SAP Note

SAP   **3301386 - A Query Fails with an error "fatal error: Unexpected null pointer detected in scalar subquery within table function call"**

Version	4	**Validity:** 15.03.2023 - active	**Language** English

Header Data

Released On	15.03.2023 10:06:16 **By** Beate Groetschnig (I035208)
Release Status	Released for Customer
Component	HAN-DB-SCR SAP HANA SQL Script Display ACRF Content
Other Components	HAN-DB SAP HANA Database
Priority	Correction with high priority
Responsible	Jinsol Kim (I533393)
Processor	Beate Groetschnig (I035208)
Category	Program error
Relevant for Translation	No

Symptom

You observe an error message similar to the following while executing a query:

SAP DBTech JDBC: [3]: fatal error: Unexpected null pointer detected. See error trace for details

In Indexserver trace found are log messages similar to the one below:

[00000]{000000}[0/0] 2022-12-31 00:00:00 e Row_Engine qo_clone.cc : Unexpected null pointer detected. Please report this error with the CALL STACK below:
[00000]{000000}[0/0] 2022-12-31 00:00:00 e Row_Engine qo_clone.cc :
00000[thr=000000]: SqlWrk0000 at
0: 0x00000 in Diagnose::impl::dumpInfoSelfCtx
1: 0x00000 in ptime::qo_ScalarSubq::clone_subtree_impl
2: 0x00000 in sqlopt::Func::clone_subtree_impl
3: 0x00000 in sqlopt::Exp::clone_subtree
4: 0x00000 in ptime::qo_TableUDFParameters::clone
5: 0x00000 in ptime::qo_Table::fill_table_members
6: 0x00000 in ptime::qo_Table::clone_node
7: 0x00000 in ptime::qo_UnaryRel::clone_subtree
8: 0x00000 in ptime::qo_NaryRel::clone_subtree
9: 0x00000 in ptime::qo_NormalizerMapper::normalize
10: 0x00000 in ptime::**QueryOptimizer::optimize_qo_plan**
11: 0x00000 in ptime::qo_Rel* ptime::**QueryOptimizer::optimize_plan**
12: 0x00000 in ptime::Query::Compile::(anonymous namespace)::_compile
13: 0x00000 in ptime::Query::Compile::(anonymous namespace)::_compile

Indexserver might crash with a callstack similar to the one above.

[Example Scenario]

SELECT * FROM **SERIES_GENERATE_INTEGER**(1, 1, **(SELECT 3301386 FROM DUMMY)**);

SAP DBTech JDBC: [3]: fatal error: Unexpected null pointer detected. See error trace for details

Other Terms

User-Defined Function (UDF), Scalar Subquery, Scalar UDF

Reason and Prerequisites

Issue number 289901

Reason:

Due to a programming error in SAP HANA, using a scalar subquery as an argument to an UDF, which is neither a supported nor defined behavior, is not blocked, and it thus raises an error or even crashes indexserver during plan generation.

Affected Releases:

- SAP HANA 1:
    - All revisions

- SAP HANA 2:
    - Revisions of SPS00 - SPS05
    - Revisions <= 066.00 (SPS06)

Prerequisites:

- A scalar subquery (i.e, SELECT 3301386 FROM DUMMY) is used as an argument to an UDF (i.e, SERIES_GENERATE_INTEGER())

Solution

Apply one of the following SAP HANA Revisions:

- SAP HANA 2:
    - Revisions >= 067.00 (SPS06)
    - or higher

- or higher

Please make sure that upgrading the affected system to one of solution revisions above won't make the problematic query executable. The affected query will still fail (but with an exception instead of Indexserver crash) as the feature itself is not supported. Please refer to "**Workaround**" below to rewrite the query.

Workaround:

- Use a scalar UDF instead of a scalar subquery

  For example, the query in [Example Scenario] above can be rewritten as follows:

  1. Create a scalar UDF that is logically equivalent to the problematic scalar subquery

  ```
  CREATE FUNCTION "330186_TEST" (x INT)
  RETURNS result INT
  LANGUAGE SQLSCRIPT SQL DATA AS
  BEGIN
       result := :x;
  END;
  ```

  2. Replace the scalar subquery with this scalar UDF

  SELECT * FROM **SERIES_GENERATE_INTEGER**(1, 1, **"330186_TEST"(3301386)**);

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	SP067	000000

References

This document refers to:

SAP Notes
3128366   HAN-DB   Known issues detected in SAP HANA 2 SPS06

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

ServiceNow Case

This document is referenced by:

SAP Notes (1)

| 3284085 | HAN-DB | SAP HANA 2 SPS06 Revision 067.00 |