SAP S/4HANA Cloud
In-App Extensions

Power Week Session, SAP
August, 2019

PUBLIC

SAP Run Simple

SAP S/4HANA

Extensibility Cockpit

Overview about all extension objects of a business context in S/4HANA Cloud

Extensibility Cockpit

| UIs | APIs | Business Logic | Business Scenarios | CDS Views | Forms |

- End-to-end selection from solution scope, scope item to business context

- On further drill-down, see a full list of extendable objects for the selected business context

- See the already implemented extensions belonging to the filtered Business Context objects

- Respective links for navigation to objects and extensions, e.g. custom fields, standard APIs, CDS views

Sales Document

SD_SALESDOC

Structural Enhancements: Supported

Logical Enhancement: Supported

| 24 | 7 | 4 | 5 | 0 | 9 | 0 |
| UIs and Reports | APIs | Business Logic | Business Scenarios | CDS Views | Form Templates | Email Templates |

UIs and Reports (9)

Manage

UI Name	Data Source	Description	UI Type	Custom Fields Added
Manage Customer Returns	SD_F1708_CRT_MDL 0001	Manage Customer Returns	SAP Fiori (SAP UI5)	Create Custom Field
	SD_F1708_CRT_WL_MDL 0001	OData for Customer Returns Worklist	SAP Fiori (SAP UI5)	Create Custom Field
Manage Sales Contracts	SD_F1851_CONTR_WL_MDL 0001	Odata service for work list for sales contracts	SAP Fiori elements	Create Custom Field
Manage Sales Quotations	SD_F1852_QUOT_WL_MDL 0001	Odata for Work list for Sales Quotation	SAP Fiori elements	Create Custom Field
Manage Sales Orders	SD_F1873_SO_WL_MDL 0001	Odata for Work list for Sales Order	SAP Fiori elements	Shipping
Manage Debit Memo Requests	SD_F1988_DMR_WL_MDL 0001	OData for Debit Memo Requests Work List	SAP Fiori elements	Create Custom Field

SAP S/4HANA In-App Extensibility:
In-App Key User Extensibility Scenarios
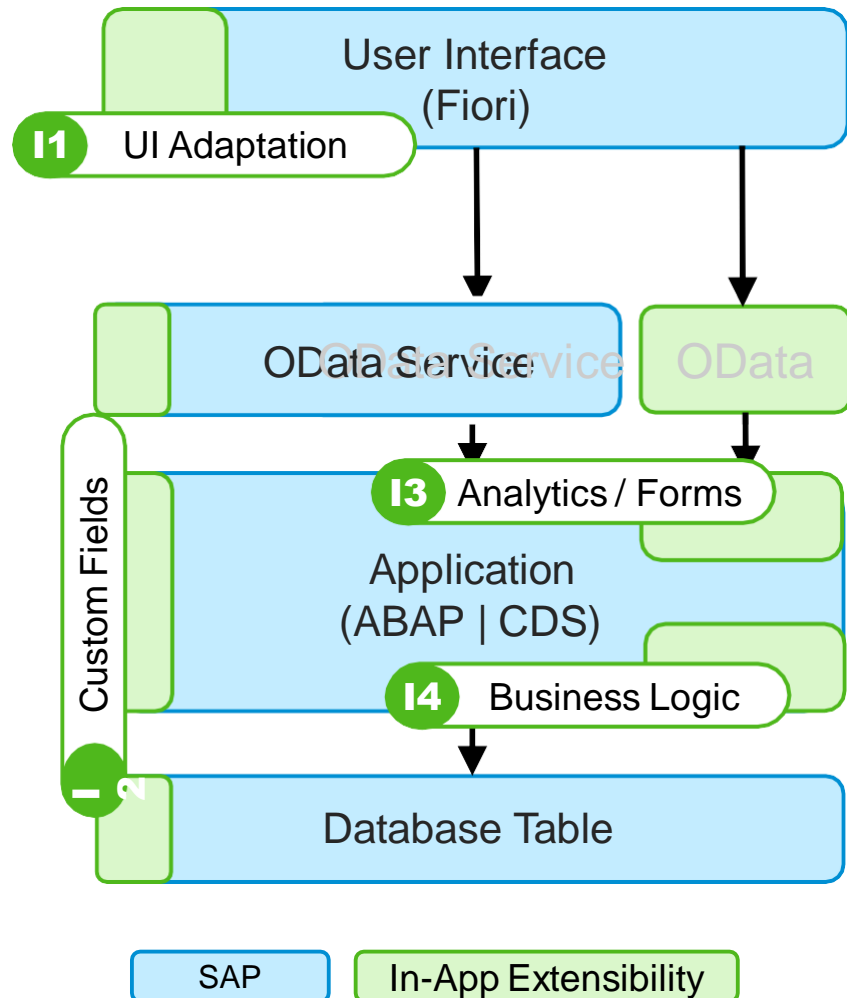
1. **Adapt UIs**

   show/hide/re-arrange/rename identifier of standard and custom fields

2. **Create custom fields**

   Define custom fields and publish it for dedicated CDS views, APIs, UIs

   DDIC is automatically generated, CDS views and OData services are automatically extended

3. **Custom Analytics and Forms**

   Assign defined custom fields for forms

4. **Implement Custom Business Logic („BAdIs")**

   Implement business logic in 'Restricted ABAP'; access custom fields, read other objects via CDS views; call external web-based services

SAP S/4HANA In-App Key User Extensibility: Custom Fields

Custom Service Interfaces

Custom User Interface

Custom Fields

Add fields to SAP standard objects

Name	Weight	YY1_Size

Custom Fields and Logic

All

Custom Fields

- Definition of custom fields
- Manage where to use: UIs, reports, forms, service interfaces, business scenario (data flows), search.
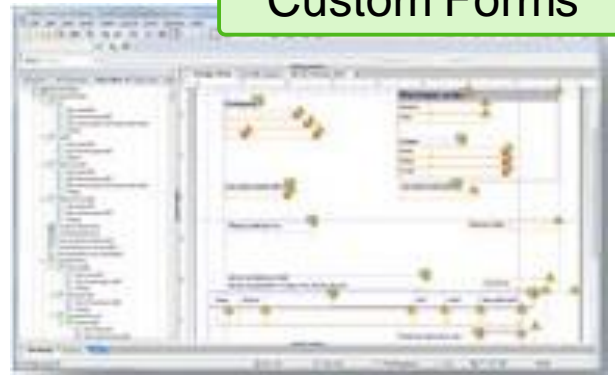
Custom Analytics

Business Scenario

Scenarios Available for Business Context Purchasing Document (2)

Description

> Purchase Order to Delivery on header level

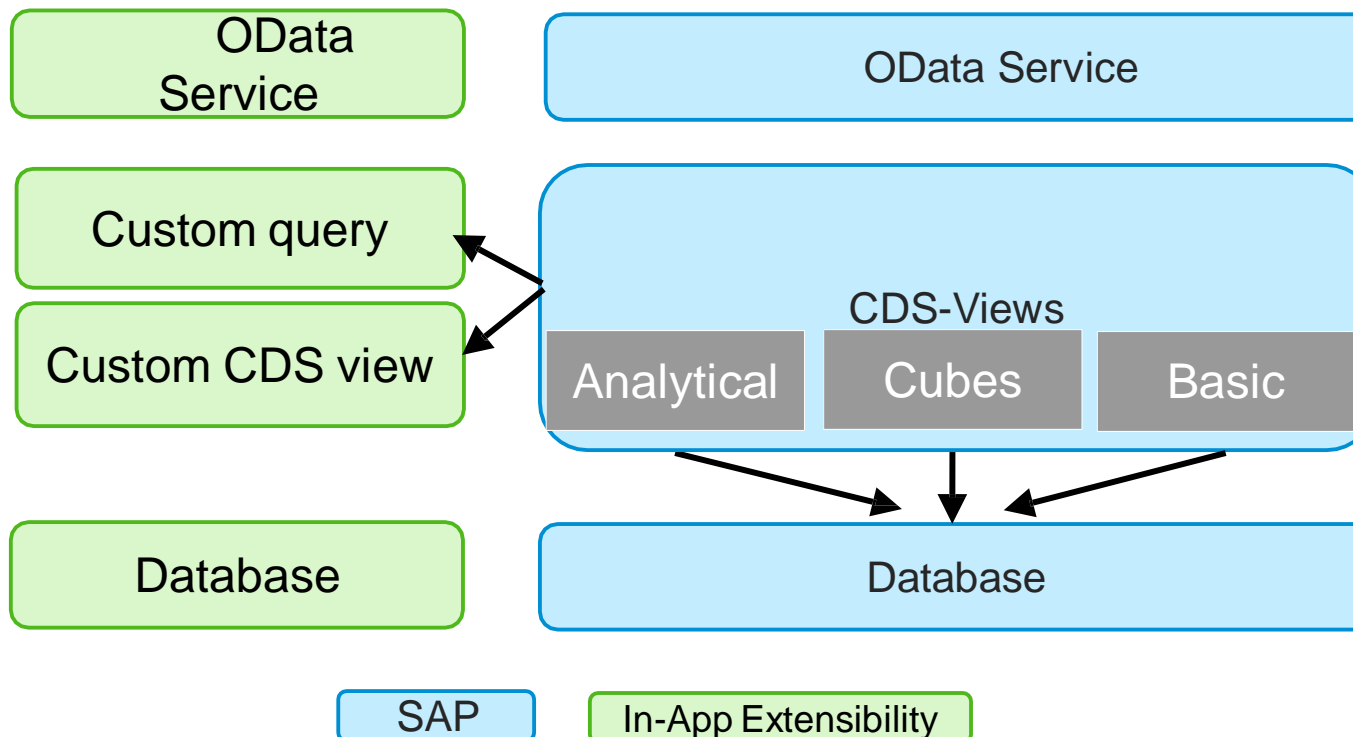> Purchase Requisition Item to Purchasing Document Header

Custom Forms

Standard ⊙

Search

Adapt Filters Go

Customer Records (29) | Standard * ⊙

Delete + ⚙

Order ID	Last Name	First Name	Shipping Address
○ 1499850530137	John	Doe	No.1001 chenhui road
○ 193	444	333	111
○ 1499931863354	John	Doe	No.1001 chenhui road
○ 1499933194213	John	Doe	No.1001 chenhui road
○ 1499934365161	John	Doe	No.1001 chenhui road
○ 1500275122511	John	Doe	No.1001 chenhui road
○ 1500275097050	John	Doe	No.1001 chenhui road
○ 1500276367420	John	Doe	No.1001 chenhui road

SAP S/4HANA In-App Extensibility:
Custom Reporting

Custom Reporting   **I3** Analytics / Forms

SAP S/4HANA Cloud

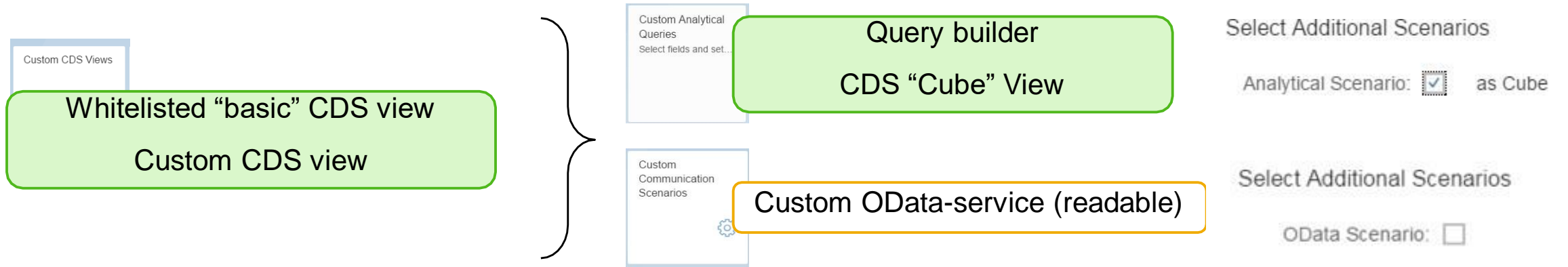| In-App Extensibility		SAP
OData Service	→	OData Service
Custom query	↔	**CDS-Views**
Custom CDS view		Analytical · Cubes · Basic
Database		Database

Extend the standard reporting

- Use SAP queries or cubes to define your own custom query

- Use > 700 released basic CDS views or cubes to define your own custom CDS view and
  - generate a custom cube,
  - design a KPI reporting,
  - or generate an external called OData service

SAP   In-App Extensibility

Custom CDS Views

Custom CDS views are based on whitelisted „I_" views (basic views)

Custom CDS Views

Custom Analytical Queries
Select fields and set...

Query builder

CDS "Cube" View

Custom Communication Scenarios

Whitelisted "basic" CDS view

Custom CDS view

Custom OData-service (readable)

Select Additional Scenarios

Analytical Scenario: ☑ as Cube

Select Additional Scenarios

OData Scenario: ☐

| General | Field Selection | Field Properties | Parameters | Filters |

Name and Label

*Name:	YY1_BasicTimeBHCube	
*Label:	basic time sheet	

Select Additional Scenarios

OData: ☐
Analytical: ☑ As Cube ▾

Status Information

Status: Draft
Changed At: 01/31/2018, 12:55:09 by CB9980001125

Other View Properties

Access Protection: Yes
Source Origin: Custom CDS View

Data Source (3)

Name	Label	Alias	Contains Parameters
⌄ Primary Data Sources (1)			
I_TimeSheetRecord	Time Recording Data	I_TimeSheetRecord	☐
⌄ Associated Data Sources (2)			
YY1_PackageBasicDataBH	Project Data	_YY1_PackageBasicDataBH_1	☐
I_PersonWorkAgreement	Retrieve the work agreements of the Person	_I_PersonWorkAgreement_2	☐

[Documentation about basic CDS views](#)

SAP S/4HANA Cloud In-App Extensibility:
Customer Development Extensions
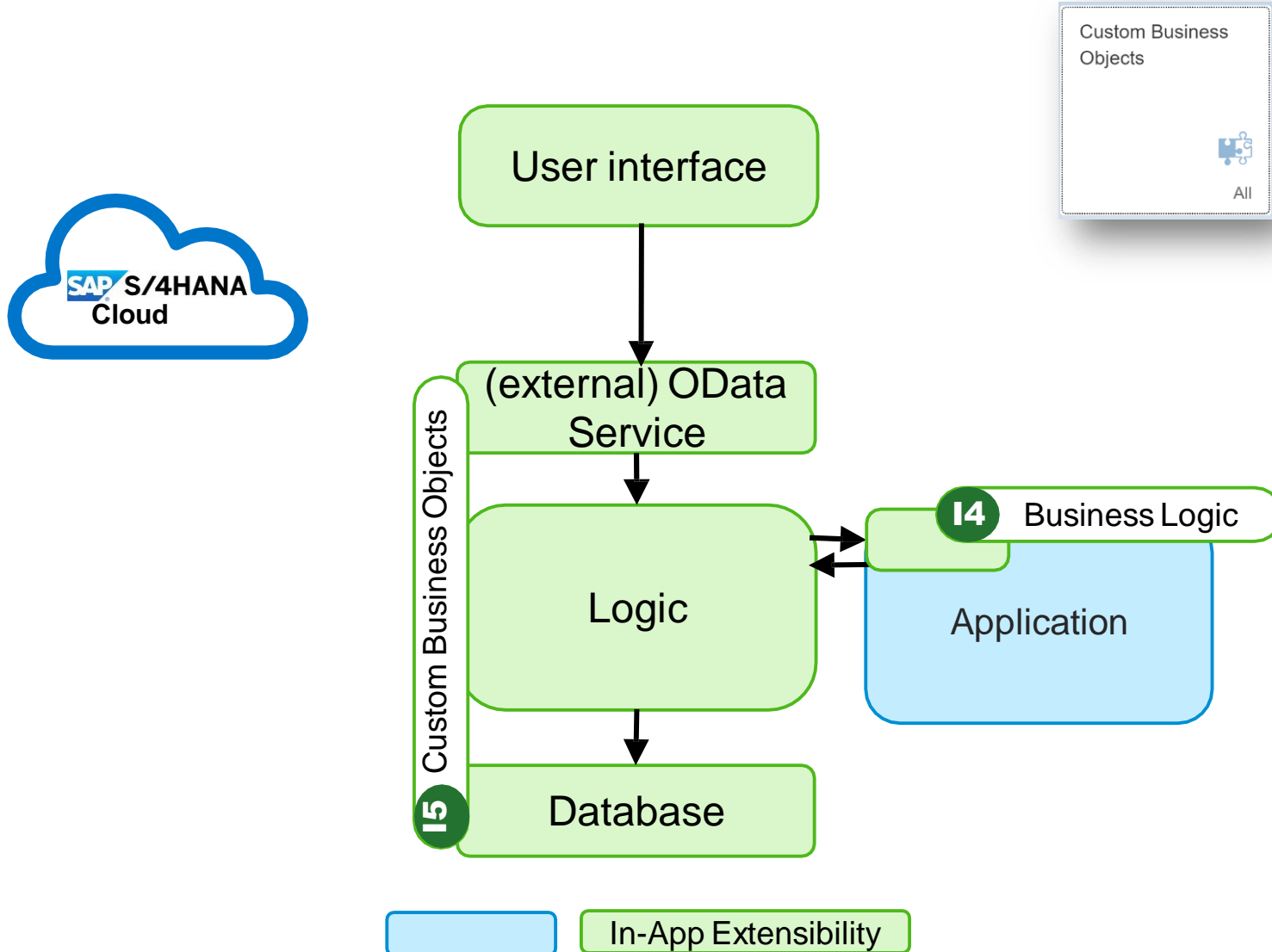
Develop you extension in ABAP

- Define own data object structures (custom tables) and add business logic in ABAP.

- A Fiori UI can be automatically generated and adapted with the WEB IDE

- Use business logic (e.g. BADIs) to run actions or validate the entries

- use your business object to create your custom OData services (read/write)

- Maintain custom tile on Launchpad

- Associate to custom fields or other custom business objects

Custom Business Objects

- Use as external OData Service

- Use for association to other business objects or custom fields

- Define own table fields

- Use ABAP logic to develop
  - related actions in ABAP
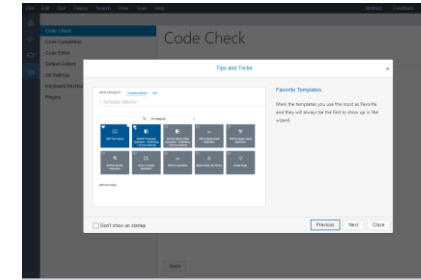 - determine and validate your custom table

SAP S/4HANA Cloud In-App Extensibility:
Customer Development Extensions
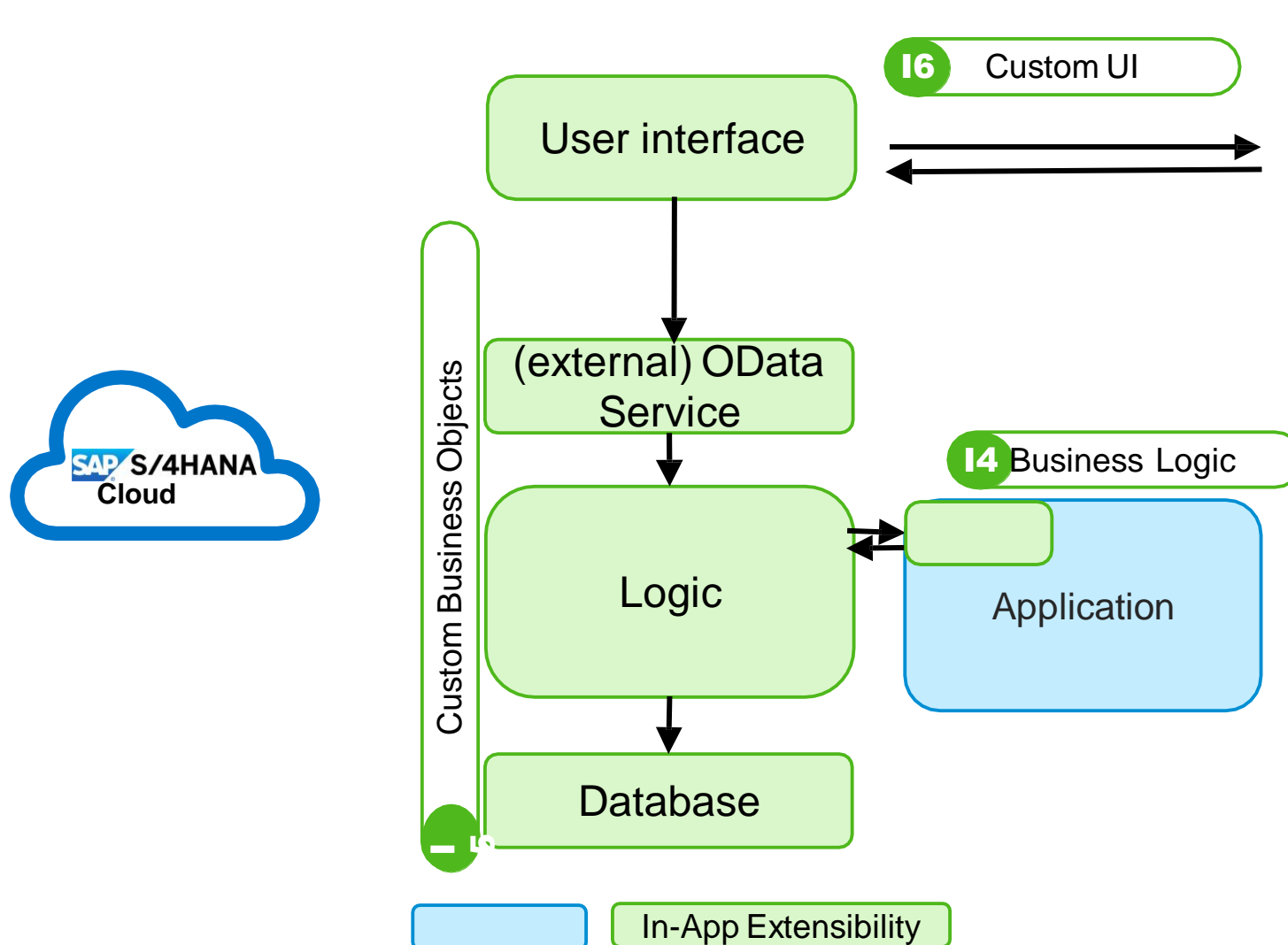
SAP WebIDE

Generate a custom UI with SAP WebIDE

- Import your custom business objects in WebIDE

- Freely adapt and customize your UI application

- Deploy and run in SAP S/4HANA Cloud

I6 Custom UI

User interface

(external) OData Service

Custom Business Objects

I4 Business Logic

Logic

Application

Database

In-App Extensibility

SAP S/4HANA Cloud

Extensibility Inventory

Keep the overview about your Extensions in SAP S/4HANA Cloud

Which objects	Who and when changed	Usage	Transport status

Items (339) Standard ⌄   Search 🔍 ⚙

Name	Type	Last Changed On ≡	Last Changed By ≡	Uses	Used By	Uses SAP ...	Task Priority
Approved on YY1_APPROVEDON	Custom Field	09.08.2018, 14:03:10	Miklos Szorenyi				
Benny YY1_BENNY	Custom Field	18.10.2018, 12:05:09	Vohra Nitin				
Bonus Plan YY1_BONUSPLAN61	Custom Business Object	22.08.2019, 17:50:50	Developer User 66		1	6	
Bonus Plan 61 YY1_YY1_FCMZOMRBKBC.Component	UI Flexibility Variants and Changes	10.10.2018, 12:07:31	Developer User 61				

Detail view for each extension

Bonus Plan

YY1_BONUSPLAN61   Uses: 0   Last Changed On: 22.08.2019, 17:50:50

Custom Business Object   Used By: 1   Last Changed By: Developer User 66
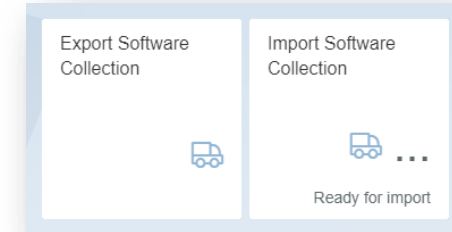
DEPENDENCIES (6)   CHANGE HISTORY (22)

In-app Extensibility – Lifecycle Management in SAP S/4HANA Cloud

Transport of custom objects:

- transport from the test to the production system
- performed by the key user without interaction with the service provider
- Independent from SAP update

Export Software Collection

Import Software Collection

...

Ready for import

Software Collections (32)		Software Collection

Search

Version 1 — Version created
Items: 0

ZSZ_AgreementSZExt1
YY1_31 — No changes exist
Version 1 — Version created
Items: 0

ZSZ_Test
YY1_16 — No changes exist
Version 2 — Version created
Items: 2

ZSZ_test_all_contacts
YY1_27 — No changes exist
Version 1 — Check failed

ZSZ_Test

Version created
11/29/2017, 10:31:20, SAP System Processing

Status: No changes exist
Current Version: 2

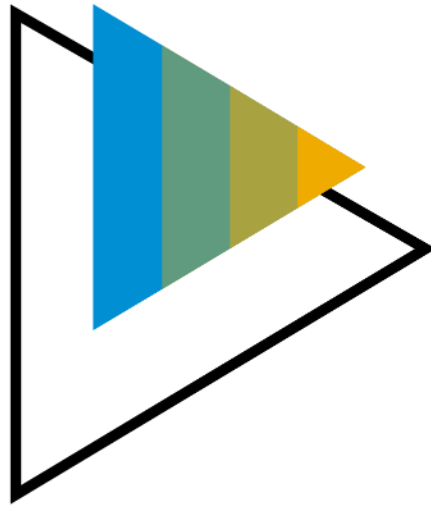| GENERAL INFORMATION	2 ITEMS	0 LOG	2 VERSIONS

Items (2)   Remove Item   Add to Hotfix

Filtered By: Status (Changed, Deleted, Unchanged, New)

Status	Name	Type	Last Changed On	Last Changed By
○ Unchanged	SZ_Test_Ext_Text_1 YY1_SZ_TEST_EXT_TEXT_1	Custom Field	11/28/2017, 11:04:19	_SAPD034578
○ Unchanged	SZ_Test_Number_Ext_1 YY1_SZ_TEST_NUMBER_EXT	Custom Field	11/28/2017, 11:07:12	_SAPD034578

In App Extension
Demo

Thank you.