



COSMO CONSULT  
Business-Software für Menschen



# AL Reporting

Introduction

## Prerequisite

- Use Workshop-VM / Workshop-Computer  
*follow the instructions of the Boarding Pass*
- Additional Material  
*inside the [WORKSHOP] Folder*



Visual Studio Code

<https://code.visualstudio.com>



Competence Team DevTech

[Microsoft AL](#)

# Agenda

TBD



# Indroducing reporting in AL

- Reportobject
- Dataset
- Layout
- Requestpage

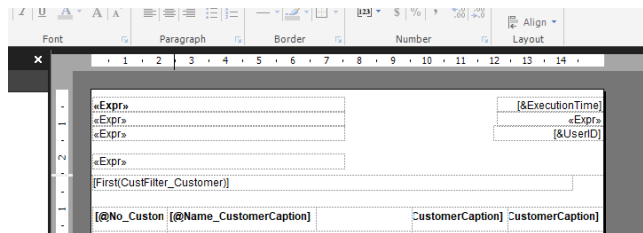
# Introducing

```
report 50100 "Vendor - List V2"|
{
    CaptionML=ENU='Vendor - List',
    DEU='Kreditor - Liste';
    UsageCategory = Lists;
}
```

## Report Object

```
dataset
{
    0 references
    dataitem(Vendor; Vendor)
    {
```

## Dataset



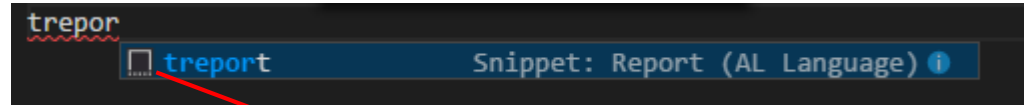
## Layout

```
0 references | 0 references
requestpage
{
  layout
  {
    0 references
    area(content)
  }
  0 references
  group(options)
```

Request Page

# Report Object

- Consists of
  - Properties
  - Dataset
  - Request Page
  - Trigger on report level
  - Vars
- Default template “treport”



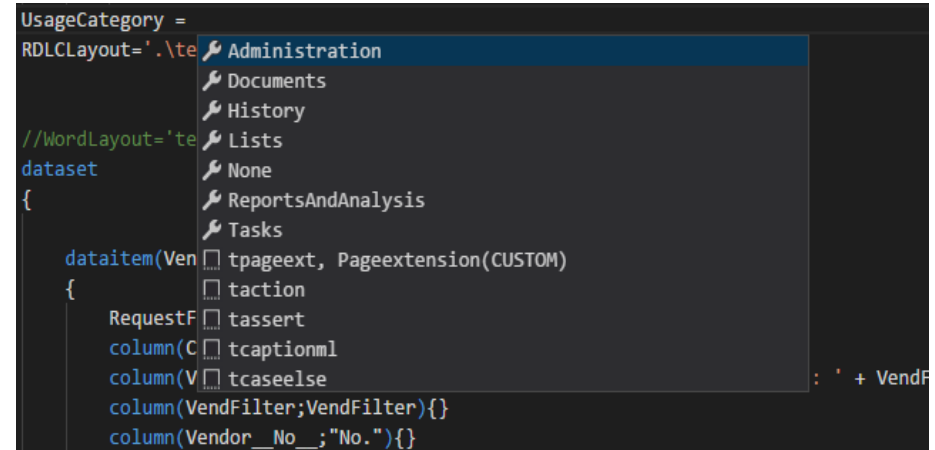
```
0 references
report 50201 MyFirstALReport|
{
    dataset
    {
        0 references
        dataitem(DataItemName; SourceTableName)
        {
            column(ColumnName; SourceFieldName)
            {
            }
        }
    }

    0 references | 0 references
    requestpage
    {
        layout
        {
            0 references
            area(content)
            {
                0 references
                group(GroupName)
            }
        }
    }
}
```

# Report Object

## ➤ Properties

- Same as in C/AL
- Some new properties
  - UsageCategory
  - RDLCLayout
  - WordLayout
  - etc..



The screenshot shows a code editor with a dropdown menu open for the `UsageCategory` property. The dropdown lists several categories: Administration, Documents, History, Lists, None, ReportsAndAnalysis, and Tasks. The `Administration` category is currently selected. In the background, the code for the report object is visible, including the `RDLCLayout` property and a `dataset` block with various data items and columns.

```
UsageCategory =  
RDLCLayout='.\\te  
//WordLayout='te  
dataset  
{  
    dataitem(Ven  
    {  
        RequestF  
        column(C  
        column(V  
        column(VendFilter;VendFilter){}  
        column(Vendor__No__;"No."){}
```

# Report Object

## ➤ Trigger on Report level

- OnInitReport
- OnPreReport
- OnPostReport

```
trigger OnInitReport();  
begin  
end;  
trigger OnPreReport();  
begin  
end;  
trigger OnPostReport();  
begin  
end;
```



# Report Object

```
report 50200 "AL Customer Top 10 List,,  
{  
  //Properties  
  //....  
  Dataset  
  {  
    //...  
  }  
  requestpage  
  {  
    //...  
  }  
  //Report Level triggers  
  trigger OnInitReport();  
  begin  
  end;  
  var  
    //Global variables  
}  
}
```

The order of the elements is relevant

A light blue rectangular box on the right side of the slide contains the text "The order of the elements is relevant". Five red arrows originate from the left edge of this box and point to specific elements in the code block on the left: the first arrow points to the line "//Properties", the second to "Dataset", the third to "requestpage", the fourth to the line "//Report Level triggers", and the fifth to the line "var".

# Dataset

- Defines the data for the report
  - One or more DataItems could be included
- Has no own properties

```
//for dataset testbook ;  
dataset  
{  
    0 references  
    dataitem(Vendor; Vendor)  
    {  
        ...  
    }  
}
```

# Dataset – DataItem

➤ Adds a new sourcetable to the report

```
dataitem(Name,SourceTable)
```

➤ Nested DataItems

- „Item“ and „Item Ledger Entry“
- „Sales Header“ and „Sales Lines“
- etc.

```
dataitem(Item;"Item")  
{  
    dataitem(ItemLedgerEntry;"Item Ledger Entry")  
    {  
    }}
```

➤ Sequentiell DataItems

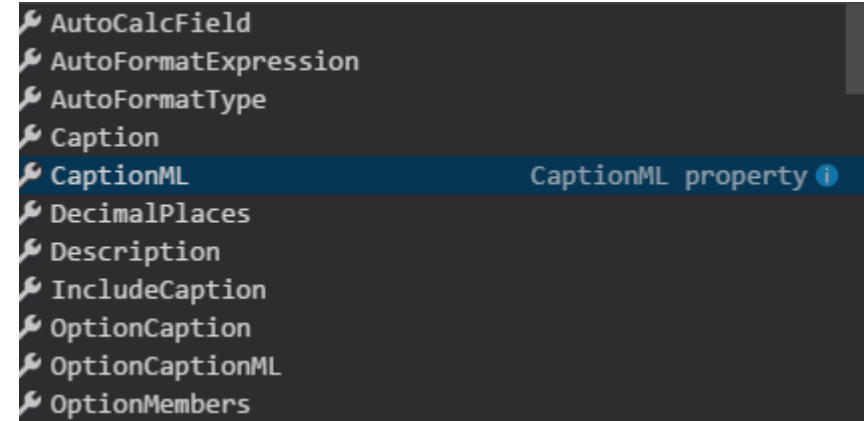
```
dataitem(Cust;Customer)  
{  
}  
dataitem(Vend;Vendor)  
{  
}
```

# Dataset – Dataltem – Columns

## ➤ Needed to Print fields of the Dataltem

- Name
- Source Expression
  - Global variable
  - Field from sourcetable
  - Function
  - Textconstant
- No Triggers on column level

```
column(Name,SourceExpression)
{
    ...Properties...
}
```



AutoCalcField  
AutoFormatExpression  
AutoFormatType  
Caption  
CaptionML CaptionML property ⓘ  
DecimalPlaces  
Description  
IncludeCaption  
OptionCaption  
OptionCaptionML  
OptionMembers

# Dataset – Dataltem

- Trigger on Dataltem
  - OnPreDataltem
  - OnAfterGetRecord
  - OnPostDataltem

```
trigger OnPreDataItem();  
begin  
end;  
  
trigger OnAfterGetRecord();  
begin  
end;  
  
trigger OnPostDataItem();  
begin  
end;
```

# Layout

## ➤ Define the Layout


```
RDCLayout='.\\Reports\\Layout\\CustomerTop10V2.rdlc';  
WordLayout='.\\Reports\\Layout\\word.docx';
```

## ➤ Create Layout *CTRL+SHIFT+B*

## ➤ *Supported files*

- *.rdlc (Visual Studio)*
- *.rdl (SQL Report Builder)*
- *.docx (Word Layout)*

## ➤ *Designing the Layout not part of this workshop*



Don't worry the designing part  
is still the same



# Layout

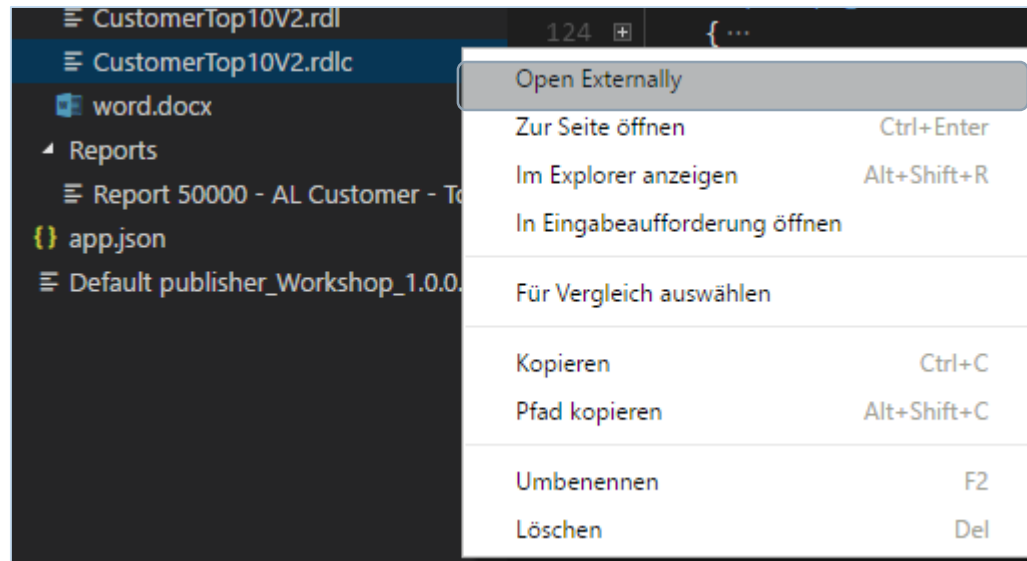
## ➤ Set Default Layout

```
DefaultLayout=RDLC;
```

or

```
DefaultLayout=Word;
```

## ➤ Open files from Visual Studio Code



# Request Page

- *The same process as creating a normal pageobject*
  - *The keyword has changed to „requestpage“*

```
requestpage
{
    ...Properties...

    layout
    {
    }

    actions
    {
    }
}
```

# Hands On!

*Now you create your first AL Report on your own – step by step*



# Hands On!

## ➤ Build a small Report 50130 "Simple Document"

### ➤ Use with some fields from Sales Header:

- No.
- Selt-To Customer Name
- Selt-To Customer Address
- Selt-To Customer Post Code
- Selt-To Customer City

**Order No. 101001**

Adatum Corporation  
Station Road, 21  
1230 Wien

# Hands On!

➤ *Add sales Lines to the Report „Simple Document“*

## Order No. 102200

Adatum Corporation  
Station Road, 21  
1230 Wien

Item No.	Description	Quantity Unit	Amount
2000-S	SYDNEY Schreibtischstuhl, grün	2 Stück	382,00
1996-S	ATLANTA Whiteboard, Basis	5 Stück	7 021,50

# Hands On!

➤ *Add a picture and totals*



## Order No. 101004

Alpine Ski House  
Walter-Gropius-Strasse 5  
80807 München

Item No.	Description	Quantity	Unit	Amount
2000-S	SYDNEY Schreibtischstuhl, grün	3	Stück	573,00
Total				573,00



# Hands On!

- Make Request page with an option “Print logo”

EDIT - SIMPLE DOCUMENT OPTIONS

Options

Print Logo

Sales Header

Show results:

Where: 

No. 

▼

 is: 

101004

Send to...

Print

Preview

Cancel

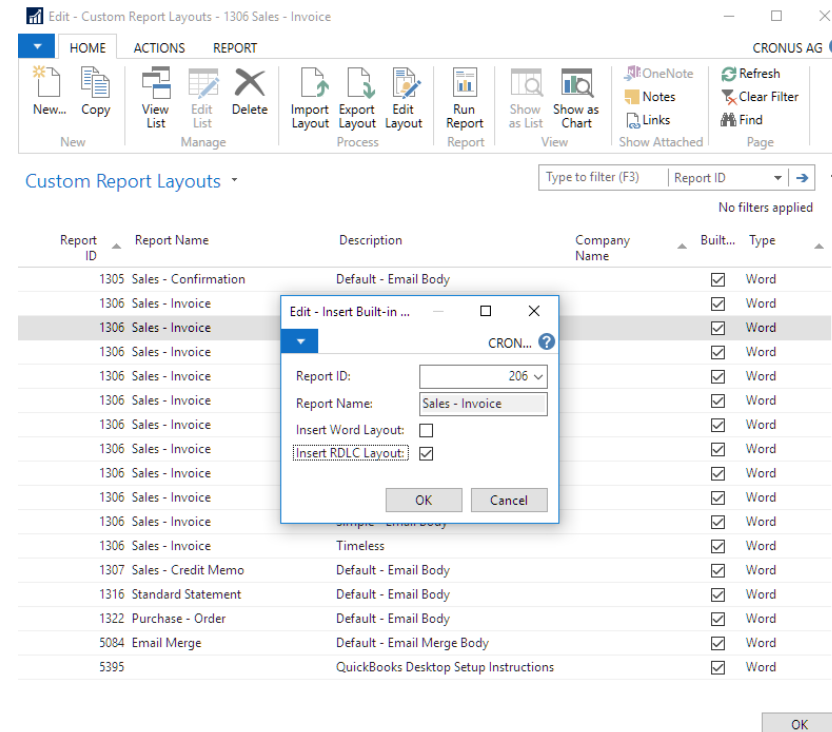
# Hands On!

- Make a report for “Sales Quotes” using the same layout

~~Customizations~~

# Customizations

- Not “really” possible now
- If the report has event publishers you could subscribe to them
- You could define a Custom Layout
- Replace a whole report with the report selection table
  - Only possible for some documents



# Customizations

- Replace a Report with the new global Event publisher
  - Only if the Report is called by Objectname/ID e.g Report.RUN(206) or for RunObject on action
  - If you generate a variable of report 206 the event is not fired

```
codeunit 50130 Testsubst
{

    [EventSubscriber(ObjectType::Codeunit, Codeunit::ReportManagement, 'OnAfterSubstituteReport', '', false, false)]
    0 references
    local procedure MyProcedure(ReportId : Integer; var NewReportId: Integer)
    begin
        |   if ReportId = 205 then NewReportId := 50130;
    end;
}
```

## Make reports extensible

- Place an event publisher on beginning and ending of every trigger and procedure

```
trigger OnPreDataItem();  
begin  
    OnBeforeCustomerPreDataItem();  
    Window.Open(Text000);  
    i := 0;  
    CustAmount.DeleteAll;  
    OnAfterCustomerPreDataItem();  
end;
```

**Product developer  
should do this in  
every report**



## Q & A



*Visual Studio Code*

<https://code.visualstudio.com>



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