

Week 1 Unit 3: ABAP Meets SAP HANA: What You Need to Know



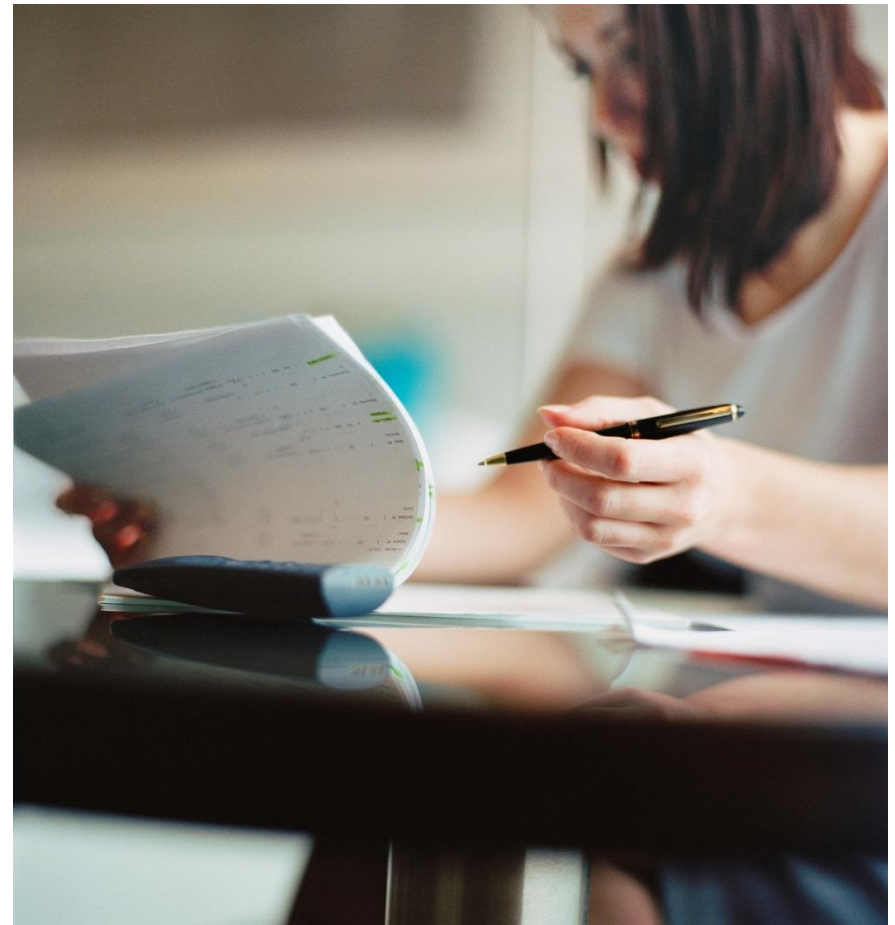
ABAP Meets SAP HANA: What You Need to Know - Outline



Additional
Material

Content

- Row Store vs. Column Store
- ABAP Dictionary Enhancements
- Data Type Systems: ABAP & SAP HANA
- Database Schemas



ABAP Meets SAP HANA: What You Need to Know

Row Store

Order	Customer	Currency	Amount
456	JaTeCo	EUR	1300
457	SAP	EUR	750
458	Sorali	EUR	115
459	SAP	EUR	30.000

```
SELECT * ...  
WHERE ORDER = 457
```

Good performance

```
SELECT SUM(Amount)...
```

Low performance

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Column Store

Order	Customer	Currency	Amount
456	JaTeCo	EUR	1300
457	SAP	EUR	750
458	Sorali	EUR	115
459	SAP	EUR	30.000

```
SELECT * ...  
WHERE ORDER = 457
```

Low performance

```
SELECT SUM(Amount)...
```

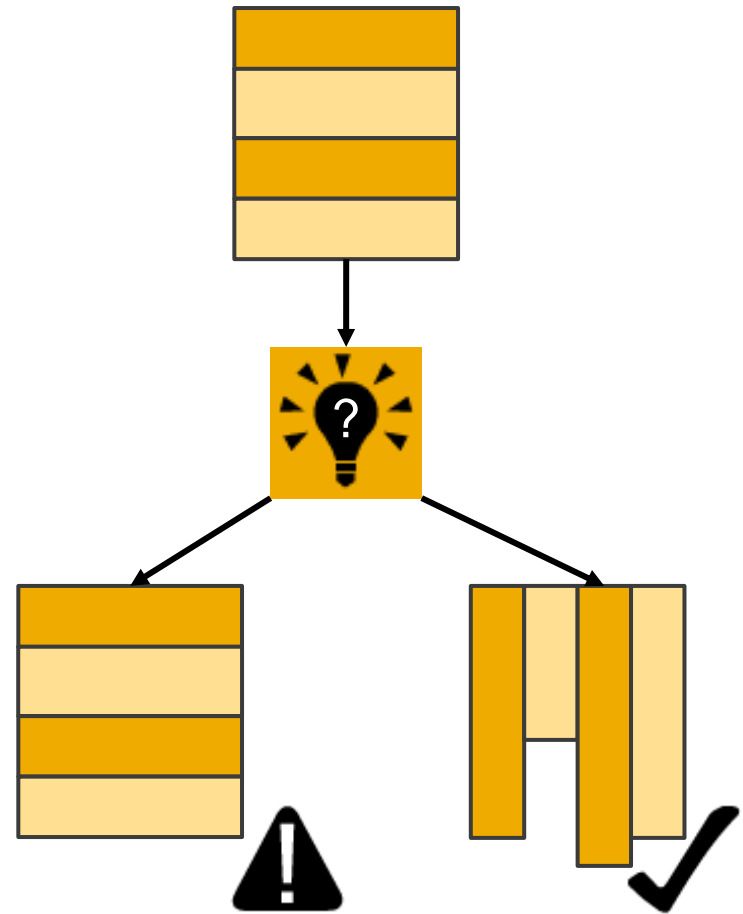
Good performance

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When to Use Columnar Storage?

Columnar storage is best for tables

- that are subject to column operations on a large number of rows
- that have a large number of columns, more unused
- that are subject to aggregations and intensive search operations

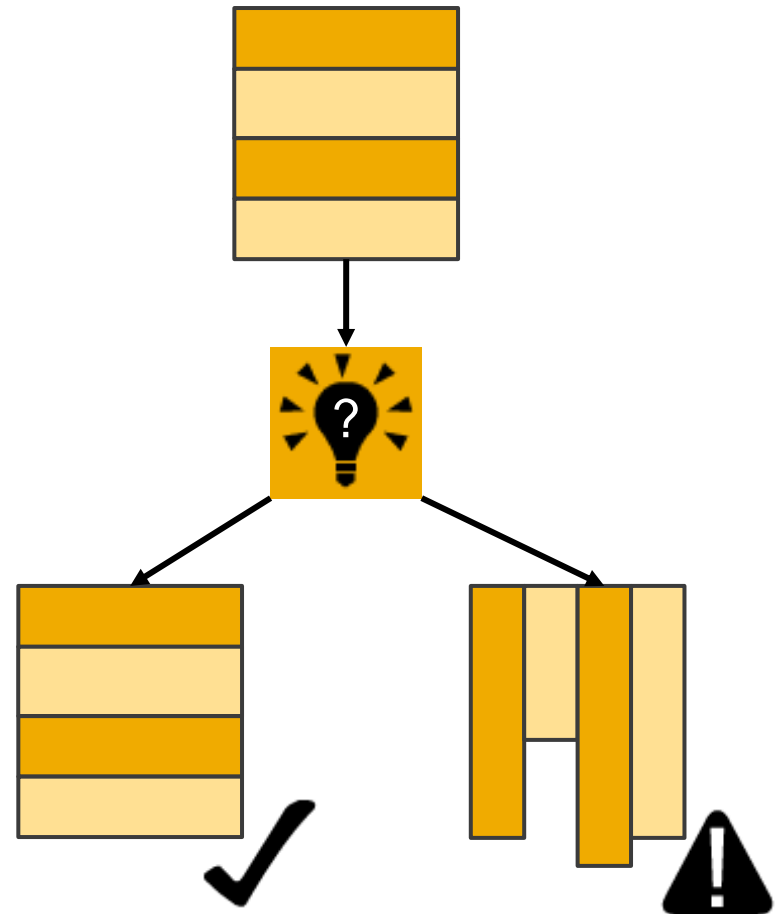


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When to Use Row Storage?

Row storage is more suitable for tables

- that contain mainly distinct values
→ low compression rate
- in which most/all columns are relevant
- that are not subject to aggregation or search operations on non-indexed columns
- that are fully buffered
- that have a small number of records



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Demo

ABAP Dictionary

- Database-Specific Properties
- Database-Specific Indices

Data Types

- ABAP Type System
- SAP HANA Type System



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Column Store Dictionary Compression

Logical Table

Order	Customer	Currency	Amount
456	JaTeCo	EUR	1300
457	SAP	EUR	750
458	Sorali	EUR	115
459	SAP	EUR	30.000
460	PicoBit	EUR	300
461	Siwusha	EUR	600
462	PicoBit	EUR	600
463	SAP	EUR	1.200
...



Dictionary

1	JaTeCo
2	PicoBit
3	SAP
4	Siwusa
5	Sorali

5 entries →
3 bits to encode

Compressed column

1	1
2	3
3	5
4	3
5	2
6	4
7	2
8	3
...	...

Where is
order 460?

Inverted index

1	1
2	5,7
3	2,4,8
4	6
5	3

Which orders
of SAP?

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What's Next?

Week 1 Unit 4

Code-To-Data Paradigm





Thank you

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