

## SAP Note

**3065633 - A View That is Dependent on a Calculation View Becomes Invalidated When a Dependency of Calculation View is Changed****Version 7**   **Validity:**  
06.10.2021 - active**Language** English

## Header Data

<b>Released On</b>	06.10.2021 06:18:44	<b>By</b> Jinsol Kim (I533393)
<b>Release Status</b>	Released for Customer	
<b>Component</b>	HAN-DB SAP HANA Database	<a href="#">Display ACRF Content</a>
<b>Priority</b>	Correction with high priority	
<b>Responsible</b>	Jinsol Kim ( I533393 )	
<b>Processor</b>	Jinsol Kim ( I533393 )	
<b>Category</b>	Program error	
<b>Relevant for Translation</b>	No	

## Symptom

When an object dependency of calculation view is changed, the view that is dependent on the calculation view becomes invalidated.

[Example 1 - Data Warehouse Cloud]

After snapshot replication on Data Warehouse Cloud (DWC), *Story* built on top of a hierarchy view returns an error similar to following:

Caught exception : exception 75000001: Internal error during hierarchy operation. Found **invalid base object** with the ID xxxxxx for the hierarchy dependency name: "<schema\_name>".  
<object\_name>" oid: xxxxxxxx dbld: 0 - please check the validity of the involved objects

[Example 2 - SQL scenario]

Step 1 - Set up base objects

```
CREATE SCHEMA invalidated_hview;
SET SCHEMA invalidated_hview;
```

```
CREATE TABLE t_src ( pred INT, succ INT );
INSERT INTO t_src VALUES ( NULL, 1);
```

```
CREATE VIEW v_src AS SELECT * FROM t_src;
```

```
CREATE CALCULATION SCENARIO cs_src USING '<?xml version="1.0" encoding="utf-8"?>
<cubeSchema defaultLanguage="EN" operation="createCalculationScenario" version="3"
defaultSchema="INVALIDATED_HVIEW">
  <calculationScenario name="CS_SRC">
```

```

<dataSources>
  <anyDataSource name="testSource" source="V_SRC" >
    <attributes>
      <allAttribute />
    </attributes>
  </anyDataSource>
</dataSources>

<calculationViews>
  <projection name="finalProjection" defaultViewFlag="true">
    <inputs>
      <input name="testSource" />
    </inputs>
    <attributes>
      <allAttribute />
    </attributes>
  </projection>
</calculationViews>
</calculationScenario>
</cubeSchema>;

```

## Step 2 - Set up views

```

CREATE COLUMN VIEW cv_test TYPE CALCULATION WITH PARAMETERS (
  'PARENTCALCINDEX'='CS_SRC',
  'PARENTCALCNODE'='finalProjection'
);

```

```

CREATE COLUMN VIEW h_invalidated TYPE HIERARCHY AS SELECT * FROM cv_test;

```

## Step 3 - Change object dependency

1. CREATE TABLE t\_src1 LIKE t\_src WITH DATA;
2. ALTER VIEW v\_src AS SELECT \* FROM t\_src1;
3. DROP TABLE t\_src;

## Step 4 - Check if the uppermost hierarchy view is invalidated or not

```

SELECT * FROM h_invalidated;
=> Could not execute 'select * from h_invalidated' in 4 ms 223 µs . SAP DBTech JDBC: [391] (at
14): invalidated view: H_INVALIDATED: line 1 col 15 (at pos 14)

```

## Other Terms

DWC, Object Dependencies, Object Version Update, Snapshot Replication, Model Invalidation

## Reason and Prerequisites

Issue number 266664

### Reason:

Due to a programming error in SAP HANA, object version of the calculation view is not incremented even though its object dependency is updated and it consequently fails to propagate recompilation of an object into the depending view.

### Affected Releases:

- SAP HANA 1:
  - Revisions of SPS07 - SPS12
- SAP HANA 2:
  - Revisions of SPS00 - SPS03
  - Revisions <= 048.05 (SPS04)
  - Revisions <= 055 (SPS05)

### Prerequisites:

- The dependent view that becomes invalidated is of a column type (**hierarchy** or calculation view)

## Solution

Apply one of the following SAP HANA Revisions:

- SAP HANA 2:
  - Revisions >= 048.06 (SPS04)
  - Revisions >= 056 (SPS05)
  - or higher
- or higher

### Workaround:

- Switch the order of the ALTER VIEW and DROP TABLE statements in Step 3 of Example 2 **OR**
- Revalidate the hierarchy view by altering the problematic direct dependency reliably as in following steps:
  1. Introduce an SQL view as an intermediate object between calculation view and hierarchy (CREATE VIEW INTERMEDIATE\_VIEW AS SELECT \* FROM cv\_test)
  2. Change the hierarchy definition sourceQuery to SELECT from this SQL view instead of directly SELET from the calculation view (CREATE COLUMN VIEW h\_invalidated TYPE HIERARCHY AS SELECT \* FROM INTERMDEDIATE\_VIEW)
  3. While altering the view over the source tables (t\_src/t\_src1), alter the additional SQL view as well without any change (ALTER VIEW INTERMEDIATE\_VIEW AS SELECT \* FROM cv\_test)

This workaround can be applied to Example 2 as follows:

## Step 2 - Set up views

```
CREATE COLUMN VIEW cv_test TYPE CALCULATION WITH PARAMETERS (
  'PARENTCALCINDEX'='CS_SRC',
  'PARENTCALCNODE'='finalProjection'
);
```

```
CREATE VIEW INTERMEDIATE_VIEW AS SELECT * FROM cv_test;
```

```
CREATE COLUMN VIEW h_invalidated TYPE HIERARCHY AS SELECT * FROM
INTERMEDIATE_VIEW;
```

## Step 3 - Update object dependency

1. CREATE TABLE t\_src1 LIKE t\_src WITH DATA;
2. ALTER VIEW v\_src AS SELECT \* FROM t\_src1;
3. ALTER VIEW INTERMEDIATE\_VIEW AS SELECT FROM cv\_test;
4. DROP TABLE t\_src;

## Validity

Software Component	From Rel.	To Rel.	And Subsequent	
HDB	1.00	1.00		
	2.00	2.00		

## Support Packages & Patches

### Support Package Patches

Software Component	Support Package	Patch Level
SAP HANA DATABASE 2.0	SP048	<a href="#">000006</a>
	SP056	<a href="#">000000</a>

## References

### This document refers to:

#### SAP Notes

- 2945435 HAN-DB [Known issues detected in SAP HANA 2 SPS05](#)
- 2784704 HAN-DB [Known issues detected in SAP HANA 2 SPS04](#)
- 2628684 HAN-DB [Known issues detected in SAP HANA 2 SPS03](#)
- 2525424 HAN-DB [Known issues detected in SAP HANA 2 SPS02](#)
- 2462139 HAN-DB [Known issues detected in SAP HANA 2 SPS01](#)
- 2432112 HAN-DB [Known issues detected in SAP HANA 2 SPS00](#)
- 2380229 HAN-DB [SAP HANA Platform 2.0 - Central Note](#)

2325090 HAN-DB [Known issues detected in SAP HANA 1 SPS12](#)  
 2265103 HAN-DB [Known issues detected in SAP HANA 1 SPS11](#)  
 2184212 HAN-DB [Known issues detected in SAP HANA 1 SPS10](#)  
 2093754 HAN-DB [Known issues detected in SAP HANA 1 SPS09](#)  
 2066225 HAN-DB [Known issues detected in SAP HANA 1 SPS08](#)  
 1523337 HAN-DB [SAP HANA Database 1.00 - Central Note](#)

## This document is referenced by:

### Customer Incident (3)

Number	Year	Title	Status	Processor	Customer Number	Customer Name
0000296133	2023	<a href="#">F2577 Track sales order is giving RAISE_SHORTDUMP</a>	Restricted		0000346824	Essity Hygiene & Health AB
0000742202	2021	<a href="#">SQL error "SQL code: 391" occurred while accessing table "/S</a>	Restricted	Turhan Arslan	0000038766	DXC Technology Services LLC
0000113292	2022	<a href="#">LWQ.HANA.issue.SAP DBTech JDBC: [391]: invalidated view</a>	Restricted	Ruth Kelly	0000190197	WHIRLPOOL S.A

### SAP Knowledge Base Articles (1)

2399990 HAN-DB [How-To: Analyzing ABAP Short Dumps in SAP HANA Environments](#)

### SAP Notes (1)

3043459 HAN-DB [SAP HANA 2 SPS05 Revision 056.00](#)

### ServiceNow Case (5)

Number	Year	Text	Status	Processor	Customer Number	Customer
0000113292	2022	<a href="#">LWQ.HANA.issue.SAP DBTech JDBC: [391]: invalidated view</a>	Closed	Ruth Kelly (I311696)		
		<a href="#">LWQ.HANA.issue.SAP DBTech JDBC: [391]: invalidated view</a>	Closed	Ruth Kelly (I311696)		
0000296133	2023	<a href="#">F2577 Track sales order is giving RAISE_SHORTDUMP</a>	Closed	Anonymized (I575827)		
0000742202	2021	<a href="#">SQL error "SQL code: 391" occurred while accessing table "/S</a>	Closed	Turhan Arslan (D035092)		