, and more. The main area shows a list of notebooks and databases. A specific notebook named 'nb_sales_operations' is selected. A context menu is open for this notebook, with a red box highlighting the 'More options' button. Another red box highlights the 'Manage permissions' option in the menu. A third red box highlights the 'Add user' button in the notebook's details panel. To the right, a modal window titled 'Grant people access' is open, showing fields for entering recipient names, additional permissions (Share, Edit, Run), notification options (Notify recipients by email), and a message field. A note at the bottom of the modal says 'You must also grant run permission to any user who gets edit permission.' At the bottom right of the modal are 'Grant' and 'Back' buttons.

Share

- Share the item with other people
- Also known as Reshare

Edit

- Edit the content of the item
- Also known as Write

Run

- Run the item
- This permission is also known as Execute
- Not available for all the items that can be give item level access to

Currently item level access not available for every item in Fabric!

- If None of The above permissions is specified
a read permission is set as default

