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#FABCONSQLCON2026

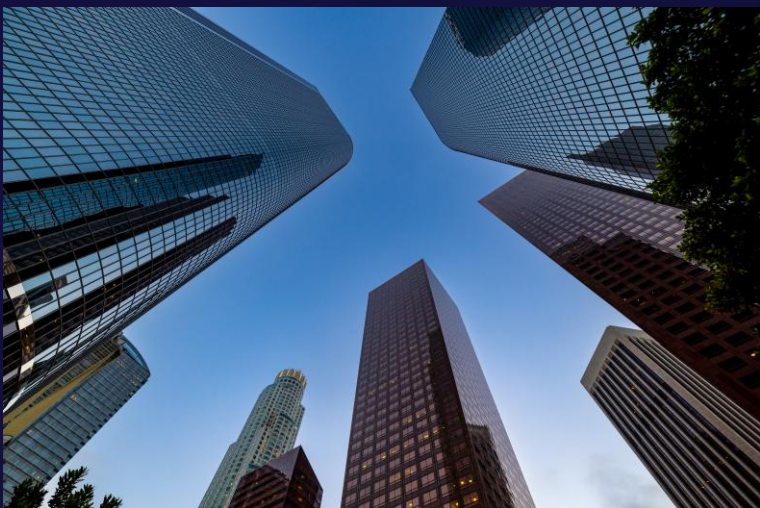
FABCON

Microsoft Fabric
COMMUNITY CONFERENCE

SQLCON

Microsoft SQL
COMMUNITY CONFERENCE

ATLANTA MARCH 16 - 20, 2026



Enterprise security in OneLake: fine-grained access control with OneLake security

- Aaron Merrill
- Cristian Petculescu



oh yeah, I just
vibe-coded a
new query
engine!

Now sales reps
can ask questions
through natural
language!

How does John
have more sales
than me?!

AI Query Assistant

Show me the top five sales reps by revenue

Here are the results for you:

Sales Rep	Revenue	Revenue
John Smith	\$120,000	\$120,000
Jane Doe	\$110,000	\$110,000
Anonymous Sales Rep	\$105,000	\$105,000
Emily Wilson	\$100,000	\$100,000
Michael Brown	\$90,000	\$90,000

Intros



Aaron Merrill

Principal Product Manager –
Microsoft OneLake



Cristian Petculescu

Technical Fellow – Chief Architect
for Azure Data

Agenda

1

Overview

5

Programmatic and
agentic access

2

OneLake security
concepts

6

Interoperable security

3

OneLake security
features

7

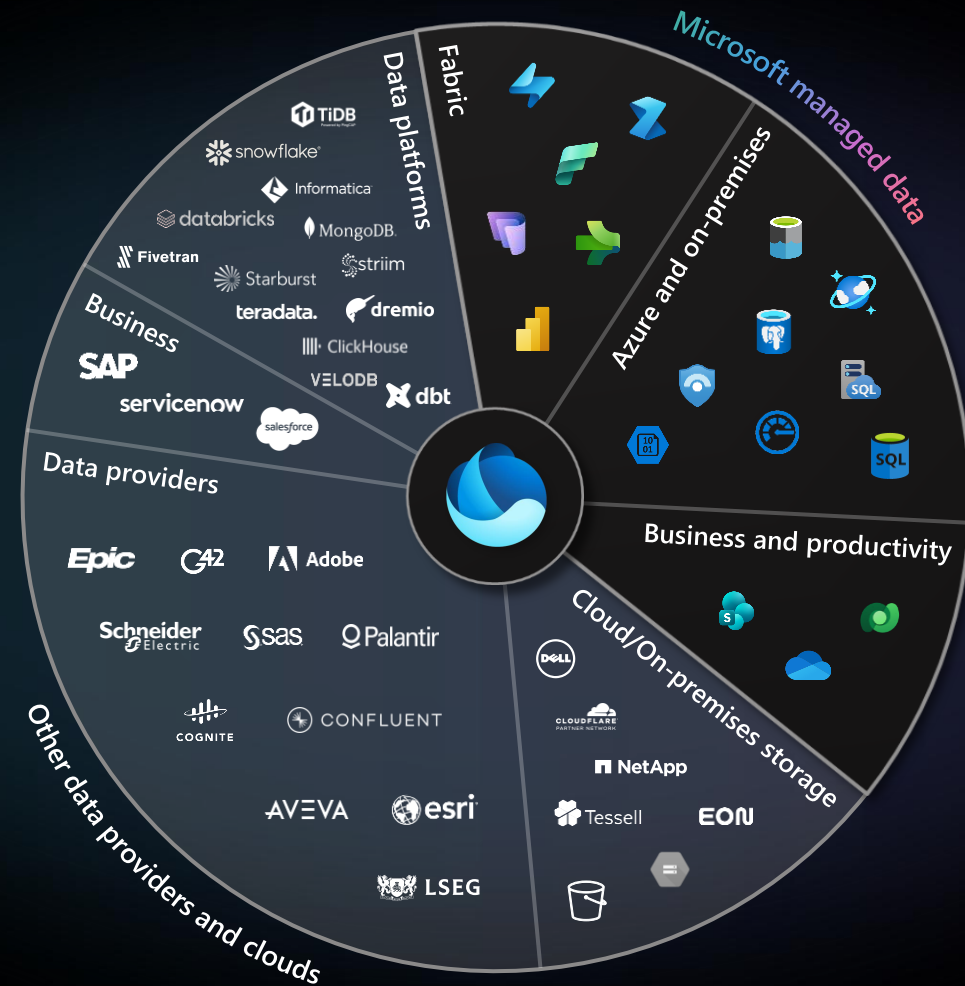
What's next

4

Deep dive

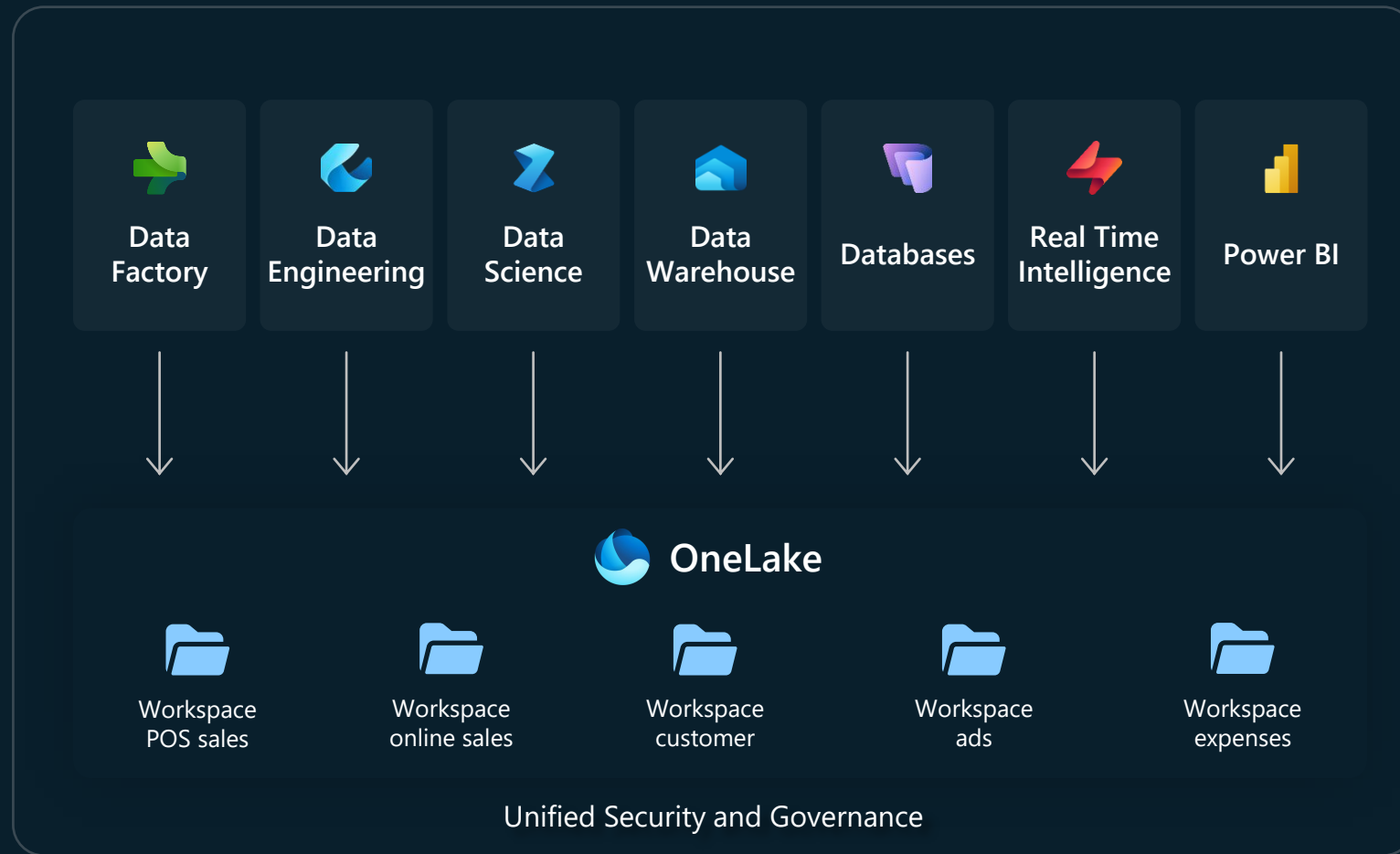
OneLake unifies the world's data

All clouds, on-prem, all
databases, apps and files with
zero ETL



A single unified SaaS data lake

"No Silos"



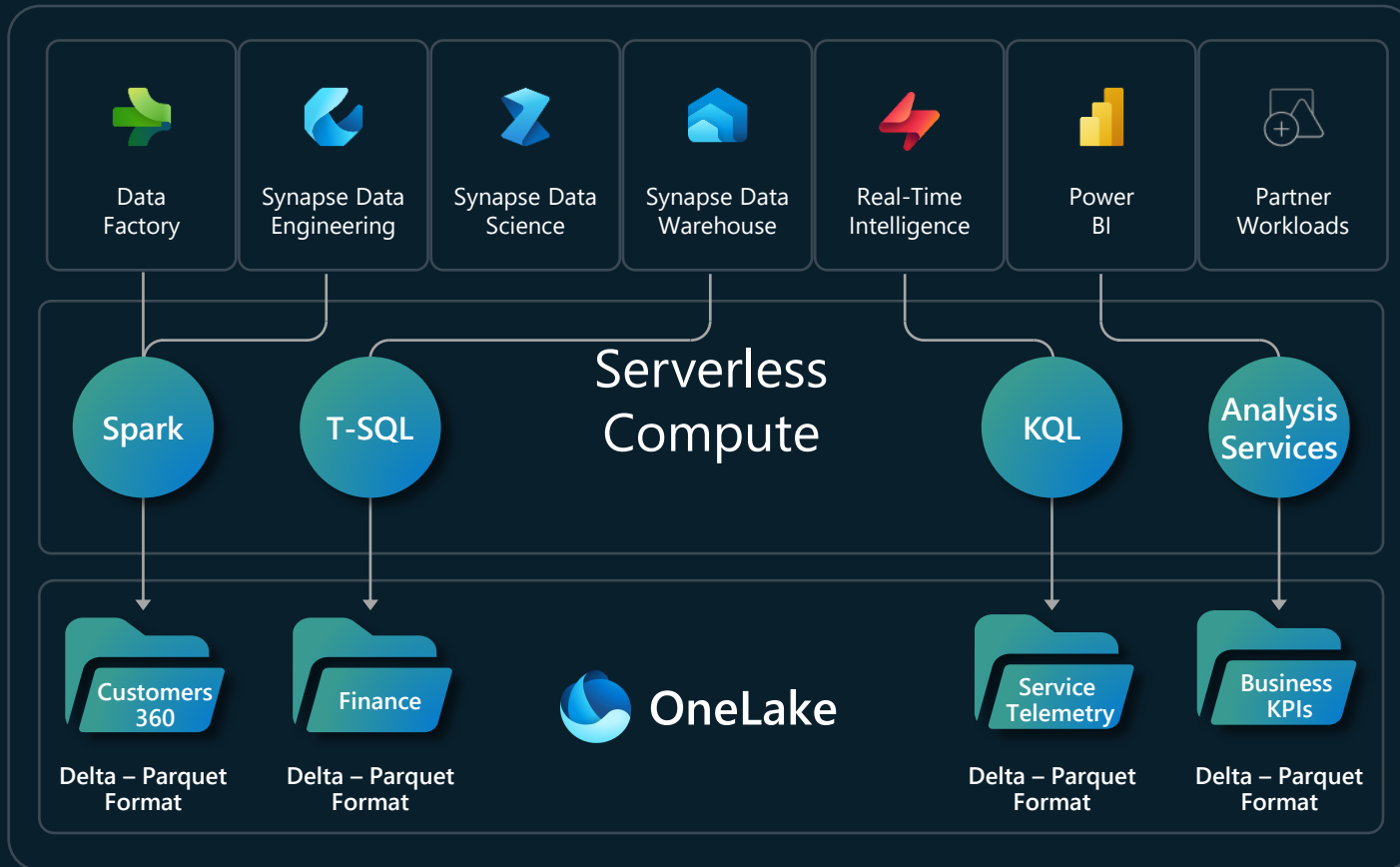
Provisioned automatically with the tenant.

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.

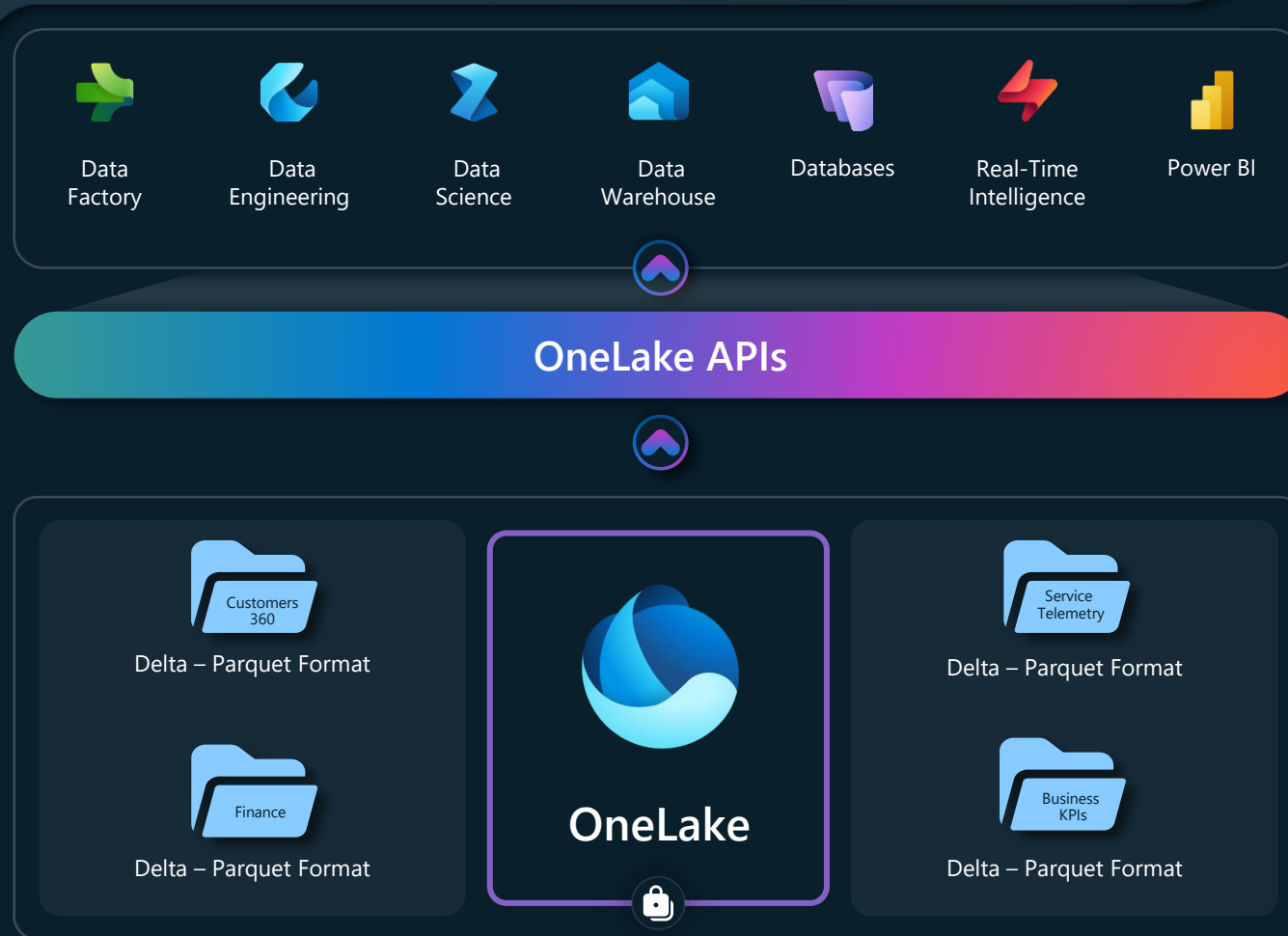
The data is stored in a single common format.

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.



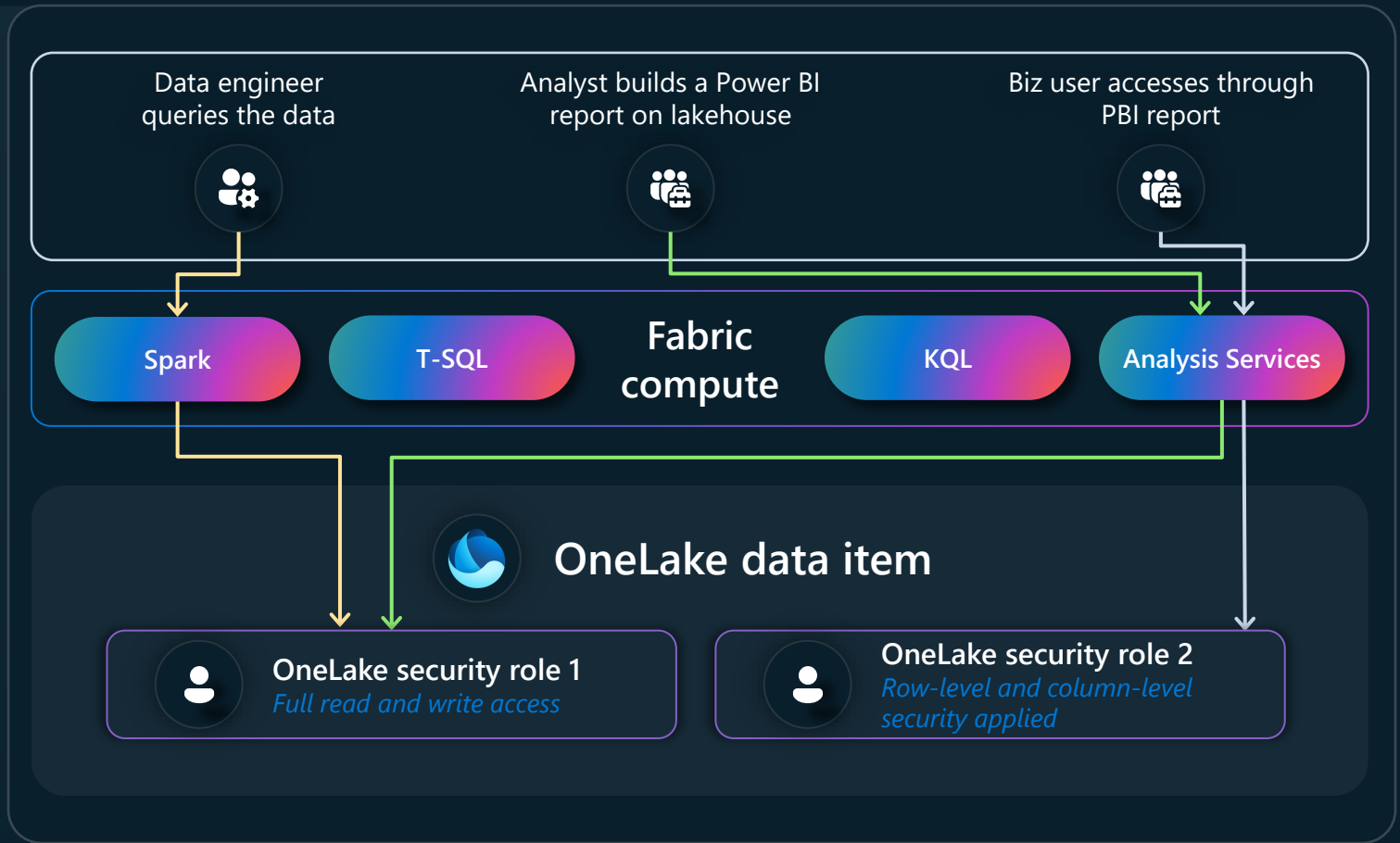
OneLake security roles can be managed in a single place, providing end to end coverage for data access for your entire data estate.

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

Generally available



Data
Factory



Data
Engineering



Data
Science



Data
Warehouse



Databases



Real-Time
Intelligence



Power BI



OneLake APIs



Delta – Parquet Format



Delta – Parquet Format



OneLake



Delta – Parquet Format

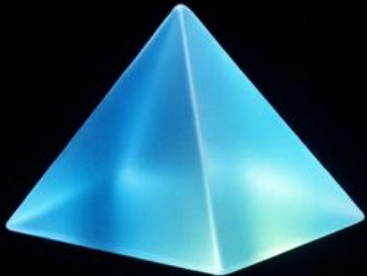
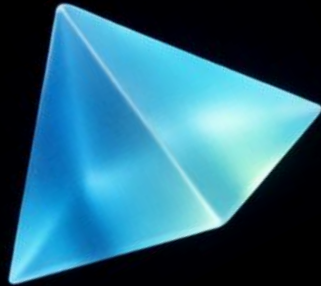


Delta – Parquet Format

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**



OneLake security
concepts



Fabric Security Model

Workspace Roles & Membership

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

Read

View item metadata



ReadData

See data in SQL



ReadAll

See data in OneLake



Write

Create & edit items

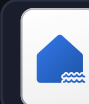


Reshare

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:



Table

Col A	Col B	Col C
Row 1		
Row 2		



Folders

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

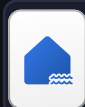
Viewer

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



User A



User B



Engine (e.g., SQL Endpoint)



Fabric Security Model

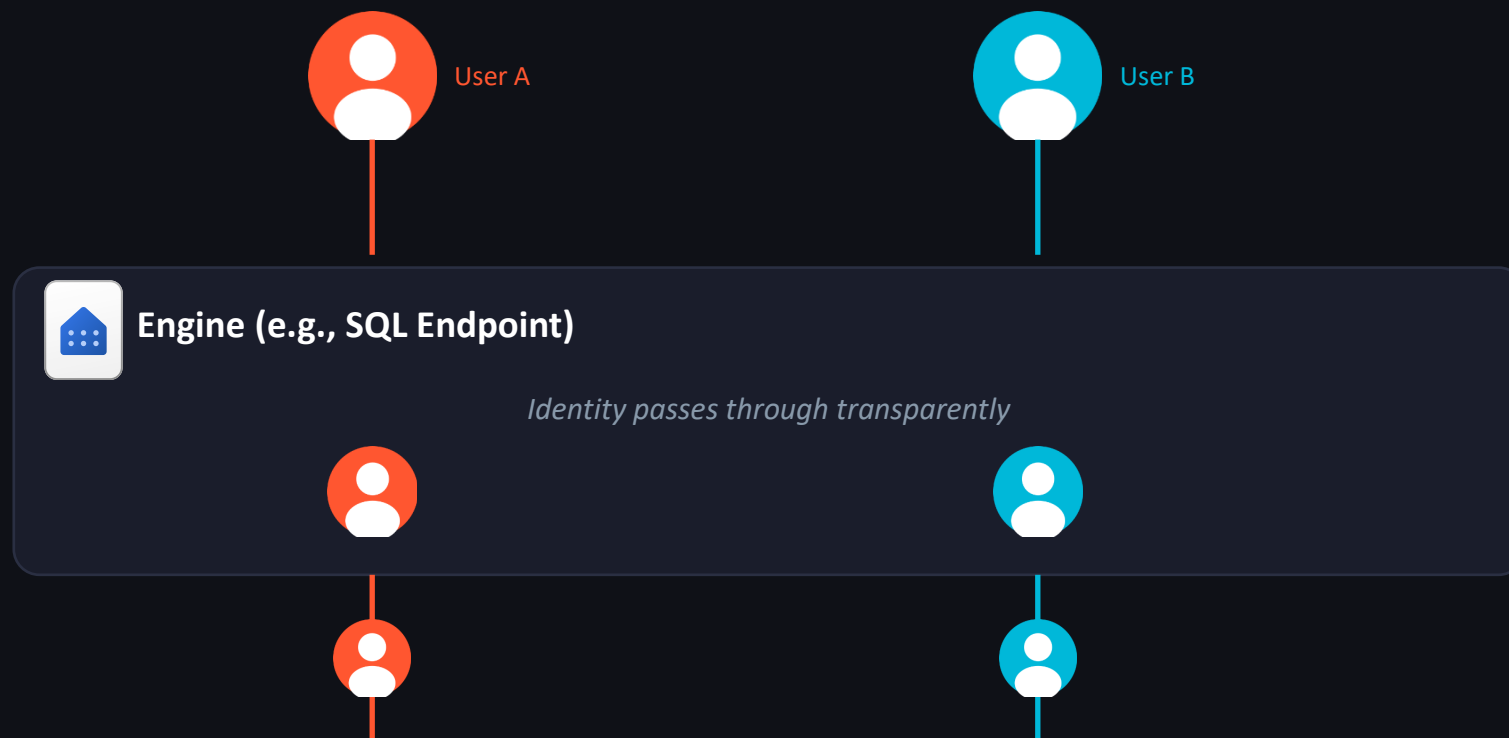
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Fabric Security Model

Engine Integration — Passthrough Mode

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Control plane access — as the user

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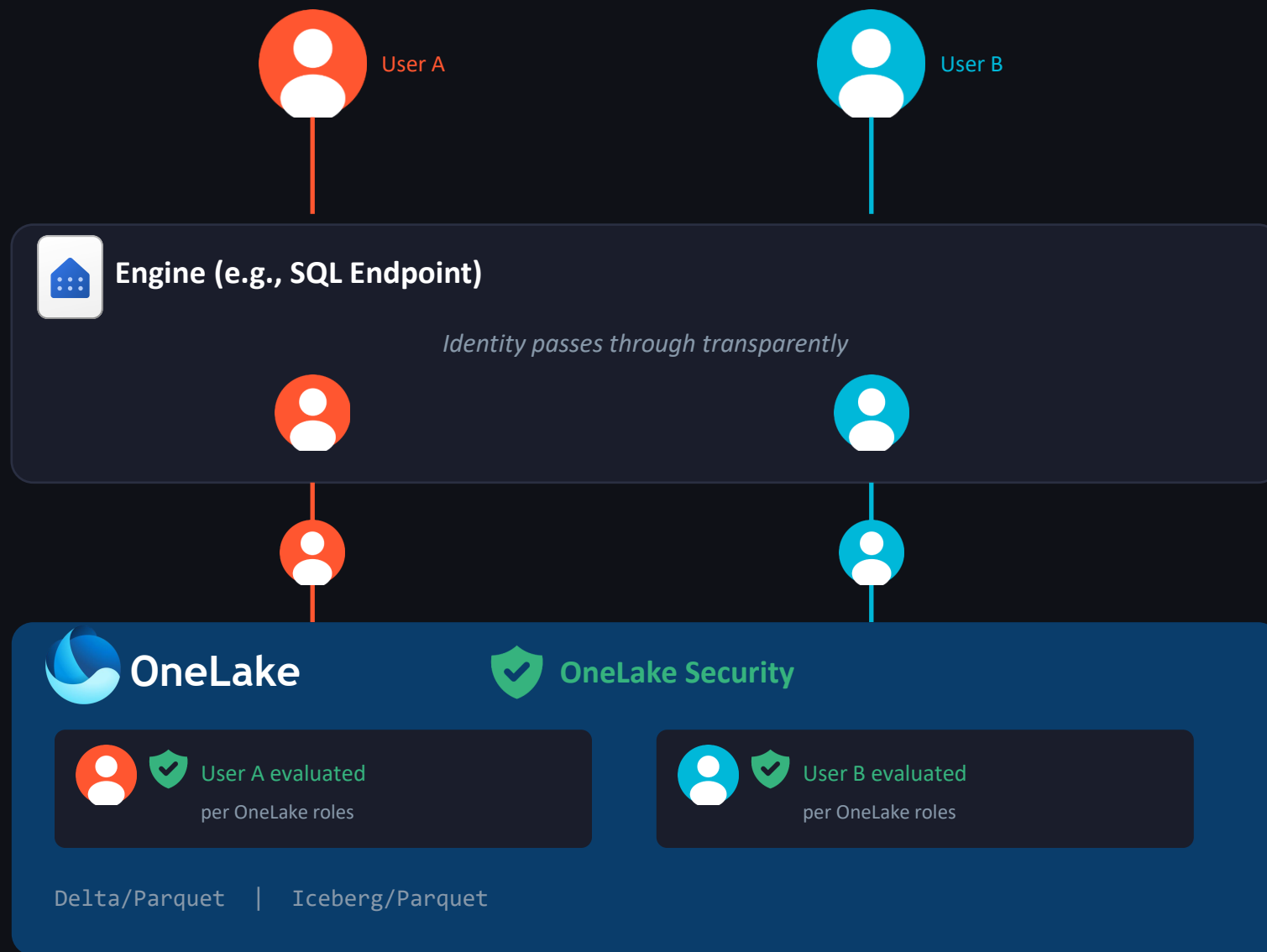
✓ Key Properties

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



User A



User B



Engine (e.g., Warehouse / SQL Endpoint)



Engine Identity



Fabric Security Model

Engine Integration — Delegated Mode

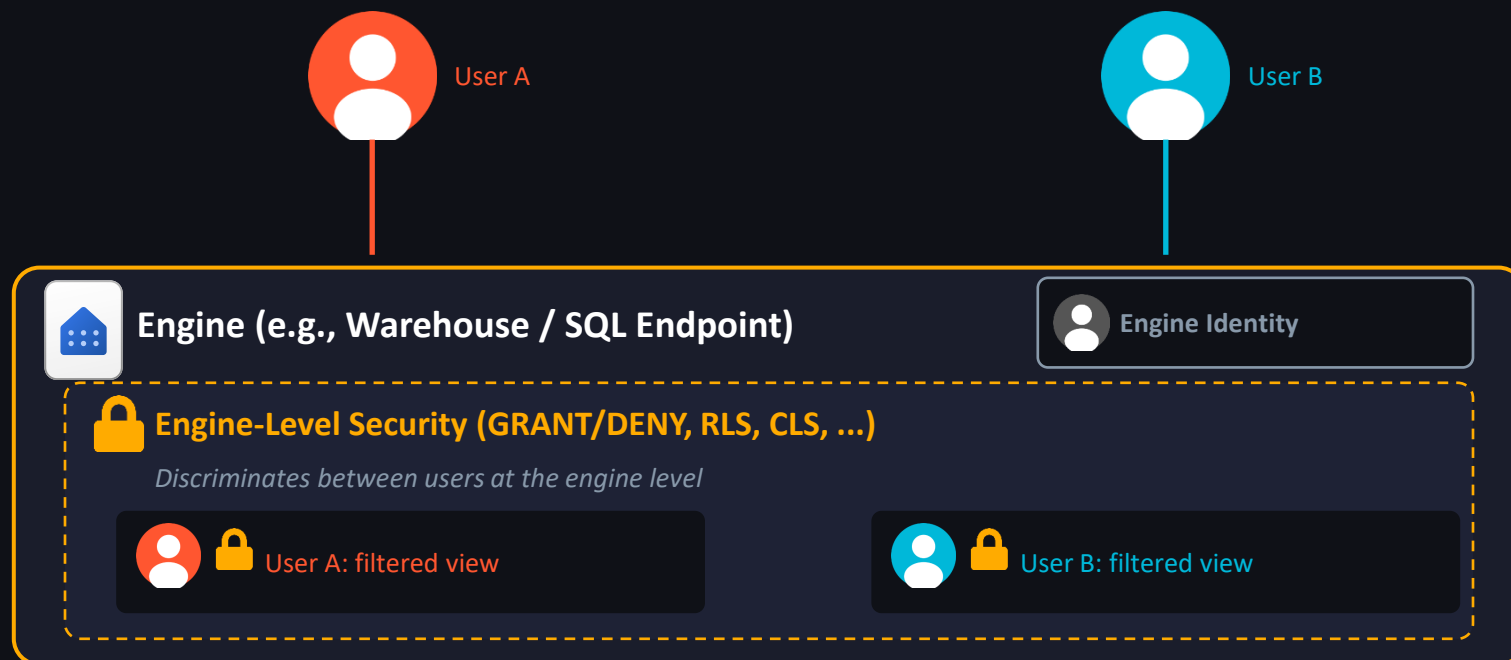
Delegated

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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

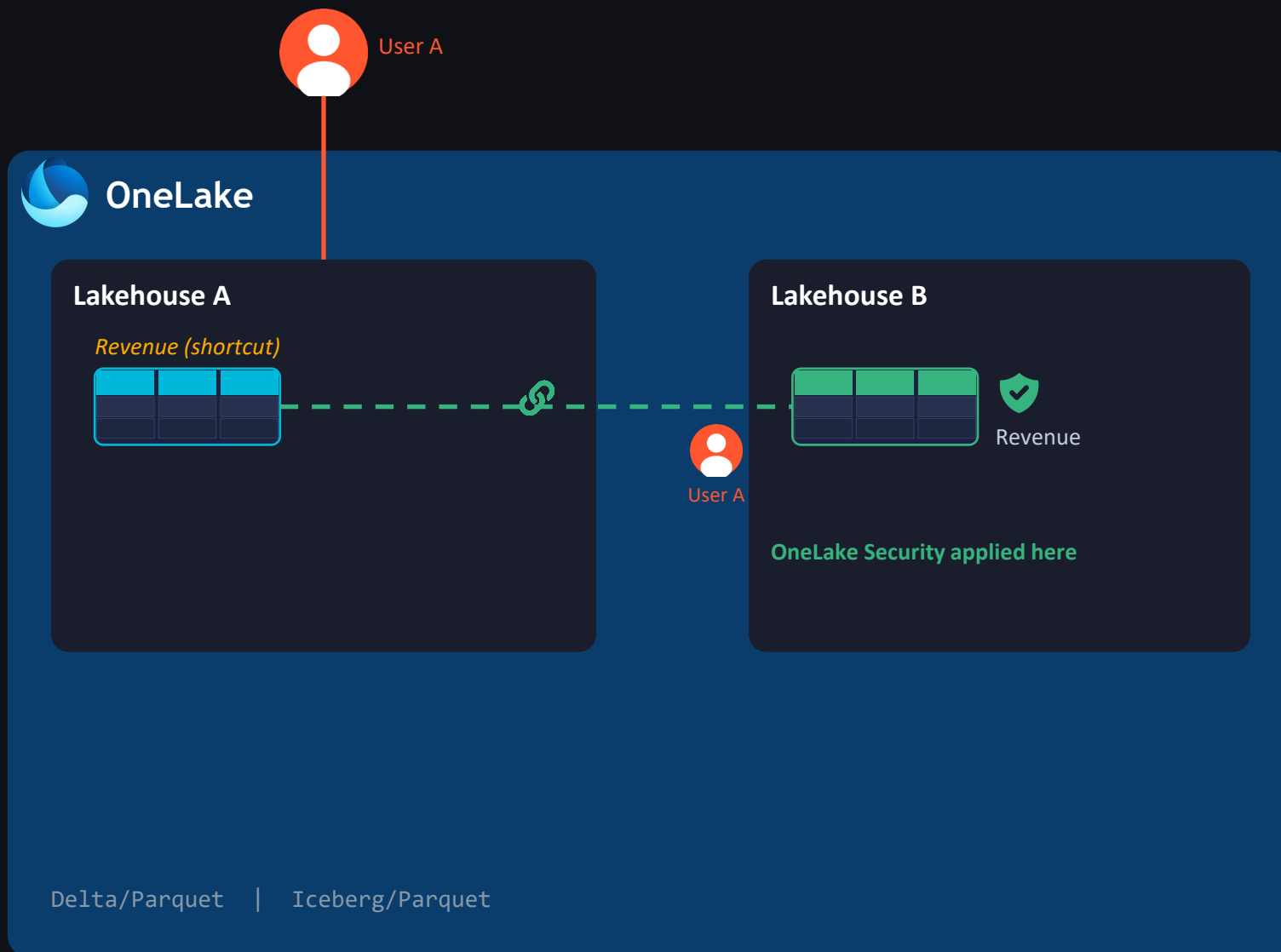
✓ Key Properties

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

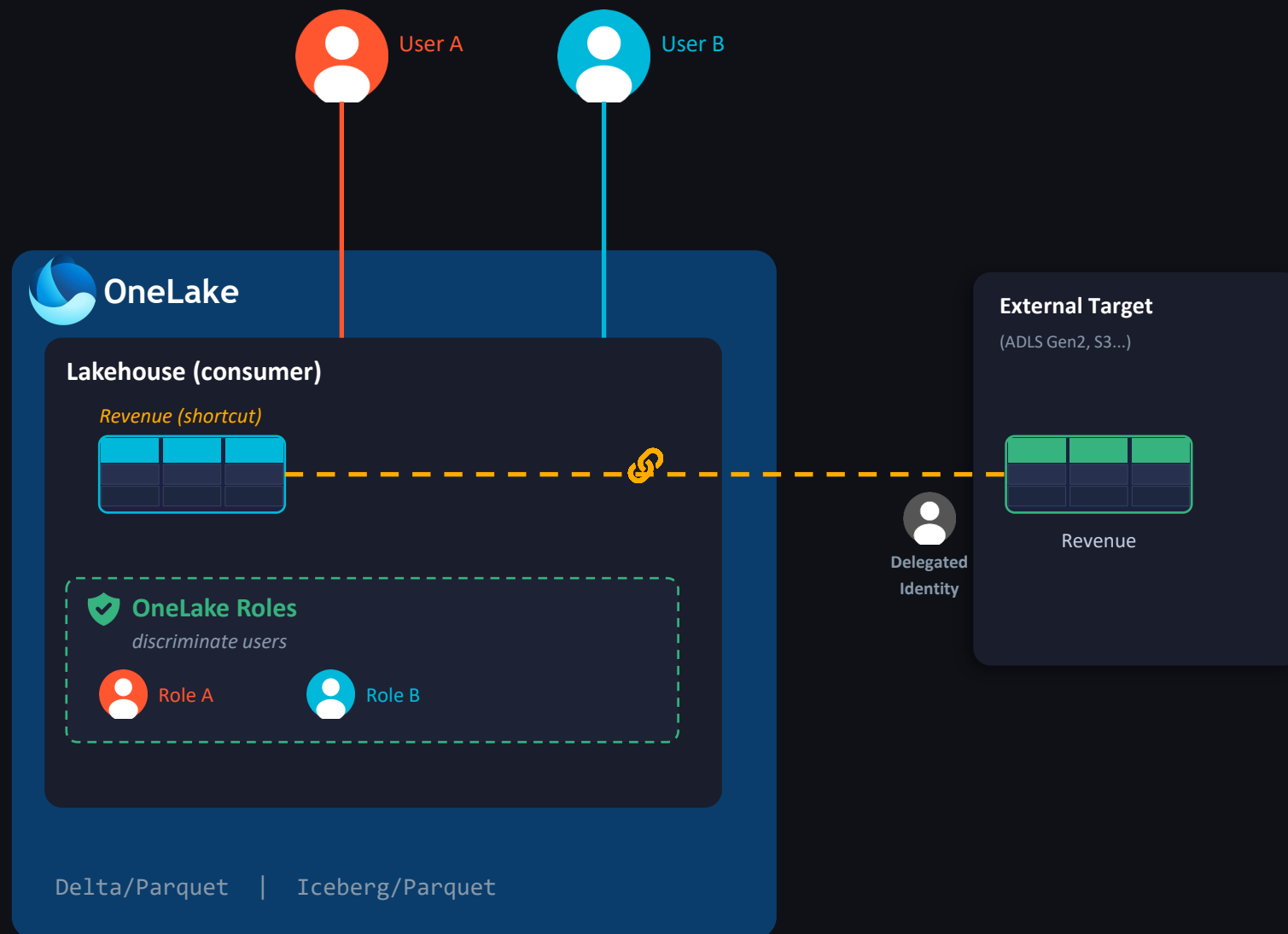
Typical use: dissemination (like import mode in Power BI)

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





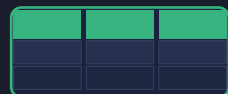
Combined Pattern

Delegated shortcut from hub to ADLS Gen2

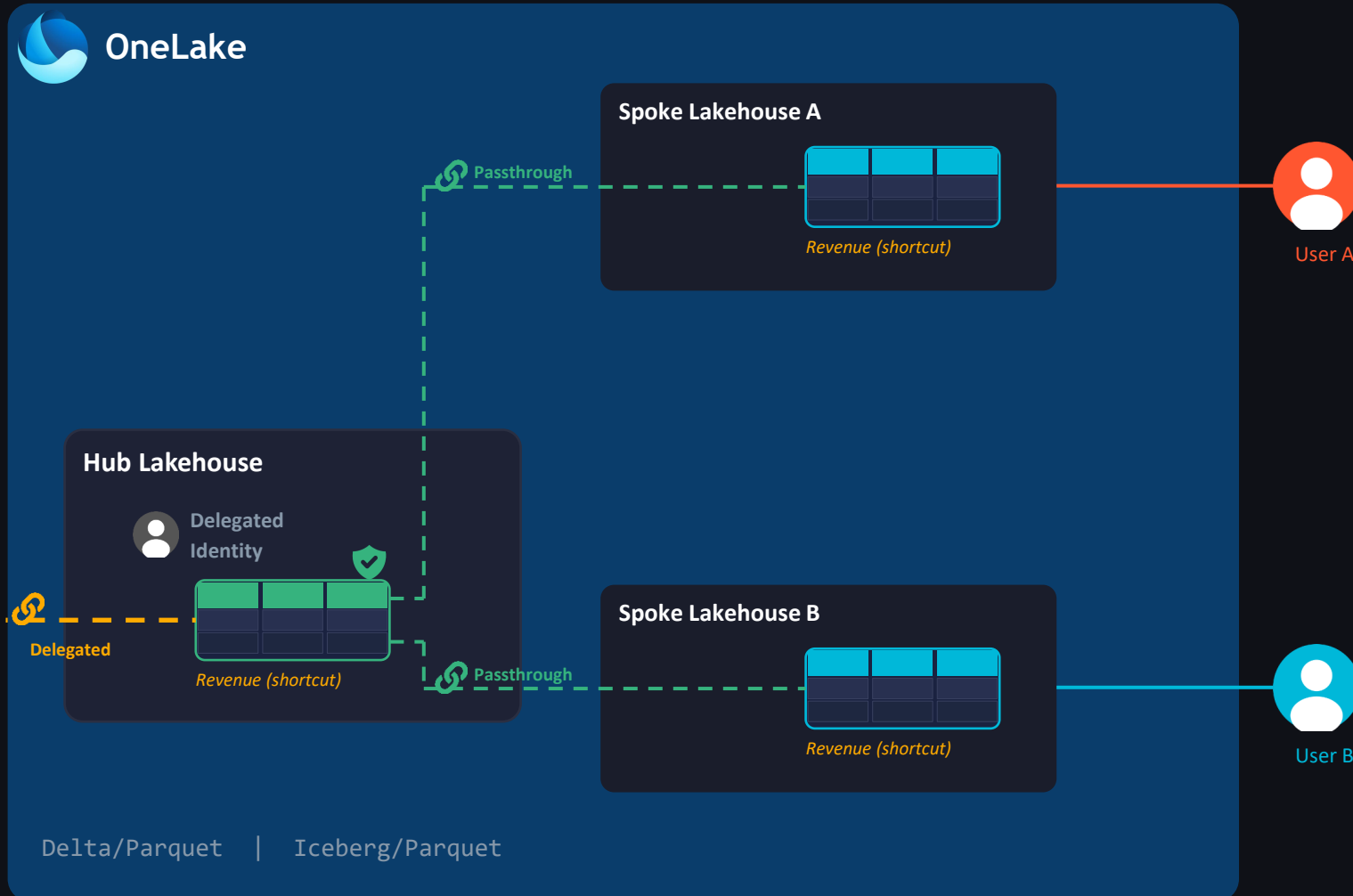
Security applied at each hop

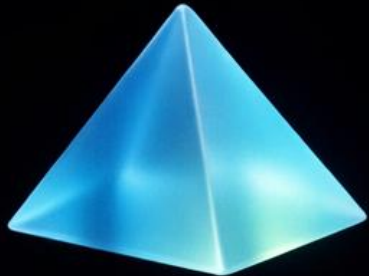
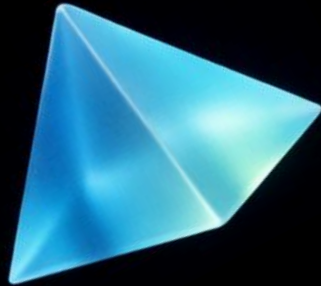


External storage



Revenue

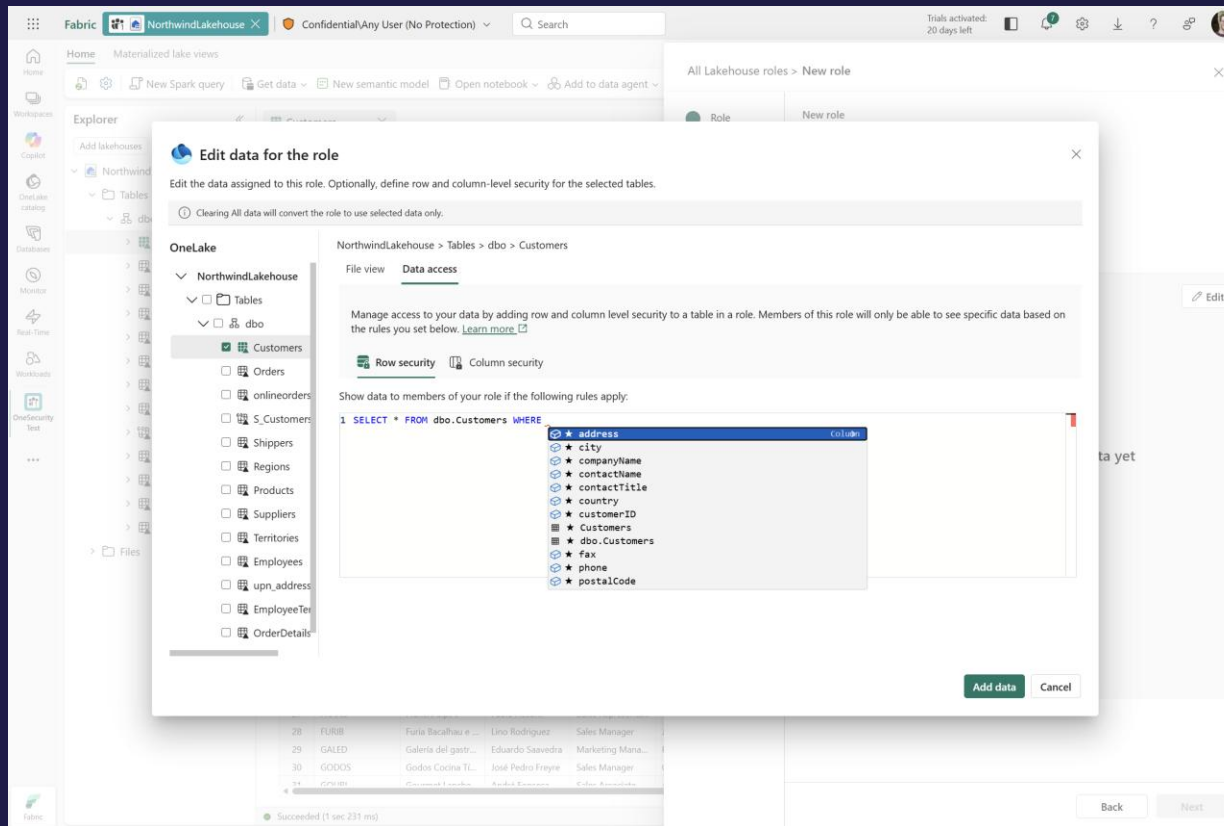




OneLake security
features

OneLake security – UX improvements

Available now



New role creation experience for managing RLS and CLS.

Better debugging for RLS predicates with inline validation.

Set OneLake security roles directly in the OneLake catalog explore tab.

Fabric

NorthwindLakehouse

Confidential\Any User (No Protection)

Search

Trials activated: 17 days left

Home

Materialized lake views

New Spark query

Get data

New semantic model

Open notebook

Add to data agent

Manage OneLake security

Update all variables

Explorer

Add lakehouses

NorthwindLakehouse

Tables

dbo

Customers

Employees

EmployeeTerrit...

OrderDetails

Orders

Products

Regions

Shippers

ShortcutCusto...

Suppliers

Territories

Files

F1

F1_1

F1_1_1

F1_1_2

F1_2

F2

F2_1

orders.csv

Customers

Table view

	ABC customerID	ABC companyName	ABC contactName	ABC contactTitle	ABC address	ABC city	ABC region	ABC postalCode	ABC country	ABC phone	ABC fax
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545
2	ANATR	Ana Trujillo Empared...	Ana Trujillo	Owner	Avda. de la Constituc...	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745
3	ANTON	Antonio Moreno Taq...	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	NULL	WA1 1DP	UK	(171) 555-7788	(171) 555-675
5	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvsvägen 8	Luleå	NULL	S-958 22	Sweden	0921-12 34 65	0921-12 34 6
6	BLAUS	Blauer See Delikatess...	Hanna Moos	Sales Representative	Forsterstr. 57	Mannheim	NULL	68306	Germany	0621-08460	0621-08924
7	BLONP	Blondesddsl père et f...	Frédérique Citeaux	Marketing Manager	24 place Kléber	Strasbourg	NULL	67000	France	88.60.15.31	88.60.15.32
8	BOLID	Bólido Comidas prep...	Martín Sommer	Owner	67C Araquil	Madrid	NULL	28023	Spain	(91) 555 22 82	(91) 555 91 91
9	BONAP	Bon app'	Laurence Lebihan	Owner	12 rue des Bouchers	Marseille	NULL	13008	France	91.24.45.40	91.24.45.41
10	BOTTM	Bottom-Dollar Mark...	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	(604) 555-4729	(604) 555-374
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Circus	London	NULL	EC2 5NT	UK	(171) 555-1212	NULL
12	CACTU	Cactus Comidas para...	Patricio Simpson	Sales Agent	Cerrito 333	Buenos Aires	NULL	1010	Argentina	(1) 135-5555	(1) 135-4892
13	CENTC	Centro comercial Mo...	Francisco Chang	Marketing Manager	Sierras de Granada 9...	México D.F.	NULL	05022	Mexico	(5) 555-3392	(5) 555-7293
14	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29	Bern	NULL	3012	Switzerland	0452-076545	NULL
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. dos Lusíadas	Sao Paulo	SP	05432-043	Brazil	(11) 555-7647	NULL
16	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley Gardens 12 ...	London	NULL	WX1 6LT	UK	(171) 555-2282	(171) 555-915
17	DRACD	Drachenblut Delikate...	Sven Ottlieb	Order Administrator	Walserweg 21	Aachen	NULL	52066	Germany	0241-039123	0241-059428
18	DUMON	Du monde entier	Janine Labrune	Owner	67 rue des Cinquant...	Nantes	NULL	44000	France	40.67.88.88	40.67.89.89
19	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King George	London	NULL	WX3 6FW	UK	(171) 555-0297	(171) 555-337
20	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6	Graz	NULL	8010	Austria	7675-3425	7675-3426
21	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orós 92	Sao Paulo	SP	05442-030	Brazil	(11) 555-9857	NULL
22	FISSA	FISSA Fabrica Inter. S...	Diego Roel	Accounting Manager	C/ Moralzarzal 86	Madrid	NULL	28034	Spain	(91) 555 94 44	(91) 555 55 91
23	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 chaussée de Tou...	Lille	NULL	59000	France	20.16.10.16	20.16.10.17
24	FOLKO	Folk och få HB	Maria Larsson	Owner	Åkergatan 24	Bräcke	NULL	S-844 67	Sweden	0695-34 67 21	NULL
25	FRANK	Frankenversand	Peter Franken	Marketing Manager	Berliner Platz 43	München	NULL	80805	Germany	089-0877310	089-0877451
26	FRANR	France restauration	Carine Schmitt	Marketing Manager	54 rue Royale	Nantes	NULL	44000	France	40.32.21.21	40.32.21.20
27	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Monte Bianco 34	Torino	NULL	10100	Italy	011-4988260	011-4988261
28	FURIB	Furia Bacalhau e Frut...	Lino Rodriguez	Sales Manager	Jardim das rosas n. 32	Lisboa	NULL	1675	Portugal	(1) 354-2534	(1) 354-2535
29	GALED	Galería del gastronó...	Eduardo Saavedra	Marketing Manager	Rambla de Cataluña ...	Barcelona	NULL	08022	Spain	(93) 203 4560	(93) 203 4561

Succeeded (1 sec 211 ms)

Columns 11 Rows 91

✔ Succeeded (1 sec 211 ms)

Create role

Fabric

NorthwindLakehouse

Confidential\Any User (No Protection)

Search

Trials activated:

17 days left

14

Home

Materialized lake views

New Spark query

Get data

New semantic model

Open notebook

Add to data agent

Manage OneLake

Explorer

Add lakehouses

NorthwindLakehouse

Tables

dbo

Customers

Employees

EmployeeTerrit...

OrderDetails

Orders

Products

Regions

Shippers

ShortcutCusto...

Suppliers

Territories

Files

F1

F1_1

F1_1_1

F1_1_2

F1_2

F2

F2_1

orders.csv

Customers

Table view

	ABC customerID	ABC companyName	ABC contactName	ABC contactTitle	ABC ad...
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere S...
2	ANATR	Ana Trujillo Empared...	Ana Trujillo	Owner	Avda. d...
3	ANTON	Antonio Moreno Taq...	Antonio Moreno	Owner	Matade...
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6	BLAUS	Blauer See Delikatess...	Hanna Moos	Sales Representative	Forster...
7	BLONP	Blondesddl père et f...	Frédérique Citeaux	Marketing Manager	24 plac...
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22	FISSA	FISSA Fabrica Inter. S...	Diego Roel	Accounting Manager	C/ Mor...
23	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 cha...
24	FOLKO	Folk och få HB	Maria Larsson	Owner	Åkerga...
25	FRANK	Frankenversand	Peter Franken	Marketing Manager	Berliner...
26	FRANR	France restauration	Carine Schmitt	Marketing Manager	54 rue...
27	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Mo...
28	FURIB	Furia Bacalhau e Frut...	Lino Rodriguez	Sales Manager	Jardim...
29	GALED	Galería del gastróno...	Eduardo Saavedra	Marketing Manager	Rambla...

Role

Data

Member

New role

Role

Create roles to grant specific groups of users access to selected data in your Lakehouse. [Learn more](#)

Role name *

Type of role

Apply Read and ReadWrite permissions to your data using Grant roles. [Learn more](#)

Grant

Use this role to give users more permissions.

Select Grant permissions *

Every Grant role has Read permissions by default. You can add ReadWrite access to your data using this role. Each permission selected will be applied to all the data in this role.

Read

ReadWrite

Next

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	ABC customerID	ABC companyName	ABC contactName	ABC contactTitle	ABC ad...
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere S...
2	ANATR	Ana Trujillo Empared...	Ana Trujillo	Owner	Avda. d...
3	ANTON	Antonio Moreno Taq...	Antonio Moreno	Owner	Matade...
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Ha...
5	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguv...
6	BLAUS	Blauer See Delikatess...	Hanna Moos	Sales Representative	Forster...
7	BLONP	Blondesddsl père et f...	Frédérique Citeaux	Marketing Manager	24 plac...
8	BOLID	Bólido Comidas prep...	Martín Sommer	Owner	67C Ara...
9	BONAP	Bon app'	Laurence Lebihan	Owner	12 rue c...
10	BOTTM	Bottom-Dollar Mark...	Elizabeth Lincoln	Accounting Manager	23 Tsaw...
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntle...
12	CACTU	Cactus Comidas para...	Patricio Simpson	Sales Agent	Cerrito...
13	CENTC	Centro comercial Mo...	Francisco Chang	Marketing Manager	Sierras...
14	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Haupts...
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. c...
16	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkele...
17	DRACD	Drachenblut Delikate...	Sven Ottlieb	Order Administrator	Walserv...
18	DUMON	Du monde entier	Janine Labrune	Owner	67 rue c...
19	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King...
20	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchg...
21	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Or...
22	FISSA	FISSA Fabrica Inter. S...	Diego Roel	Accounting Manager	C/ Mor...
23	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 cha...
24	FOLKO	Folk och få HB	Maria Larsson	Owner	Åkerga...
25	FRANK	Frankenversand	Peter Franken	Marketing Manager	Berliner...
26	FRANR	France restauration	Carine Schmitt	Marketing Manager	54 rue l...
27	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Mo...
28	FURIB	Furia Bacalhau e Frut...	Lino Rodriguez	Sales Manager	Jardim...
29	GALED	Galería del gastróno...	Eduardo Saavedra	Marketing Manager	Rambla...

Role

Data

Member

New role

Role

Create roles to grant specific groups of users access to selected data in your Lakehouse. [Learn more](#)

Role name *

DemoRole

Type of role

Apply Read and ReadWrite permissions to your data using Grant roles. [Learn more](#)

Grant

Use this role to give users more permissions.

Select Grant permissions *

Every Grant role has Read permissions by default. You can add ReadWrite access to your data using this role. Each permission selected will be applied to all the data in this role.

☒ Read

☐ ReadWrite

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	ABC customerID	ABC companyName	ABC contactName	ABC contactTitle	ABC address
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Highway 101
5	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvägen 23
6	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 74
7	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24 place de la Liberté
8	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	67C Arzobispo
9	BONAP	Bon app'	Laurence Leblan	Owner	12 rue d'Alger
10	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawwassen
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy
12	CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito
13	CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierritas
14	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 55
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. das Américas
16	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley
17	DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walsertal
18	DUMON	Du monde entier	Janine Labrun	Owner	67 rue d'Alger
19	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King Street
20	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6
21	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orsini
22	FISSA	FISSA Fabrica Inter. S.p.A.	Diego Roel	Accounting Manager	C/ Morazan
23	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 chemin de la
24	FOLKO	Folk och fä HB	Maria Larsson	Owner	Åkergränd
25	FRANK	Frankenversand	Peter Franken	Marketing Manager	Berliner
26	FRANR	France restauration	Carine Schmitt	Marketing Manager	54 rue L
27	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Molino
28	FURIB	Furia Bacalhau e Frutos do Mar	Lino Rodriguez	Sales Manager	Jardim
29	GALED	Galería del gastronómico	Eduardo Saavedra	Marketing Manager	Rambla de

Succeeded (1 sec 211 ms)

All Lakehouse roles > New role

Role

Data

Member

New role

Data

Select the data you want to assign to this role.

Add data to your role

All data

Selected data

Data preview

Edit

Data	Type	Permissions	Data access
Tables			
> dbo	Schema	Read	
Files			
F1	Folder	Read	
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	ABC	customerID	companyName	contactName	contactTitle	ad...
1	ALFKI		Alfreds Futterkiste	Maria Anders	Sales Representative	Obere S...
2	ANATR		Ana Trujillo Empared...	Ana Trujillo	Owner	Avda. d...
3	ANTON		Antonio Moreno Taq...	Antonio Moreno	Owner	Matade...
4	AROUT		Around the Horn	Thomas Hardy	Sales Representative	120 Ha...
5	BERGS		Berglunds snabbköp	Christina Berglund	Order Administrator	Berguv...
6	BLAUS		Blauer See Delikatess...	Hanna Moos	Sales Representative	Forster...
7	BLONP		Blondesddsl père et f...	Frédérique Citeaux	Marketing Manager	24 plac...
8	BOLID		Bólido Comidas prep...	Martín Sommer	Owner	67C Ara...
9	BONAP		Bon app'	Laurence Lebihan	Owner	12 rue...
10	BOTTM		Bottom-Dollar Mark...	Elizabeth Lincoln	Accounting Manager	23 Tsa...
11	BSBEV		B's Beverages	Victoria Ashworth	Sales Representative	Fauntle...
12	CACTU		Cactus Comidas para...	Patricio Simpson	Sales Agent	Cerrito...
13	CENTC		Centro comercial Mo...	Francisco Chang	Marketing Manager	Sierras...
14	CHOPS		Chop-suey Chinese	Yang Wang	Owner	Hauptst...
15	COMMI		Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. c...
16	CONSH		Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkele...
17	DRACD		Drachenblut Delikate...	Sven Ottlieb	Order Administrator	Walserv...
18	DUMON		Du monde entier	Janine Labrune	Owner	67 rue...
19	EASTC		Eastern Connection	Ann Devon	Sales Agent	35 King...
20	ERNSH		Ernst Handel	Roland Mendel	Sales Manager	Kirchga...
21	FAMIA		Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Or...
22	FISSA		FISSA Fabrica Inter. S...	Diego Roel	Accounting Manager	C/ Mor...
23	FOLIG		Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 cha...
24	FOLKO		Folk och fä HB	Maria Larsson	Owner	Åkerga...
25	FRANK		Frankenversand	Peter Franken	Marketing Manager	Berliner...
26	FRANR		France restauration	Carine Schmitt	Marketing Manager	54 rue...
27	FRANS		Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Mo...
28	FURIB		Furia Bacalhau e Frut...	Lino Rodriguez	Sales Manager	Jardim...
29	GALED		Galería del gastróno...	Eduardo Saavedra	Marketing Manager	Rambla...

Role

Data

Member

New role

Data

Select the data you want to assign to this role.

Add data to your role

All data

Selected data

Data preview

Tables

Data	Type	Permissions	Data access
▼ dbo			
Customers	Table	Read	
EmployeeTerritories	Table	Read	
Employees	Table	Read	
OrderDetails	Table	Read	
Orders	Table	Read	
Products	Table	Read	
Regions	Table	Read	
Shippers	Table	Read	

Edit

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	ABC	customerID	companyName	contactName	contactTitle	ad...
1	ALFKI		Alfreds Futterkiste	Maria Anders	Sales Representative	Obere S...
2	ANATR		Ana Trujillo Empared...	Ana Trujillo	Owner	Avda. d...
3	ANTON		Antonio Moreno Taq...	Antonio Moreno	Owner	Matade...
4	AROUT		Around the Horn	Thomas Hardy	Sales Representative	120 Ha...
5	BERGS		Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvs...
6	BLAUS		Blauer See Delikatess...	Hanna Moos	Sales Representative	Forster...
7	BLONP		Blondesddsl père et f...	Frédérique Citeaux	Marketing Manager	24 plac...
8	BOLID		Bólido Comidas prep...	Martín Sommer	Owner	67C Ara...
9	BONAP		Bon app'	Laurence Lebihan	Owner	12 rue c...
10	BOTTM		Bottom-Dollar Mark...	Elizabeth Lincoln	Accounting Manager	23 Tsaw...
11	BSBEV		B's Beverages	Victoria Ashworth	Sales Representative	Fauntle...
12	CACTU		Cactus Comidas para...	Patricio Simpson	Sales Agent	Cerrito...
13	CENTC		Centro comercial Mo...	Francisco Chang	Marketing Manager	Sierras...
14	CHOPS		Chop-suey Chinese	Yang Wang	Owner	Haupts...
15	COMMI		Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. c...
16	CONSH		Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkele...
17	DRACD		Drachenblut Delikate...	Sven Ottlieb	Order Administrator	Walserv...
18	DUMON		Du monde entier	Janine Labrune	Owner	67 rue c...
19	EASTC		Eastern Connection	Ann Devon	Sales Agent	35 King...
20	ERNSH		Ernst Handel	Roland Mendel	Sales Manager	Kirchgä...
21	FAMIA		Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Or...
22	FISSA		FISSA Fabrica Inter. S...	Diego Roel	Accounting Manager	C/ Mor...
23	FOLIG		Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 cha...
24	FOLKO		Folk och fä HB	Maria Larsson	Owner	Åkergä...
25	FRANK		Frankenversand	Peter Franken	Marketing Manager	Berliner...
26	FRANR		France restauration	Carine Schmitt	Marketing Manager	54 rue l...
27	FRANS		Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Mo...
28	FURIB		Furia Bacalhau e Frut...	Lino Rodriguez	Sales Manager	Jardim...
29	GALED		Galería del gastróno...	Eduardo Saavedra	Marketing Manager	Rambla...

Role

Data

Member

New role

Data

Select the data you want to assign to this role.

Add data to your role

All data

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	ABC customerID	ABC companyName	ABC contactName	ABC contactTitle	ABC address
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Handelsgasse
5	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvägen 9
6	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 74
7	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24 place de la Liberté
8	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	67C Arzobispo
9	BONAP	Bon app'	Laurence Lebihan	Owner	12 rue des Clercs
10	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Close
12	CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 3
13	CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierritas 663
14	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 55
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. das Américas
16	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley 1212
17	DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walsertal 15
18	DUMON	Du monde entier	Janine Labrune	Owner	67 rue des Archives
19	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King Street
20	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6
21	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua do Mercado 12
22	FISSA	FISSA Fabrica Inter. S.A.	Diego Roel	Accounting Manager	C/ Morcilla 47
23	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 chaussée de la Liberté
24	FOLKO	Folk och fä HB	Maria Larsson	Owner	Åkergatan 4
25	FRANK	Frankenversand	Peter Franken	Marketing Manager	Berliner Str. 35
26	FRANR	France restauration	Carine Schmitt	Marketing Manager	54 rue Lavoisier
27	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Montebello 44
28	FURIB	Furia Bacalhau e Frutos do Mar	Lino Rodriguez	Sales Manager	Jardim das Amélias
29	GALED	Galería del gastronómo	Eduardo Saavedra	Marketing Manager	Rambla de Catalunya 2

Succeeded (0 sec 855 ms)

All Lakehouse roles > New role

Role

Data

Member

New role

Data

Select the data you want to assign to this role.

Add data to your role

All data

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You haven't selected any data yet

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	ABC customerID	ABC companyName	ABC contactName	ABC contactTitle	ABC address
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Highway 101
5	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvägen 23
6	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 74
7	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24 place de la Liberté
8	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	67C Arzobispo
9	BONAP	Bon app'	Laurence Lebihan	Owner	12 rue d'Alger
10	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawwassen
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy
12	CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito
13	CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierritas
14	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 55
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. das Américas
16	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley
17	DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walsertal
18	DUMON	Du monde entier	Janine Labrune	Owner	67 rue d'Alger
19	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King Street
20	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6
21	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orsman
22	FISSA	FISSA Fabrica Inter. S.p.A.	Diego Roel	Accounting Manager	C/ Morfín
23	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 rue de la
24	FOLKO	Folk och fä HB	Maria Larsson	Owner	Åkergatan
25	FRANK	Frankenversand	Peter Franken	Marketing Manager	Berliner
26	FRANR	France restauration	Carine Schmitt	Marketing Manager	54 rue L
27	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Mo
28	FURIB	Furia Bacalhau e Frutos do Mar	Lino Rodriguez	Sales Manager	Jardim
29	GALED	Galería del gastronómico	Eduardo Saavedra	Marketing Manager	Rambla

Succeeded (0 sec 855 ms)

All Lakehouse roles > New role

Role

Data

Member

New role

Member

You can add users or groups to roles using their name, email, or a link.

Add members to your role

You can add users or groups to roles using their name, email, or a link.

Aaron Merrill

✓

✕

Advanced Configuration

You have no members in this role

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	ABC customerID	ABC companyName	ABC contactName	ABC contactTitle	ABC address
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avda. de la Constitución 2222
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Matadero 1
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Highway 101
5	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvägen 23
6	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Forsterstr. 74
7	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	24 place de la Liberté
8	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	67C Av. de las Américas
9	BONAP	Bon app'	Laurence Leblan	Owner	12 rue d'Alger
10	BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawwassen Blvd
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Close
12	CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 39
13	CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierritas 663
14	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 55
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. das Américas
16	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley 1212
17	DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walsertal 34
18	DUMON	Du monde entier	Janine Labrune	Owner	67 rue d'Alger
19	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King Street
20	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6
21	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Orfão 45
22	FISSA	FISSA Fabrica Inter. S.A.	Diego Roel	Accounting Manager	C/ Morfín 47
23	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 rue de la Liberté
24	FOLKO	Folk och fä HB	Maria Larsson	Owner	Åkergatan 24
25	FRANK	Frankenversand	Peter Franken	Marketing Manager	Berliner Str. 35
26	FRANR	France restauration	Carine Schmitt	Marketing Manager	54 rue Lavoisier
27	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Morandi 2
28	FURIB	Furia Bacalhau e Frutos do Mar	Lino Rodriguez	Sales Manager	Jardim das Américas
29	GALED	Galería del gastronómo	Eduardo Saavedra	Marketing Manager	Rambla de Catalunya 2

Succeeded (0 sec 855 ms)

All Lakehouse roles > New role

Role

Data

Member

New role Member

You can add users or groups to roles using their name, email, or a link.

Add members to your role

You can add users or groups to roles using their name, email, or a link.

Enter a name or email address

Advanced Configuration

Members	Type	Added Using
Aaron Merrill	User	Email

Back

Create

Fabric

NorthwindLakehouse

Confidential\Any User (No Protection)

Search

Trials activated:

17 days left

15

Home

Materialized lake views

New Spark query

Get data

New semantic model

Open notebook

Add to data agent

Manage OneLake

Explorer

Add lakehouses

NorthwindLakehouse

Tables

dbo

Customers

Employees

EmployeeTerrit...

OrderDetails

Orders

Products

Regions

Shippers

ShortcutCusto...

Suppliers

Territories

Files

F1

F2

orders.csv

Customers

Table view

	ABC customerID	ABC companyName	ABC contactName	ABC contactTitle	ABC ad...
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere S...
2	ANATR	Ana Trujillo Empared...	Ana Trujillo	Owner	Avda. d...
3	ANTON	Antonio Moreno Taq...	Antonio Moreno	Owner	Matade...
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Ha...
5	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguv...
6	BLAUS	Blauer See Delikatess...	Hanna Moos	Sales Representative	Forster...
7	BLONP	Blondesddsl père et f...	Frédérique Citeaux	Marketing Manager	24 plac...
8	BOLID	Bólide Comidas prep...	Martín Sommer	Owner	67C Ara...
9	BONAP	Bon app'	Laurence Lebihan	Owner	12 rue...
10	BOTTM	Bottom-Dollar Mark...	Elizabeth Lincoln	Accounting Manager	23 Tsaw...
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntle...
12	CACTU	Cactus Comidas para...	Patricio Simpson	Sales Agent	Cerrito...
13	CENTC	Centro comercial Mo...	Francisco Chang	Marketing Manager	Sierras...
14	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Haupts...
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. c...
16	CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkele...
17	DRACD	Drachenblut Delikate...	Sven Ottlieb	Order Administrator	Walserv...
18	DUMON	Du monde entier	Janine Labrune	Owner	67 rue...
19	EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King...
20	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchga...
21	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assistant	Rua Or...
22	FISSA	FISSA Fabrica Inter. S...	Diego Roel	Accounting Manager	C/ Mor...
23	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	184 cha...
24	FOLKO	Folk och fä HB	Maria Larsson	Owner	Åkerga...
25	FRANK	Frankenversand	Peter Franken	Marketing Manager	Berliner...
26	FRANR	France restauration	Carine Schmitt	Marketing Manager	54 rue...
27	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representative	Via Mo...
28	FURIB	Furia Bacalhau e Frut...	Lino Rodriguez	Sales Manager	Jardim...
29	GALED	Galería del gastróno...	Eduardo Saavedra	Marketing Manager	Rambla...

Succeeded (0 sec 855 ms)

OneLake security

Manage data access roles in your Lakehouse

Roles are user groups that you can use to grant users access to data in your Lakehouse. On this page, you can create a new role, edit access, or delete a role in your Lakehouse. [Learn more](#)

+ New

Permissions

Duplicate

Delete

Filter by keyword

Role name	Type	Permissions
DemoRole	Grant	Read

Folder level security

Grant access to folders in OneLake

Access inherits to all subfolders and files

Listing access on parent folders is maintained

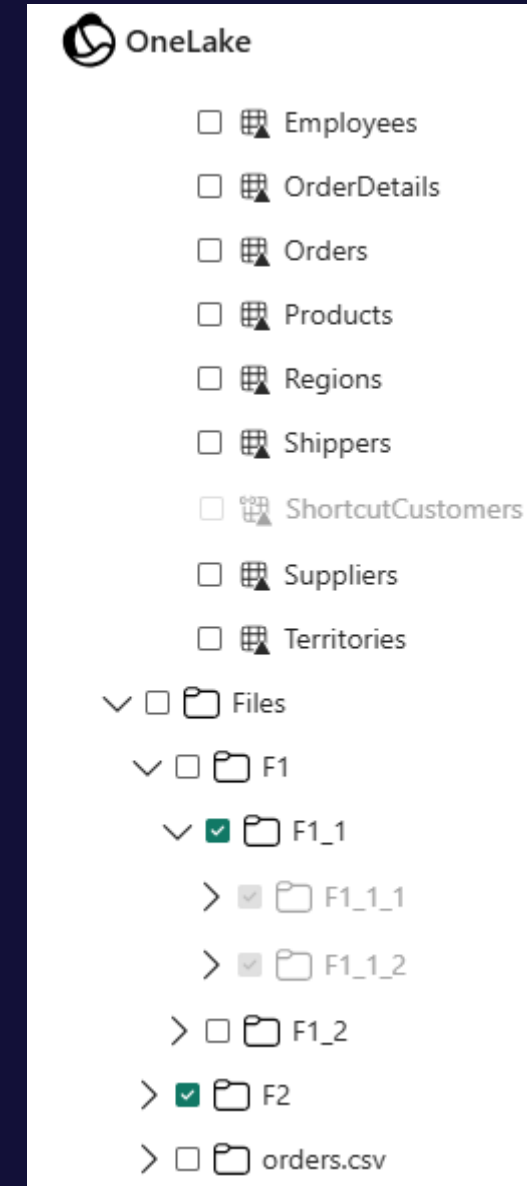
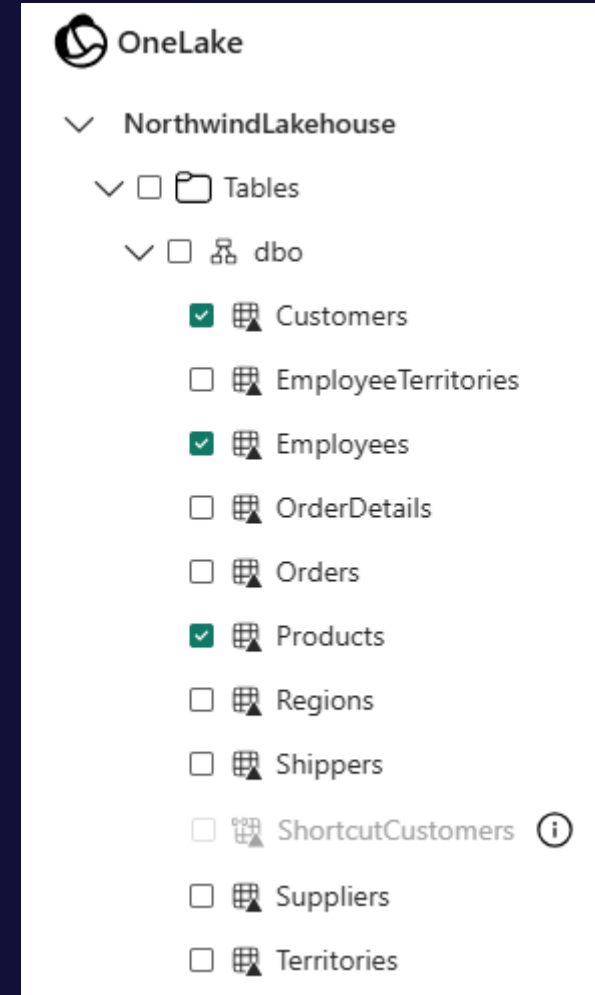


Table level security

Grant access to tables in OneLake.

Access inherits from schemas to all sub-tables

Listing access on parent schemas is maintained



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

Manage table level access for

dbo

Customers

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

Column security

Save

Show data to members of your role if the following rules apply:

```
1 SELECT * FROM Customers WHERE country = 'USA' AND region = 'NorthWest'
```

Column level security

Restrict access to specific columns in a delta-parquet table

Hides both the column name and data

Manage table level access for dbo Customers

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 **Column security**

Remove

☒ Column	Visibility
☒ contactName	Read
contactTitle	Read
address	Read
city	Read
region	Read
postalCode	Read
country	Read
phone	Read
fax	Read

ReadWrite permissions

Elevate access to Viewers by allowing write operations on specific tables or folders.

Use notebooks, APIs, and now the Lakehouse UX to write data.

All Lakehouse roles > New role

Role

Data

Member

New role

Role

Create roles to grant specific groups of users access to selected data in your Lakehouse. [Learn more](#)

Role name *

ReadWrite

Type of role

Apply Read and ReadWrite permissions to your data using Grant roles. [Learn more](#)

Grant

Use this role to give users more permissions.

Select Grant permissions *

Every Grant role has Read permissions by default. You can add ReadWrite access to your data using this role. Each permission selected will be applied to all the data in this role.

☐ Read

☒ ReadWrite

Next

Home

Home

Copilot

Create

Browse

OneLake catalog

Apps

Metrics

Monitor

Learn

Workspaces

OneLakeDemoWorksp...

LoanProcessing

...

Power BI

Get data

New semantic model

Open notebook

Manage materialized lake views (preview)

Manage OneLake data access (preview)

Update all variables

View, upload, and download lakehouse data directly from your desktop using the OneLake app.

Download OneLake app

Explorer

Add lakehouses

LoanProcessing

Tables

dbo

BankEmployees

CityLoans

Dim_Date

Fact_Loans

LoanApplicants

LoanRates

Files

Applications

NE_Branch

NW_Branch

Documents

CityLoans

Table view

	123 CityKey	123 WWICityID	ABC City	ABC StateProvince	ABC Country	ABC Continent	ABC SalesTerritory	ABC Region	ABC Subregion	ABC Location	12L LatestRecor...	ValidFrom	Valid
1	102139	30385	San Isidro	Puerto Rico (US ...	United States	North America	External	Americas	Northern America	POINT (-65.8854...	7101	2014-07-01T16:...	9999-12-...
2	99558	35980	Washington	District of Colum...	United States	North America	Mideast	Americas	Northern America	POINT (-77.0363...	601723	2014-07-01T16:...	9999-12-...
3	104022	35881	Warner	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.8167...	444	2014-07-01T16:...	9999-12-...
4	104029	36652	West Stewartsto...	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.5311...	386	2014-07-01T16:...	9999-12-...
5	104030	36656	West Swanzey	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-72.3217...	1308	2014-07-01T16:...	9999-12-...
6	104032	37030	Whitefield	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.6100...	1142	2014-07-01T16:...	9999-12-...
7	104034	37395	Wilton	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.7350...	1163	2014-07-01T16:...	9999-12-...
8	104035	37410	Winchester	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-72.3831...	1733	2014-07-01T16:...	9999-12-...
9	104038	37652	Wolfeboro	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.2072...	2838	2014-07-01T16:...	9999-12-...
10	104040	37818	Woodsville	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-72.0373...	1126	2014-07-01T16:...	9999-12-...
11	104014	34071	Tilton Northfield	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.5936...	3075	2014-07-01T16:...	9999-12-...
12	104015	34496	Troy	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-72.1811...	1221	2014-07-01T16:...	9999-12-...
13	104018	34805	Union	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.0231...	204	2014-07-01T16:...	9999-12-...
14	104021	35763	Walpole	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-72.4259...	605	2014-07-01T16:...	9999-12-...
15	103825	5839	Center Ossipee	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.1520...	561	2014-07-01T16:...	9999-12-...
16	103826	5847	Center Sandwich	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.4392...	123	2014-07-01T16:...	9999-12-...
17	103827	6082	Charlestown	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-72.4245...	1152	2014-07-01T16:...	9999-12-...
18	103832	6571	Claremont	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-72.3467...	13355	2014-07-01T16:...	9999-12-...
19	103833	7114	Colebrook	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.4959...	1394	2014-07-01T16:...	9999-12-...
20	103834	7251	Columbia	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.5516...	891	2014-07-01T16:...	9999-12-...
21	103835	7375	Concord	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.5375...	42695	2014-07-01T16:...	9999-12-...
22	103836	7454	Contoocook	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.7139...	1444	2014-07-01T16:...	9999-12-...
23	103941	23948	New Hampton	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.6542...	351	2014-07-01T16:...	9999-12-...
24	103943	24031	New London	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.9850...	1415	2014-07-01T16:...	9999-12-...
25	103945	24231	Newfields	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-70.9383...	301	2014-07-01T16:...	9999-12-...
26	103947	24257	Newmarket	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-70.9350...	5297	2014-07-01T16:...	9999-12-...
27	103948	24265	Newport	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-72.1734...	4769	2014-07-01T16:...	9999-12-...
28	103950	24576	North Conway	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.1284...	2349	2014-07-01T16:...	9999-12-...
29	103955	24747	North Walpole	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-72.4481...	828	2014-07-01T16:...	9999-12-...
30	103956	24763	North Woodstock	New Hampshire	United States	North America	New England	Americas	Northern America	POINT (-71.6859...	528	2014-07-01T16:...	9999-12-...

Succeeded (9 sec 301 ms)

Columns 14 Rows 1,000

Announcing: Eventhouse support for OneLake security

Coming soon

The screenshot displays the Microsoft Fabric OneLake Security Eventhouse interface. The left sidebar shows the navigation menu with options like System overview, Databases, Monitoring, and KQL databases. The main area is titled 'Database / Shortcuts / Shortcut: Customers' and features a 'Data Activity Tracker' section with a timeline and a 'Data preview' section showing a table of customer data.

customerID	companyName	contactName	contactTitle	address	city	region	postalCode
ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Obere Str. 57	Berlin	NULL	12209
ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Avenida de la Constitución 2222	México D.F.	NULL	05021
ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023
AROUT	Around the Horn	Thomas Hardy	Sales Representative	120 Hanover Sq.	London	NULL	WA1 1DP
BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Berguvägen 8	Luleå	NULL	S-958 22
BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Fonstern: 57	Mannheim	NULL	68306
BONAP	Blondel père et fils	Frédérique Citeaux	Marketing Manager	24 place Kléber	Strasbourg	NULL	67000
BOLID	Bólido Comidas preparadas	Martin Sommer	Owner	67C Araquil	Madrid	NULL	28023
BONAP	Bon app'	Laurence Leblanc	Owner	12 rue des Bouchers	Marseille	NULL	13008
BOTTM	Bottom-Dollar Markets	Elizabeth Lincoln	Accounting Manager	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4
BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	Fauntleroy Circus	London	NULL	EC2 5NT
CACTU	Cactus Comidas para llevar	Patricio Simpson	Sales Agent	Cerrito 333	Buenos Aires	NULL	1010
CENTC	Centro comercial Moctezuma	Francisco Chang	Marketing Manager	Sierras de Granada 9993	México D.F.	NULL	05022
CHOPS	Chop-suey Chinese	Yang Wang	Owner	Hauptstr. 29	Bern	NULL	3012
COMMI	Comércio Mineiro	Pedro Alfonso	Sales Associate	23 Av. dos Lusíadas	Sao Paulo	SP	05432-043
CONSH	Consolidated Holdings	Elizabeth Brown	Sales Representative	Berkeley Gardens 12 Brewery	London	NULL	WX1 6LT
DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Walserweg 21	Aachen	NULL	52066
DUMON	Du monde entier	Janine Labruno	Owner	67 rue des Cinquante Otages	Nantes	NULL	44000
EASTC	Eastern Connection	Ann Devon	Sales Agent	35 King George	London	NULL	WX3 6FW

OneLake security support for Eventhouse external tables.

Query sensitive event data at scale with table and row level security.

Available soon in preview.

Fabric

NorthwindTest

Search

Trials activated: 9 days left

1

Lakehouse

Share

Home

Get data

New semantic model

Open notebook

Add to data agent

Manage materialized lake views (preview)

Manage OneLake security (preview)

Update all variables

Explorer

Add lakehouses

NorthwindTest

Tables

dbo

Customers

Employees

EmployeeTerrit...

OrderDetails

Orders

Products

Regions

Shippers

ShortcutCusto...

Suppliers

Territories

Files

NewFolder

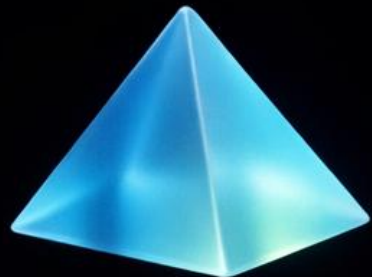
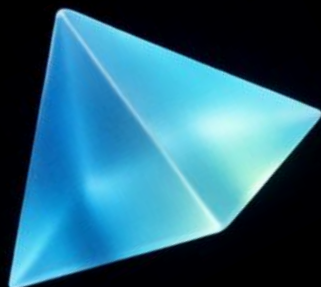
Customers

Table view

	ABC customerID	ABC companyNa...	ABC contactName	ABC contactTitle	ABC address	ABC city	ABC region	ABC postalCode	ABC country	ABC phone	ABC fax	ABC otherCompa...	ABC othe
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representa...	Obere Str. 57	Berlin	NULL	12209	Germany	030-0074321	030-0076545	Alfreds Futterkiste	Alfreds F
2	ANATR	Ana Trujillo Emp...	Ana Trujillo	Owner	Avda. de la Cons...	México D.F.	NULL	05021	Mexico	(5) 555-4729	(5) 555-3745	Ana Trujillo Emp...	Ana Truji
3	ANTON	Antonio Moreno ...	Antonio Moreno	Owner	Mataderos 2312	México D.F.	NULL	05023	Mexico	(5) 555-3932	NULL	Antonio Moreno ...	Antonio
4	AROUT	Around the Horn	Thomas Hardy	Sales Representa...	120 Hanover Sq.	London	NULL	WA1 1DP	UK	(171) 555-7788	(171) 555-6750	Around the Horn	Around t
5	BERGS	Berglunds snabb...	Christina Berglund	Order Administra...	Berguvsvägen 8	Luleå	NULL	S-958 22	Sweden	0921-12 34 65	0921-12 34 67	Berglunds snabb...	Berglund
6	BLAUS	Blauer See Delika...	Hanna Moos	Sales Representa...	Forsterstr. 57	Mannheim	NULL	68306	Germany	0621-08460	0621-08924	Blauer See Delika...	Blauer Se
7	BLONP	Blondesddsl për...	Frédérique Citeaux	Marketing Mana...	24 place Kléber	Strasbourg	NULL	67000	France	88.60.15.31	88.60.15.32	Blondesddsl për...	Blondesc
8	BOLID	Bólido Comidas ...	Martín Sommer	Owner	67C Araquil	Madrid	NULL	28023	Spain	(91) 555 22 82	(91) 555 91 99	Bólido Comidas ...	Bólido Cr
9	BONAP	Bon app'	Laurence Lebihan	Owner	12 rue des Bouc...	Marseille	NULL	13008	France	91.24.45.40	91.24.45.41	Bon app'	Bon app'
10	BOTTM	Bottom-Dollar M...	Elizabeth Lincoln	Accounting Man...	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	(604) 555-4729	(604) 555-3745	Bottom-Dollar M...	Bottom-l
11	BSBEV	B's Beverages	Victoria Ashworth	Sales Representa...	Fauntleroy Circus	London	NULL	EC2 5NT	UK	(171) 555-1212	NULL	B's Beverages	B's Bever
12	CACTU	Cactus Comidas ...	Patricio Simpson	Sales Agent	Cerrito 333	Buenos Aires	NULL	1010	Argentina	(1) 135-5555	(1) 135-4892	Cactus Comidas ...	Cactus C
13	CENTC	Centro comercial...	Francisco Chang	Marketing Mana...	Sierras de Grana...	México D.F.	NULL	05022	Mexico	(5) 555-3392	(5) 555-7293	Centro comercial...	Centro cr
14	CHOPS	Chop-suey Chine...	Yang Wang	Owner	Hauptstr. 29	Bern	NULL	3012	Switzerland	0452-076545	NULL	Chop-suey Chine...	Chop-sui
15	COMMI	Comércio Mineiro	Pedro Afonso	Sales Associate	23 Av. dos Lusá...	Sao Paulo	SP	05432-043	Brazil	(11) 555-7647	NULL	Comércio Mineiro	Comércic
16	CONSH	Consolidated Ho...	Elizabeth Brown	Sales Representa...	Berkeley Garden...	London	NULL	WX1 6LT	UK	(171) 555-2282	(171) 555-9199	Consolidated Ho...	Consolid
17	DRACD	Drachenblut Deli...	Sven Ottlieb	Order Administra...	Walserweg 21	Aachen	NULL	52066	Germany	0241-039123	0241-059428	Drachenblut Deli...	Drachent
18	DUMON	Du monde entier	Janine Labrune	Owner	67 rue des Cinqu...	Nantes	NULL	44000	France	40.67.88.88	40.67.89.89	Du monde entier	Du monc
19	EASTC	Eastern Connecti...	Ann Devon	Sales Agent	35 King George	London	NULL	WX3 6FW	UK	(171) 555-0297	(171) 555-3373	Eastern Connecti...	Eastern C
20	ERNSH	Ernst Handel	Roland Mendel	Sales Manager	Kirchgasse 6	Graz	NULL	8010	Austria	7675-3425	7675-3426	Ernst Handel	Ernst Har
21	FAMIA	Familia Arquibaldo	Aria Cruz	Marketing Assist...	Rua Orós 92	Sao Paulo	SP	05442-030	Brazil	(11) 555-9857	NULL	Familia Arquibaldo	Familia A
22	FISSA	FISSA Fabrica Int...	Diego Roel	Accounting Man...	C/ Moralzarzal 86	Madrid	NULL	28034	Spain	(91) 555 94 44	(91) 555 55 93	FISSA Fabrica Int...	FISSA Fal
23	FOLIG	Folies gourmand...	Martine Rancé	Assistant Sales A...	184 chaussée de ...	Lille	NULL	59000	France	20.16.10.16	20.16.10.17	Folies gourmand...	Folies go
24	FOLKO	Folk och få HB	Maria Larsson	Owner	Åkergatan 24	Bräcke	NULL	S-844 67	Sweden	0695-34 67 21	NULL	Folk och få HB	Folk och
25	FRANK	Frankenversand	Peter Franken	Marketing Mana...	Berliner Platz 43	München	NULL	80805	Germany	089-0877310	089-0877451	Frankenversand	Frankenv
26	FRANR	France restaurati...	Carine Schmitt	Marketing Mana...	54 rue Royale	Nantes	NULL	44000	France	40.32.21.21	40.32.21.20	France restaurati...	France re
27	FRANS	Franchi S.p.A.	Paolo Accorti	Sales Representa...	Via Monte Bianc...	Torino	NULL	10100	Italy	011-4988260	011-4988261	Franchi S.p.A.	Franchi S
28	FURIB	Fúria Bacalhau e ...	Lino Rodriguez	Sales Manager	Jardim das rosas ...	Lisboa	NULL	1675	Portugal	(1) 354-2534	(1) 354-2535	Fúria Bacalhau e ...	Fúria Bac
29	GALED	Galería del gastr...	Eduardo Saavedra	Marketing Mana...	Rambla de Catal...	Barcelona	NULL	08022	Spain	(93) 203 4560	(93) 203 4561	Galería del gastr...	Galería d
30	GODOS	Godos Cocina Tí...	José Pedro Freyre	Sales Manager	C/ Romero 33	Sevilla	NULL	41101	Spain	(95) 555 82 82	NULL	Godos Cocina Tí...	Godos Ci
31	GOURL	Gourmet Lanchos...	André Fonseca	Sales Associate	Av. Brasil 442	Campinas	SP	04876-786	Brazil	(11) 555-9482	NULL	Gourmet Lanchos...	Gourmet

Succeeded (1 sec 571 ms)

Columns 13 Rows 91



Deep dive

Under the Hood

OneLake Catalog & CRUD



Admin

Role 1

WHO: User A, Group X

WHAT: Read

TARGET: Sales (all cols)

CRUD Operations

Roles stored in OneLake Catalog

Managed via UX or REST API

Each role: WHO + WHAT + TARGET



CRUD

Revenue Lakehouse

Sales

Customers



OneLake Catalog

Security Roles

Role 1

WHO: User A, Group X

WHAT: Read

TARGET: Sales (all cols)

Under the Hood

OneLake Catalog & CRUD



Admin

Role 2

WHO: User B

WHAT: Read

TARGET: Customers (col1,col2)

CRUD Operations

Roles stored in OneLake Catalog

Managed via UX or REST API

Each role: WHO + WHAT + TARGET



OneLake

CRUD

Revenue Lakehouse

Sales

Customers



OneLake Catalog

Security Roles

Role 1

WHO: User A, Group X

WHAT: Read

TARGET: Sales (all cols)

Role 2

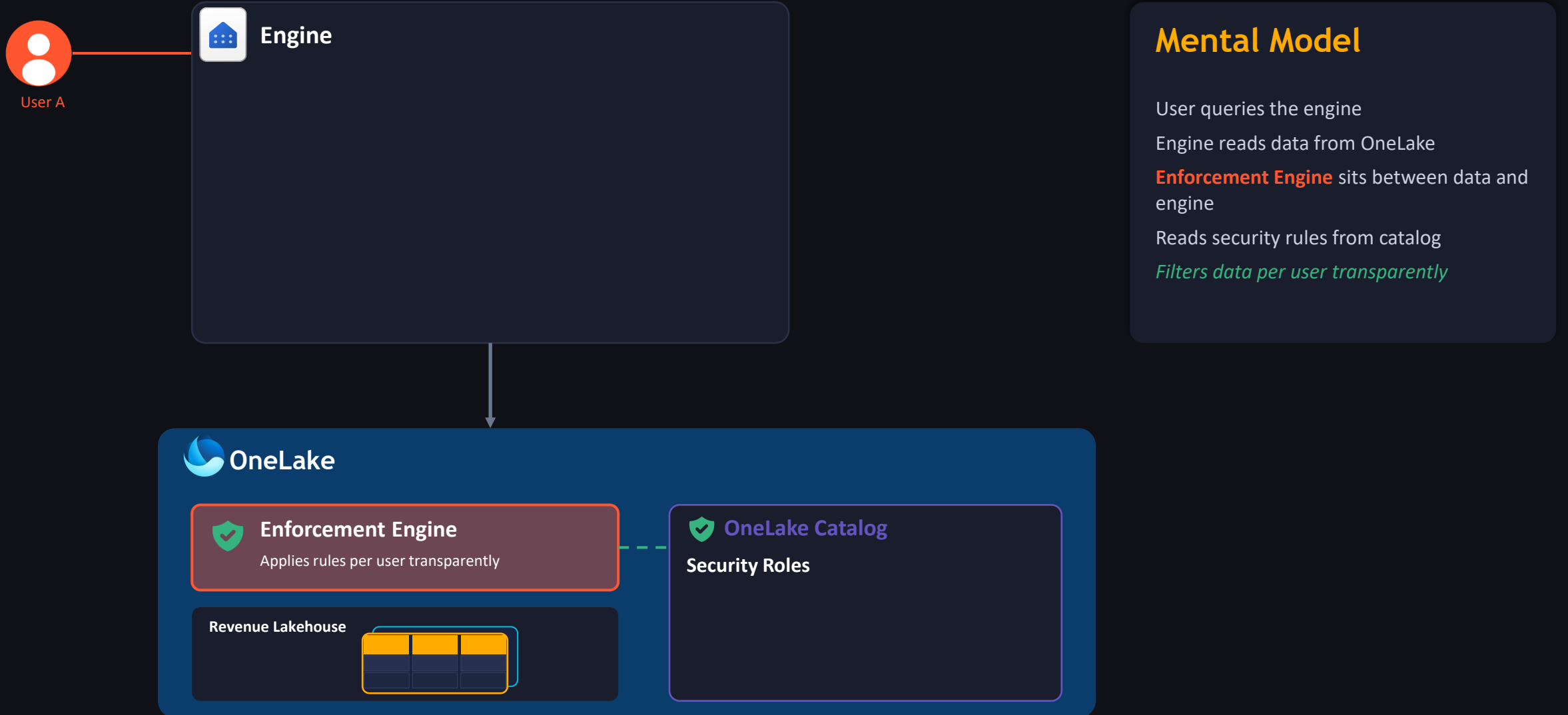
WHO: User B

WHAT: Read

TARGET: Customers (col1,col2)

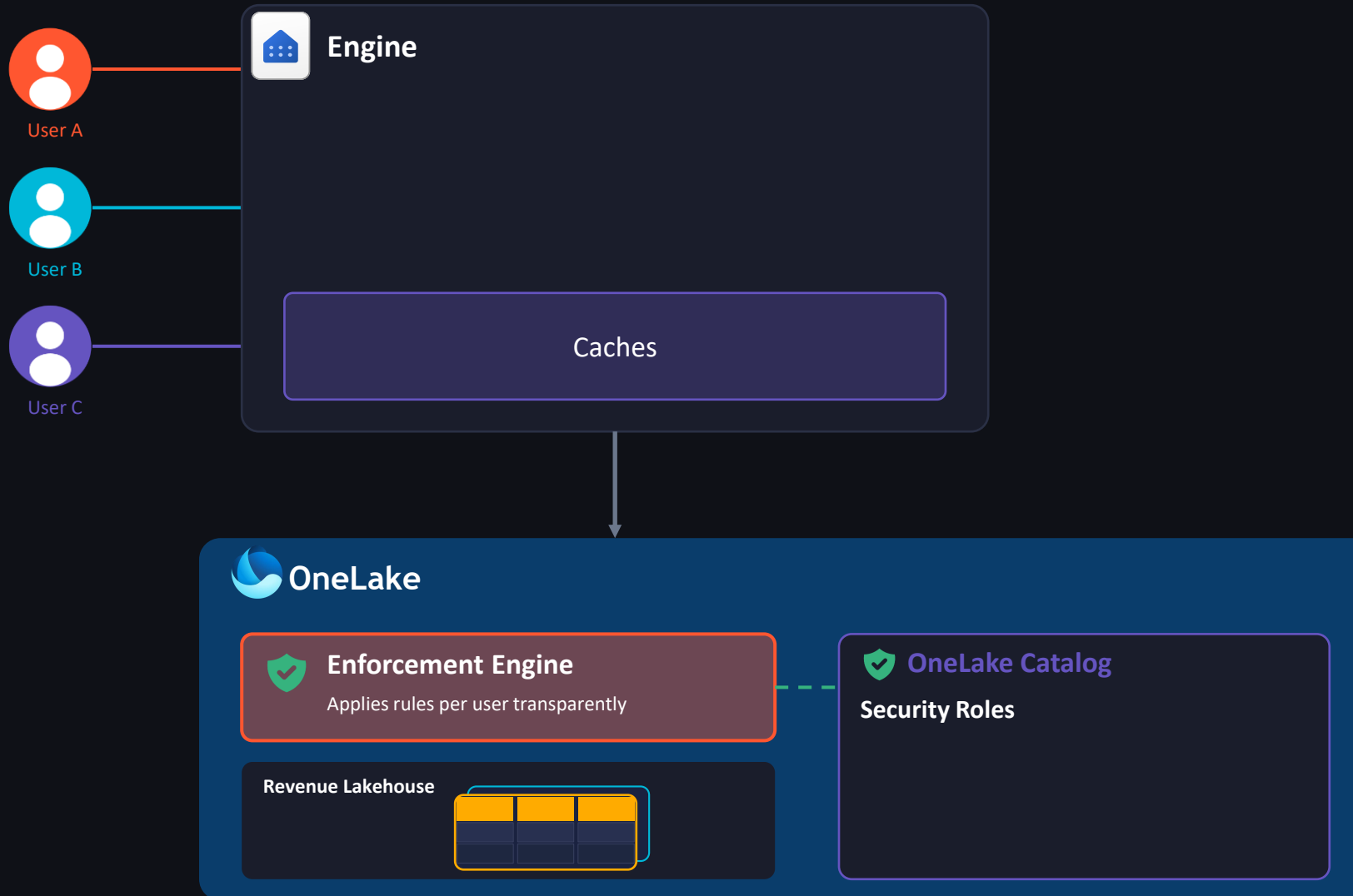
Under the Hood

Runtime: Mental Model



Under the Hood

The Caching Problem



The Problem

Multiple users hit the engine

Engines have CACHES

If enforcement is in OneLake...

Engine caches raw data

Can't cache filtered views per user!

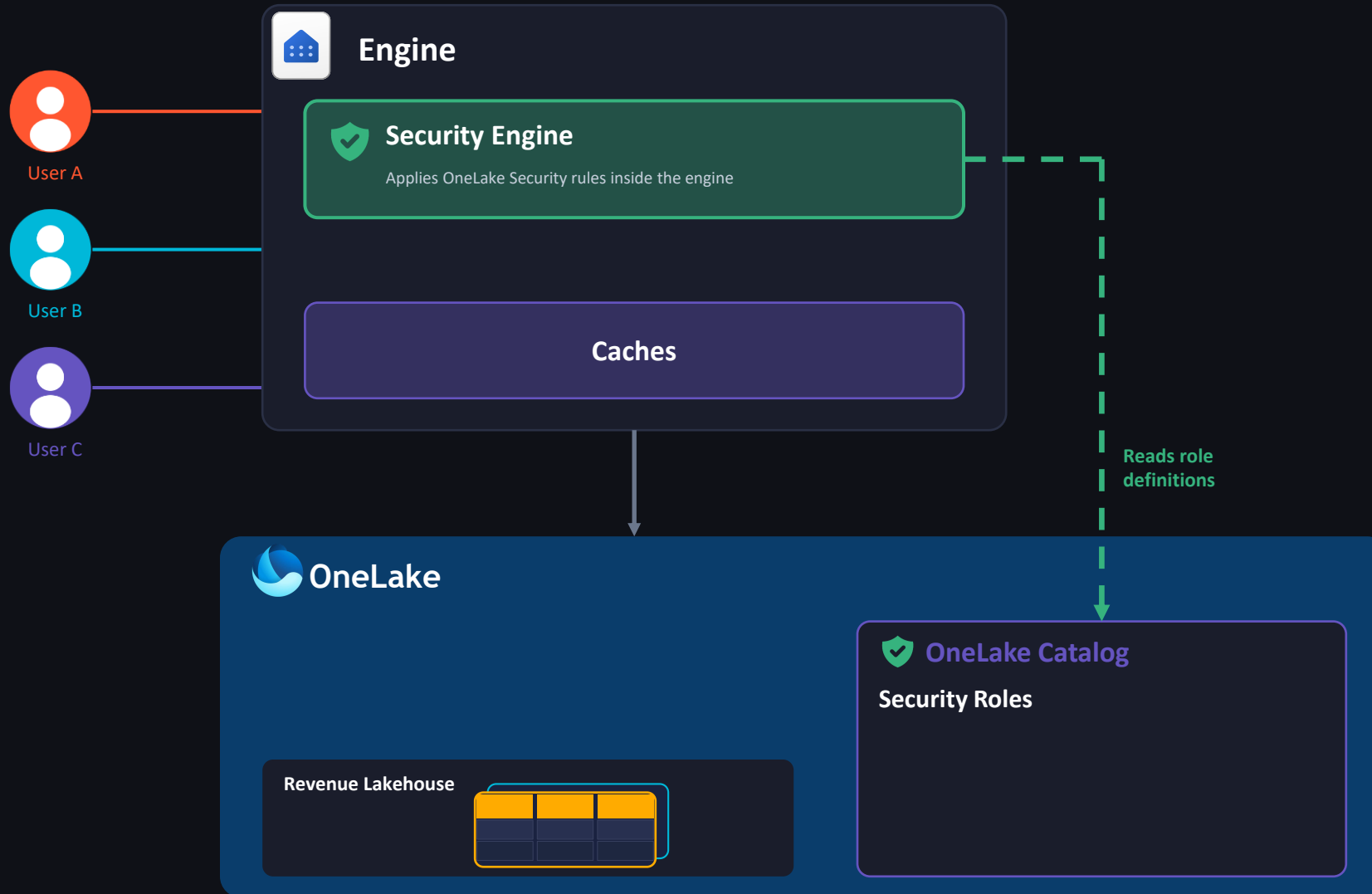
Engine has NO visibility into the rules

→ *Caching becomes impossible*

→ *Performance disaster*

Under the Hood

Runtime: The Real Model



The Real Model

Security Engine moves INSIDE the engine

Reads role definitions from OneLake Catalog via CRUD interface

Applies rules at query time

Engine caches work normally!

Security-aware caching

Engine knows the rules → can cache filtered views per user

Performance preserved

Security enforced

Under the Hood

Engine Integration Challenges — Metadata Merging

The Challenge

Each role defines table visibility

A user can be in MULTIPLE roles

Engine must MERGE metadata

→ Compute union of table access

Per user, at query time

Legend

— Not specified

✓ Allowed

🕒 / 🕒 Partly allowed

✗ Strongly denied

Role 1

Table 1 ✓

Table 2 🕒

Table 3 ✓

Table 4 —

Table 5 —

Table 6 —

Table 7 ✗

Table 8 ✓

Table 9 —

Role 2

Table 1 —

Table 2 🕒

Table 3 —

Table 4 —

Table 5 ✓

Table 6 —

Table 7 ✓

Table 8 —

Table 9 ✗

Under the Hood

Engine Integration Challenges — Metadata Merging

The Challenge

Each role defines table visibility

A user can be in MULTIPLE roles

Engine must MERGE metadata

→ Compute union of table access

Per user, at query time

Legend

— Not specified

✓ Allowed

🕒 / 🕒 Partly allowed

✗ Strongly denied

Role 1	Role 2	Merged
Table 1 ✓	Table 1 —	Table 1 ✓
Table 2 🕒	Table 2 🕒	Table 2 🕒
Table 3 ✓	Table 3 —	Table 3 ✓
Table 4 —	Table 4 —	Table 4 —
Table 5 —	Table 5 ✓	Table 5 ✓
Table 6 —	Table 6 —	Table 6 —
Table 7 ✗	Table 7 ✓	Table 7 ✗
Table 8 ✓	Table 8 —	Table 8 ✓
Table 9 —	Table 9 ✗	Table 9 ✗

User in both roles

Under the Hood

Engine Integration Challenges — Shortcuts Complicate Merging

✓ Metadata merging

► Metadata merging with shortcuts

Role1: who=developers, target=dbo/*

Role2: who=architects, target=Table2, Table7



OneLake

Lakehouse 1

Table1

Table2 (shortcut)

Table3

...

Role1_equivalent: who=developers, target=Table1, Table3, ...

Role2_inferred: who=architects, target=Table2 (shortcut)

Lakehouse 2

...

Table2

_delta_log

file1.parquet

Table5

...

Engine must resolve shortcuts → infer cross-LH roles!

Under the Hood

Engine Integration Challenges — Deny & Exclusion

- ✓ Metadata merging
- ✓ Metadata merging with shortcuts
- ▶ **Strong deny & exclusion lists**

Role_dlp

WHO: not FTE

WHAT: deny read

TARGET: dbo/Salaries

HrRole

WHO: HR_department

WHAT: read

TARGET: dbo/*



Under the Hood

Engine Integration Challenges — Deny & Exclusion

- ✓ Metadata merging
- ✓ Metadata merging with shortcuts
- **Strong deny & exclusion lists**

Role_dlp

WHO: not FTE
WHAT: deny read
TARGET: dbo/Salaries

HrRole

WHO: HR_department
WHAT: read
TARGET: dbo/*

Strong Deny

DENY overrides GRANT (not just absence of grant)

Engines typically only implement GRANT

Must add deny-evaluation logic to security subsystem

- Exclusion Lists

WHO defined by EXCLUSION: "not FTE"

Engine must resolve group membership + exclusion

Not typical in today's engine security models

Impact on Engine Integration

Every engine must implement:

- Deny-before-grant evaluation order
- Group membership resolution
- Exclusion list processing
- **Deny + exclusion + shortcuts = combinatorial explosion**

Not every engine has these primitives!



Under the Hood

Engine Integration Challenges — RLS: Simple Case

- ✓ Metadata merging
- ✓ Metadata merging with shortcuts
- ✓ Strong deny & exclusion lists
- ▶ **RLS calculation**

⌕ Simple RLS — WHERE clause injection

```
select * from table where <column> <op> <value> ...
```

```
select * from Sales where (Amount > 100) and (Discount < 0.1)
```

Engine must inject WHERE predicates per user based on OneLake role definitions



Under the Hood

Engine Integration Challenges — RLS: JOINS Required

- ✓ Metadata merging
- ✓ Metadata merging with shortcuts
- ✓ Strong deny & exclusion lists
- ▶ **RLS calculation**

</> Complex RLS — JOINS with lookup tables

```
select * from table
  left outer join lookup_table on ...
  left outer join lookup_table on ...
where <column> <op> <value> ...
```

```
select * from Sales
  left outer join Customers on Sales.CustomerId = Customers.Id
  left outer join Geography on Customer.GeographyId = Geography.Id
where (Sales.Amount > 100) and (Geography.State = 'WA')
```

Engine must resolve cross-table JOINS, lookup tables, and apply multi-predicate filters — per user, per query



Under the Hood

Engine Integration Challenges — RLS Across Shortcuts

- ✓ Metadata merging
- ✓ Metadata merging with shortcuts
- ✓ Strong deny & exclusion lists
- ✓ RLS calculation
- ▶ **RLS across shortcuts**

JOINS span across lakehouses via shortcuts!
Engine must resolve shortcut targets + apply RLS from both LH catalogs



OneLake

Lakehouse 1

Table1

Table2 (shortcut)

Table3

Lakehouse 2

Table2

Table5

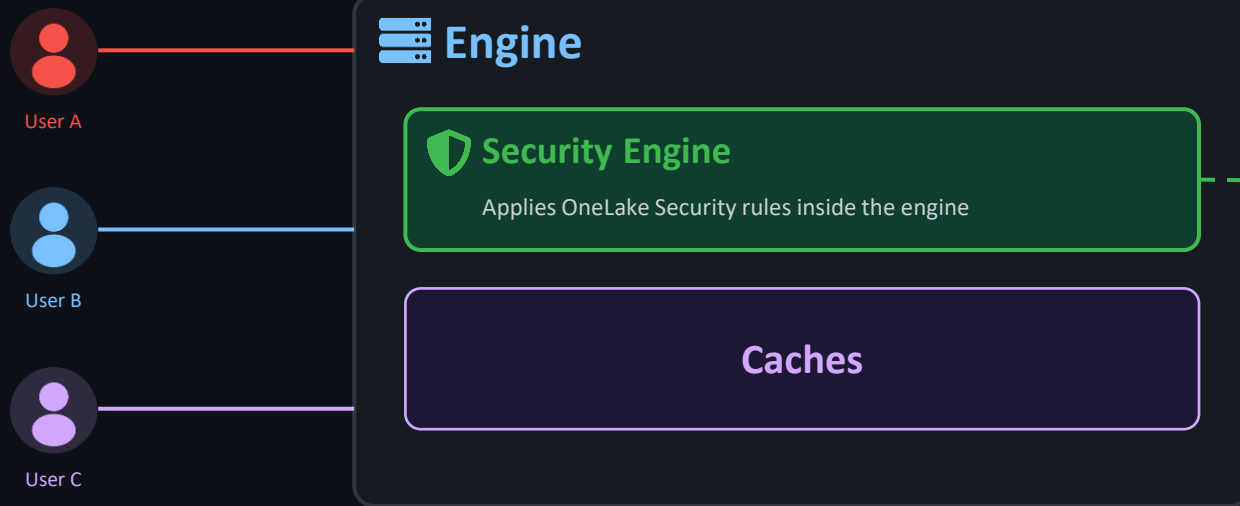
```
select * from Table2 left outer join Table5 on Table2.CustomerId = Table5.Id where (Table2.Amount > 100) and (Table5.State = 'WA')
```



Under the Hood

Recap — The Real Model

- ✓ Metadata merging
- ✓ Metadata merging with shortcuts
- ✓ Strong deny & exclusion lists
- ✓ RLS calculation
- ✓ RLS across shortcuts



After all the challenges...

- ✓ Metadata merging
- ✓ Shortcuts complicate merging
- ✓ Strong deny & exclusion
- ✓ RLS calculation
- ✓ RLS across shortcuts

How does the Security Engine actually solve these?

Enter the OneLake Security Engine →



Revenue Lakehouse



✓ OneLake Catalog
Security Roles



Under the Hood

Introducing the OneLake Security Engine (OLSE)



OneLake Security Engine

A dedicated engine inside OneLake that solves the hard security problems for all compute engines.



Normalized Metadata

Merges role definitions, resolves shortcuts, computes effective table/column visibility per user



RLS Handling

Computes per-file bitmaps from RLS predicates and caches them for fast retrieval



Monitor Changes

Watches for changes in security definitions, role membership, and group membership



Under the Hood

Introducing the OneLake Security Engine (OLSE)



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Monitor Changes

Watches for changes in security definitions, role membership, and group membership



Compute Engine (e.g., Spark)



Compute Engine Security Engine (CESE)

Integrates with OLSE to apply security at query time

Caches (full data)

GetBitmapLocators()
GetNormalizedMetadata()



OneLake



OneLake Security Engine (OLSE)

Normalized metadata • RLS bitmaps • Change monitoring
+ Caches bitmaps per role per file



OneLake Catalog

Security Roles



Under the Hood

How RLS Gets Exposed to Engines — Bitmap

Role 1

```
select * from Sales
  left outer join Customers on Sales.CustomerId =
    Customers.Id
where (Sales.Amount > 100) and (Customers.State = 'WA')
```

OLSE reads the RLS predicate from the role definition

Evaluates the predicate against each parquet file

Produces a bitmap per file: **1** = row allowed, 0 = row excluded

**Bitmaps are cached by OLSE
for fast retrieval!**



OneLake Security Engine (OLSE)

Reads role → evaluates predicate → computes bitmap per parquet file



OneLake Catalog Security Roles





Under the Hood

How RLS Gets Exposed to Engines — Bitmap

Role 2

```
select * from Sales where Discount < 0.1
```

Each role gets its own bitmap

Role 2 has a simpler predicate — no JOINS needed

Different rows are selected compared to Role 1

Key Insight

OLSE handles the complex JOIN evaluation,
predicate resolution, and cross-table lookups.
The compute engine never sees the RLS predicates!



OneLake Security Engine (OLSE)

Bitmap per role, per parquet file → cached!

Sales

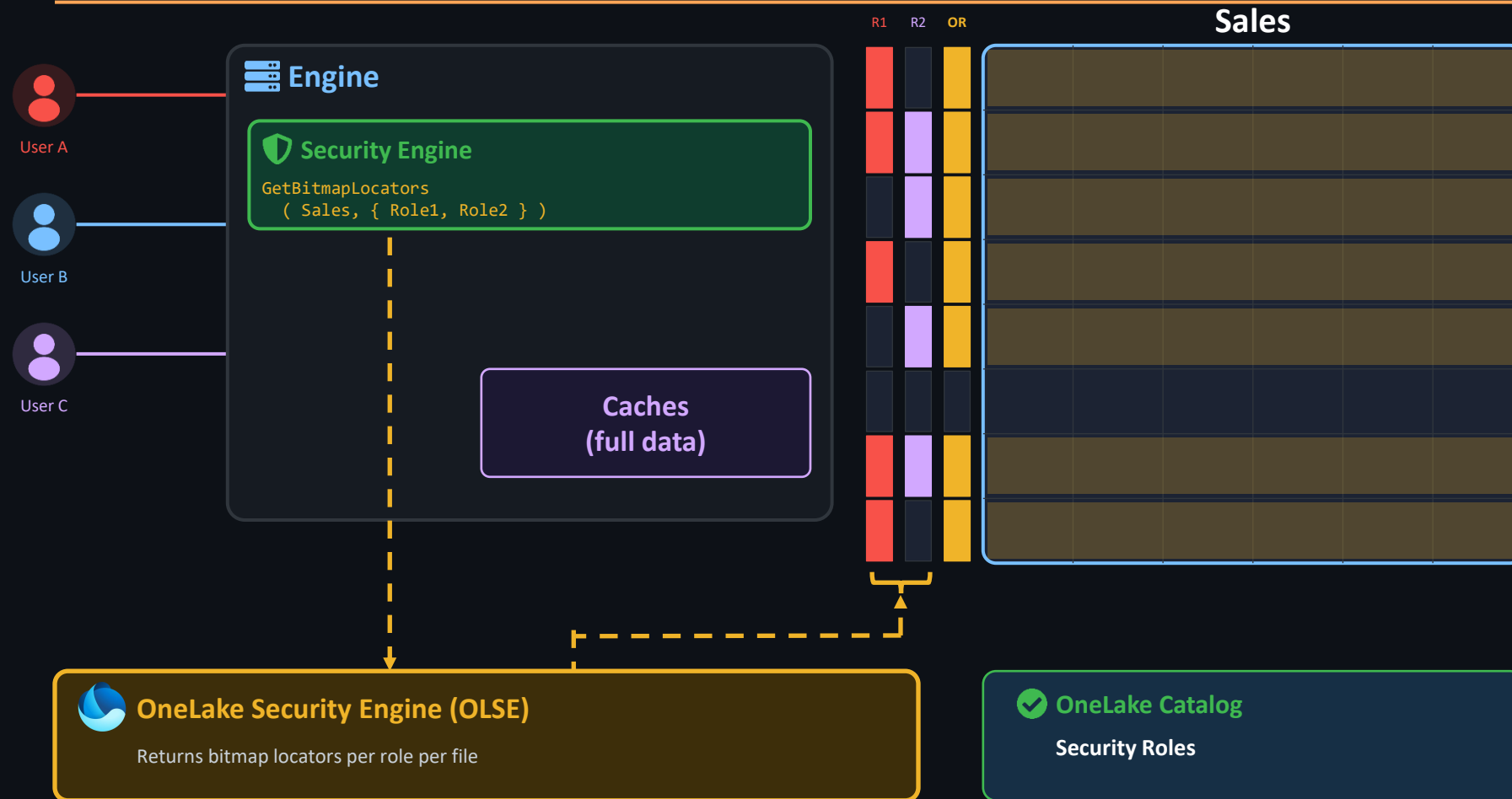


OneLake Catalog
Security Roles



Under the Hood

How RLS Gets Exposed to Engines — Bitmap



Easy Peasy!

1. Compute Engine calls OLSE:

`GetBitmapLocators`

2. OLSE returns

bitmap per role/file

3. Compute Engine applies:

`bitmap OR`

→ filters rows

No predicate parsing!

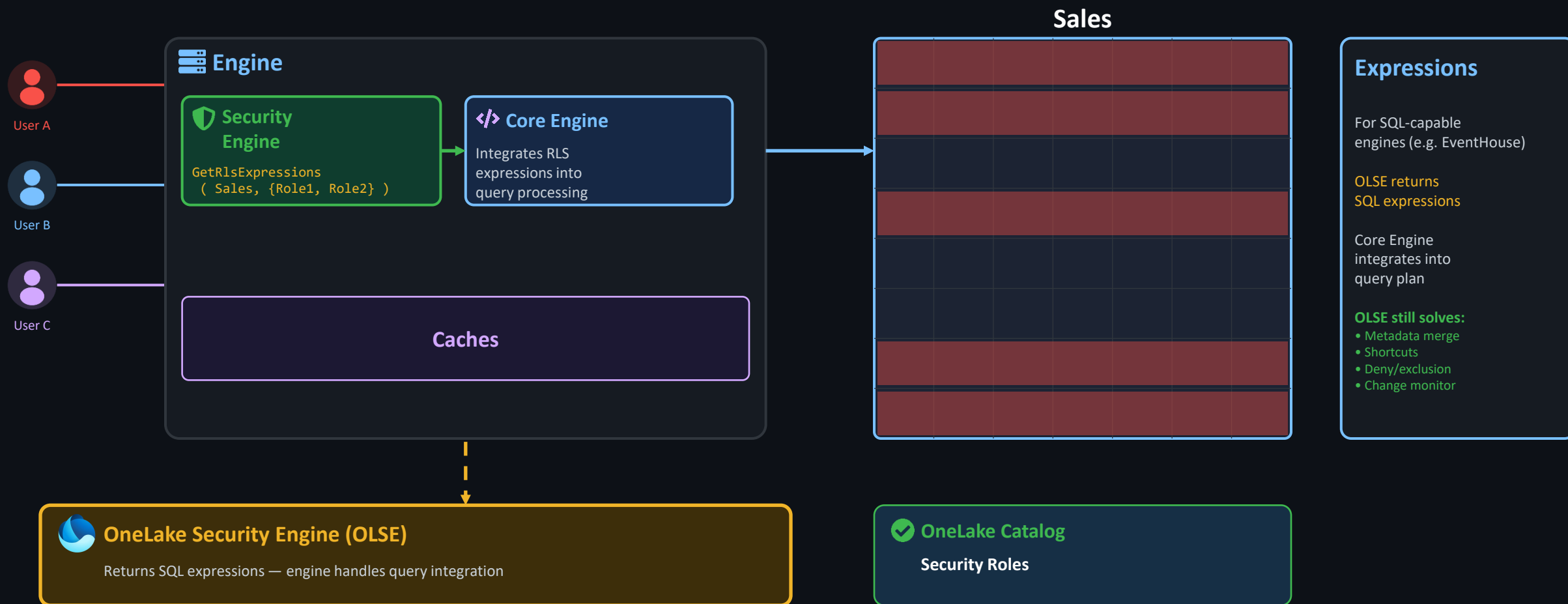
No JOIN evaluation!

Just bitmaps.



Under the Hood

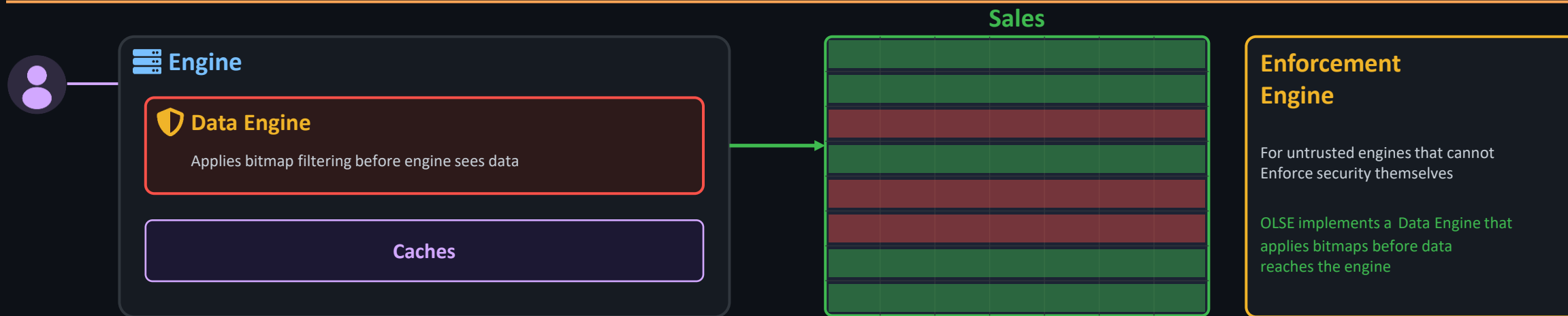
How RLS Gets Exposed to Engines — Expressions





Under the Hood

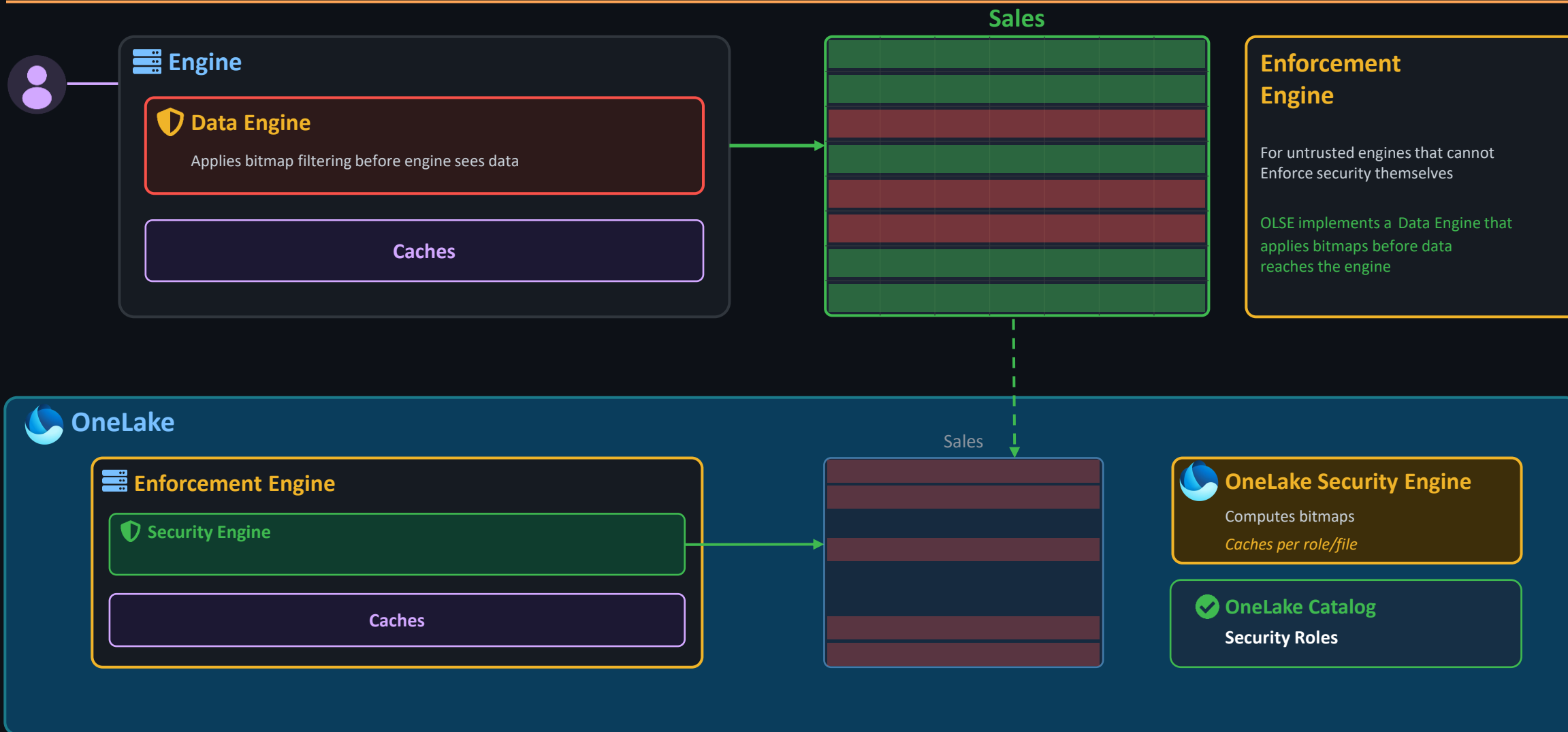
How RLS Gets Exposed to Engines — Enforcement Engine

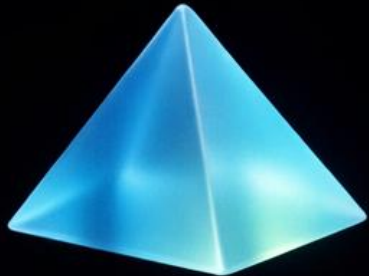
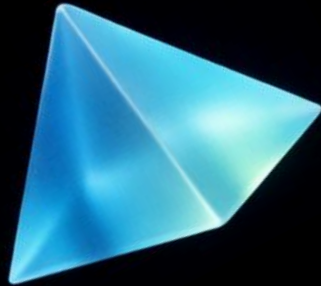




Under the Hood

How RLS Gets Exposed to Engines — Enforcement Engine





Programmatic and
agentic access

OneLake security - APIs

Role management APIs

Generally available

GET `workspaces/{workspaceId}/items/{itemId}/dataAccessRoles`

PUT `workspaces/{workspaceId}/items/{itemId}/dataAccessRoles`

Public preview

CRUD APIs

GET `dataAccessRoles/{roleName}`

POST `dataAccessRoles/`

DELETE `dataAccessRoles/{roleName}`

OneLake security - APIs

Audit APIs

Public preview

GET dataAccessRoles/userRoles

GET dataAccessRoles/userAccess

Response Headers ¹¹ Timeline Tests

```
1 {
2   "roles": [
3     {
4       "name": "ReadWriteSales"
5     },
6     {
7       "name": "ReadCustomers"
8     },
9     {
10      "name": "DefaultReader"
11    },
12    {
13      "name": "DefaultReadWriter"
14    }
15  ]
16 }
```


OneLake security - APIs

Audit APIs

Public preview

GET dataAccessRoles/userRoles

GET dataAccessRoles/userAccess

```
1  {
2    "permittedScope": {
3      "permittedPaths": [
4        {
5          "access": "Read",
6          "paths": [
7            "/Tables/dbo/T1"
8          ]
9        },
10       {
11         "access": "ReadWrite",
12         "paths": [
13           "/Tables/dbo/T2"
14         ]
15       }
16     ],
17   },
18   "constraints": {
19     "columnConstraints": [],
20     "rowConstraints": []
21   },
22   "deniedScope": {
23     "deniedPaths": []
24   }
25 }
```

OneLake security – agentic access

New!

OneLake security SKILL.md

Available at aka.ms/OneLakeSkills

Add Context...

Summarize the access of role NewRole5



Claude Sonnet 4.6



Add Context...

Create a new role called DemoRole that grants access to all the Tables in the lakehouse. Grant Cristian Petculescu access to this role, and set the role permission to be ReadWrite



Claude Sonnet 4.6



FileEditSelectionViewGoRun

CopilotWorkspace

5

EXPLORER

COPILOTWORKSPACE

.github

copilot-instructions.md

OUTLINE

TIMELINE

SWAGGER/OPENAPI FILES

BRUNO COLLECTIONS

METADATA

GitHub Copilot

GitHub Copilot v1.0.4-2

Copilot uses AI. Check for mistakes.

Environment loaded: 1 custom instruction, 1 MCP server, 1 plugin, 1 skill, Visual Studio Code connected

~\OneDrive - Microsoft\Documents\CopilotWorkspace

claude-opus-4.6 (high) (3x)

Type @ to mention files, # for issues/PRs, / for commands, or ? for shortcuts

shift+tab switch mode

Unlimited reqs.

CHAT

SESSIONS

List OneLake Roles In AdventureWorks

Completed in 5 mins

5 mins

List OneLake Security Roles

Completed in 4 mins

33 mins

Initialize Session

Completed in 4 mins

44 mins

More

Tip: Use /create-skill to create a skill the agent can load when relevant.

Describe what to build next

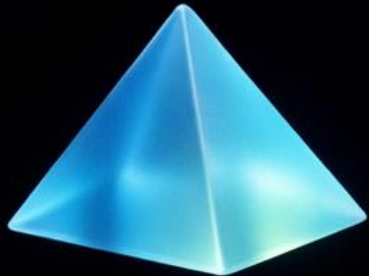
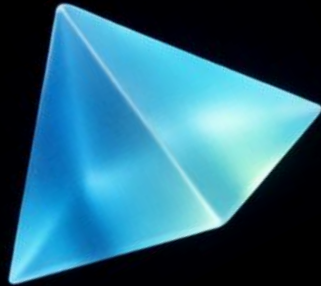
+ Claude Opus 4.6

Update is ready, click to restart.



Search





Interoperable
security

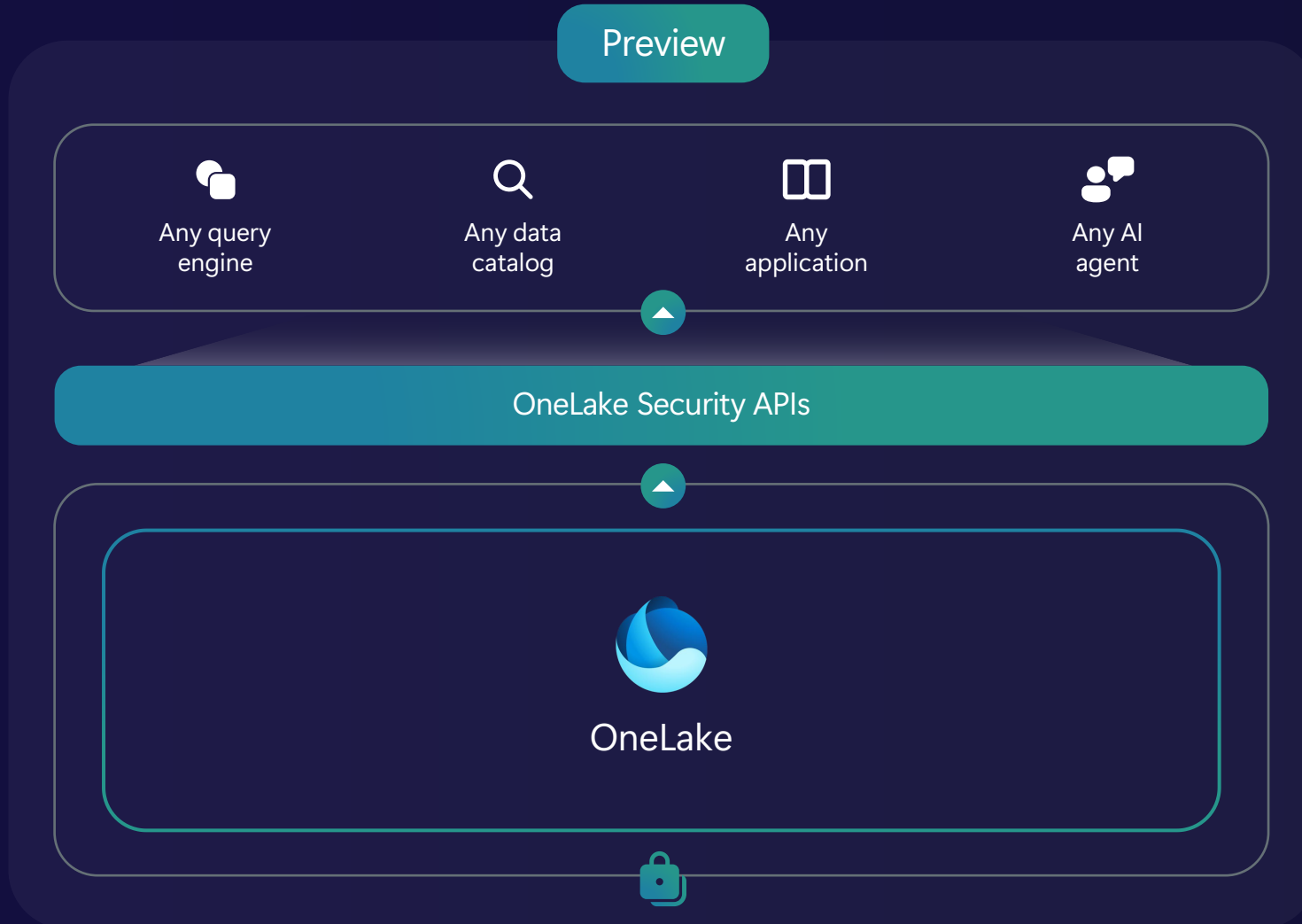
OneLake security whitepaper



Download now at:

<https://aka.ms/OneLake-Security-Whitepaper>

Announcing: Any Engine can Integrate with OneLake security!



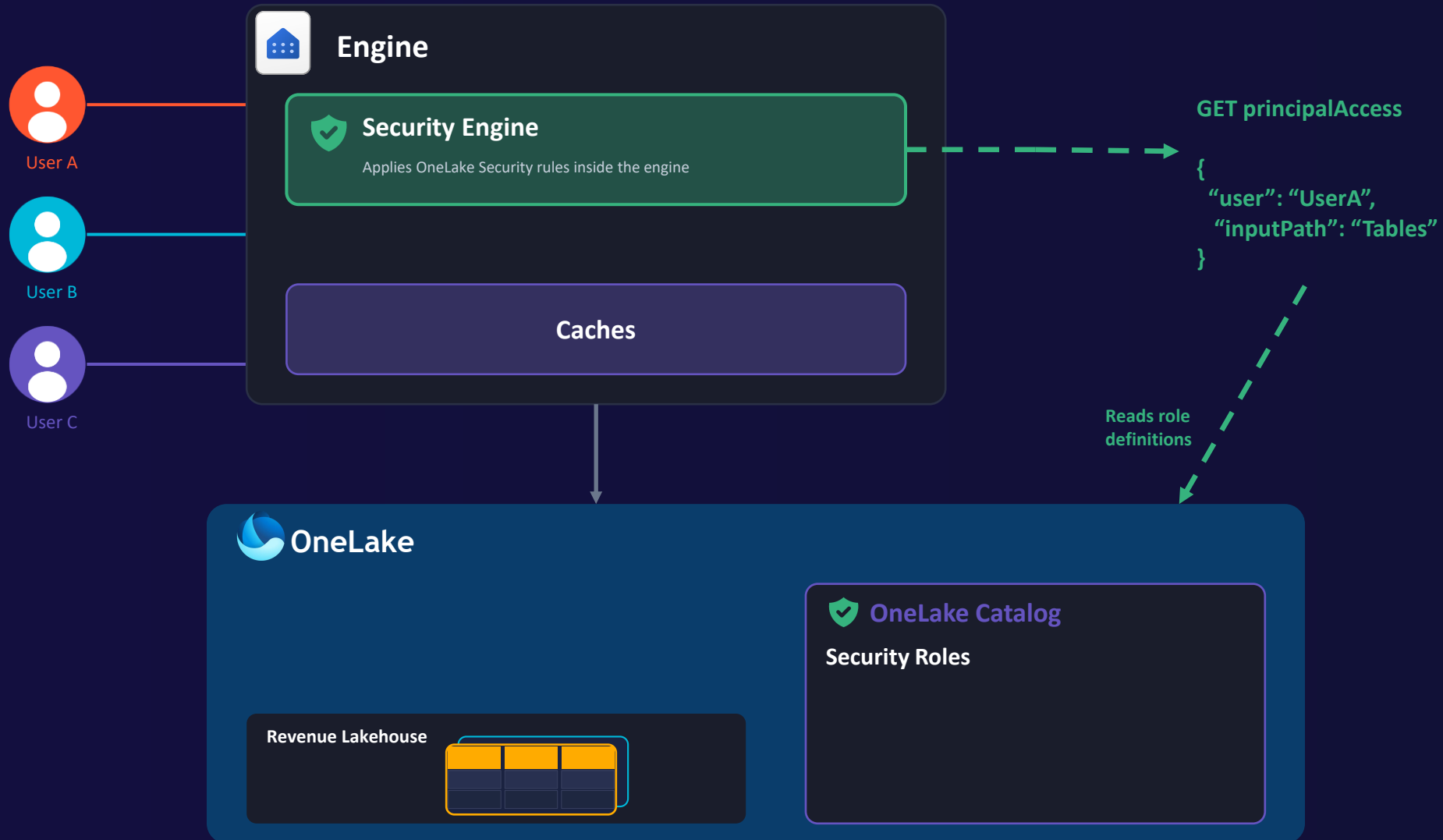
OneLake security is built with APIs to fetch and enforce security

These same APIs are now available for anyone to integrate with

Your favorite data services can now seamlessly enforce **table, column, and row level security**

Get started integrating today
<https://aka.ms/OLSGetStartedIntegrating>

Integration architecture



Next steps

For integrators

Get started integrating today:

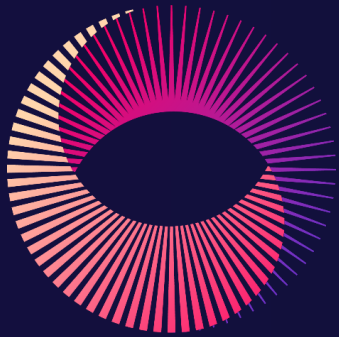
<https://aka.ms/OLSGetStartedIntegrating>

For service users

Ask your data and analytics vendors about their integration timelines.

Announcing: Omni-directional policy sync

In partnership with Onehouse.ai



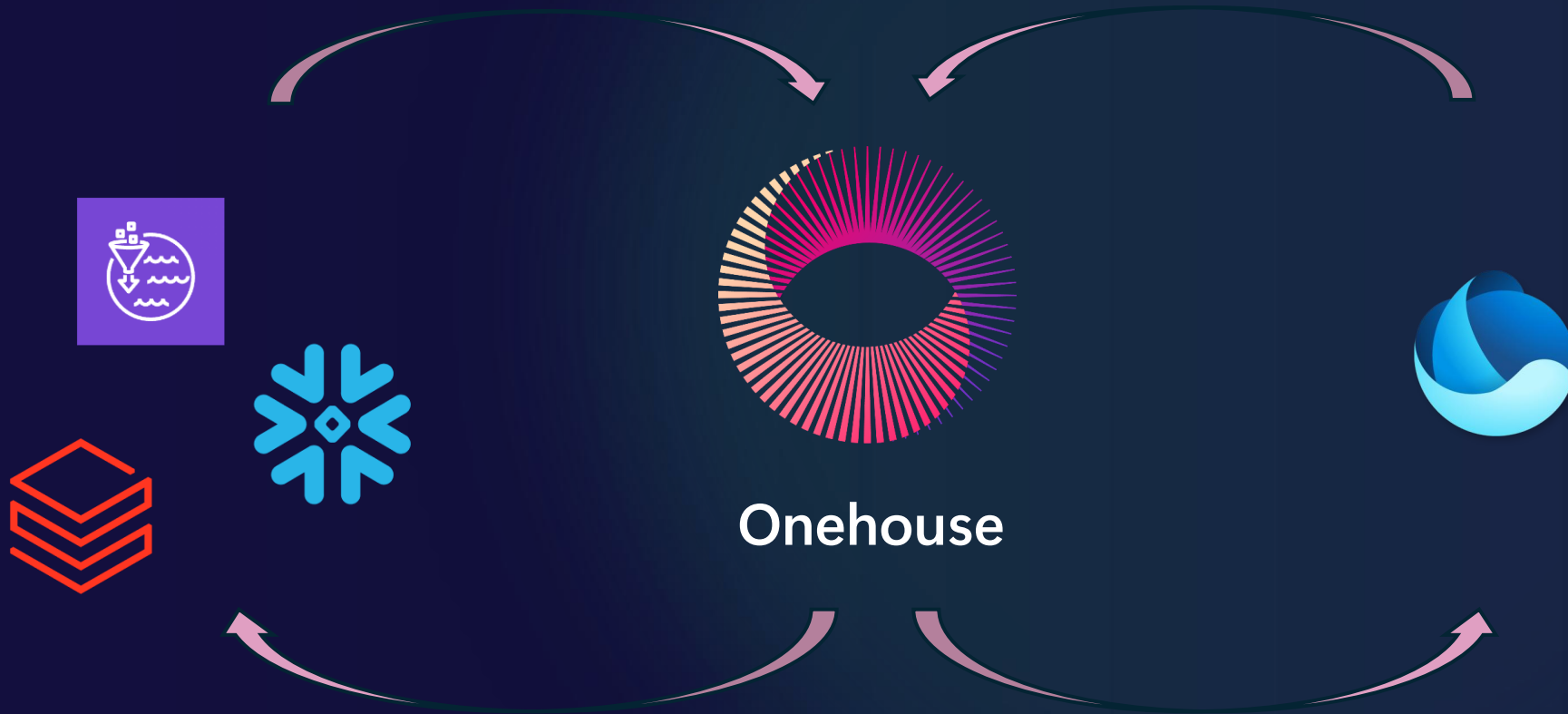
Onehouse



OneLake

Announcing: Omni-directional policy sync

In partnership with [Onehouse.ai](#)



Catalog

OH Staging IT Cluster

unity_acl_demo

For you All

My organization

unity_acl_demo

bronze

- customers
- inventories
- orders
- stores

default

information_schema

Catalog Explorer

unity_acl_demo

Overview Details Permissions Policies Workspaces

Description

AI generate Add

Filter schemas 3 schemas

Name	Owner	Created at
bronze	roushan@onehouse.ai	Mar 10, 2026, 06:31 PM
default	roushan@onehouse.ai	Mar 10, 2026, 06:26 PM
information_schema	System user	Mar 10, 2026, 06:26 PM

About this catalog

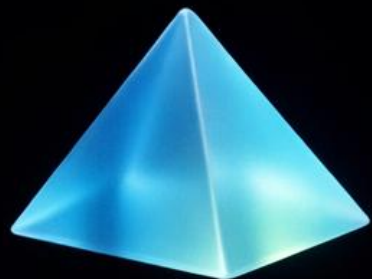
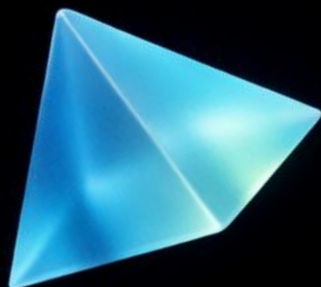
Owner Roushan Kumar

Tags

Add tags

Policies

New policy



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

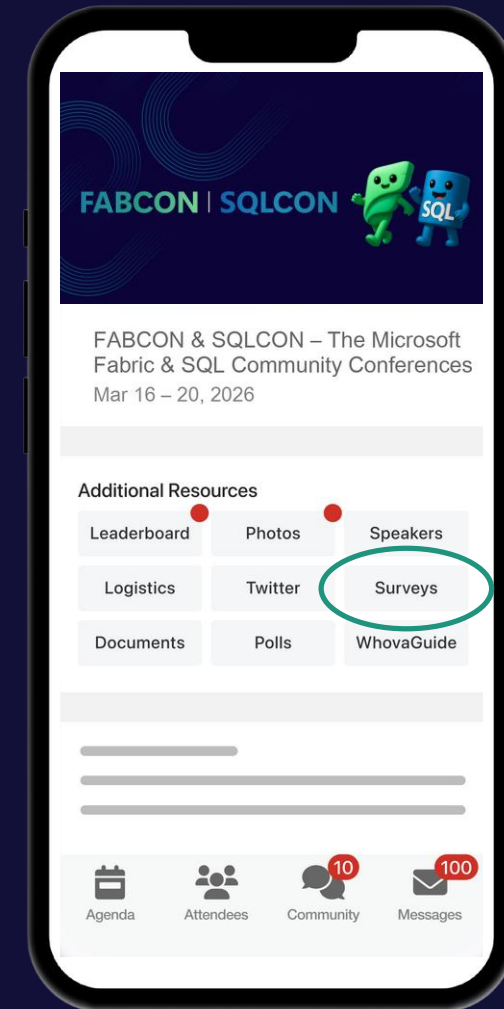
- Eventhouse
- External apps and engines

+ Graph DB

How was the session?



Complete Session Surveys in
Whova for your chance to WIN
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it meets your real-life needs

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