Exploring Permission Boundaries in Microsoft Fabric

Benni De Jagere

Slides

CAT



Microsoft

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Azure Data CAT

dataMinds .be Member

/bennidejagere

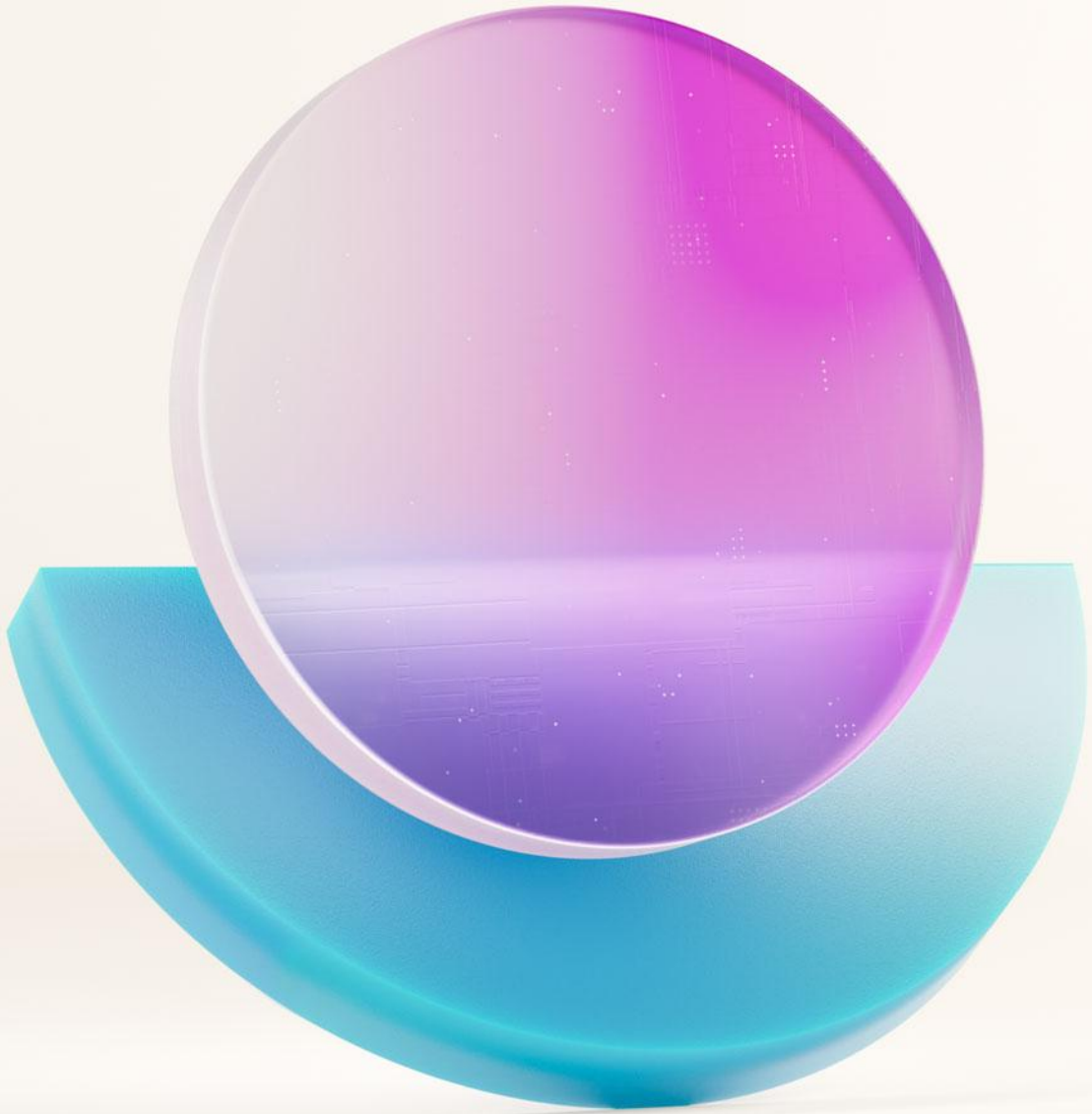
sessionize /bennidejagere

/bennidejagere

#SayNoToPieCharts



Microsoft Fabric
COMMUNITY CONFERENCE



Setting The Scene

Things we'll cover

Give you things to talk and think about when deciding a pattern

Walk through significant layers that impact permissions

Focus on typical pattern for organizing and consuming data

Start with Power BI Direct Lake mode

Then reflect how Import/DQ changes (simplifies?) things

Sneak in **Copilot**  at least 5 times

Microsoft Fabric

The unified data platform for AI transformation

Databases

Data Factory

Analytics

Real-Time Intelligence

Power BI

IQ

Fabric Platform

Copilot | OneLake | Capacities | Governance

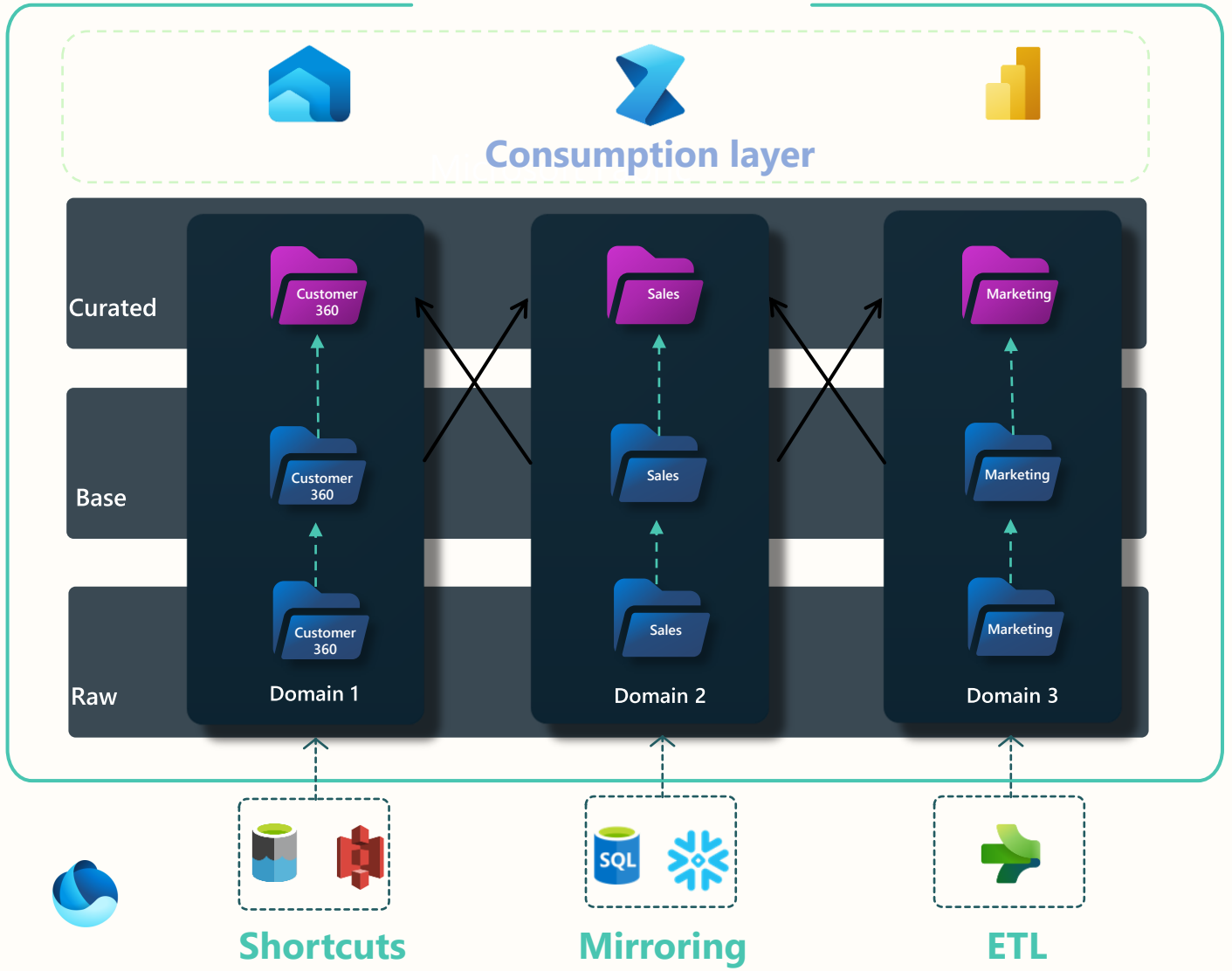
“Hey Benni, what is your recommendation for workspace structure?”

It .. depends ..

Access Patterns

Business user

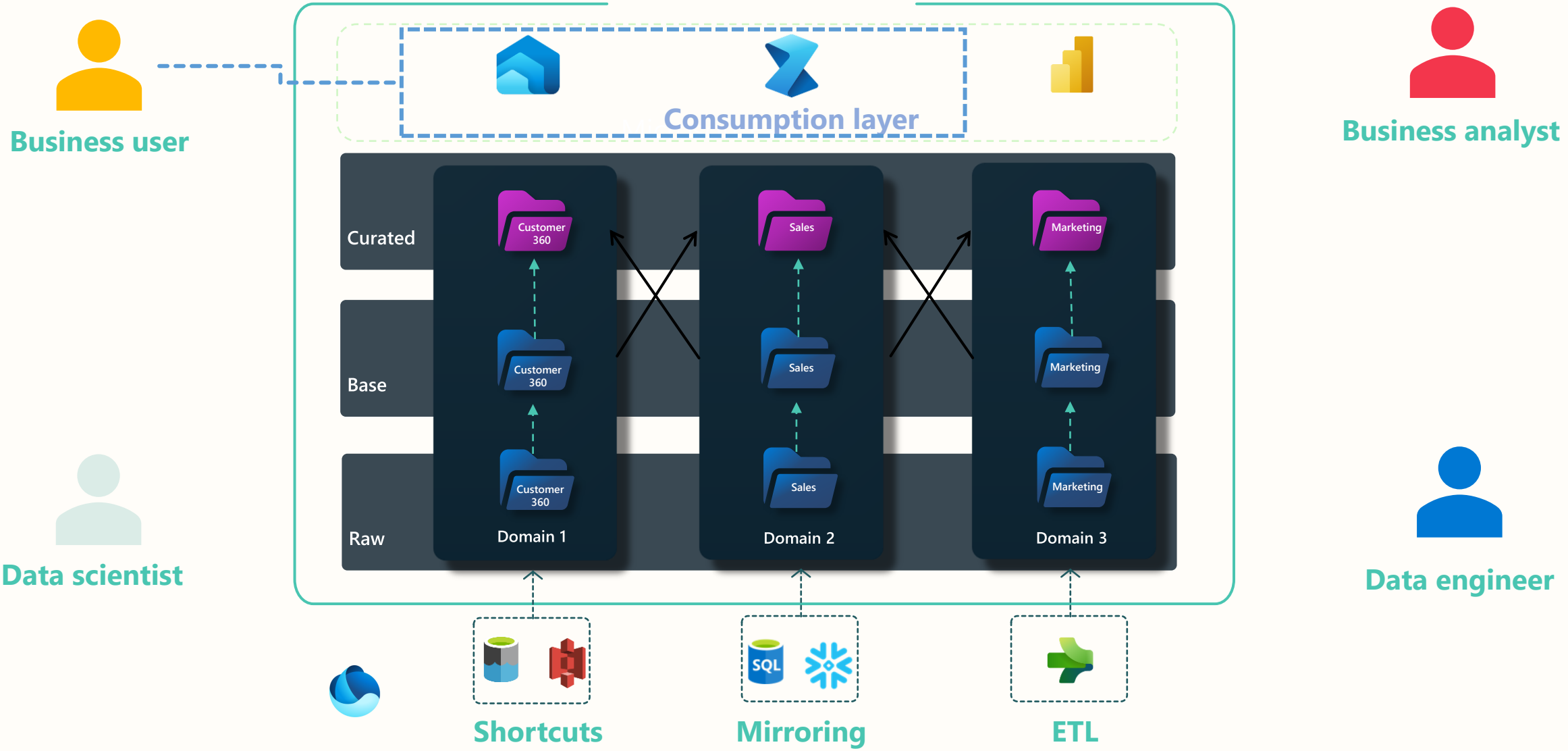
Business analyst



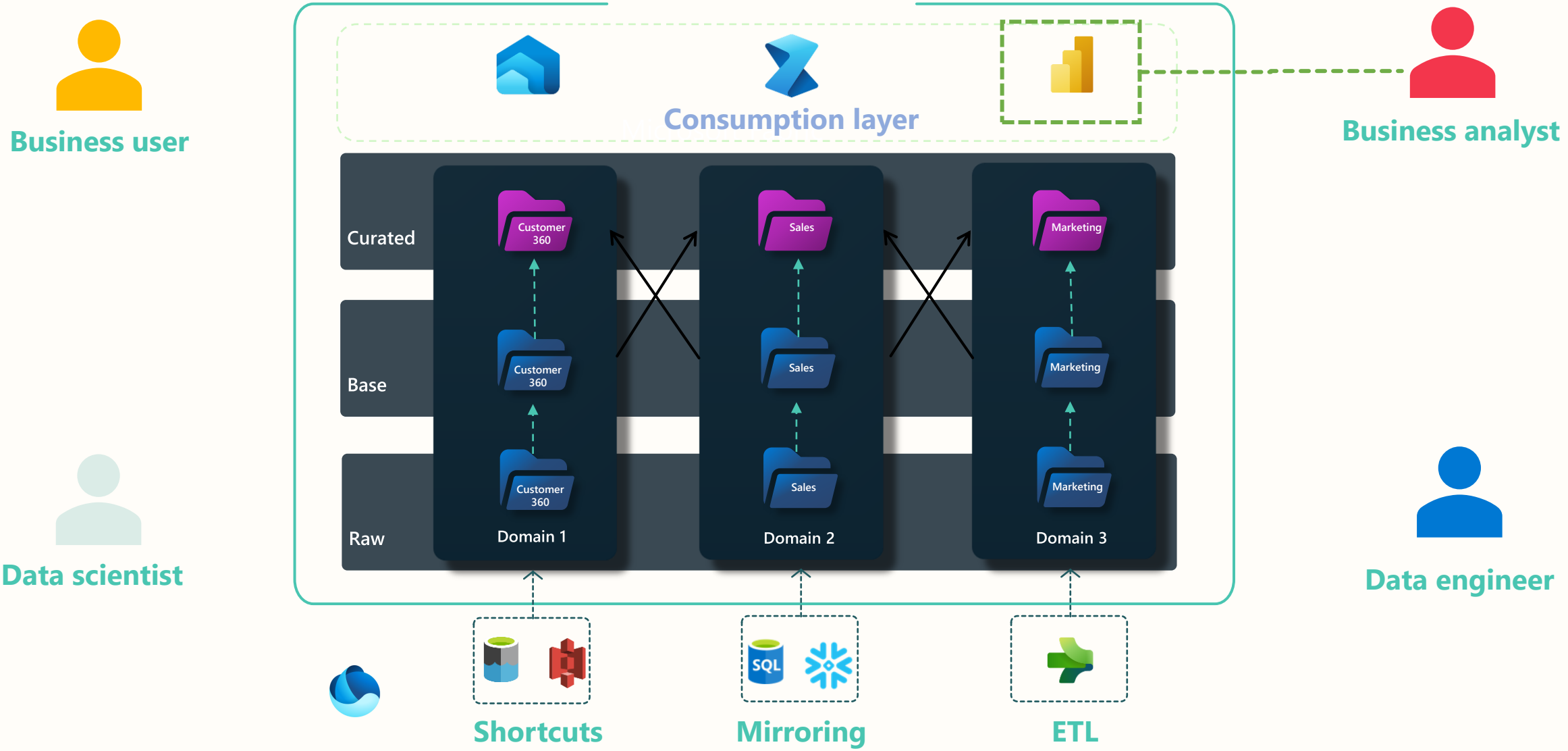
Data scientist

Data engineer

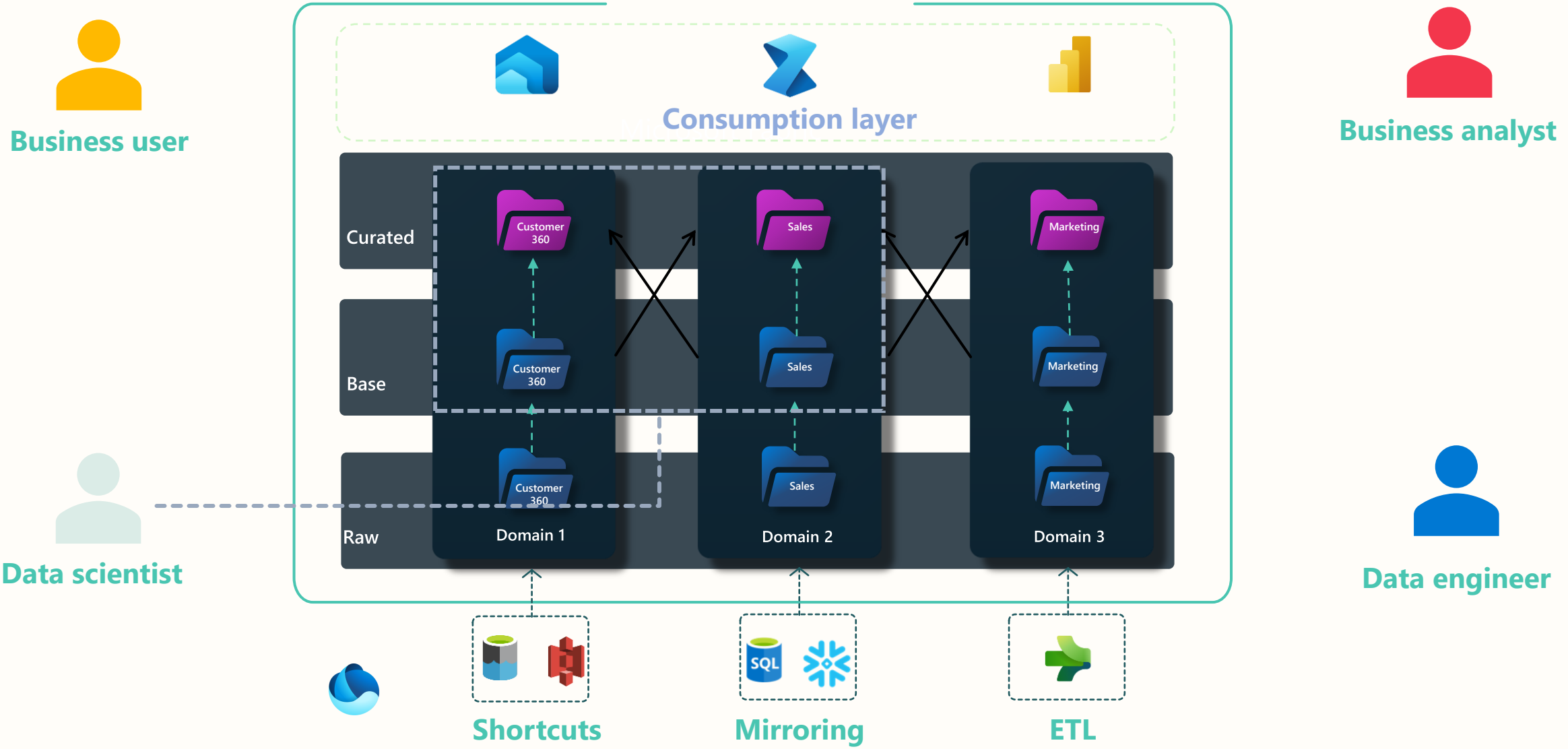
Access Patterns



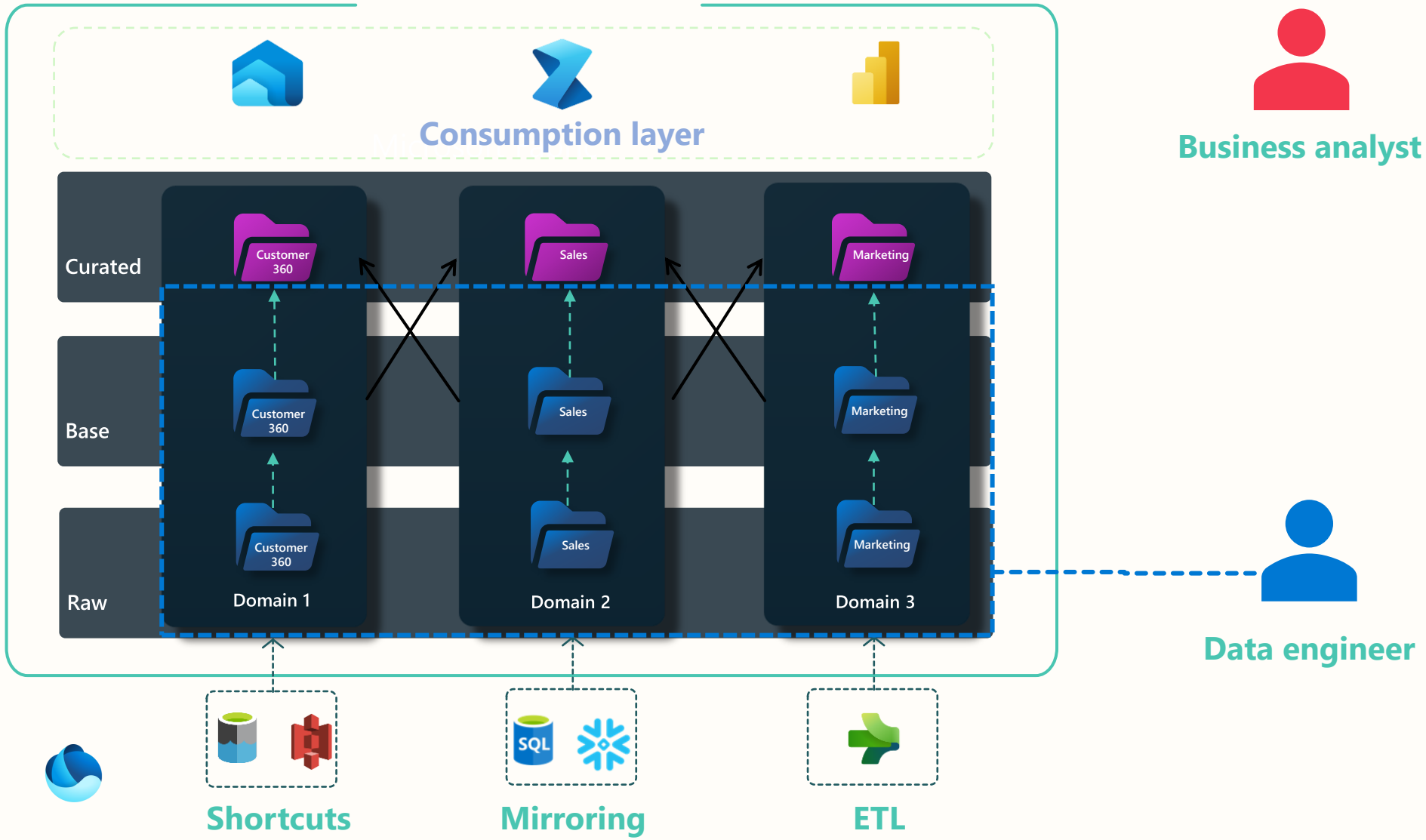
Access Patterns



Access Patterns



Access Patterns



Data is most secure if no one can access it.

But how would you create value from it?

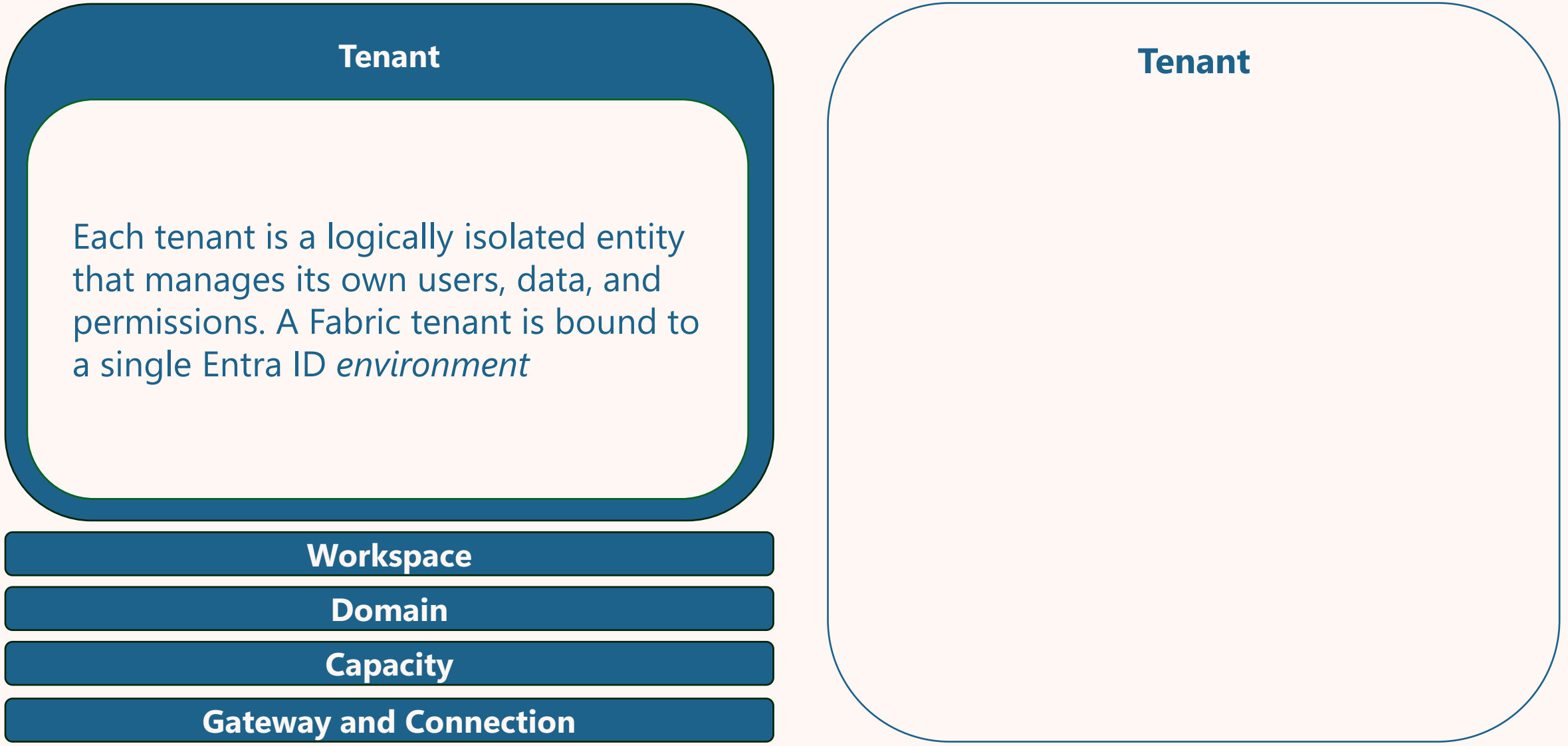
Principles (that I care about)

- Least Privilege
- Usable
- Manageable
- Repeatable
- Efficient
- Zero Trust

Boundaries


Tenant
Workspace
Domain
Capacity
Gateway and Connection
Item
Data

Boundaries


Tenant
Each tenant is a logically isolated entity that manages its own users, data, and permissions. A Fabric tenant is bound to a single Entra ID *environment*
Workspace
Domain
Capacity
Gateway and Connection
Tenant

Boundaries

Tenant

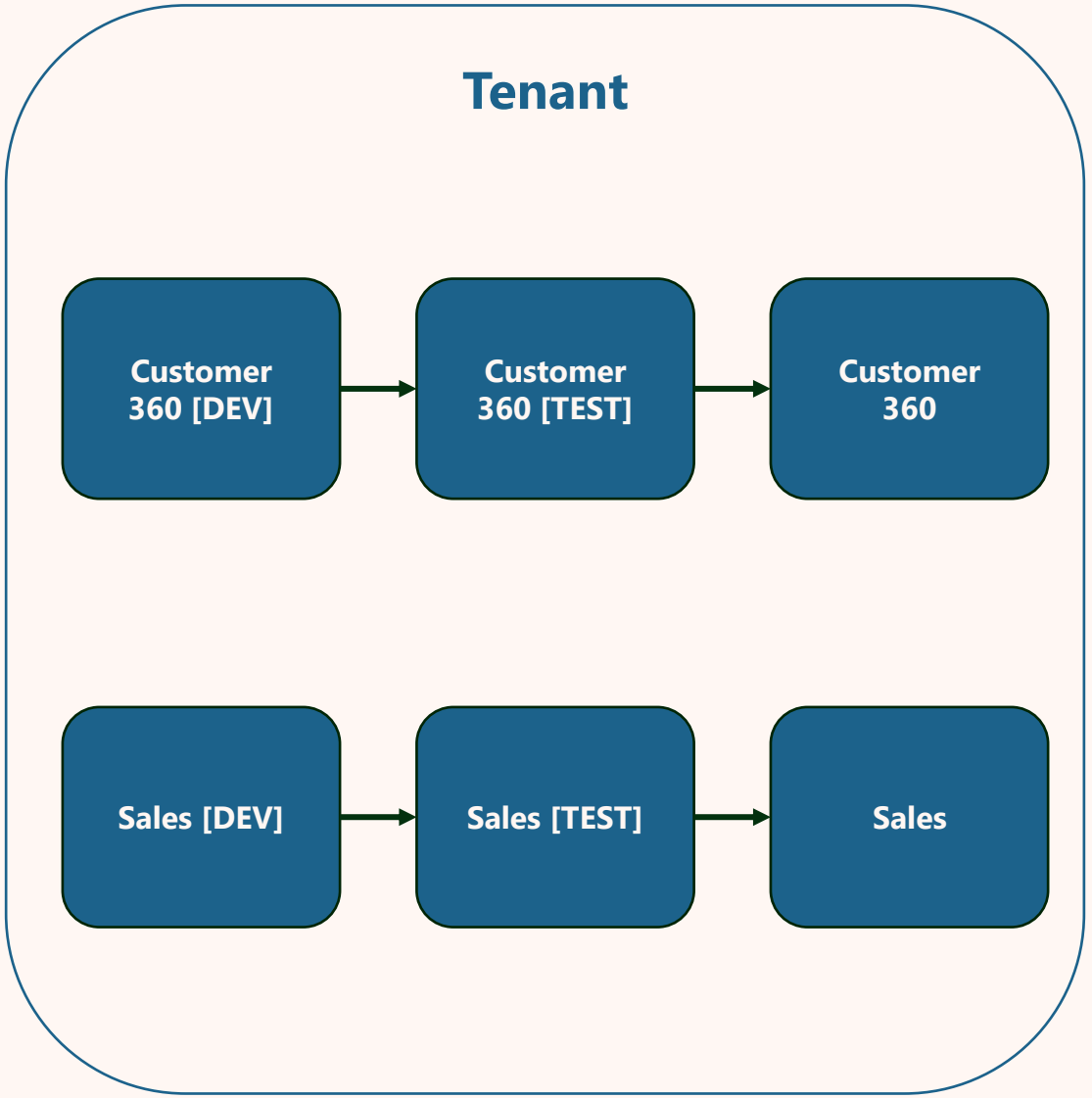
Workspace

"Folders" where users can organize, manage, and share their Fabric content. Think of a workspace as a *SharePoint Library* where teams can work together on projects involving data and analytics.

Domain

Capacity

Gateway and Connection



Boundaries

Tenant

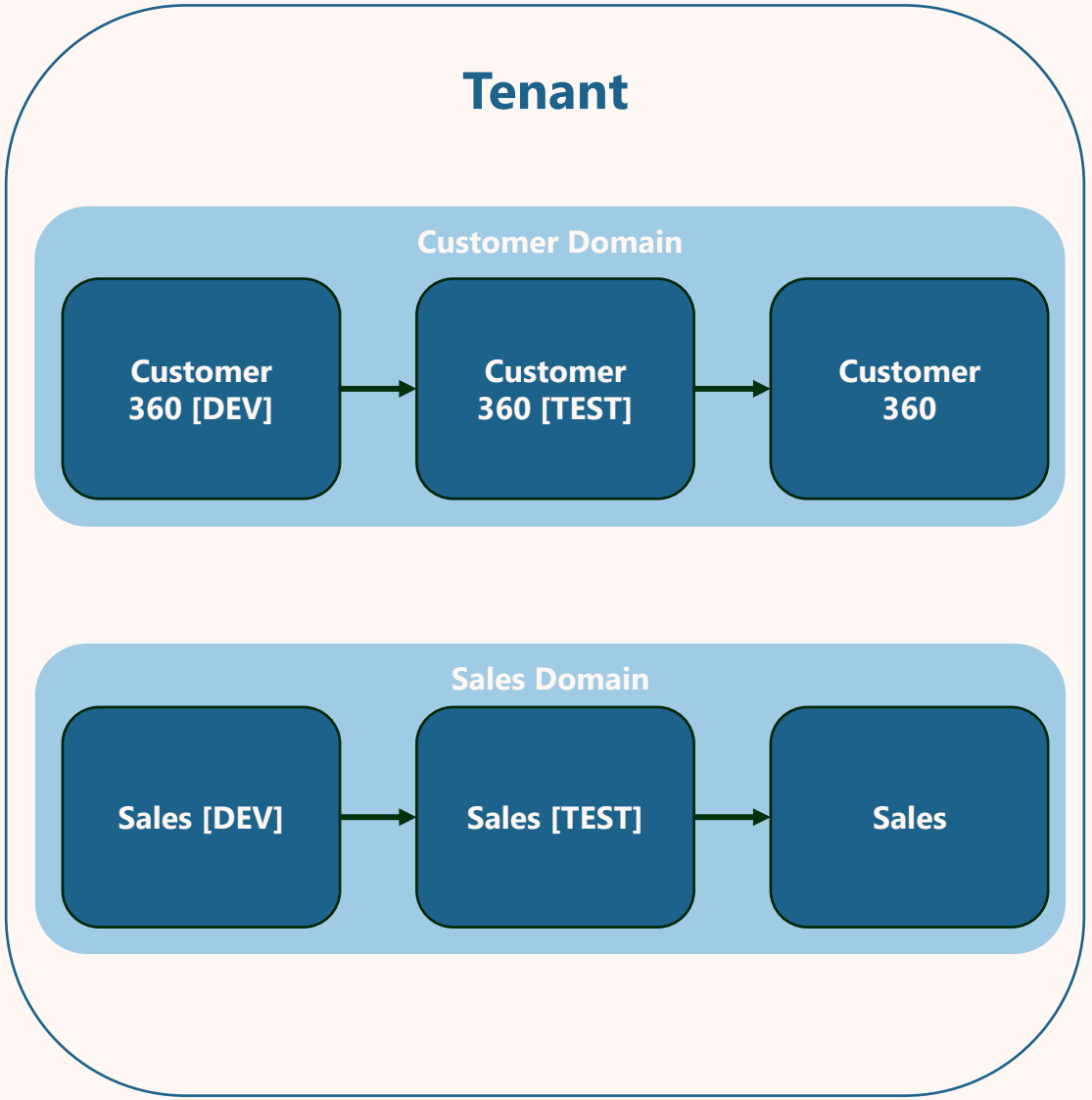
Workspace

Domain

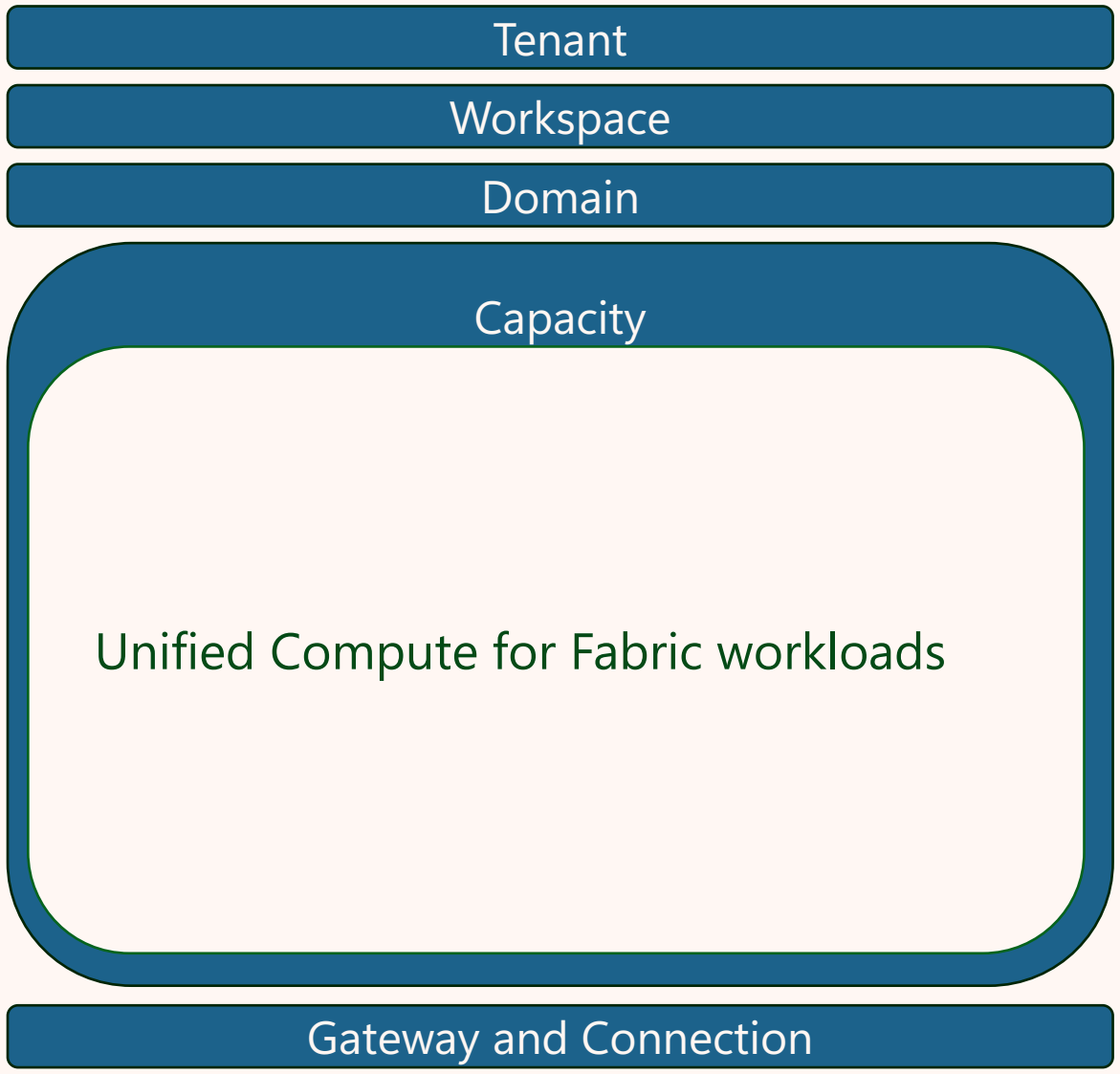
A logical grouping of workspaces, in a way that is relevant to a particular area or field

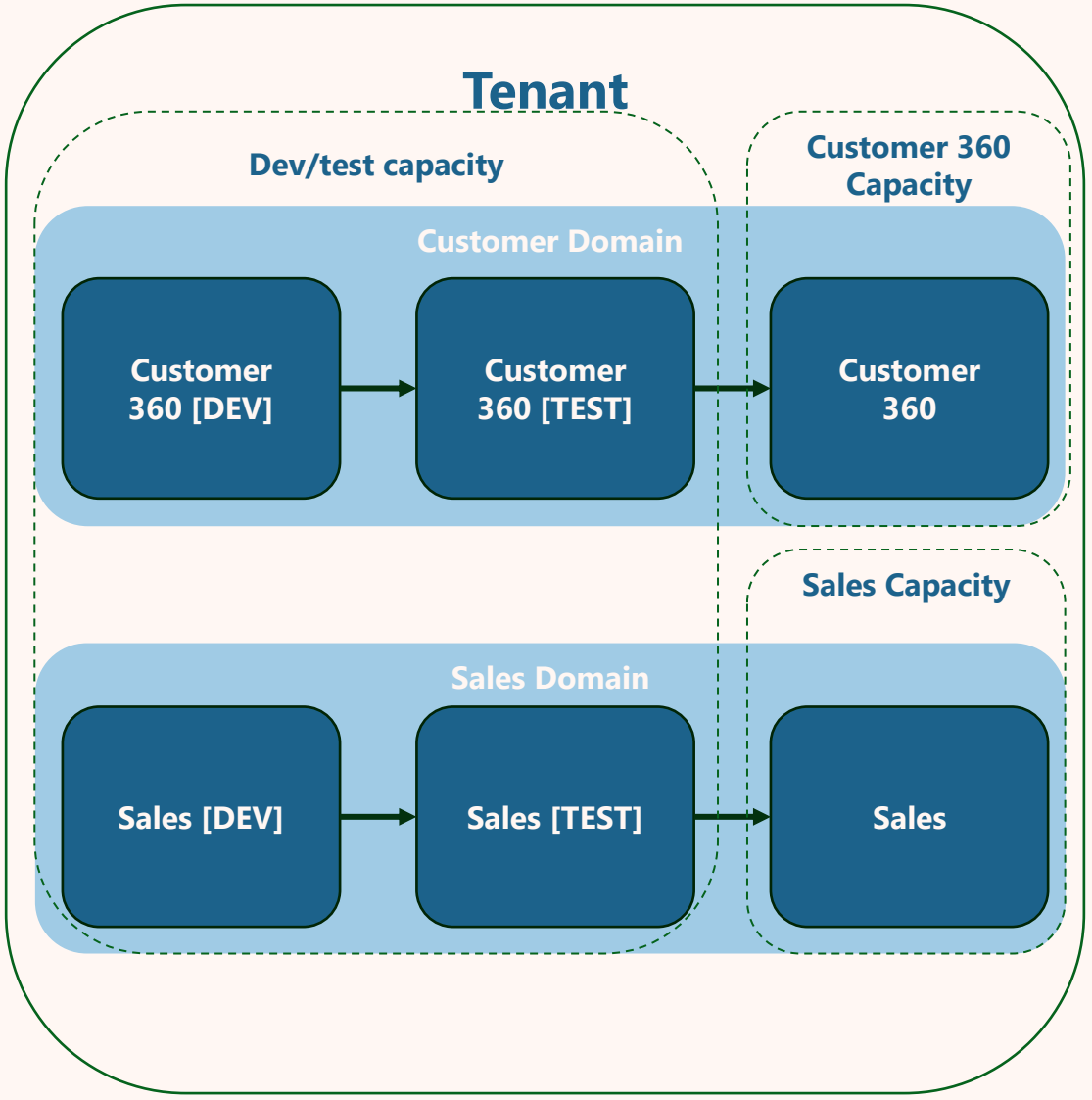
Capacity

Gateway and Connection



Boundaries


Tenant
Workspace
Domain
Capacity
Unified Compute for Fabric workloads
Gateway and Connection


Tenant
Dev/test capacity
Customer 360 Capacity
Customer Domain
Customer 360 [DEV]
Customer 360 [TEST]
Customer 360
Sales Capacity
Sales Domain
Sales [DEV]
Sales [TEST]
Sales

Boundaries

Tenant

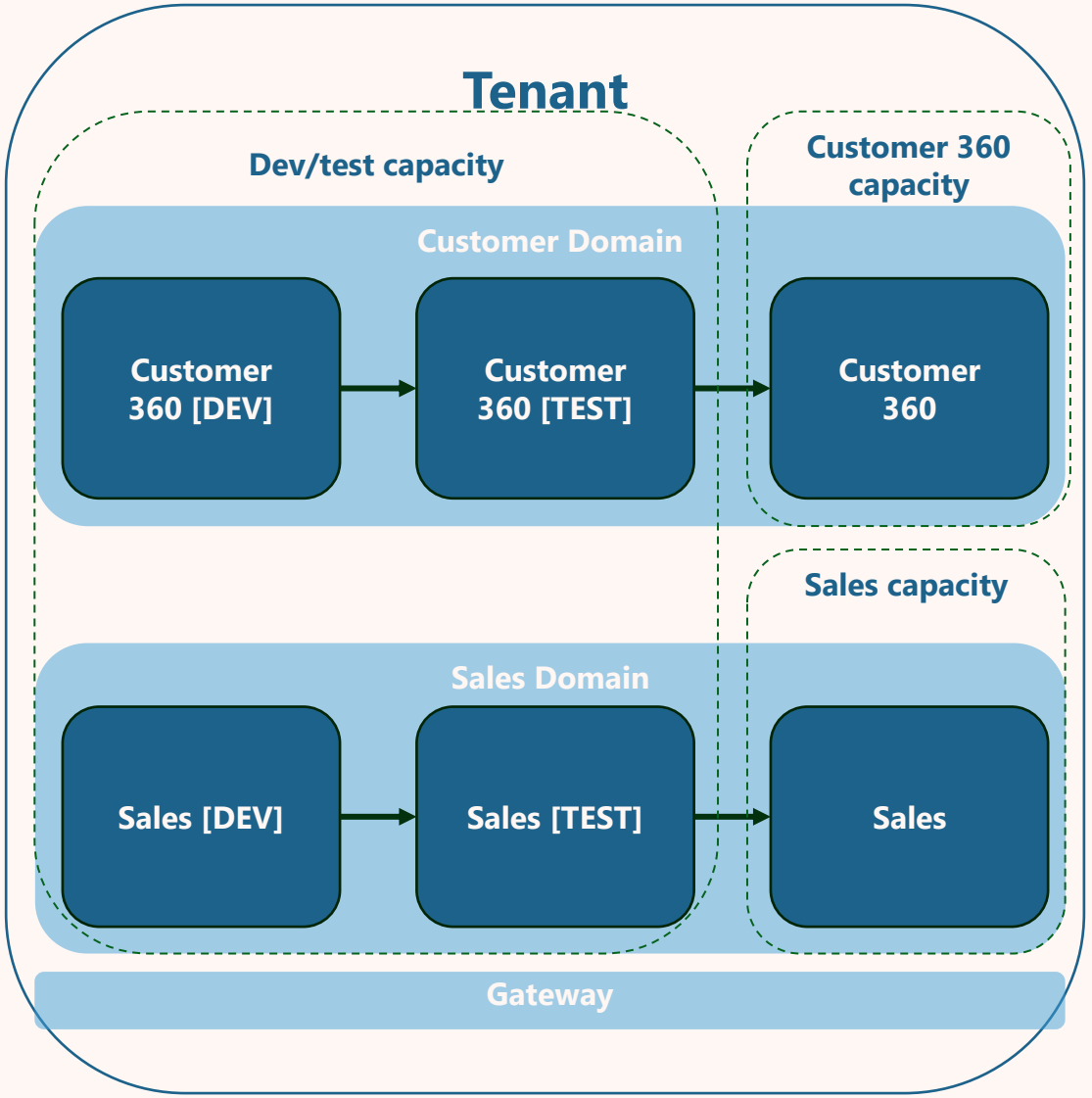
Workspace

Domain

Capacity

Gateway and Connection

Securely create connections to data sources



OneLake for all data
"The OneDrive for data"



OneDrive
for documents

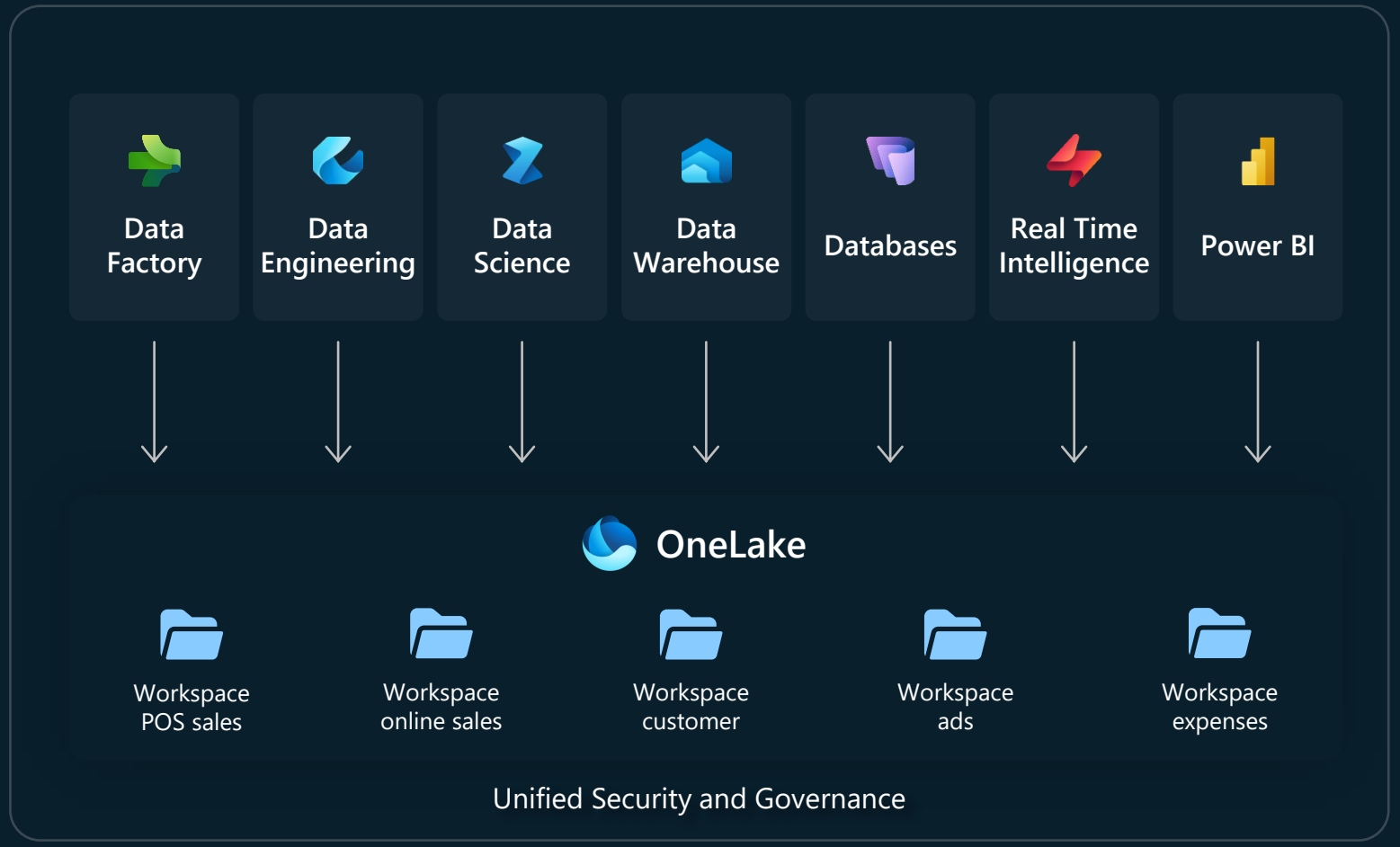


OneLake
for data

OneLake provides a data lake as a service
without you needing to build it

A single unified SaaS data lake

"No Silos"



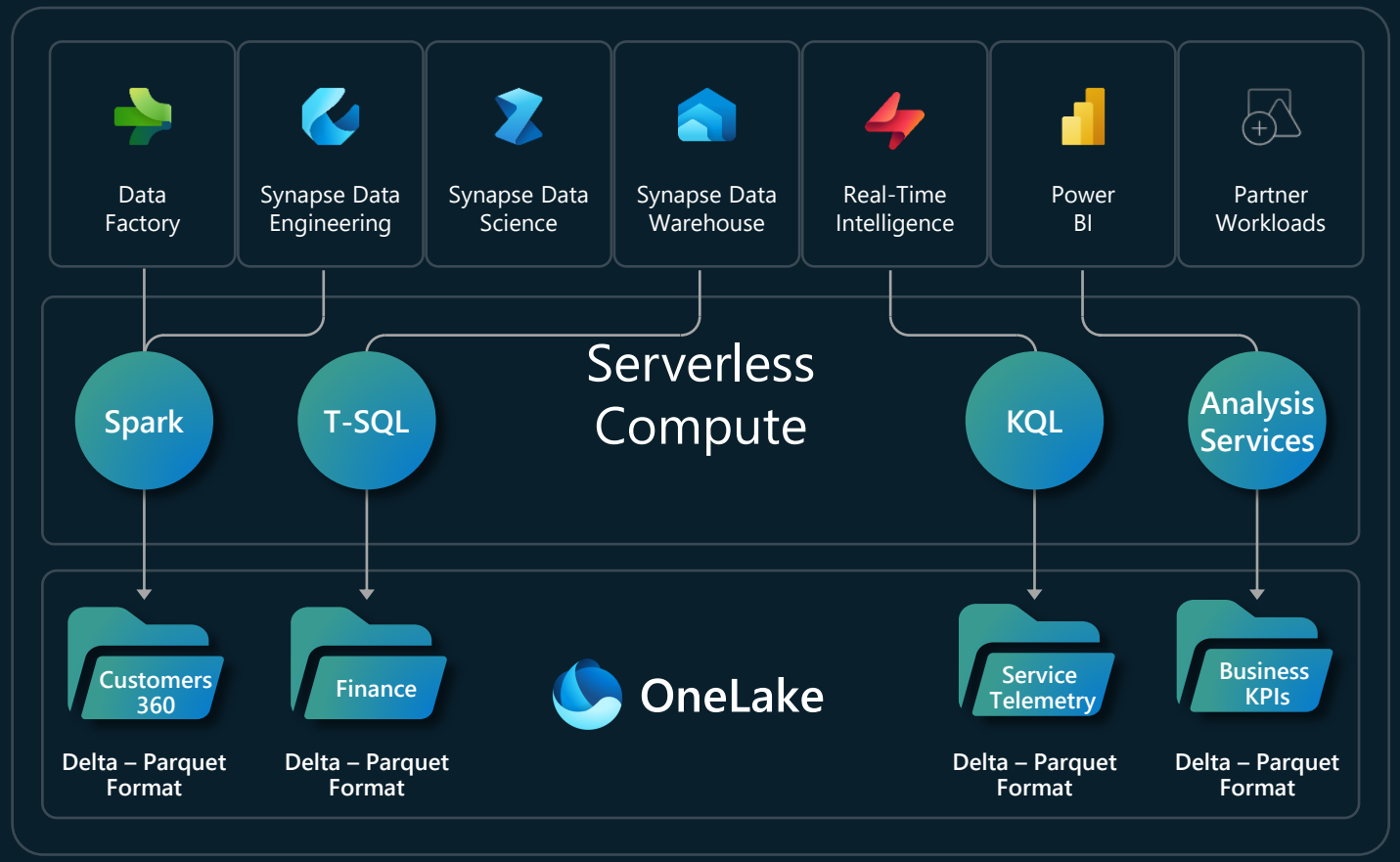
Provisioned automatically with the tenant.

Any data in OneLake works with out-of-the-box governance such as data lineage, data protection, certification, catalog integration, etc. All data is ultimately under the control of a tenant admin.

OneLake enables distributed ownership. Different workspaces allow different parts of the organization to work independently while still contributing to the same data lake. Each workspace can have its own administrator, access control, region and capacity for billing.

One Copy for all computes

Real separation of compute and storage



All the compute engines store their data automatically in OneLake as data items.

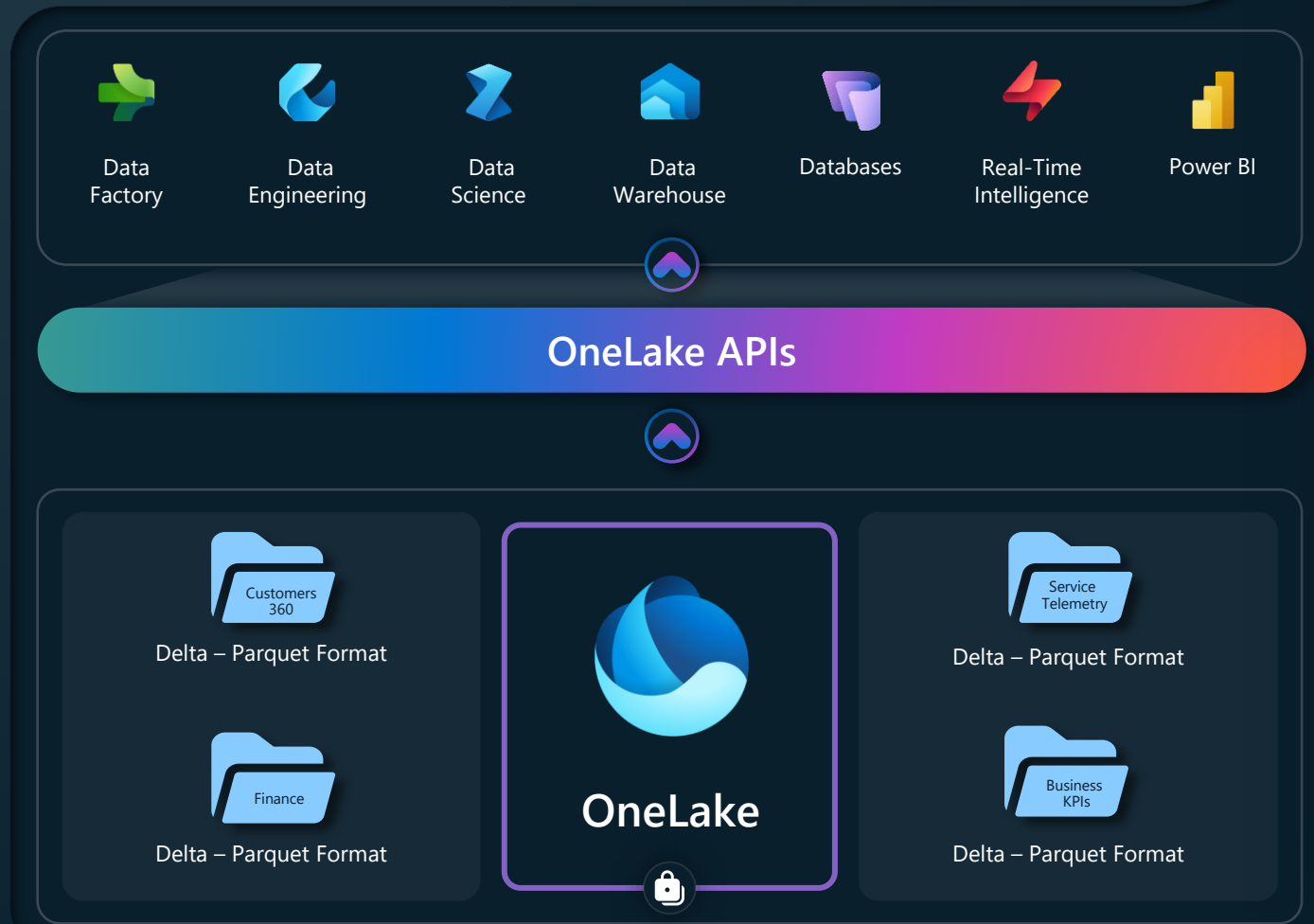
The data is stored in a single common format.

Delta – Parquet, an open standards format, and it is the storage format for all tabular data in Fabric.

All the compute engines have been fully optimized to work with Delta Parquet as their native format.

OneLake security

Defined once, enforced everywhere



Define security roles in OneLake using powerful features like table, row, or column level security.

Data is secured consistently across experiences inside and outside of Fabric.

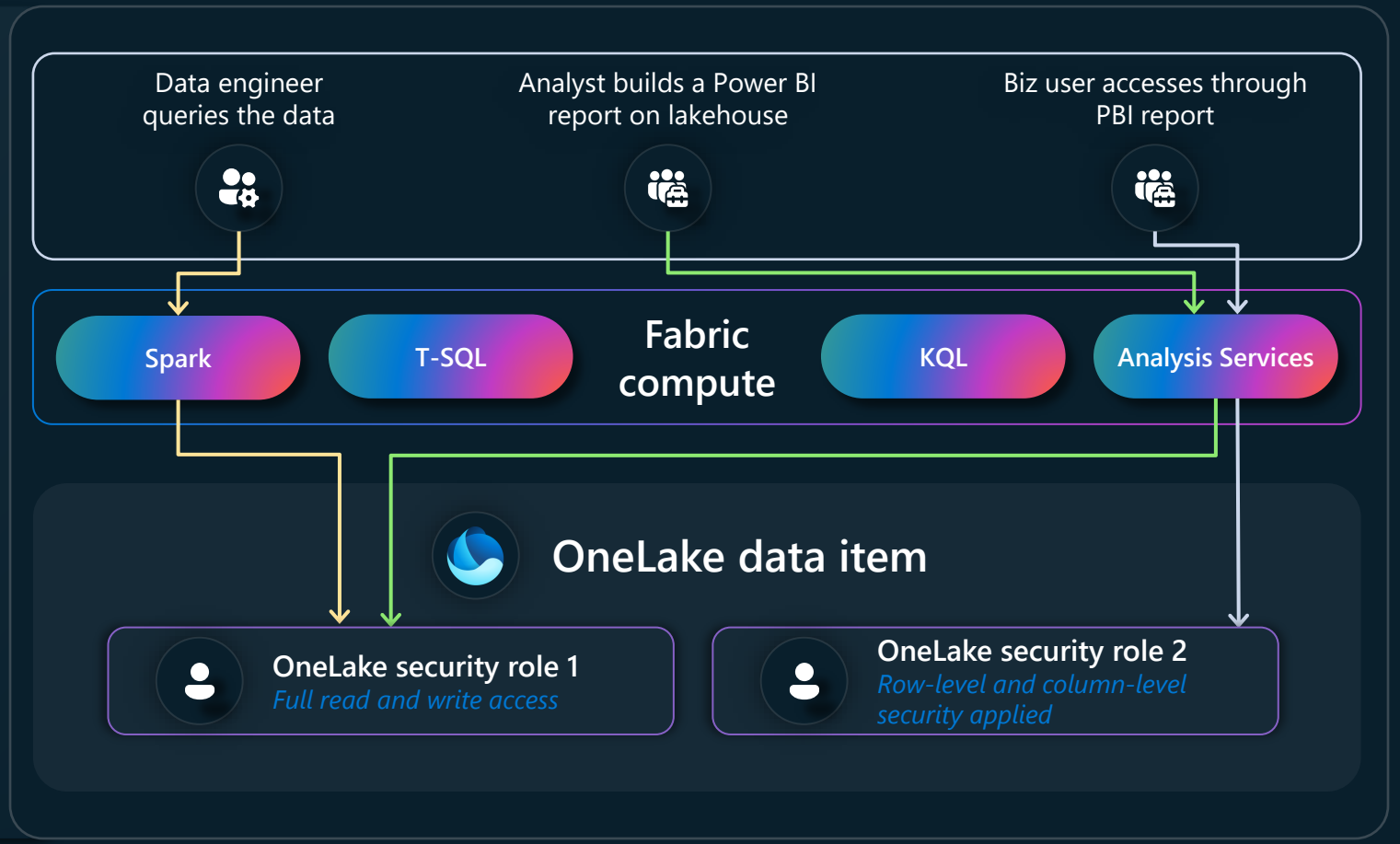
OneLake security roles can be managed in a single place, providing end to end coverage for data access for your entire data estate.

OneLake security

03 Users access data through different Fabric engines

02 The permissions are checked when specific users are accessing data from the data item

01 Data owner sets up roles with defined permissions and assigns user groups to each role



OneLake security – the whole journey

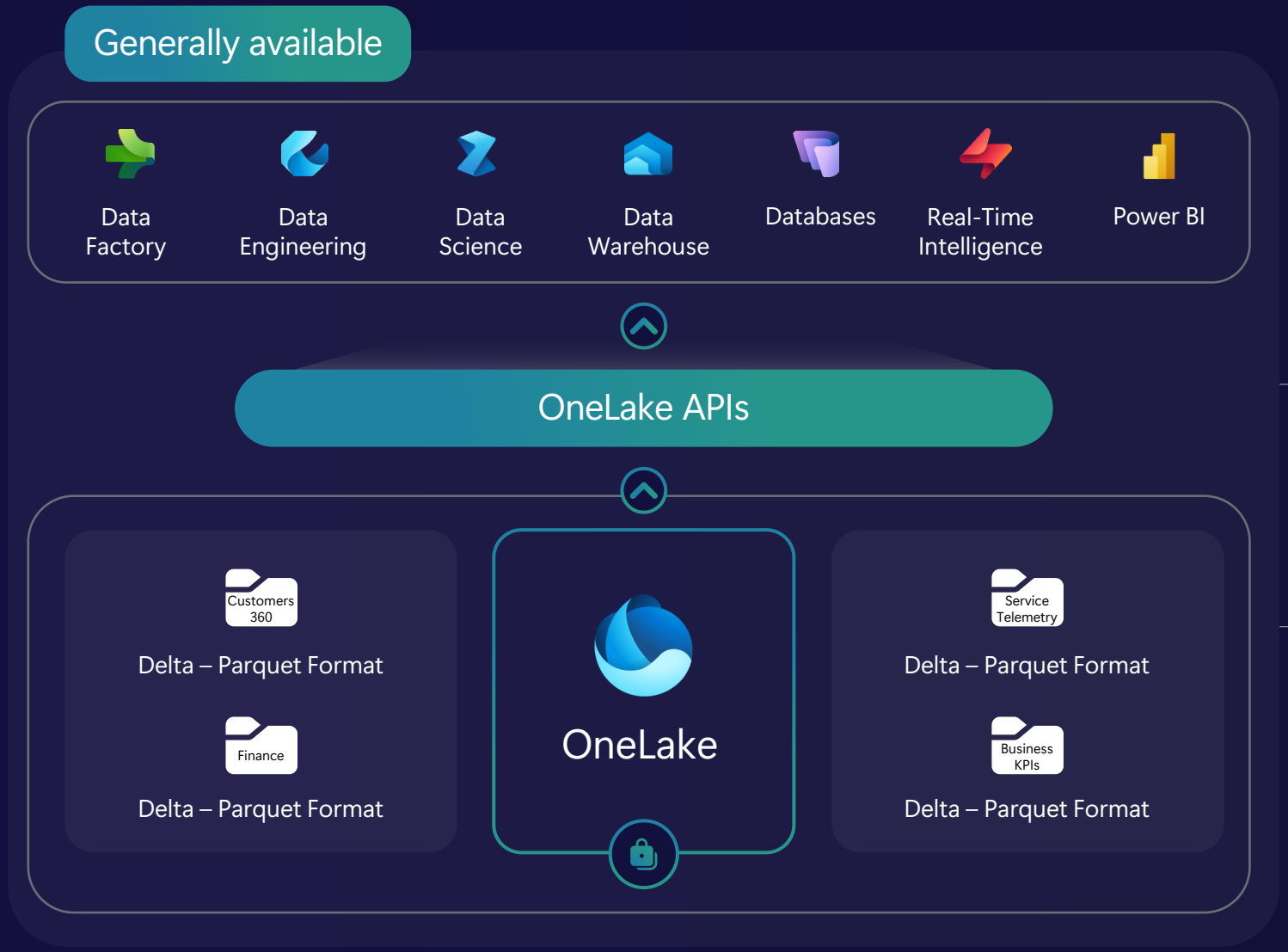
2024 → Now

- Storing OneLake security roles
- SET/GET role APIs
- In-memory service for enforcing roles
- APIs for workloads to call and integrate with
- Custom RLS bitmap engine
- Discovery engine for passthrough shortcut security
- Original UX for managing roles
- OneLake secure tab
- UX RLS auto complete
- UX refresh

- Audit events for role CRUD
- Shortcut optimizations
- Hardware deployment + billing for RLS
- SQL EP security sync
- SQL EP mode switch
- Semantic model integration
- Semantic model RLS bitmap optimizations
- Spark secure context
  - Designed secure Spark system to fetch data and enforce RLS/CLS
  - Secure context integration
  - Performance optimizations
  - Live pools for secure context

- Lakehouse support for CLS
- Granular APIs for OneLake security
- ReadWrite permission
- Removing platform “Read” to access data
- Integration with MIP protection policies
- Cross region shortcut support
- SQL security sync optimizations
- RLS engine updates for multi-table

Announcing - OneLake security GA



OneLake security is generally available in April.

Define security roles in OneLake using powerful features like table, row, or column level security

Use your favorite query engines with Spark, SQL EP, and Power BI support now GA

Explorer

Search schemas and tables

NorthwindTest

Tables

dbo

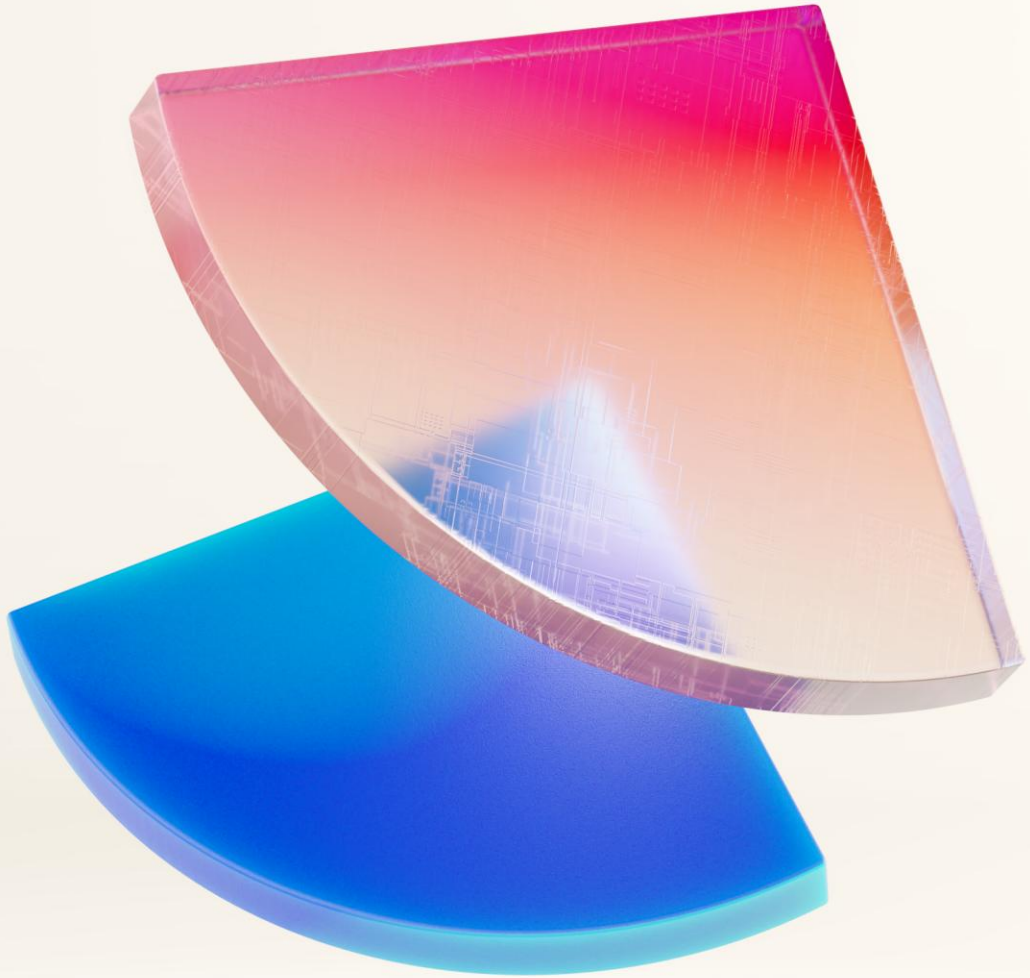
Customers
Employees
EmployeeTerritor...
OrderDetails
Orders
Products
Regions
Shippers
ShortcutOrders
Suppliers
Territories

Files

Orders

Showing 830 rows

	orderID	customerID	employeeID	orderDate	requiredDate	shippedDate	shipVia	freight	shipName	shipAddress	shipCity	shipRegion	shipPostalC...
1	10257	HILAA	4	7/16/1996 12:00:...	8/13/1996 12:00:...	1996-07-22 00:0...	3	81.91	HILARION-Abast...	Carrera 22 con A...	San Cristóbal	Táchira	5022
2	10262	RATTC	8	7/22/1996 12:00:...	8/19/1996 12:00:...	1996-07-25 00:0...	3	48.29	Rattlesnake Can...	2817 Milton Dr.	Albuquerque	NM	87110
3	10268	GROSR	8	7/30/1996 12:00:...	8/27/1996 12:00:...	1996-08-02 00:0...	3	66.29	GROSELLA-Rest...	5ª Ave. Los Palos...	Caracas	DF	1081
4	10269	WHITC	5	7/31/1996 12:00:...	8/14/1996 12:00:...	1996-08-09 00:0...	1	4.56	White Clover Ma...	1029 - 12th Ave....	Seattle	WA	98124
5	10283	LILAS	3	8/16/1996 12:00:...	9/13/1996 12:00:...	1996-08-23 00:0...	3	84.81	LILA-Supermerc...	Carrera 52 con A...	Barquisimeto	Lara	3508
6	10287	RICAR	8	8/22/1996 12:00:...	9/19/1996 12:00:...	1996-08-28 00:0...	3	12.76	Ricardo Adocica...	Av. Copacabana ...	Rio de Janeiro	RJ	02389-890
7	10290	COMMI	8	8/27/1996 12:00:...	9/24/1996 12:00:...	1996-09-03 00:0...	1	79.7	Comércio Mineiro	Av. dos Lusíadas...	Sao Paulo	SP	05432-043
8	10296	LILAS	6	9/3/1996 12:00:0...	10/1/1996 12:00:...	1996-09-11 00:0...	1	0.12	LILA-Supermerc...	Carrera 52 con A...	Barquisimeto	Lara	3508
9	10305	OLDWO	8	9/13/1996 12:00:...	10/11/1996 12:0...	1996-10-09 00:0...	3	257.62	Old World Delic...	2743 Bering St.	Anchorage	AK	99508
10	10309	HUNGO	3	9/19/1996 12:00:...	10/17/1996 12:0...	1996-10-23 00:0...	1	47.3	Hungry Owl All-...	8 Johnstown Road	Cork	Co. Cork	NULL
11	10316	RATTC	1	9/27/1996 12:00:...	10/25/1996 12:0...	1996-10-08 00:0...	3	150.15	Rattlesnake Can...	2817 Milton Dr.	Albuquerque	NM	87110
12	10317	LONEP	6	9/30/1996 12:00:...	10/28/1996 12:0...	1996-10-10 00:0...	1	12.69	Lonesome Pine ...	89 Chiaroscuro ...	Portland	OR	97219
13	10324	SAVEA	9	10/8/1996 12:00:...	11/5/1996 12:00:...	1996-10-10 00:0...	1	214.27	Save-a-lot Mark...	187 Suffolk Ln.	Boise	ID	83720
14	10330	LILAS	3	10/16/1996 12:0...	11/13/1996 12:0...	1996-10-28 00:0...	1	12.75	LILA-Supermerc...	Carrera 52 con A...	Barquisimeto	Lara	3508
15	10338	OLDWO	4	10/25/1996 12:0...	11/22/1996 12:0...	1996-10-29 00:0...	3	84.21	Old World Delic...	2743 Bering St.	Anchorage	AK	99508
16	10346	RATTC	3	11/5/1996 12:00:...	12/17/1996 12:0...	1996-11-08 00:0...	3	142.08	Rattlesnake Can...	2817 Milton Dr.	Albuquerque	NM	87110
17	10347	FAMIA	4	11/6/1996 12:00:...	12/4/1996 12:00:...	1996-11-08 00:0...	3	3.1	Familia Arquibal...	Rua Orós 92	Sao Paulo	SP	05442-030
18	10349	SPLIR	7	11/8/1996 12:00:...	12/6/1996 12:00:...	1996-11-15 00:0...	1	8.63	Split Rail Beer & ...	P.O. Box 555	Lander	WY	82520
19	10355	AROUT	6	11/15/1996 12:0...	12/13/1996 12:0...	1996-11-20 00:0...	1	41.95	Around the Horn	Brook Farm Strat...	Colchester	Essex	CO7 6JX
20	10357	LILAS	1	11/19/1996 12:0...	12/17/1996 12:0...	1996-12-02 00:0...	3	34.88	LILA-Supermerc...	Carrera 52 con A...	Barquisimeto	Lara	3508
21	10373	HUNGO	4	12/5/1996 12:00:...	1/2/1997 12:00:0...	1996-12-11 00:0...	3	124.12	Hungry Owl All-...	8 Johnstown Road	Cork	Co. Cork	NULL
22	10379	QUEDE	2	12/11/1996 12:0...	1/8/1997 12:00:0...	1996-12-13 00:0...	1	45.03	Que Delícia	Rua da Panificad...	Rio de Janeiro	RJ	02389-673
23	10380	HUNGO	8	12/12/1996 12:0...	1/9/1997 12:00:0...	1997-01-16 00:0...	3	35.03	Hungry Owl All-...	8 Johnstown Road	Cork	Co. Cork	NULL
24	10381	LILAS	3	12/12/1996 12:0...	1/9/1997 12:00:0...	1996-12-13 00:0...	3	7.99	LILA-Supermerc...	Carrera 52 con A...	Barquisimeto	Lara	3508
25	10383	AROUT	8	12/16/1996 12:0...	1/13/1997 12:00:...	1996-12-18 00:0...	3	34.24	Around the Horn	Brook Farm Strat...	Colchester	Essex	CO7 6JX
26	10386	FAMIA	9	12/18/1996 12:0...	1/1/1997 12:00:0...	1996-12-25 00:0...	3	13.99	Familia Arquibal...	Rua Orós 92	Sao Paulo	SP	05442-030
27	10393	SAVEA	1	12/25/1996 12:0...	1/22/1997 12:00:...	1997-01-03 00:0...	3	126.56	Save-a-lot Mark...	187 Suffolk Ln.	Boise	ID	83720
28	10394	HUNGC	1	12/25/1996 12:0...	1/22/1997 12:00:...	1997-01-03 00:0...	3	30.34	Hungry Coyote I...	City Center Plaza...	Elgin	OR	97827
29	10395	HILAA	6	12/26/1996 12:0...	1/23/1997 12:00:...	1997-01-03 00:0...	1	184.41	HILARION-Abast...	Carrera 22 con A...	San Cristóbal	Táchira	5022
30	10398	SAVEA	2	12/30/1996 12:0...	1/27/1997 12:00:...	1997-01-09 00:0...	3	89.16	Save-a-lot Mark...	187 Suffolk Ln.	Boise	ID	83720
31	10401	RATTC	1	1/1/1997 12:00:0...	1/29/1997 12:00:...	1997-01-10 00:0...	1	12.51	Rattlesnake Can...	2817 Milton Dr.	Albuquerque	NM	87110
32	10405	LINOD	1	1/6/1997 12:00:0...	2/3/1997 12:00:0...	1997-01-22 00:0...	1	34.82	LINO-Delicateses	Ave. 5 de Mayo ...	I. de Margarita	Nueva Esparta	4980
33	10406	QUEEN	7	1/7/1997 12:00:0...	2/18/1997 12:00:...	1997-01-13 00:0...	1	108.04	Queen Cozinha	Alameda dos Ca...	Sao Paulo	SP	05487-020
34	10410	BOTTM	3	1/10/1997 12:00:...	2/7/1997 12:00:0...	1997-01-15 00:0...	3	2.4	Bottom-Dollar ...	23 Tsawassen Bl...	Tsawassen	BC	T2F 8M4



Item and Data Security Concepts

Fabric Security Model

Workspace Roles & Membership (RBAC)

WORKSPACE



Admin

Full control





Member

Manage & build





Contributor

Create & edit





Viewer

Read only





Fabric UX Portal

Workspace Settings → Manage Access



REST API

`POST /workspaces/{id}/roleAssignments`

Fabric Security Model

Workspace Role Privileges

Admin **Member** **Contributor** **Viewer**

Privilege	Admin	Member	Contrib	Viewer
Add admins	✓	✗	✗	✗
Add members	✓	✓	✗	✗
Edit OneLake security	✓	✓	✗	✗
Write data & create items	✓	✓	✓	✗
Read data in OneLake	✓	✓	✓	via roles*
Update/delete workspace	✓	✗	✗	✗

** Viewers can access data through OneLake security roles*

Fabric UX Portal
Workspace Settings → Manage Access

REST API
`POST /workspaces/{id}/roleAssignments`

Fabric Security Model

Roles Grant Permissions on Items

WORKSPACE ROLES

- Admin
- Member
- Contributor
- Viewer

PERMISSION BUNDLES

		A	M	C	V
Read	View item metadata	●	●	●	●
ReadData	See data in SQL	●	●	●	○
ReadAll	See data in OneLake	●	●	●	○
Write	Create & edit items	●	●	●	○
Reshare	Share with others	●	●	○	○

DATA ITEMS

- Lakehouse
- Warehouse
- Eventhouse
- Semantic Model

Key Concepts

- Permissions defined by item type manifest (workload team)
- Entangled with roles — cannot be removed independently
- Change role membership → change permissions
- Cannot explicitly remove role-entangled permissions

Explicit Permissions

Add **additional** permissions to specific items for specific principals.
Can be workspace members or external.
These CAN be removed.

Fabric Security Model

Control Plane Permissions & Introducing OneLake Security

Control Plane

Workspace roles & item permissions from previous slides

Regulates:

- Which endpoints users can access
- What operations users can perform on items
- Administrative actions (create, delete, share)

Data Plane (OneLake)

NEW: OneLake Security

Permissions stored at the lake level

Regulates:

- Access to tables, columns, rows, folders
- Security is in the data, not the engine

Lakehouse

Warehouse

Eventhouse

Semantic Model

OneLake

`Delta / Parquet`

`Iceberg / Parquet`

Security enforced here

Fabric Security Model

OneLake Security — Security in the Data, Not the Engine

One Security Model — All Engines

No duplication of rules across engines. No impedance mismatch. Single source of truth.

Spark

Eventhouse

Power BI

Warehouse

External

Fabric Security Model

OneLake Security — Security in the Data, Not the Engine

One Security Model — All Engines

No duplication of rules across engines. No impedance mismatch. Single source of truth.

Spark | Eventhouse | Power BI | Warehouse | External

OneLake — Enforces Security for ALL Access

Fabric Security Model

OneLake Security — Security in the Data, Not the Engine

One Security Model — All Engines

No duplication of rules across engines. No impedance mismatch. Single source of truth.

Spark | Eventhouse | Power BI | Warehouse | External

OneLake — Enforces Security for ALL Access

- OneLake security is the ONLY security for data access
- Control plane security is NOT required for data access
- Configurable via UX or REST API, per item

Fabric Security Model

OneLake Security Role Anatomy

Each item has its own OneLake security roles (different from workspace roles)

OneLake Security Role

WHO

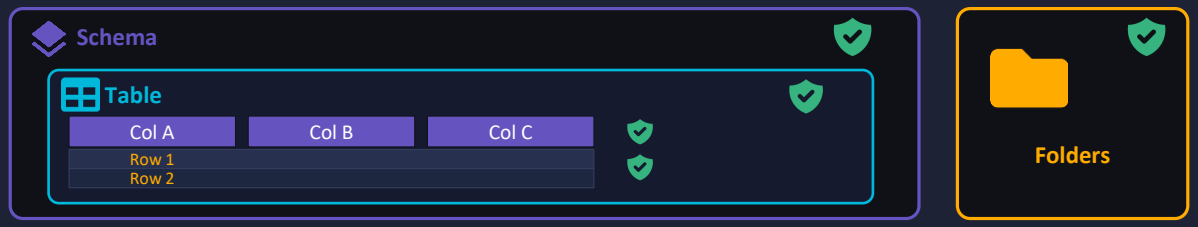
Security principals (users, service principals, groups)
Virtualized members — e.g., "anyone with Read permission"

WHAT

Permission type applied (e.g., Read)

TARGET

Sub-objects the rules apply to — each level can be independently secured:



Multiple Roles?



= UNION of all permissions

If a principal is in multiple roles, they get the combined access of all roles.

Configuration

UX REST API *Per item*

Fabric Security Model

DefaultReader Role — Minimizing Security Maintenance

When an item is created, a default role is automatically provisioned to streamline access:

DefaultReader Role

Auto-created on item creation

WHO: Virtualized — principals with **ReadAll** control plane permission

WHAT: Read permission

TARGET: The entire artifact (all tables, folders, data)

Net Effect

- Users with Read permission can read all data automatically
- Adding/removing Read permission keeps this role in sync (virtualized membership)
- Role is NOT entangled — admins can edit or delete it
- If unchanged, acts as seamless bridge between control plane & data plane access

Goal: Minimize maintenance. By defaulting to a virtualized membership based on Read permission, the system stays in sync without manual intervention. Customize when needed — the role is fully editable.

Fabric Security Model

Complete Security Architecture

CONTROL PLANE

Admin | Member | Contrib | Viewer

UX + API

Item Permissions

Role-entangled (locked) + Explicit (removable)

Endpoints, operations, admin actions

Lakehouse | Warehouse | Eventhouse | Semantic Model

DATA PLANE — OneLake Security

OneLake Roles

WHO
WHAT (Read)
TARGET (tables, cols, rows)

DefaultReader

Auto-created
Virtualized membership
Editable / deletable

All Engines Comply

Fabric engines
External engines
Enforced by the lake

Delta/Parquet | Iceberg/Parquet

UX + API | Per item | Union of roles

Fabric Security Model

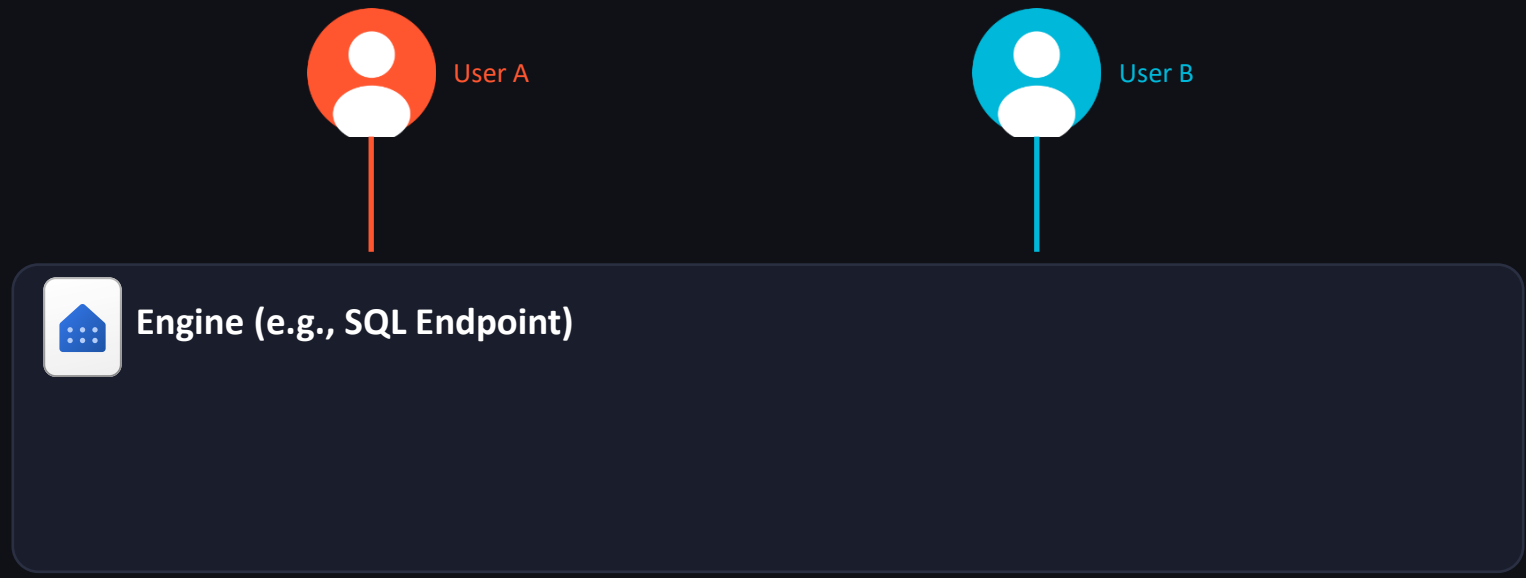
Engine Integration — Passthrough Mode

Passthrough

Control plane access — as the user

Data plane access — as the user

User identity flows straight through the engine to OneLake



Fabric Security Model

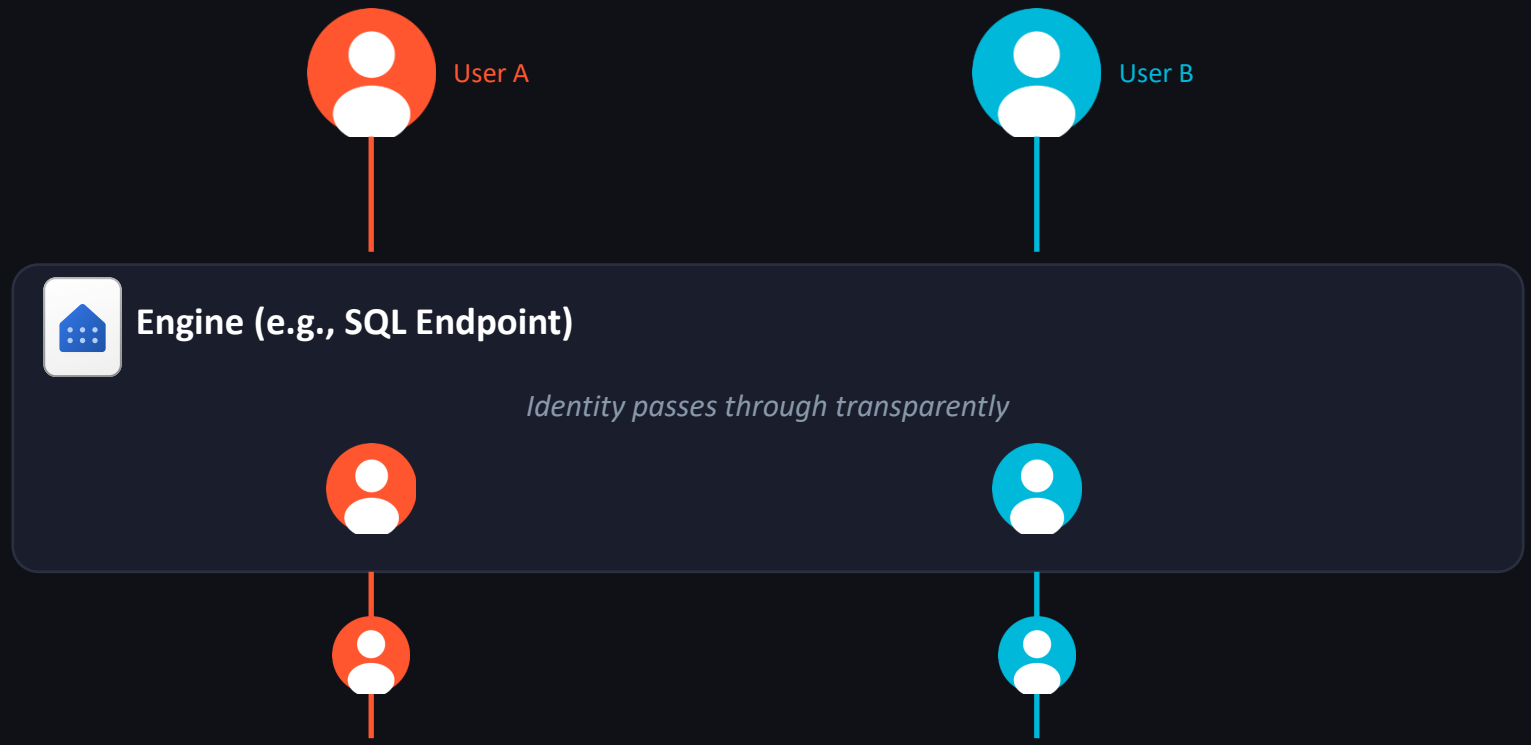
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Fabric Security Model

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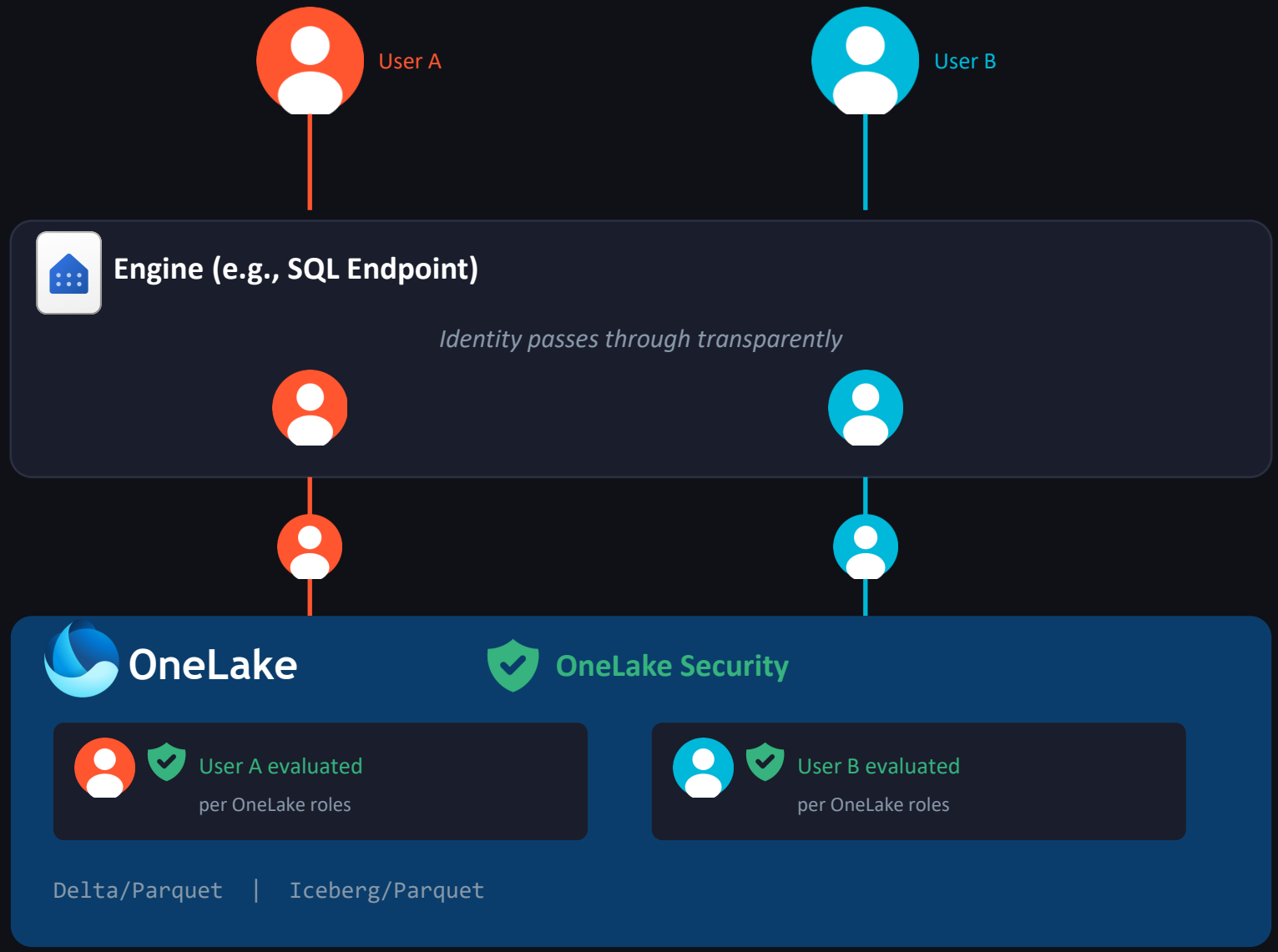
Key Properties

Each user's identity reaches the lake directly

OneLake security evaluates each user individually

No engine-level security needed

Consistent access across all engines



Fabric Security Model

Engine Integration — Delegated Mode

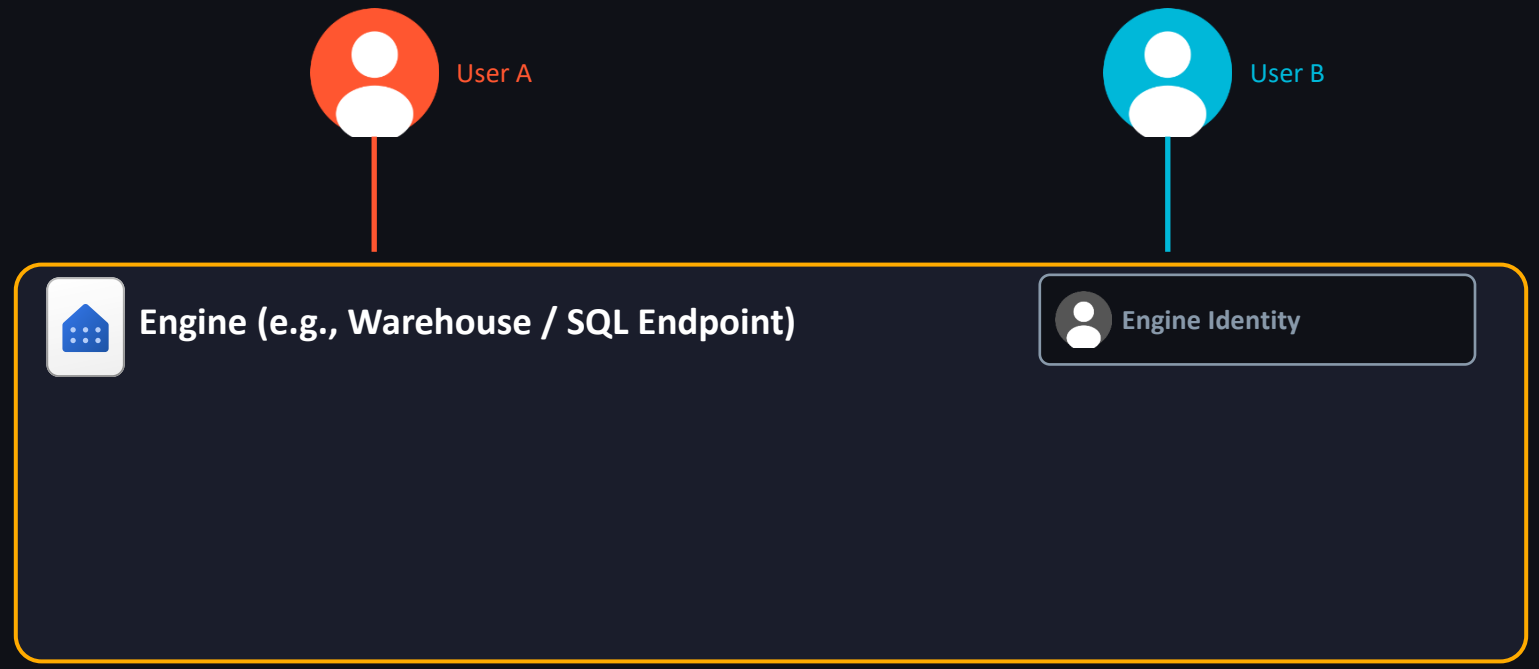
Delegated

Control plane access — as the user

Data plane access — as the engine's fixed identity

Engine identity must have permissions on the data

Engine adds its own security layer (e.g., GRANT/DENY) for per-user discrimination



Fabric Security Model

Engine Integration — Delegated Mode

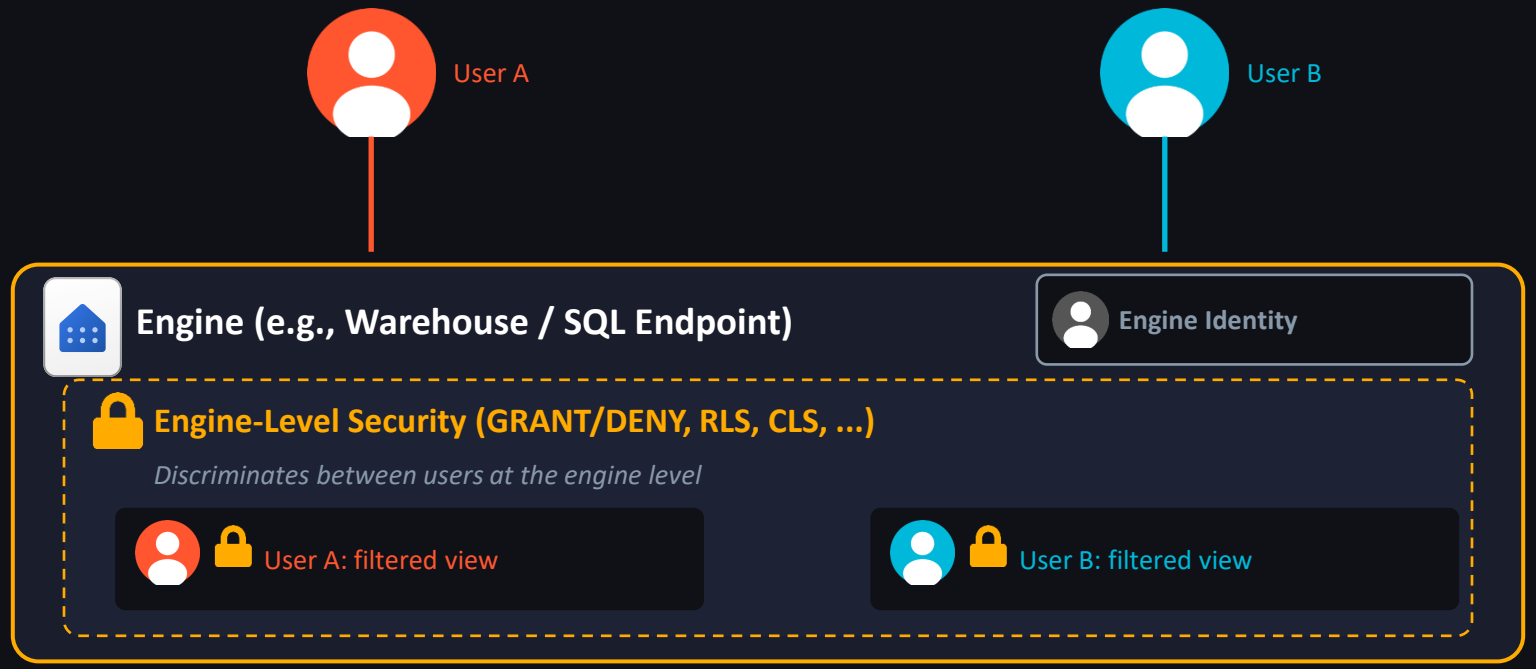
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Fabric Security Model

Engine Integration — Delegated Mode

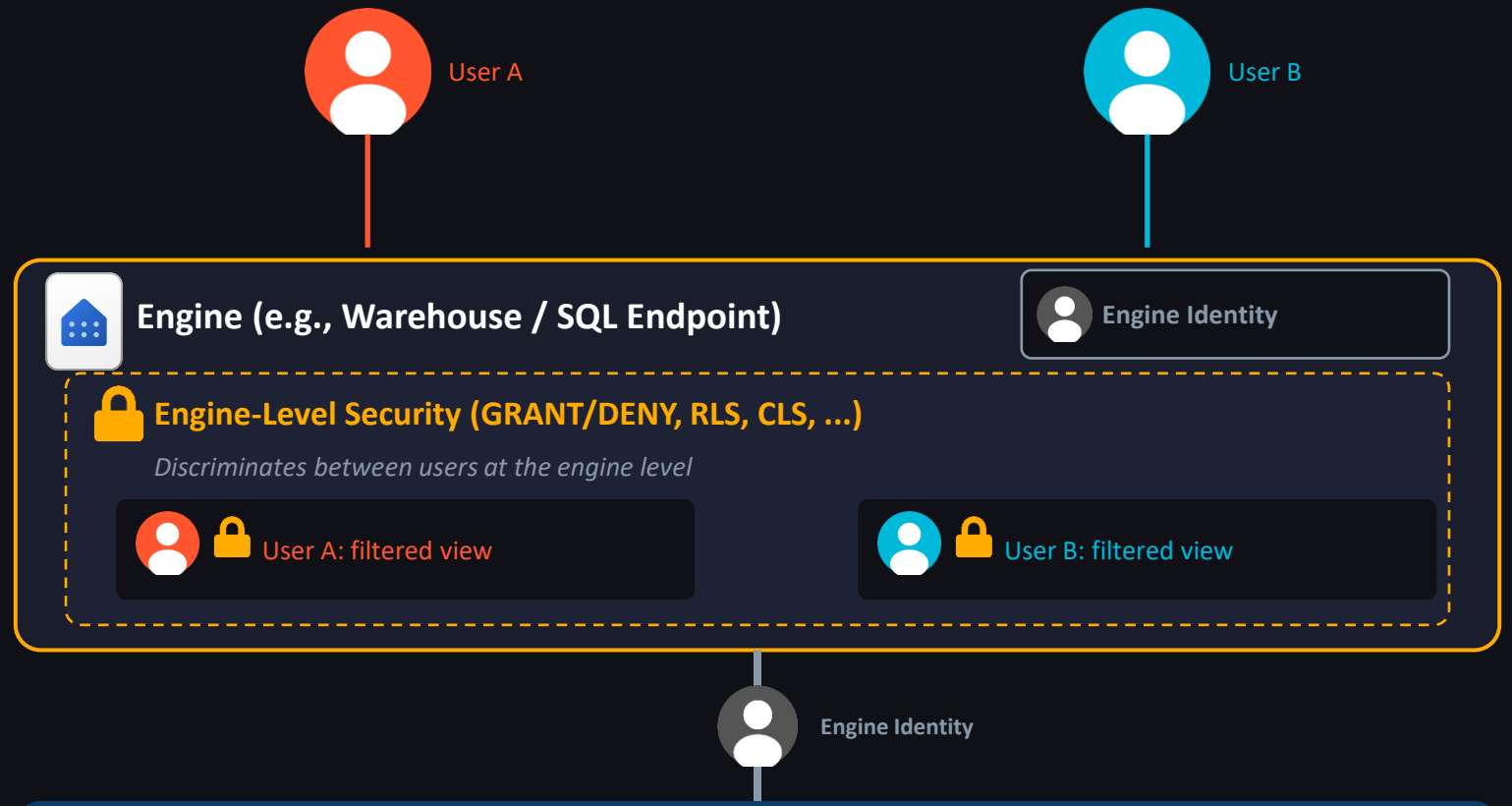
Delegated

Control plane access — as the user

Data plane access — as the engine's fixed identity

Engine identity must have permissions on the data

Engine adds its own security layer (e.g., GRANT/DENY) for per-user discrimination



Why Delegated?

Advanced security scenarios

not yet covered by OneLake security

Backward compatibility

with existing engine-level policies

Fabric Security Model

Shortcut Security — Passthrough

Passthrough

OneLake shortcuts (internal)

User identity passes through the shortcut to the target

OneLake Security evaluates the user at the target

Same identity, same security — transparent

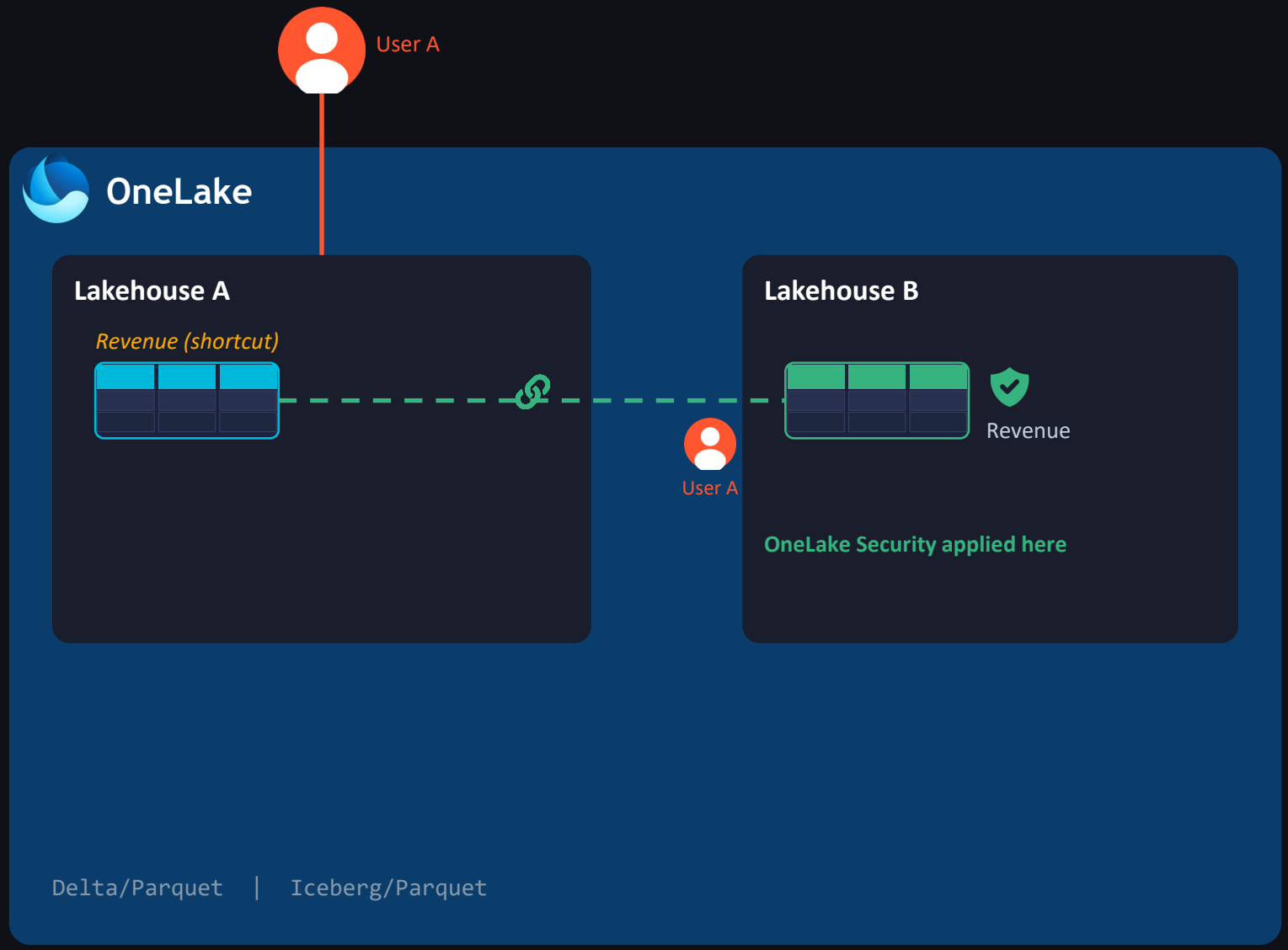
Key Properties

Each user's identity reaches the target

OneLake Security evaluates the user at the target

Applies to: OneLake shortcuts

Transparent — same as direct access



Fabric Security Model

Shortcut Security — Delegated

Delegated

Applies to:

External shortcuts (AWS S3, GCS, ADLS Gen2)

OneLake internal shortcuts as well

A fixed (delegated) identity accesses the target data

OneLake roles on the shortcut side discriminate between users

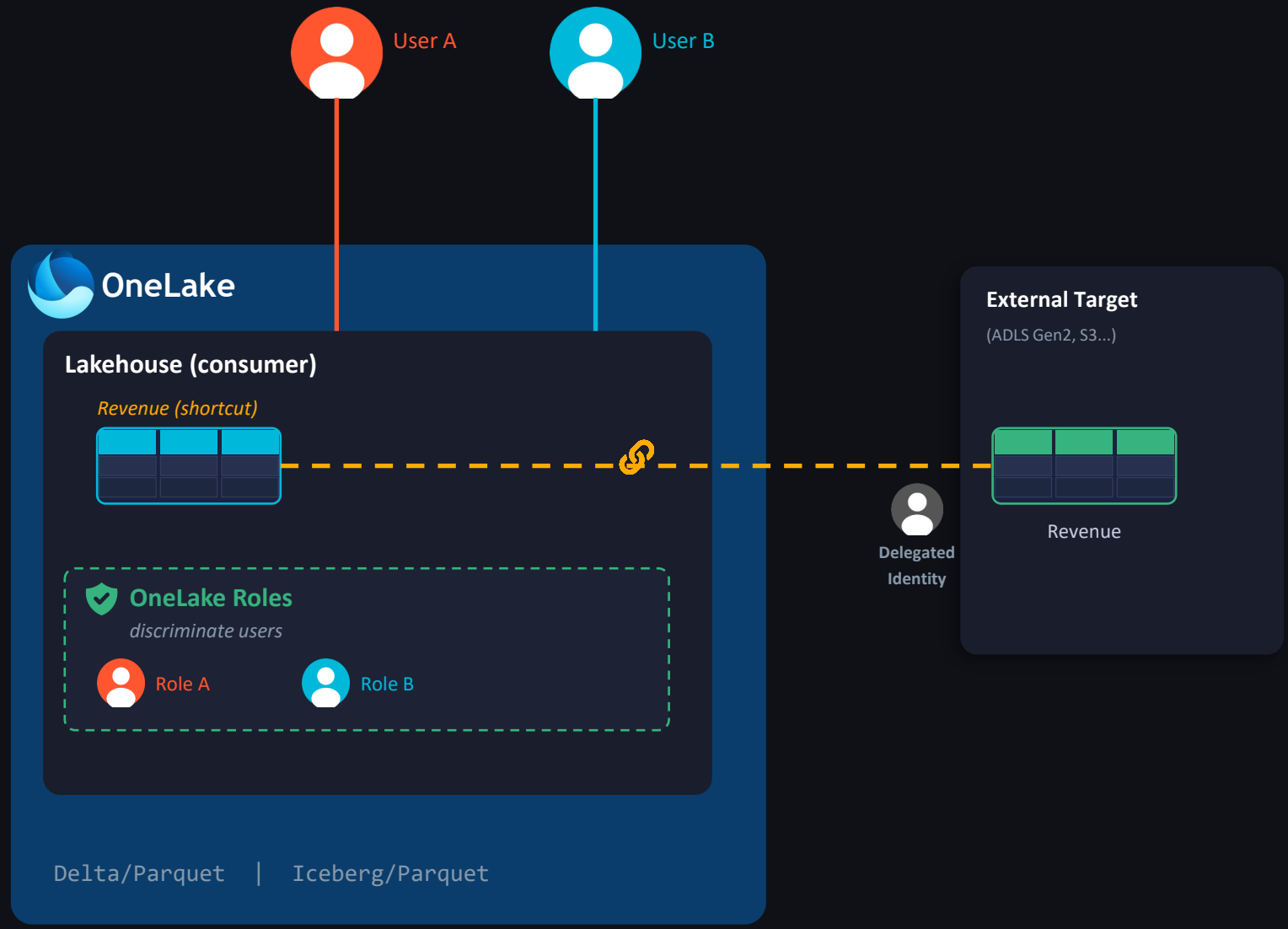
Typical use: dissemination (like import mode in Power BI)

Why Delegated?

External sources can't evaluate Entra identities

Dissemination pattern — like Power BI import mode

OneLake roles on consumer side control per-user access



Fabric Security Model

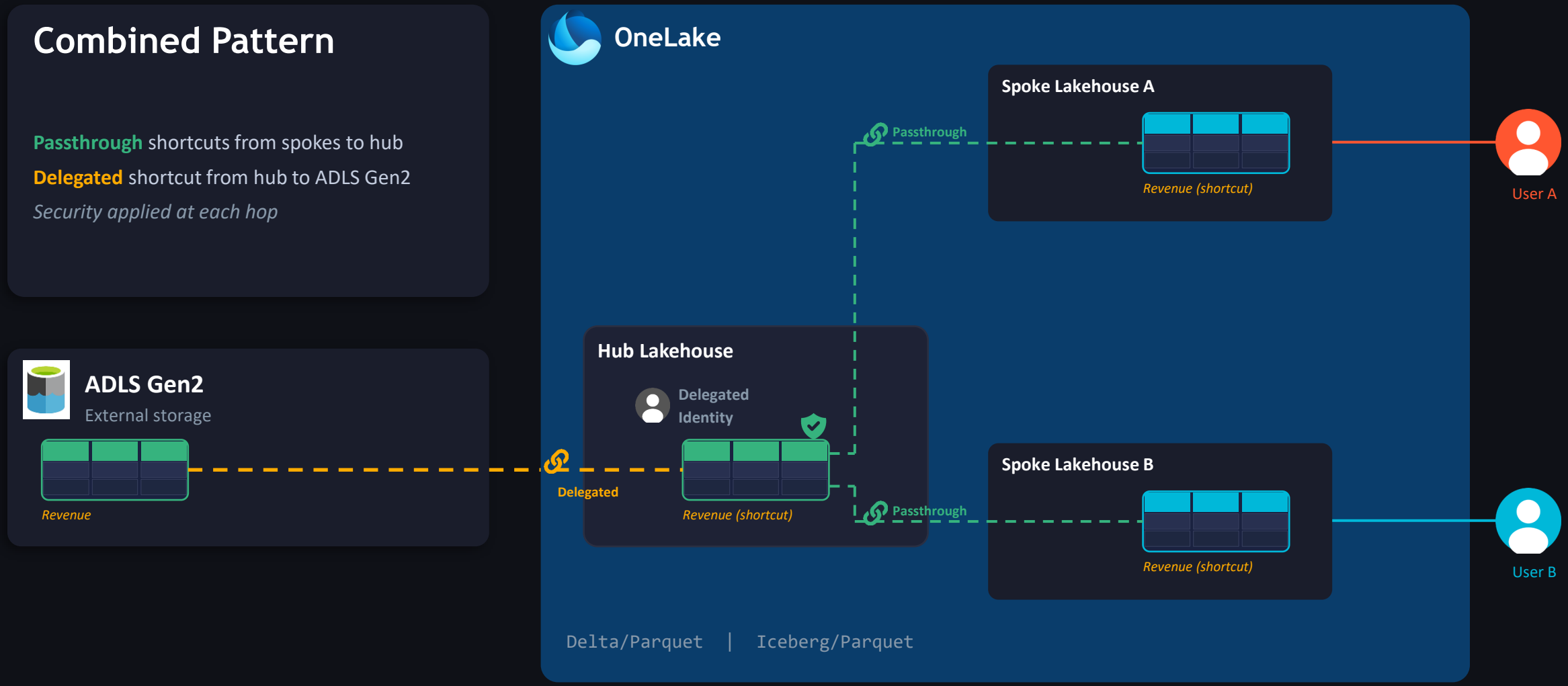
Shortcut Security — Combining Shortcuts

Combined Pattern

Passthrough shortcuts from spokes to hub

Delegated shortcut from hub to ADLS Gen2

Security applied at each hop





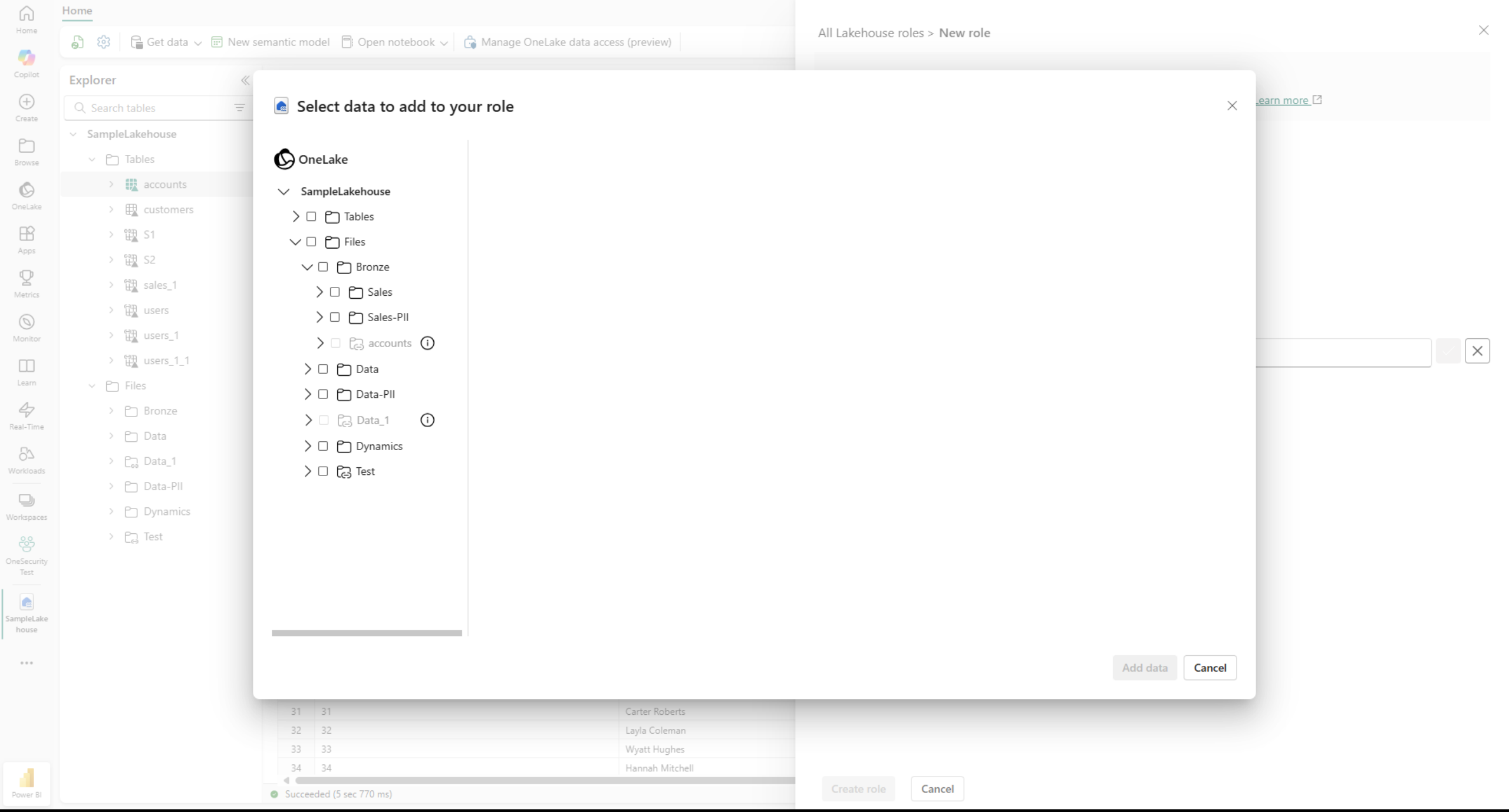
OneLake security features

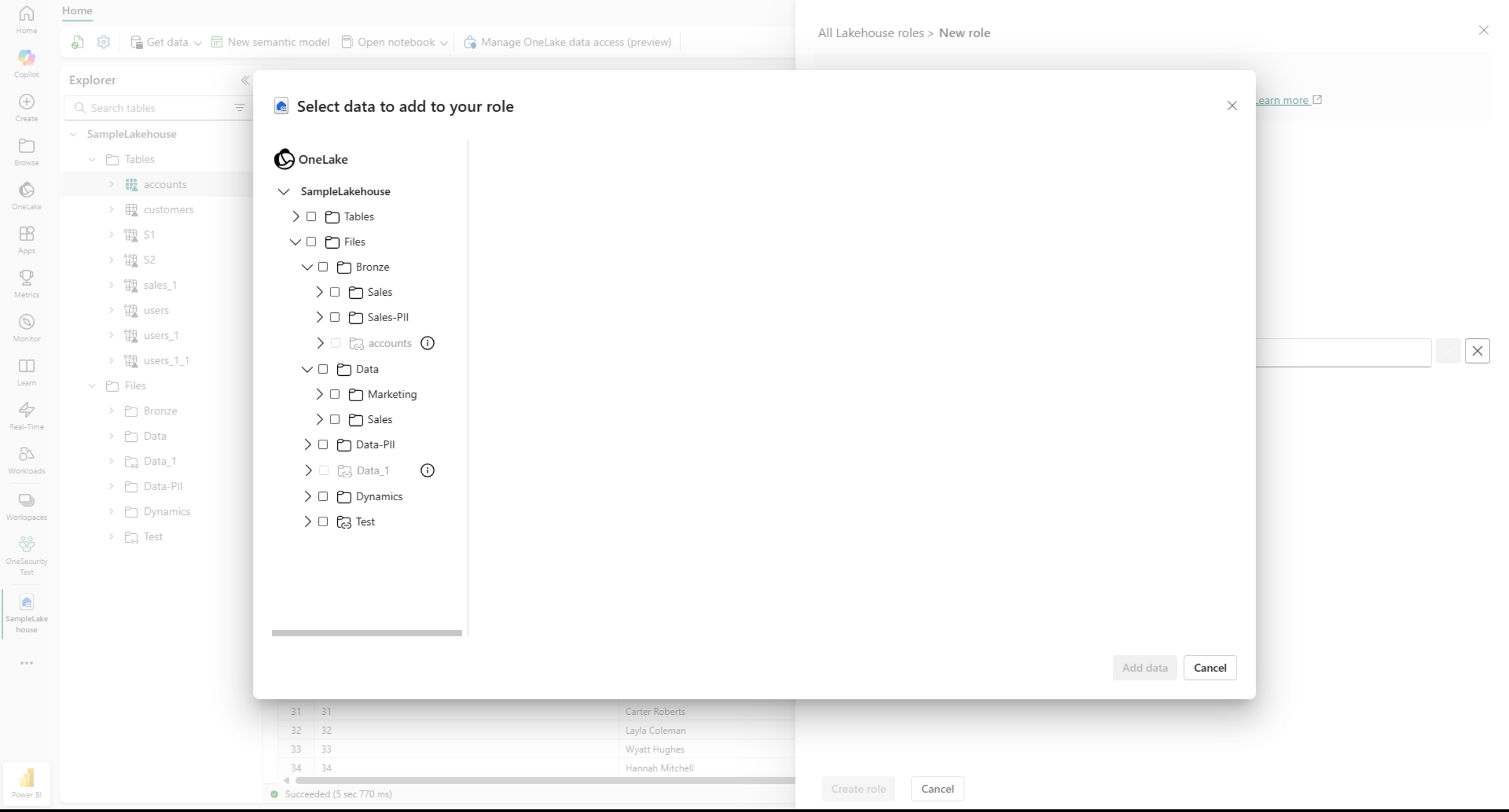
Folder level security

Grant access to folders in OneLake

Access inherits to all subfolders and files

Listing access on parent folders is maintained


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33 33 Wyatt Hughes
34 34 Hannah Mitchell
Succeeded (5 sec 770 ms)


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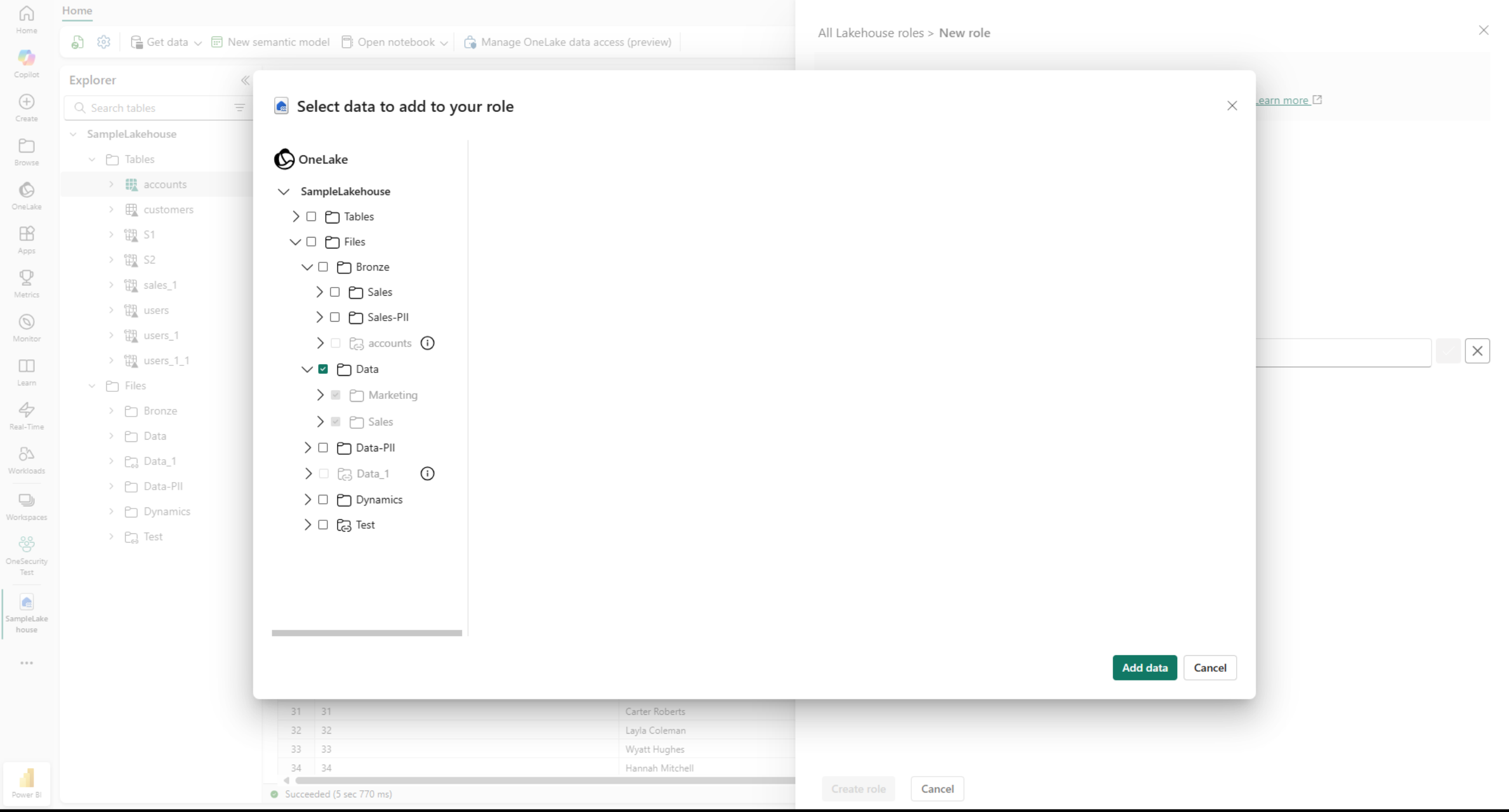
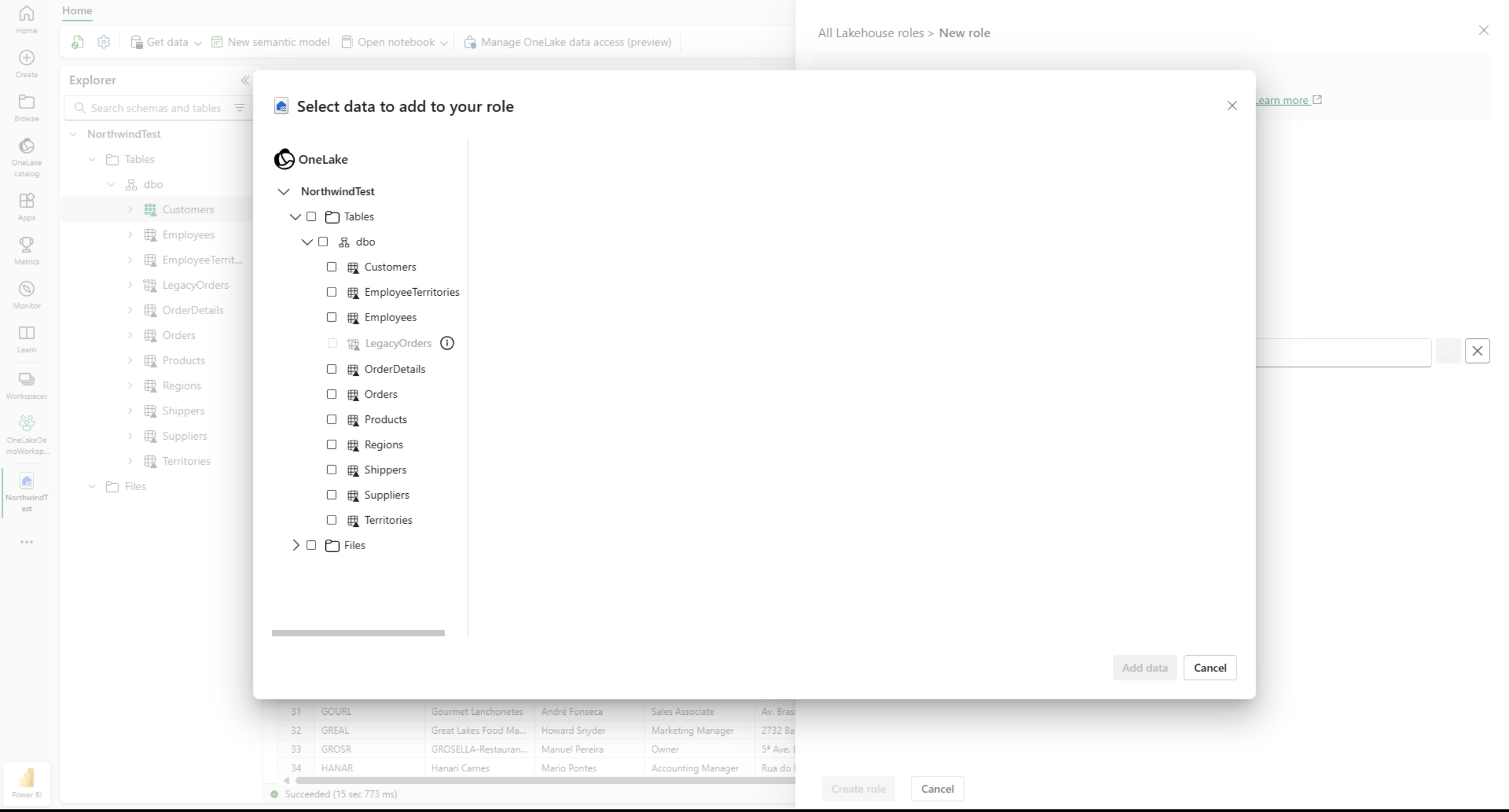

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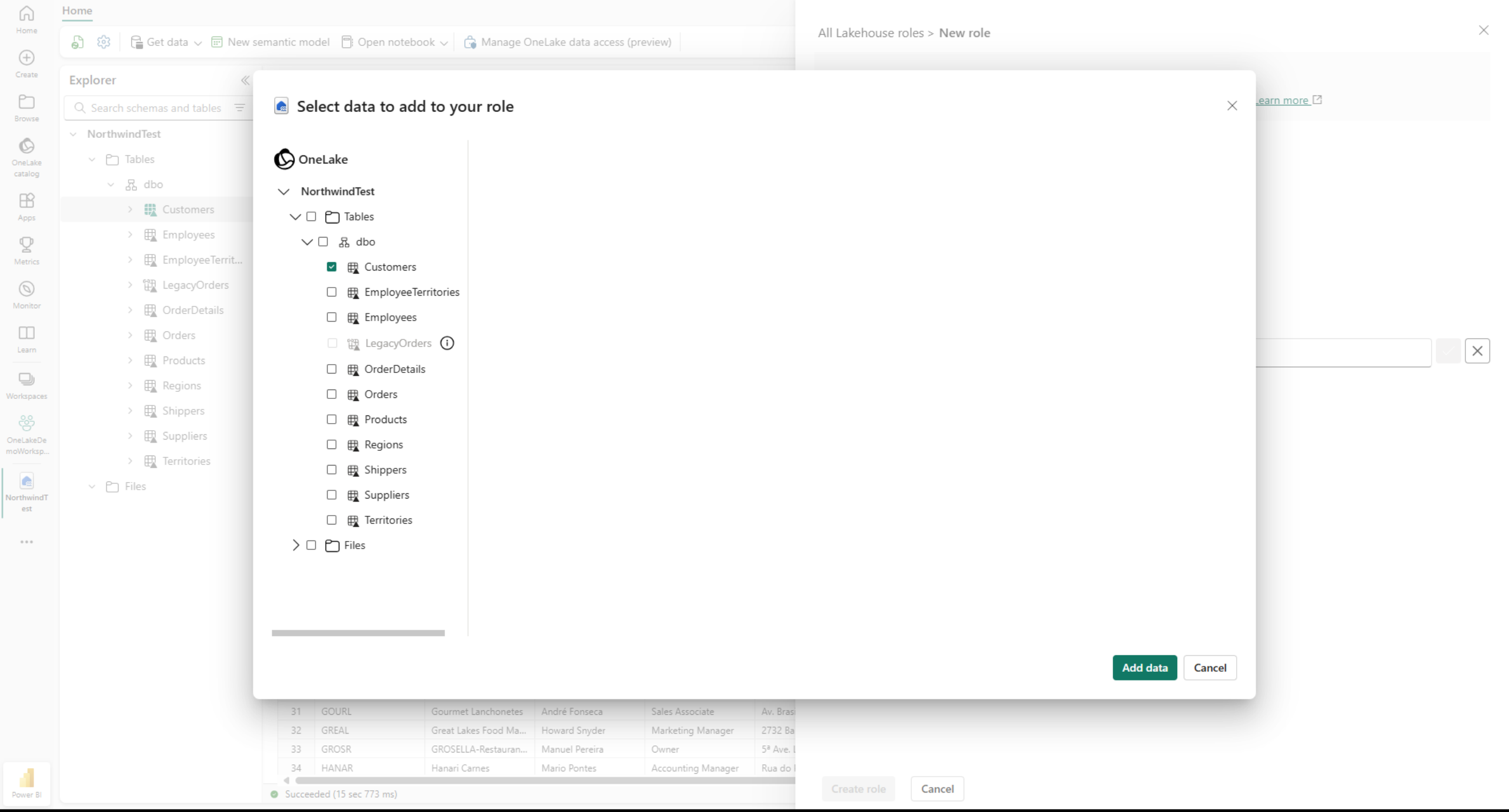
Table level security

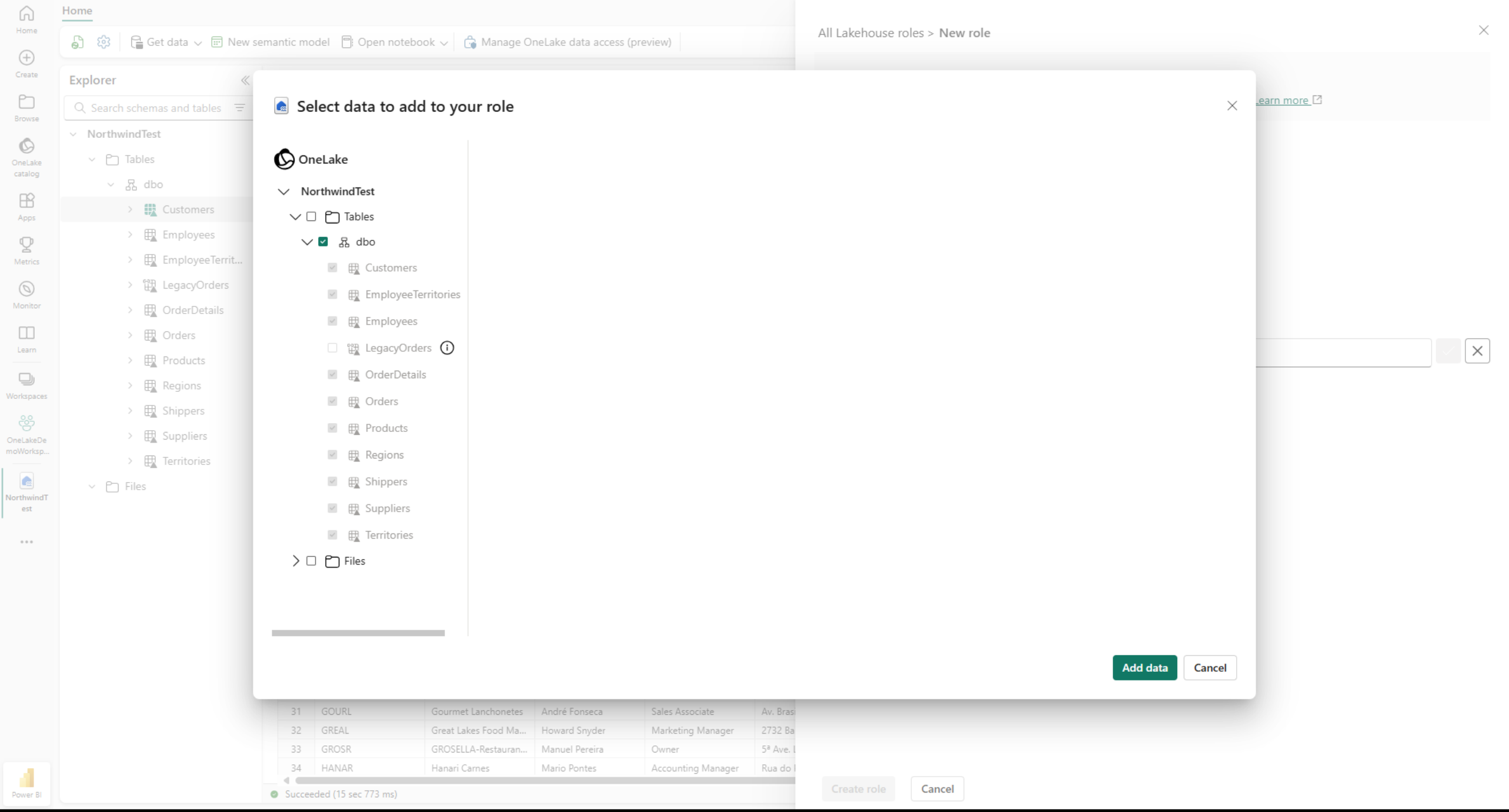
Grant access to Delta-parquet tables in OneLake.

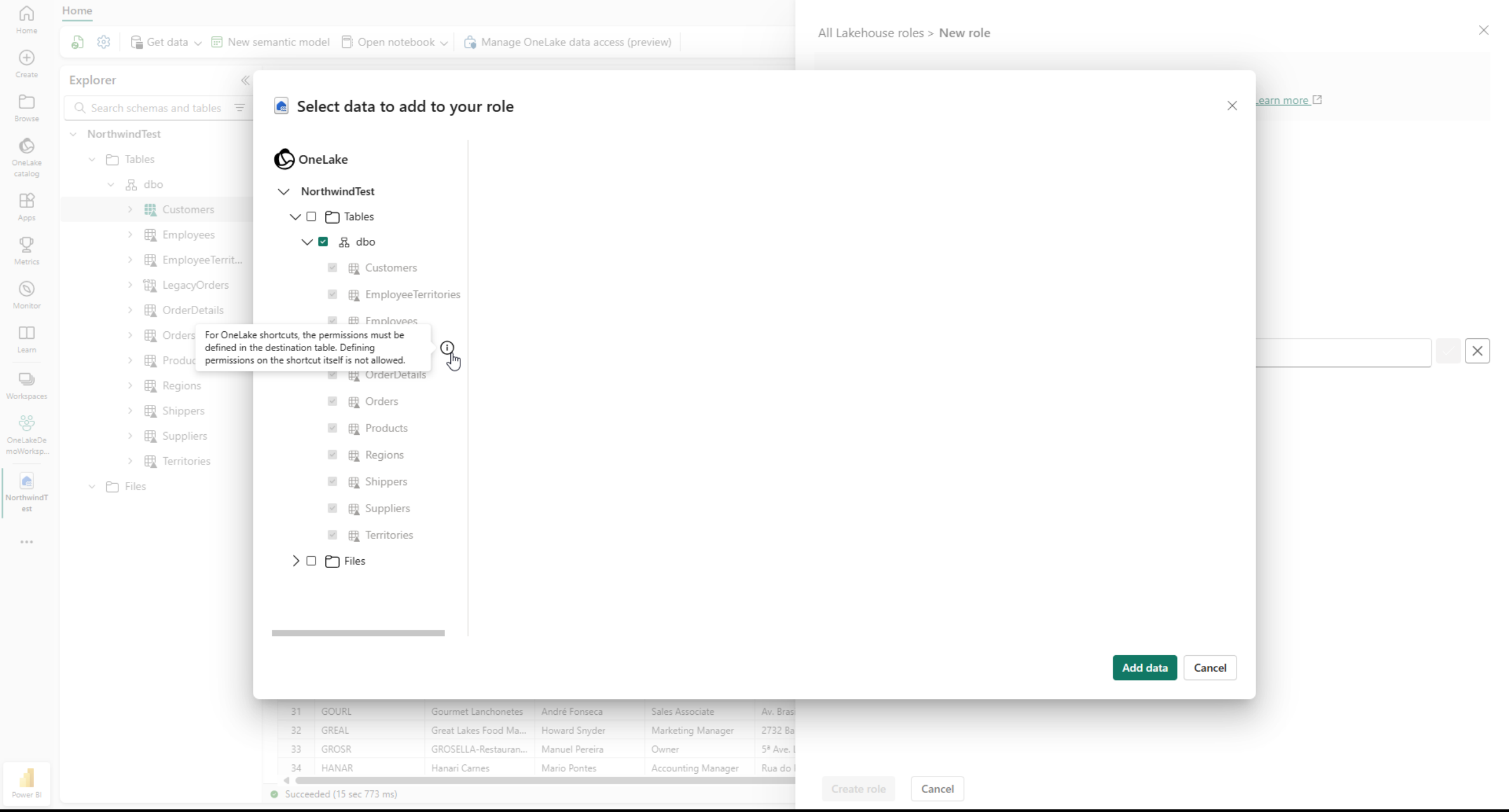
Access inherits to all subfolders

Listing access on parent schemas is maintained


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Succeeded (15 sec 773 ms)


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Succeeded (15 sec 773 ms)

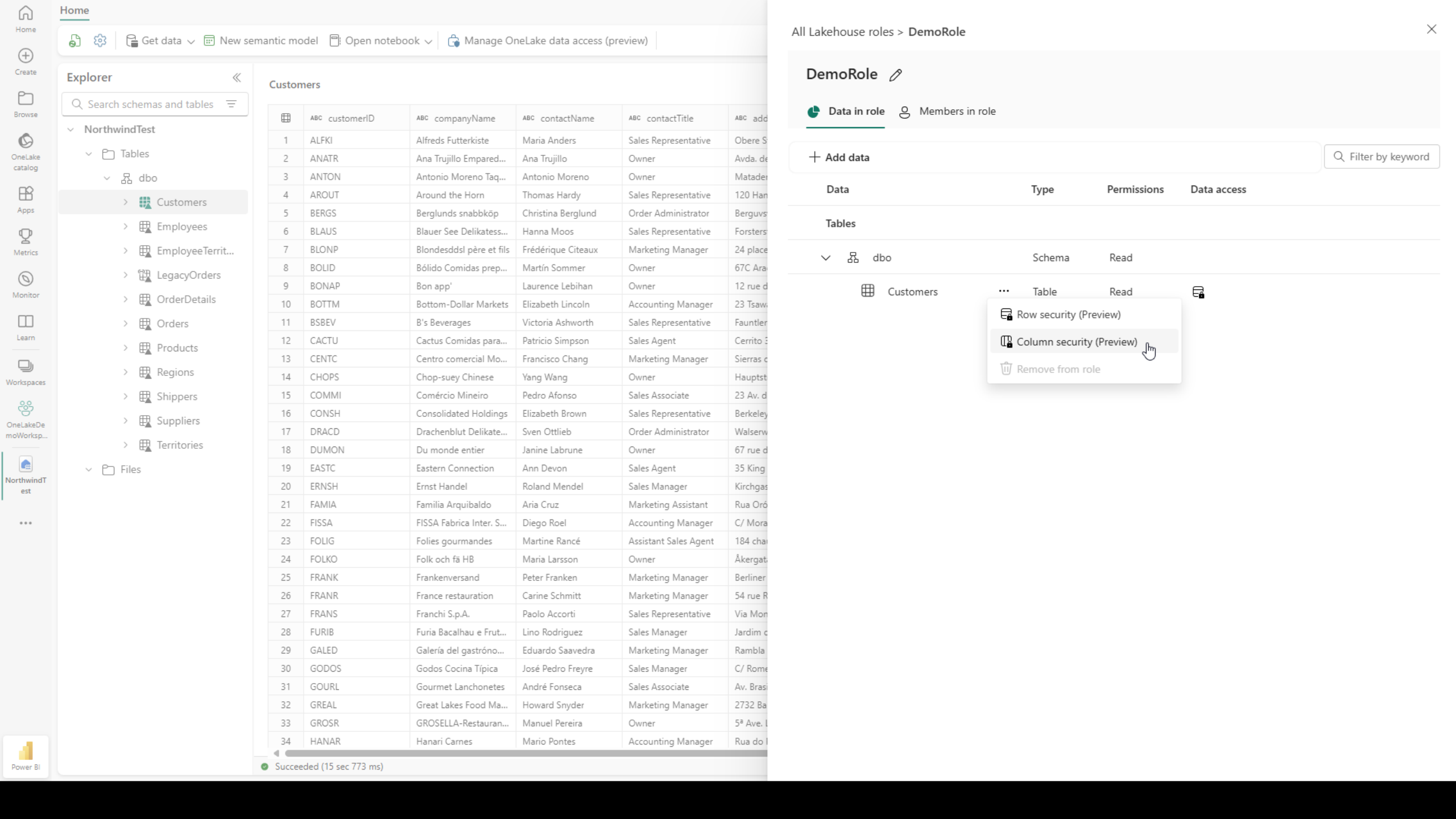

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For OneLake shortcuts, the permissions must be defined in the destination table. Defining permissions on the shortcut itself is not allowed.
OrderDetails
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Add data
Cancel
Create role
Cancel
Succeeded (15 sec 773 ms)

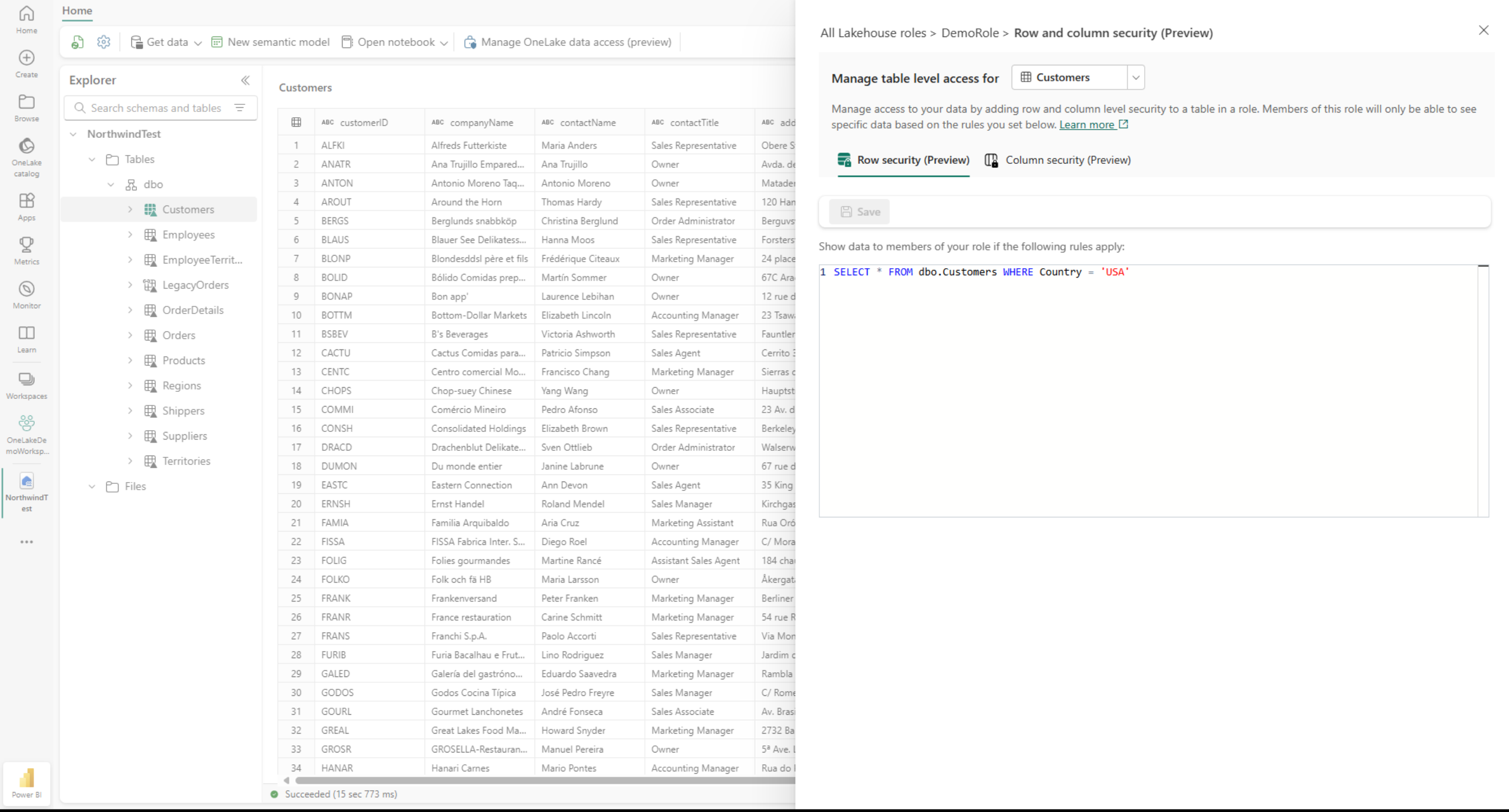
Row level security

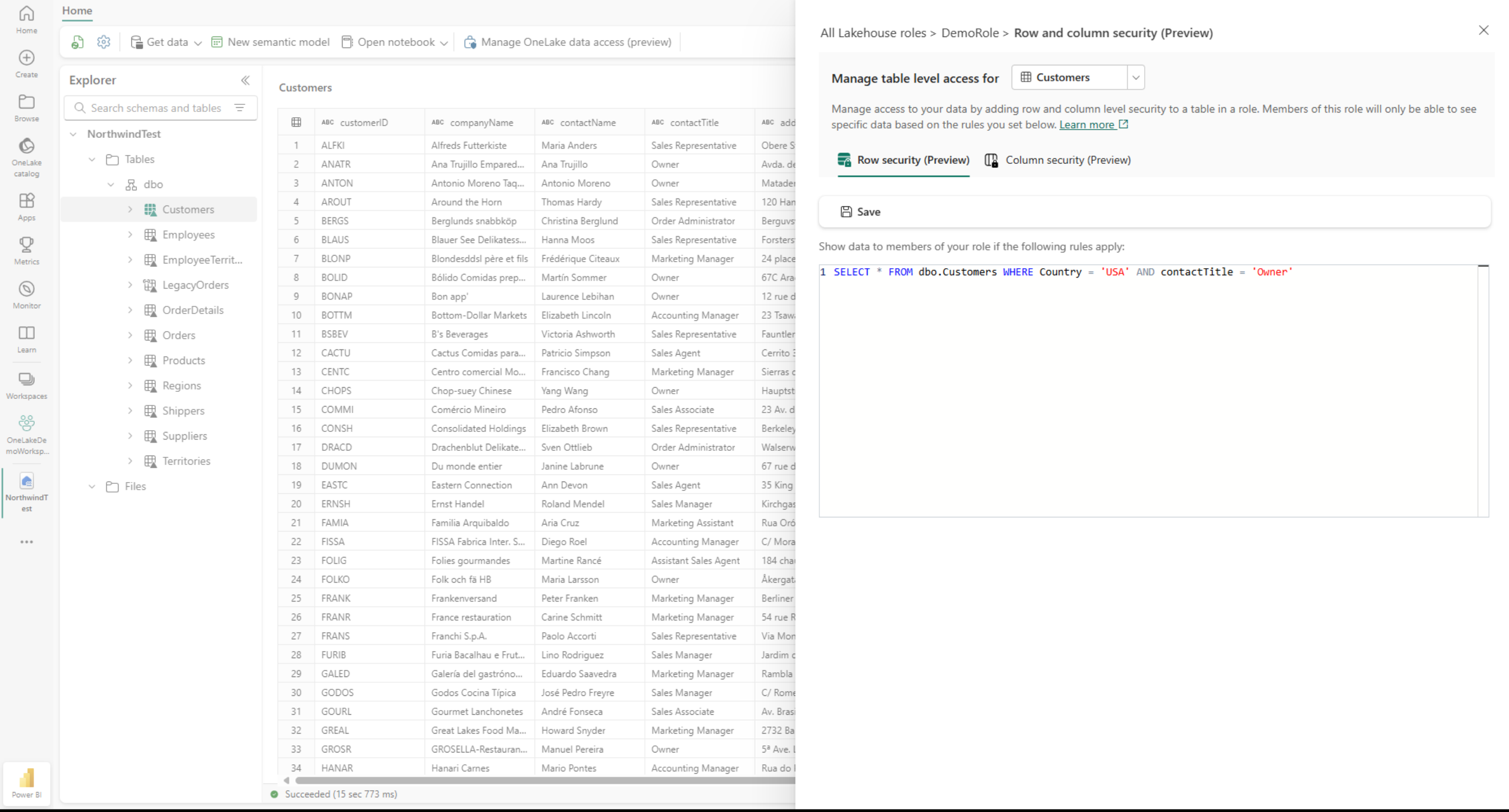
Restrict access to specific rows for a delta-parquet table

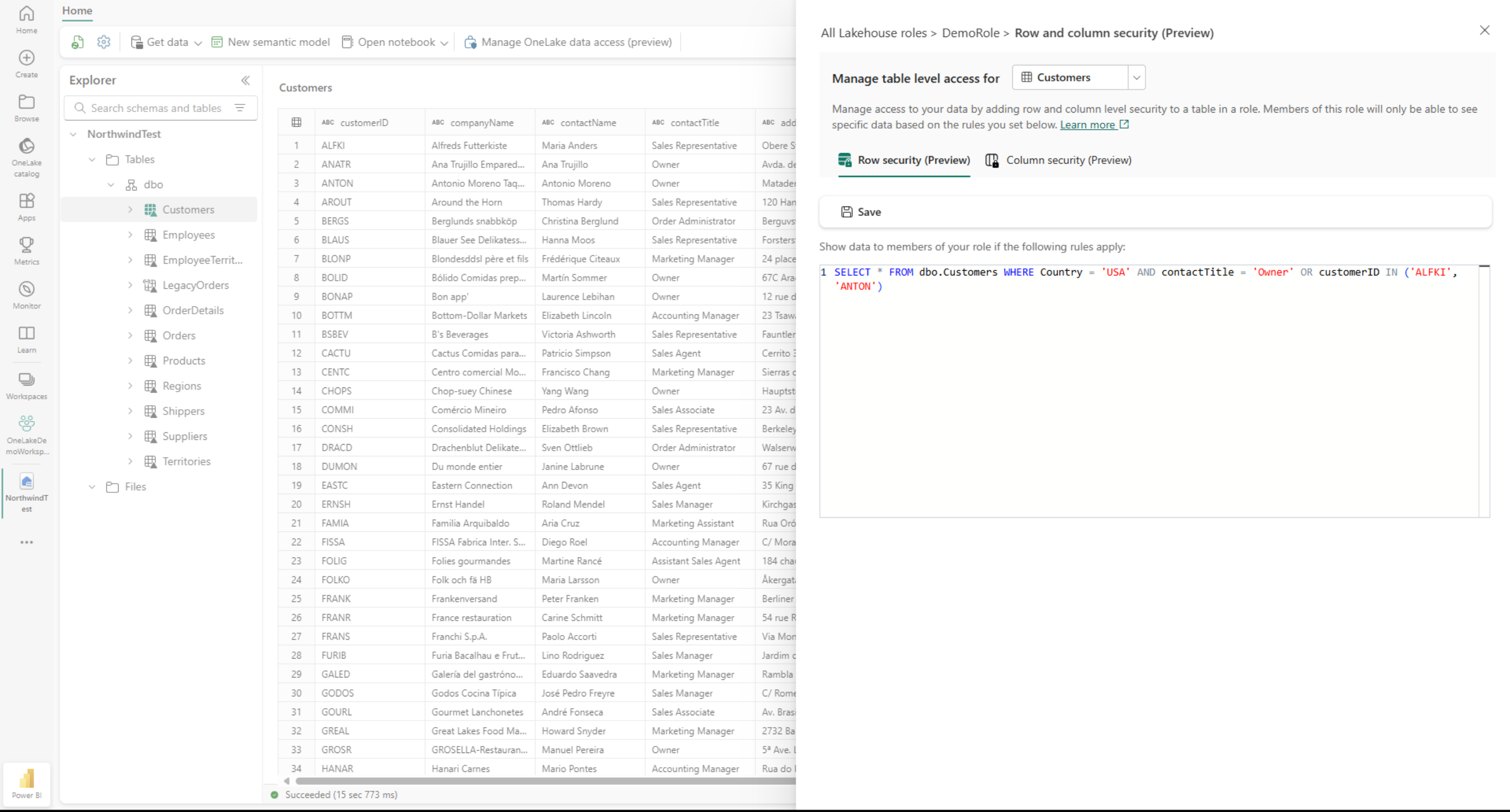
Set row conditions by writing SQL

Currently only single-table RLS is supported


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AROUT Around the Horn Thomas Hardy Sales Representative
BERGS Berglunds snabbköp Christina Berglund Order Administrator
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ERNSH Ernst Handel Roland Mendel Sales Manager
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FISSA FISSA Fabrica Inter. S... Diego Roel Accounting Manager
FOLIG Folies gourmandes Martine Rancé Assistant Sales Agent
FOLKO Folk och fä HB Maria Larsson Owner
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Row security (Preview)
Column security (Preview)
Save
Show data to members of your role if the following rules apply:
1 SELECT * FROM dbo.Customers WHERE Country = 'USA'

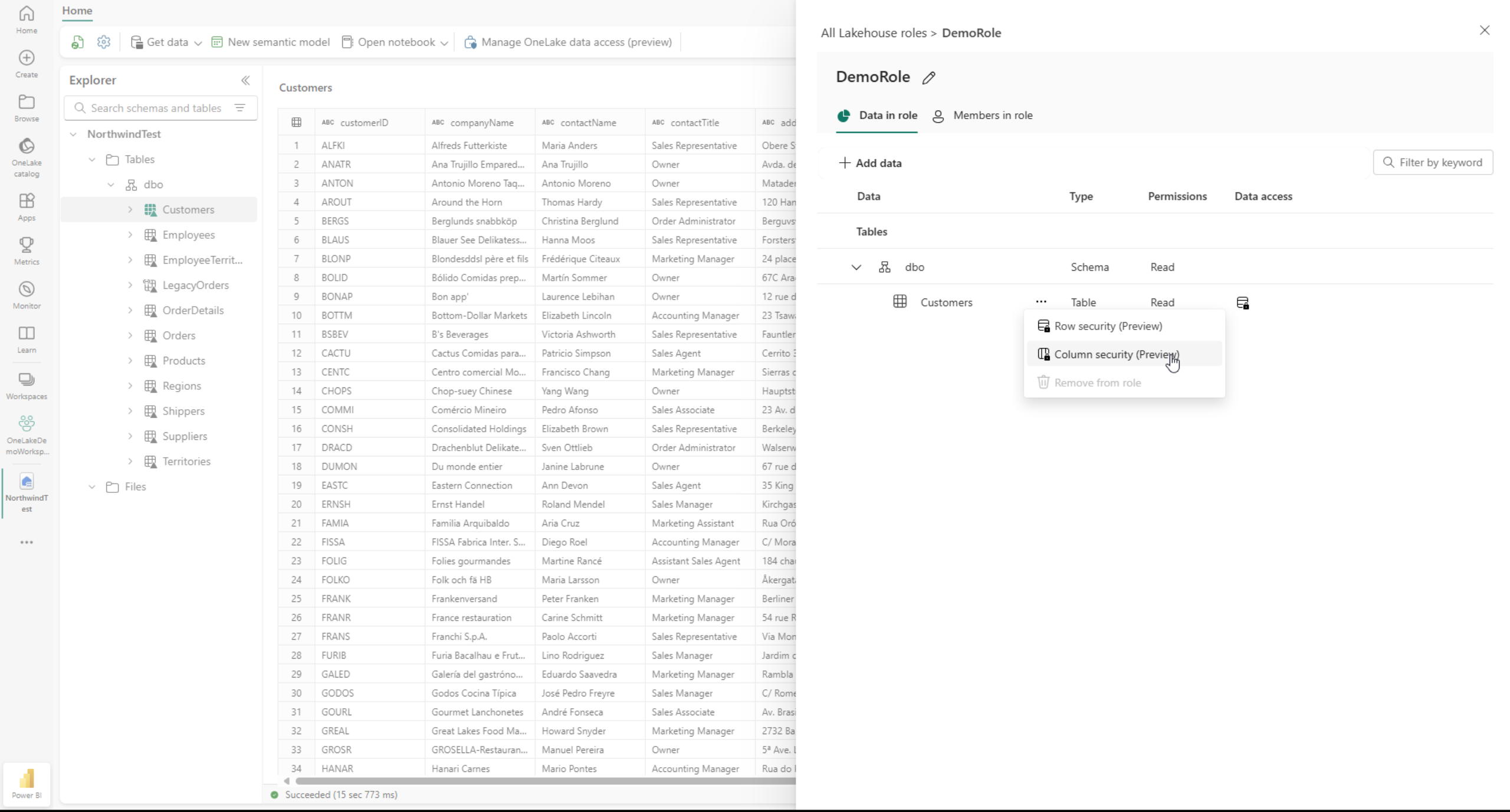

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1 SELECT * FROM dbo.Customers WHERE Country = 'USA' AND contactTitle = 'Owner'

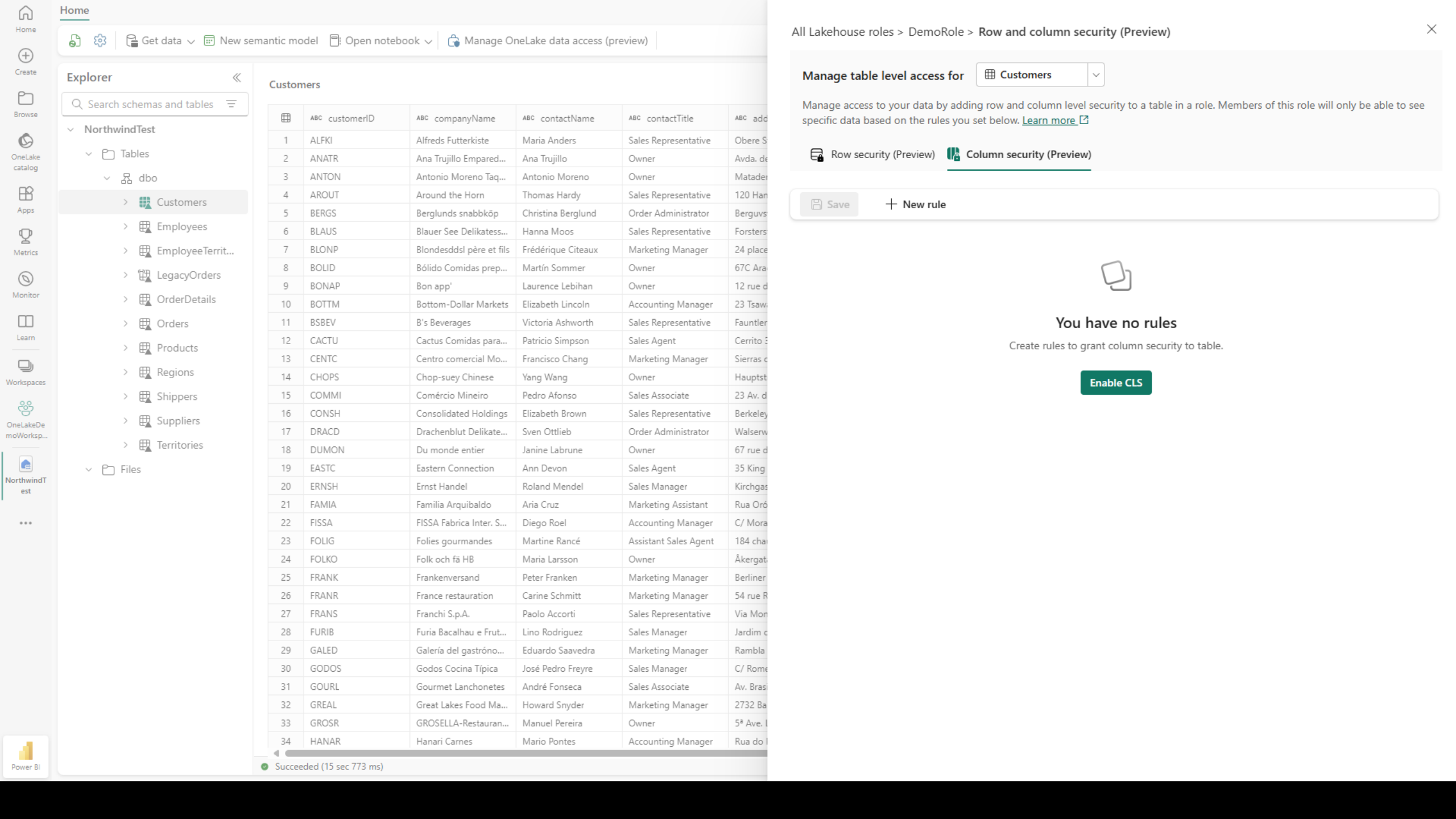

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Succeeded (15 sec 773 ms)
All Lakehouse roles > DemoRole > Row and column security (Preview)
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Manage access to your data by adding row and column level security to a table in a role. Members of this role will only be able to see specific data based on the rules you set below. Learn more
Row security (Preview)
Column security (Preview)
Save
Show data to members of your role if the following rules apply:
1 SELECT * FROM dbo.Customers WHERE Country = 'USA' AND contactTitle = 'Owner' OR customerID IN ('ALFKI', 'ANTON')

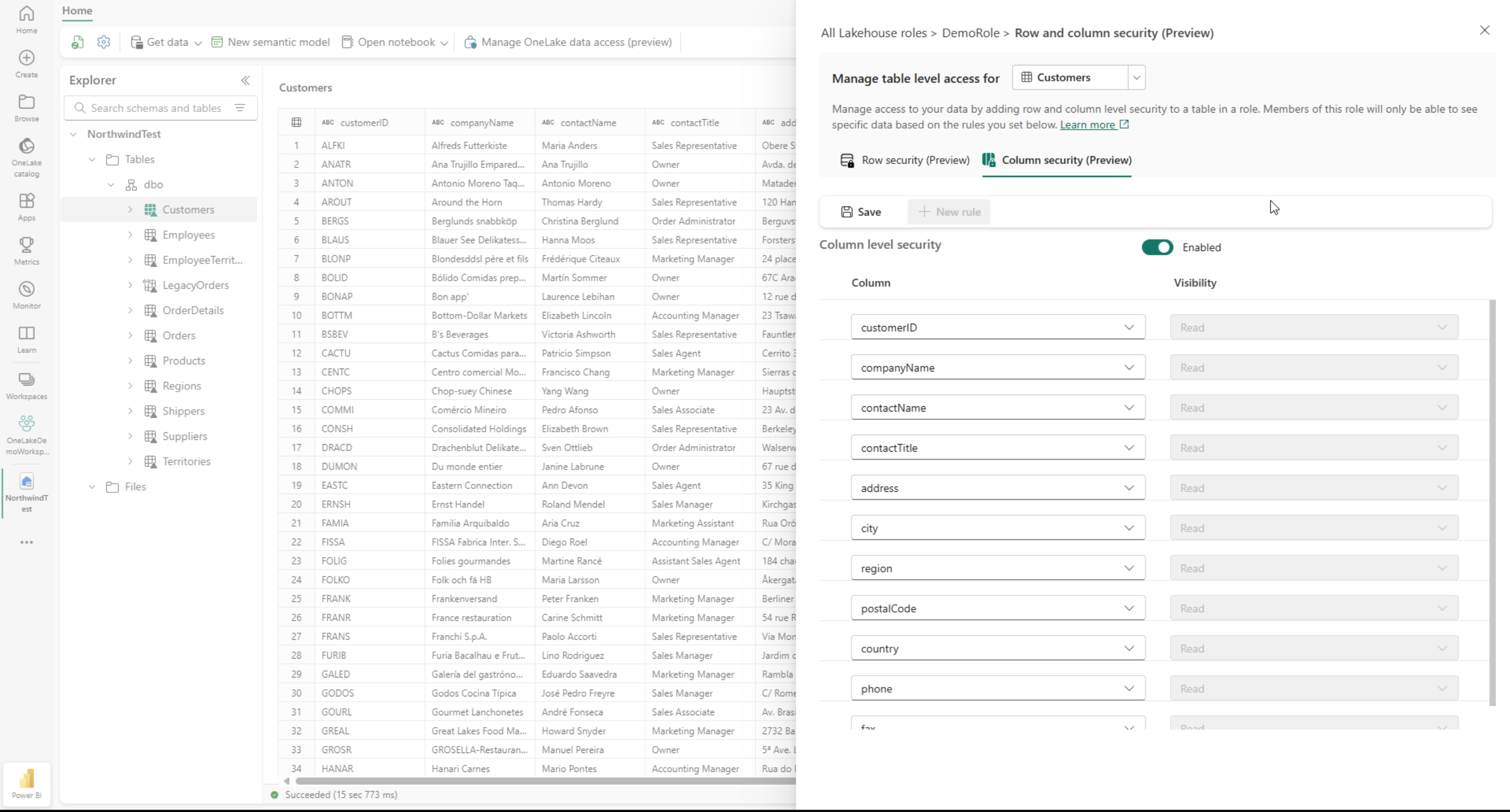
Column level security

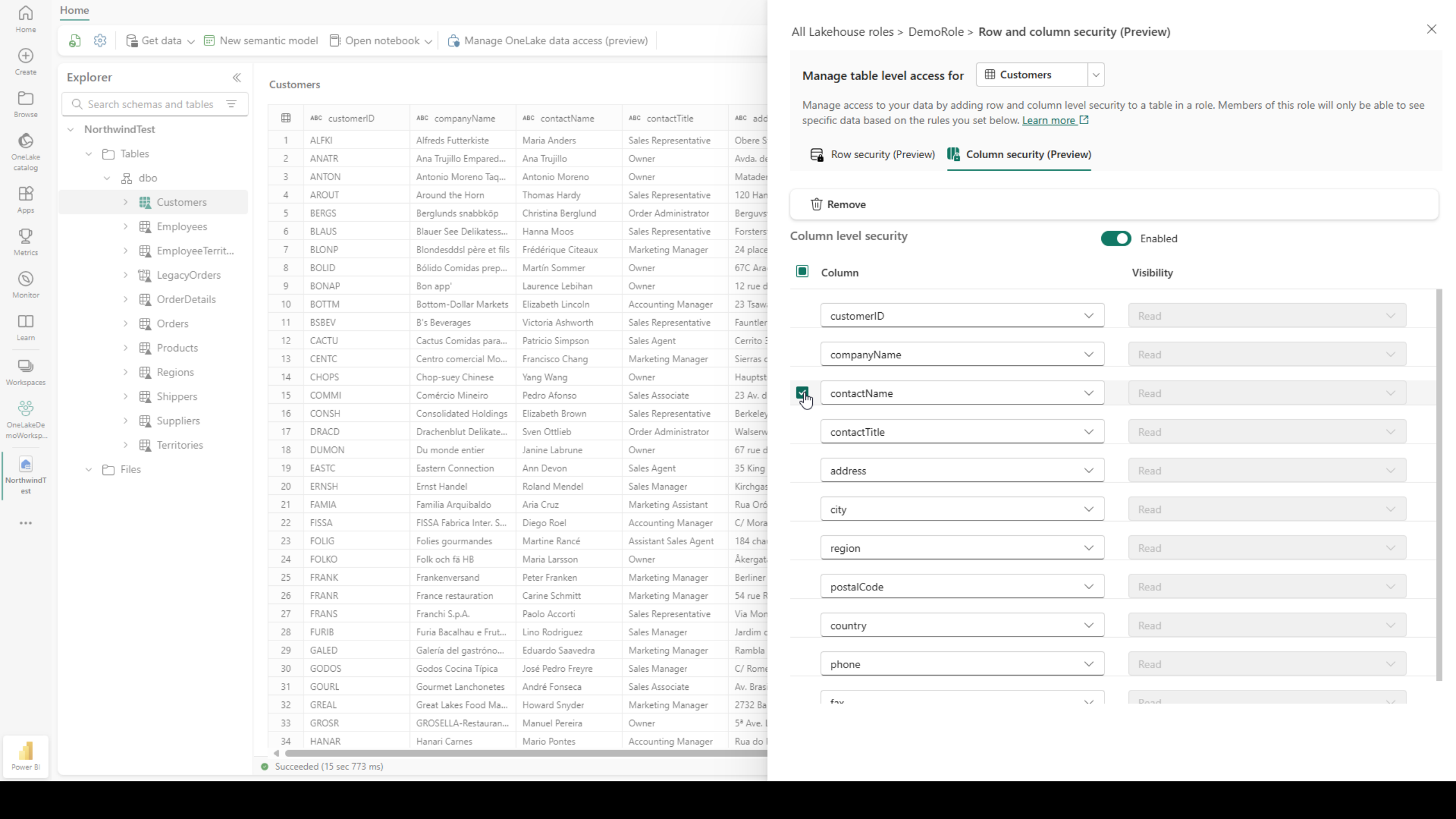
Restrict access to specific columns in a delta-parquet table

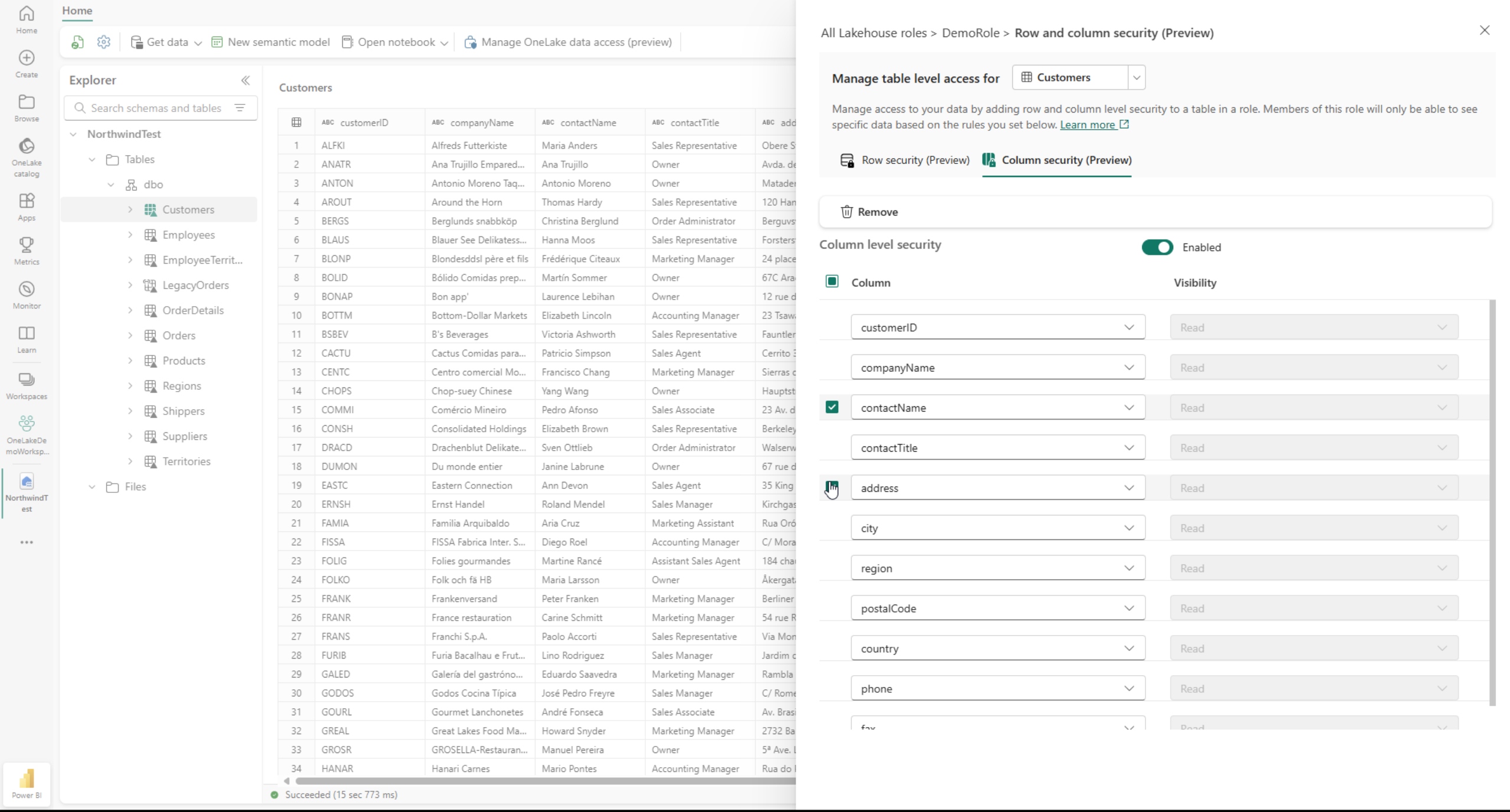
Hides both the column name and data

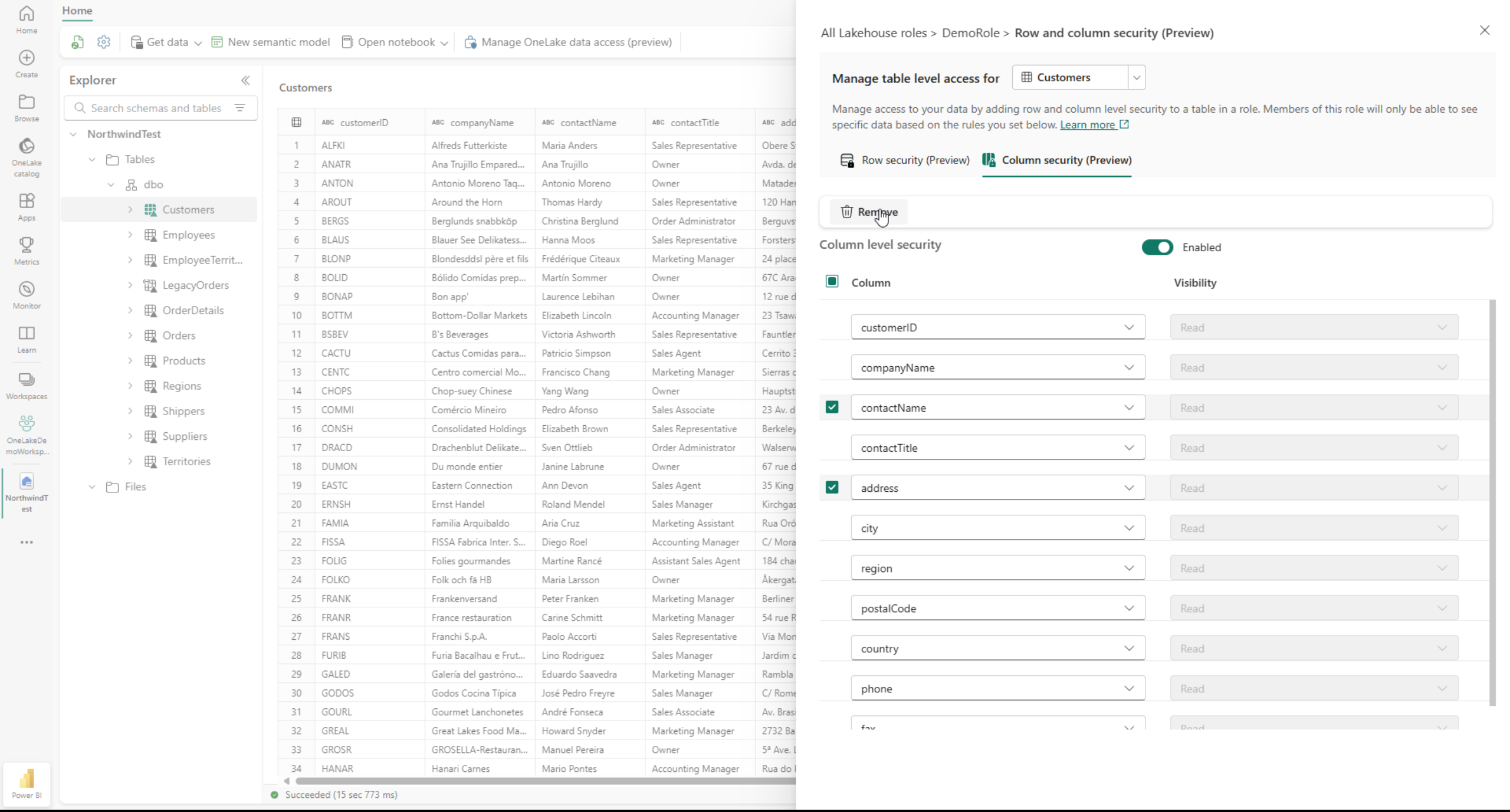

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Schema
Read
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Table
Read
Row security (Preview)
Column security (Preview)
Remove from role

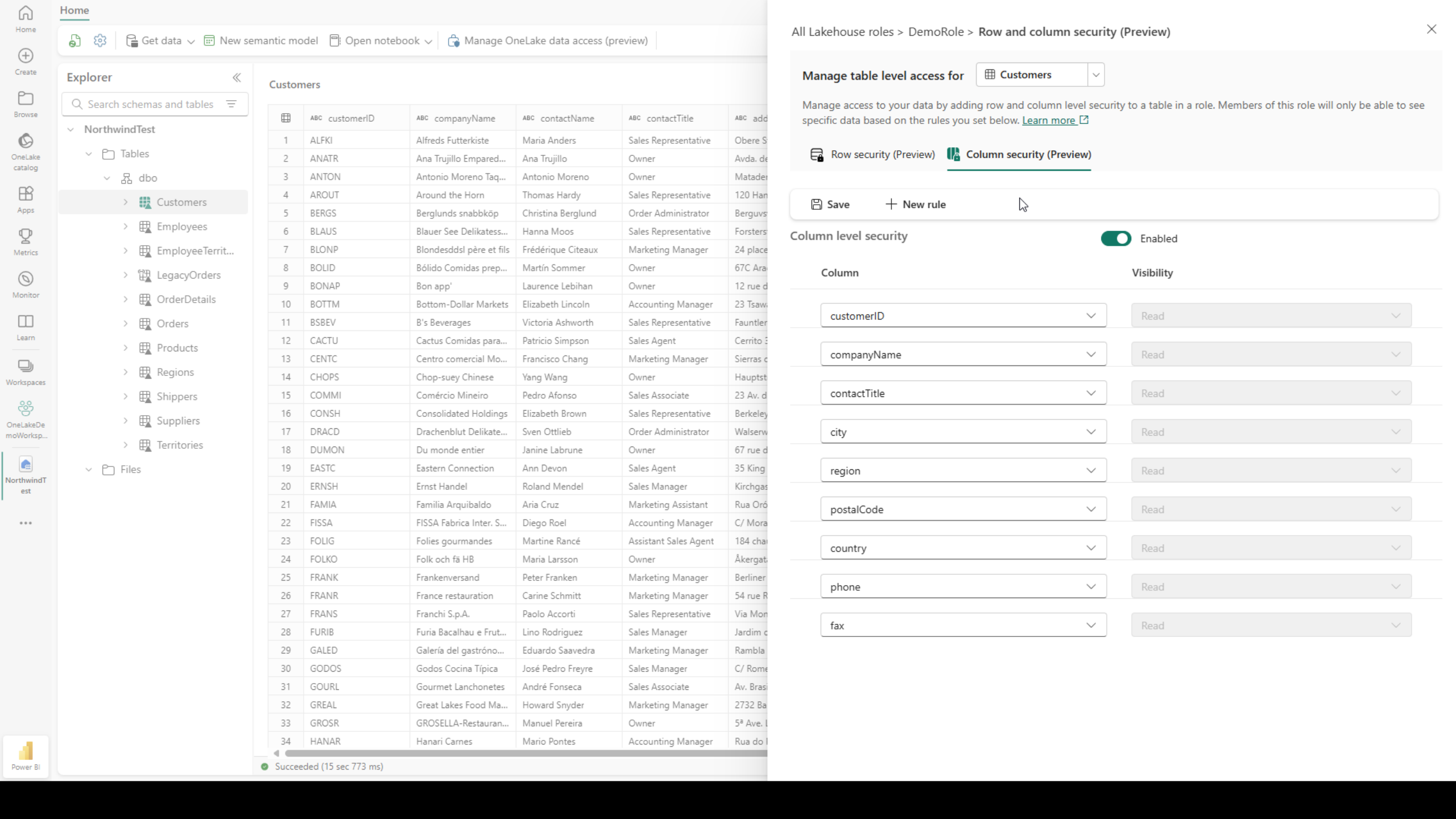

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Column security (Preview)
Save
New rule
You have no rules
Create rules to grant column security to table.
Enable CLS

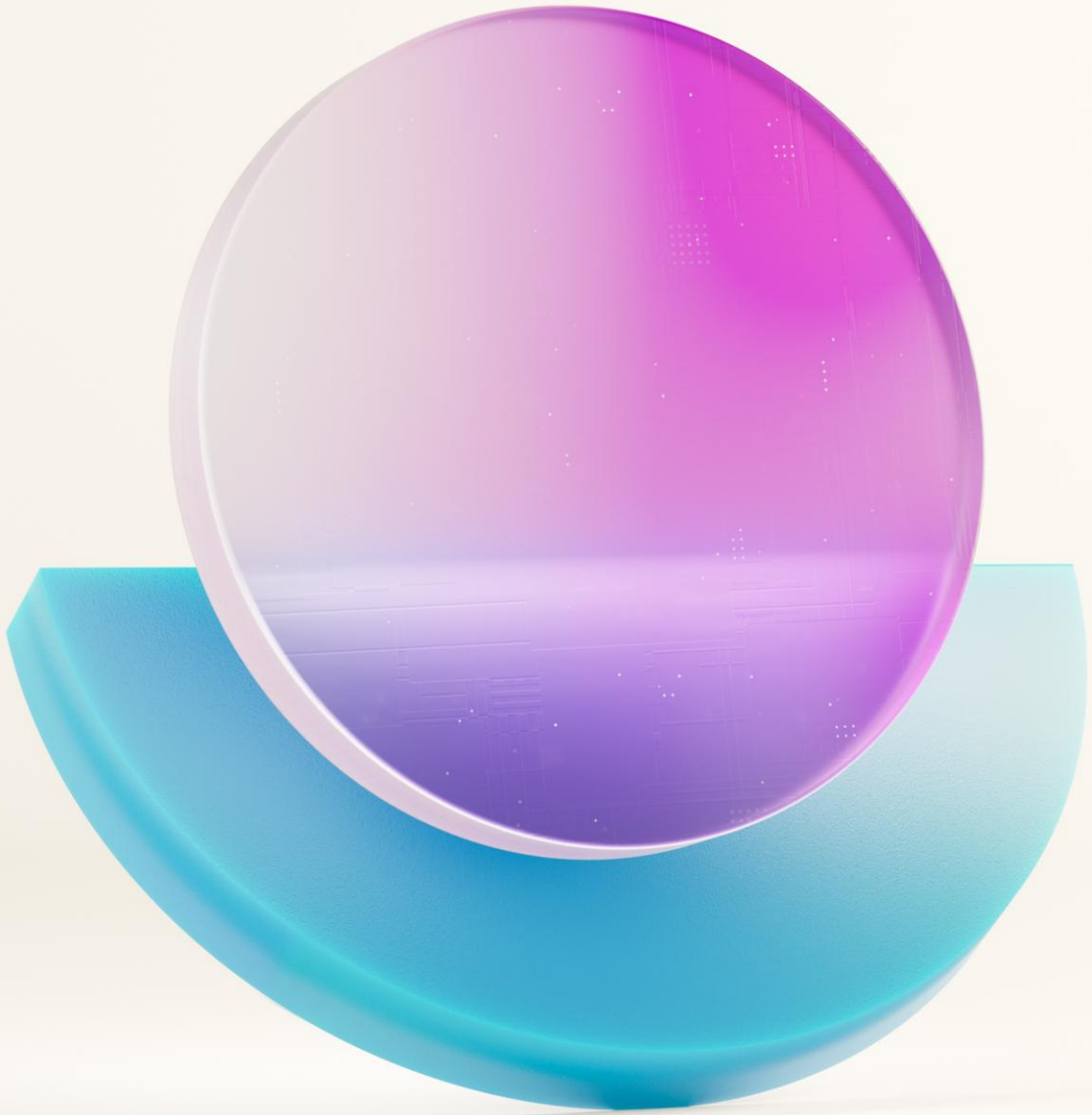

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Wait ..
What about Power BI?

Power BI Direct Lake Mode

By default, will connect to OneLake through SSO (passthrough)

End users will need read permissions on downstream items

Also allows to specify a fixed identity (docs)

“Engine Identity” needs permissions, but not the business users

Power BI Item Permissions

Read

Build

Reshare

Rewrite

Owner

Power BI Item Permissions

Read

Allows users to **access** and **interact** with reports and other solutions (such as composite models on Premium/PPU workspaces) that read data from the semantic model.

This includes the ability to use the **Explore feature** to interact with the data in these reports.

Build

Reshare

Rewrite

Owner

Power BI Item Permissions

Read

Build

- Allows user to **build new content** from the semantic model and find content that uses the semantic model.
- Allows user to access reports that access **composite models on Power BI Pro** workspaces.
- Allows user to **build composite models**.
- Allows user to pull the data into **Analyze in Excel**.
- Allows querying using external APIs such as **XMLA.**
- Allows user to see **hidden** data fields.

Reshare

Rewrite

Owner

Power BI Item Permissions

Read

Build

Reshare

Allows user to **grant** semantic model **access**.

Rewrite

Owner

Power BI Item Permissions

Read

Build

Reshare

Rewrite

- Allows user to **republish** the semantic model.
- Allows user to **backup** and **restore** the semantic model.
- Allows user to make **changes** to the semantic model via **XMLA**.
- Allows user to **edit semantic model settings**, except data refresh, credentials, and automatic aggregations.

Owner

Power BI Item Permissions

Read

Build

Reshare

Rewrite

Owner

Conceptual role that has all the permissions on a semantic model.

Creator is the first owner

Last person to configure the semantic model after taking it over

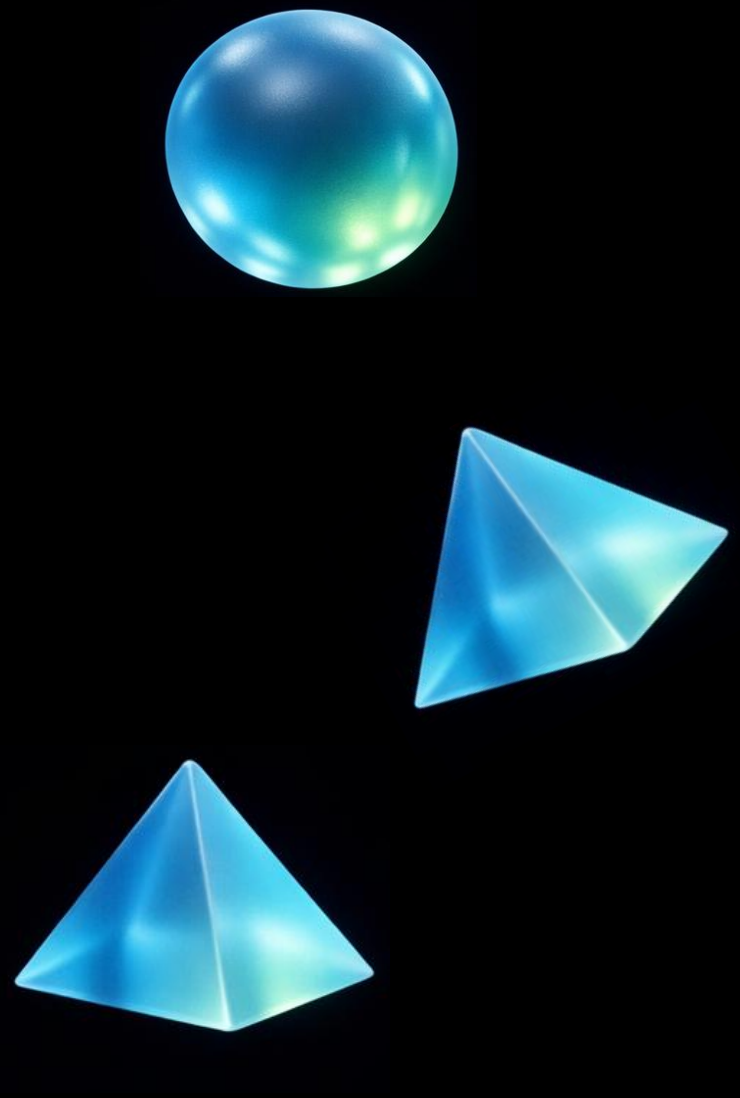
Build Permissions != Security

> **Note**
>
> Build permission is primarily a discoverability feature. It enables users to easily discover semantic models and build Power BI reports and other consumable items based on the discovered models, such as Excel PivotTables and non-Microsoft data visualization tools, using the XMLA endpoint. Users who have Read permission without Build permission can consume and interact with existing reports that have been shared with them. Granting Read permission without Build permission should not be relied upon to secure sensitive data. Users with Read permission, even without Build permission, are able to access and interact with data in the semantic model.

https://learn.microsoft.com/en-us/power-bi/connect-data/service-datasets-permissions

Workspace Roles and Item Permissions

	Admin	Member	Contributor	Viewer
Read	✓	✓	✓	✓
Build	✓	✓	✓	✗
Reshare	✓	✓	✗	✗
Write	✓	✓	✓	✗



What’s next?

OneLake security - now

OneLake security features:

GA

- Object level security
- Column level security
- Row level security
- ReadWrite permissions

• Define OneLake security on:

GA

- Lakehouse
- Azure Mirrored Databrick Catalog
- All mirrored databases

OneLake security filtering:

GA

- Lakehouse
- Spark notebooks
- SQL Analytics Endpoint
- Semantic Models

Preview

- Eventhouse
- External apps and engines

OneLake security - now

OneLake security features:

GA

- Object level security
- Column level security
- Row level security
- ReadWrite permissions

+ Strong deny
+ Multi-table RLS
+ Dynamic RLS

• Define OneLake security on:

GA

- Lakehouse
- Azure Mirrored Databrick Catalog
- All mirrored databases

+ All Fabric items

OneLake security filtering:

GA

- Lakehouse
- Spark notebooks
- SQL Analytics Endpoint
- Semantic Models

Preview

- Eventhouse
- External apps and engines

+ Graph DB

Slides

https://github.com/BenniDeJagere
/Presentations
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Feedback