

## SAP Note

 **3108514 - Querying a Virtual Table Fails With an Error "SAP DBTech JDBC: [403]: internal error: Remote execution error exception 2120042"**

Version 10    Validity: 07.11.2022 - active

Language English

## Header Data

Released On	07.11.2022 05:14:48 By Jinsol Kim (I533393)
Release Status	Released for Customer
Component	HAN-DB SAP HANA Database <a href="#">Display ACRF Content</a>
Priority	Recommendations / Additional Info
Responsible	Jinsol Kim ( I533393 )
Processor	Jinsol Kim ( I533393 )
Category	Help for error analysis
Relevant for Translation	No

## Symptom

A query accessing a virtual table fails with an error "SAP DBTech JDBC: [403]: internal error: Remote execution error exception 2120042".

Error logs similar to the following are also found in indexserver trace:

```
[000000]{000000}{00/0} 0000-00-00 00:00:00.000000 E Assure UniversalTabColumn.cpp(00025) : The following assertion failed: true ==
WrapperType::valueClass == this->getTypeDefinition().getValueClass()
true = true
WrapperType::valueClass == this->getTypeDefinition().getValueClass() = false
Cannot continue due to metadata(valueClass) mismatch. UniversalTabColumn<N9TrexTypes21FixedAttributeValue16E>'s valueClass=242 is
typeDef(fixed-2.2)'s valueClass=240
Correlation id is 0x<correlation_id>
SqlExecutor at
1: Diagnose::impl::throwFailedAssureException(char const*, int, char const*, char const*, char const*, char const*, char const*, char const*, char const*)
Diagnose::TraceTopic const&, unsigned long)
2:
federation::UniversalTabColumn<TrexTypes::FixedAttributeValue16>::UniversalTabColumn(lt::smartptr_handle<TRexCommonObjects::TRexAttribute
const&, TrexTypes::TypeDefinition const&, DictionaryCompression::CountedHandle<DictionaryCompression::Env>, DictionaryCompression::Negotiate
const&, DictionaryCompression::ColumnBase*, lt::allocator&, bool) [clone .cold]
3: federation::CISUniversalTab::Deserialize(lt::allocator&, TRexCommonObjects::InternalTable*, federation::CISUniversalTab::DataFetcherInterface*,
ptime::fastvector<unsigned short, 16ul> const&, ptime::fastvector<int, 16ul> const&, ptime::fastvector<int, 16ul> const&, DictionaryCompression::Versi
4: federation::CISUniversalTab::convertCISDictionarytoTabCommon(federation::CISUniversalTab::DataFetcherInterface*, lt::allocator&, ptime::Trans
federation::FederationContext*, federation::FederationCursor*, ptime::fastvector<unsigned short, 16ul> const&, ptime::fastvector<int, 16ul> const&,
ptime::fastvector<int, 16ul> const&, DictionaryCompression::Version)
5: federation::CISUniversalTab::convertCISDictionarytoTab(lt::allocator&, ptime::Transaction*, federation::FederationContext*, federation::Federation
ptime::fastvector<unsigned short, 16ul> const&, ptime::fastvector<int, 16ul> const&, ptime::fastvector<int, 16ul> const&, DictionaryCompression::Versi
federation::UniversalTabResult::FormatVersion)
6: federation::FederationQueryHelper::getResultTab(lt::allocator&, bool&, bool, ptime::fastvector<unsigned short, 16ul> const&, ptime::fastvector<int, 1
ptime::fastvector<int, 16ul> const&, federation::FederationQueryHelper::ColumnInfo&, federation::FederationCursor*,
federation::FederationQueryHelper::ExecutionParams&)
7: ptime::FederationQuery::execute(ptime::Env&)
8: ptime::FederationQuery::do_open(ptime::OperatorEnv&, ptime::QEParams, int)
9: ptime::Table::open(ptime::Env&, ptime::QEParams, int)
10: ptime::Table::open_child(ptime::Env&, ptime::Table const*, ptime::QEParams&, int, bool)
11: ptime::Project_copy::do_open(ptime::OperatorEnv&, ptime::QEParams, int)
12: ptime::Table::open(ptime::Env&, ptime::QEParams, int)
13: ptime::Query::result_t::open(ptime::Query::Plan*, bool, bool, ptime::Statement*, bool, bool)
14: ptime::ResultSet::open_(bool, bool, bool, bool, bool)
15: ptime::Statement::post_execute_(ptime::Statement::ExecuteType, Execution::Context&, ptime::ResultSet*, ptime::StatementResourceTrackingSco
sqlscript::Phase&, int, bool, bool, bool, bool, bool, bool, int)
16: ptime::Statement::execute_(Execution::Context&, EAPI::CursorHoldability const&, bool, bool, bool)
17: ptime::PreparedStatement::execute(Execution::Context&, EAPI::CursorHoldability const&, bool, bool, bool, ptime::Statement::BatchProcessingStat
bool)
18: ptime::ActionExecutor::executeQuery(Execution::Context&, ptime::Action&)
19: ptime::ActionExecutor::executeQid(Execution::Context&, ptime::Action&)
20: ptime::ActionExecutor::executeAction(Execution::Context&, ptime::SessionEvent*, ptime::Action&)
21: ptime::SessionHandler::executeAction(Execution::Context&, SessionLayer::SessionEvent*, ptime::Action&)
22: LTHUNK390.lto_priv
23: ptime::SessionHandler::receiveMessage_(Execution::Context&, ptime::ThreadStatusCallbackBase&, SessionLayer::CommEvent*, bool)
24: ptime::SessionHandler::receiveMessage(Execution::Context&, SessionLayer::CommEvent*, bool)
25: ptime::TcpReceiver::doWork(Execution::Context&, SessionLayer::CommMgr*)
26: ptime::TcpReceiver::run(void*)
27: TrexThreads::PoolThread::run()
28: TrexThreads::PoolThread::run(void*&)
29: Execution::Thread::staticMainImp(Execution::Thread*)
```

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30: Execution::pthreadFunctionWrapper(Execution::Thread\*)  
31: start\_thread  
32: \_\_clone

## Other Terms

Smart Data Access (SDA), Data Federation, Internal Type Conversion, Universal ITAB (UITAB)

## Reason and Prerequisites

Issue number 271552

### Reason:

As of HANA 2.0 Revision 055, handling of remote column type on UITAB is refactored. Due to this change, incompatible internal data types can be used for conversion leading to type mismatch failure. Such a failure is an expected behavior.

### Affected Releases:

This issue occurs only if both local and remote system are on the revisions specified below:

- Local System
  - SAP HANA 2.0:
    - Revisions >= 055 (SPS05)
- Remote System:
  - SAP HANA 1.0
    - Revisions of SPS06 - SPS12
  - SAP HANA 2.0
    - Revisions of SPS00 - SPS04
    - Revisions <= 054 (SPS05)

### Prerequisites:

- Smart Data Access is configured in your HANA landscape **AND**
- Both local and remote system are HANA Database **AND**
- The HANA revisions of local and remote system are installed as described in 'Affected Release' above

[Reproducible Scenario]

#### On Remote System <= HANA 2.0 Revision 054:

```
1.CREATE TABLE DECIMAL_TABLE (C1 DECIMAL(21,2));  
2. INSERT INTO DECIMAL_TABLE VALUES (1234567891011121314.12);
```

#### On Local System >= HANA 2.0 Revision 055:

```
1. CREATE REMOTE SOURCE REV54 ADAPTER "hanaodbc" CONFIGURATION 'ServerNode=  
<machine_name>:3<remote_instance_number>15;Driver=libodbcHDB.so' WITH CREDENTIAL TYPE 'PASSWORD' USING 'user=<db_username>;pa  
<db_password>;'  
2. CREATE VIRTUAL TABLE REV54_DECIMAL_TABLE AT "REV54"."NULL"."SYSTEM"."DECIMAL_TABLE";  
3. SELECT * FROM REV54_DECIMAL_TABLE WITH HINT (IGNORE_PLAN_CACHE,DEV_UNIVERSAL_ITAB);  
=>
```

Could not execute 'select \* from REV54\_DECIMAL\_TABLE WITH HINT(IGNORE\_PLAN\_CACHE,DEV\_UNIVERSAL\_ITAB)' in 188 ms 54 µs .  
SAP DBTech JDBC: [403]: internal error: Remote execution error exception 2120042: An unexpected error occurred. For further information on this error notes for one of the following tags: loc=<loc>, ctx=<ctx>. If you don't find an according note, open a support ticket and include the trace files containing <correction\_id>.  
for query "SELECT "REV54\_DECIMAL\_TABLE"."C1" FROM "SYSTEM"."DECIMAL\_TABLE" "REV54\_DECIMAL\_TABLE" [...]"

## Solution

Apply one of the following SAP HANA Revisions to a **Remote** HANA system:

- SAP HANA 2:
  - Revisions >= 055 (SPS05)

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  - or higher
- or higher

Workaround:

In order for both workarounds to become effective in HEX engine, the SQL Plan cache needs to be cleared as described in the SAP HANA Administration C [SYSTEM CLEAR SQL PLAN CACHE Statement \(System Management\)](#).

- On a **Local** HANA system, specify configuration parameter **'enable\_universal\_itab\_hana\_sda'** to 'false' by executing the following command:

1. ALTER SYSTEM CLEAR SQL PLAN CACHE;

2. ALTER SYSTEM ALTER CONFIGURATION ('indexserver.ini', 'SYSTEM' ) SET ('smart\_data\_access', 'enable\_universal\_itab\_hana\_sda') = 'false' V RECONFIGURE COMMENT 'SAP Note 3108514. Revert after upgrading the target system';
- OR
- Apply SQL hint **'DEV\_NO\_UNIVERSAL\_ITAB'** as follows:

1. ALTER SYSTEM CLEAR SQL PLAN CACHE;

2. SELECT \* FROM REV54\_DECIMAL\_TABLE WITH HINT (DEV\_NO\_UNIVERSAL\_ITAB);
- or
- SELECT \* FROM REV54\_DECIMAL\_TABLE WITH HINT (IGNORE\_PLAN\_CACHE, DEV\_NO\_UNIVERSAL\_ITAB);

Note: The workaround may have a negative impact on performance of SDA queries with remote HANA DB involved.

Disclaimer

The SAP HANA configuration parameter [smart\_data\_access] **enable\_universal\_itab\_hana\_sda** is an internal parameter and may only be used in the cor Note. Using such a parameter requires that the SAP HANA system has the revision specified in the SAP Note. Using internal parameters outside of this giv supported. Please unset this parameter once you have upgraded to a revision containing the permanent solution.

Validity

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

References

This document refers to:

SAP Notes	
2945435	HAN-DB <a href="#">Known issues detected in SAP HANA 2 SPS05</a>
2943297	HAN-DB <a href="#">SDA Performance Optimization With Universal ITAB Transfer</a>
2514255	HAN-DB <a href="#">Universal ITAB for SAP HANA Smart Data Access</a>
2380229	HAN-DB <a href="#">SAP HANA Platform 2.0 - Central Note</a>

This document is referenced by:

Customer Incident (16)						
Number	Year	Title	Status	Processor	Customer Number	Customer Name
0002274302	2021	<a href="#">Internal_error_when_selecting_timestamp_field</a>	Closed	Jingyun Yang	0000148780	Agrifirm Group B.V.
0002673544	2022	<a href="#">403: internal error: Remote execution error except</a>	Closed	Ercin Nurol	0000016464	Döhler GmbH
0004479838		<a href="#">Could not execute 'select top 10 * from "SAPHANADB</a>	Restricted	Shubham Singh	0000733430	Sanko Holding A.S.
0004486461		<a href="#">3108514 - Querying a Virtual Table Fails With an E</a>	Restricted	Badreddine Meghirbi	0000733430	Sanko Holding A.S.
0000368905		<a href="#">ERRORR_while_query_data_from_SDA.remote_source</a>	Restricted	Carlos Pena	0000328834	s.Oliver Bernd Freier GmbH & Co.KG

more...

ServiceNow Case (18)						
Number	Year	Text	Status	Processor	Customer Number	Customer
0002673544	2022	<a href="#">403: internal error: Remote execution error except</a>	Closed	Ercin Nurol (D055131)		
0000545426		<a href="#">Error: SAP DBTech JDBC: [403]: internal error</a>	Closed	Mingzhe Pan (I058901)		
0000263886		<a href="#">Data access from remote connection is throwing error</a>	Closed	Anonymized (I819780)		
		<a href="#">Data access from remote connection is throwing error</a>	Closed	Anonymized (I819780)		
		<a href="#">Data access from remote connection is throwing error</a>	Closed	Anonymized (I819780)		

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