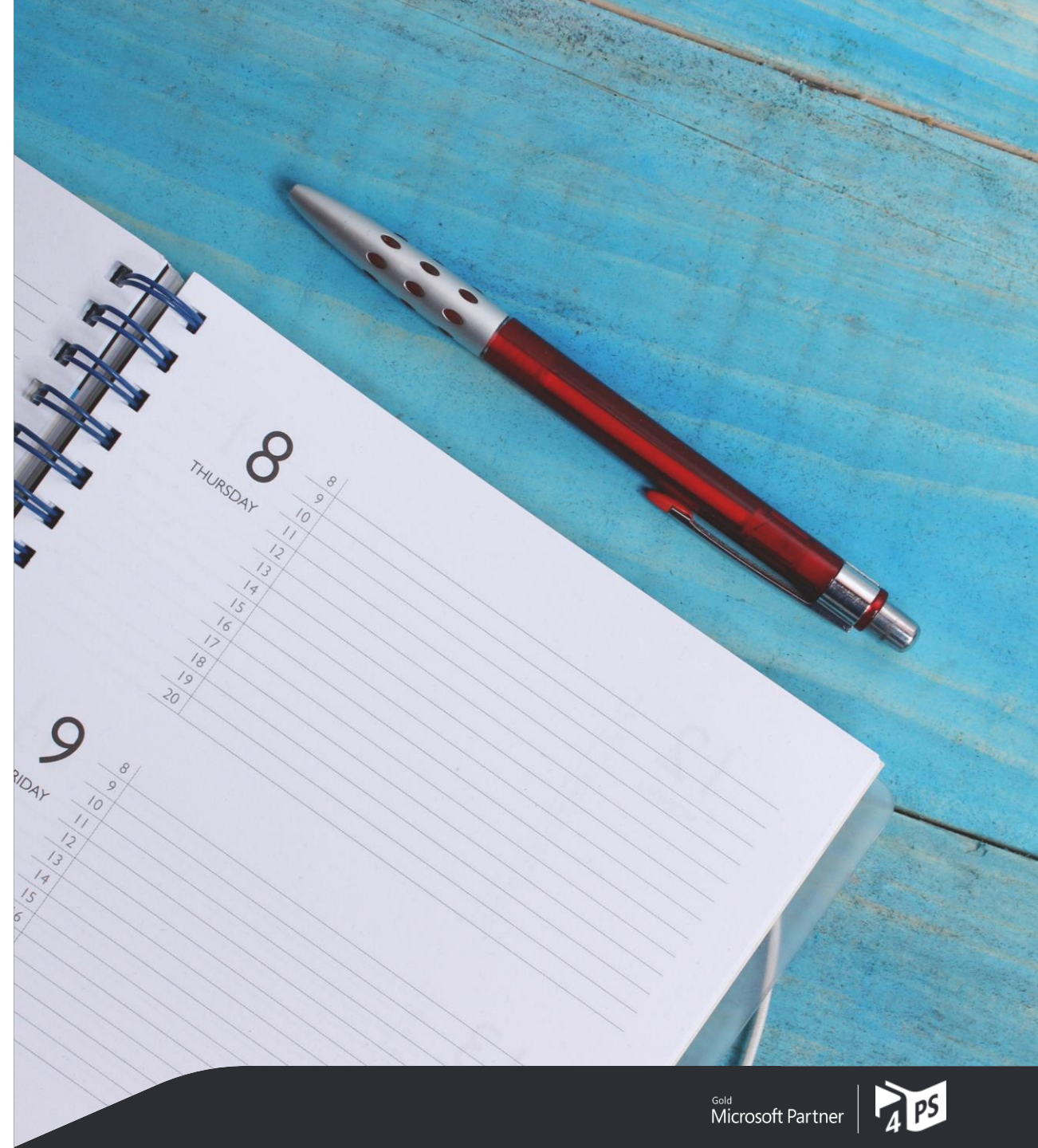




# AZURE DATA LAKE, DE EXTENSIE VOOR AL JE DATA

# AGENDA

- Wat is Azure Data Lake
- Business Central integratie
- Waarom gebruik je het?
- Demo
- Verschil Dataverse en Data Lake



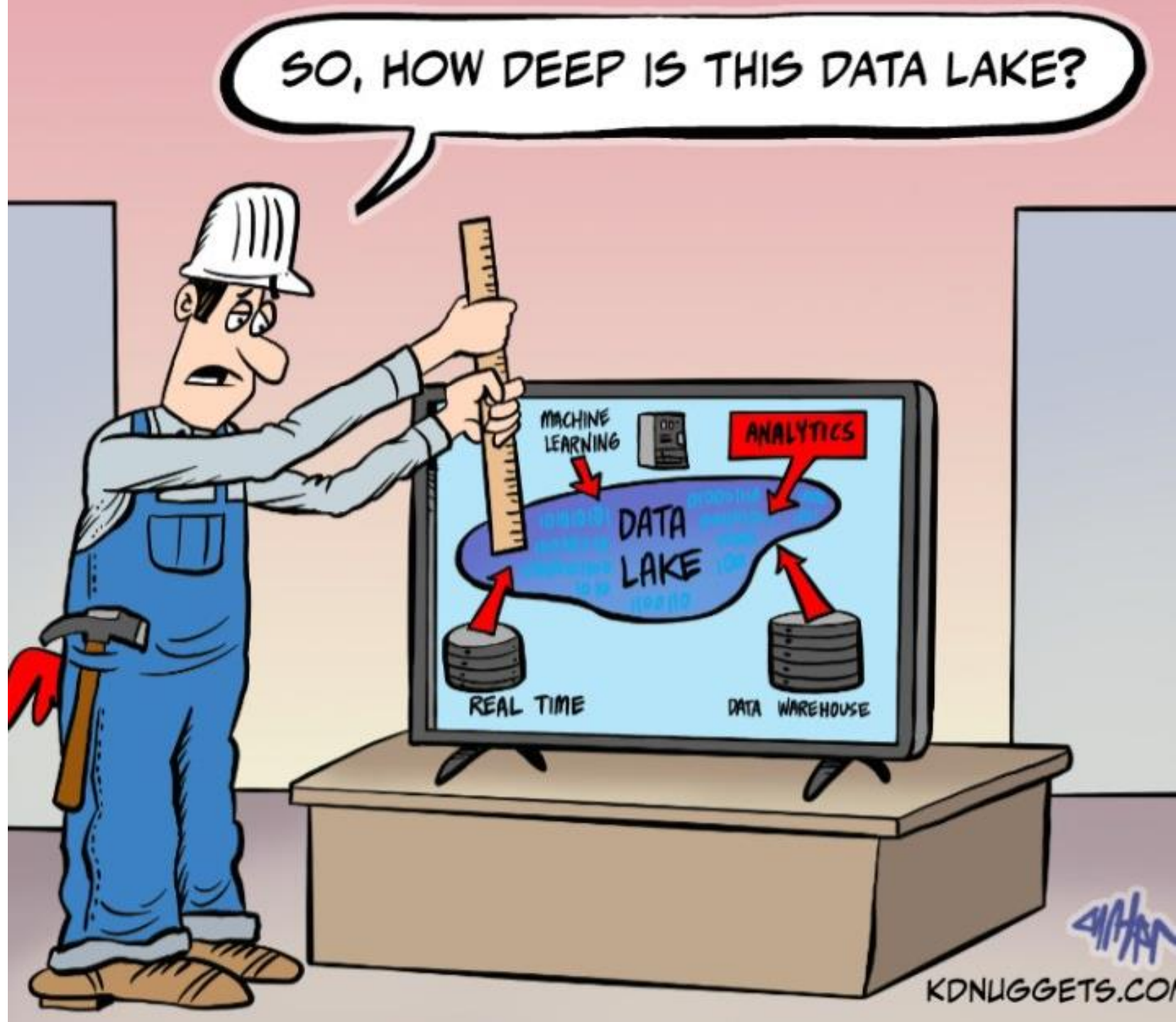
# SPEAKER'S INTRO

- Bert Verbeek
- Technical Solution Architect bij 4PS Nederland
- Microsoft MVP – Business Applications
- Twitter en LinkedIn: bertverbeek
- Blog: bertverbeek.nl



## WAT IS AZURE DATA LAKE

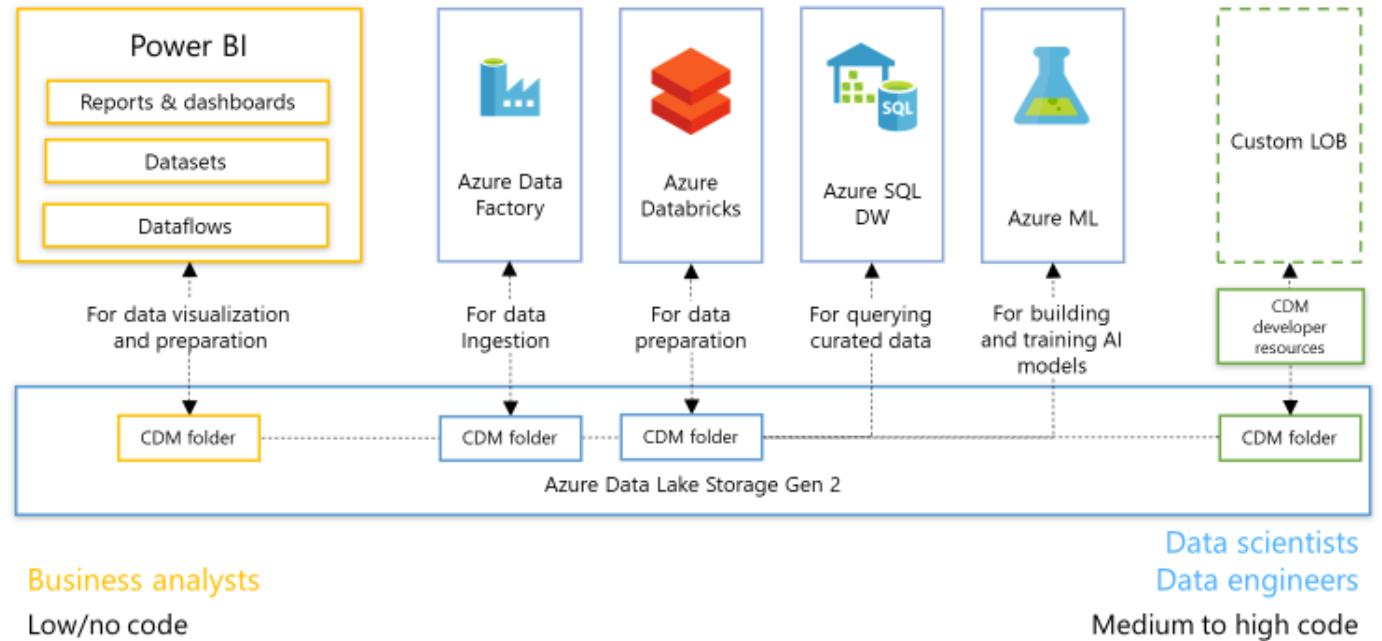
- Groot meer met heel veel data
  - Petabyte-size
  - Miljarden aan objecten



# WAT IS AZURE DATA LAKE

- Gebouwd op Azure Blob Storage
- Ontworpen voor enterprise big data analytics
- Lage kosten voor opslag en transacties
- Hierarchische namespace

Azure data lake gen 2 (hot):  
Storage: € 0,01982 per GB per Month  
10.000 Write: € 0,05855  
10.000 Reads: € 0,00469







# WAAROM GEBRUIK JE HET?

- Business Central Database is duur
- Kleinere database is betere performance
- API's zijn OK maar hebben limitaties
  - Werkt niet met grote hoeveelheden aan data
  - Hoe omgaan met verwijderde data



## Dynamics 365 Business Central

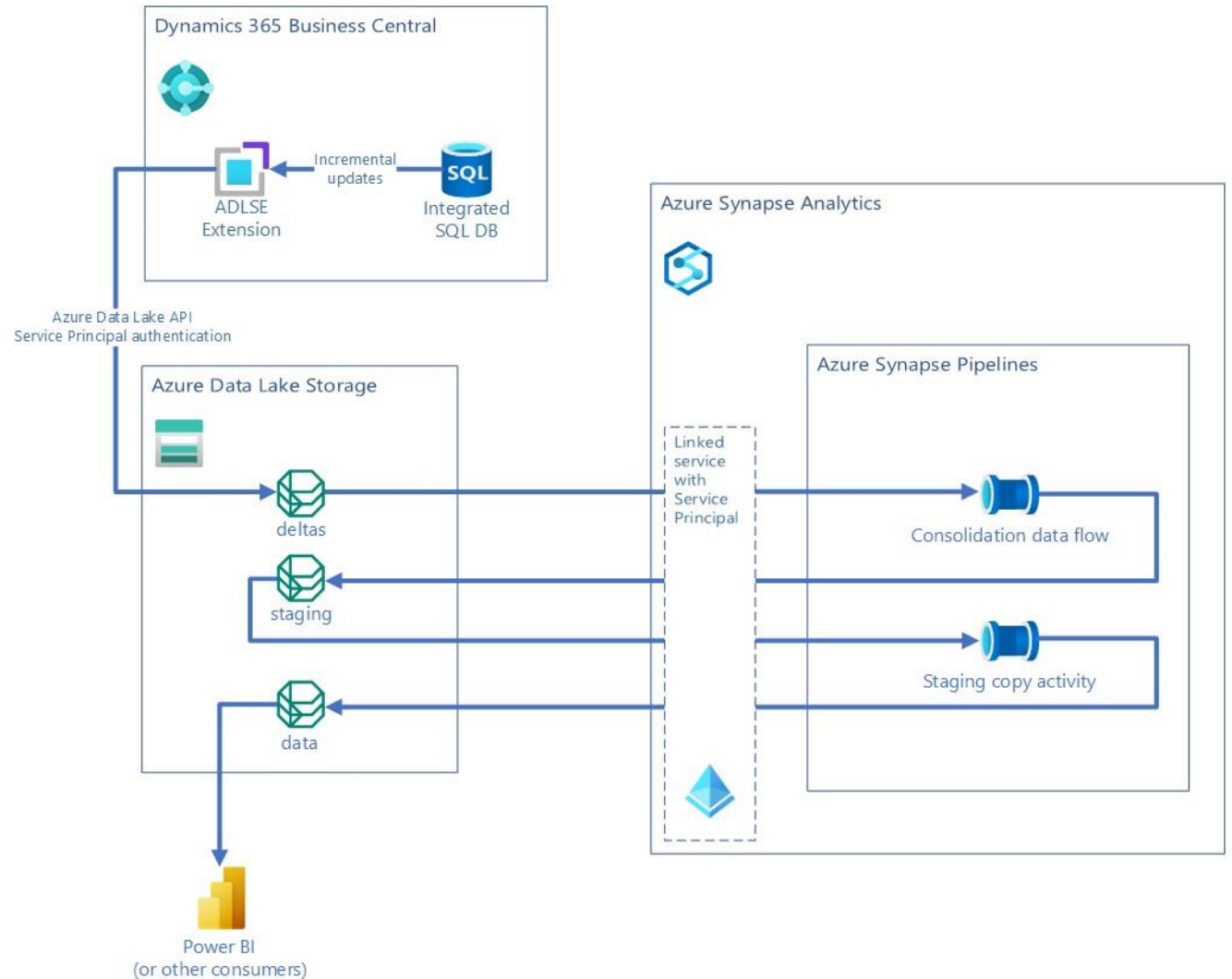
Storage changes effective July 1

	Current	New storage plan (starting July 1, 2021)	
	Base entitlement	80 GB	80 GB
	Per user allocation	None	2 GB/User (Essentials) 3 GB/User (Premium)
	Additional GB	\$40	\$10
	Additional 100 GB	\$4,000	\$500 (5\$/GB)

Note: Storage is inclusive of all BC Online Customer Data ("Relational" and "Blob") both in current and new storage plan

# BUSINESS CENTRAL INTEGRATIE

- Bc2adls extensie op GitHub
- BC exporteert delta's naar Data Lake
- Azure Synapse consolideert de data
- Lezen in Power BI



DEMO





# BUSINESS CENTRAL INTEGRATIE

## CSV

Regel gebaseerd

Row storage	
Row 1	1
	US
	Free
Row 2	2
	UK
	Paid
Row 3	3
	ES
	Paid

## Parquet

Kolom gebaseerd

Column storage	
user_id	1
	2
	3
country	US
	UK
	ES
subscription_type	Free
	Paid
	Paid

# BUSINESS CENTRAL INTEGRATIE

- Welke te kiezen?
  - 11 bestanden met totaal 25 miljoen regels in PowerBI\*

	.CSV	.Parquet
File Size	3,6 GB	655 MB
ReadData Duration (seconds)	307 seconds	555 seconds
Rows per second	92k	51k
Data Model Processing (seconds)	23,4	22,7
Partition processing seconds	309	557

- Conclusie
  - Het hangt ervan af 😊. Microsoft adviseert Parquet files in Azure Synapse documentatie

\*) [Parquet and CSV: Querying & Processing in Power BI \(datalineo.com\)](https://datalineo.com)

# PERFORMANCE

Totaal tabellen	Totaal records	Duur in BC	Duur Synapse
42	72.201	2 minuten	03:49
55	303.481	9 minuten	05:40
107	419.824	8 minuten	06:15

# NIEUWE FEATURES

- Multi company export
  - Let op metadata changes
- Read only database
  - Let op aanschakelen feature "Report read-only data access"
- API's
  - Voor Dashboarding en triggers



# TELEMETRY

- Errors:

- ALADLSE-008
- ALADLSE-025
- ALADLSE-027
- ALADLSE-035

The screenshot shows a query editor interface with a SQL query and its results. The query is as follows:

```

1 traces
2 | where customDimensions.eventId contains "ADLSE"
3 | where customDimensions.environmentName == "DDC"
4 | project
5 | timestamp
6 | , customDimensions.eventId
7 | , message
8 | , customDimensions.alCallerAppName
9 | , customDimensions.alObjectType
10 | , customDimensions.alObjectId
  
```

The results table displays the following data:

timestamp [Local Time]	customDimensi...	message	customDimensions_alCaller...	customDi...	customDimen...	customDimensions_alEntity
4/4/2023, 2:26:31.827 PM	ALADLSE-022	Starting export for all tables	Azure Data Lake Storage Export	CodeUnit	82569	
4/4/2023, 2:26:31.967 PM	ALADLSE-024	No changes to be exported.	Azure Data Lake Storage Export	CodeUnit	82569	G/L Account
4/4/2023, 2:26:31.999 PM	ALADLSE-024	No changes to be exported.	Azure Data Lake Storage Export	CodeUnit	82569	G/L Entry
4/4/2023, 2:26:32.014 PM	ALADLSE-002	Export session created	Azure Data Lake Storage Export	CodeUnit	82569	Customer
4/4/2023, 2:26:32.014 PM	ALADLSE-017	Starting the export for table	Azure Data Lake Storage Export	CodeUnit	82569	Customer
4/4/2023, 2:26:32.014 PM	ALADLSE-024	No changes to be exported.	Azure Data Lake Storage Export	CodeUnit	82569	Cust. Ledger Entry
4/4/2023, 2:26:32.030 PM	ALADLSE-024	No changes to be exported.	Azure Data Lake Storage Export	CodeUnit	82569	Vendor
4/4/2023, 2:26:32.046 PM	ALADLSE-024	No changes to be exported.	Azure Data Lake Storage Export	CodeUnit	82569	Vendor Ledger Entry
4/4/2023, 2:26:32.046 PM	ALADLSE-001	Data export started for 1 out of 6 tables. Please refresh t...	Azure Data Lake Storage Export	CodeUnit	82569	
4/4/2023, 2:26:33.014 PM	ALADLSE-021	Updated records found	Azure Data Lake Storage Export	CodeUnit	82569	Customer
4/4/2023, 2:26:34.077 PM	ALADLSE-011	Deleted records exported	Azure Data Lake Storage Export	CodeUnit	82569	
4/4/2023, 2:26:34.093 PM	ALADLSE-006	Saved the timestamps into the database	Azure Data Lake Storage Export	CodeUnit	82569	Customer
4/4/2023, 2:26:34.093 PM	ALADLSE-007	Jsons have been updated	Azure Data Lake Storage Export	CodeUnit	82569	Customer
4/4/2023, 2:26:34.109 PM	ALADLSE-038	The export run was registered as ended.	Azure Data Lake Storage Export	CodeUnit	82569	Customer
4/4/2023, 2:26:34.109 PM	ALADLSE-039	Session ended and was removed	Azure Data Lake Storage Export	CodeUnit	82569	Customer
4/4/2023, 2:26:34.109 PM	ALADLSE-037	Finished the export process	Azure Data Lake Storage Export	CodeUnit	82569	Customer
4/4/2023, 2:26:34.124 PM	ALADLSE-005	Export completed without error	Azure Data Lake Storage Export	CodeUnit	82569	Customer

# VERSCHIL DATAVERSE / DATA LAKE

- Dataverse
  - Gestructureerde database
  - Integraties met andere applicaties
  - Kleinere hoeveelheden aan data
- Data Lake
  - Ongestructureerde data
  - Grote hoeveelheden aan data
  - Machine learning, Power BI



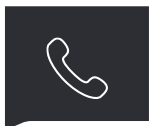
# CALL TO ACTION

- Download en installeer bc2adls tool
- Contribute aan de extensie
  - <https://github.com/microsoft/bc2adls>

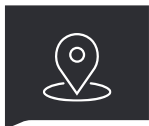




# BEDANKT VOOR UW AANDACHT!



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