Week 2 Unit 1:
Existing Code: Is It Still Valid?

Existing Code: Is It Still Valid?
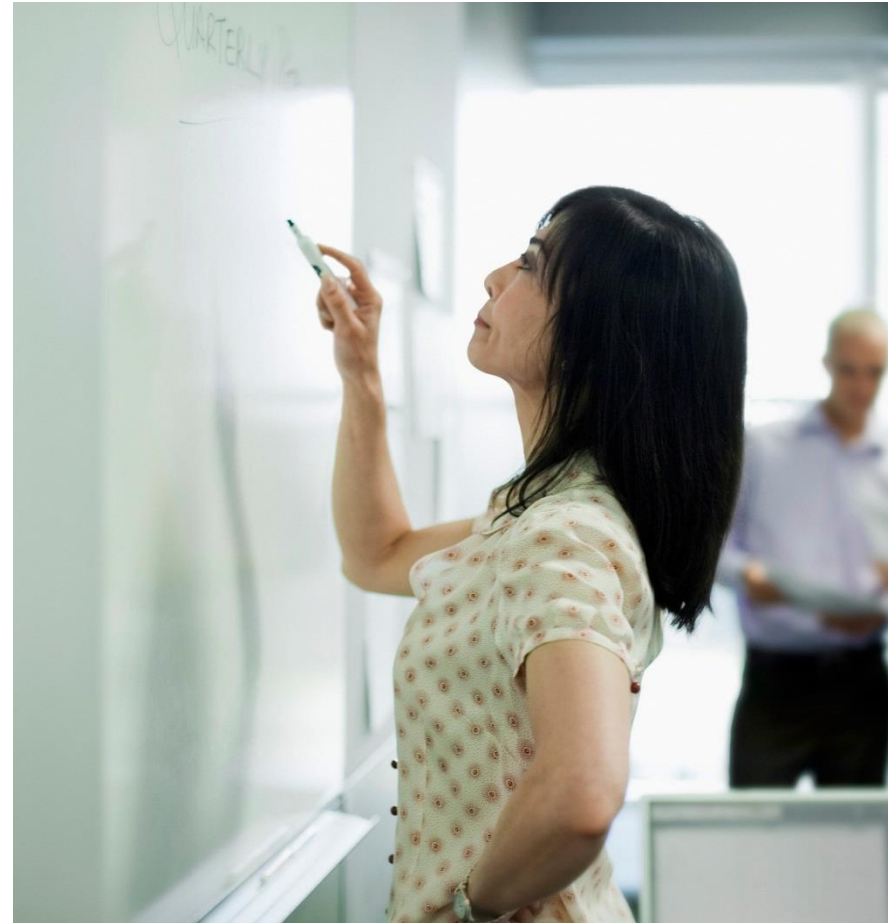## Outline

Content

- Code Continuity
- Mandatory Adaptions
- ABAP Test Cockpit
- Runtime Checks

Existing Code: Is It Still Valid?
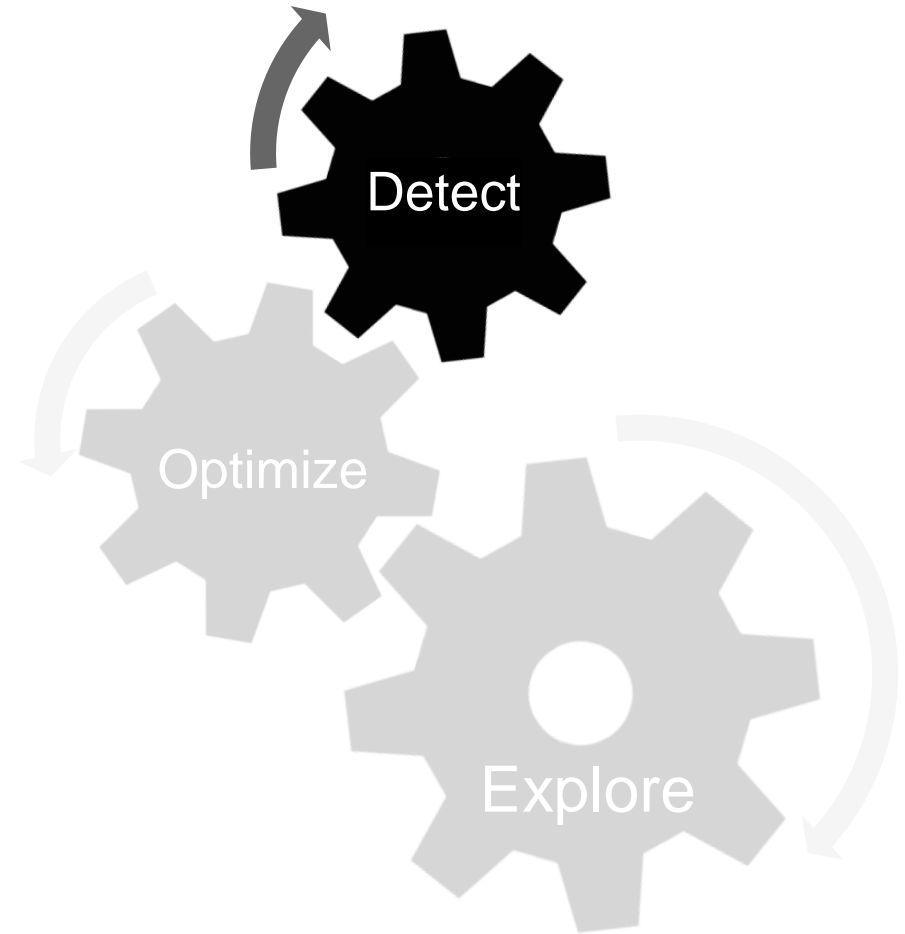## Migration to SAP HANA

1. Detect

- Functional correctness
- Performance optimization potential

2. Optimize

- Database-oriented programming

3. Explore

- Use SAP HANA-specific features
- Rethink & innovate

Detect

Optimize

Explore

Existing Code: Is It Still Valid?
Code Continuity

- Migration to SAP HANA is "just" a database migration

- Everything works as before, except…
  - Native SQL
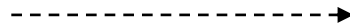 - DB-specific hints
  - Implicit DB-specific behavior

Existing Code: Is It Still Valid?

Mandatory Adaptations: Examples

Previous usage of Native SQL/hints

- Check if Native SQL uses vendor-specific statements and how they can be replaced by either Open SQL or native SAP HANA constructs.
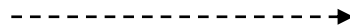
- Check if previously used hints are still needed in adapted form or can be removed.

```
" Use of native SQL
EXEC SQL.

ENDEXEC.

" Native SQL via ADBC
lo_result =
  NEW cl_sql_statement(
    )->execute_query(
'SELECT ROWNUM, *
    && '  FROM SNWD_BPA'
    && ' ORDER BY COMPANY_NAME' ).

" Database / Database Interface Hints
SELECT * FROM snwd_so
  INTO wa FOR ALL ENTRIES IN fae
 WHERE node_key = fae-node_key
  %_HINTS MSSQLNT '&prefer_join 0&'.
```

Existing Code: Is It Still Valid?

Mandatory Adaptations: Examples

Relying on undocumented behavior

- Relying on implicit sorting

- Direct access to physical pool/clusters

- Checking for existence of secondary indices

```abap
" Relying on implicit sorting
SELECT * FROM my_table
  INTO TABLE lt_data  WHERE id < 100.

READ TABLE lt_data
  WITH KEY id = 10 BINARY SEARCH.

" Access to physical pool / cluster
DELETE FROM my_cluster
 WHERE timestamp <  '01012000'.

" Check for secondary index
IF ( lv_index_exists = abap_true ).
  ...
ENDIF.
```

Existing Code: Is It Still Valid?
ABAP Test Cockpit

Holistic tools for quality assurance of ABAP code

- Single point of entry for all static code check tools (Code Inspector, …)

- Verdicts are reported with priorities

- Support for quality management processes

- Available with ABAP 7.02 SP12 and above

- Fully integrated into development environment and transport tools

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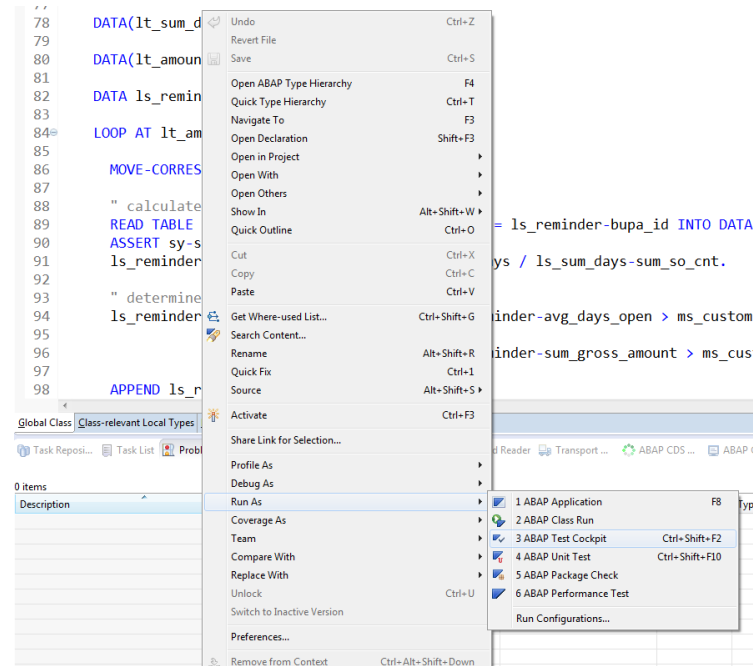
Existing Code: Is It Still Valid?
ABAP Test Cockpit – Usage

Developers can

- Execute checks on **single objects**, **package hierarchies**, or **transport orders**

- **Suppress verdicts** using pseudo comments to avoid "false positives"

- Call the ATC from transaction SE80 and **ABAP Development Tools for SAP NetWeaver**

Features for quality managers

- **Central** execution runs with notifications

- Results of check runs can be transferred to **other systems**

- Integration with **SAP Solution Manager**

Existing Code: Is It Still Valid?
Static Code Analysis: Demo

Code Inspector

- Overview of the available robustness checks

- Analysis example of ABAP coding with the Code Inspector

ABAP Test Cockpit

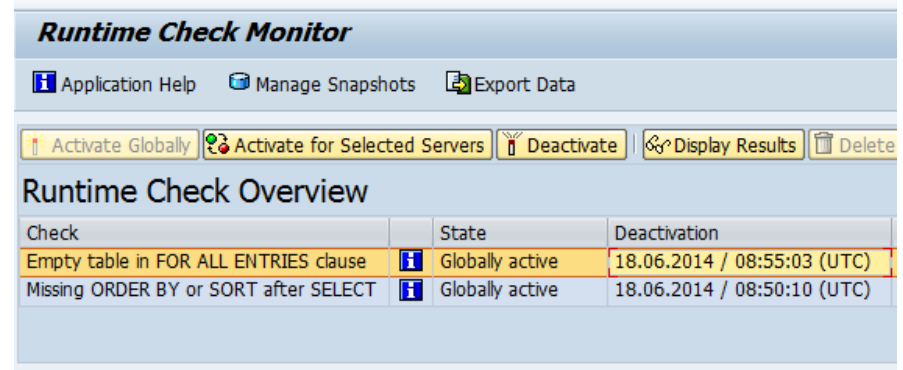- Analysis example of ABAP coding with the ABAP Test Cockpit

Existing Code: Is It Still Valid?
Runtime Check Monitor

Runtime Checks

- Supplement static code checks

- Executed in productive system
  (negligible performance overhead)

- Available for ABAP 7.4 SP2 and above

- More information:
  SAP Notes 1912445 & 1931870

Runtime Check Monitor

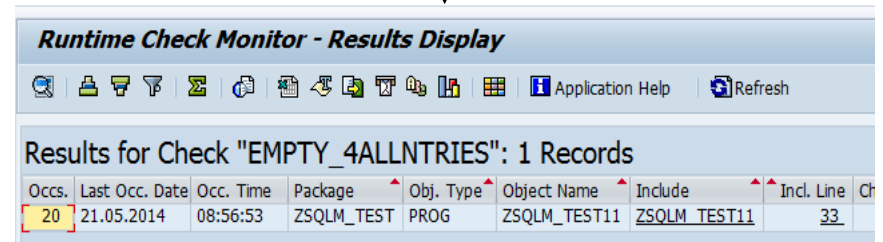ℹ Application Help   💿 Manage Snapshots   📤 Export Data

| ⬛ Activate Globally | 🔊 Activate for Selected Servers | ⬛ Deactivate | 👓 Display Results | 🗑 Delete |

Runtime Check Overview

Check		State	Deactivation
Empty table in FOR ALL ENTRIES clause	ℹ	Globally active	18.06.2014 / 08:55:03 (UTC)
Missing ORDER BY or SORT after SELECT	ℹ	Globally active	18.06.2014 / 08:50:10 (UTC)

⏳ Wait 4 weeks …

Runtime Check Monitor - Results Display

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Results for Check "EMPTY_4ALLNTRIES": 1 Records

Occs.	Last Occ. Date	Occ. Time	Package	Obj. Type	Object Name	Include	Incl. Line	Ch
20	21.05.2014	08:56:53	ZSQLM_TEST	PROG	ZSQLM_TEST11	ZSQLM_TEST11	33	

```
select a from <table>
    into table <itab>
    for all entries in <fae_table>
    where a = <fae_table>-table_line.
```

Public

Existing Code: Is It Still Valid?
What's Next?

Week 2 Unit 2
Existing Code: What About Performance?

Thank you

Contact information:

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