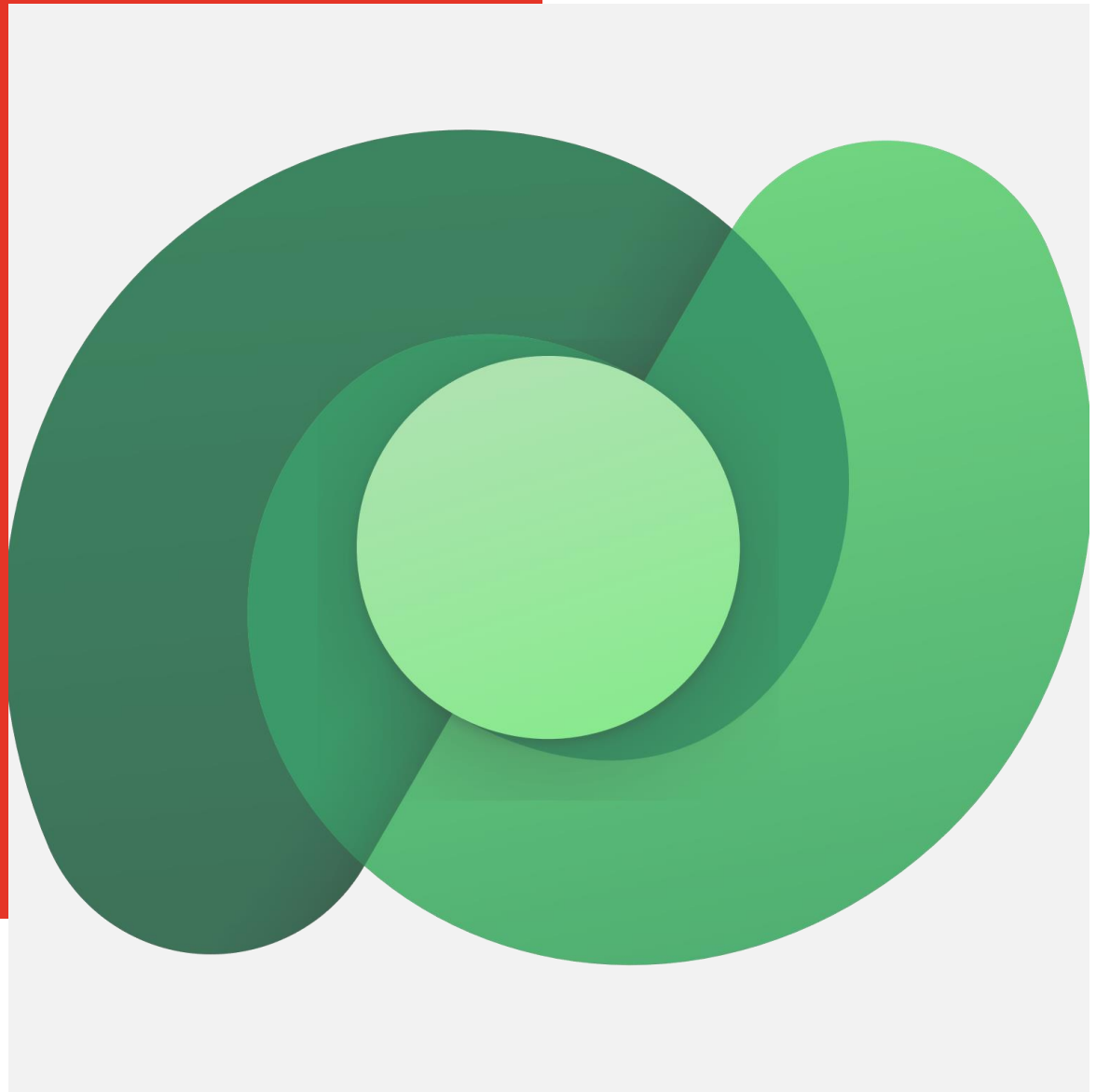
Neem een duik in Microsoft Dataverse voor het namaken van een SharePoint UX



Stefan Strube

25-1-2022

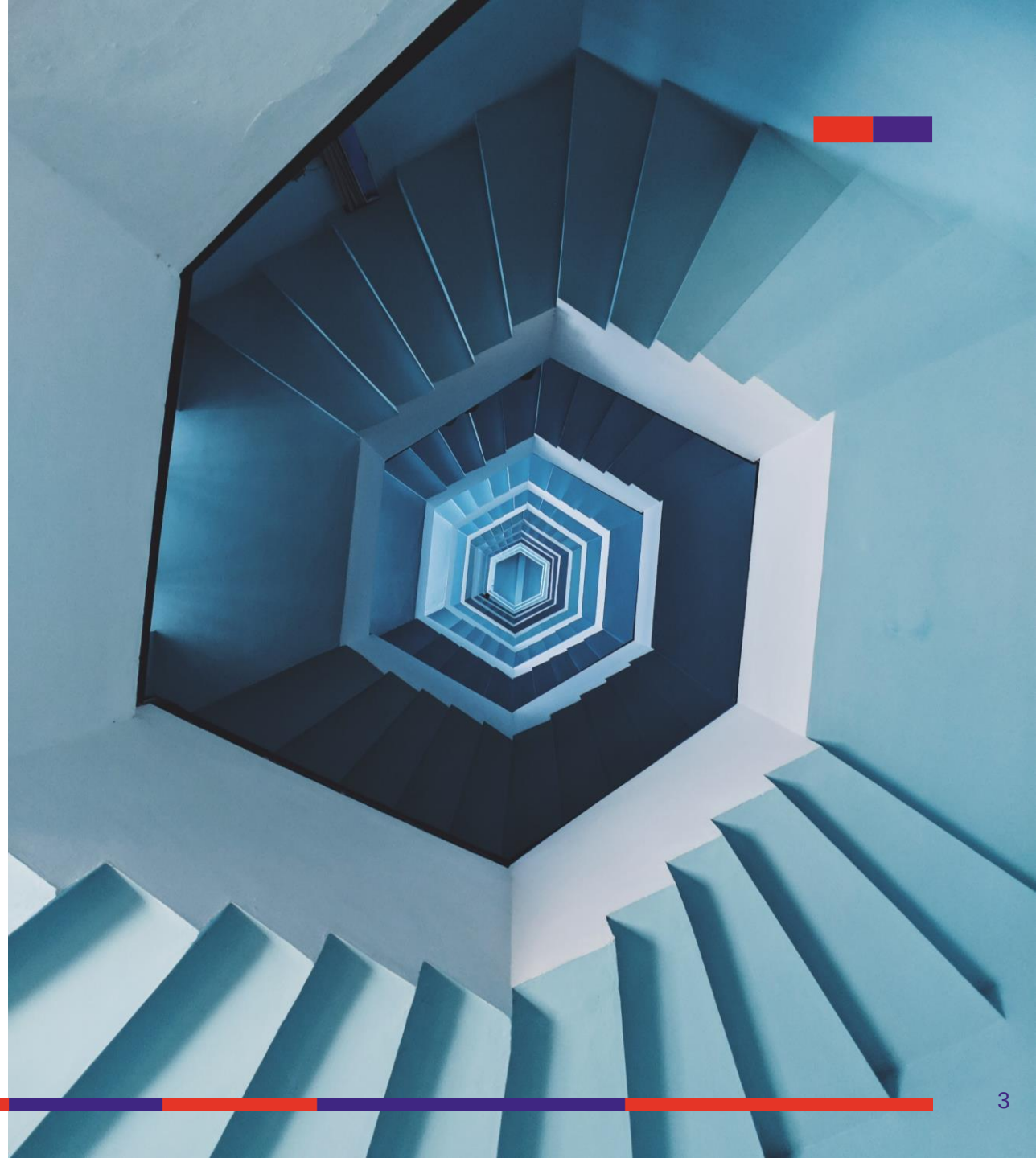
DIWUG

Stefan Strube

- Solution architect @ Strukton (NL)
- Microsoft Business Applications MVP
- Co-founder PowerAddictsNL user group
- Twitter @StefanS365
- LinkedIn stefanstrube365
- Blog 2die4it.com

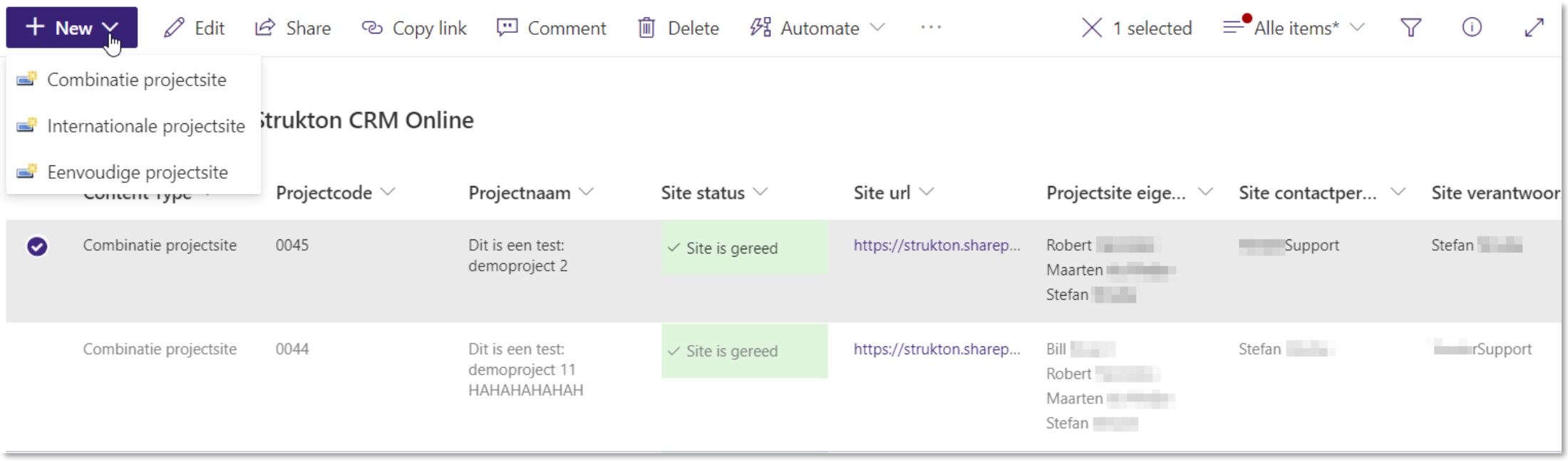
Agenda

- About the use case
- Introduction Microsoft Dataverse
- Microsoft Dataverse vs SharePoint
- Data types
- Out-of-the-box functionality
- Custom controls (PCF)
- Demo of results
- Conclusion
- Q&A

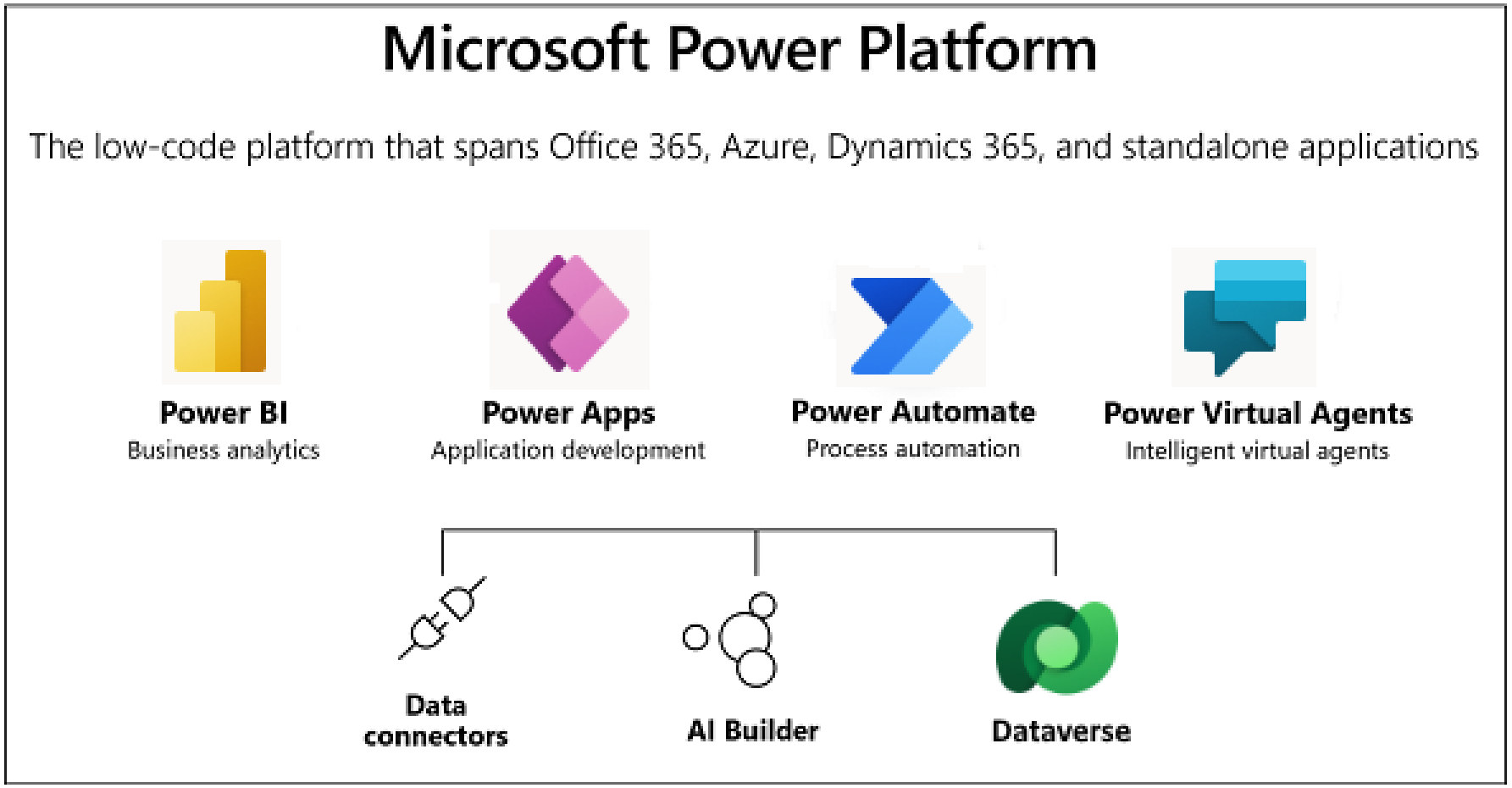


About the use case

- SharePoint list for site requests (site provisioning)
- Add new items, edit items to update site
- Move input to Dynamics 365 (CRM) = Dataverse + PA flow
- Recreate the SharePoint UX in Dataverse



Introduction Microsoft Dataverse



Power Platform – Dataverse

Security + Compliance
Encryption at Rest
Encryption in Transit
Customer Managed Environment Encryption Key
Admin + User Roles
Business Units (Unlimited)
Hierarchical Security
Field Level Security
Sharing
Activity Logging
Auditing

Integration
Power Automate or Logic Apps
Dataflows, Azure Synapse
API Access & T-SQL Endpoint
Events to Event Hub
Events to Service Bus
Export to Lake
Data Export Service
Plug Ins
Server-Side Sync
Web Hooks
Virtual Tables (CRUD)

Environment Lifecycle
Unlimited environments
Maximum Size 4TB or more
Reset, Copy, Backup
Point-in-time Restore
Disaster Recovery

Data
Relational, File + Image
Find, Filter, Sort
Basis + Advanced Data Types
Activities / Activity Feeds
Common Data Model
Custom Tables
Mobile Offline
Non-Relational (Log)
Advanced + Dataverse Search
Virtual Tables
4TB or more

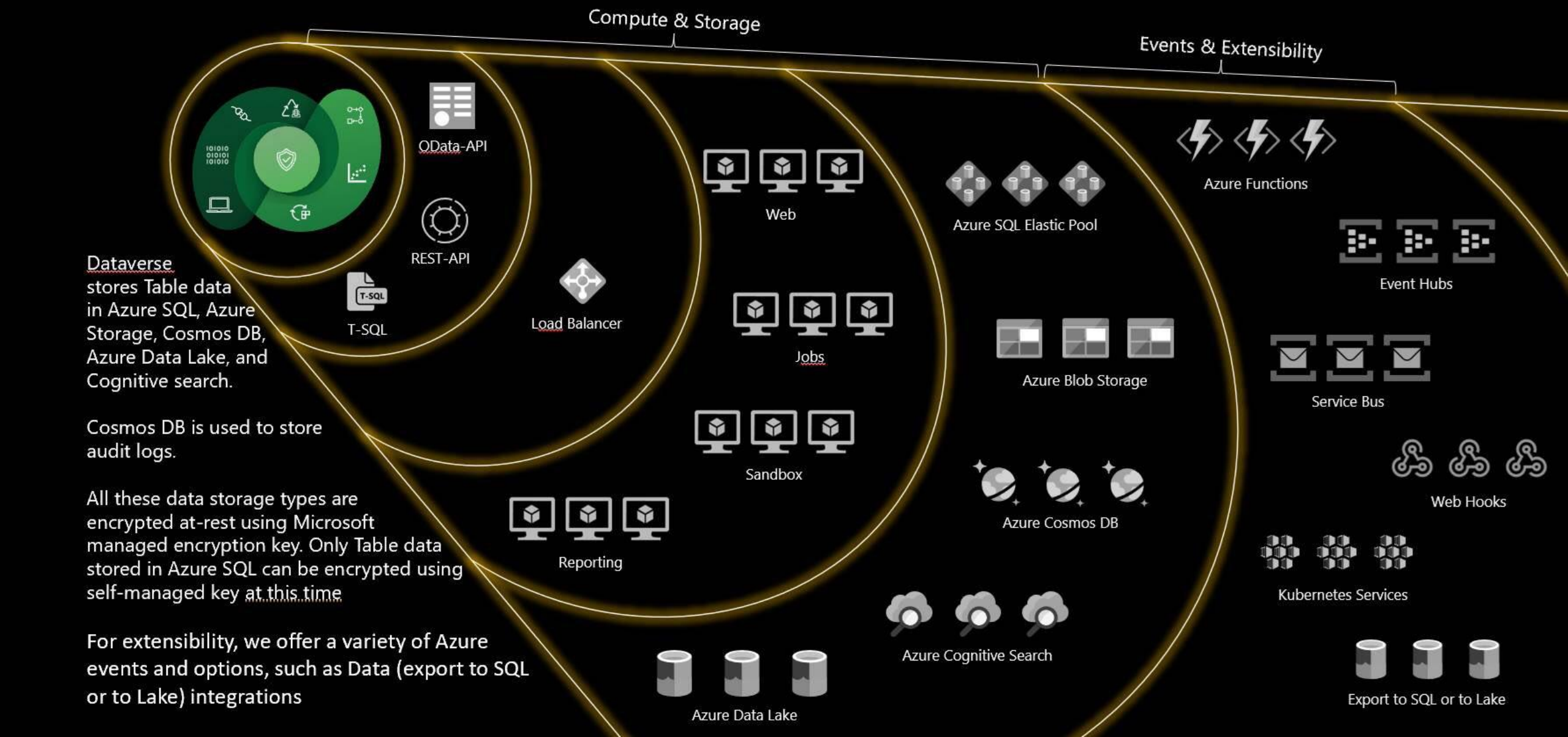
Business Rules and Workflows
Business Rules
Classic Workflows
Power Automate

Reporting
Paginated Reports (SSRS)
Power BI Dashboards
Managed Data Lake

Clients
Web
Mobile (Power Apps / D365 Player)
Desktop
Microsoft Outlook
Microsoft Excel
Microsoft Teams

App Lifecycle
Unmanaged solutions
Managed solutions
Azure DevOps Power Platform Tools
Self-Service CI/CD via GitHub

Power Platform – Dataverse: But what´s behind?



Dataverse stores Table data in Azure SQL, Azure Storage, Cosmos DB, Azure Data Lake, and Cognitive search.

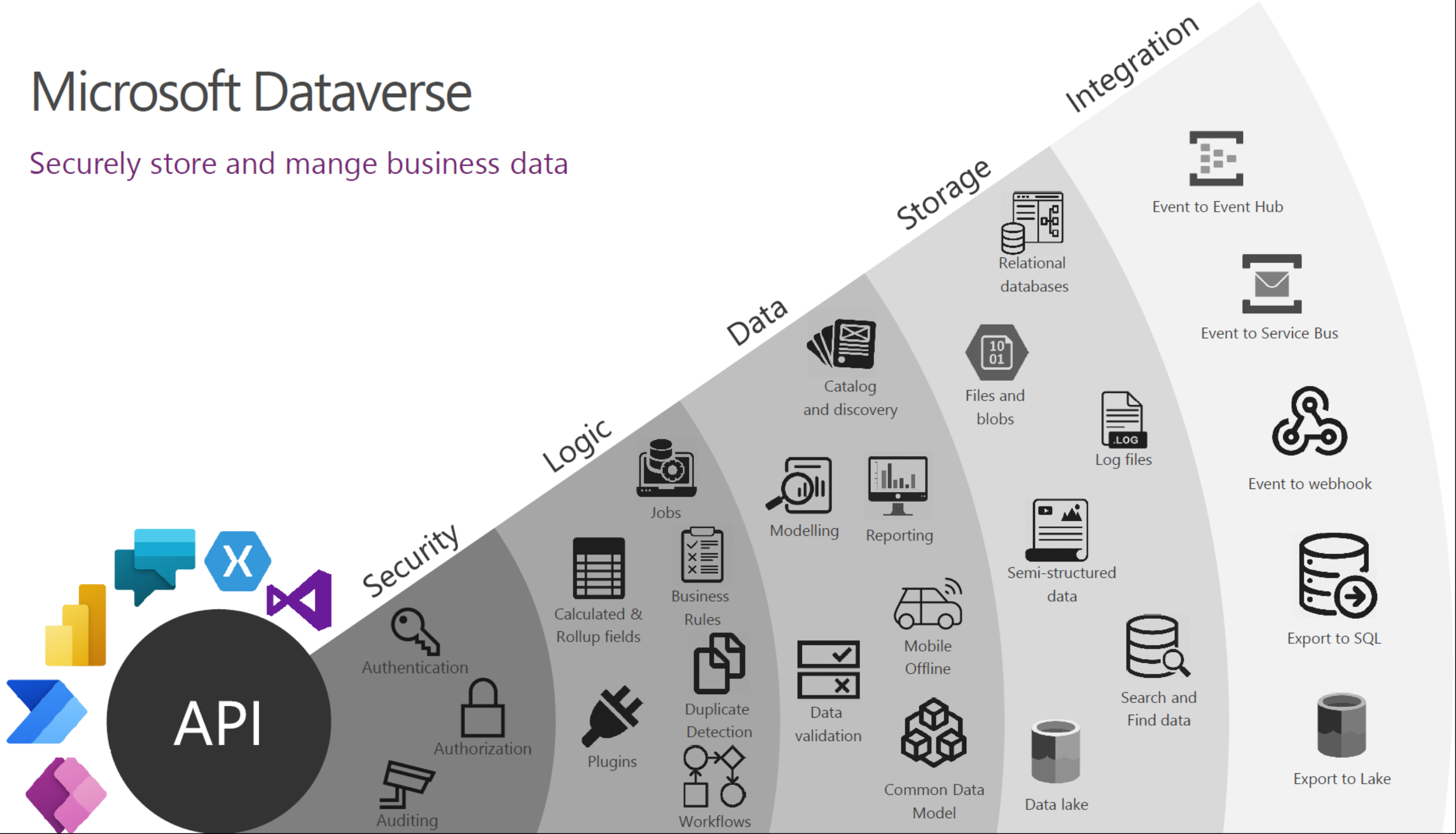
Cosmos DB is used to store audit logs.

All these data storage types are encrypted at-rest using Microsoft managed encryption key. Only Table data stored in Azure SQL can be encrypted using self-managed key at this time

For extensibility, we offer a variety of Azure events and options, such as Data (export to SQL or to Lake) integrations

Microsoft Dataverse

Securely store and mange business data



Microsoft Dataverse vs SharePoint

- (Common) Data Model: tables, columns, relationships, field mappings, choices
- Model-driven apps: apps driven by data model, metadata
- Relational database; one database per environment
- Security model based on ownership vs storage location

SharePoint (SP)	Dataverse (DV)
List	Table
Column	Column
View	View
Form	Form
Content Type	Form

Dataverse Forms as Content Types

SP

- Content type: set of columns, and Column Settings (UI, PS) that makes the form

DV

- Make the form with set of columns, and business rules
- Multiple forms: access via security role(s), switch in UI
- Use case

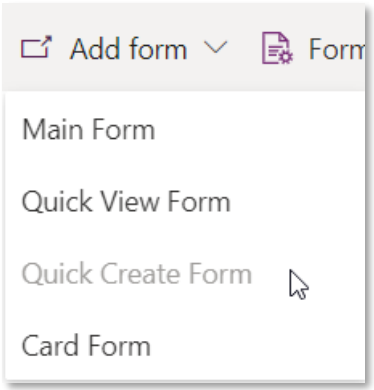
  → New item: Quick Create Form

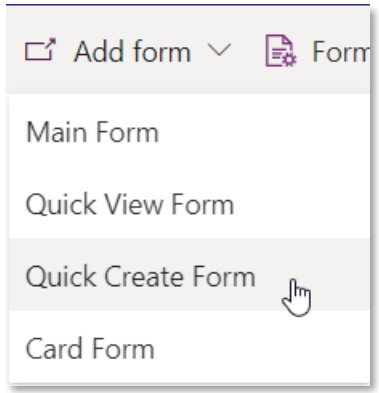
  → Display item: Read-only form (Request)

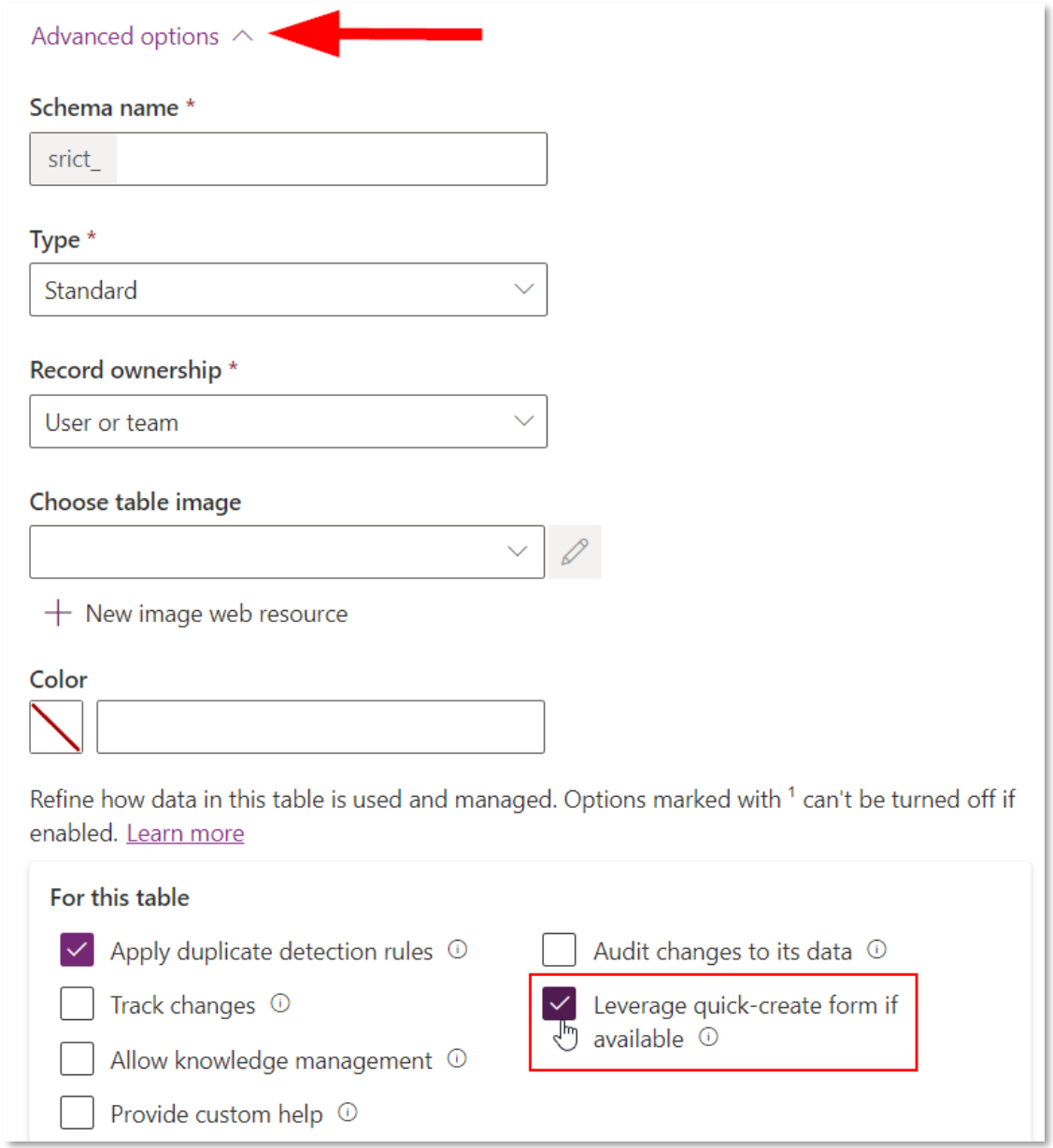
  → Edit item: Editable form (Update)

Dataverse Forms

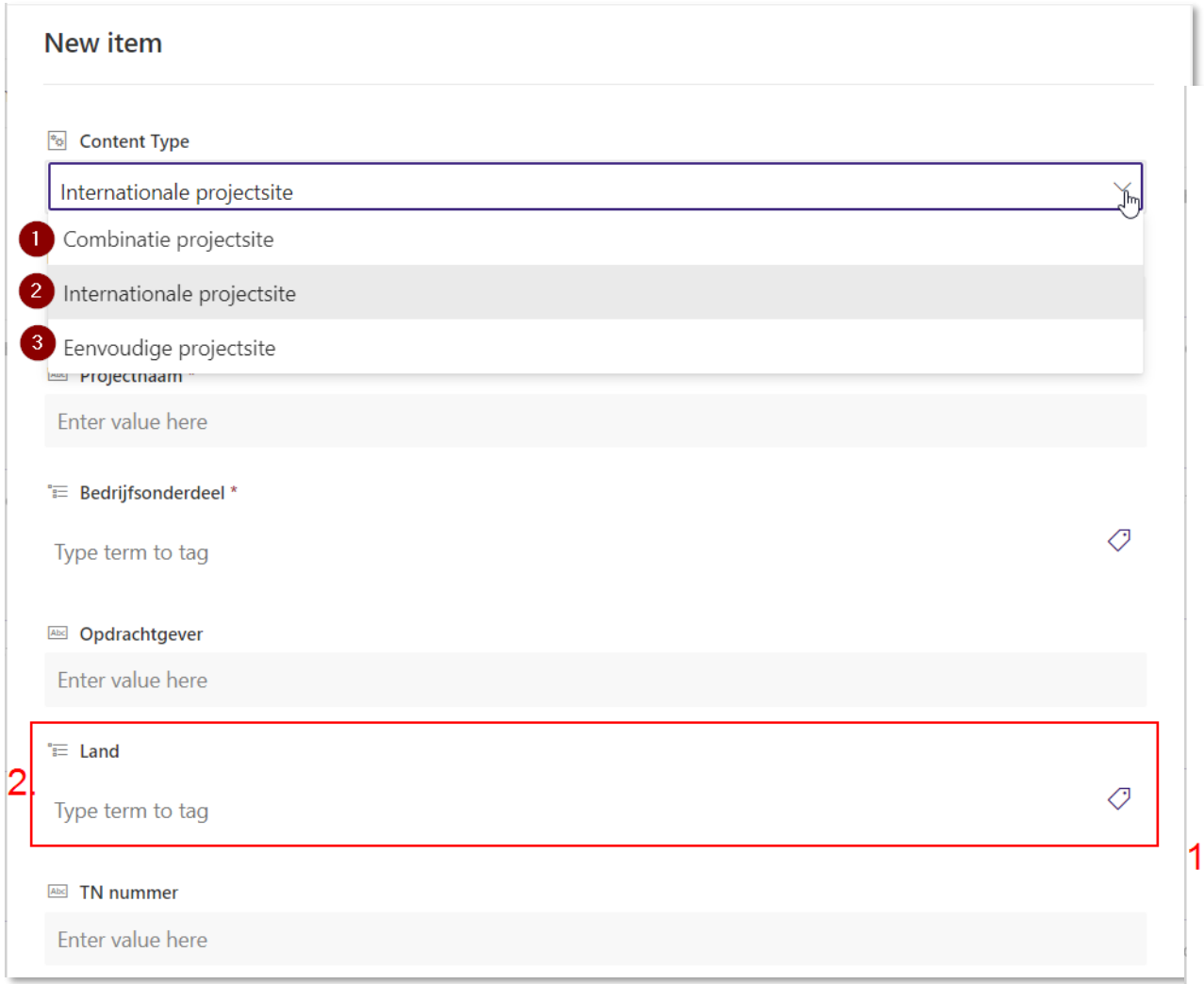
- Quick Create Form not enabled by default

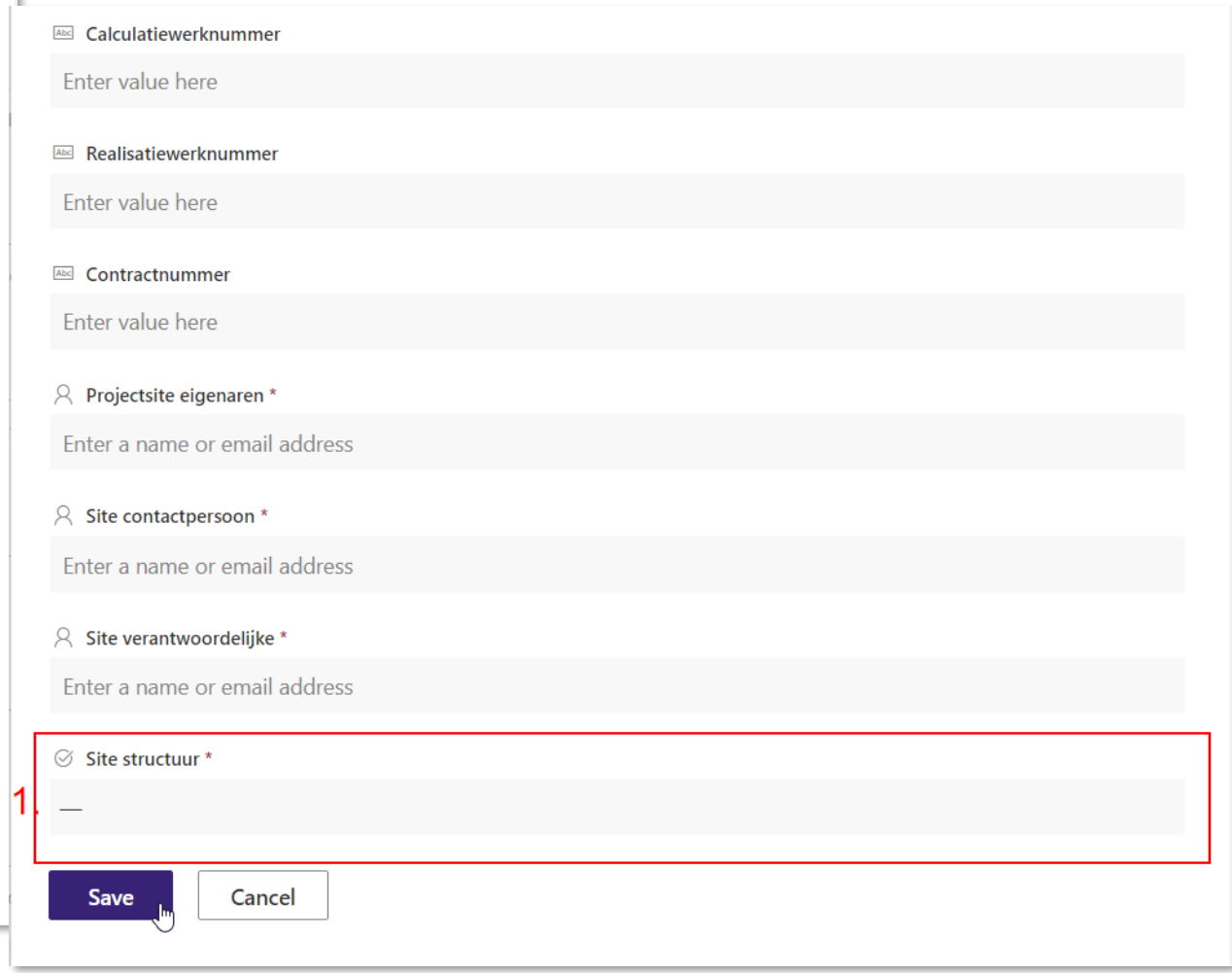




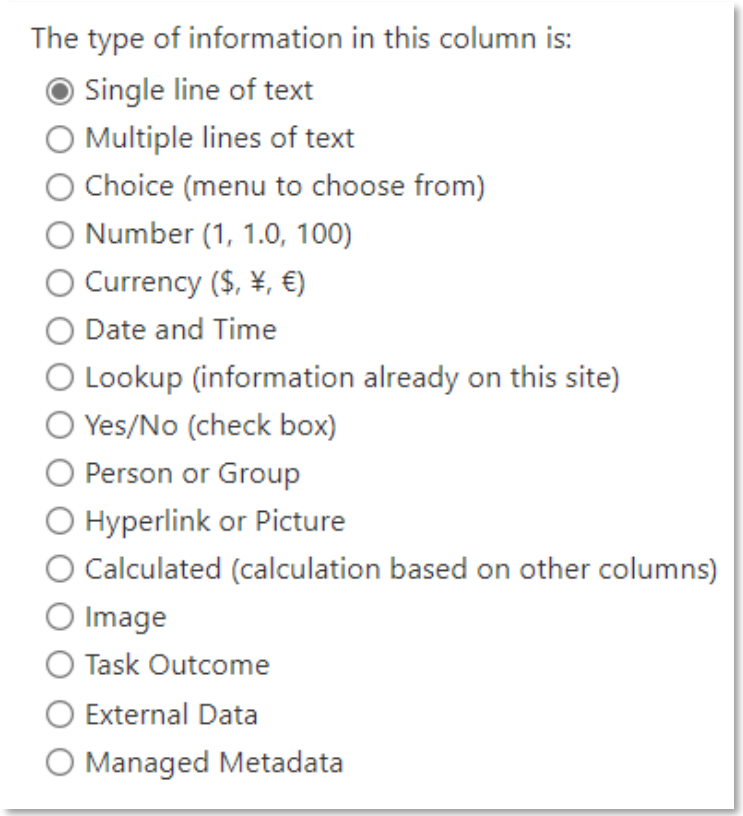


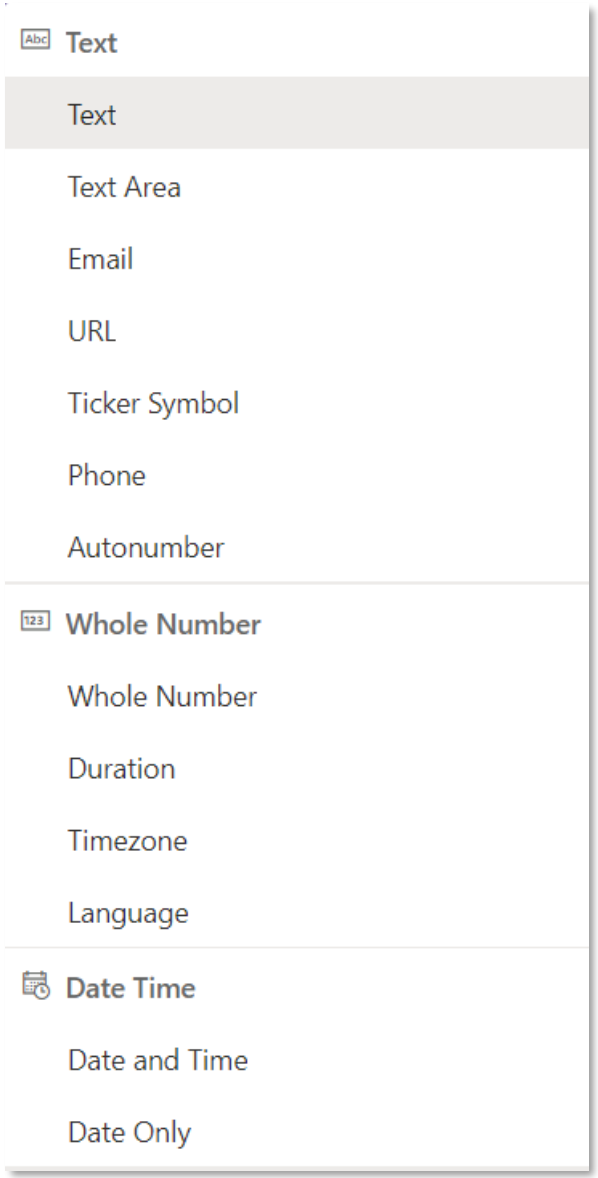
SP: New item

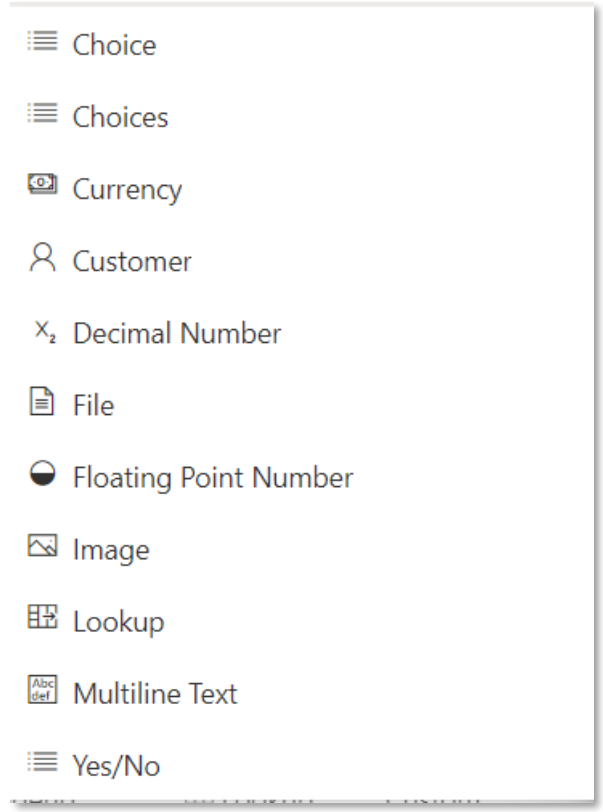

New item
Content Type
Internationale projectsite
1 Combinatie projectsite
2 Internationale projectsite
3 Eenvoudige projectsite
Enter value here
Bedrijfsonderdeel *
Type term to tag
Opdrachtgever
Enter value here
Land
Type term to tag
2.
TN nummer
Enter value here


Calculatiewerknummer
Enter value here
Realisatiewerknummer
Enter value here
Contractnummer
Enter value here
Projectsite eigenaren *
Enter a name or email address
Site contactpersoon *
Enter a name or email address
Site verantwoordelijke *
Enter a name or email address
Site structuur *
—
1.
Save
Cancel

Data types SP vs DV







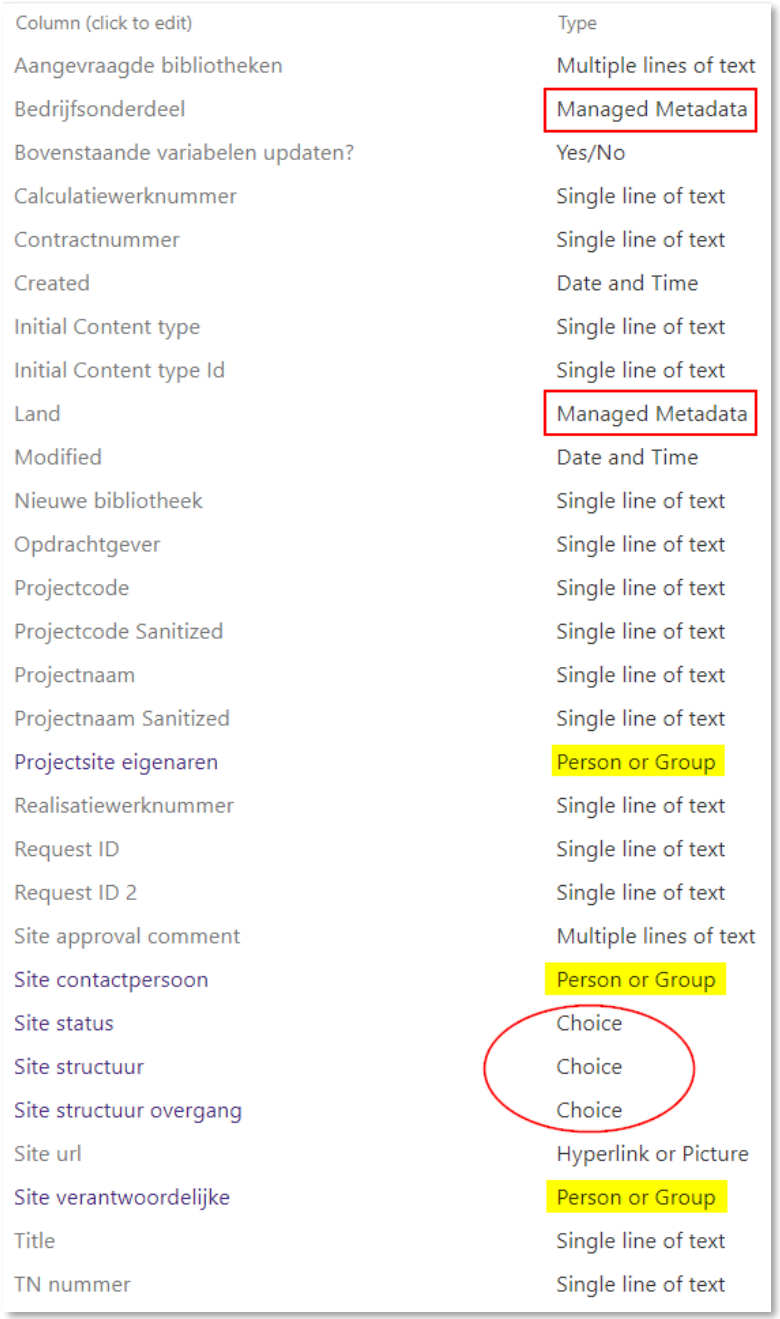
Data types use case

DV ⇨ SP (PA flow)

- Single line of text
- Yes/No
- Choice
- Person or Group
- Managed Metadata
- “Content Type”

SP ⇨ DV (PA flow)

- Choice
- Hyperlink or Picture
- Integer (ID)



Column (click to edit)	Type
Aangevraagde bibliotheken	Multiple lines of text
Bedrijfsonderdeel	Managed Metadata
Bovenstaande variabelen updaten?	Yes/No
Calculatiewerknummer	Single line of text
Contractnummer	Single line of text
Created	Date and Time
Initial Content type	Single line of text
Initial Content type Id	Single line of text
Land	Managed Metadata
Modified	Date and Time
Nieuwe bibliotheek	Single line of text
Opdrachtgever	Single line of text
Projectcode	Single line of text
Projectcode Sanitized	Single line of text
Projectnaam	Single line of text
Projectnaam Sanitized	Single line of text
Projectsite eigenaren	Person or Group
Realisatiewerknummer	Single line of text
Request ID	Single line of text
Request ID 2	Single line of text
Site approval comment	Multiple lines of text
Site contactpersoon	Person or Group
Site status	Choice
Site structuur	Choice
Site structuur overgang	Choice
Site url	Hyperlink or Picture
Site verantwoordelijke	Person or Group
Title	Single line of text
TN nummer	Single line of text

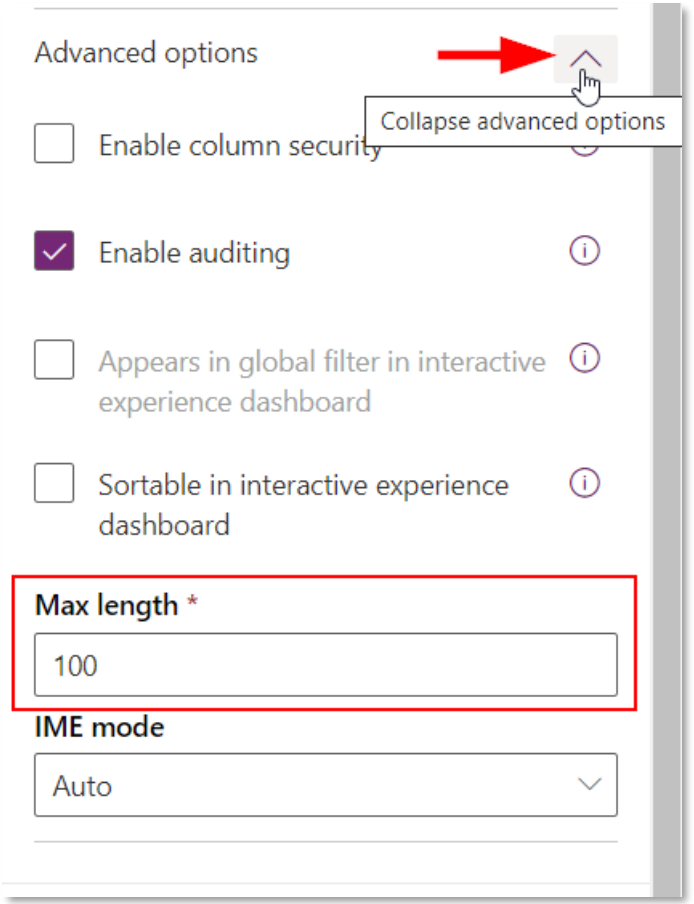
Data type: Single line of text

SP

- Max length: 255

DV

- Default length: 100
- Max length: 4.000
- No default value (use business rule)

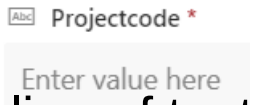


PA flow

- Limit string length to max 255 with expression:
substring(triggerBody()['text'],0,if(greater(length(triggerBody()['text']),255),255,length(triggerBody()['text'])))

Data type: Text > Autonumber

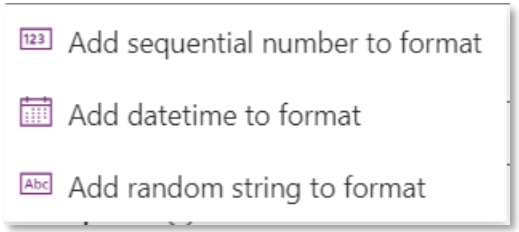
SP



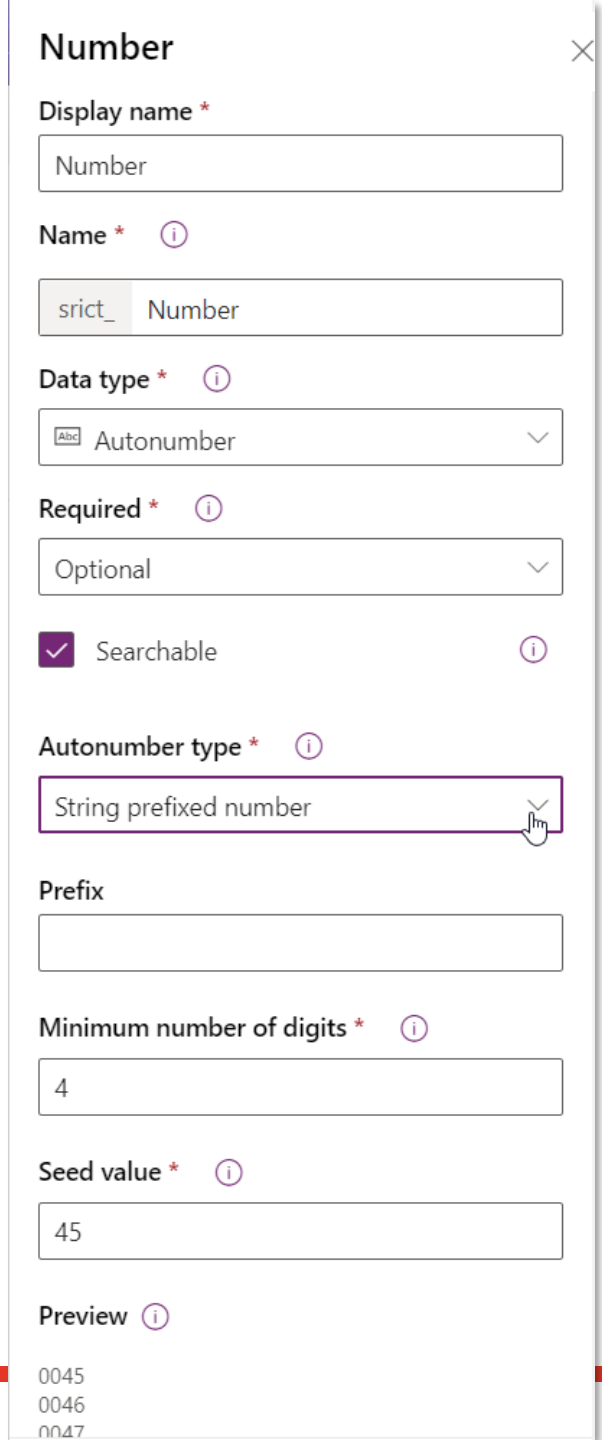
- Single line of text: manual input based on serial number

DV

- Autonumber: calculated on create
- Autonumber type:
  - → String prefixed number
  - → Date prefixed number
  - → Custom: string constants,



- Set seed value



Data type: Choice

SP

- Value (string) / Id (integer)
- Id based on order of choices

body


```
"SRSiteStatus": {
  "@odata.type": "#Microsoft
  "Id": 0,
  "Value": "In afwachting"
},
"SRSiteStatus#Id": 0,
```


DV

- Value (integer) / Name (string)
- Value based on Publisher Option Value Prefix + index number

body


```
"srict_sitetype": 476010000,
"_srict_sitetype_label": "Combinatie projectsite",
"srict_sitestructure": 476010000,
"_srict_sitestructure_label": "Pretender",
```


PA flow

- Use DV Name to set Choice value in SP
- Use SP Id in expression to set Choice value in DV


```
"item/SRSiteStructuur/Value": "Pretender",
"item/SRSiteStructuurovergang/Value": "Niet geselecteerd",
```



```
"entityName": "srict_siterequests",
"recordId": "5d5dd608-3975-ec11-8943-000d3add6016",
"item/srict_sitestatus": 476010004,
"item/srict_siteurl": "https://strukton.sharepoint.
```

Data type: Person or Group

Depending on the use

DV:

- Owner (system column): User or Team (“Assigned To”)
- Lookup to User
- Lookup to Team (use case)
- Multi-table lookup
- NO multiselect in lookup column, only via N:N relationship (after create!)

PA flow

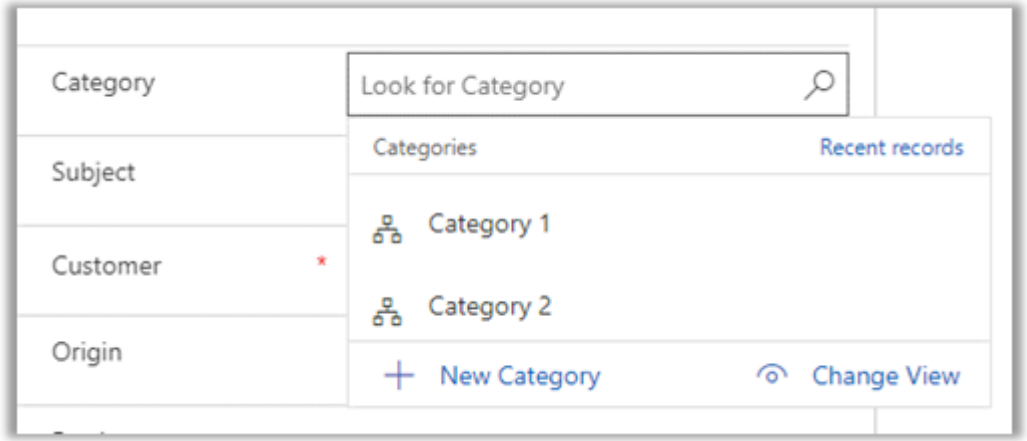
- Get team members and convert to claims to set value in SP

Data type: Managed Metadata

Depending on the use / subject / taxonomy

DV:

- Hierarchy is OOB
- Business Units / Teams
- Territories (use case: company)
- Lookup to standard / custom table
- Categories; Subject Tree
- Choice(s): single (use case: country), multiselect
- Multiselect via N:N relationship (#tags)



Mapping Dataverse values to SharePoint values

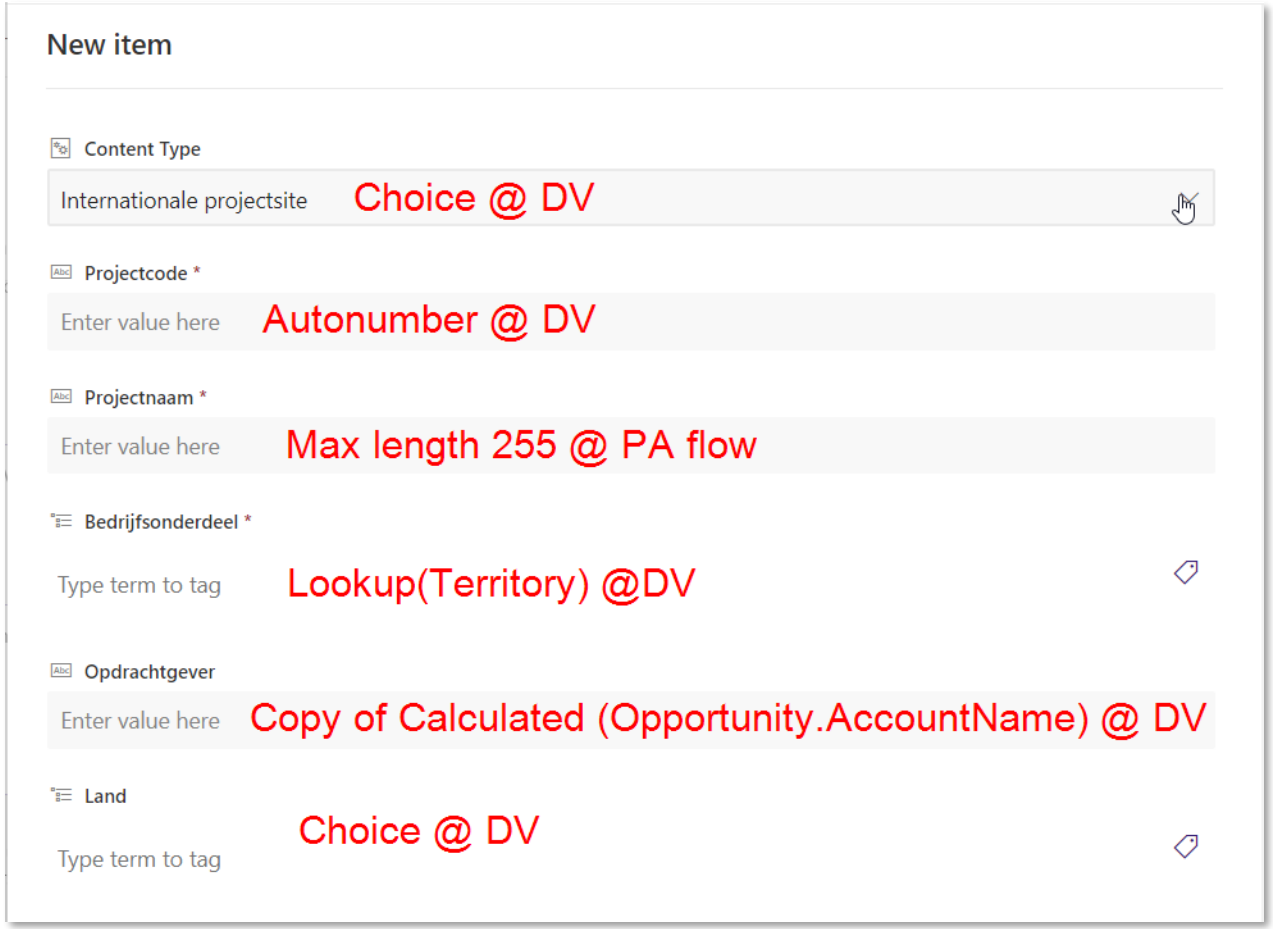
Ways of getting / mapping the values

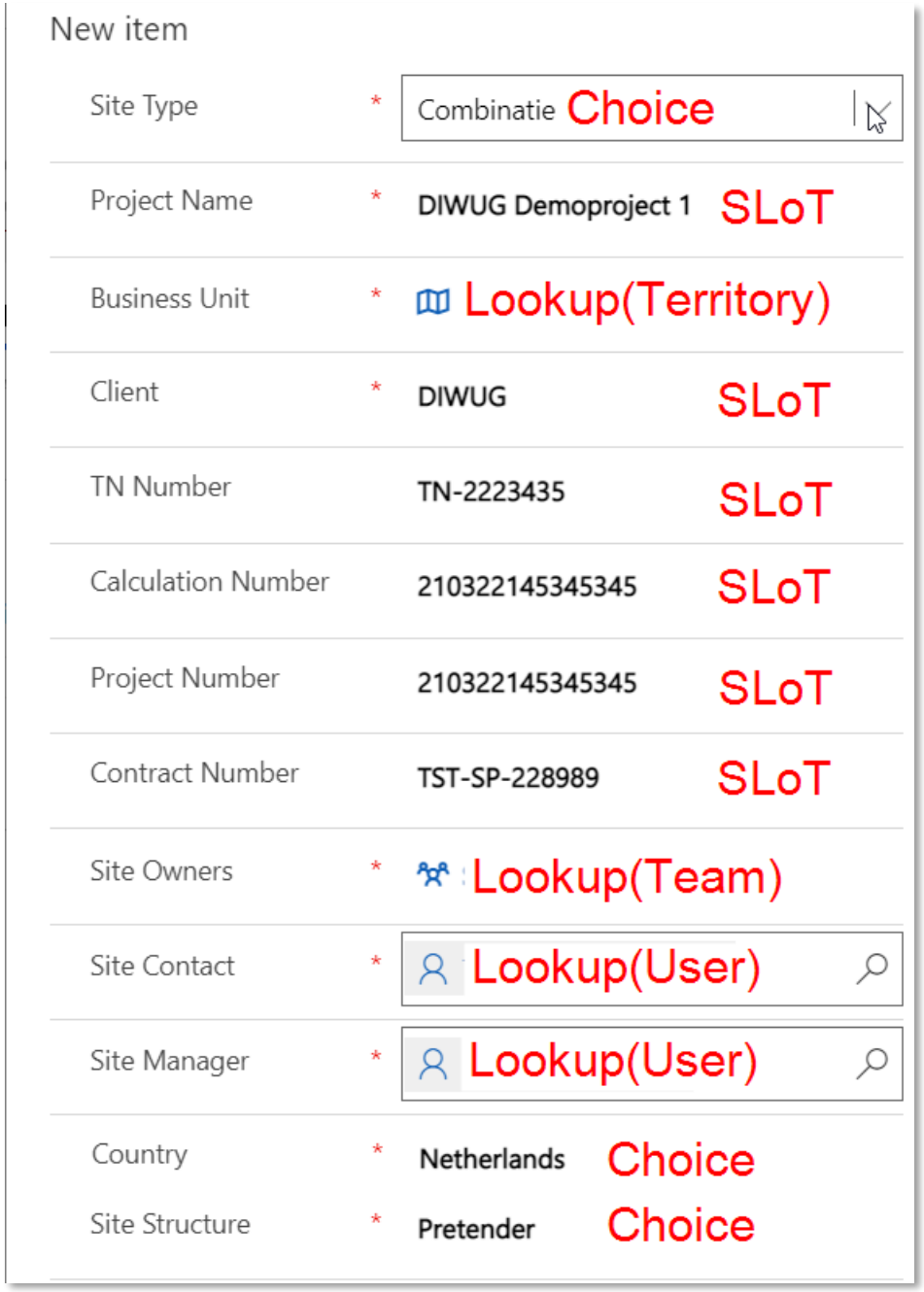
1. Store SP value with the row/record of the DV value
2. Use a mapping table to map SP and DV values
3. Use a lookup to a custom table with SP values
4. Use environment variables
5. Get value from SP with PA flow (instant)
6. Convert DV value to SP value/format with PA flow

PA flow

- Mapping in use case: 1, 2, 5, 6

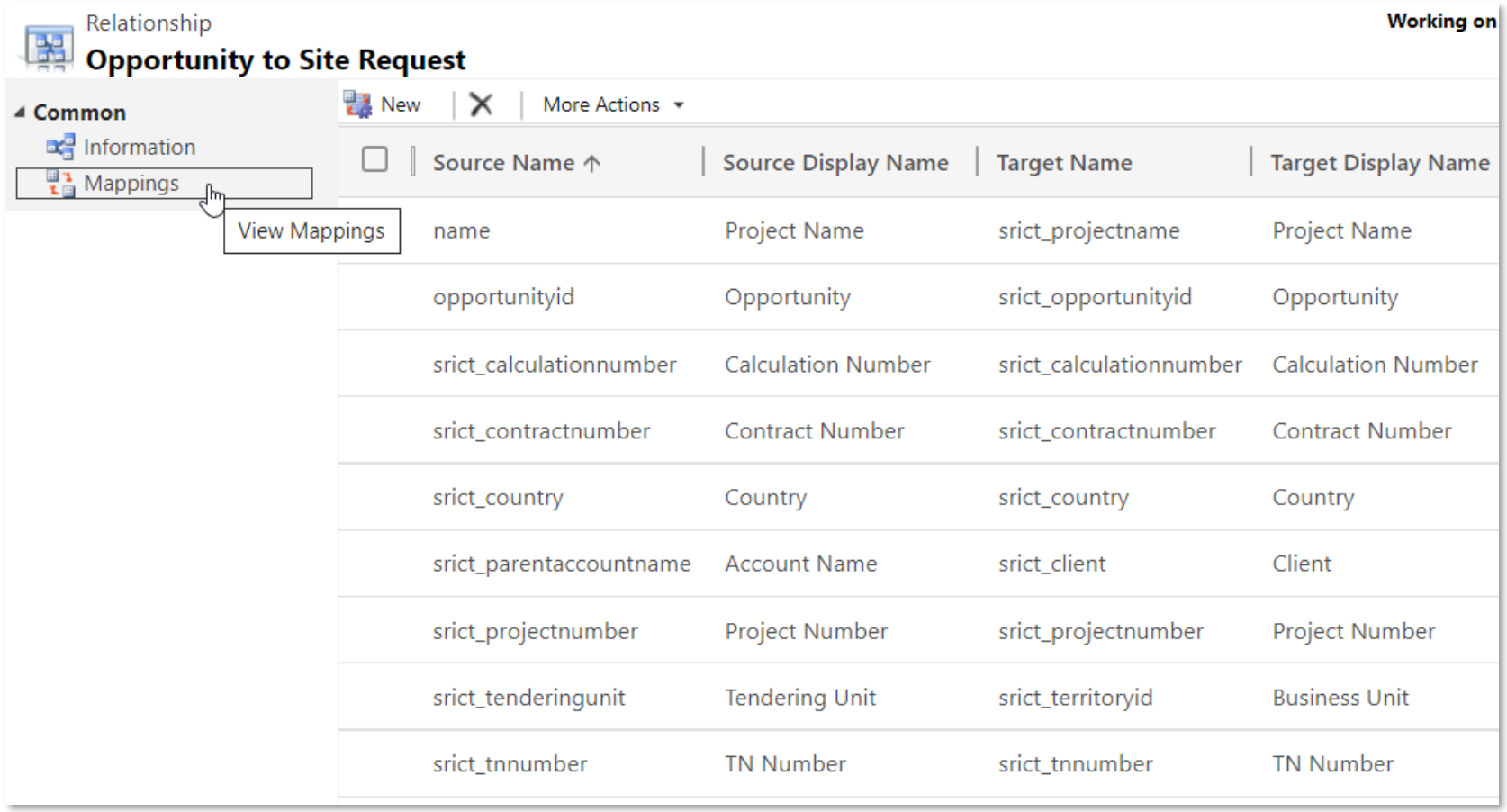
DV: New item


New item
Content Type
Internationale projectsite
Choice @ DV
Projectcode *
Enter value here
Autonumber @ DV
Projectnaam *
Enter value here
Max length 255 @ PA flow
Bedrijfsonderdeel *
Type term to tag
Lookup(Territory) @DV
Opdrachtgever
Enter value here
Copy of Calculated (Opportunity.AccountName) @ DV
Land
Type term to tag
Choice @ DV


New item
Site Type * Combinatie Choice
Project Name * DIWUG Demoproject 1 SLoT
Business Unit * Lookup(Territory)
Client * DIWUG SLoT
TN Number TN-2223435 SLoT
Calculation Number 210322145345345 SLoT
Project Number 210322145345345 SLoT
Contract Number TST-SP-228989 SLoT
Site Owners * Lookup(Team)
Site Contact * Lookup(User)
Site Manager * Lookup(User)
Country * Netherlands Choice
Site Structure * Pretender Choice

OOB: Field mapping

- Map attributes between related tables to set default values for a row that is created from parent
- Same type and format
- See Docs for specifics



OOB: Calculated column

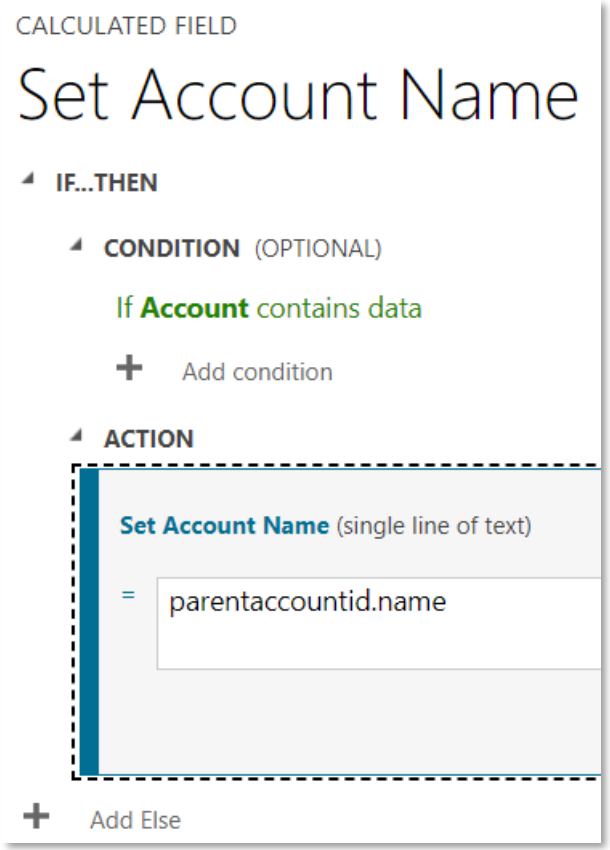
- Use columns from the current table or related parent tables from a many-to-one relationship
- Calculated fields are read-only
- Data types that support calculations: Text, Choice, Yes/No, Whole Number, Decimal Number, Currency, Date Time
- See Docs for specifics
- Future: Formula column based on Power Fx

- Use case

  → No field mapping of Lookup to Text

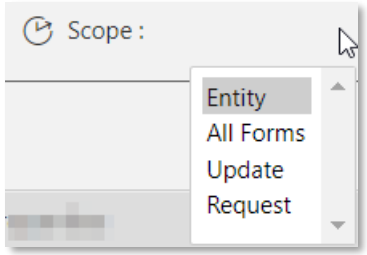
  → Calculated column (Text) @ Opportunity

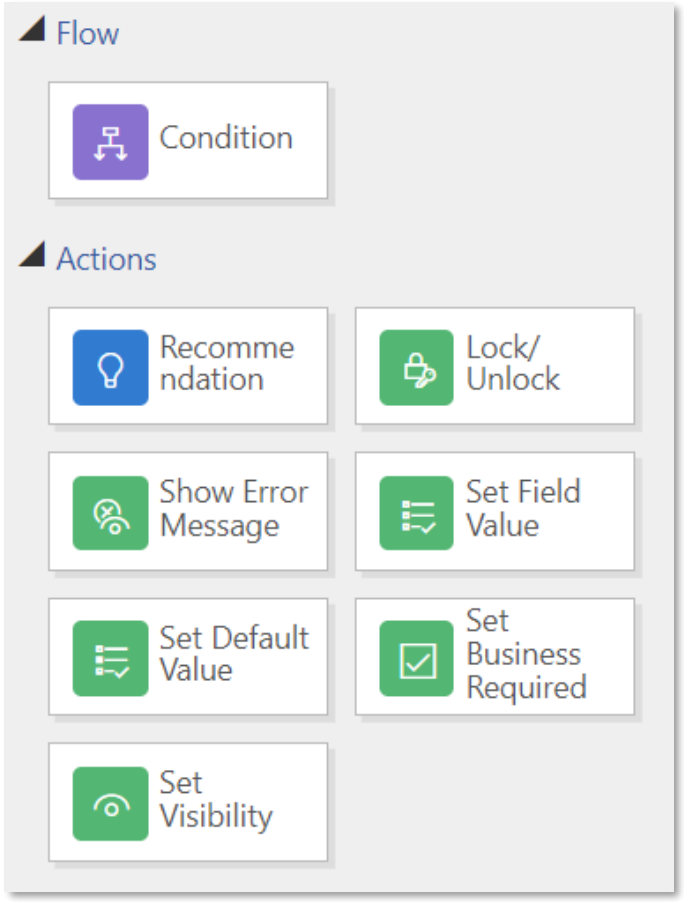
  → Mapping Text > Text



OOB: Business Rules

- Conditions & Actions (columns on form)
- Client side (javascript)
- Server side (UI, API, import)
- Validation (like in SP)
- Scope: Entity, All Forms, one of the forms
- All Forms scope includes Quick Create Form
- Use case
  - → Set default value (Entity scope)
  - → Hide/show columns in forms
  - → Set column (not) required, clear field
  - → (Un)lock Update field





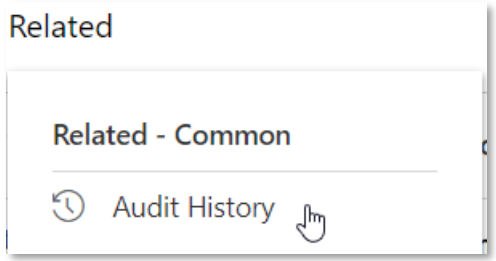
OOB: Auditing

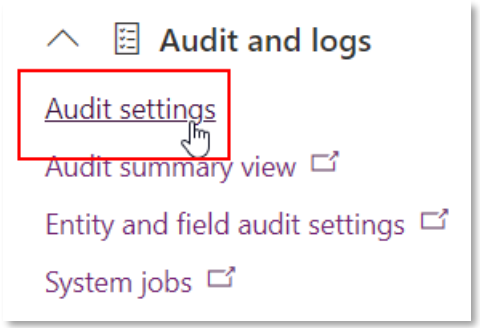
SP

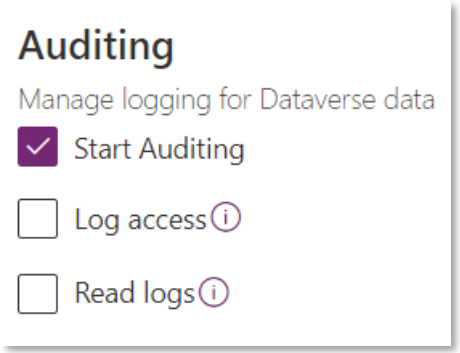
- Version history

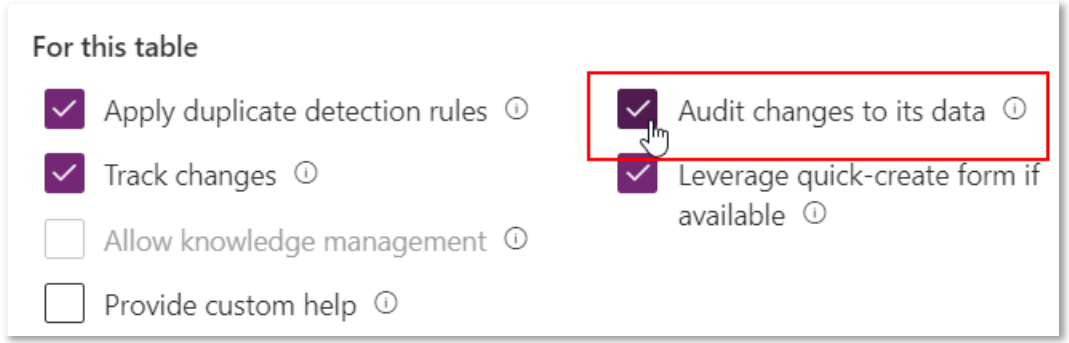
DV

- Audit History
  - → Start Auditing in environment settings
  - → Enable Auditing in table settings
  - → Form: Related tab > Audit History





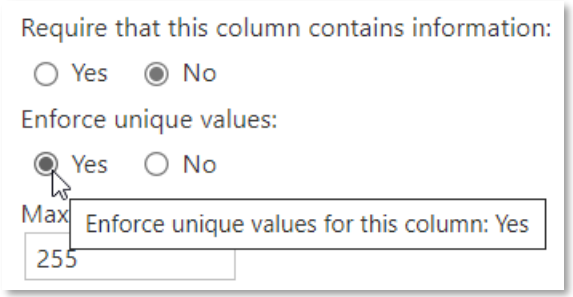




OOB: Unique values

SP

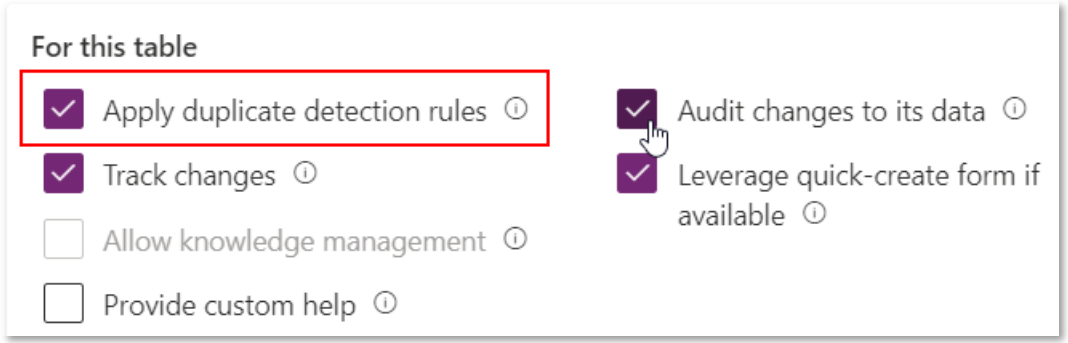
- Setting in list column



DV

- Duplicate detection

  → Check for matching values



- Alternate keys

  → Enforce unique rows

Column formatting in views

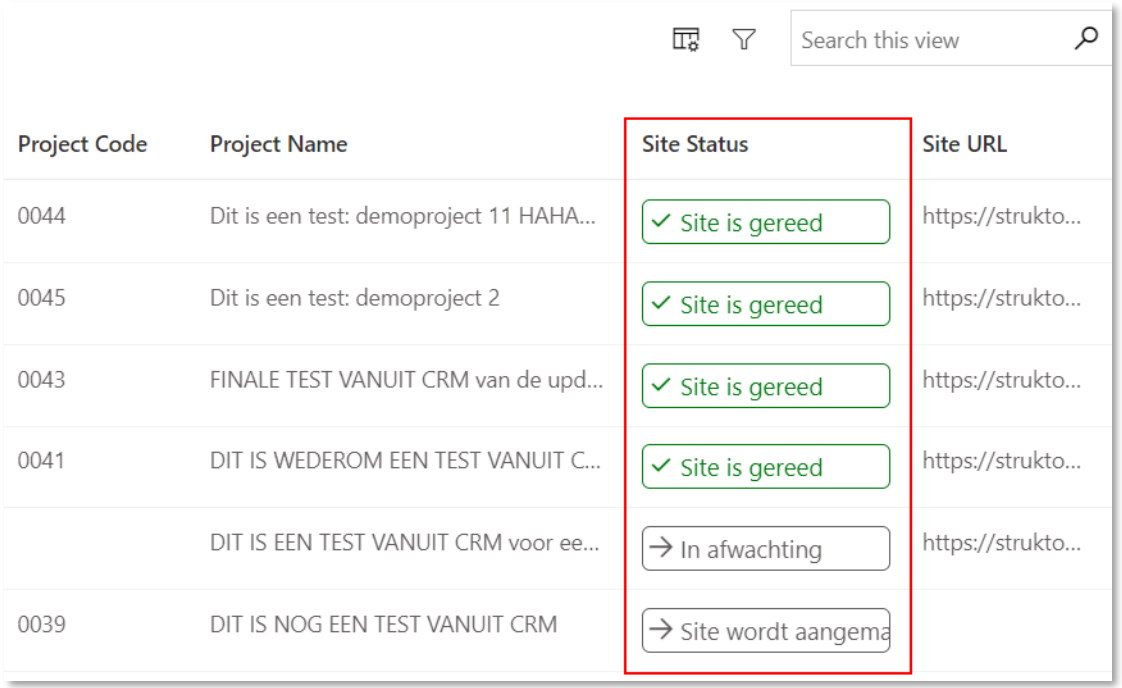
- JavaScript web resource, graphics web resource

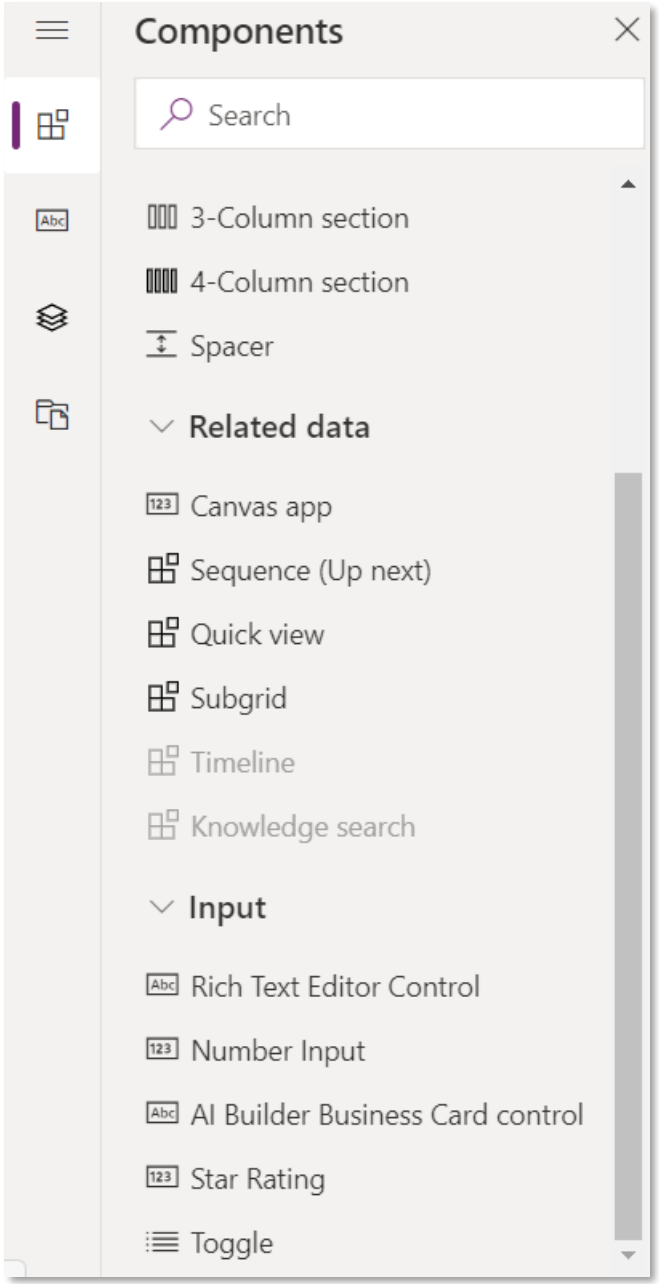
Some interest in our JJ...	Adventure W...	Won	7/18/2013	$94,800.82	7/21/2013	$95,000.00	Warm	
Test		Open					Warm	
They sell many of the ...	Contoso Phar...	Open	8/2/2013		1/7/2014	$26,000.00	Hot	95
Very interested in our ...	City Power & ...	Won	6/14/2013	$40,201.49	6/29/2013	$40,000.00	Hot	90
Very likely will order 1...	Alpine Ski Ho...	Open	8/2/2013		12/4/2013	$30,000.00	Hot	
Very likely will order 7...	A. Datum Cor...	Won	3/20/2013	$153,385.37	4/1/2013	$16,000.00	Cold	50
Will be ordering abou...	Coho Winery ...	Open	8/2/2013		2/5/2014	$25,000.00	Hot	80

- Custom control (PCF)

PCF

- Power Apps Component Framework
- Custom controls by Microsoft
- Custom controls by the community

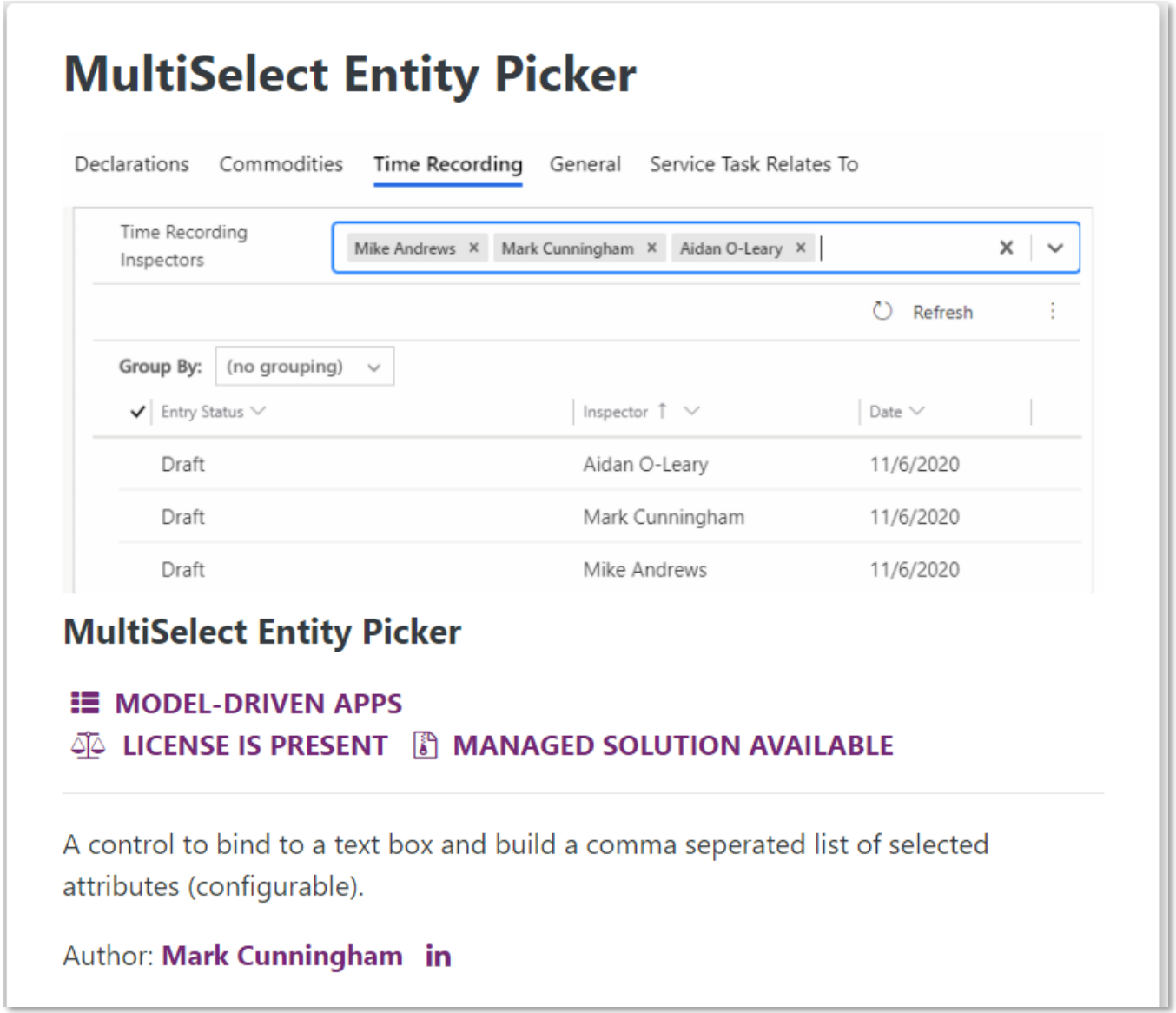




PCF Gallery

PCF Gallery

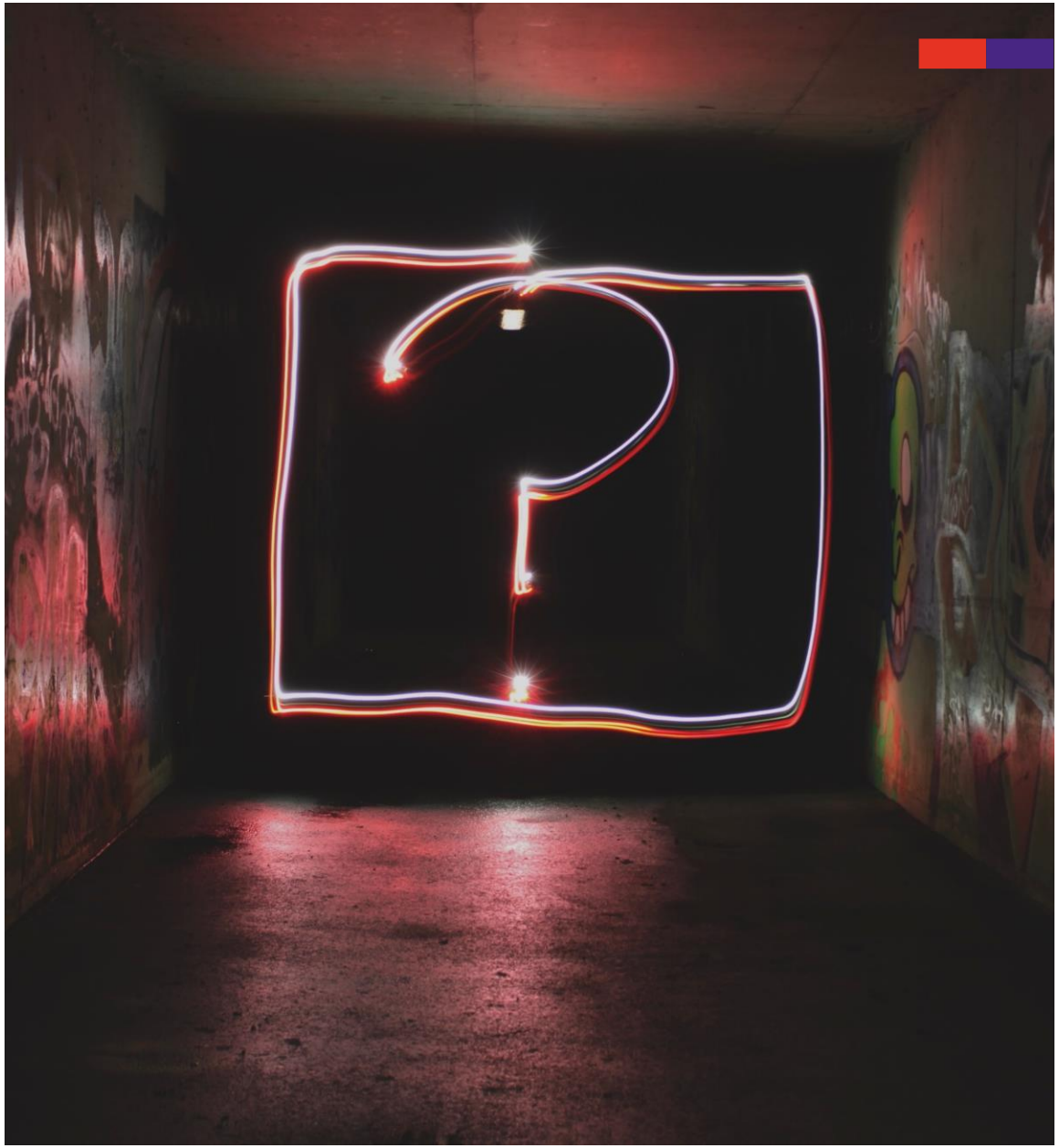
PCF solution for multiselect people picker (Person or Group column)



Demo

Conclusion

Q&A



The End