

Power BI With SAP Hana

Version 1.0

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SAP Hana is in memory database system. This is where SAP is investing heavily as part of future Roadmap. Big Companies have started using the same in backend. Power BI supports connectivity with SAP Hana Database as backend. With SAP Hana, Information views can be created and used for reporting and analysis purpose. Also, SAP Hana tables can be queried directly by reporting tools.

Pre Req

Hana ODBC drivers must be installed on local machine for Power BI Desktop to connect. These drivers can easily be downloaded from SAP Software Download Centre

Connectivity Modes

Direct Query - This is live connectivity with SAP Hana. DirectQuery mode has further two submodes for connectivity with SAP Hana i.e. Connect as Multi Dimensional Source and also as relational Data Source.

Main Key Differences are as below

1. When we connect Power BI to SAP Hana as Multidimensional source , aggregation happens in SAP Hana. When we connect to SAP Hana as relational source , data is fetched at level defined in data modelling and further aggregation if required by Power BI Component is done in Power BI Itself.
2. There are limitations when using SAP Hana as multi dimensional source. Below is high level list of same.
 - a. Calculated Columns cannot be added in Data Modelling.
 - b. Column and Measure Details are fixed.
 - c. DAX Aggregation Functions are not supported.
 - d. There is no Data View available to check first N rows from backend in design mode.
 - e. Relationships are defined in SAP Hana Information View and not in Power BI.
3. Using SAP Hana as relational source provides more flexibility. It is important that when building Power BI Report as relational source that we do not bring data at very low level granularity in Power BI. This will create Performance issues. So when fetching data , make sure data is fetched at max aggregated level as required by Components.

Import - Power BI Supports offline data connectivity with SAP Hana.

Publish Support

Power BI reports which are consuming data from SAP Hana can be published on Power BI Service irrespective of if the DirectQuery mode to connect is used or not.

Overall Limitations

Data types such as SMALLDECIMAL, VARBINARY are not supported when using SAP Hana in Power BI. NVARCHAR strings are also truncated.

The dates should be in the range of 1899/12/30 and 9999/12/31

This is not exhaustive list to cover all limitation. Please refer below official link to stay updated

<https://docs.microsoft.com/en-us/power-bi/desktop-directquery-sap-hana>