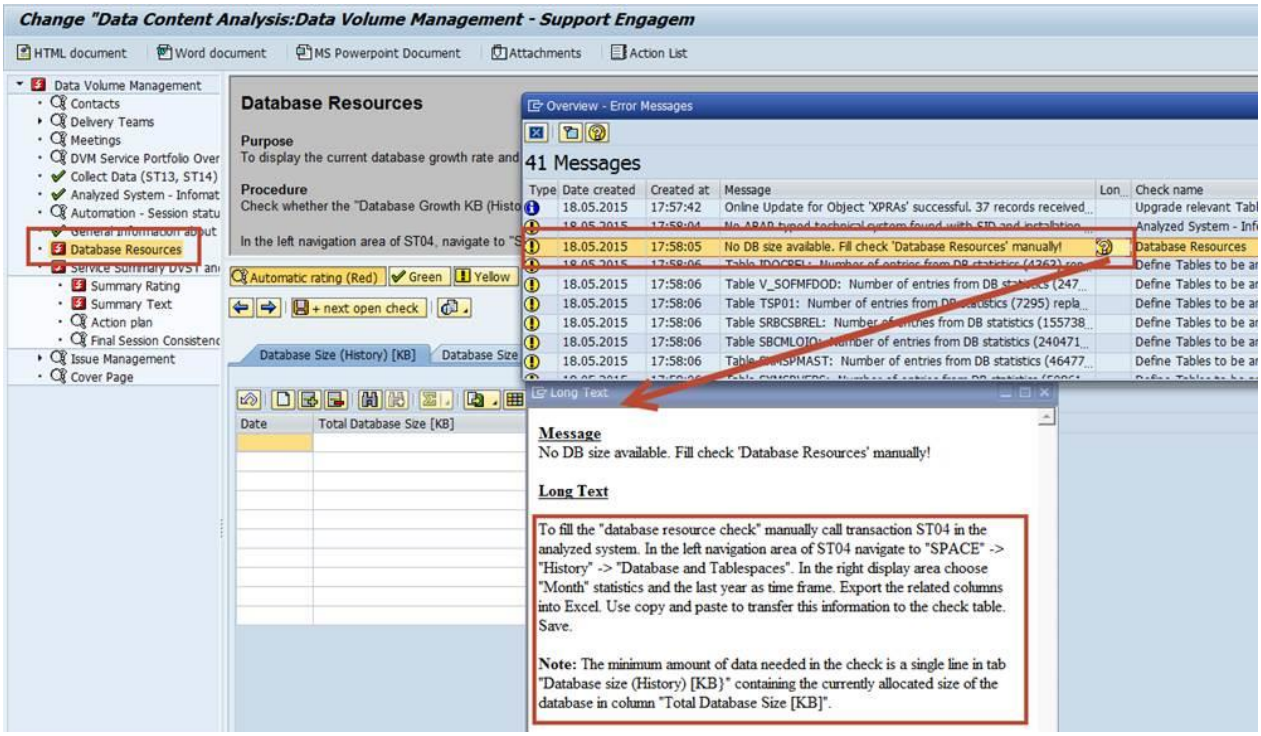
DVM Service Delivery – How To…

Database Size History for SAP HANA Based Systems

SAP HANA does not yet provide the database size history in a way the DVM sessions would need it. Please use the following workaround to collect the data from the system, and add the values manually to the session.

If no database size information is available within an ST14 GUID, this is reported during the session initialization and results in a red rating of check “Database Resources”. Session processing stops at this point as several calculations are based on the database size.

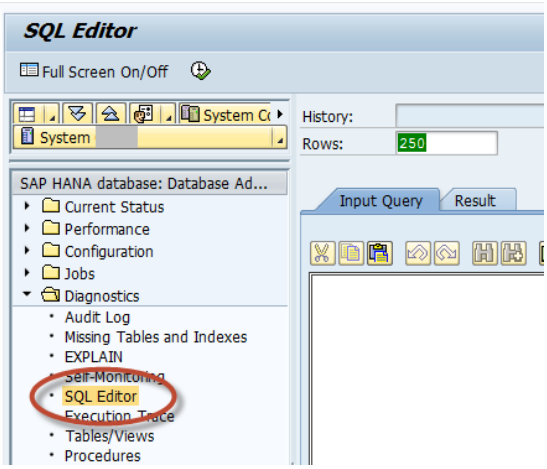


As outlined within the long text (“Message”) of this message it is necessary to fill in the database size manually to proceed with the service session.

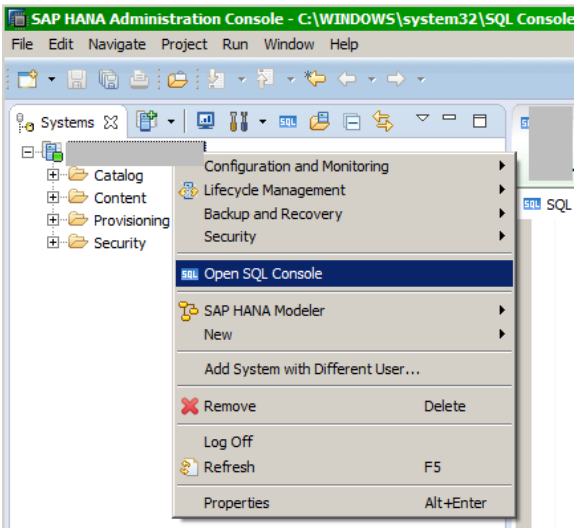
The provided description to collect this information is valid for AnyDB. As HANA does not collect the historical data of the last few months, we need to use a workaround to get an idea about the development of the overall database size. We use the Backup size for this purpose. You have to retrieve the backup sizes from the system with a manually executed SQL statement. The following pages explain, where to get the statement from and how to use it.

Open SAP Note 1969700 in SAP Service Marketplace (https://css.wdf.sap.corp/sap/support/notes/1969700). Download the attachment "SQL Statements.zip" to your local computer and open it. This zip-file contains many text files. Search for "HANA_Backups_BackupRuns.txt" and open it. Highlight the complete statement, copy it.

Open transaction DB02, go to SQL editor and paste the complete SQL statement. If you do not see the option or it is greyed out, your user is missing authorizations.



If you have access to the database directly via SAP HANA Studio, you may also open an SQL Console there and paste the complete SQL statement.



Adjust the SQL statement in the /* Modification section */:

```
FROM
( SELECT                                                                    /* Modification section */
    TO_TIMESTAMP('1900/01/01 12:00:00', 'YYYY/MM/DD HH24:MI:SS') BEGIN_TIME,
    TO_TIMESTAMP('9999/01/13 12:00:00', 'YYYY/MM/DD HH24:MI:SS') END_TIME,
    '%' HOST,
    '%' SERVICE_NAME,
    'log backup' BACKUP_TYPE,                                   /* e.g. 'log backup', 'complete data backup
    '%' BACKUP_DATA_TYPE,                                      /* VOLUME -> log or data, CATALOG -> catalog, TOP
    '%' BACKUP_STATUS,                                          /* e.g. 'successful', 'failed' */
    '<ok>' MESSAGE,
    -1 MIN_BACKUP_TIME_S,
    'AVG' AGGREGATION_TYPE,     /* SUM, MAX, AVG */
    'TIME' AGGREGATE_BY,        /* HOST, SERVICE, TIME, BACKUP_ID, BACKUP_TYPE, BACKUP_DATA_TYPE, STAT
    'DAY' TIME_AGGREGATE_BY     /* HOUR, DAY, HOUR_OF_DAY or database time pattern, NONE for no aggreg
```

In line
`TO_TIMESTAMP('1900/01/01 12:00:00', 'YYYY/MM/DD HH24:MI:SS') BEGIN_TIME,`
change `1900/01/01` to the date one year ago, e.g. 2014/05/19.

In line
`'log backup' BACKUP_TYPE,`
change `'log backup'` to 'complete data backup'.

In line
`'%' BACKUP_STATUS,`
change '%' to 'successful'.

In line
`'DAY' TIME_AGGREGATE_BY`
change `'DAY'` to 'NONE.

Press F8 for execution. The result is a table with lots of information.

	START_TIME	HOST	SERVICE_NAME	BACKUP_ID	BACKUP_TYPE	DATA_TYPE	STATUS	BACKUPS	AGG	RUNTIME_MIN	BACKUP_SIZE_MB	MB_PER_S	DAYS_PASSED	MESSAGE
1	2015/05/15 01:00:06	any	any	any	complete data backup	any	successful	1	AVG	55.84	158946.49	47.43	4.59	<ok>
2	2015/05/12 01:00:05	any	any	any	complete data backup	any	successful	1	AVG	63.54	158856.75	41.66	7.59	<ok>
3	2015/05/08 01:00:05	any	any	any	complete data backup	any	successful	1	AVG	47.79	159127.83	55.48	11.59	<ok>
4	2015/05/05 01:00:08	any	any	any	complete data backup	any	successful	1	AVG	66.00	159171.15	40.19	14.59	<ok>
5	2015/05/01 01:00:08	any	any	any	complete data backup	any	successful	1	AVG	56.93	159056.71	46.56	18.59	<ok>
6	2015/04/28 01:00:08	any	any	any	complete data backup	any	successful	1	AVG	77.26	232810.66	50.21	21.59	<ok>
7	2015/04/24 01:00:03	any	any	any	complete data backup	any	successful	1	AVG	60.04	217576.37	60.38	25.59	<ok>
8	2015/04/21 01:00:05	any	any	any	complete data backup	any	successful	1	AVG	79.18	211241.91	44.46	28.59	<ok>

Download the result list:
DB02: Button “Export” above the result table
HANA Studio: right mouse click in result table > Export Result

To proceed with the service session, we need to extract the date from field START_TIME and convert the value BACKUP_SIZE_MB into kB before copying it into the corresponding fields marked below. Moreover, we may not need all values.

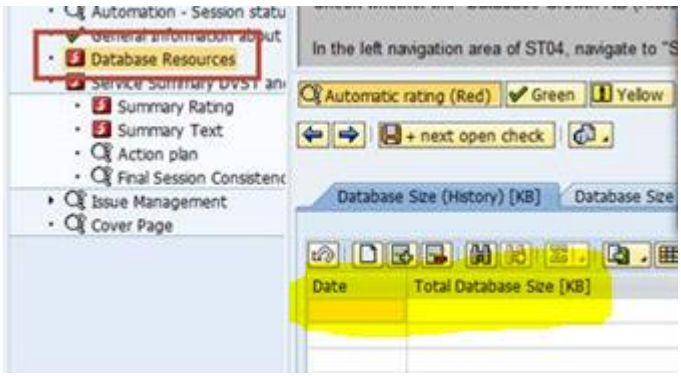
The SQL provides a list of all successful backups in the selected time frame (one year). For the session please use only one date/size per month. Depending on the customer’s backup schedule, you may have to delete many lines from the result table.

You may e.g. use Excel formula processing to isolate the date from the 10 first digits from “START_TIME”. Syntax: “=LEFT(<cellnumber>;10)” , where <cellnumber> is the cell with the START_TIME.

For the conversion from MB to kB please use factor 1024.

Please notice that the output of the SQL uses a text format for BACKUP_SIZE_MB with a dot as decimal separator. This may not be recognized as a number by Excel automatically. Take care that the last two digits are treated as decimals!

Copy/paste the results of your efforts to the session:



After saving this check the service session workbench will proceed evaluating the information stored within the related ST14 GUID and generate the DVM specific checks.

Finally, the generated text in the report has to be adjusted. Please replace the text in the report by the text from the following box:

The graph below shows the database backup size history for the recent weeks / months. We use the sizes of the backups as an indicator for the database size, as historical values for the database size are currently not available. Please note that backups are larger than the actual DB size due to additional administration information. Nevertheless, as backup sizes develop proportional to the database size, the backup size provides a good indicator for the DB size history and thus can also serve as a basis for estimations on future growth.