



# Dev4S4 | S/4HANA Cloud, ABAP Environment Bootcamp for Developers | Partner hands-on workshop



SAP Global Partner Solution Adoption, 2023

PUBLIC

Starting soon....

# Day1 Bootcamp Agenda

July 11, 2023

Topic		Duration	Relevance for Public/Private
<b>00. Recap, Work zone, Agenda</b>		10 mins	Both
<b>01. The cloud extensibility model used in SAP S/4HANA Cloud</b> Side-by-side, Key user and In-App Developer Extensibility		20 mins	Both
<b>02. Introduction to SAP S/4HANA Cloud, ABAP Environment</b> ERP extensibility today, ABAP Environment		40 mins	Both
Break		5 mins	
<b>03. RAP</b> Introduction to RAP		60 mins	Both
Break		5 mins	
<b>04. Chat &amp; Work (Live), Landscape overview and access</b> Systems, access, Remote desktop		15 mins	Both
<b>05. Exercise 1</b> Build a small extension in S/4HANA Cloud		15 mins	Guide for Public, but can be done for Private
<b>Offline exercise work</b> Q&A support via SAP JAM Group		2 Hours	



# ABAP RESTful Application Programming Model (RAP)

## Overview

Sita Gurram, SAP  
May 29, 2023

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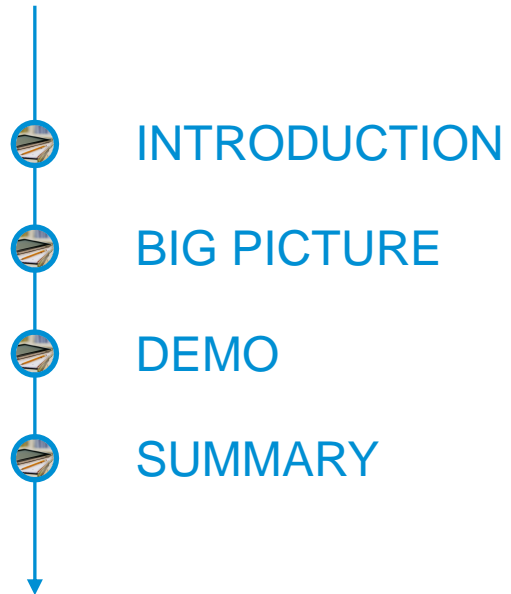
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# Agenda

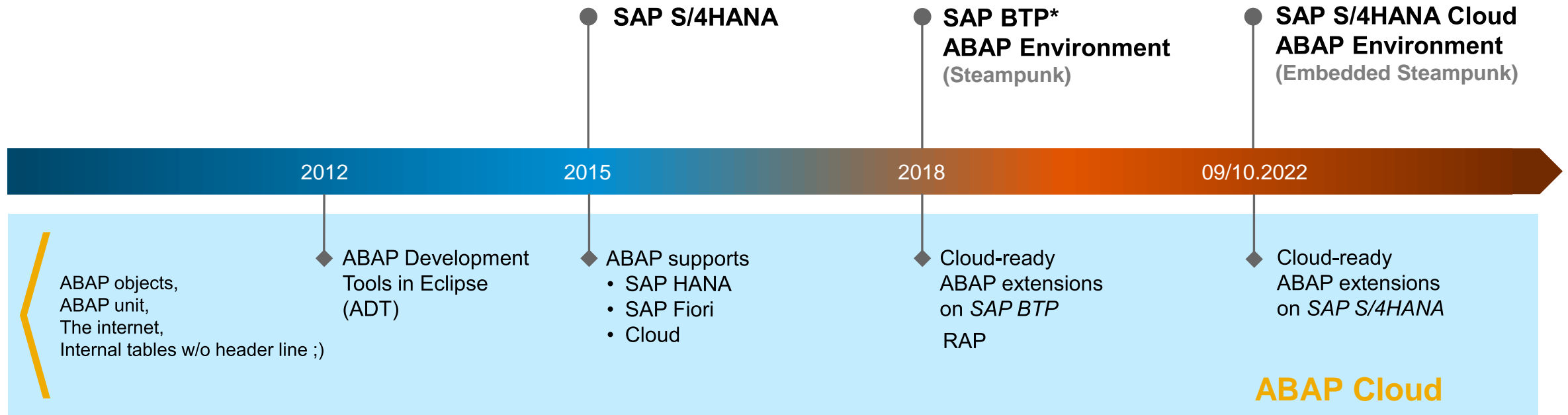




# INTRODUCTION



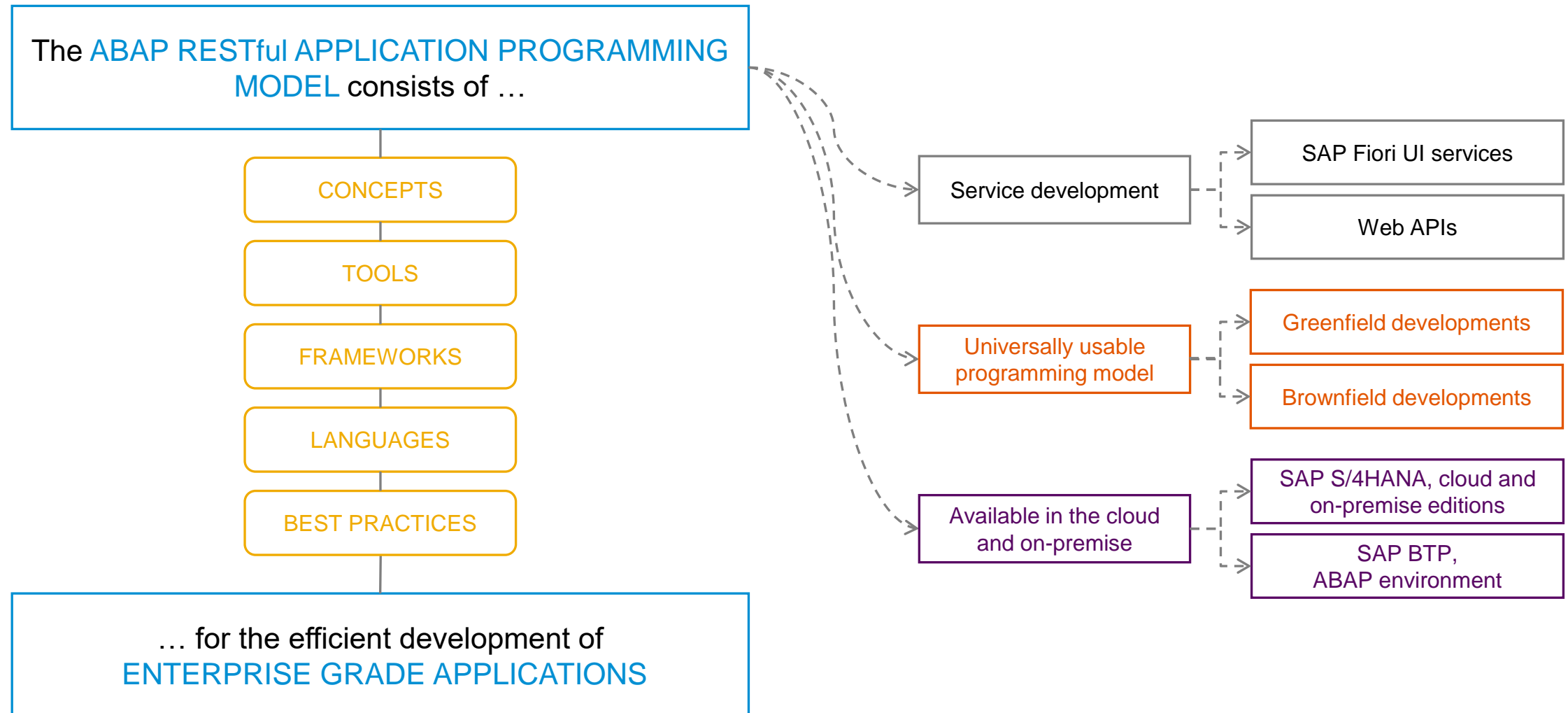
# The evolution towards ABAP Cloud



## ABAP Cloud

- ... is the ABAP development model to build cloud-ready business apps, services and extensions
- ... comes with SAP BTP and SAP S/4HANA
- ... works with public or private cloud, and even on-premise

# ABAP RESTful Application Programming Model (RAP) at a glance

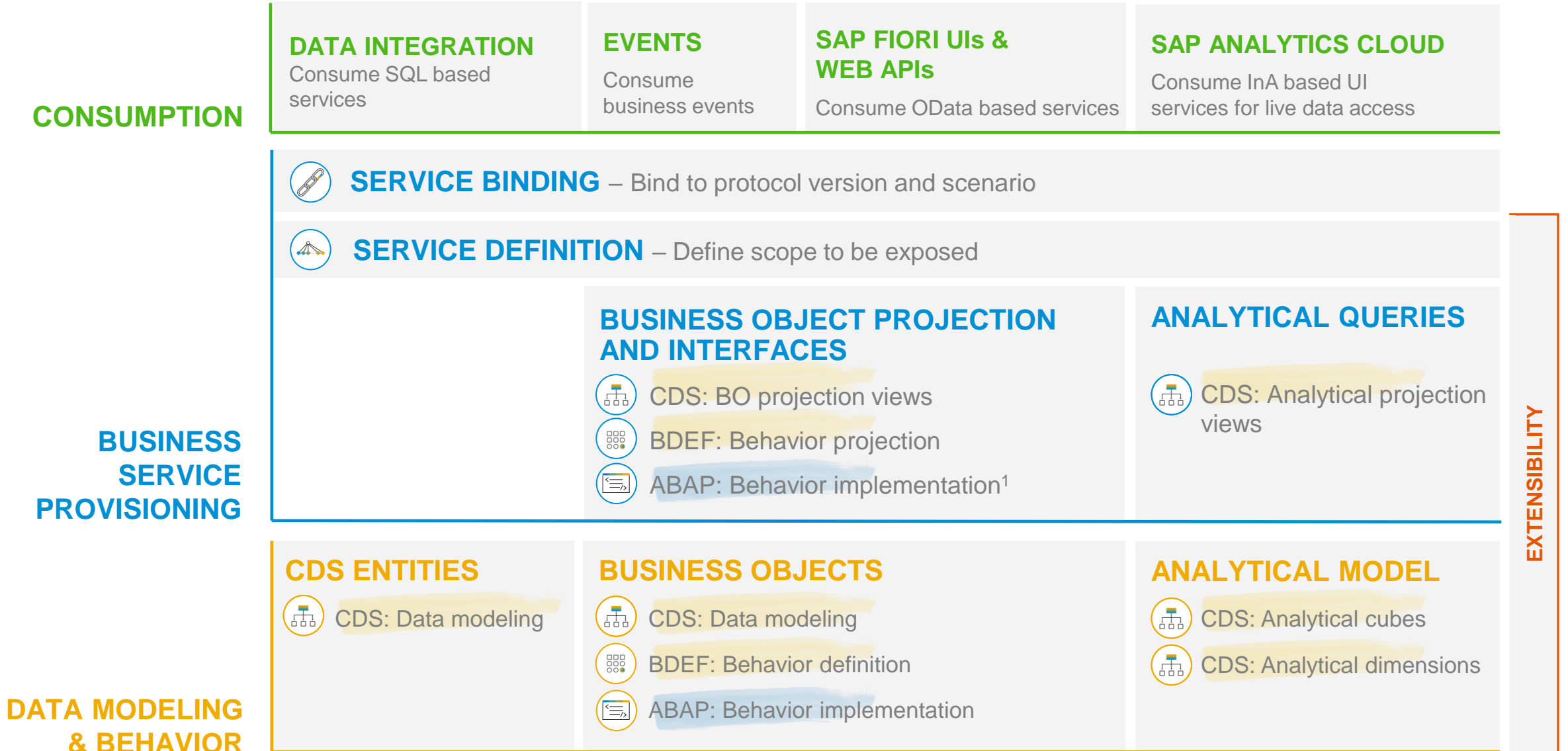




# BIG PICTURE



# RAP – The big picture

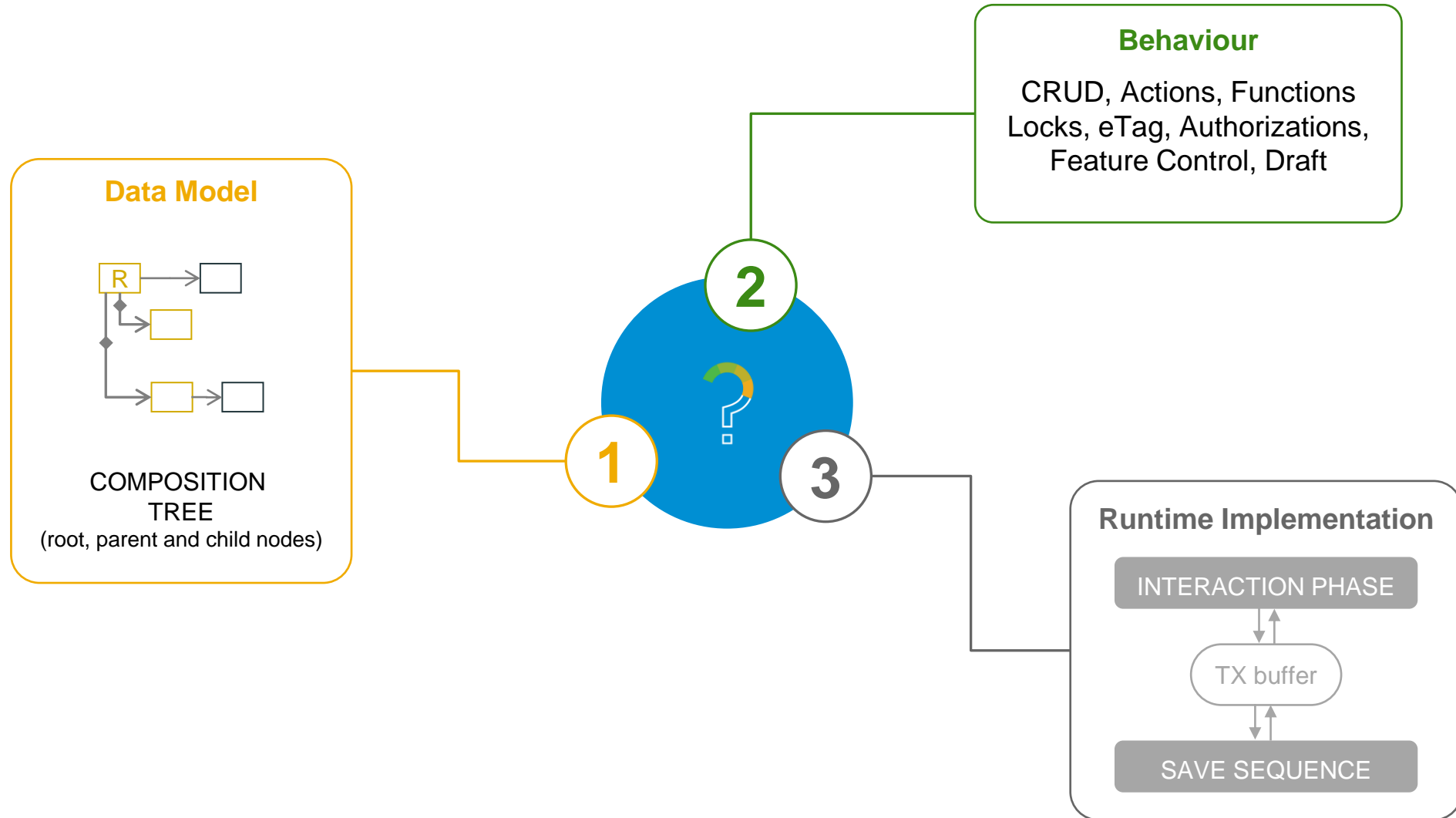


EXTENSIBILITY

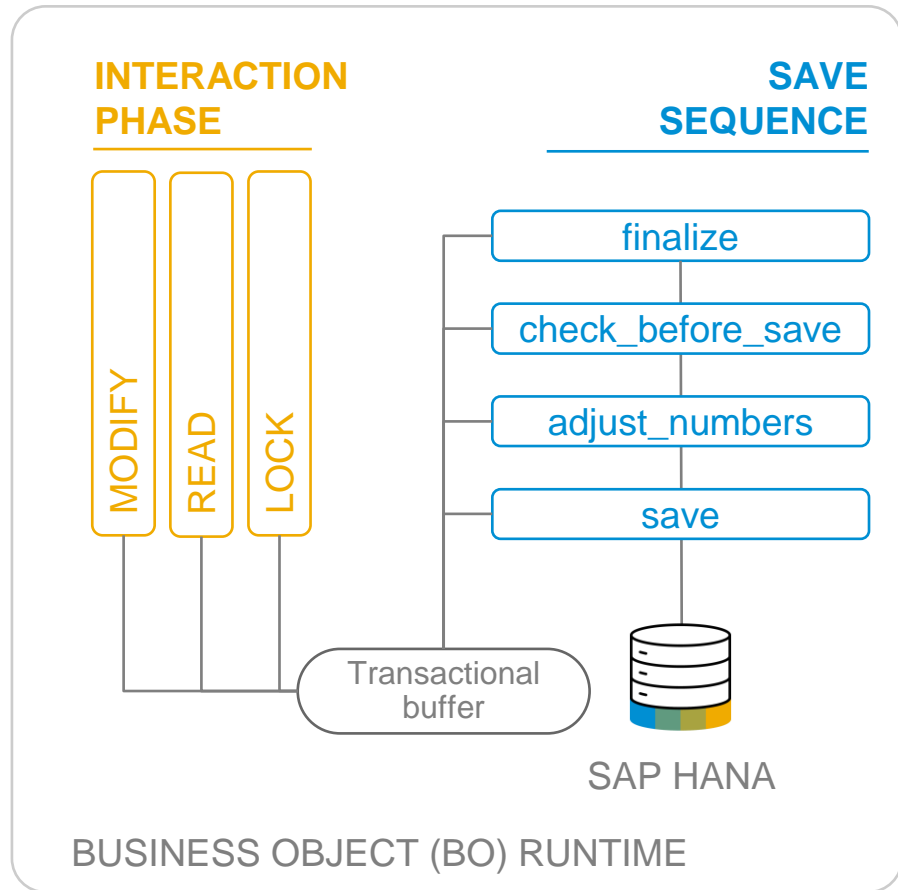
# BUSINESS OBJECTS



# What is a business object (BO) ?



# BO runtime implementation types



## UNMANAGED

For **brownfield developments** with available application code for interaction phase, transactional buffer, and save sequence

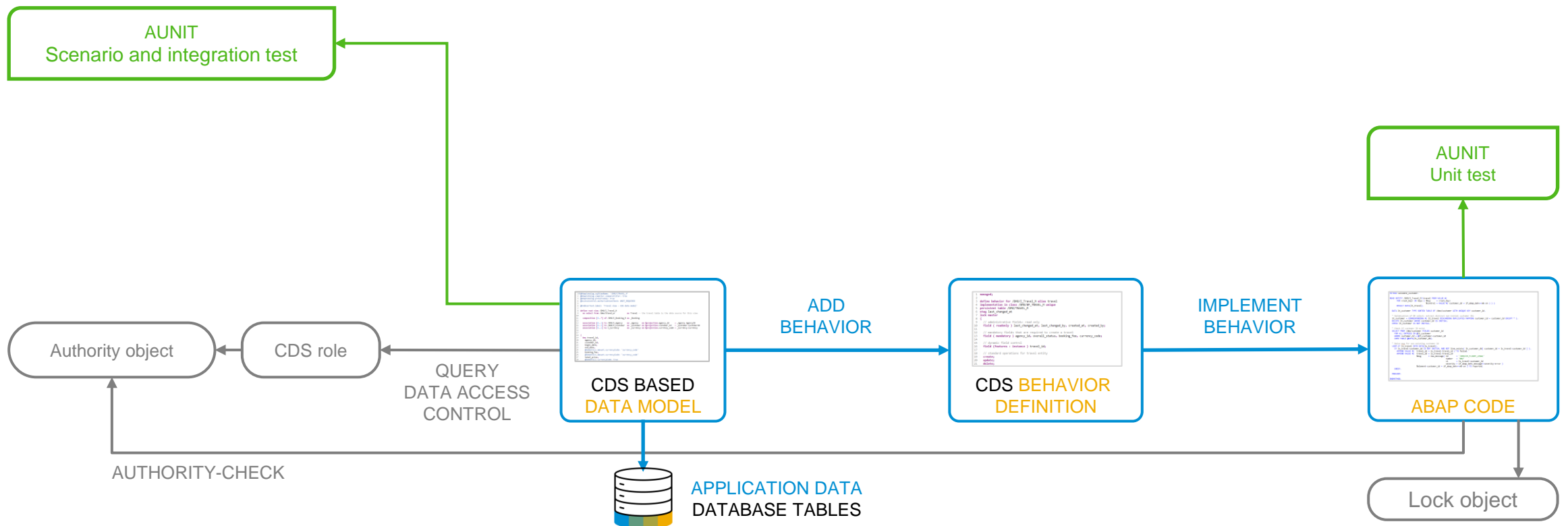
- ➔ Developers in charge of BO runtime: CRUD operations
- ➔ Adaptations needed to integrate the existing code

## MANAGED

For **greenfield developments** with standard implementation  
(Opt. unmanaged appl. components: DB tables, lock/PFCG object, update task FM)

- ➔ Standard CRUD operations work out of the box
- ➔ Developers add BO-specific business logic

# The development flow

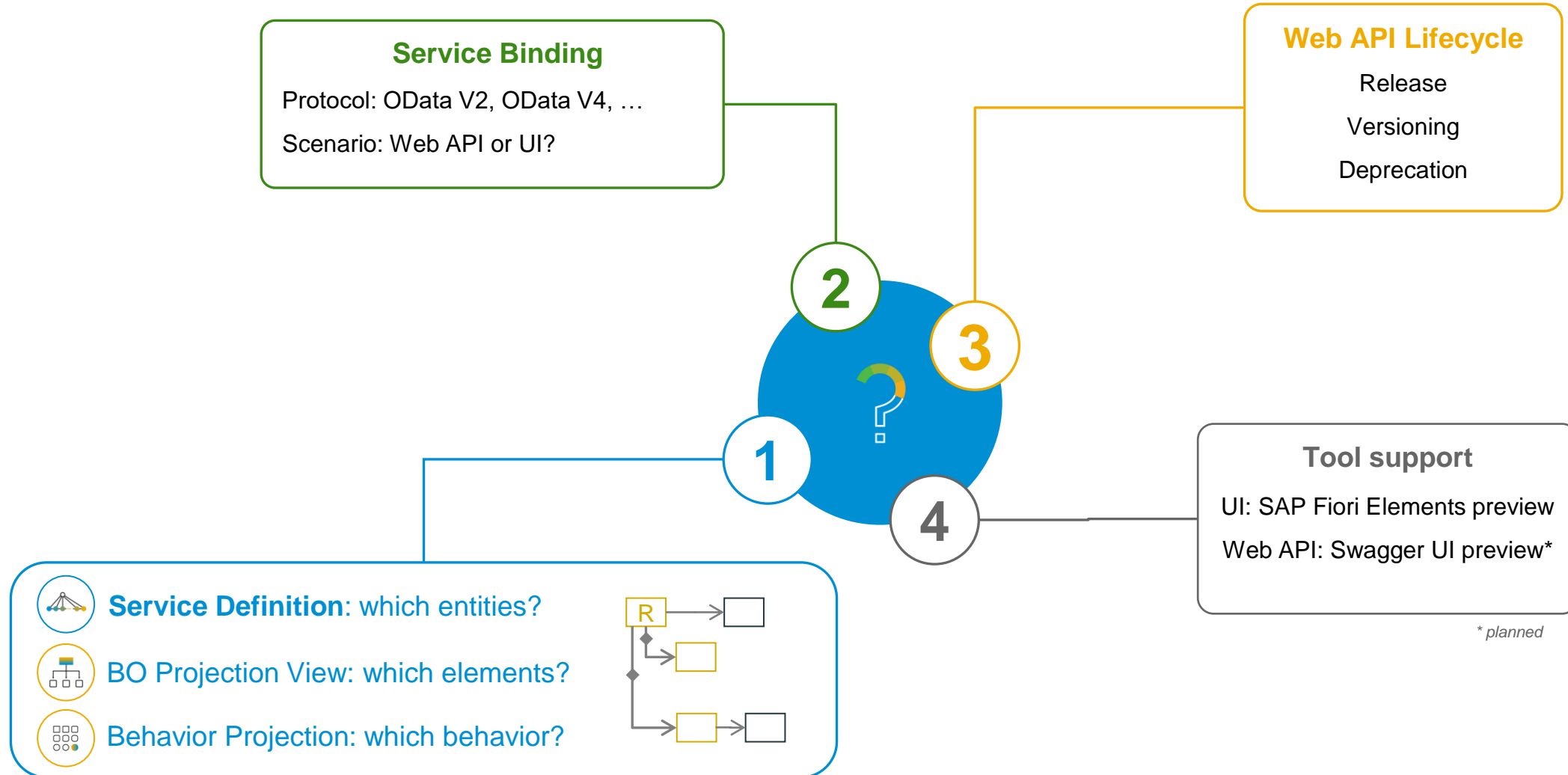




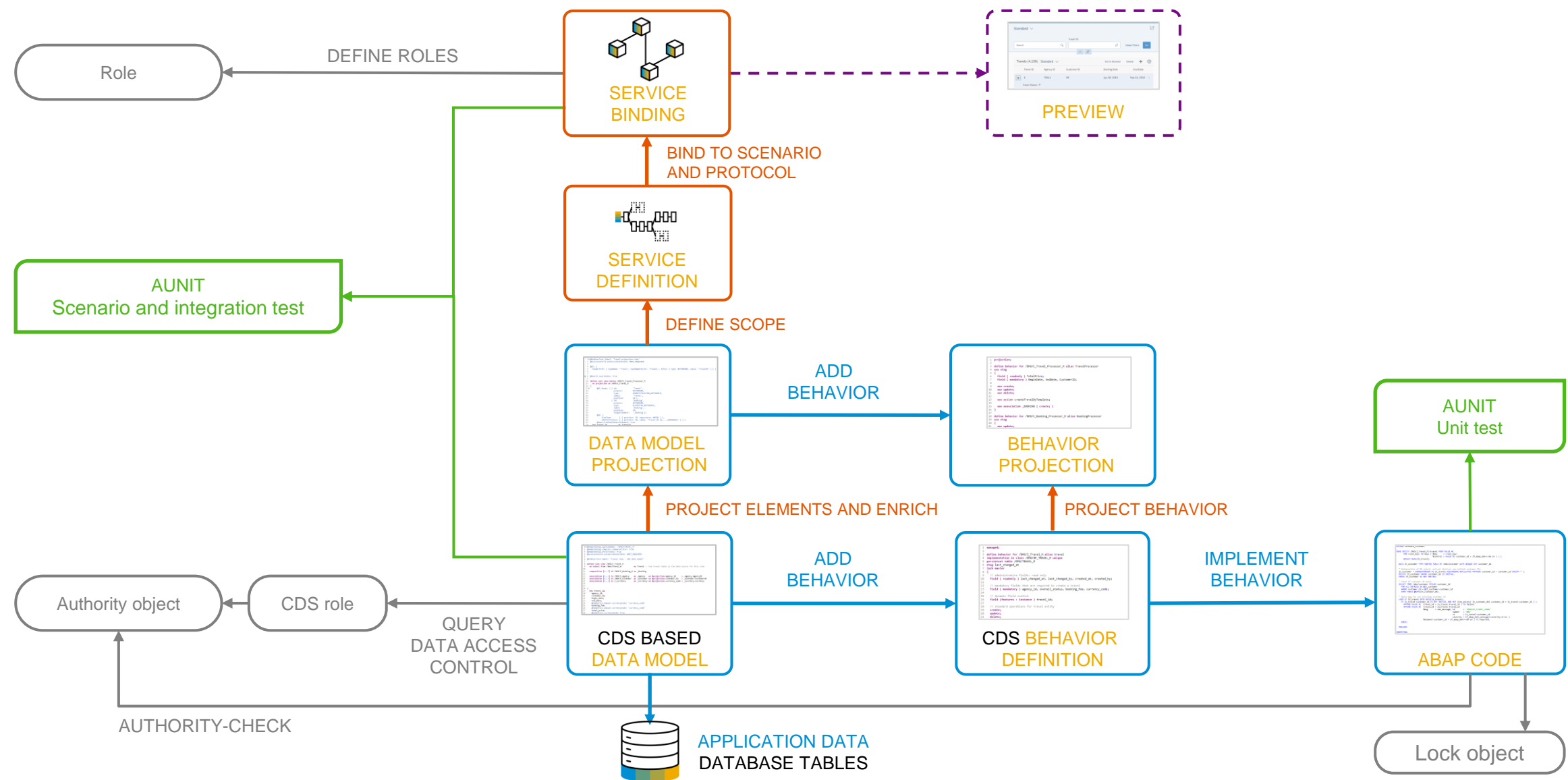
# BUSINESS SERVICES



# What is a business service



# The development flow



# DEMO

GET THE IDEA



# RAP Facade

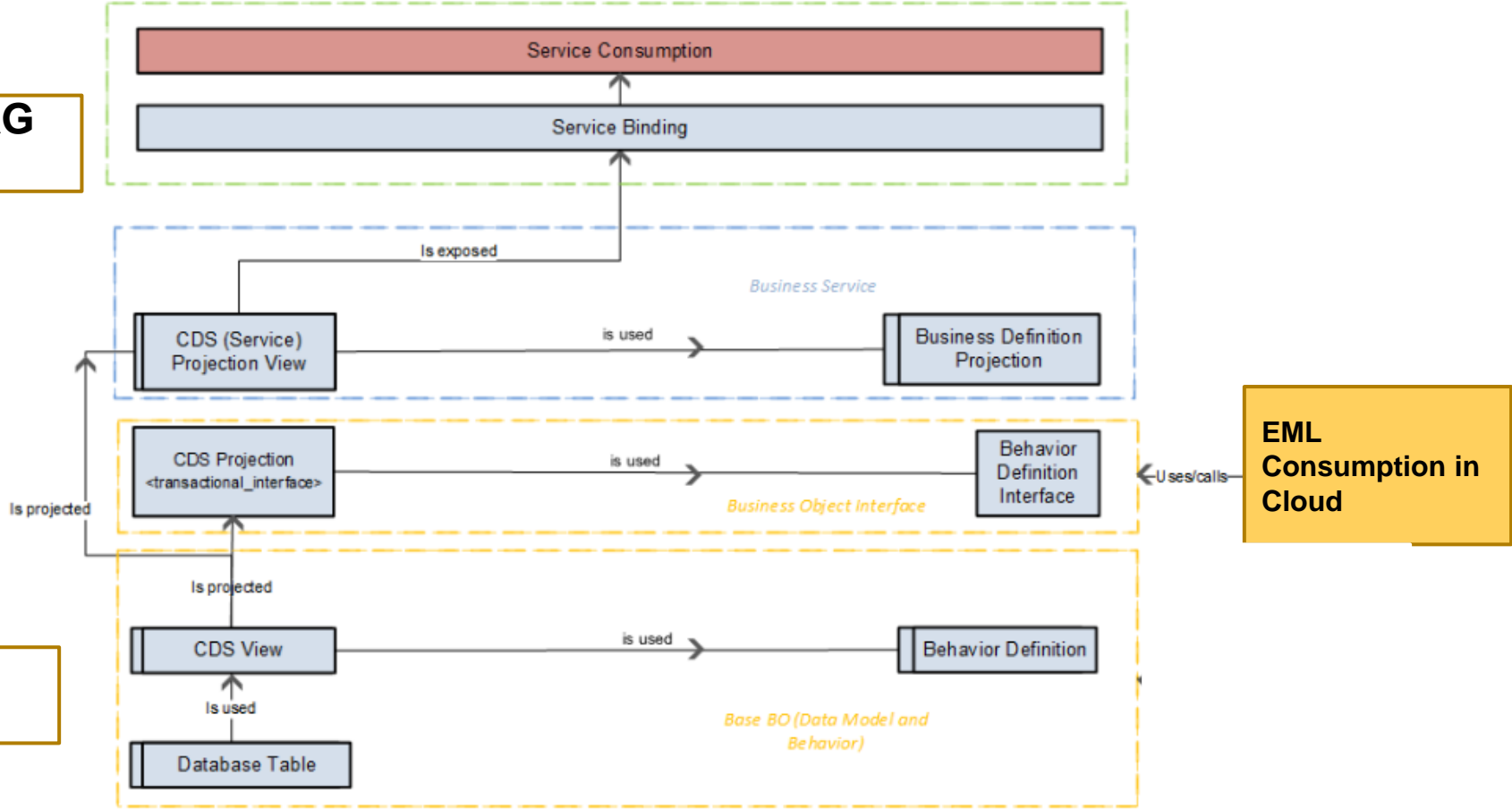
The interface layer is built on top of the base BO layer as single point of access to the base BO:

C\_SALESORDERMANAG  
E\_SRV

C\_SalesOrderManag  
e

I\_SalesOrderTP

R\_SalesOrderTP



# SUMMARY





# Wrap up – Key takeaways

The **ABAP RESTful Application Programming Model (RAP)** helps to efficiently and rapidly build enterprise-grade services with intrinsic built-in cloud qualities.

RAP best support **SAP HANA** and **SAP Fiori elements**.

RAP is **available** on **SAP BTP ABAP Environment**, **SAP S4HANA Cloud**, and **SAP S/4HANA** starting with edition 1909.

The RAP **feature scope** is enhanced on a **quarterly** basis on SAP BTP ABAP Environment, a **bi-yearly** basis on SAP S/4HANA Cloud ABAP Environment, and a **yearly** basis on SAP S/4HANA.



What's New: [SAP BTP ABAP Environment](#) | [SAP S/4HANA](#)



Take a look at the [interactive SAP Road Map Explorer](#) for updates.



# Sample implementations with the ABAP Flight Reference Scenario

**SAP Help Portal**

ABAP RESTful Application Programming Model

- > Learn
- ✓ Start
  - > Prerequisites
    - Download the ABAP Flight Reference Scenario**
  - > Developing an OData Service for Simple List Reporting
    - Generating a RAP Business Service with the Generate ABAP Repository Objects Wizard
- ✓ Develop
  - Development Constraints
  - > Develop Applications
  - > Develop Web APIs
  - > Develop APIs
  - > Develop UI-Specifics
  - > Develop Individual BO Capabilities
  - > Develop Common Capabilities
  - > Implementing an UI
- > Test

### Sample Services

The development guides for the ABAP RESTful Application Programming model are based on the sample data from the ABAP Flight Reference Scenario. That means that you can compare the documentation with the productive code that was used to build the documentation scenario. In addition, the ABAP Flight Reference Scenario also includes a demo package with the development objects that are created during the course of the development guides. That means, the whole demo scenario can be downloaded and tested. You obtain full demo services with code built by following conventions and best practices and you can use and reuse the delivered objects for your development.

The following demo scenarios are available for you:

- [Developing Read-Only List Reporting Apps](#) in the package /DMO/FLIGHT\_READONLY
- [Developing Unmanaged Transactional Apps](#) in the package /DMO/FLIGHT\_UNMANAGED
- [Developing Managed Transactional Apps](#) in the package /DMO/FLIGHT\_MANAGED
- [Developing Transactional Apps with Draft Capabilities](#) in the package /DMO/FLIGHT\_DRAFT

### Legacy Coding

The reference scenario also includes legacy coding. This legacy coding is based on function modules and exemplifies legacy applications that you can include in your new ABAP code. Above all, the legacy coding is relevant for the development guide, that explains how to build a new service on the basis of an existing application. It illustrates how you build an application with the unmanaged implementation type. The legacy coding that is used in this scenario is

- ✓ **/DMO/FLIGHT (332) Flight Reference Scenario**
  - > **/DMO/FLIGHT\_DRAFT (52) Flight Reference Scenario: Draft Guide**
  - > **/DMO/FLIGHT\_LEGACY (128) Flight Reference Scenario: Legacy Objects**
  - > **/DMO/FLIGHT\_MANAGED (46) Flight Reference Scenario: TX managed E2E Guide**
  - > **/DMO/FLIGHT\_READONLY (7) Flight Reference Scenario: Read-Only E2E Guide**
  - > **/DMO/FLIGHT\_REUSE (69) Flight Reference Scenario: Reused Entities**
  - > **/DMO/FLIGHT\_UNMANAGED (30) Flight Reference Scenario: TX unmanaged E2E Guide**

Demonstrate how to use different RAP capabilities concretely

Based on a simple to use and understand data model: SFLIGHT reloaded

Feature scope regularly enhanced

Downloadable from GitHub



Read more in the RAP documentation: [Cloud](#) | [SAP S/4HANA](#)



# FREE openSAP COURSE



## Building Apps with the ABAP RESTful Application Programming Model (RAP)



### Self-paced mode



- Week 1: Introduction
- Week 2: Developing a Read-Only List Report App
- Week 3: Enabling the Transactional Behavior of an App
- Week 4: Dealing with Existing Code
- Week 5: Service Consumption and Web APIs
- Week 6: Final Exam



**ENROLL NOW!**

<https://open.sap.com/courses/cp13>



# More information



## Further information

[Modern ABAP Development with the ABAP RESTful Application Programming Model \(RAP\)](#) (SAP Community)

[Modernization with RAP | SAP Blogs](#)

[Building Apps with RAP](#) (free openSAP course)

[Get Started with ABAP Programming on SAP BTP](#) (free SAP Learning Journey, also valid for SAP S/4HANA)

What's New in RAP: [SAP BTP ABAP Environment](#) | [SAP S/4HANA](#) | [SAP S/4HANA Cloud](#)

Outlook: [SAP BTP ABAP Environment on the interactive SAP Road Map Explorer](#)

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## Public SAP Web sites

ABAP Development Community: [www.sap.com/community/topic/abap.html](https://www.sap.com/community/topic/abap.html)

SAP BTP ABAP Environment Community: <https://community.sap.com/topics/btp-abap-environment>

SAP S/4HANA Cloud ABAP Environment Community: <https://community.sap.com/topics/s4hana-cloud-abap-environment>

ABAP Testing and Analysis Community: <https://community.sap.com/topics/abap-testing-analysis>

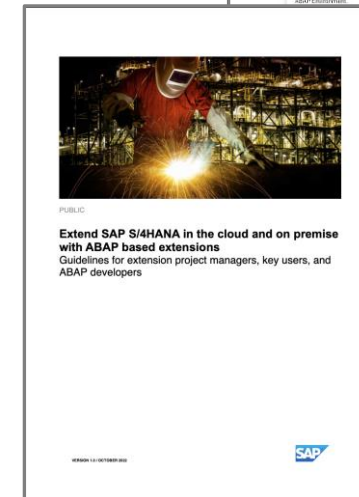
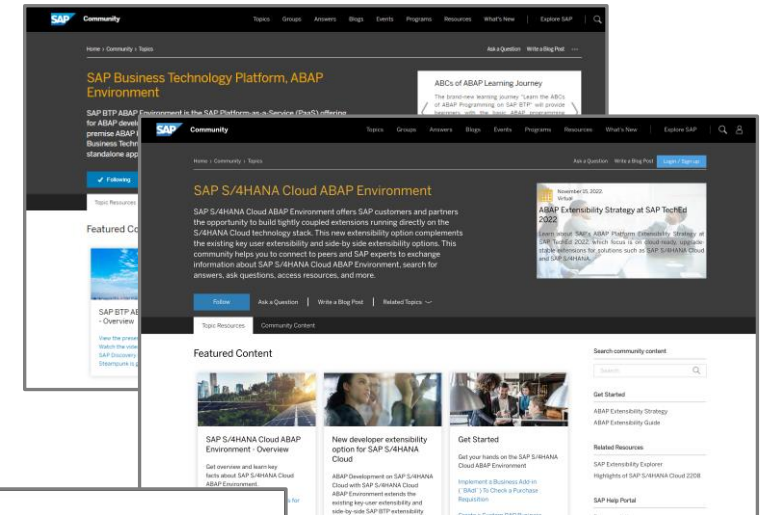
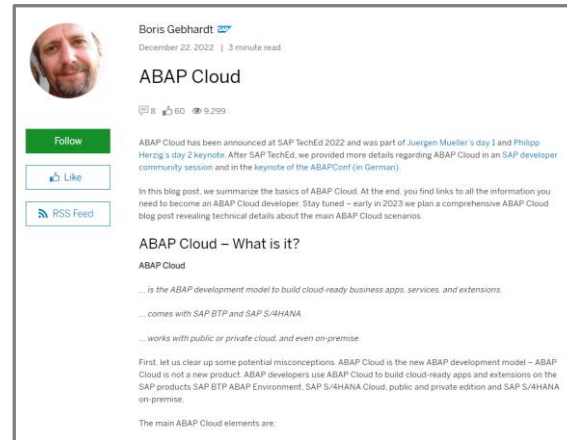
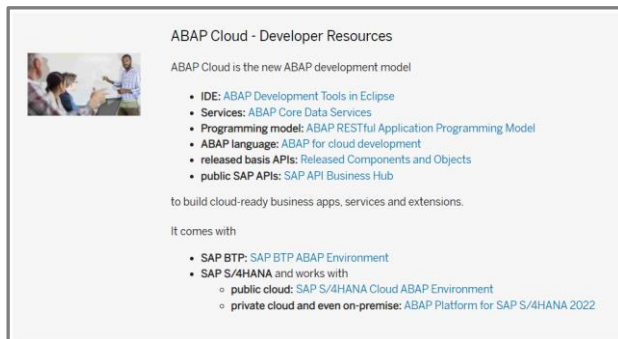
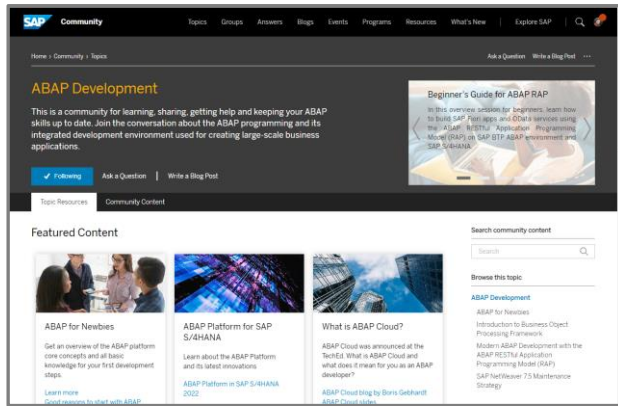
SAP products: [www.sap.com/products](https://www.sap.com/products)

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## SAP training and certification opportunities

[www.sap.com/education](https://www.sap.com/education) – e.g. trainings S4D437, S4D430, HA400, and S4D400

# More information on ABAP Cloud



[ABAP Cloud | SAP Blogs](#)

[Developer Discussion: ABAP Cloud](#)

[The new ABAP extensibility guide](#)

[ABAP Development | SAP Community](#)

# Thank you.

Contact information:

**Sita Gurram**



Game Time



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