

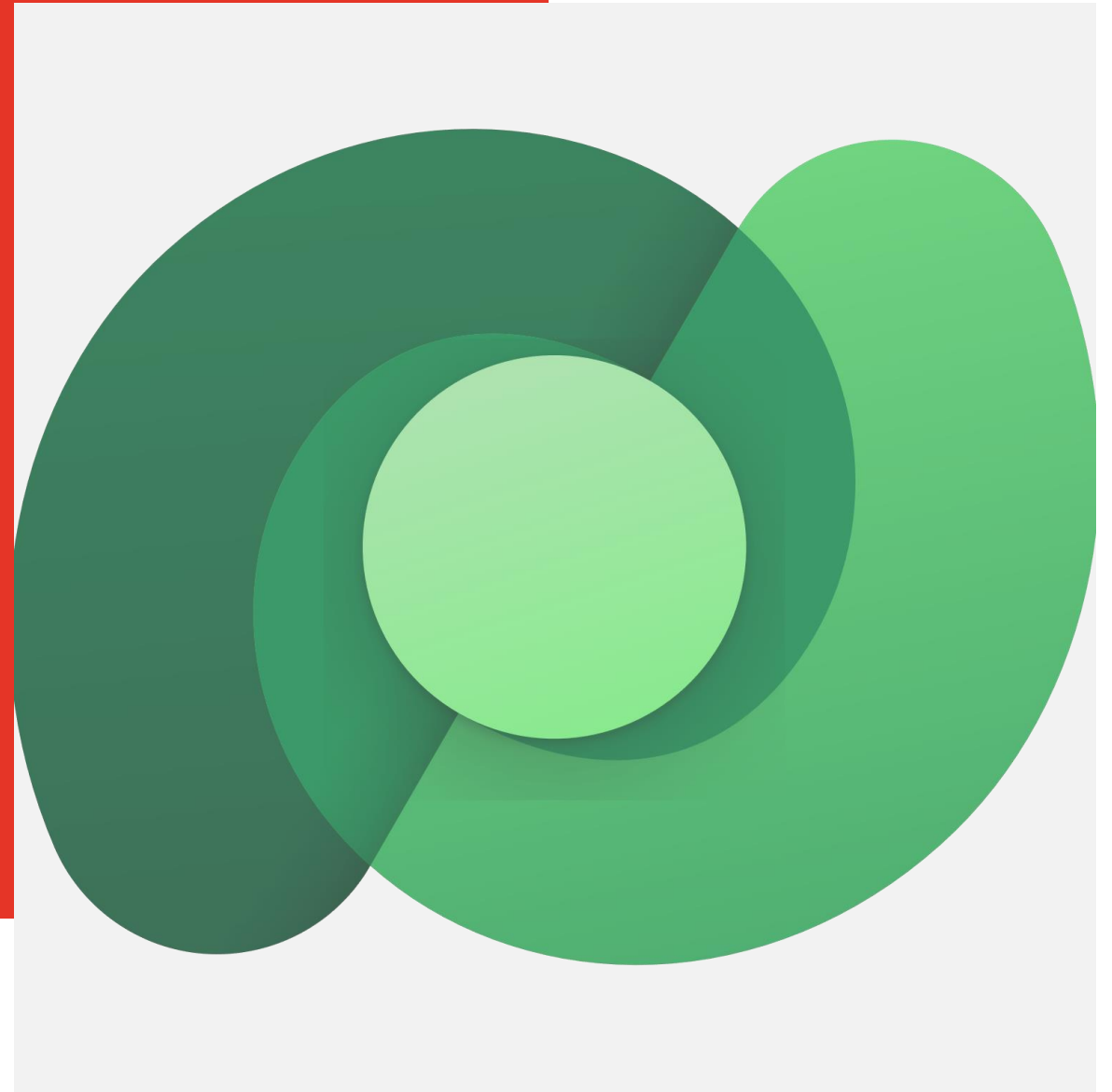
Neem een duik in Microsoft Dataverse voor het namaken van een SharePoint UX

Stefan Strube

25-1-2022



DIWUG



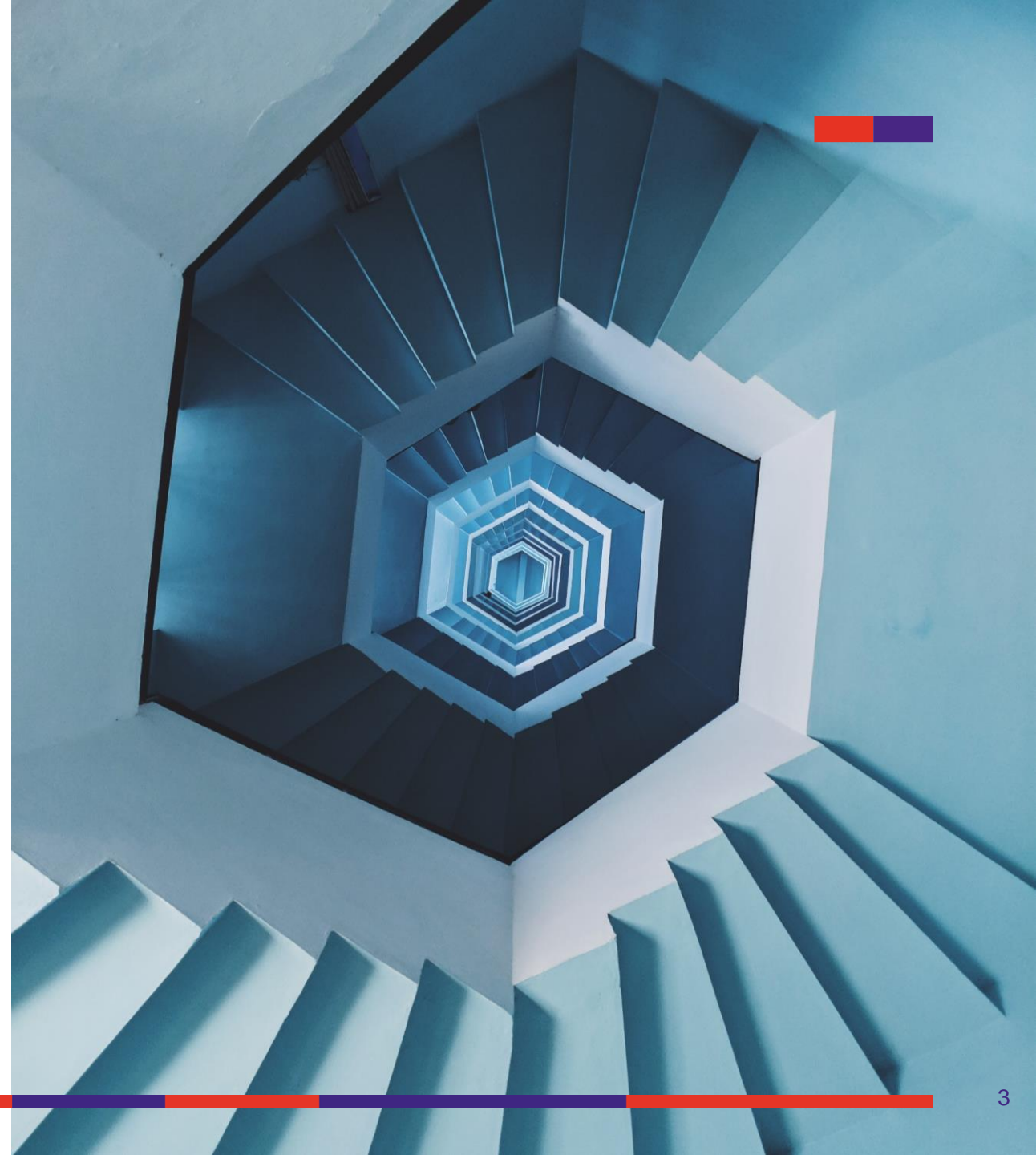
Stefan Strube

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- Microsoft Business Applications MVP
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- 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

+ New

Combinatie projectsite

Internationale projectsite

Eenvoudige projectsite

Edit

Share

Copy link

Comment

Delete

Automate

1 selected

Alle items*

Strukton CRM Online

Content type	Projectcode	Projectnaam	Site status	Site url	Projectsite eige...	Site contactper...	Site verantwoor
<div>Combinatie projectsite</div>	0045	Dit is een test: demoproject 2	✓ Site is gereed	https://strukton.sharep...	Robert <div></div> <div>Maarten <div></div></div> <div>Stefan <div></div></div>	<div></div> Support	Stefan <div></div>
Combinatie projectsite	0044	Dit is een test: demoproject 11 HAHAHAHAHAH	✓ Site is gereed	https://strukton.sharep...	Bill <div></div> <div>Robert <div></div></div> <div>Maarten <div></div></div> <div>Stefan <div></div></div>	Stefan <div></div>	<div></div> Support

Introduction Microsoft Dataverse



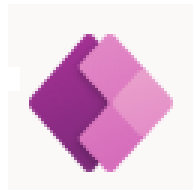
Microsoft Power Platform

The low-code platform that spans Office 365, Azure, Dynamics 365, and standalone applications



Power BI

Business analytics



Power Apps

Application development



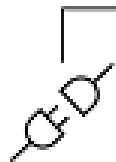
Power Automate

Process automation



Power Virtual Agents

Intelligent virtual agents



**Data
connectors**



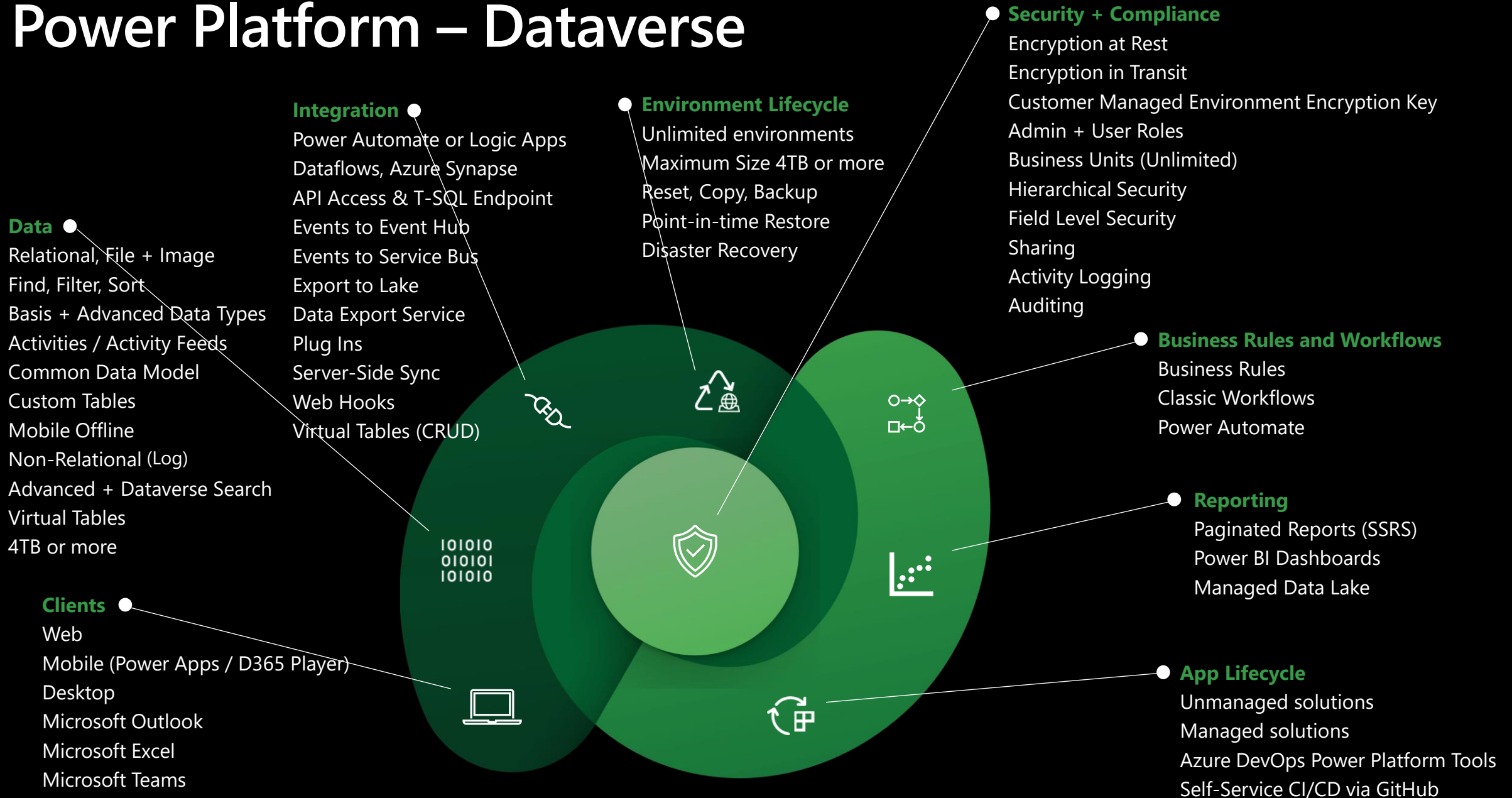
AI Builder



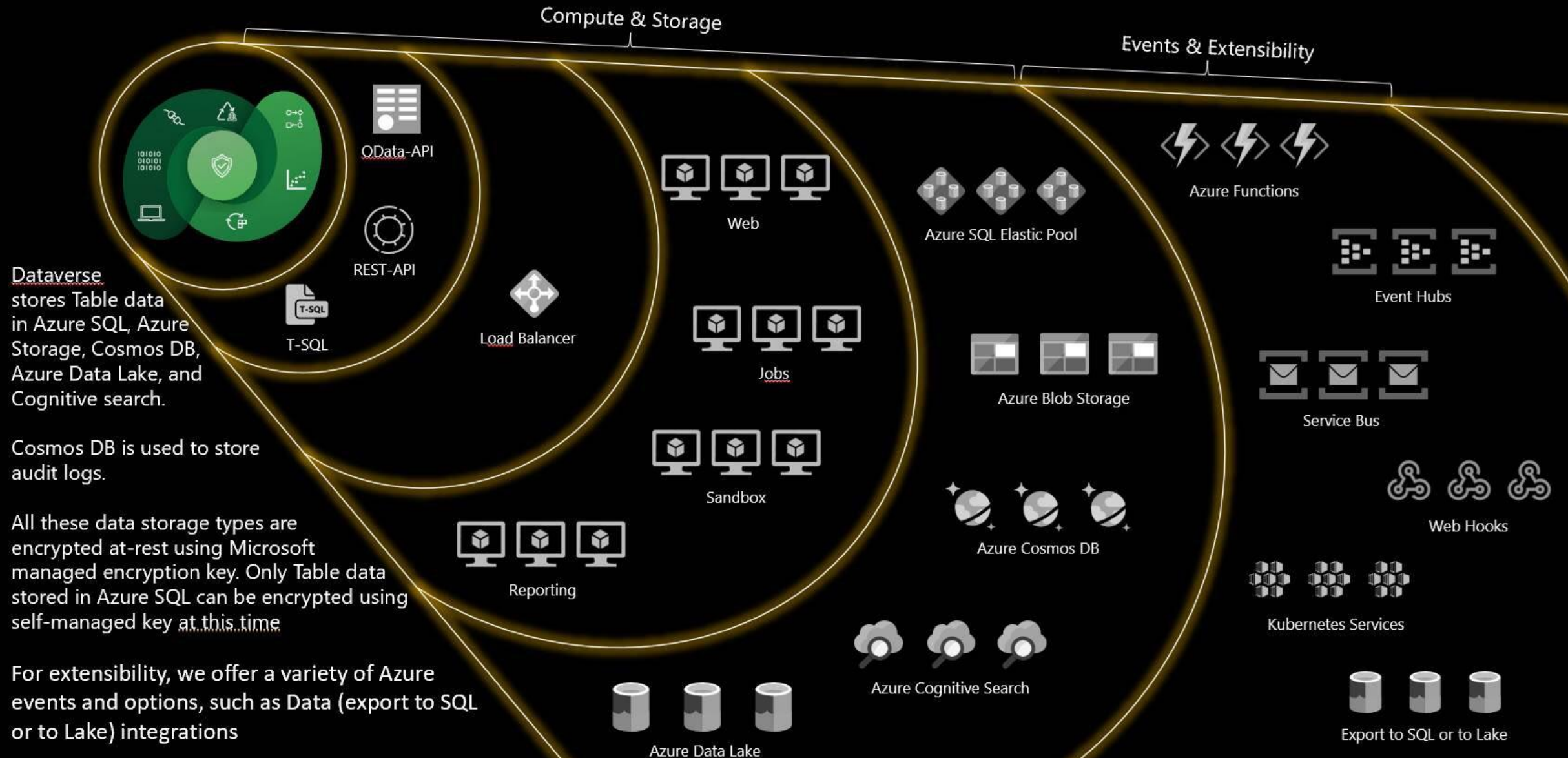
Dataverse



Power Platform – Dataverse

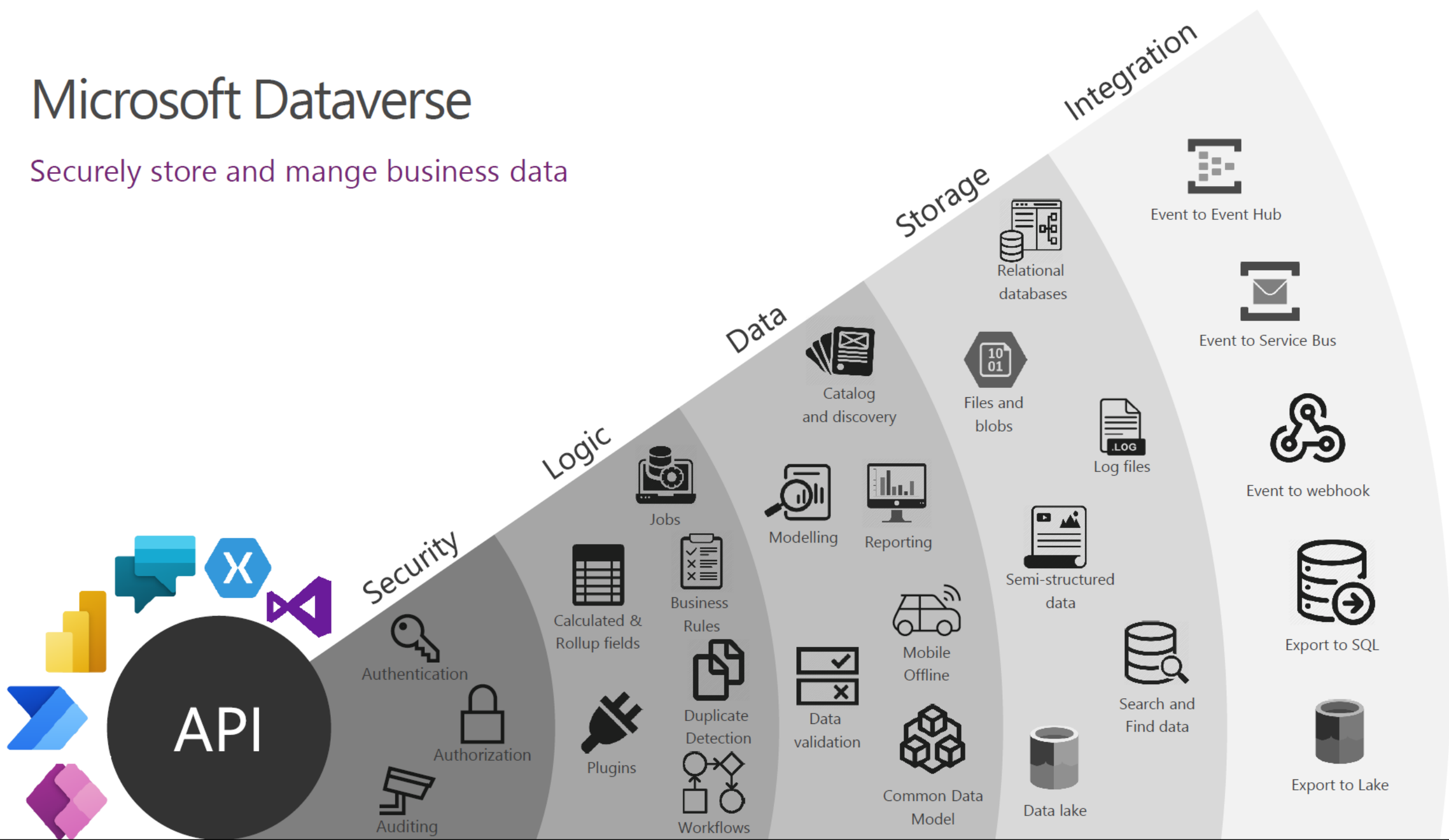


Power Platform – Dataverse: But what's behind?



Microsoft Dataverse

Securely store and manage 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

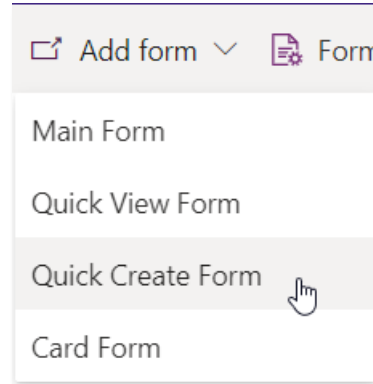
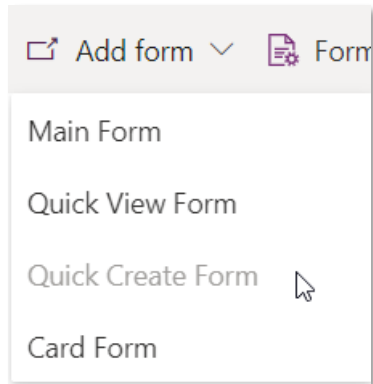
DV


- 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



Advanced options ^ 

Schema name *

Type *

Record ownership *

Choose table image

+ New image web resource

Color

Refine how data in this table is used and managed. Options marked with ¹ can't be turned off if enabled. [Learn more](#)

For this table

<input checked="" type="checkbox"/> Apply duplicate detection rules ⓘ	<input type="checkbox"/> Audit changes to its data ⓘ
<input type="checkbox"/> Track changes ⓘ	<input checked="" type="checkbox"/> Leverage quick-create form if available ⓘ
<input type="checkbox"/> Allow knowledge management ⓘ	
<input type="checkbox"/> Provide custom help ⓘ	

SP: New item

New item

Content Type

Internationale projectsite

1

Combinatie projectsite

2

Internationale projectsite

3

Eenvoudige projectsite

Projectnaam

Enter value here

Bedrijfsonderdeel *

Type term to tag

Opdrachtgever

Enter value here

Land

Type term to tag

TN nummer

Enter value here

Calculatiewerksnummer

Enter value here

Realisatiewerksnummer

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 *

—

Save

Cancel

Data types SP vs DV

The type of information in this column is:

- ☒ Single line of text
- ☐ Multiple lines of text
- ☐ Choice (menu to choose from)
- ☐ Number (1, 1.0, 100)
- ☐ Currency (\$, ¥, €)
- ☐ Date and Time
- ☐ Lookup (information already on this site)
- ☐ Yes/No (check box)
- ☐ Person or Group
- ☐ Hyperlink or Picture
- ☐ Calculated (calculation based on other columns)
- ☐ Image
- ☐ Task Outcome
- ☐ External Data
- ☐ Managed Metadata

Abc

Text

Text

Text Area

Email

URL

Ticker Symbol

Phone

Autonumber

123

Whole Number

Whole Number

Duration

Timezone

Language

Calendar

Date Time

Date and Time

Date Only

Choice

Choices

Currency

Customer

Decimal Number

File

Floating Point Number

Image

Lookup

Multiline Text

Yes/No

Data types use case

DV \Rightarrow SP (PA flow)

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

SP \Rightarrow DV (PA flow)

- Choice
- Hyperlink or Picture
- Integer (ID)

Take a dive into [Microsoft Dataverse](#) to recreate a SharePoint UX

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'])))`


Advanced options

 Collapse advanced options

☐ Enable column security

☒ Enable auditing 


☐ Appears in global filter in interactive experience dashboard 

☐ Sortable in interactive experience dashboard 

Max length *

100

IME mode

Auto 

Data type: Text > Autonumber

SP

Projectcode *

Enter value here

- 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

123

Add sequential number to format

Add datetime to format

Abc

Add random string to format

Number

×

Display name *

Number

Name *

sriect_ Number

Data type *

Autonumber

Required *

Optional

☒ Searchable

Autonumber type *

String prefixed number

Prefix

Minimum number of digits *

4

Seed value *

45

Preview

0045
0046
0047

Data type: Choice



SP

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

```
body
  "SRProjectnaam": "Dit is een",
  "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
  "sriect_sitetype": 476010000,
  "_sriect_sitetype_label": "Combinatie projectsite",
  "sriect_sitestructure": 476010000,
  "_sriect_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": "sriect_siterequests",
"recordId": "5d5dd608-3975-ec11-8943-000d3add6016",
"item/sriect_sitestatus": 476010004,
"item/sriect_siteurl": "https://strukton.sharepoint.c
```



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

```
"item/SRProjectsiteEigenaren": [  
  {  
    "Claims": "i:0#.f|membership|robert [REDACTED]@strukton.com"  
  },  
  {  
    "Claims": "i:0#.f|membership|Maarten [REDACTED]@strukton.com"  
  },  
  {  
    "Claims": "i:0#.f|membership|Stefan [REDACTED]@strukton.com"  
  }  
],
```



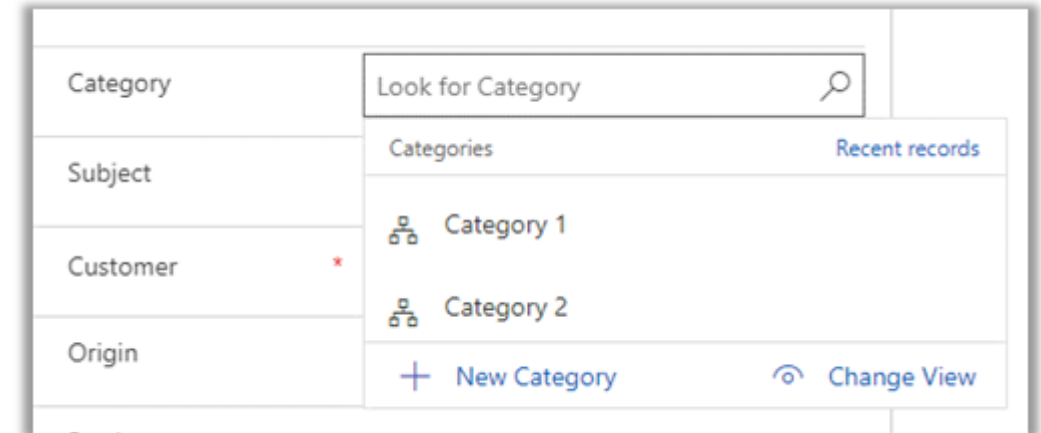
Data type: Managed Metadata



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)**

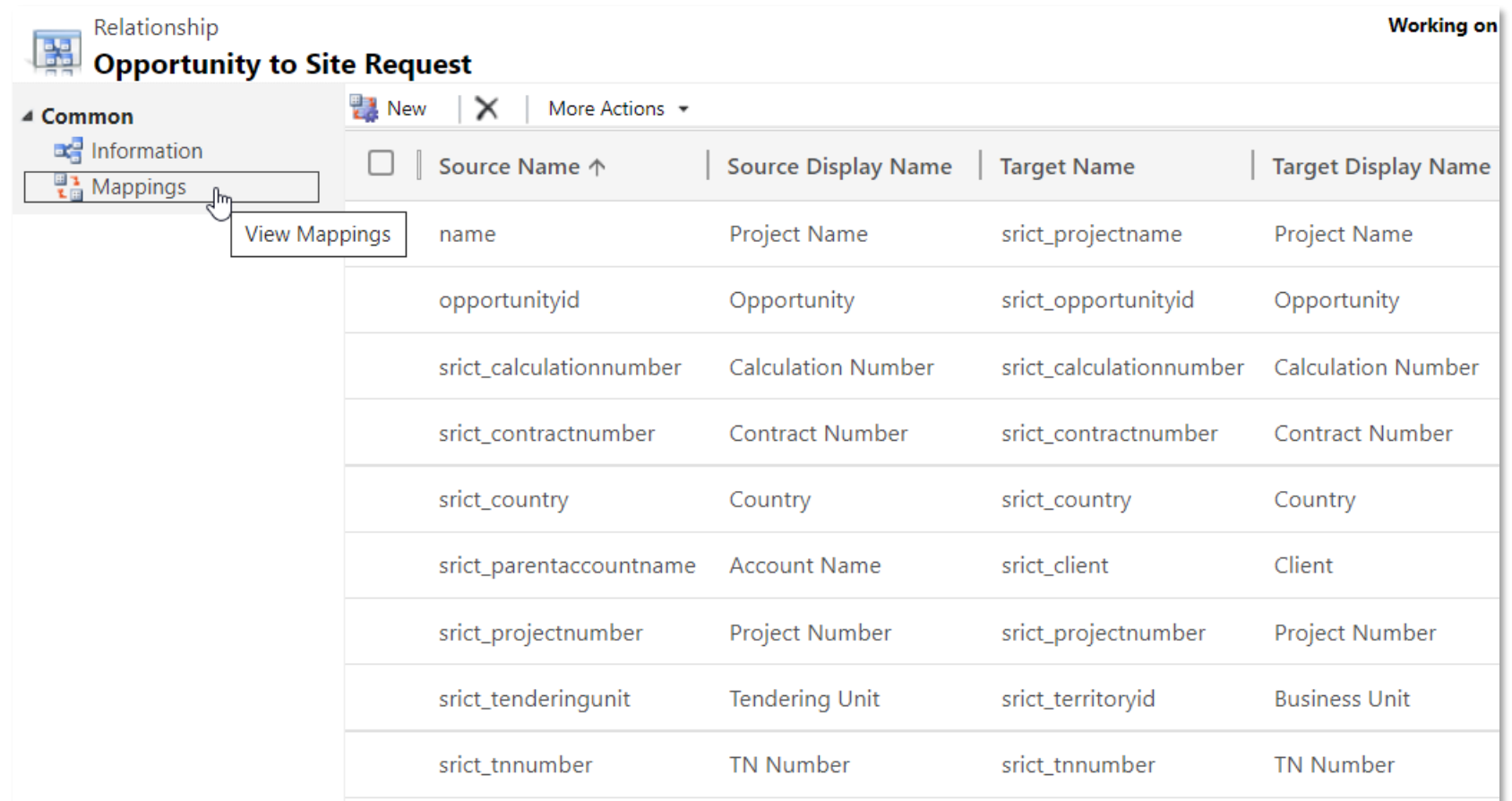
Site Manager * **Lookup(User)**

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



Relationship: Opportunity to Site Request

Working on

Common

- Information
- Mappings

View Mappings

Source Name	Source Display Name	Target Name	Target Display Name
name	Project Name	sRICT_projectname	Project Name
opportunityid	Opportunity	sRICT_opportunityid	Opportunity
sRICT_calculationnumber	Calculation Number	sRICT_calculationnumber	Calculation Number
sRICT_contractnumber	Contract Number	sRICT_contractnumber	Contract Number
sRICT_country	Country	sRICT_country	Country
sRICT_parentaccountname	Account Name	sRICT_client	Client
sRICT_projectnumber	Project Number	sRICT_projectnumber	Project Number
sRICT_tenderingunit	Tendering Unit	sRICT_territoryid	Business Unit
sRICT_tnnumber	TN Number	sRICT_tnnumber	TN Number

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

CALCULATED FIELD

Set Account Name

IF...THEN

CONDITION (OPTIONAL)

If **Account** contains data

+ Add condition

ACTION

Set Account Name (single line of text)

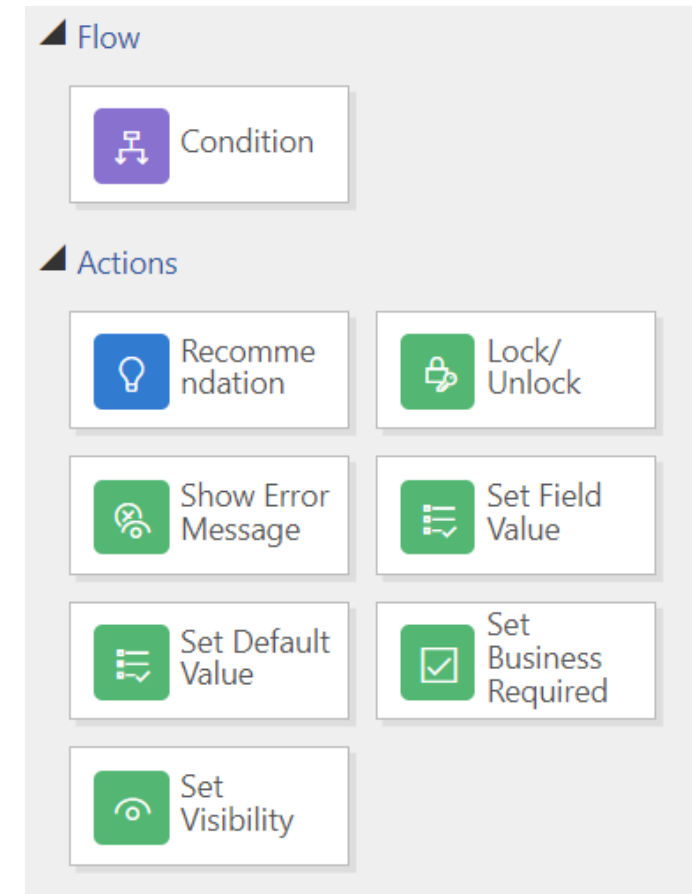
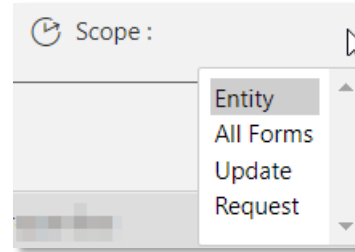
= parentaccountid.name

+ Add Else



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



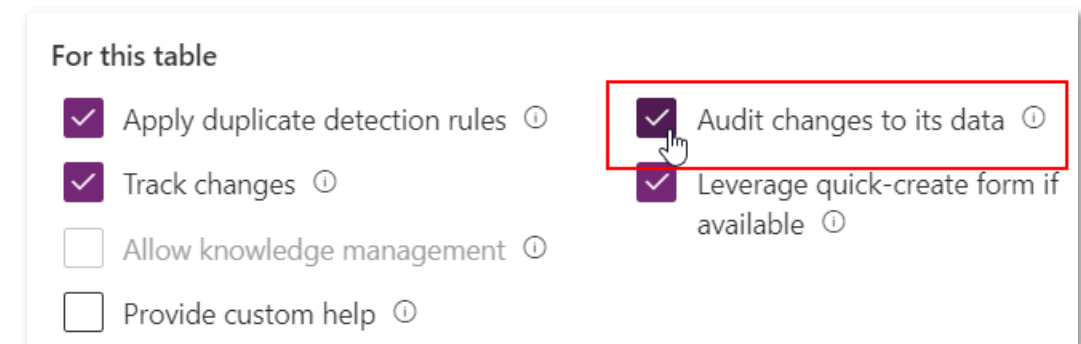
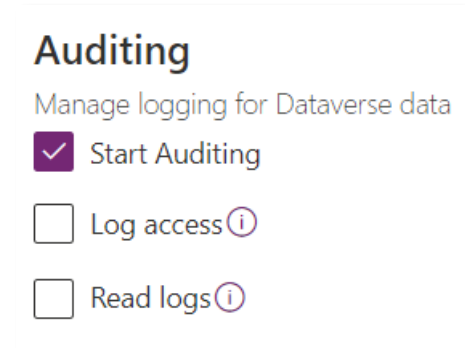
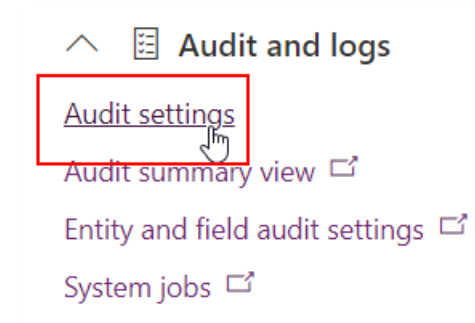
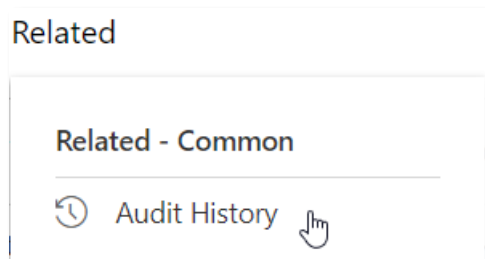
OOB: Auditing

SP

- Version history

DV

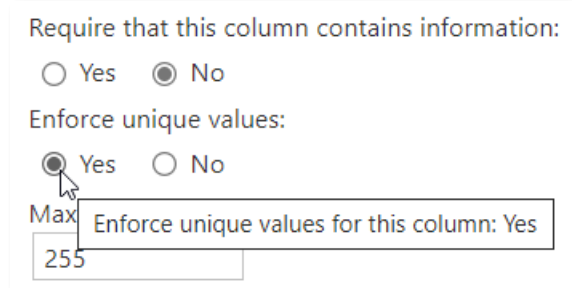
- Audit History
 - Start Auditing in environment settings
 - Enable Auditing in table settings
 - Form: Related tab > Audit History



OOB: Unique values

SP

- Setting in list column



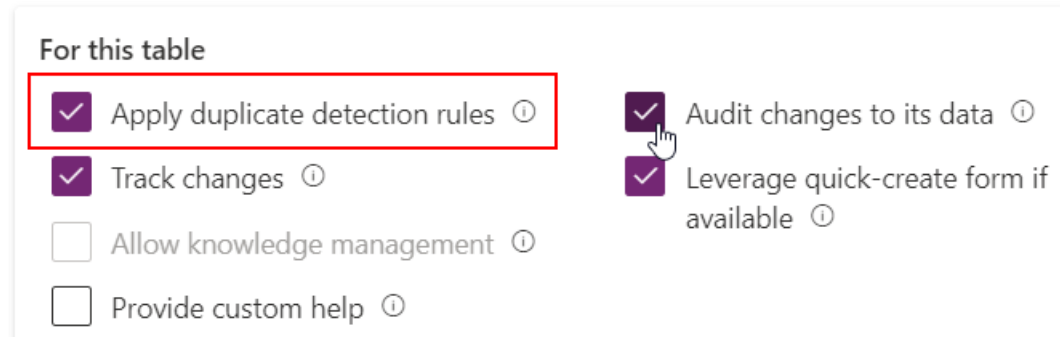
Require that this column contains information:
☐ Yes ☒ No

Enforce unique values:
☒ Yes ☐ No

Max Enforce unique values for this column: Yes

DV

- Duplicate detection
→ Check for matching values
- Alternate keys
→ Enforce unique rows



For this table

- ☒ Apply duplicate detection rules ⓘ
- ☒ Track changes ⓘ
- ☐ Allow knowledge management ⓘ
- ☐ Provide custom help ⓘ

- ☒ Audit changes to its data ⓘ
- ☒ Leverage quick-create form if available ⓘ

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

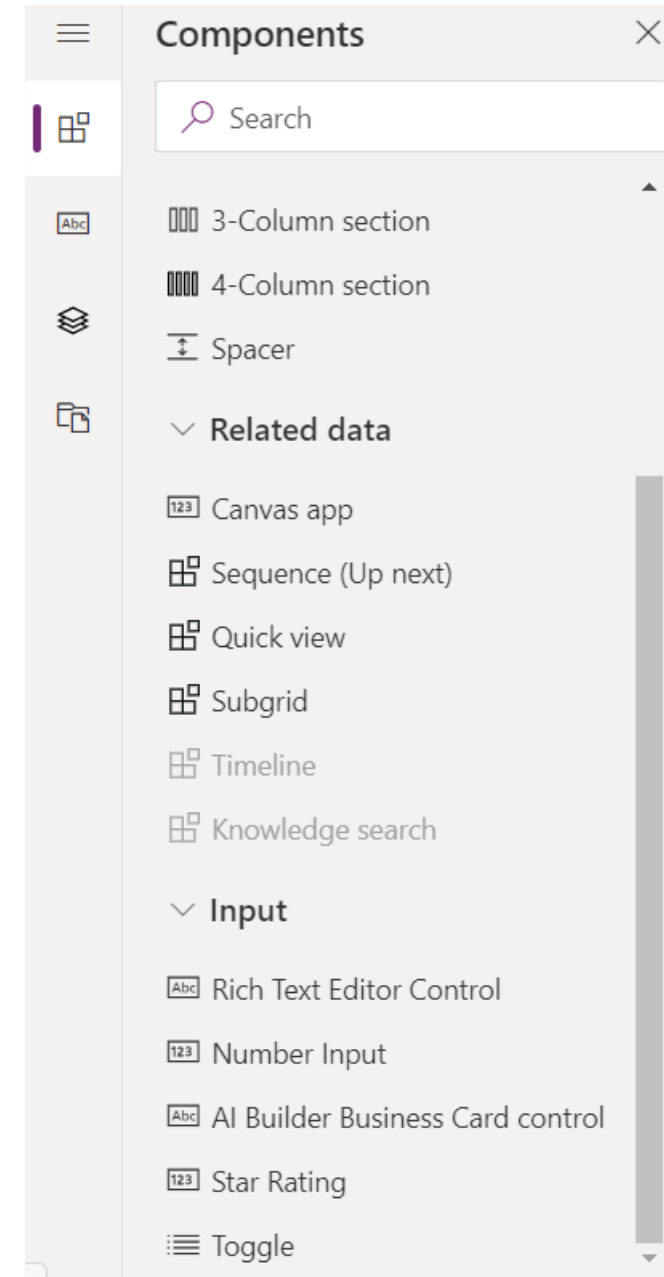
- Custom control (PCF)



PCF

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

Project Code	Project Name	Site Status	Site URL
0044	Dit is een test: demoproject 11 HAHA...	✓ Site is gereed	https://strukto...
0045	Dit is een test: demoproject 2	✓ Site is gereed	https://strukto...
0043	FINALE TEST VANUIT CRM van de upd...	✓ Site is gereed	https://strukto...
0041	DIT IS WEDEROM EEN TEST VANUIT C...	✓ Site is gereed	https://strukto...
	DIT IS EEN TEST VANUIT CRM voor ee...	→ In afwachting	https://strukto...
0039	DIT IS NOG EEN TEST VANUIT CRM	→ Site wordt aangema	



PCF Gallery



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

MultiSelect Entity Picker

Declarations Commodities Time Recording General Service Task Relates To

Time Recording
Inspectors

Mike Andrews x Mark Cunningham x Aidan O-Leary x | x v

Refresh

Group By: (no grouping) v

Entry Status v Inspector ↑ v Date v

Draft	Aidan O-Leary	11/6/2020
Draft	Mark Cunningham	11/6/2020
Draft	Mike Andrews	11/6/2020

MultiSelect Entity Picker

MODEL-DRIVEN APPS

LICENSE IS PRESENT MANAGED SOLUTION AVAILABLE

A control to bind to a text box and build a comma separated list of selected attributes (configurable).

Author: **Mark Cunningham** in

Demo



Conclusion



Q&A



The End