

# Real-time Business Scenario

# Joins Vs Association



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Imagine an **SAP S/4HANA** system where we need to retrieve **Sales Order (Header & Items) along with Customer Details**.

### 💡 **Scenario 1: Using CDS Joins**

A business analyst wants to generate a report that combines:

1. Sales Order Header (VBELN, KUNNR, ERDAT)
2. Sales Order Items (POSNR, MATNR, NETWR)
3. Customer Master Data (KUNNR, NAME1, CITY)

**Solution:** A CDS view using **Joins** to merge data from multiple tables (VBAK, VBAP, KNA1) into a **single output table**.

#### ◆ CDS View with Joins (Combining Data in One Go)

```
1 @AbapCatalog.sqlViewName: 'ZCDS_TEST'
2 @AbapCatalog.compiler.compareFilter: true
3 @AbapCatalog.preserveKey: true
4 @AccessControl.authorizationCheck: #NOT_REQUIRED
5 @EndUserText.label: 'test'
6 @Metadata.ignorePropagatedAnnotations: true
7 define view ZCDS_SALES_ORDER as
8 select from vbak
9 inner join vbap on vbak.vbeln = vbap.vbeln
10 inner join kna1 on vbak.kunnr = kna1.kunnr
11 {
12     vbak.vbeln,
13     vbak.kunnr,
14     kna1.name1,
15     vbap.posnr,
16     vbap.matnr,
17     vbap.netwr
18 }
```

- **Use Case:** Generates a **single dataset** where all information is retrieved at once.
- **Limitation:** Might fetch **unnecessary data** if not all fields are required.



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## 💡 Scenario 2 : Using CDS Associations

A Fiori app is being developed where a **user first selects a Sales Order**. Only when needed, they should see **related Items & Customer details** (to improve performance).

**Solution:** A CDS view with **Associations** allows **navigation** between Sales Order, Customer, and Items without immediate data retrieval.

### CDS View with Associations (Lazy Loading Approach)

```
1 @AbapCatalog.sqlViewName: 'ZCDSTEST'
2 @AbapCatalog.compiler.compareFilter: true
3 @AbapCatalog.preserveKey: true
4 @AccessControl.authorizationCheck: #NOT_REQUIRED
5 @EndUserText.label: 'test'
6 @Metadata.ignorePropagatedAnnotations: true
7 define view ZCDS_SALES_HEADER as
8 select from vbak
9 association [1..1] to kna1 as _Customer on vbak.kunnr = _Customer.kunnr
10 association [1..*] to vbap as _Items on vbak.vbeln = _Items.vbeln
11 {
12     key vbak.vbeln,
13     vbak.kunnr,
14     _Customer.name1,
15     _Customer.cityc, |
16     _Items // Navigation to Sales Order Items
17 }
```

- **Use Case:** In an SAP Fiori app, when the user selects a **Sales Order**, they can **navigate** to view **items & customer details only when needed**.
- **Advantage:** Lazy loading helps improve **performance** by fetching related data only when accessed.



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Feature	CDS Joins	CDS Associations
Definition	A join combines data from two or more tables into a single dataset.	An association defines a conceptual relationship between entities.
Execution	Executed immediately during query execution.	Executed on-demand when the data is accessed using path expressions.
Performance	Can lead to performance issues if joins fetch unnecessary data.	Optimized as data is fetched only when required.
Reusability	Joins are typically specific to the view they are defined in.	Associations are reusable and can be leveraged across multiple views.
Flexibility	Joins require defining relationships explicitly every time.	Associations enable easier navigation between related entities.



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