



Extensibility Guide | PUBLIC

Report on General Ledger Account Line Item with Project Reference

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1 Disclaimer

i Note

This sample scenario is for learning purposes only. It is intended to give you an understanding of the various technical aspects related to extending SAP S/4HANA Cloud. The sample scenario may not always be available in a readily consumable state due to the continuous improvements being made in the underlying products or services. If this is the case, appropriate adaptations based on the latest documentation of the respective products or services are required.

This scenario only works as described in this guide. As the scenario is based on underlying complex data structures, modifications could corrupt the overall results by changing the cardinality of the data views. Modifications encompass, for example, additional fields or other data sources. When you are adding additional fields or data sources, please check that the modifications ensure the consistency of the overall data structure for the report.

2 Overview

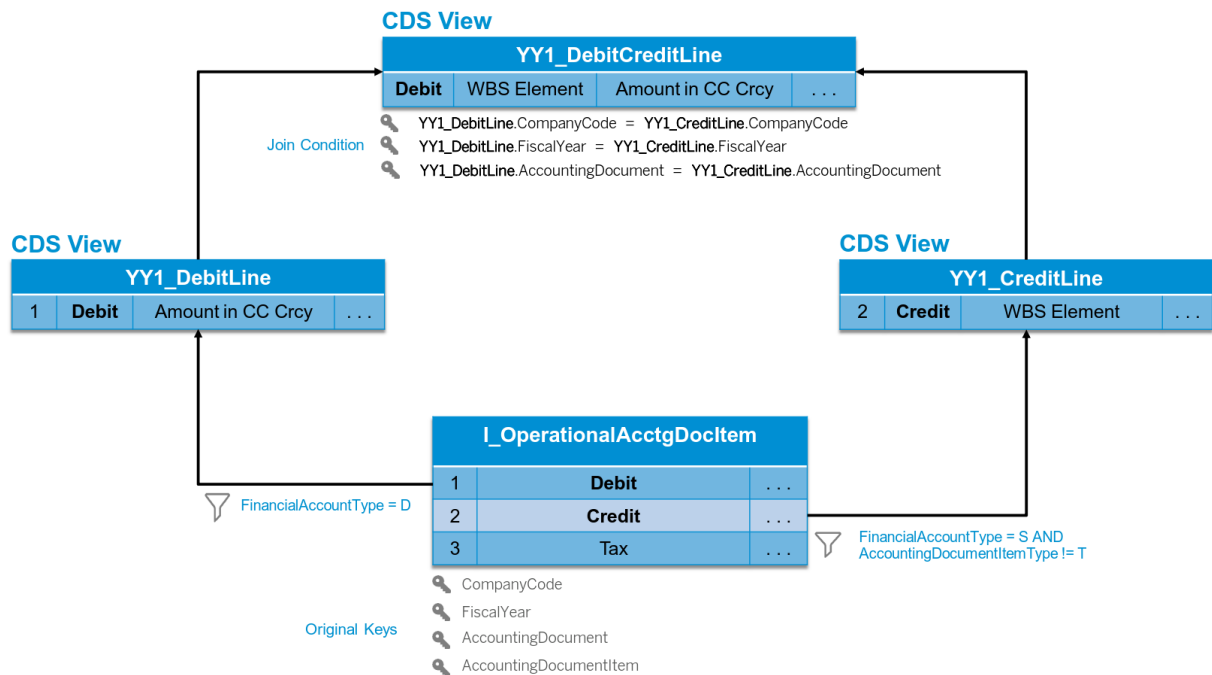
2.1 Business Scenario

This scenario explains how to create a custom report on the SAP S/4HANA Cloud account retrievable line items, which refers to the projects within its work packages. The standard SAP S/4HANA account retrievable line items can only relate to the customers by default.

The table below shows an extract of the ACDOCA table. A debit line (line 1 in the table) is assigned to the customer, and a credit line (line 2 with line 3, which shows the tax) refers to the project (WBS Element, or PSP Element).

Line	Account- ing Area	Account- ing Docu- ment	Booking Line	Project Defini- tion	PSP El- ement	Ac- count Type	Cus- tomer	Trans- action	Docu- ment Type	Debit/ Credit Indica- tor	Amount in Ac- counting Area
1	1010	94000000 00	000001			D	1010000 1		RV	S	1.484,80
2	1010	94000000 00	000002	YUT1	YUT1.0.1	S	1010000 1		RV	H	-1.280,00
3	1010	94000000 00	000003			S		MWS	RV	H	-204,80

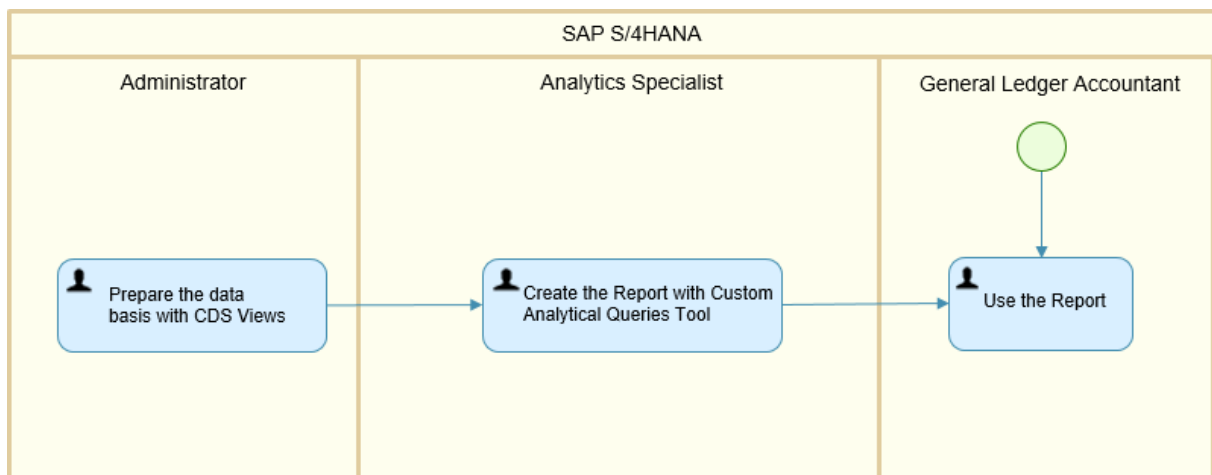
With the aid of in-app extension features, the information given in the debit and the credit lines can be combined to create the required references. The graphic below outlines the fundamental idea of this scenario.



The standard CDS View `I_OperationalAcctgDocItem` serves as a data source for the credit and debit lines. Both lines are specified by filters. As a next step, both lines are combined together in another CDS View. Initially, the data source `I_OperationalAcctgDocItem` has four key fields. For the CDS View to be used as a join condition, only three of these are used so that it is possible to create a link between the values for the receivable and the project information. If all four keys were used as a join condition, the outcome would have the same data structure as the initial source `I_OperationalAcctgDocItem`.

The result of this scenario is a report which enables the general ledger accountant to interactively explore the data. The report also provides standard charts, which can be applied to the data in the report. The accountant can then find the data for insights and take further action if required.

2.1.1 Scenario Process Flow

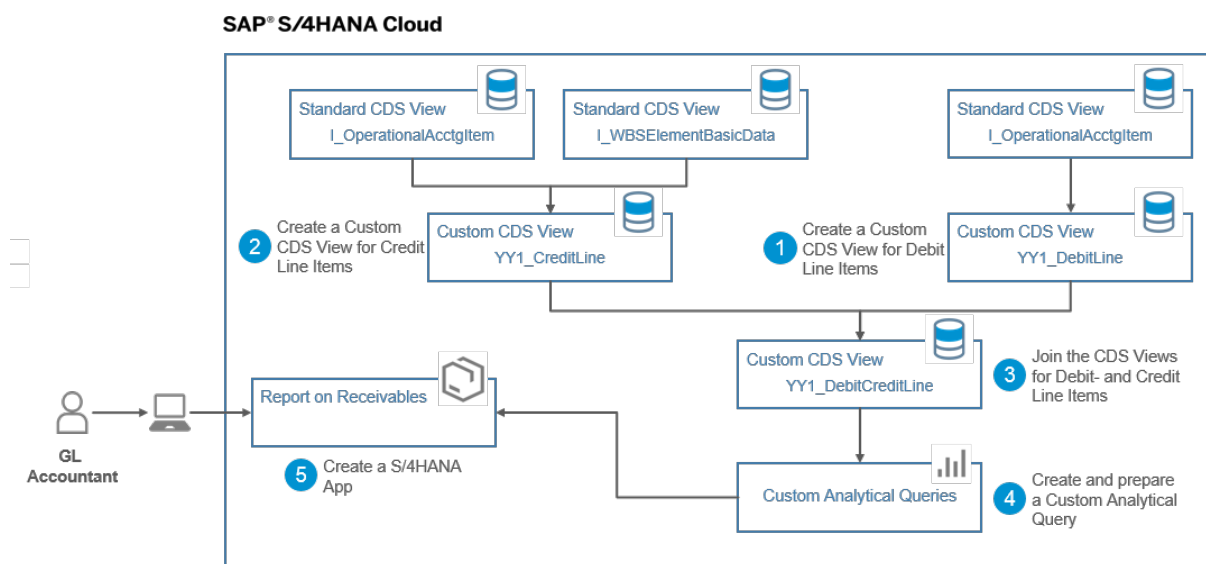


The following table provides you with a brief overview on the process flow in this scenario:

	Step	Details
1	Create and provide the data basis	The business user administrator builds the required CDS Views, which are the basis for the later report.
2	Build the report	The analytical specialist uses the data source provided by the custom CDS View and creates a report with the <i>Custom Analytical Queries</i> app. That report is published as a tile on the SAP S/4HANA Cloud system for the GL accountant. The analytical specialist can only build the report, but is not able to access the data.
3	Use the report	A GL accountant is the dedicated business user for the outcome of this scenario.

2.2 Technical Implementation Steps

The following picture depicts the technical implementation steps for the scenario in the context of the system landscape architecture.



The table offers a brief overview of the key steps in this scenario:

	Step	Details
1	Create CDS Views for Debit and Credit Line [page 9]	<p>You're creating a custom CDS View which filters out the data for the debit line item entries.</p> <p>Then, you're creating a second custom CDS View which filters out the data for the credit line item entries and excludes tax items.</p>
2	Join the CDS Views Debit and Credit Line [page 13]	<p>Both previous CDS Views are joined in a new CDS View. For the join condition, only three of the four keys are used to enable mapping to the WBS Element. This CDS View provides the data basis for the report.</p>
3	Create a Custom Analytical Query [page 17]	<p>The report is built on top of the CDS View from the previous step. It provides basic analytical features to explore the data provided by the CDS View.</p>
4	Create an Application and Assign it to a Business Catalog [page 19]	<p>To help use the report with ease, an app has been created out of the report. This appears as a tile on the SAP S/4HANA launchpad for the business user role of the GL accountant .</p>

3 Preparation

To perform the steps in this document, please ensure that the following prerequisites have been met:

Prerequisites	Details
SAP S/4HANA Cloud system	You have access to an SAP S/4HANA Cloud system with all the necessary users and authorizations (refer to the <i>Personas/Users and Authorizations</i> item below).
Personas/Users and Authorizations	<p>The following personas are involved in this sample scenario. However, depending on your use case, there could be differences. In general, you need a user who has administration rights, a user with the role of an analytics specialist, and a user with the role of a general ledger accountant.</p> <p>You can create a new custom business role in the SAP S/4 HANA Cloud if necessary. Use the Maintain Business Roles app. Add the business catalogs on the Assigned Business Catalogs tab.</p> <ul style="list-style-type: none">• SAP S/4HANA administrator: This user has the administration authorizations in the SAP S/4HANA Cloud system that are required, for example, to create CDS Views, or to assign business roles to users. Make sure that the user has a role that has the following business catalog assigned: <code>SAP_CORE_BC_COM</code>.• SAP S/4HANA analytics specialist: The business user with the role of the analytics specialist is expected to implement the custom report. Make sure that the analytics specialist role is based on the <code>SAP_BR_ANALYTICS_SPECIALIST</code> template.• SAP S/4HANA general ledger accountant: The business user with the role of general ledger accountant is expected to display the report that is the result of this scenario. Make sure that the general ledger accountant role is based on the <code>SAP_BR_GL_ACCOUNTANT</code> template. <p>To create the test data for the test in this document, the following listed personas are required.</p> <ul style="list-style-type: none">• SAP S/4HANA project manager: This business user is tasked with creating and managing projects. Ensure that your project manager user is based on the <code>SAP_BR_PROJ_MANAGE_COMM</code> template.• SAP S/4HANA resource: A resource user is an employee or workforce, who is able to book and maintain work times for a project. This role requires the <code>SAP_BR_EMPLOYEE</code> template.• SAP S/4HANA billing clerk: A billing clerk is required to create an invoice for a project. Make sure that users with this role are based on the <code>SAP_BR_BILLING_CLERK</code> template.
Business Data in SAP S/4HANA Cloud System	Appropriate business data must be available in the SAP S/4HANA Cloud system so that you can follow the examples.

4 Set Up the Report on General Ledger Account Line Items

4.1 Implementation Steps in the SAP S/4HANA Cloud System

This scenario leverages in-app extensibility features to extend a given SAP S/4HANA Cloud standard for account retrievables.

4.1.1 Create CDS Views for Debit and Credit Line

First, you need to create two CDS Views. One CDS View represents the debit line, and the other represents the credit line.

i Note

Information about [Custom CDS Views](#).

Prerequisites

The administrator business user needs to create the CDS Views for the debit and credit line.

i Note

For more information on turning business role templates into roles and assigning them to users, see [Identity and Access Management](#).

Procedure

1. Navigate to the SAP Fiori launchpad.
2. Choose the [Custom CDS Views](#) app.
3. On the [Custom CDS Views](#) screen, choose [Create](#).
4. Enter the following information in the [New Custom CDS View](#) screen.

Field	Content
Name	YY1_DebitLine
Label	Debit Line

- On the same screen, make sure that the checkboxes for *External API* and *Analytical* are unchecked.
- For the *Data Source*, choose *Add* and then choose *Add Primary Data Source*.
- On the *Add Data Source* screen that appears, search for and select the standard CDS View *I_OperationalAcctgDocItem*. After selecting the entry, choose *Add* on the right of the screen. The *Debit Line CDS View* screen should resemble the following screenshot.

The screenshot shows the 'New Custom CDS View' configuration screen for 'Debit Line'. The 'General' tab is active, showing the following details:

- Name and Label:** *Name: YY1_DebitLine, *Label: Debit Line
- Status Information:** Status: Draft
- Data Source (1):** A table with columns Name, Label, Alias, Contains Parameters, and Actions. It lists 'I_OperationalAcctgDocItem' as a Primary Data Source.
- Select Scenario:** OData API: ☐, Analytical: ☐, As: Cube (dropdown)
- Other View Properties:** Access Protection: Protected, Source Origin: Custom CDS View

At the bottom, there are buttons for 'Save Draft', 'Publish', 'Delete Draft', 'Preview', and 'Cancel'.

- Choose the *Field Selection* tab.
 - From the left of the *Available Fields and Associations* table, on the *Field Selections* tab, select the fields shown below. In order to select a field, check the *Select* checkbox. Some fields are already selected by default and serve as key elements.
- Select the following fields, shown in the table below. Adjust the *Label* if required.

Name	Label	Field Type
I_OperationalAcctgDocItem.FinancialAccountType	Account Type	Field
I_OperationalAcctgDocItem.Customer	Customer	Field

Name	Label	Field Type
I_OperationalAcctgDocItem.GLAccount	G/L Account	Field
I_OperationalAcctgDocItem.PostingDate	Posting Date	Field
I_OperationalAcctgDocItem.DebitCreditCode	Debit/Credit Code	Field
I_OperationalAcctgDocItem.BaseUnit	Base Unit of Measure	Field
I_OperationalAcctgDocItem.AmountInCompanyCodeCurrency	Amount in CC Crcy	Field
I_OperationalAcctgDocItem.CompanyCodeCurrency	Company Code Crcy	Field
I_OperationalAcctgDocItem.NetDueDate	Net Due Date	Field
I_OperationalAcctgDocItem.AccountingDocumentType	Journal Entry Type	Field

10. Choose the [Filters](#) tab. Choose [Edit](#) in the [Filter Formula](#) field and enter the formula: **I_OperationalAcctgDocItem.FinancialAccountType='D'** in the window that opens. Choose [Apply](#) to close the window.

Note

Filtering for **D** results in this CDS View showing only data for Debit Line Items.

The screenshot shows the SAP 'Edit Custom CDS Views' interface for a view named 'Debit Line - Draft'. The 'Filters' tab is active. The 'Filter Formula' field contains the formula 'I_OperationalAcctgDocItem.FinancialAccountType='D''. The 'Save Draft' and 'Publish' buttons are highlighted with red boxes.

11. Choose [Save Draft](#) and [Publish](#).

12. Once all these steps have been performed, the same procedure (steps 1 to 12) has to be followed for the [Credit Line](#), with some exceptions in the content. Use the following entries:
When a new CDS View is created, use the following [Name](#) and [Label](#):

Field	Content
Name	YY1_CreditLine
Label	Credit Line

13. With [Add](#), choose [I_OperationalAcctgDocItem](#) as the *Primary Data Source* and [I_WBSElementBasicData](#) as the *Associated Data Source*.

Note

With the inclusion of the associated [I_WBSElementBasicData](#) data source and the [WBSDescription](#) field, we have the situation which is mentioned in the disclaimer of this document. This can be seen as an example of how you might handle such a case. However, including additional fields or data sources is different in each case and needs to be checked individually. Here, the solution is to filter out the values from the included [WBSDescription](#) field which is causing that unwanted change in the cardinality.

Data Source (2) Add				
Name	Label	Alias	Contains Parameters	Actions
▼ Primary Data Sources (1)				
I_OperationalAcctgDocItem	Operational Accounting Document Item	I_OperationalAcctgDocItem	<input type="checkbox"/>	Edit Delete
▼ Associated Data Sources (1)				
I_WBSElementBasicData	WBS Element Basic Data	I_WBSElementBasicData_1	<input type="checkbox"/>	Link Edit Delete

14. Choose the [Edit Association Properties](#) icon and link the key to the associated data source and adjust the new screen as in the following screenshot.

Association Properties

Primary Data Source: Operational Accounting Document Item
Associated Data Source: WBS Element Basic Data
Cardinality: **Exactly one hit**

Conditions (1) Delete All Add

Associated Data Source Fields	Field Label	Operator	Value	Field Label
WBSElementInternalID	WBS Element	=	WBSElementInternalID	WBS Element

15. In addition to the preselected key fields, please include the following fields in the [Fields Section](#) tab.

Name	Label	Field Type
I_OperationalAcctgDocItem.WBSElementInternalID	WBS ID	Field
_I_WBSElementBasicData_1._Project._WBSElement.WBSDescription	WBS Work Packages	Field
_I_WBSElementBasicData_1._Project.ProjectDescription	Project Description	Field
_I_WBSElementBasicData_1._Project._WBSElement.WBSElementIsBillingElement	Billing Element	Field

i Note

As previously mentioned, the *WBS Work Packages* field changes the cardinality of the overall sample. This field includes values which summarize all the work packages, which corrupts the result of the report. A further field, *Billing Element*, marks these summarized values. Later, when the Credit and Debit Lines are joined, this information will be applied to the filters.

16. For the Credit Line CDS view, apply the following filter in the *Filters* tab to specify that view as a Credit Line:
- ```
I_OperationalAcctgDocItem.FinancialAccountType='S' AND
I_OperationalAcctgDocItem.AccountingDocumentItemType!='T' .
```

## 4.1.2 Join the CDS Views Debit and Credit Line

Once you have created CDS Views for the Debit and Credit Lines, both views are joined together in another CDS View . That new CDS View will serve as a basis for the report.

### Prerequisites

The administrator business user needs to join the CDS Views.

### Procedure

1. Navigate to the SAP Fiori launchpad.
2. Choose the *Custom CDS View* app.
3. On the *Custom CDS Views* screen, choose *Create*.
4. Enter the following information on the *New Custom CDS View* screen.

| Field | Content                 |
|-------|-------------------------|
| Name  | YY1_DebitCredit         |
| Label | Debit Credit Line Items |

- On the same screen, make sure that the checkbox for *OData API* is unchecked, check the *Analytical* box, and select *Cube* in the *As* field.
- Under *Data Source*, choose *Add*, then *Add Primary Data Source*. Search, select, and add the previously created CDS View *YY1\_DebitLine*.
- On the *New Custom CDS View* screen, choose *Add* for the *Data Source*, then choose *Add Associated Date Source*. Search, select, and add the CDS View *YY1\_CreditLine*. A warning is displayed, which asks if an access-protected data source should be added. Choose *Yes* to proceed.

Debit Credit Line Items  
Dependencies: None

General >>> Field Selection >>> Field Properties >>> Parameters >>> Filters

**Name and Label**

\*Name: YY1\_DebitCredit  
\*Label: Debit Credit Line Items

**Select Scenario**

OData API: ☐  
Analytical: ☒ As: Cube

**Status Information**

Status: Draft

**Other View Properties**

Access Protection: Protected  
Source Origin: Custom CDS View

**Data Source (2)** Add

| Name                          | Label       | Alias             | Contains Parameters      | Actions |
|-------------------------------|-------------|-------------------|--------------------------|---------|
| ▼ Primary Data Sources (1)    |             |                   |                          |         |
| YY1_DebitLine                 | Debit Line  | YY1_DebitLine     | <input type="checkbox"/> |         |
| ▼ Associated Data Sources (1) |             |                   |                          |         |
| YY1_CreditLine                | Credit Line | _YY1_CreditLine_1 | <input type="checkbox"/> |         |

Save Draft Publish Delete Draft Preview Cancel

- Choose the *Edit Associated Properties* icon in the table for the *Associated Data Source* line to join them.

9. On the new screen, choose *Exactly one hit* under *Cardinality*. Edit the *Conditions* table, as stated below. Choose *OK* once the key fields of both data sources have been associated.

| Associated Data Source Fields | Operator | Value              |
|-------------------------------|----------|--------------------|
| CompanyCode                   | =        | CompanyCode        |
| AccountingDocument            | =        | AccountingDocument |
| FiscalYear                    | =        | FiscalYear         |

**Association Properties**

Primary Data Source: Debit Line  
Associated Data Source: Credit Line  
Cardinality: Exactly one hit

**Conditions (3)** Delete All Add

| Associated Data Source Fields | Field Label   | Operator | Value      | Field Label   |
|-------------------------------|---------------|----------|------------|---------------|
| Comp...                       | Company Code  | =        | Compa...   | Company Code  |
| Accou...                      | Journal Entry | =        | Account... | Journal Entry |
| FiscalY...                    | Fiscal Year   | =        | FiscalYear | Fiscal Year   |

OK Cancel

10. Choose the *Fields Selection* tab and select all fields as stated below – in addition to the preselected key fields. In addition, adjust the labels accordingly.

| Name                   | Label    | Field Type |
|------------------------|----------|------------|
| YY1_DebitLine.Customer | Customer | Field      |

| Name                                         | Label                | Field Type  |
|----------------------------------------------|----------------------|-------------|
| YY1_DebitLine.GLAccount                      | G/L Account          | Field       |
| YY1_DebitLine.PostingDate                    | Posting Date         | Field       |
| YY1_DebitLine.DebitCreditCode                | Debit/Credit Code    | Field       |
| YY1_DebitLine.BaseUnit                       | Base Unit of Measure | Field       |
| YY1_DebitLine.AmountInCompanyCodeCurrency    | Amount in CC Crcy    | Field       |
| YY1_DebitLine.CompanyCodeCurrency            | Company Code Crcy    | Field       |
| YY1_DebitLine.NetDueDate                     | Net Due Date         | Field       |
| YY1_DebitLine.AccountingDocumentType         | Journal Entry Type   | Field       |
| _YY1_CreditLine_1                            | Credit Line          | Association |
| _YY1_CreditLine_1.WBSElementInternalID       | WBS Element          | Field       |
| _YY1_CreditLine_1.ProjectDescription         | Project Description  | Field       |
| _YY1_CreditLine_1.WBSDescription             | WBS Work Packages    | Field       |
| _YY1_CreditLine_1.WBSElementIsBillingElement | Billing Element      | Field       |

11. Once the fields have been selected, choose [Add](#) at the top of the *Selected Fields and Associations* table for a calculated field. The calculated field determines the due date of a receivable.

12. Enter the following content in the *Edit Calculated Field* pop-up screen.

|             |                           |
|-------------|---------------------------|
| Field Label | <b>Days till Due Date</b> |
| Field Name  | <b>DaysToDueDate</b>      |

13. Insert the following function in the field below *Field Label* and *Field Name*:

```
cast(DATS_DAYS_BETWEEN(YY1_DebitLine.NetDueDate , cast($session.system_date as ABAP.DATS)) as ABAP.SSTRING(15))
```



#### i Note

Read the [description](#) on how to work with calculated fields.

14. Choose [Apply](#) to confirm and quit the *Edit Calculated Field*.
15. Choose the *Filters* tab, then choose [Edit](#) and enter the following statement:  
`_YY1_CreditLine_1.WBSElementIsBillingElement!='X' AND  
_YY1_CreditLine_1.WBSDescription!='Project Summary Task'`

#### i Note

As mentioned previously, fields from the `I_WBSElementBasicData` data source modify the cardinality of the result. The filters correct that behavior.

16. To confirm, choose [Apply](#).
17. In the *Edit Custom CDS View* screen, choose [Save Draft](#) and then [Publish](#).

## 4.1.3 Create a Custom Analytical Query

As the next step, you need to create a custom analytical query. Custom Analytical Queries is a tool used for reporting and analysis.

#### i Note

More information about the custom analytic queries can be found [here](#).

## Prerequisites

The analytical specialist business user needs to create the analytical query based on the CDS View for the debit/credit line.

## Procedure

1. Navigate to the SAP Fiori launchpad.
2. Choose the *Custom Analytical Queries* app from the *Query Design* group.
3. On the *Custom Analytical Queries* screen, choose [New](#).
4. Fill in the content for the *New Query*, as shown in the table.

| Field      | Content                           |
|------------|-----------------------------------|
| Query Name | <code>YY1_DebitCreditQuery</code> |

| Field       | Content         |
|-------------|-----------------|
| Data Source | YY1_DEBITCREDIT |

- Choose [OK](#).
- On the next screen, enter the [Label](#) the content `Debit Credit Query`. Choose the [Field Selection](#) tab.
- Select all fields by choosing the [Selection](#) checkbox on the [Available Fields](#) table. The following fields should be selected.

| Label               | Name                        |
|---------------------|-----------------------------|
| Fiscal Year         | FiscalYear                  |
| Company Code        | CompanyCode                 |
| Amount in CC Crcy   | AmountInCompanyCodeCurrency |
| Journal Entry       | AccountingDocument          |
| Customer            | Customer                    |
| Debit/Credit Code   | DebitCreditCode             |
| G/L Account         | GLAccount                   |
| Net Due Date        | NetDueDate                  |
| Posting Date        | PostingDate                 |
| WBS Element         | WBS_ElementInternalID       |
| Days till Due Date  | DaysToDueDate               |
| Journal Entry Type  | AccountingDocumentType      |
| Project Description | ProjectDescription          |
| WBS Work Packages   | WBS_Description             |

- Choose the [Display](#) tab.
- In the [Display](#) tab, you can arrange the dimensions in the cube. To do so, select a field, and the field is moved using the [Up](#) and [Down](#) buttons. Make sure that [Fiscal Year](#) and [Company Code](#) are under [Row](#), while the [Amount in CC Crcy](#) field is assigned under [Column](#). All the other fields should be assigned under [Free](#).

| Display Fields (14) |                     | <input type="text" value="Search Display Fields"/> |         |        | <a href="#">Up</a> <a href="#">Down</a> <a href="#">Add</a> |
|---------------------|---------------------|----------------------------------------------------|---------|--------|-------------------------------------------------------------|
| Type                | Label               | Name                                               | Display | Filter | Remove                                                      |
| ▼ Row               |                     |                                                    |         |        |                                                             |
|                     | Fiscal Year         | FiscalYear                                         |         |        |                                                             |
|                     | Company Code        | CompanyCode                                        |         |        |                                                             |
| ▼ Column            |                     |                                                    |         |        |                                                             |
|                     | Amount in CC Crcy   | AmountInCompanyCodeCurrency                        |         |        |                                                             |
| ▼ Free              |                     |                                                    |         |        |                                                             |
|                     | Journal Entry       | AccountingDocument                                 |         |        |                                                             |
|                     | Customer            | Customer                                           |         |        |                                                             |
|                     | Debit/Credit Code   | DebitCreditCode                                    |         |        |                                                             |
|                     | G/L Account         | GLAccount                                          |         |        |                                                             |
|                     | Net Due Date        | NetDueDate                                         |         |        |                                                             |
|                     | Posting Date        | PostingDate                                        |         |        |                                                             |
|                     | WBS Element         | WBSElementInternalID                               |         |        |                                                             |
|                     | Days till Due Date  | DaysToDueDate                                      |         |        |                                                             |
|                     | Journal Entry Type  | AccountingDocumentType                             |         |        |                                                             |
|                     | Project Description | ProjectDescription                                 |         |        |                                                             |
|                     | WBS Work Packages   | WBSDescription                                     |         |        |                                                             |

10. Choose [Save Draft](#), and then [Publish](#).

## 4.1.4 Create an Application and Assign it to a Business Catalog

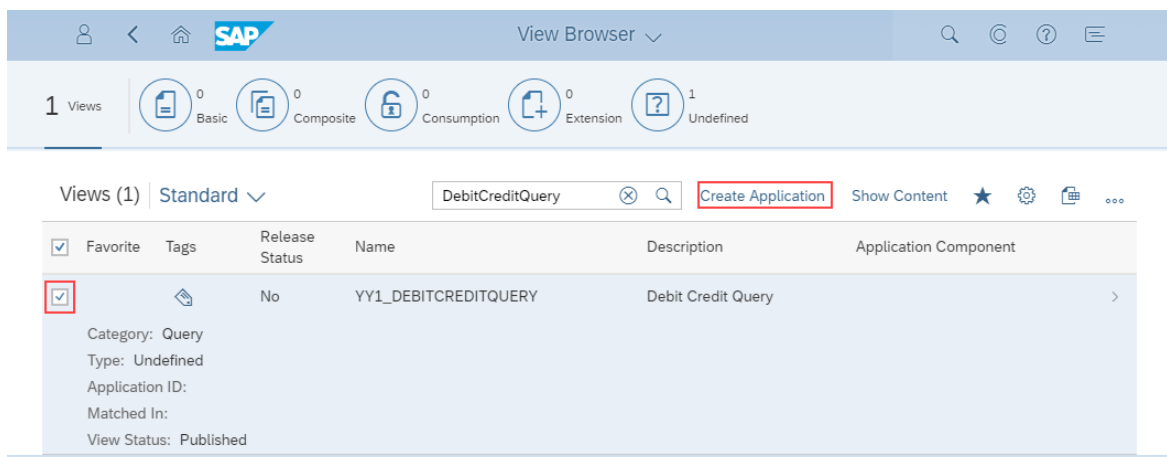
As a final implementation step, you need to create an SAP S/4HANA Cloud application from the previous report. The business user with the role of the General Ledger Accountant is the target user of the reporting application.

## Prerequisites

The analytics specialist business user needs to create the SAP S/4HANA Cloud application based on the analytical query.

## Procedure

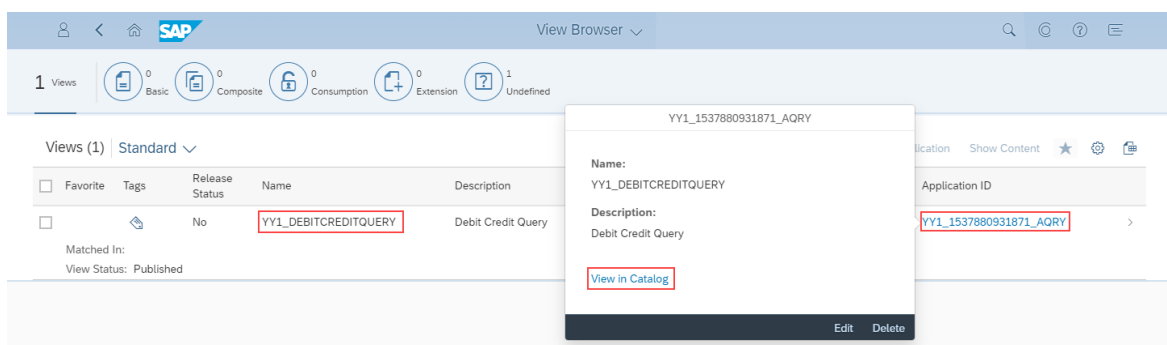
1. Navigate to the SAP Fiori launchpad.
2. Choose the [View Browser](#) app.
3. Search for the previously created query [YY1\\_DEBITCREDITQUERY](#), select the checkbox and choose [Create Application](#). Choose [Multi-Dimensional Report](#).



4. In the [Maintain Languages](#) dialog box, enter the following content:

| Field | Content                   |
|-------|---------------------------|
| Title | Report on Receivables     |
| Label | Account Receivable by WBS |

5. Choose [OK](#).
6. For the query [YY1\\_DEBITCREDITQUERY](#), an entry appears in the [Application ID](#). Choose that ID. A new window will appear. Choose [View in Catalog](#).



7. On the new *Custom Catalog Extension* screen , choose *Add*.
8. On the *Add Business Catalog* pop-up screen, select the entry *General Ledger - Reporting* with the *Catalog Role ID* *SAP\_FIN\_GL\_REPORTING\_PC*. Select the checkbox for that entry and choose *OK*.

### Note

The Business Catalog needs to have all required permissions to read the data for the report. The predelivery role mentioned, *SAP\_FIN\_GL\_REPORTING\_PC*, matches the requirements for this case.

9. The new business catalog entry will be listed. Select the checkbox for the entry and choose *Publish*.

The screenshot shows the SAP Custom Catalog Extensions interface for the 'Report on Receivables' application. The header bar includes the SAP logo and navigation icons. The main content area displays the application details: 'Report on Receivables', 'Application ID: YY1\_1537880931871\_AQRY', 'Type: Analytical Query App', 'Last Changed On: 09/25/2018, 15:15:58', and 'Last Changed By:'. Below this, there is a section titled 'Used in Business Catalog (1)' with a search bar and action buttons: 'Add', 'Remove', 'Publish' (highlighted with a red box), 'Revoke', 'Republish', and a refresh icon. A table lists the business catalog entries:

| <input checked="" type="checkbox"/> | Business Catalog           | Business Catalog ID        | Status      | Inventory |
|-------------------------------------|----------------------------|----------------------------|-------------|-----------|
| <input checked="" type="checkbox"/> | General Ledger - Reporting | SAP_FIN_BC_GL_REPORTING_PC | Unpublished |           |

## 5 Testing the Extension Scenario

After completion of the set up, the scenario can be tested. This section shows you how to perform a simple test.

In the first step, data is generated by creating of a sample project followed by an invoice. In the second step, you are going to use the report and search for the receivable for the invoice related to the projects. Next, the test will show how to apply a filter and a bar chart in the report. The test includes the following steps:

- Create test data with an invoice for a project
- Use the report to browse for specific information
- Apply a filter and a standard chart on the report


### i Note

The screenshots and descriptions of the following example contain and refer to existing sample receivable data. This may vary from your data. Your SAP S/4HANA Cloud users might also vary from those used in this example.

### i Note

The report provides several standardized possibilities to explore the data. For instance, aggregating and drilling-down of the data or applying various charts to the report. Please note that some combinations may not work.

### 5.1 Create Test Data for a Receivable

This section explains the steps and parameters to create a receivable in your SAP S/4HANA Cloud system. For more details on how to create a new project, refer to the test script of scope item [Custom Project Management - Project Based Services \(J11\)](#) .

1. Ensure you are logged on as a project manager business user to perform the following steps. Create a project with the following parameters as shown in the image below.

**App Development (APPDEV)** 31.25 % Margin (Planned)

Customer: Inlandskunde DE ...      Effort (Planned): 200 Hours      Revenue (Planned): EUR 16.00K      Margin (Sold): 31.25 %  
Duration: 10/09/2018 - 11/0...      Cost (Planned): EUR 11.00K      Revenue (Sold): EUR 16.00K      **In Execution**  
Responsible: John PROJ\_MAN...

Information Work Packages Team Billing Attachments Versions

|                                                        |                                          |                                           |
|--------------------------------------------------------|------------------------------------------|-------------------------------------------|
| <b>Customer Project</b>                                | <b>Accounting</b>                        | <b>More Project Roles</b>                 |
| Customer: Inlandskunde DE 2                            | Service Organization: DE                 | Project Partner:                          |
| Project ID: APPDEV                                     | Cost Center: Cstgt Unit A-(DE)           | Project Controller: John PROJ_MANAGE_COMM |
| Project Name: App Development                          | Profit Center: Consulting Unit A (YB101) | Project Accountant: John PROJ_MANAGE_COMM |
| Project Manager: John PROJ_MANAGE_COMM                 |                                          |                                           |
| Date: 10/09/2018 - 11/09/2018                          |                                          |                                           |
| Stage: In Execution                                    |                                          |                                           |
| Currency: EUR                                          |                                          |                                           |
| Description: The Development of a mobile Timesheet app |                                          |                                           |

2. Add a work package to your project with the values from the image below.

Information **Work Packages** Team Billing Attachments Versions

Work Packages (1) +

| *Name / Description | ID         | *Duration         | Work Item | Staffing Status | Effort    | Cost          | Revenue       |
|---------------------|------------|-------------------|-----------|-----------------|-----------|---------------|---------------|
| Implementation      | APPDEV.1.1 | 10/09/2018 - 1... | Assigned  | ✓               | 200 Hours | EUR 11,000.00 | EUR 16,000.00 |
| App Implementation  |            |                   |           |                 |           |               |               |

3. Assign a user as *Junior Consultant* for a resource or workforce, using the values from the next image. Select *Billable* under *Billing Control Category*.

Resources

| *Role          | Delivery Organization | Work Item      | Skills   | Resource      | *Effort | Confirmed                           | Cost (Planned) | Revenue (Planned) | Billing Control Category | Action  |
|----------------|-----------------------|----------------|----------|---------------|---------|-------------------------------------|----------------|-------------------|--------------------------|---------|
| Junior Cons... | Service Organ...      | Implementation | Assigned | John TESTER_4 | 200     | <input checked="" type="checkbox"/> | EUR 11,000.00  | EUR 16,000.00     | Billable                 | Analyze |

To add billing information, the project should be in the contract preparation stage. Refer to the values from the following screenshot to provide a billing proposal. Make sure that the *Contract Type* is set to *Time and Expenses*. A popup will appear showing the *SD Document* number. Note this number down, since you will need it later to create an invoice.

Information Work Packages Team **Billing** Attachments Versions

General

Customer Reference:

Customer Reference Date: 10/09/2018

Amount to Be Billed (Total): 16,000.00 EUR

Service Price List  
Sales Order (1132)

Items (1) +

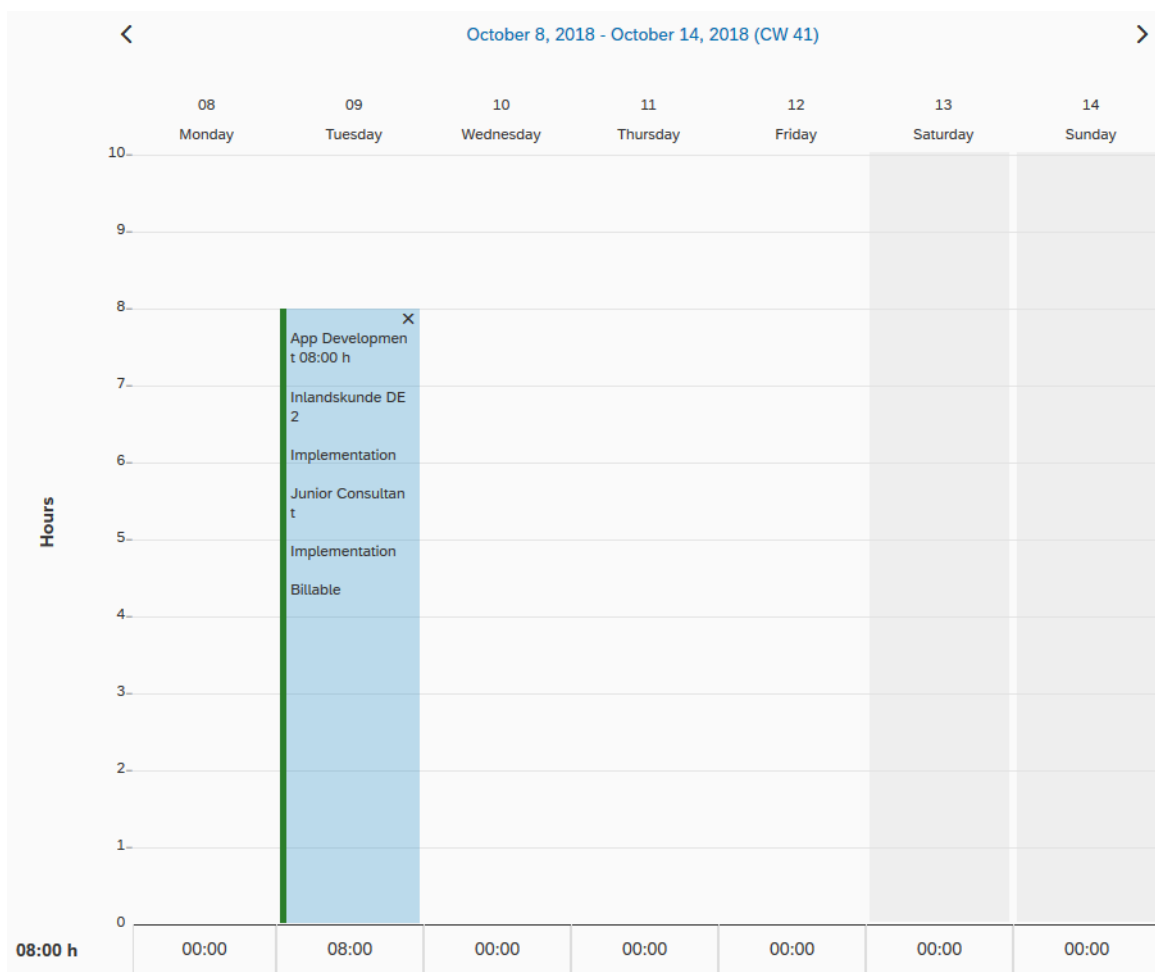
| No. | Contract Type     | Material | Description                 | Assigned Work Packages | Planned Revenue | Amount to Be Billed | Status / Rejection Reason | Information |
|-----|-------------------|----------|-----------------------------|------------------------|-----------------|---------------------|---------------------------|-------------|
| 1   | Time and Expenses | P002     | Project-Based Service: Time | Implementation         | 16,000.00 EUR   | 16,000.00 EUR       | Completed                 |             |

4. Make sure that the project stage is set to *In Execution*. On the *Work Packages* tab, make sure that the flag for *Confirmed* is set to *ON*. The default costs for a Junior Consultant are, in this example, 80.00 EUR/hour.

Resources

| *Role          | Delivery Organization | Work Item      | Skills   | Resource      | *Effort | Confirmed                           | Cost (Planned) | Revenue (Planned) | Billing Control Category | Action  |
|----------------|-----------------------|----------------|----------|---------------|---------|-------------------------------------|----------------|-------------------|--------------------------|---------|
| Junior Cons... | Service Organ...      | Implementation | Assigned | John TESTER_4 | 200     | <input checked="" type="checkbox"/> | EUR 11,000.00  | EUR 16,000.00     | Billable                 | Analyze |

5. Change to your resource user and log in with that user to your SAP S/4HANA System. Use the [Manage My Timesheet](#) app to book 8 hours.



Also make sure that the booked time is approved, to be able to create an invoice. Depending on your system setup, it might require another business user to perform that approval step.

6. After the time recording has been approved, the item will be added in the billing proposal. Launch, as project manager, the [Release Billing Proposal](#) app, select the billing proposal which relates to the created customer project, choose [Edit](#) and release. A dialog box appears and confirms that a debit memo request (DMR) has been created with an ID, choose [OK](#) to close the window.
7. In this step, log on with your billing clerk business user and create an invoice with the [Create Billing Documents](#) app. Search for the [SD Document](#) number which was provided by the billing proposal. Choose [Create](#) once you have selected the correct [SD Document](#) number. Choose as [Billing Type](#) the entry [Invoice \(CI01\)](#) and enter a date for [Billing Date](#).

| Item | Material                 | Billed Quantity | Net Value  | Tax Amount |
|------|--------------------------|-----------------|------------|------------|
| 1    | Junior Consultant (T001) | 8.000 H         | 640.00 EUR | 121.60 EUR |

8. Check the invoice to ensure that the journal entry has been created. If not, launch the [Manage Billing](#) app with the billing clerk and search for the invoice number which was created in the last step. Select [Post Billing Documents](#).  
The total amount to be billed is 761,60 EUR. Check the values and choose [Save](#) in the [Billing Document](#) screen.



## 5.2 Use the Report

This section demonstrates how to use the report from this scenario. The steps will explain how to find and analyze the previously created test data.

### Prerequisites

To access the created SAP S/4HANA Cloud application from this document, use the business user general ledger accountant with the role template `SAP_BR_GL_ACCOUNTANT`. The business catalog `SAP_FIN_BC_GL_REPORTING_PC` has to be assigned to this role.

### Procedure

1. Navigate to the SAP Fiori launchpad.
2. Choose the previously created [Report on Receivables](#) app.
3. The report opens and you will already see some preselected data. The [Measures](#) values show the receivables in an aggregated state, assigned to [Fiscal Year](#) and [Company Code](#).

| Fiscal Year | Company Code | Amount in CC Crpy |
|-------------|--------------|-------------------|
| 2017        | 1010         | 26,810.70 EUR     |
| 2018        | 1010         | 252,410.90 EUR    |
|             | 1710         | \$ 570,214.00     |

4. To drill down your data, drag and drop the fields from the [DIMENSIONS](#) section to the [ROWS](#) section. First drag and drop the [WBS Element](#) field. That will drill down your data a step deeper and you can already see the receivables assigned to the projects. Going a step further, also drag and drop [WBS Work Packages](#) field to the [ROWS](#) section. That will map all the open receivables down to the work packages, grouped by the projects.

| COLUMNS           | Fiscal Year | Company Code | WBS Element          | WBS Work Packages        | Amount in CC Crpy |
|-------------------|-------------|--------------|----------------------|--------------------------|-------------------|
| Measures          | 2017        | 1010         | TEST123.0.1          | TEST123                  | 476.00 EUR        |
|                   |             |              | HFC06SPCH.0.1        | 1705 HFC06 Spot Check    | 737.80 EUR        |
|                   |             |              | MAS07082017.0.1      | Testprojekt auf HFC8     | 5,950.00 EUR      |
|                   |             |              |                      | Testprojekt auf HFC8 - 2 | 5,950.00 EUR      |
|                   |             |              | TESTHFC04.0.1        | TEST_HFC04               | 416.50 EUR        |
|                   |             |              | 1708HFC5.0.1         | 1708HFC5                 | 333.20 EUR        |
|                   |             |              | TESTHFC06.0.1        | TESTHFC06                | 142.80 EUR        |
|                   |             |              | TESTHFC07.0.1        | test_HFC07               | 571.20 EUR        |
|                   |             |              | 1708HFC8.0.1         | 1708hfc8                 | 95.20 EUR         |
|                   |             |              | MAS06112017.0.1      | Testprojekt HFC09        | 1,190.00 EUR      |
| ROWS              | 2018        | 1010         |                      | Testprojekt HFC09-2      | 1,190.00 EUR      |
|                   |             |              | 1711HFC05.0.1        | 1711HFC05                | 9,520.00 EUR      |
|                   |             |              | TESTHFC6.0.1         | testhfc6                 | 238.00 EUR        |
|                   |             |              | 1708SPOTCHECK.0.1    | spotCheck1708            | 142.80 EUR        |
|                   |             |              | MAS06112017.0.1      | Testprojekt HFC09        | 19,992.00 EUR     |
|                   |             |              |                      | Testprojekt HFC09-2      | 19,992.00 EUR     |
|                   |             |              | 1802HFC03.0.1        | 1802HFC03                | 19,992.00 EUR     |
|                   |             |              | AIDACUST.0.1         | AIDACUST                 | 2,380.00 EUR      |
|                   |             |              |                      | Aufgabe Projektübersicht | 2,380.00 EUR      |
|                   |             |              | 1802HFC04.0.1        | 1802HFC04                | 1,190.00 EUR      |
| Fiscal Year       | 2018        | 1010         | PROJ201803120948.0.1 | 20180312094828           | 0.00 EUR          |
| Company Code      |             |              |                      | Test Project Phase #2    | 5,950.00 EUR      |
| WBS Element       |             |              | MAS12032018.0.1      | Test project Phase #1    | 5,950.00 EUR      |
| WBS Work Packages |             |              |                      | Test project Phase #1    | 5,950.00 EUR      |
|                   |             |              | 1802HFC06.0.1        | 1802HFC06                | 5,950.00 EUR      |
|                   |             |              | CHECKME.0.1          | checkme                  | 142.80 EUR        |
|                   |             |              | TESTHFC.0.1          | testhfc                  | 142.80 EUR        |
|                   |             |              |                      |                          |                   |
|                   |             |              |                      |                          |                   |
|                   |             |              |                      |                          |                   |

5. Next, scroll down and search for the previously created project *APPDEV*. Drag and drop the *Days till Due Date* field to the *ROWS* section.

|                      |                    |             |                      |                    |                          |              |                   |
|----------------------|--------------------|-------------|----------------------|--------------------|--------------------------|--------------|-------------------|
| Search               | Pause              | Jump To     |                      |                    |                          |              |                   |
| DIMENSIONS           | COLUMNS            | Fiscal Year | Company Code         | WBS Element        | WBS Work Packages        | Days till    | Amount in CC CrCy |
| > Measures           | Measures           | 2018        | 1010                 | TEST.0.1           | test                     | 59           | 119.00 EUR        |
| ✓ Company Code       |                    |             |                      | XYZ123.0.1         | XYZ123                   | 29           | 2,023.00 EUR      |
| Customer             |                    |             |                      | MAS06092018.0.1    | 1-1808 HFC5 Test Projekt | 29           | 2,380.00 EUR      |
| ✓ Days till Due Date |                    |             |                      |                    | 2-1808 HFC5 Test Projekt | 29           | 2,380.00 EUR      |
| Debit/Credit Code    |                    |             |                      |                    | 3-1808 HFC5 Test Projekt | 29           | 2,380.00 EUR      |
| ✓ Fiscal Year        |                    |             |                      | CUSTOMERPROJECT... | CustomerProject1         | 29           | 1,071.00 EUR      |
| G/L Account          |                    |             |                      | CUSTOMERPROJECT... | CustomerProject2         | 29           | 666.40 EUR        |
| Journal Entry        |                    |             |                      | ABCD1234.0.1       | abcd1234                 | 29           | 952.00 EUR        |
| Journal Entry Type   |                    |             |                      | CUSTPROJ1.0.1      | Cust proj 1              | 29           | 952.00 EUR        |
| Net Due Date         |                    |             |                      | 1234567.0.1        | 1234567                  | 29           | 714.00 EUR        |
| Posting Date         |                    |             |                      | HFC061811.0.1      | SpotCheck HFC061811      | 29           | 11,900.00 EUR     |
| Project Description  | ROWS               |             |                      | TEST123456.0.1     | Test123456               | -2           | 952.00 EUR        |
| ✓ WBS Element        | Fiscal Year        |             | CUSTPROJ12345.0.1    | Cust Proj 12345    | -2                       | 952.00 EUR   |                   |
| ✓ WBS Work Packages  | Company Code       |             | TEST234.0.1          | test123            | -2                       | 1,190.00 EUR |                   |
|                      | WBS Element        |             | TEST456.0.1          | Test456            | -2                       | 714.00 EUR   |                   |
|                      | WBS Work Packages  |             | TEST123123.0.1       | Test123123         | -2                       | 952.00 EUR   |                   |
|                      | Days till Due Date |             | ABCDE123.0.1         | abcde123           | -2                       | 952.00 EUR   |                   |
|                      |                    |             | APPDEV.0.1           | Implementation     | -2                       | 761.60 EUR   |                   |
|                      |                    |             | PROJ201805180445.0.1 | 20180518044558     | 151                      | \$ 1,089.00  |                   |
|                      |                    |             |                      | BBP                | 151                      | \$ 16,335.00 |                   |
|                      |                    |             |                      | Realization        | 151                      | \$ 16,335.00 |                   |
|                      |                    |             | 20180518055407.0.2   | licenses           | 151                      | \$ 16,335.00 |                   |
|                      |                    |             |                      | maintainence       | 151                      | \$ 16,335.00 |                   |
|                      |                    |             |                      | test               | 151                      | \$ 16,335.00 |                   |
|                      |                    | 1710        |                      | BBP                | 151                      | \$ 10,890.00 |                   |
|                      |                    |             |                      | Realization        | 151                      | \$ 10,890.00 |                   |
|                      |                    |             | 20180518055407.0.3   | licenses           | 151                      | \$ 10,890.00 |                   |
|                      |                    |             |                      | maintainence       | 151                      | \$ 10,890.00 |                   |

You will find the previously created project with its correct receivable listed. You can also see that this receivable has its due date in two days.

### 5.3 Apply Filters and Visualize the Data with Standard Charts

To navigate through your data and search purposefully for certain insights, the filter feature and the standard charts are useful tools. The following instructions show to use these tools.

1. Choose **Filter** and search for the **Days till Due Date** field. Choose the **DEFINE CONDITIONS** tab and scroll to set to **less than or equal to**. Enter the value **0**. Choose **OK** to quit. To apply the filter condition, choose **Go**.

Days till Due Date

SELECT FROM LIST

DEFINE CONDITIONS

▼ Include (1)

Key

less than or eq...

▼

0

⊗ +

> Exclude

between

less than

less than or equal to

greater than

greater than or equal to

2. You will now see filtered data. All upcoming receivables will be shown in the report.

Search

Pause

Measures

Company Code

Customer

Days till Due Date

Debit/Credit Code

Fiscal Year

G/L Account

Journal Entry

Journal Entry Type

Net Due Date

Posting Date

Project Description

WBS Element

WBS Work Packages

Measures

Fiscal Year

Company Code

WBS Element

WBS Work Packages

Days till Due Date

Fiscal Year

Company Code

WBS Element

WBS Work Packages

Days till

Amount in CC Crncy

2018

1010

TESTRR.0.1

testrr

-32

119.00 EUR

TEST123456.0.1

Test123456

-2

952.00 EUR

CUSTPROJ12345.0.1

Cust Proj 12345

-2

952.00 EUR

TEST234.0.1

test123

-2

1,190.00 EUR

TEST456.0.1

Test456

-2

714.00 EUR

TEST123123.0.1

Test123123

-2

952.00 EUR

ABCDE123.0.1

abcde123

-2

952.00 EUR

APPDEV.0.1

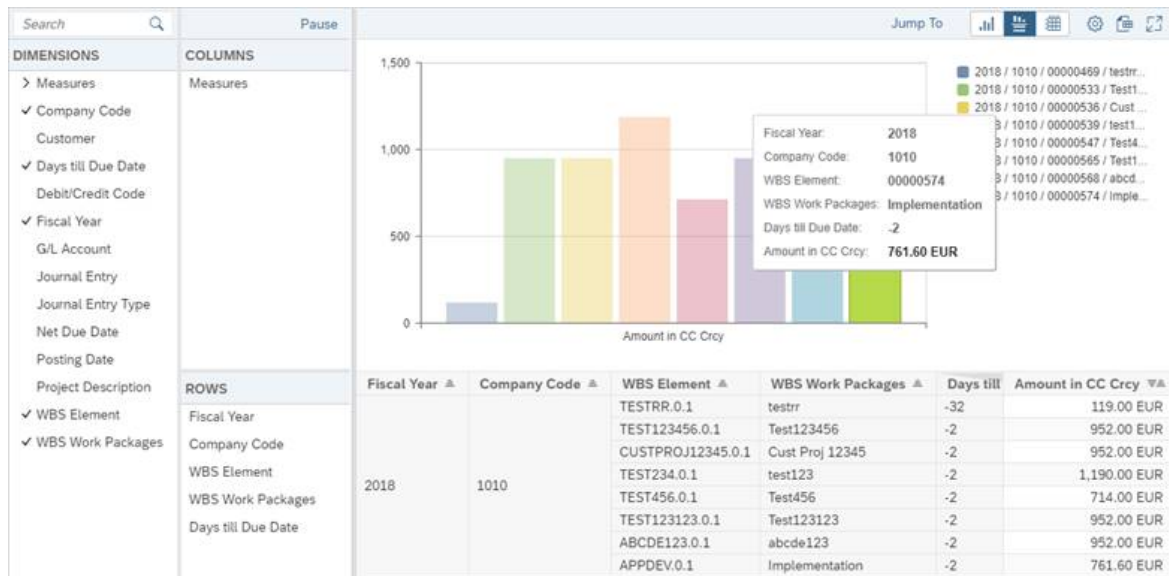
Implementation

-2

761.60 EUR

Jump To



3. Choose the [Chart and Table](#) icon to visualize the data in a diagram. You can adjust the type of the chart and some further parameters under [Settings](#).



In this case, the filter has reduced the amount of data to just the relevant ones, the receivables whose *Days till Due Date* are in the future. The bar chart gives additional visual information. For example, when there are extreme outliers, you can detect them at a glance.

# 6 Appendix

## 6.1 Issues

Please note that SAP does not offer any official support for the sample code (see the *SAP SAMPLE CODE LICENSE AGREEMENT* on GitHub). However, feel free to use the [Issues](#) section on GitHub if you have any problems. We recommend that you [browse through the known issues](#)  section before [creating a new issue](#) .

## 6.2 Document History



| Revision | Date       | Change                                            |
|----------|------------|---------------------------------------------------|
| 1.0      | 2018-12-19 | Document created.                                 |
| 1.1      | 2018-01-18 | Minor language related changes.                   |
| 1.2      | 2019-09-13 | <a href="#">Issues [page 29]</a> section updated. |

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