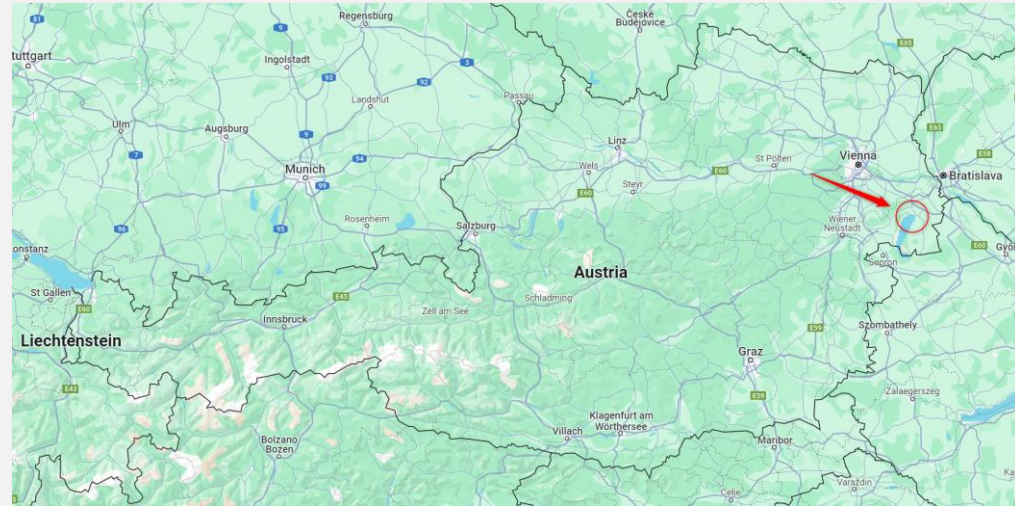


# Freshman RAP + Fiori-Elements

A beginner's (easy?) Journey

# Ihr Vortragender



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# Unser Team



# Unsere Kernkompetenzen



## Technologie und Beratung

SAP Dienstleister S/4HANA / ERP  
SAP Beratung  
SAP Logistik (SAP TM, SAP E(WM), SAP PM)  
SAP Technologie  
SAP Entwicklung  
snapWARE – Best Practice Software



SAP Quality Award Gewinner  
2010, 2012, 2013, 2014, 2016, 2019, 2020, 2021, 2022  
Seit 20 Jahren am Markt  
12 der ATX 20 Unternehmen vertrauen  
RIT & snap, ebenso wie viele KMU

## Healthcare – Logistik

Apotheke, Pflege und Materialwirtschaft  
Waren- und Gerätelogistik Verpflegungsmanagement  
Instandhaltung und Service

THINK BIG  
START SMART 

digital - sicher - einfach!

snap Tochterunternehmen/Softwareprodukt-  
entwicklung SAP basierte- bzw. integrierte Lösung  
zur **Digitalisierung** Ihrer **Freigaben-** und  
Unterschriftenprozesse. **Mobilisieren** Sie Ihre  
AnwenderInnen, gestalten Sie Ihre Prozesse  
**rechtssicher, fälschungssicher** und **nachvollziehbar.**



# Um was geht's?

## ➤ **Mein Einstieg in die SAP-Welt**

- Freshman RAP und Fiori Elements
- Fiori First Contact

## ➤ **Erstes riesiges Projekt**

- Kundenanforderungen umsetzen nur mit Fiori Elements?

## ➤ **Lessons Learned**

- Stolpersteine
- Wo finde ich Hilfe?

# Der Einstieg in die SAP-Welt

---

# Der Einstieg in die SAP-Welt

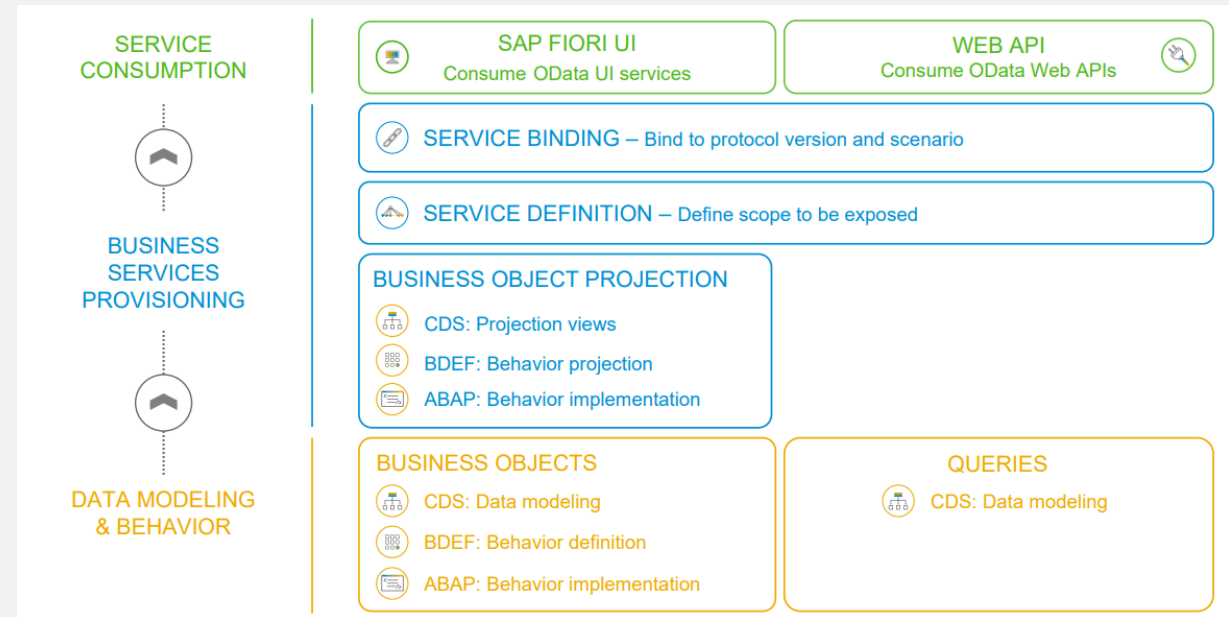
- Wie schon oft: Auf Empfehlung
- Die snap-Trainee-Akademie
  - [snap SAP Traineeprogramm](#)
- Grundausbildung in..
  - ABAP, ABAP OO (ungewohnte Sprache)
  - FPM
  - Basis Prozesswissen
  - NEU: RAP + Fiori Elements!
- Bewährt, Gut zu Lernen und Verstehen





# Freshman RAP

- Noch kein RAP Wissen, was nun?
  - SAP Developer Tutorials
  - OpenSAP Kurse (bis Juni)
  
- Viele A-Ha! Momente
  - Eclipse ADT
  - RAP als Programmiermodell
  - OData
  - Metadata Extension
  - Arten von Previews
  - Und viel mehr...

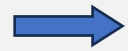
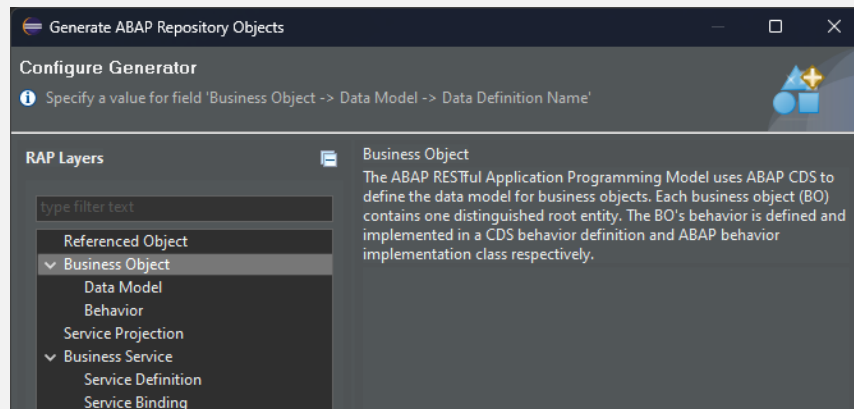
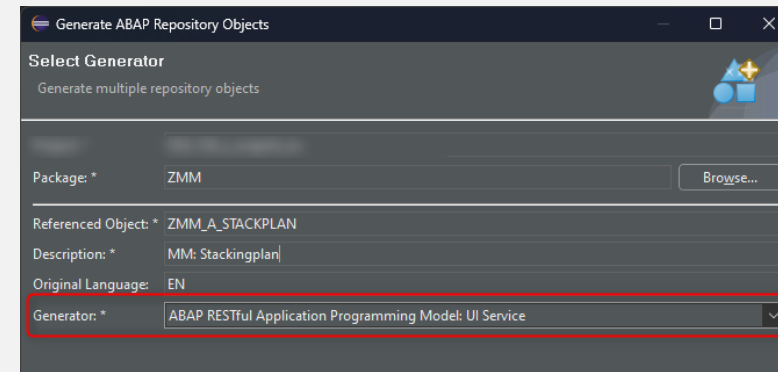
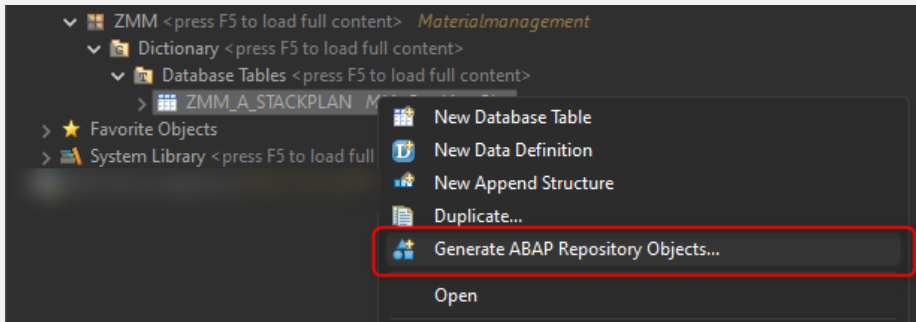






# Freshman RAP

- **RAP Generator:** Grundgerüst einer RAP-Applikation ausgenerieren



Repository Object Name	Type
<b>D</b> ZI_MM_PALLETTYPE	Data Definition
<b>B</b> ZI_MM_PALLETTYPE	Behavior Definition
<b>G</b> ZBP_I_MM_PALLETTYPE	Global Class
<b>M</b> ZMM_D_PALLETTYPE	Database Table
<b>D</b> ZC_MM_PALLETTYPE	Data Definition
<b>B</b> ZC_MM_PALLETTYPE	Behavior Definition
<b>E</b> ZC_MM_PALLETTYPE	Metadata Extension
<b>G</b> ZUI_MM_PALLETTYPE	Service Definition
<b>P</b> ZUI_MM_PALLETTYPE_O4	Service Binding



# Freshman Fiori Elements



## ➤ Visual Studio Code: Neue Entwicklungsumgebung

```
com.mam.ui5.pallettype > webapp > {} manifest.json > {} sap.app > {} dataSources > {} annotation
3  "sap.app": {
10  "title": "{{appTitle}}",
11  "description": "{{appDescription}}",
12  "resources": "resources.json",
13  "sourceTemplate": {
14    "id": "@sap/generator-fiori:lrop",
15    "version": "1.9.0",
16    "toolsId": "071b27e8-6320-495e-9c73-665b0e5c7b86"
17  },
18  "dataSources": {
19    "mainService": {
20      "uri": "/sap/opu/odata4/sap/zui_mm_pallettype_o4/srvd/sap/zui_mm_pallettype/0001/",
21      "type": "OData",
22      "settings": {
23        "annotations": [
24          "annotation"
25        ],
26        "localUri": "localService/metadata.xml",
27        "odataVersion": "4.0"
28      }
29    },
30    "annotation": {
31      "type": "ODataAnnotation",
32      "uri": "annotations/annotation.xml",
33      "settings": {
34        "localUri": "annotations/annotation.xml"
35      }
36    }
37  },
38  "sap.ui": {
39    "technology": "UI5",
40    "icons": {
41      "icon": "",
42      "favIcon": "",
43      "phone": "",
44      "phone@2": "",
45      "tablet": "",
46      "tablet@2": ""
47    }
48  }
}
```

# VSCode: SAP Fiori Tools



## ➤ Fiori: Open Application Generator

SAP Fiori application 🔗 Explore and Install Generators...

**Template Selection**  
Choose your application template.

Application Type \*  
SAP Fiori elements

Which template do you want to use? \*

- List Report Page**  
Create an SAP Fiori elements application containing a list report and an object page.  
[More information](#)
- Worklist Page**  
Create an SAP Fiori elements application containing a worklist and an object page.  
[More information](#)
- Analytical List P...**  
Create an SAP Fiori elements application containing an analytical list and an object page.  
[More information](#)

Overview Page    Form Entry Obj...    Custom Page

SAP Fiori application 🔗 Explore and Install Generators...

**Data Source and Service Selection**  
Configure the data source and select a service.

Data source \*  
Connect to an OData Service

OData service URL 🔗 \*

[← Back](#)    [Next >](#)

```
MAM (ARBEITSBEREICH)
├── com.mam.ui5.palleteType
│   ├── dist
│   │   ├── annotations
│   │   ├── i18n
│   │   ├── localService
│   │   ├── resources
│   │   ├── test
│   │   └── utils
│   ├── JS Component-dbg.js
│   ├── JS Component-preload.js
│   ├── JS Component.js
│   ├── index.html
│   ├── manifest.json
│   ├── node_modules
│   ├── webapp
│   ├── .gitignore
│   ├── package-lock.json
│   ├── package.json
│   ├── README.md
│   ├── ui5-deploy.yaml
│   ├── ui5-local.yaml
│   ├── ui5-mock.yaml
│   └── ui5.yaml
```

# Die erste Eigene RAP + Fiori Elements App



SAP Pallet Type

Standard

Editing Status: All Pallet type: Pallet description: Go Adapt Filters (1)

Pallet Types (4)

Pallet type	Pallet description	Material	Product Description
<input type="checkbox"/> EU	Euro pallet	200000025	PALETTE_EUR
<input type="checkbox"/> COW	Palette THT TEST	200000024	PALETTE_COW
<input type="checkbox"/> TEST1	TEST 1	200000024	PALETTE_COW
<input type="checkbox"/> TEST3	TEST 3	200000010	PALETTE_EUR



List Report

Object Page

SAP Pallet Type

EU

Edit Delete

Pallet type

Pallet type: EU	Product Description: PALETTE_EUR	Width: 800,000 MM
Pallet description: Euro pallet	Height: 2.200,000 MM	Length: 1.200,000 MM
Material: 200000025	Net Weight: 19.000,000 G	

# Fiori (Elements) First

Erstes Projekt nach der Grundausbildung

---

## Das erste Projekt

- Private Cloud (2022) Einführung bei MAM Babyartikel Schweiz
  - Microsoft Dynamics -> SAP Private Cloud
- Fiori First
  - Überlegung: Schaffen wir die Anforderungen mit Fiori Elements?
    - Erfahrung andere Projekte
  - **Ja!**

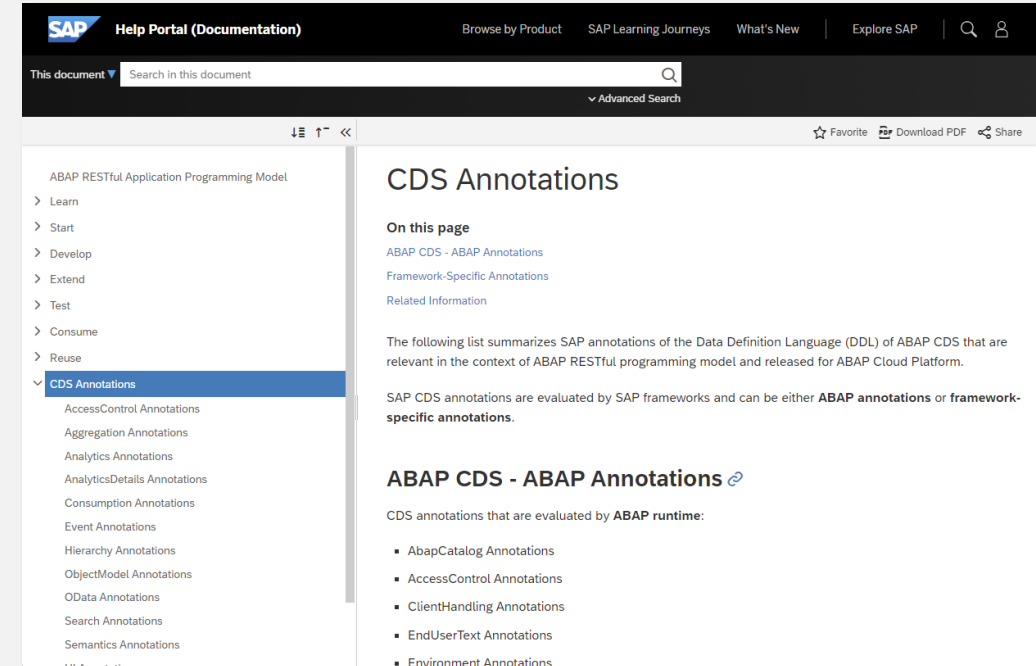


# Tutorials vs Echte Anforderungen

- Suchhilfen?
- Custom Actions?
- Metadata-Extension
  - Aussehen und Gruppieren der Felder?
- Verhalten der App steuern?

# Woher bekomme ich die Infos?

- [help.sap.com](https://help.sap.com)
  - Annotationen (UI, Semantics, Consumption)
  - Custom Actions
- VSCode Hilfen
  - Fiori: Open Application Generator
  - Fiori: Open Guided Development
    - Side Effects
      - Verfügbar ab SAP S/4HANA 2023 bereits im Backend verfügbar
  - Page Map
    - Layoutstyle ändern
    - Feldeigenschaften bearbeiten





# VSCode: Fiori Open Guided Development



com.mam.ui... | Search guides | Page Type | Project Guides

1 Configure side effects

2 Entity Type \*

3 Action

4 Side Effects Qualifier

### Configure side effects

About Step 1 Step 2

#### Add the side effect source

In this step, you will configure the source of the side effect. A source acts as a trigger for the side effect execution. The trigger can be a property change or a structural change to the entity or a function import action.

- Entity Type Selection**

Select the **Entity Type** of the side effect source.

**Entity Type \***

  - PalletTypeType
  - I\_DraftAdministrativeDataType
  - PalletTypeType

To execute a side effect after the execution of **PalletTypeType** import action, configure it as a source. If function import is selected as a source then skip the insert snippet in step 1 and proceed to step 2 for adding the target.

- Action**

Select the function import action
- Qualifier Parameter**

Enter a unique **Qualifier** for the side effect.
- Side Effects Qualifier**

Enter a unique qualifier

< Back | Next > | Exit Guide

# VSCode: Page Map



The screenshot shows the VS Code Page Map interface for a project named 'pallettype'. The left pane displays a hierarchical tree of pages:

- List Report** (PalletTypeList)
  - PalletType
- Object Page** (PalletTypeObjectPage) (highlighted with a red circle '1')
  - PalletType

The right pane shows the configuration for the selected 'Object Page'. It includes a search bar for properties, a 'Show descriptions' toggle, and several configuration sections:

- Flexible Column Layout** (highlighted with a red circle '2')
  - Options: Object, Configuration, Manifest
  - Description: The flexible column layout allows users to see more details on the page, and to expand and collapse the screen areas. For the overview page, this layout is not relevant.
  - Radio buttons:  Standard Layout,  Flexible Column Layout
- Flex Enabled** (Boolean)
  - Description: To enable key user adaptation for the application, set the flexEnabled property to "true".
  - Value: True
- Controller Extensions** (ListReport...)
  - Description: Controller extensions for all ListReport Pages.
  - Button: Add Controller Extension
  - Table:

ListReport	
	No controller defined
- Controller Extensions** (ObjectP...)
  - Description: Controller extensions for all ObjectPage Pages.

Standard

Editing Status:  Material:  Plant:

Ship. Instruction ID:  Packaging Number:  Outer Material:

Inner Material:  Control on:  Control by:

[Go](#) [Adapt Filters \(1\)](#)

Logistic Data (11) Copy Calculate All Create Delete

Material	Product Description	Plant
<input type="checkbox"/> 10000012	F_260ML_TEAT_2_SIL	2000
<input type="checkbox"/> 10000003	F_6M_SIL_ISCC+	5000
<input type="checkbox"/> 100000133	F_260ML_TEAT_3_SIL	2000
<input type="checkbox"/> 100000113	F_16+M_SIL_ISCC+	2000
<input type="checkbox"/> 100000118	F	2000
<input type="checkbox"/> 100000007		2000
<input type="checkbox"/> 100000007		1000
<input type="checkbox"/> 100000133	F_260ML_TEAT_3_SIL	3000
<input type="checkbox"/> 100000004	M_6M_ISCC+	1000
<input type="checkbox"/> 100000113	F_16+M_SIL_ISCC+	1000
<input type="checkbox"/> 100000116	F	1000

General Information Calculating History

General Info

Material: 100000012	Customer: 9001110000	Inner Material: -	Control on: -
Product Description: F_260ML_TEAT_2_SIL	Name: -	Manual: No	Control by: -
Plant: 2000	Packaging Number: FS-265-1A	No Update: No	
Ship. Instruction ID: TESTING	Outer Material: -	Note: -	

Calculating

<b>Consumer</b>	<b>Inner Carton</b>	<b>Outer Carton</b>	<b>Pallet</b>
Cons. Package Depth: 47,000 MM	Inner Depth: 0,000 MM	Outer Depth: 0,000 MM	Pallet Depth: 0,000 MM
Cons. Package Width: 69,000 MM	Inner Width: 0,000 MM	Outer Width: 0,000 MM	Pallet Width: 0,000 MM
Cons. Package Height: 145,000 MM	Inner Height: 0,000 MM	Outer Height: 0,000 MM	Pallet Height: 0,000 MM
Cons. Package Weight: 20,290 G	Inner Weight: 0,000 G	Outer Weight: 121,740 G	Pallet Weight: 0,000 G
Cons. Package Volume: 0,650 CD3	Inner Volume: 0,000 CD3	Outer Volume: 0,000 CD3	Pallet Volume: 0,000 CD3
Cons.Pack.Q: 0	Inner Cons. Packages: 0	Outer Cons. Packages: 6	Cons. Packages: 0
			Pallet Outer Count: 0
			Pallet Layer Count: 0
			Pallet OuterPLayer: 0
<b>Product</b>			
Product weight: 10,150 G			

History



Standard

Editing Status: All

Material: [Material] Plant: [Plant]

Ship. Instruction ID: [Ship. Instruction ID] Packaging Number: [Packaging Number] Outer Material: [Outer Material]

Inner Material: [Inner Material] Control on: [Control on] Control by: [Control by]

Go Adapt Filters (1)

Logistic Data (11)

Material	Product Description	Plant
<input checked="" type="checkbox"/> 10000012	F_260ML_TEAT_2_SIL	2000
<input type="checkbox"/> 10000003	F_6M_SIL_ISCC+	5000
<input type="checkbox"/> 10000133	F_260ML_TEAT_3_SIL	2000
<input type="checkbox"/> 10000113	F_16+M_SIL_ISCC+	2000
<input type="checkbox"/> 10000118	F	2000
<input type="checkbox"/> 10000007		2000
<input type="checkbox"/> 10000007		1000
<input type="checkbox"/> 10000133	F_260ML_TEAT_3_SIL	3000
<input type="checkbox"/> 10000004	M_6M_ISCC+	1000
<input type="checkbox"/> 10000113	F_16+M_SIL_ISCC+	1000
<input type="checkbox"/> 10000116	F	1000

Copy Calculate All Create Delete

Calculate Update Material Master

Draft

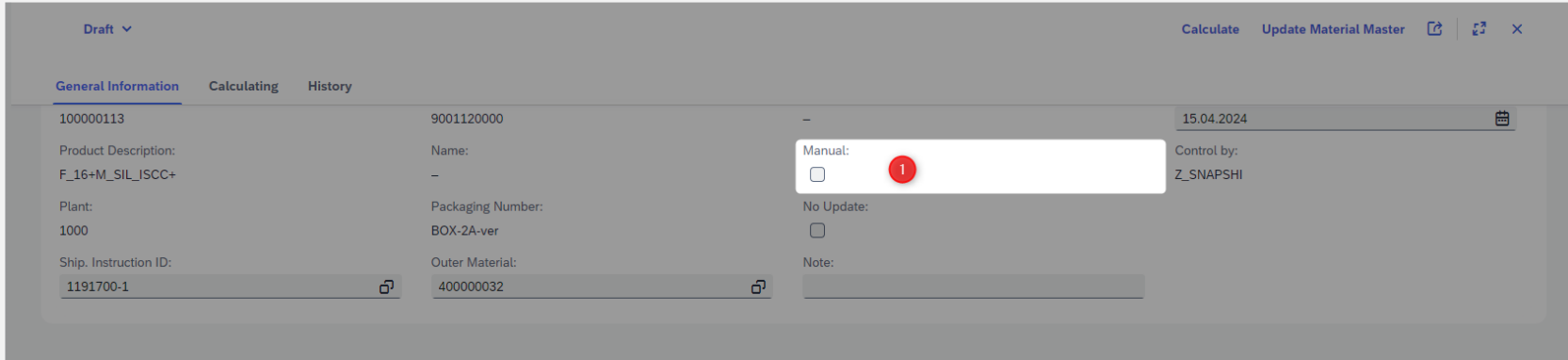
General Information Calculating History

10000113	9001120000	-	15.04.2024
Product Description: F_16+M_SIL_ISCC+	Name: -	Manual: <input type="checkbox"/>	Control by: Z_SNAPSHI
Plant: 1000	Packaging Number: BOX-2A-ver	No Update: <input type="checkbox"/>	
Ship. Instruction ID: 1191700-1	Outer Material: 400000032	Note:	

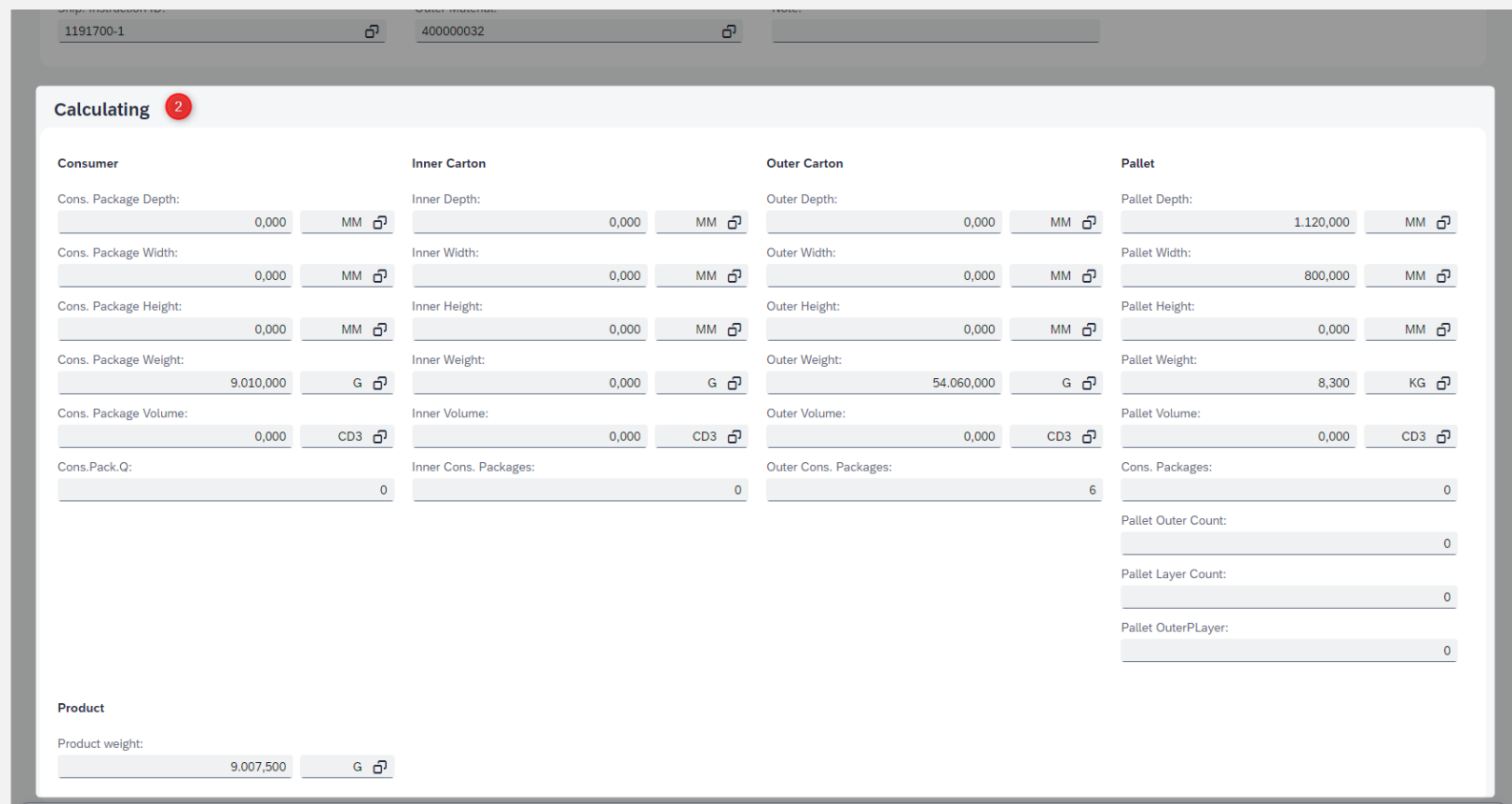
Calculating

Consumer	Inner Carton	Outer Carton	Pallet
Cons. Package Depth: 0,000 MM	Inner Depth: 0,000 MM	Outer Depth: 0,000 MM	Pallet Depth: 1,120,000 MM
Cons. Package Width: 0,000 MM	Inner Width: 0,000 MM	Outer Width: 0,000 MM	Pallet Width: 800,000 MM
Cons. Package Height: 0,000 MM	Inner Height: 0,000 MM	Outer Height: 0,000 MM	Pallet Height: 0,000 MM
Cons. Package Weight: 9,010,000 G	Inner Weight: 0,000 G	Outer Weight: 54,060,000 G	Pallet Weight: 8,300 KG
Cons. Package Volume: 0,000 CD3	Inner Volume: 0,000 CD3	Outer Volume: 0,000 CD3	Pallet Volume: 0,000 CD3
Cons.Pack.Q: 0	Inner Cons. Packages: 0	Outer Cons. Packages: 6	Cons. Packages: 0
			Pallet Outer Count: 0
			Pallet Layer Count: 0
			Pallet OuterPLayer: 0
<b>Product</b>			
Product weight: 9,007,500 G			






Checkbox um Felder im Edit-Mode umzuschalten zwischen Read/Edit



## Side Effect Beispiel


Eingabe eines Feldes

Control on:  
1  

Control by:  
-



Beeinflusst ein/mehrere Feld/er

Control on:  
 

Control by:  
Z\_SNAPSHI 2

# Anderes Pflegebild nach Anlageart

**Create**

Type:

New plant

Change (C)

New plant (N)

SAP Material New/Changes

SH

Edit Delete

General New

**General Info**

Running Number: 23	Material: -	Plant 1000: Yes
Created At: 10.08.2023, 09:25:04	Basic Material: -	Plant 5000: No
Type: New plant	Template ID: -	Delete Reason: Test deletion
Created By: Z_SNAPJSP	Collection number: -	Note: -
Completed By: Z_SNAPJSP	Pack: 456568648569	
Completed At: 10.08.2023	Status: New (00)	

**New**

Priority: No	KTN Layout PV: -	Quantity: 0,000
New Creation: No	KTN Layout released: No	Material: -
Copy: No	Pricelist updated at: 10.08.2023	Quantity: 0,000
Pricelist: No	Comment pricelist: -	Material: -

### Create

Type:

Change

Change (C)

New plant (N)

SAP Material New/Changes

Search, Notifications, SH

Edit Delete

General Change Change 2 Change 3 Change 4

#### General Info

Running Number: 26	Material: 100000013	Plant 1000: No
Created At: 11.08.2023, 08:26:07	Basic Material: -	Plant 5000: No
Type: Change	Template ID: -	Delete Reason: -
Created By: Z_SNAPJSP	Collection number: -	Note: -
Completed By: -	Pack: -	
Completed At: -	Status: New (00)	

#### Change

Old Material: 100000013	Do not mix in order: No	Modified PA-s: -
Material Old Plant: 1000	Valid from next order: No	Outer Layout: No
Quantity Old: 0 PC	Use up: No	Additional Material: -
Material New 1: 100000005	All: Yes	Add. Material Quan.: 0,000



### Standard

Bearbeitungsstatus:

Versandvorschrift ID:

Gültig ab:

gültig bis:

Kunde Intercompany:

Etikettentyp:

Palettentyp:

Max. Palettenhöhe:  MM

[Start](#) [Filter anpassen \(1\)](#)

### Versandvorschriften (11)

Versandvorschrift ID	Gültig ab	gültig bis	Kunde Intercomp...
<input type="checkbox"/> 1191700	10.07.2023	16.07.2023	1191700
<input type="checkbox"/> 1191700	17.07.2023	25.06.2023	1191700
<input type="checkbox"/> 1191700	26.06.2023	31.12.9999	1191700
<input type="checkbox"/> 1191700-1	01.05.2023	31.05.2023	1191710
<input type="checkbox"/> 1191700-1	01.06.2023	30.06.2023	1192100
<input type="checkbox"/> 1191700-1	01.07.2023	31.12.9999	1191800
<input type="checkbox"/> TEST_JSP	01.07.2023	31.12.9999	1191900
<input type="checkbox"/> AS1	25.06.2023	29.06.2023	
<input type="checkbox"/> AS1	30.06.2023	10.06.2023	
<input type="checkbox"/> TESTING	06.06.2023	19.02.2024	
<input type="checkbox"/> TESTING	20.02.2024	31.12.9999	

## TEST\_JSP

Entwurf

Kopieren

### Allgemeine Information Position Nachhaltigkeit

#### Allgemein

Versandvorschrift ID: TEST\_JSP

Gültig ab: 01.07.2023

gültig bis: 31.12.9999

Etikettentyp:

Palettentyp:

Max. Palettenhöhe:  MM

#### Kunde Intercompany

Kunde Intercompany:

Lieferland:

Kunde Intercompany Name:

Sprachenschlüssel:

#### Position

##### Materialien (2)

Material	Produktbeschreibung	Menge
<input type="checkbox"/> 100000039	V_R315-92A	1,500 M
<input type="checkbox"/> 100000043	V_L_UNPRINTED_E50X65A	2 ST

#### Nachhaltigkeit

##### Sustainabilities (1)

Nachhaltigkeit Code	Beschreibung	Nachhaltigkeit	Massnahme	Beschreibung	Länder-/Reg...
<input type="checkbox"/> SUSTAINABILITY_2	Nachhaltigkeit Code 2	4711_0815_ABC			

Sichern Entwurf verwerfen



# Mein Lessons Learned...

...und was ich euch mitgeben möchte

# Stolpersteine und Lessons Learned

## ➤ Verfügbare Annotationen

```
@Consumption.valueHelpDefinition: [ { entity: { name: 'ZI_MM_PalletTypeHelp',  
                                             element: 'PalletType' },  
                                     useForValidation: true } ]
```

## ➤ OData

- Conversion Routinen Komptabilität
- V2 vs V4
  - V4 -> keine Möglichkeit zu Filtern ohne UnitOfMeasure





## Unterm Strich

---

- Leichter zu Lernen als gedacht
- Viel Unterstützung
  - Tutorials
  - Erfahrene Kollegen
  - Unkomplizierte Lösungen
- Riesige Ergänzungen je Release
  - Neue und erweiterte Annotationen
  - Backend Befehle für Frontend Lösungen

# The best time to start the Fiori + RAP Journey is now!

- Hilfsmittel
  - RAP Generator
  - Visual Studio Code
- SAP Developer Tutorials
  - [Get to Know the ABAP RESTful Application Programming Model](#)
  - [Generate an SAP Fiori Elements Application based on a RAP-based Service](#)
  - [Building Apps with the ABAP RESTful Application Programming Model](#) (bis Juni)
  - [Developing and Extending SAP Fiori Elements Apps](#) (bis Juni)

# Danke fürs zuhören!

Und viel Spaß beim ausprobieren 😊