CFBS Webinar Series



SAP Business One

Queries and Report Writing





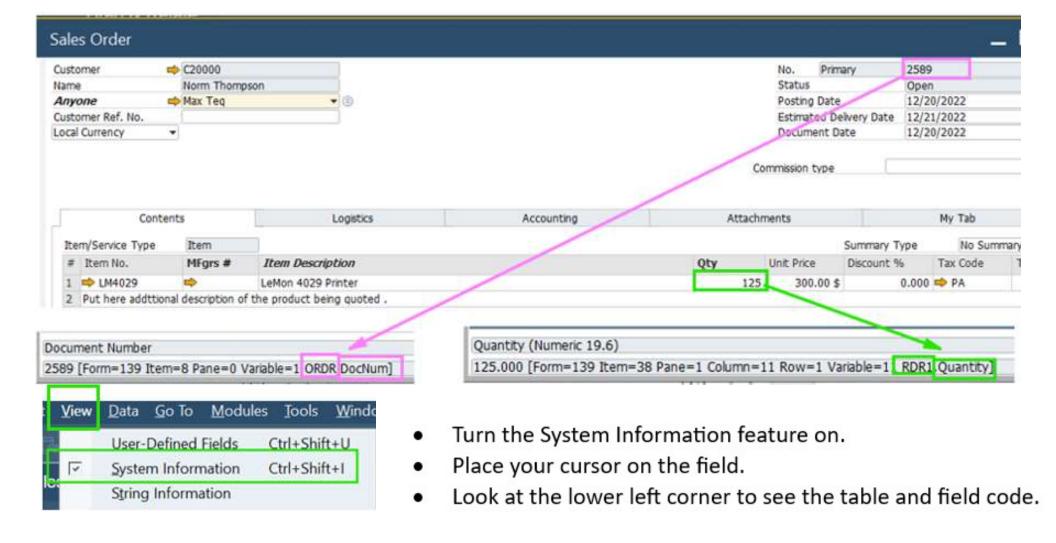
Agenda - Topics



- 1. SAP SQL Queries
- 2. Crystal Reports
- 3. Excel Reports
- 4. Pervasive Analytics
- 5. Q & A

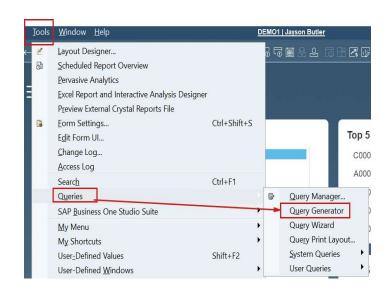
Date Input

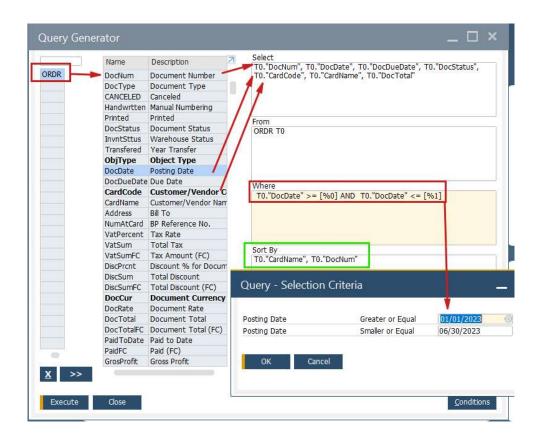
How to recognize tables and fields needed for your queries.



Query Creation

To create a new Query go to: File – Queries – Query Generator

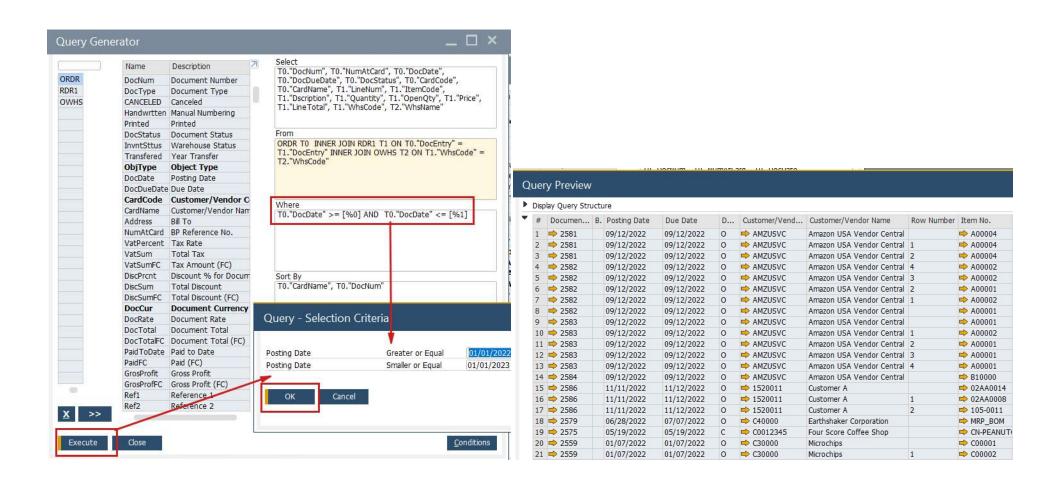




Sample of a simple query with parameters.

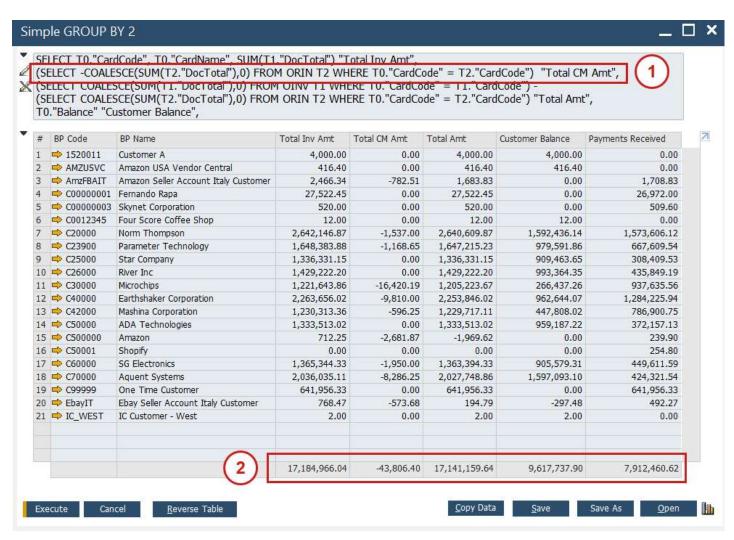
Query Samples

List of Sales Orders with the Date Range parameters sorted by Customer Code.



Query Samples

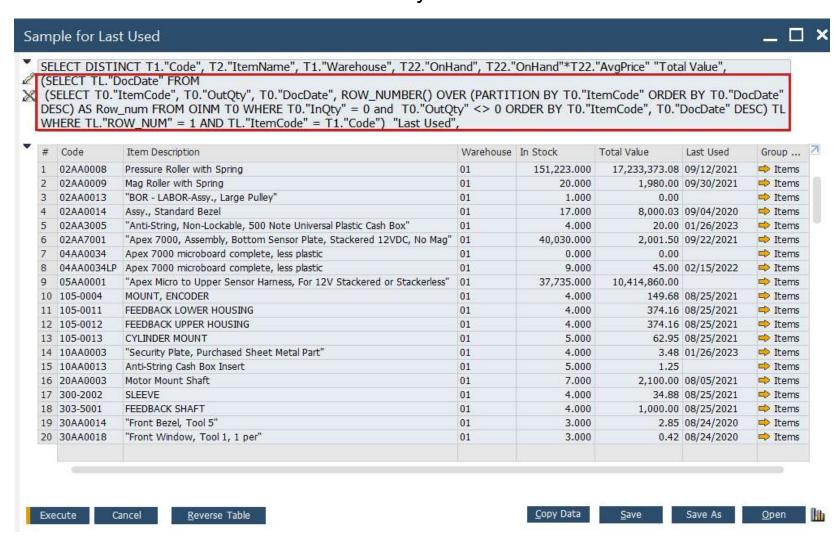
Sales Analysis per Customer – Summary of Invoices and Credit Memos and Payments.



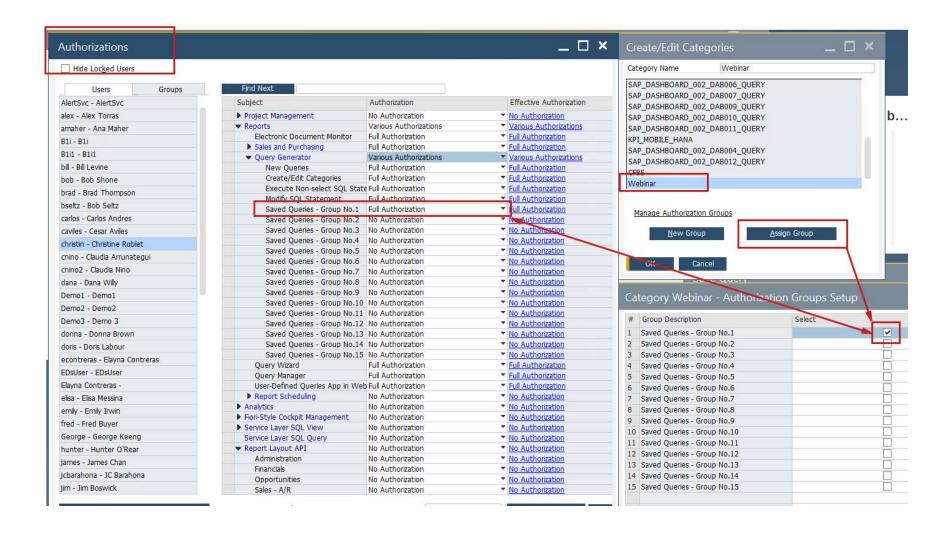
- 1. Subquery
- Column Totals are not part of the query

Query Samples

Sample of finding "last" value – subquery with Row_Number over Partition that lists the last date when item was taken out of inventory.



Authorizations to Create and Run Queries



Queries with UNION Statement

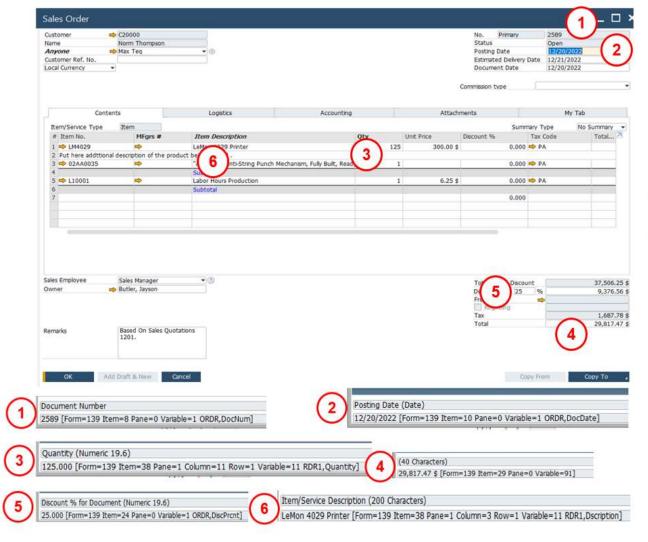
```
AR Invoices and Credit Memos - UNION
   SELECT T0."DocEntry" "InvDril", 'INV' "Doc Type" T0."DocNum", T0."DocStatus", T0."CANCELED", T0
T1. "StreetB" "BillTo Street", T1. "CityB" "BillTo City", T1. "StateB" "BillTo State", T1. "ZipCodeB" "BillTo ZIP
T0."Address2", T1."StreetS" "ShipTo Street", T1."CityS" "ShipTo City", T1."StateS" "ShipTo State", T1."
   T2."ActDelDate" "Delivery Date", T0."DocDate", T0."CreateDate", T3."PymntGroup",
   CASE WHEN TO. "CANCELED" = 'C' THEN -T2. "Quantity" ELSE T2. "Quantity" END "Cases",
   CASE WHEN TO. "CANCELED" = 'C' THEN -T2. "InvQty" ELSE T2. "InvQty" END "Eaches",
   T2. "ItemCode" "Item", T2. "Dscription" "Description",
   CASE WHEN TO. "CANCELED" = 'C' THEN -T2. "LineTotal" ELSE T2. "LineTotal" END "Amount",
   T4. "Segment_0" | | '-' | | T4. "Segment_1" "G/L Account"
   FROM OINV TO
   INNER JOIN INV12 T1 ON T0. "DocEntry" = T1. "DocEntry"
   INNER JOIN INV1 T2 ON T0. "DocEntry" = T2. "DocEntry"
   INNER JOIN OCTG T3 ON T0. "GroupNum" = T3. "GroupNum"
   INNER JOIN OACT T4 ON T2. "AcctCode" = T4. "AcctCode"
   WHERE TO."DocDate" >= [%0] and TO."DocDate" <= [%1] AND T4."Segment 0" like '41%%'
   UNION ALL
   SELECT TO."DocEntry" "Drill", 'CM' "Doc Type", T0."DocNum", T0."DocStatus", T0."CANCELED", T0."Ca
   T1. "StreetB" "BillTo Street", T1. "CityB" "BillTo City", T1. "StateB" "BillTo State", T1. "ZipCodeB" "BillTo ZIP
   TO."Address2", T1."StreetS" "ShipTo Street", T1."CityS" "ShipTo City", T1."StateS" "ShipTo State", T1."
   T2."ActDelDate" "Delivery Date", T0."DocDate", T0."CreateDate", T3."PymntGroup",
   CASE WHEN TO. "CANCELED" = 'C' THEN T2. "Quantity" ELSE -T2. "Quantity" END "Cases",
   CASE WHEN TO. "CANCELED" = 'C' THEN T2. "InvQty" ELSE -T2. "InvQty" END "Eaches",
   T2. "ItemCode" "Item", T2. "Dscription" "Description",
   CASE WHEN TO. "CANCELED" = 'C' THEN T2. "LineTotal" ELSE -T2. "LineTotal" END "Amount".
   T4. "Segment_0" | | '-' | | T4. "Segment_1" "G/L Account"
   FROM ORIN TO
   INNER JOIN RIN12 T1 ON T0. "DocEntry" = T1. "DocEntry"
   INNER JOIN RIN1 T2 ON T0. "DocEntry" = T2. "DocEntry"
   INNER JOIN OCTG T3 ON T0. "GroupNum" = T3. "GroupNum"
   INNER JOIN OACT T4 ON T2. "AcctCode" = T4. "AcctCode"
   WHERE TO."DocDate" >= [%0] and TO."DocDate" <= [%1] AND T4."Segment_0" like '41%%'
   ORDER BY T0."DocDate", "Customer Code", T0."DocNum"
```

- The UNION operator is used to combine the result of multiple SELECT statements;
- Every SELECT statement must have the same number of columns;
- Columns must have similar types of data;
- Columns must be in the same order;
- NOTE: Remember to flip the sign while listing "opposite" document values.

```
SELECT 'INV' "Type", T0."DocNum", T0."DocStatus",
T0."CardCode", T0."CardName", T0."DocDate", T0."DocTotal"
FROM OINV T0
UNION ALL
SELECT 'CM' "Type", T0."DocNum", T0."DocStatus",
[T0."CardCode", T0."CardName", T0."DocDate", -T0."DocTotal"
FROM ORIN T0
ORDER BY T0."CardCode"
```

Item and Table Syntax used in Formatted Searches

The most common syntax used for FMS queries: \$[\$<ItemUID>.<ColumnUID>.<DataType>]



- Integer values (Document Number) \$[\$8.0.NUMBER]
- Dates (Posting Date)\$[\$10.0.DATE]
- Data on line level (Quantity)
 \$[\$38.11.NUMBER]
- Decimal & currency codes (Doc Total)
 \$[\$38.17.CURRENCY]
- Decimal values (Discount)\$[\$24.0.NUMBER]
- String values (Item Description)\$[\$38.3.STRING]

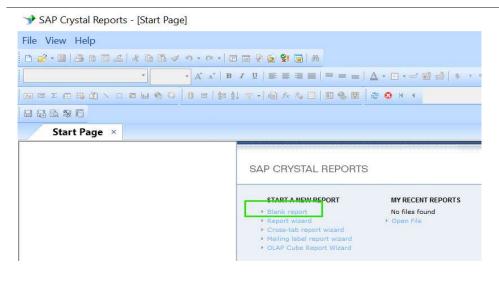
Example – Default Expense Account on AP Invoice.

Crystal Reports

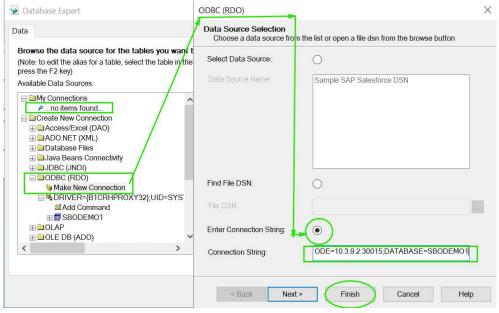
The main report writing tool in SAP is Crystal Reports (CR).

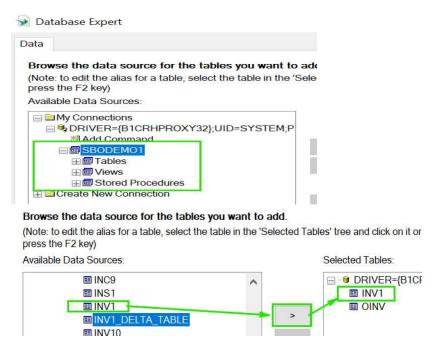
- CR can be used to create/print document layouts and analytical reports;
- CR reports can be run outside of SAP or imported to SAP and printed or emailed directly from there;
- CR reports can vary from simple list / tabular data to very complex analytical output that includes grouping, summary, sub-reports, charts;
- During our webinar we will create a simple report and learn how to modify an existing layout and re-import it to SAP; and
- CR must be installed separately and needs to be connected to the SAP database.

Login and Connection to Database



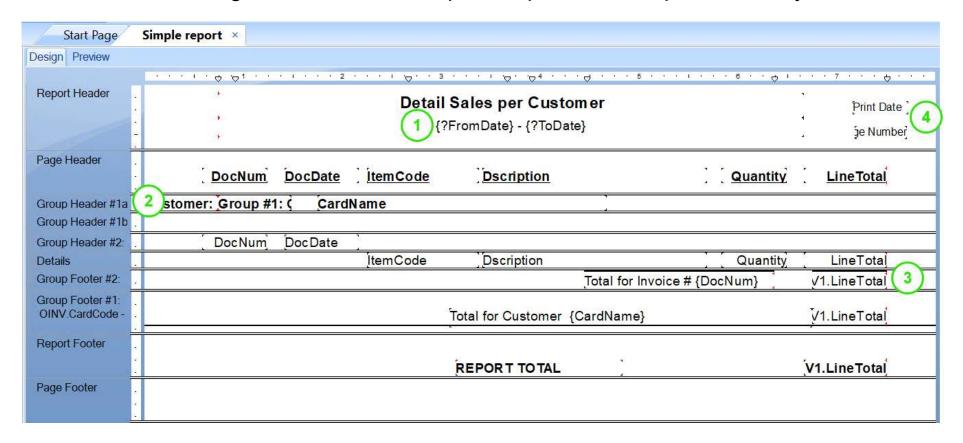
- Start a blank report;
- Create new connection using report driver, sample below:
 - DRIVER={B1CRHPROXY32};UID=SYSTEM;PWD= Password22;SERVERNODE=10.3.9.2:30015;DAT ABASE=SBODEMO1
- Select required objects (tables, views or stored procedures) and link them.





Report Structure

- Report parameters and fields formatting;
- Data grouping (2-level grouping by document and by customer);
- 3. Summary of fields can be done on all or selected groups and the whole report; and
- 4. Print Date and Page Number as a sample of Special Fields predefined by CR.



Sample of Report Output

Detail Sales per Customer

11/21/2023

1/1/20 - 11/11/23

1

Customer: AMZUSVC Amazon USA Vendor Central

<u>DocNum</u>	<u>DocDate</u>	<u>ItemCode</u>	<u>Dscription</u>	Quantity	<u>LineTotal</u>
1707	05/26/2021				
		02AA0010	Rear Pressure Roller W/Spring	1.00	14.40
		02AA0009	Mag Roller with Spring	1.00	14.40
		02AA0008	Pressure Roller with Spring	1.00	14.40
		02AA0002	"Assembly, Punch Mechanism, Fully	1.00	36.60
		02AA0001	"Assembly Drive Motor Mount, Motor	11.00	336.60
			Total for Invoice # 170	7	416.40
	Total for Customer Amazon USA Vendor Central				

Customer: AmzFBAIT Amazon Seller Account Italy Customer

<u>DocNum</u>	<u>DocDate</u>	<u>ItemCode</u>	<u>Dscription</u>	Quantity	<u>LineTotal</u>
1693	09/20/2021	6943757600069	6943757600069	1.00	107.71
			Total for Invoice # 1693	<u> </u>	107.71

Report and Layout Manager

Report and Layout Manager is used to import Crystal Reports and document layouts into SAP to run them directly from there.

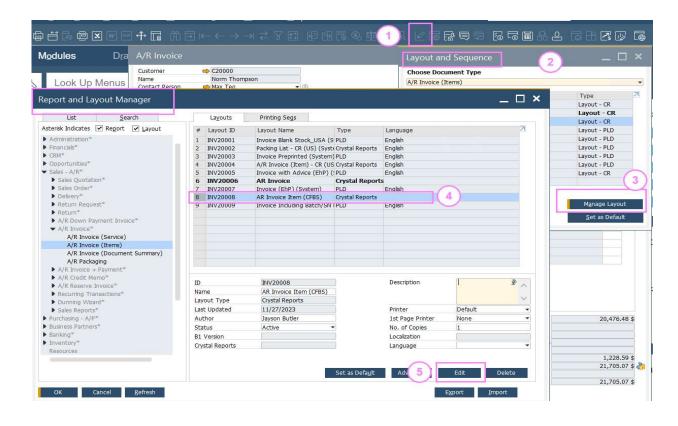
Steps to open directly from the document form:

- Click on pencil icon;
- Select layout;
- Click on Manage Layout button;
- Highlight the layout; and
- Click on Edit button.

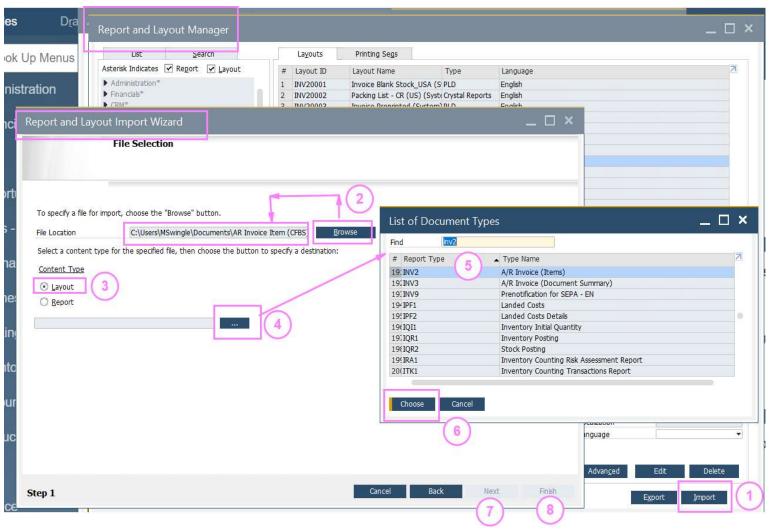
OR

Follow the path:

Administration → Setup → General → Report and Layout Manager



Import the Report



Starting from Report and Layout Manager:

- Click Import button to open wizard;
- Click on Browse and select file;
- Select layout option;
- Find proper document type;
- 5. Click Choose;
- 6. Click Next; and
- 7. Click Finish.

Excel Report and Interactive Analysis Designer

To start the designer, follow the below steps:

- After a new Excel spreadsheet opens select Excel Report option and click on New Excel Report; and
- Select your data source from predefined system calculation (marked in blue) or custom created views (samples in green).

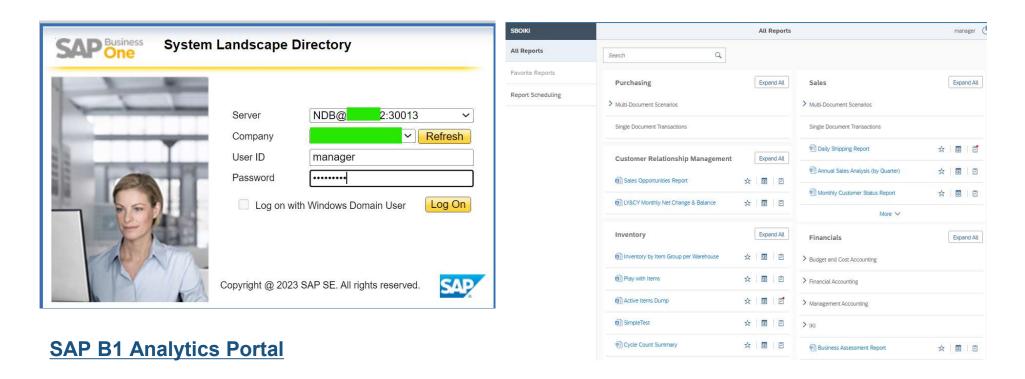
Data Go To Modules Tools Window Help Layout Designer... Scheduled Report Overview Pervasive Analytics Excel Report and Interactive Analysis Designer Preview External Crystal Reports File INTERACTIVE ANALYSIS Insert Page Layout Formulas Data Review (?) Help New Excel Open Save Save As Repository Undo Redo Panel Application Run Restore Report Report Report Management Options * Settings Section Border Report × A1 Select Data Source Look Up Data Sources Inventory Transaction Documents ■ Measure ItemsQuery Deliveries SNI Inbound Inventory Quantity Outbound Inventory Quantity G/L Account Period Balance Query No ClosingEntries Inbound Inventory Value (LC) **ItemsQuery** NetChangeClosingBalanceQuery Outbound Inventory Value (LC) Purchasing ▼ III Dimension Sales Docment Number Customer Relationship Management Document Line Internal Key Financials Inventory Posting Account Inventory Document Creator Name Inventory Status Inbound Item Cost (LC) **Inventory Transaction Documents** Outbound Item Cost (LC)

How to Create & Access MS Excel Reports

Analytics Portal – Report Scheduling

The Analytics Portal for SAP Business One, version for SAP HANA enables you to run your Crystal Reports and Excel Reports in real time through a web browser on your computer, tablet, or mobile device. With this portal, you can also schedule automatic report running and view report running history. It makes Crystal Reports and Excel Reports more accessible for the ones who have not installed the SAP Business One client application or Microsoft Excel on their computer.

All the users who have the authorization of analytical features in SAP Business One, version for SAP HANA can access the Analytics Portal via SAML authentication.



Scheduling and History

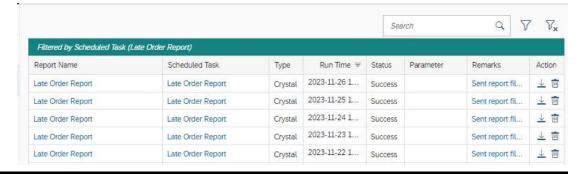


You can select any
Crystal Report and Excel
Report available from
SAP modules and see a
list of all scheduled
reports.



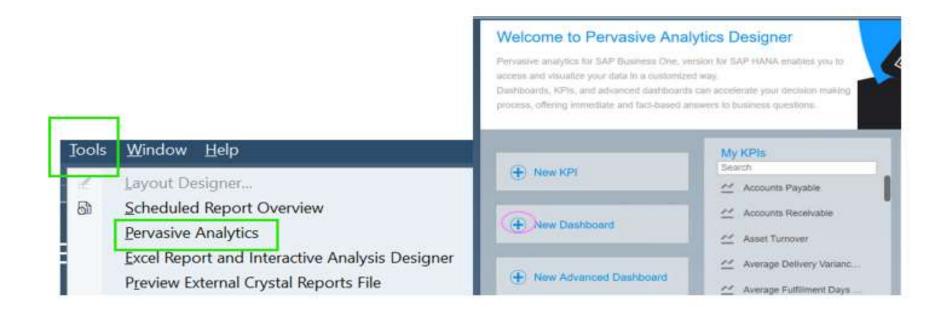
You can select what type of output should be used and set the frequency and the recipients.

You can also see the history of when the reports were run and if it was successful.



Pervasive Analytics - Simple Dashboard Designer

- Pervasive Analytics for HANA allows users to create their own KPIs, Dashboards, and Advanced Dashboards.
- All these types of reporting can be based on predefined calculation views that come with SAP or based on custom queries or custom calculation views.



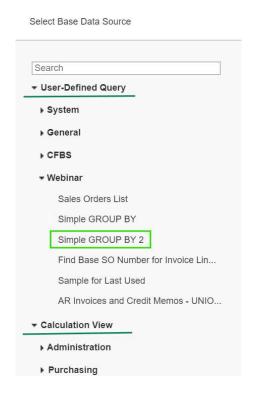
SAP B1 Dashboards & Advanced Dashboards Demo

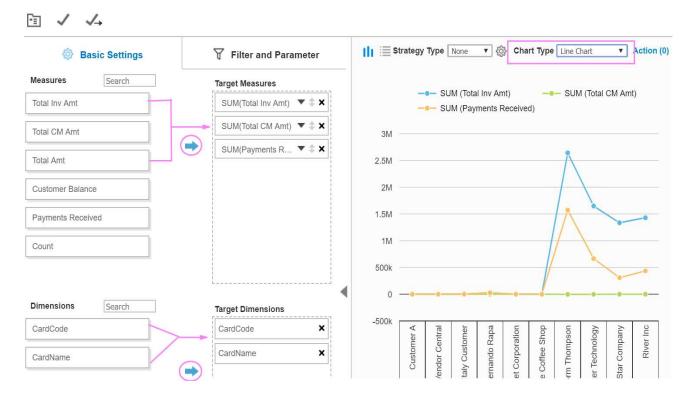
Sample Dashboard Designer

Sample of custom dashboard created based on custom query.

User selects the query (or calculation views from the available Data Sources) and drags the fields: measures and dimensions to the Target Fields.

User can select different types of Charts and save the dashboard and then add it to his/her cockpit.





Questions?

