



**How-to Guide
SAP NetWeaver '04**

How To... Web Printing with Microsoft Excel

Version 1.00 – April 2005

**Applicable Releases:
SAP NetWeaver '04
SAP BW 3.10
SAP BW 3.0B**

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1 Scenario

There are several general issues with printing in the Web:

- HTML is not page-orientated
- Web Browsers have only limited Print Settings possibilities
- No Fit to Page
- No repeating rows and columns
- ...

This solution with Microsoft Excel helps to reduce these limitations of Web Browsers.

The reason for using Microsoft Excel for printing is that Microsoft Excel is page-orientated with enhanced printing capacities like Fit to Page or Repeating rows and columns.

This solution requires a Microsoft Excel 2000 or higher installation.

The solution Web Printing with Microsoft Excel is using the BEx Web Application Framework to handle the requests and transformation of data. Web Printing with Microsoft Excel renders data in a Microsoft Office HTML/XML-specific format. This format allows writing text files with Microsoft Excel-specific information about the visualization of the data.

This solution allows exporting and printing multiple Data Providers and all Web Items of a BEx Web Application (see 2 Introduction for a list of supported and unsupported Web Items).

Web Printing with Microsoft Excel supports Print Cascading Style Sheets (CSS) (see 3.5 Add Print Cascading Style Sheet (CSS) to BW Web Template (optional but recommended)) and adaptations with the BEx Web Design API for Tables (see 3.6 Add BEx Web Design API for Tables to BW Web Template (optional)).

Interesting features are print-specific BW Web Templates (see 3.8 Create print-specific BW Web Template (optional)) that allow creating totally different outputs for Web and for printing.

Microsoft Excel has a rich set of print settings. Most of them are also supported by this solution (see 3.7 Add print setting to BW Web Template (optional)). The print settings allow for example to add BW text elements (like filter values, etc.) to the header or footer.

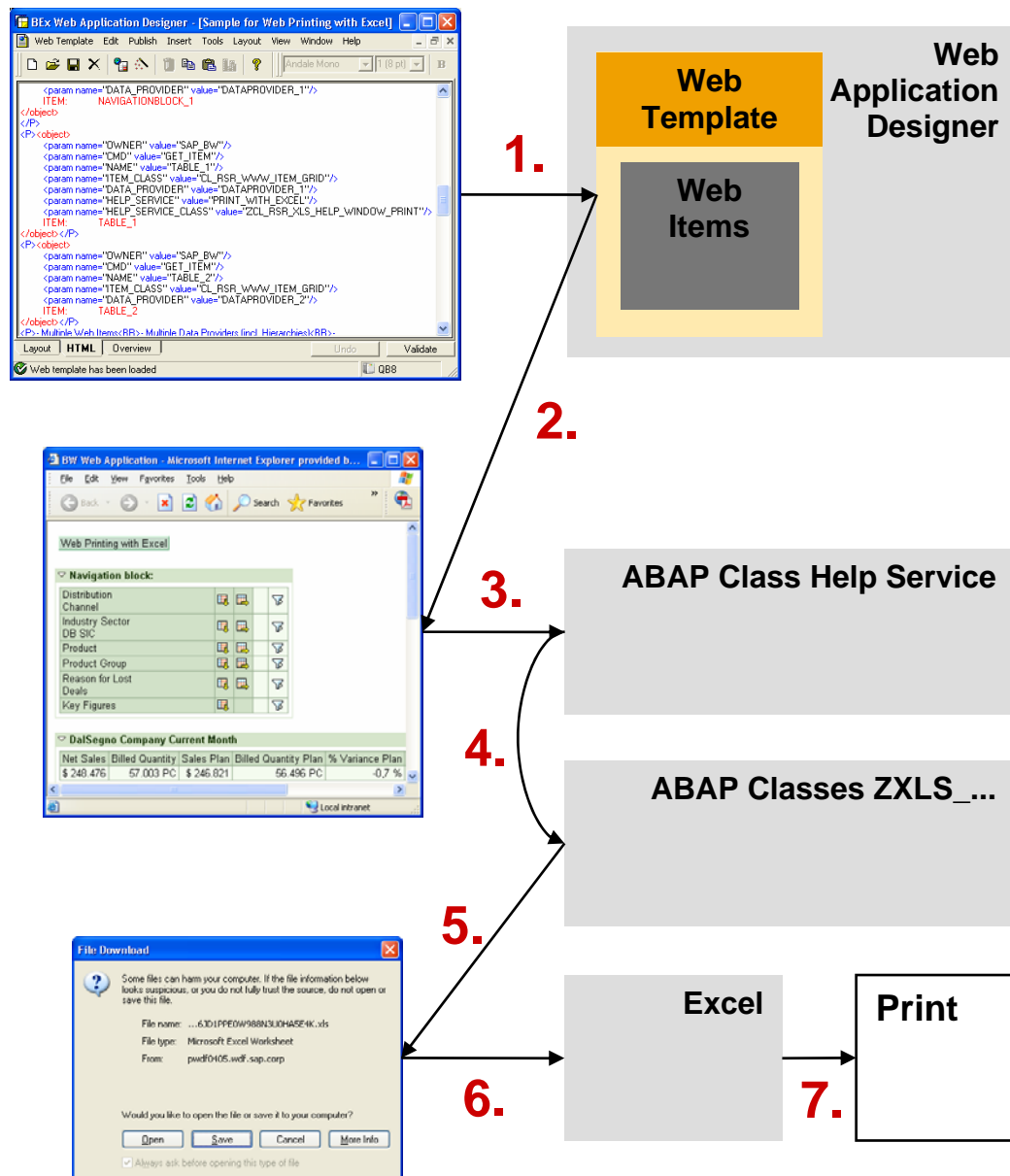
Web Printing with Microsoft Excel does not replace the Export to Excel 2000 functionality of SAP BW. The reason is that a refresh of the data with the BEx Analyzer is not possible. Also the transfer of text in the non-BW-generated HTML is not supported (i.e. text in HTML coding that is directly in the BW Web Template and not part of a BW Web Item). Nevertheless, as described above this solution can be used to:

- Export data from a BEx Web Application to Microsoft Excel that is changed by the BEx Web Design API for Tables.
- Format data from a BEx Web Application in Microsoft Excel using Print Cascading Style Sheets (CSS) and print-specific BW Web Templates
- Print data from a BEx Web Application using the Microsoft Excel print settings and capacities.

2 Introduction

The technical flow of the solution Web Printing with Microsoft Excel can be described in the following steps:

1. Create Web Template with Help Service, Button, ...
2. Execute Web Template as BEx Web Application
3. Press Print button
4. ABAP Class Help Service is called. It creates bookmark, adds parameter device_class=zxls and redirect URL
5. Web Application Framework is called. It renders Microsoft-specific HTML/XML output for Microsoft Excel
6. Open/Save popup appears
7. Microsoft Excel is started and can be used for printing



The following screenshot shows the result in Microsoft Excel.

| DalSegno Company Current Month | | | |
|--------------------------------|-----------------------------------|-----------------|-----------------|
| Net Sales | Billed Quantity | Sales Plan | Billed Quantity |
| \$ 248.476 | 57.003 011 | \$ 246.821 | 56 |
| Ind. Sector: DB SIC | | | |
| OD_DBSIC1 | OD_DBSIC1 | | |
| | | \$ 5.933.256,22 | |
| ▷ A | Agriculture, forestry and fishing | \$ 114.432,44 | |
| ▷ B | Mining | \$ 72.340,81 | |
| ▷ C | Construction | \$ 275.303,53 | |
| ▷ D | Manufacturing | \$ 1.577.417,83 | |
| ▷ E | Transportation, comms, electric, | \$ 329.069,41 | |
| ▷ F | Wholesale | \$ 796.537,84 | |
| ▷ G | Retail | \$ 1.003.057,45 | |

This screenshots shows the formatted report in the Print Preview mode of Microsoft Excel.

DalSegno Company Current Month

Navigationblock:

Navigation Block:
 Distribution Channel
 Industry Sector DB SIC
 Product
 Product Group
 Reason for Last Data
 Key Figures

DalSegno Company Current Month

| Net Sales | Billed Quantity | Sales Plan | Billed Quantity | % Variance Plan | Last Data | Number of Last Data |
|---------------------|--------------------------------------|-----------------|-----------------|-----------------|------------|---------------------|
| \$ 248.476 | 57.003 011 | \$ 246.821 | 56 | -0,7% | \$ 246.821 | \$ 246.821 |
| Ind. Sector: DB SIC | | | | | | |
| OD_DBSIC1 | OD_DBSIC1 | | | | | |
| ▷ A | Agriculture, forestry and fishing | \$ 114.432,44 | | | | |
| ▷ B | Mining | \$ 72.340,81 | | | | |
| ▷ C | Construction | \$ 275.303,53 | | | | |
| ▷ D | Manufacturing | \$ 1.577.417,83 | | | | |
| ▷ E | Transportation, comms, electric, gas | \$ 329.069,41 | | | | |
| ▷ F | Wholesale | \$ 796.537,84 | | | | |
| ▷ G | Retail | \$ 1.003.057,45 | | | | |
| ▷ H | Finance, insurance and real estate | \$ 20.000,00 | | | | |
| ▷ I | Services | \$ 110.000,00 | | | | |
| ▷ J | Public Administration | \$ 20.000,00 | | | | |

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Supported BW Web Items

- Table
- Navigation Block
- Filter
- Label

- Text Elements
- List of Exceptions
- List of Conditions
- Alert Monitor
- ...
- Chart and Map possible (via Web Archive/MHTML, not yet implemented)

Not supported BW Web Items

- Dropdown Box
- Radio Button
- Checkbox
- Ticker
- Ad hoc Query Designer
- Role Menu
- Hierarchical Context Menu
- ABC Analysis
- What If Prediction
- ...

3 The Step By Step Solution

You need to perform the following steps to realize this scenario:

- 3.1 Prerequisites
- 3.2 Import ABAP Package and Classes
- 3.4 Add button or context menu to BW Web Template
- 3.5 Add Print Cascading Style Sheet (CSS) to BW Web Template (optional but recommended)
- 3.6 Add BEx Web Design API for Tables to BW Web Template (optional)
- 3.7 Add print setting to BW Web Template (optional)
- 3.8 Create print-specific BW Web Template (optional)

The appendix of this document contains some useful information:

- 4.1 Sample BW Web Template
- 4.2 Change Print Cascading Style Sheet (CSS) in SAP BW Mime Repository
- 4.3 Change Cascading Style Sheet (CSS) styles for Microsoft Excel
- 4.4 Enable Open/Save dialog during export to Microsoft Excel
- 4.5 Using Web Protocol HTTPS with Web Printing with Microsoft Excel
- 4.6 Avoid Logon dialog for Hierarchy Icons

Please be aware to the two sections about the Cascading Style Sheets (CSS). Both are quite helpful if you would like to format the result automatically with Cascading Style Sheets (CSS).

A short description can be found at the beginning of each step.

3.1 Prerequisites

The following two OSS notes are prerequisites for the solution Web Printing with Microsoft Excel.

- OSS note 736568 (for customer-specific device classes)
- OSS note 737082 (for unique filenames for Microsoft Excel) (optional)

The second OSS note is optional but it avoids a Microsoft error message. Normally, the filename `bex.xls` is used for every BEx Web Application. In case you print several BEx Web Applications and a file `bex.xls` is already open in Microsoft Excel, an error message appears.

Please apply the OSS notes with transaction Note Assistant (transaction code `SNOTE`).

3.2 Import ABAP Package and Classes

The implementation of the solution Web Printing with Microsoft Excel does not require any modification of SAP coding. The coding of this solution is not shipped as part of SAP BW Support Packages and needs to be implemented by consultant or customer. See Copyright section on top of this document for detail.

The import of the transport files is normally done by the SAP Basis Administrator.

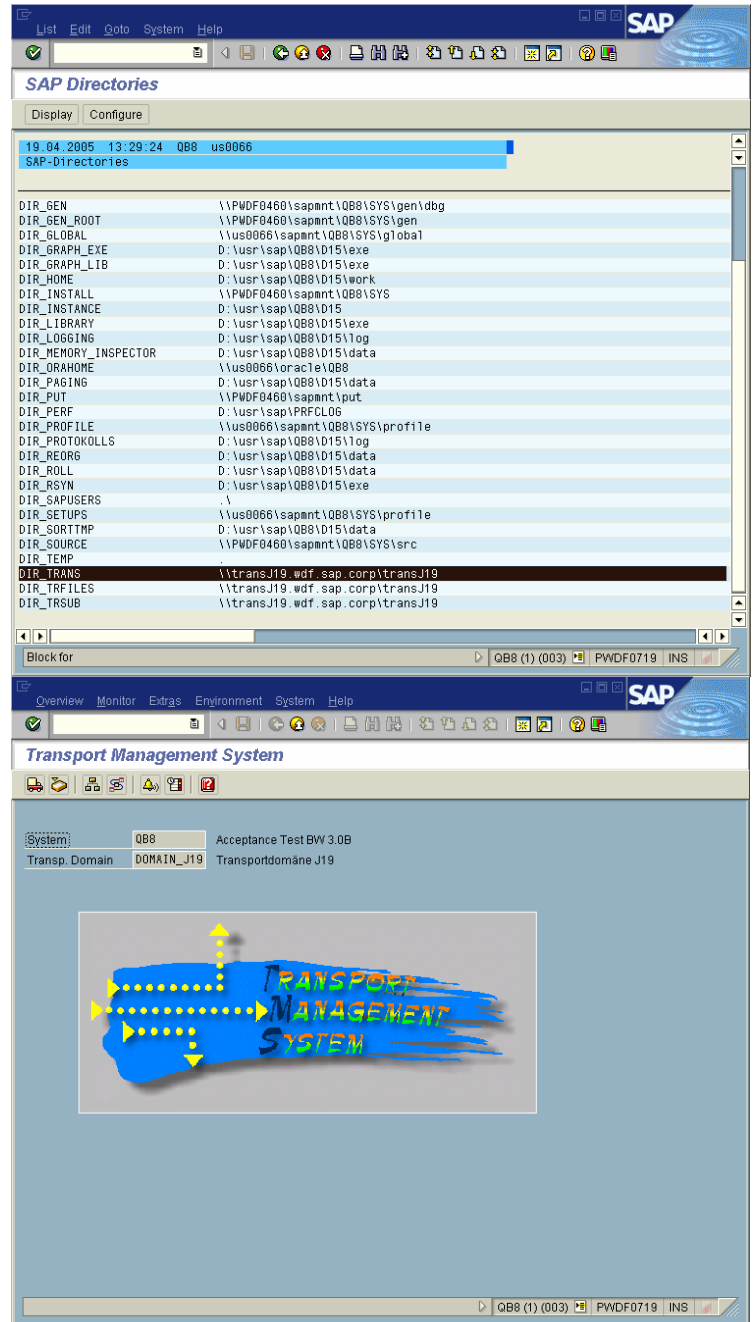
1. Copy transport files into the transport directory.

Note: The transport directory can be obtained from transaction SAP Directories (transaction code AL11) using the value of DIR_TRANS.

K...qb8 must be copied into the sub-directory cofiles.

R...qb8 must be copied into the sub-directory data.

2. Import the transport files with transaction Transport Management System (transaction code STMS).



The following objects are part of the attached transport files:

| Object Type | Object Name | Description |
|-------------|-------------------------------|--|
| Package | ZPK_WEB_PRINTING_WITH_EXCEL | Package |
| ABAP Class | ZCL_RSR_XLS_HELP_WINDOW_PRINT | This class implements a print help service. |
| ABAP Class | ZCL_RSR_XLS_ITEM_TEMPLATE | This class implements the Excel-specifics of the BW Web Template (incl. print settings) |
| ABAP Class | ZCL_RSR_XLS_GRID | This class is the base class of ZCL_RSR_XLS_TABLE |
| ABAP Class | ZCL_RSR_XLS_TABLE | This class is also a base class of ZCL_RSR_XLS_ITEM_... for all table-orientated Web Items |
| ABAP Class | ZCL_RSR_XLS_ITEM_GRID | This class implements the Web Item Table |

| | | |
|-------------|--------------------------------|--|
| ABAP Class | ZCL_RSR_XLS_ITEM_TEXT_ELEMENTS | This class implements the Web Item Text Elements |
| ABAP Class | ZCL_RSR_XLS_ITEM_CONDITION | This class implements the Web Item Conditions |
| ABAP Class | ZCL_RSR_XLS_ITEM_EXCEPTION | This class implements the Web Item Exception |
| MIME Object | BWReports_Excel_print.css | Sample for print style sheet |

Other Web Items are also supported but the Web Items above required some adaptations as described below.

In case that you would like to use a different prefix in the name, you can import the attached transport files and rename the objects with transaction Class Builder (transaction code SE24) or Object Navigator (transaction code SE80).

Please be aware, that you must cut the ABAP Class names at the end of the name. Do not remove characters in the middle of the ABAP Class name. Otherwise the dynamic generation of the objects will fail during runtime.

3.2.1 ABAP Class ZCL_RSR_XLS_HELP_WINDOW_PRINT

This class implements a print help service.

| Method | Description |
|---------------|---|
| PROCESS_CMD | Receive command from context text menu or button, creates bookmark and returns redirect URL with Bookmark ID and new device class for Excel rendering In this method you have to adjust the device-class ZXLS in case you renamed the ABAP classes. |
| SAVE_BOOKMARK | Create bookmark |

3.2.2 ABAP Class ZCL_RSR_XLS_ITEM_TEMPLATE

This class implements the Excel-specifics of the BW Web Template (incl. print settings).

| Method | Description |
|----------------------------|---------------------------------------|
| SET_ITEM | Read print settings from Web Template |
| RENDER_DATA | Trigger rendering of data |
| LOAD_TEMPLATE_FROM_DB | Support print-specific Web Templates |
| GET_TEMPLATE | Combine all parts of Web Template |
| GET_META_CHARSET | Get meta tag including charset |
| GET_WORKSHEET | Get Excel settings for Worksheet |
| GET_STYLES | Get Excel styles |
| GET_STYLE_SHEET_FROM_TEMPL | Get print style sheet of Web Template |

3.3 ABAP Class ZCL_RSR_XLS_GRID

This class is the base class of ZCL_RSR_XLS_TABLE.

| Method | Description |
|----------------------------|---|
| APPEND_CHARACTERISTIC_CELL | Hide hierarchy icons in rows |
| APPEND_STRUCTURE_CELL | Hide hierarchy icons in columns |
| APPEND_DATA_CELL | Render numbers in Excel-specific format (regional settings regarding dots and commas) |

| | |
|------------|--------------------------------------|
| INIT_GRID | Preparation for hide hierarchy icons |
| ESCAPE_CSV | Escape string into Excel CSV format |

3.3.1 ABAP Class ZCL_RSR_XLS_TABLE

This class is also a base class of ZCL_RSR_XLS_ITEM_... for all table-orientated Web Items.

| Method | Description |
|--------------------------|---|
| TD | Remove unsupported tags from output (e.g. tags) |
| GET | Remove unsupported tags from output (e.g. <a> and <table> tags) |
| REMOVE_A_TAG_FOR_EXCEL | Method to remove <a> tag |
| REMOVE_IMG_TAG_FOR_EXCEL | Method to remove tag |
| REMOVE_TAG_FOR_EXCEL | Method to remove <...> tag |
| REMOVE_TD_TAG_FOR_EXCEL | Method to remove <td> tag |
| REMOVE_TR_TAG_FOR_EXCEL | Method to remove <tr> tag |

3.3.2 ABAP Class ZCL_RSR_XLS_ITEM_GRID

This class implements the Web Item Table.

| Method | Description |
|-------------|---|
| SET_ITEM | Correct parameters like block size and paging information to display all data |
| RENDER_DATA | Excel-specific rendering of data |
| FILL_TABLE | Support hiding hierarchy icons |

3.3.3 ABAP Class ZCL_RSR_XLS_ITEM_TEXT_ELEMENTS

This class implements the Web Item Text Elements.

| Method | Description |
|------------|---|
| FILL_TABLE | Avoid rendering in case of property only_values=X |

3.3.4 ABAP Class ZCL_RSR_XLS_ITEM_CONDITION

This class implements the Web Item Conditions.

| Method | Description |
|-------------|---------------------------------|
| RENDER_DATA | Avoid rendering of buttons |
| FILL_TABLE | Avoid rendering of context menu |

3.3.5 ABAP Class ZCL_RSR_XLS_ITEM_EXCEPTION

This class implements the Web Item Exception.

| Method | Description |
|-------------|---------------------------------|
| RENDER_DATA | Avoid rendering of buttons |
| FILL_TABLE | Avoid rendering of context menu |

3.3.6 MIME Object BWReports_Excel_print.css

The MIME Object BWReports_Excel_print.css is a sample for a Print Cascading Style Sheet (CSS) for Microsoft Excel. It is stored in the MIME Repository under SAP/PUBLIC /BW/Custom/StyleSheets.

3.4 Add button or context menu to BW Web Template

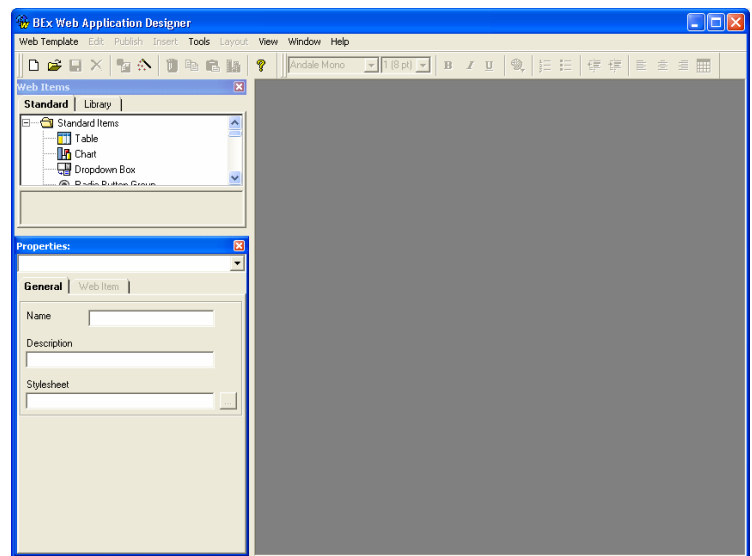
Finally, you have to add a button or context menu entry to your BW Web Template. This allows the end user to print the BEx Web Application with the new print functionality.

The button or context menu is required because the Print button of the Web Browser is not supported.

In general, you have to change every BW Web Template to add this functionality to your BEx Web Applications (executed BW Web Templates).

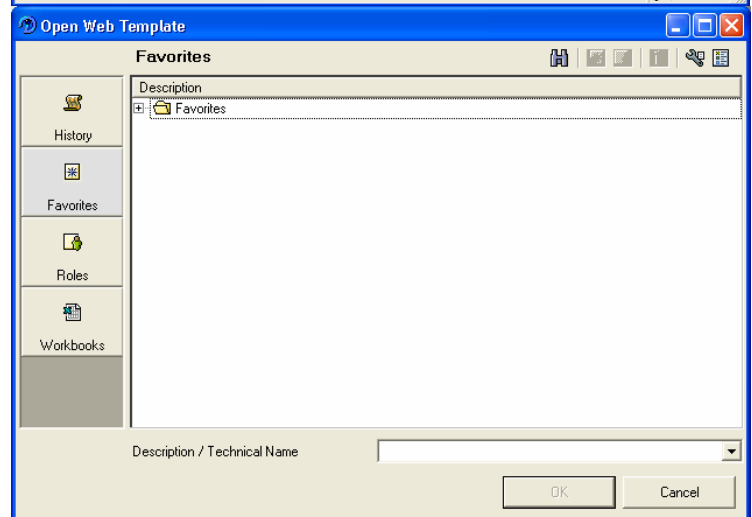
See 4.1 Sample BW Web Template for a sample of a BW Web Template.

1. Start BEx Web Application Designer with Start/Programs/Business Explorer/Web Application Designer.

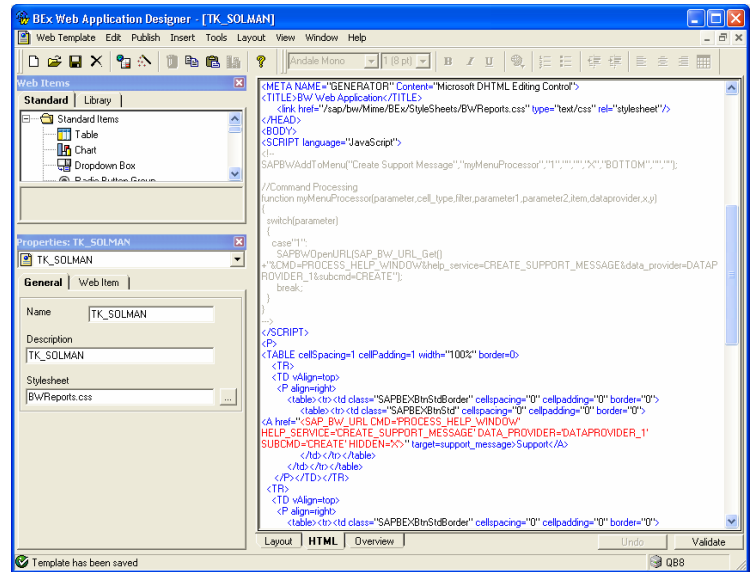


2. Open an existing BW Web Template with File/Open or create a new BW Web Template with File/New.

In case of a new BW Web Template, design your BW Web Template as normal and follow the next step.



- Switch to the HTML view using the register at the bottom of the BW Web Template window.



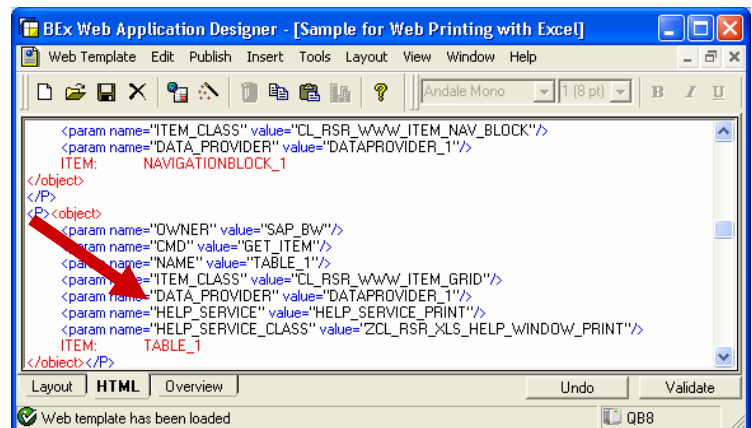
- Add a Help Service to a BW Web Item.

If you add a Help Service to a BW Web Item, you have to use ITEM_... in the SAP_BW_URL (see next step).

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

BW Web Item

```
<object>
  <param name="OWNER" value="SAP_BW"/>
  <param name="CMD" value="GET_ITEM"/>
  <param name="NAME" value="TABLE_1"/>
  <param name="ITEM_CLASS"
value="CL_RSR_WWW_ITEM_GRID"/>
  <param name="DATA_PROVIDER"
value="DATA_PROVIDER_1"/>
  <param name="HELP_SERVICE"
value="HELP_SERVICE_PRINT"/>
  <param name="HELP_SERVICE_CLASS"
value='<PREFIX>CL_RSR_XLS_HELP_WINDOW_PRINT'/>
  ITEM:      TABLE_1
</object>
```

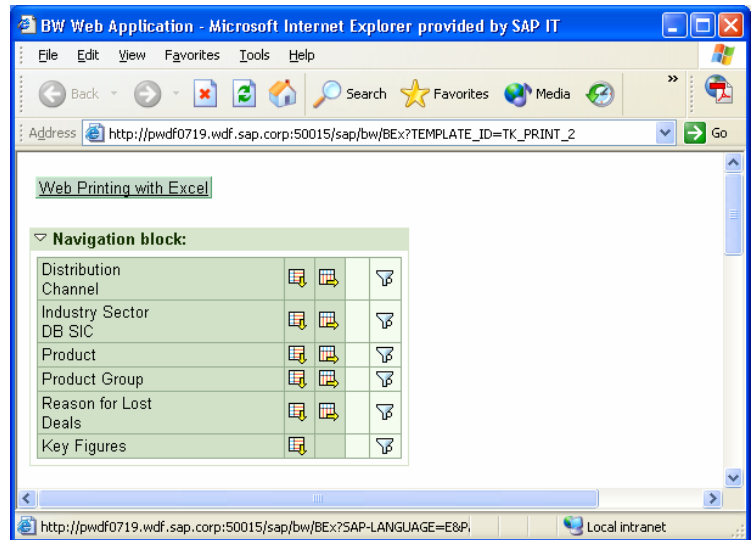


5. Add button to your BW Web Template. Button

Note: You can add a button or a context menu or both. At least one option is required.

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

```
<table><tr><td class="SAPBEXBtnStdBorder" cellspacing="0" cellpadding="0" border="0">
  <table><tr><td class="SAPBEXBtnStd" cellspacing="0" cellpadding="0" border="0">
    <A href="<SAP_BW_URL CMD='PROCESS_HELP_WINDOW' HELP_SERVICE='HELP_SERVICE_PRINT' ITEM='TABLE_1' SUBCMD='PRINT_EXCEL'">Web Printing with Excel</A>
  </td></tr></table>
</td></tr></table>
```



6. Add context menu to BW Web Template.

Note: Context menu is only available if data is shown. If no data is shown (e.g. authorization problem), no context menu is available.

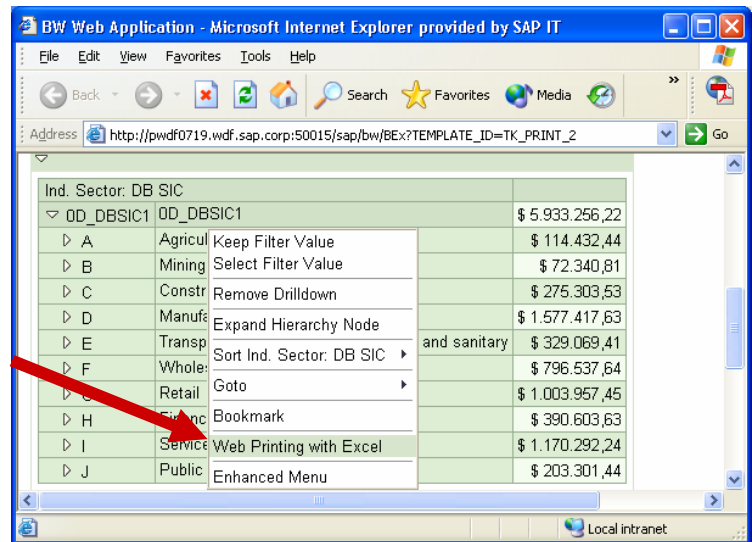
Note: You can add a button or a context menu or both. At least one option is required.

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

Context menu

```
<SCRIPT language="JavaScript">
<!--
SAPBWAddToMenu("Web Printing with
Excel","myMenuProcessor","1","","","X","BOTTOM","","");

//Command Processing
function
myMenuProcessor(parameter,cell_type,filter,parameter1,parameter2,item
,datapvider,x,y)
{
switch(parameter)
{
case"1":
SAPBWOpenURL(SAP_BW_URL_Get()+"&CMD=PROCESS_HELP_WI
NDOW&help_service=HELP_SERVICE_PRINT&ITEM
=TABLE_1&subcmd=PRINT_EXCEL");
break;
}
}
-->
</SCRIPT>
```



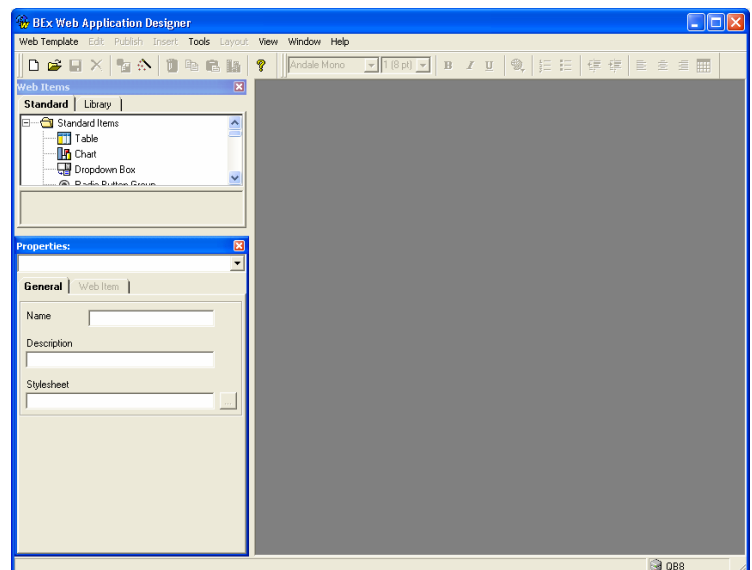
3.5 Add Print Cascading Style Sheet (CSS) to BW Web Template (optional but recommended)

It is recommended to add a Print Cascading Style Sheet (CSS) to the BW Web Template. Print Cascading Style Sheet (CSS) allows changing the general appearance of the print content in Excel.

In case of tables Print Cascading Style Sheets (CSS) are recommended if you would like to change style of all cells of a specific kind (=style class).

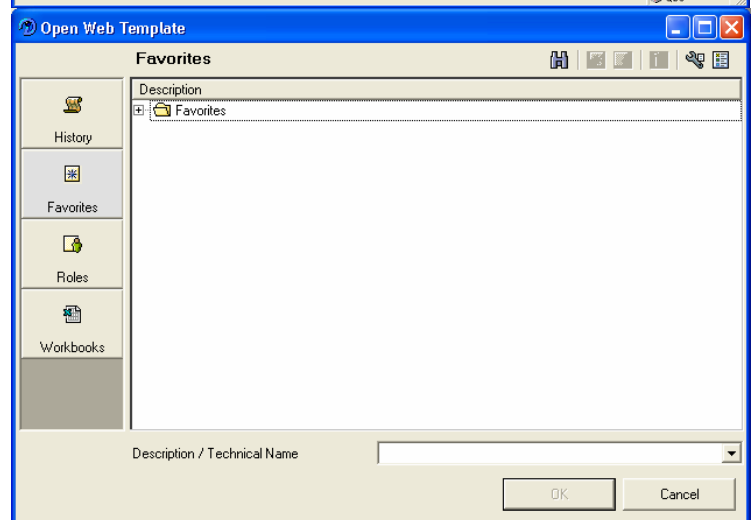
See documentation [BW Stylesheet](#), [Print Stylesheet](#) and [Storage of Stylesheets and Symbols](#) for more Details.

1. Start BEx Web Application Designer with Start/Programs/Business Explorer/Web Application Designer.

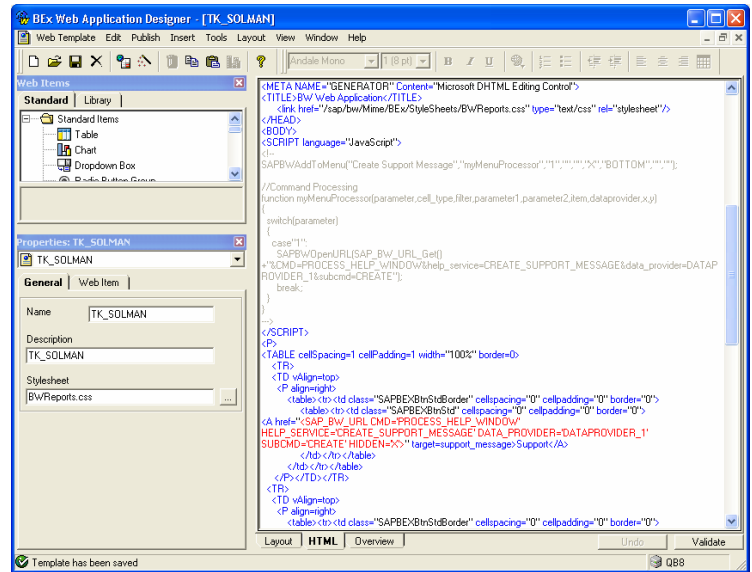


2. Open an existing BW Web Template with File/Open or create a new BW Web Template with File/New.

In case of a new BW Web Template, design your BW Web Template as normal and follow the next step.



- Switch to the HTML view using the register at the bottom of the BW Web Template window.

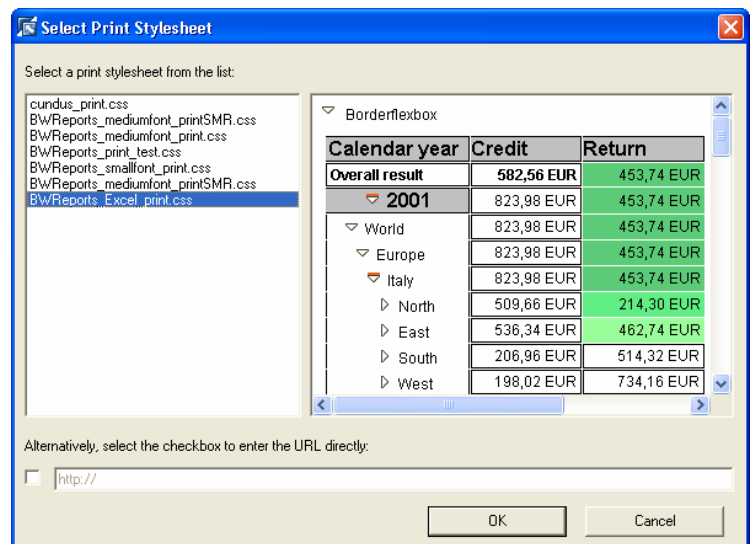


- Add a Print Cascading Style Sheet with the link tag. Specify the attribute *media="print"* to indicate the Web Browser and the Web Printing with Excel feature to use this style sheet for printing.

Print Cascading Style Sheet (CSS)

```
<link href="/sap/bw/Mime/Custom/StyleSheets/BWReports_Excel_print.css" type="text/css" rel="stylesheet" media="print"/>
```

- In the Layout view of the BEx Web Application Designer, you can choose Insert/Print Style sheet to add a print style sheet to your BW Web Template.



3.6 Add BEx Web Design API for Tables to BW Web Template (optional)

Optionally, the BEx Web Design API for Tables is recommended if you would like to change the style of a specific cell in a set of a specific kind (=style class).

The BEx Web Design API for Tables can be used to:

- Change the style for a specific characteristic, key figure value or structure member
- Hide rows and columns
- Insert empty rows and columns
- Add lines using different style classes
- ...

See documentation [Web Design API for Tables](#) for more details.

3.7 Add print setting to BW Web Template (optional)

Print settings have to be added as HTML comment to the BW Web Template and allow configuring Excel for printing.

The following print settings are available:

- Header and Footer (with text elements) (@page)
- Logo (Excel XP or higher) (@page and <x:Print>)
- Fit to Page (<x:Print>)
- Page Orientation (@page)
- Page Breaks (Breaks in rows and in columns) (<x:PageBreaks>)
- Grid Lines (flexible bottom line) (<x:Print>)
- Column Widths (<x:ColWidths>)
- Repeating Rows and Columns (<x:RepeatedRows> and <x:RepeatedCols>)
- Hide Hierarchy Icons (<x:BW>)

See Microsoft documentation for details on the available print settings in Excel.

The following procedure describes how you can easily change your print version:

1. Design your Header and Footer in Excel
2. Configure your print settings (e.g. page orientation) in Excel
3. Save the Excel Workbook as Web Page (*.htm; *html) file
4. Open this file in Notepad and search for @page to see the definition of the Header and Footer and search for <x:print> to see the definition of the logo and other settings.

Office HTML and XML Reference

<http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnoffxml/html/ofxml2k.asp>

Working with Office HTML

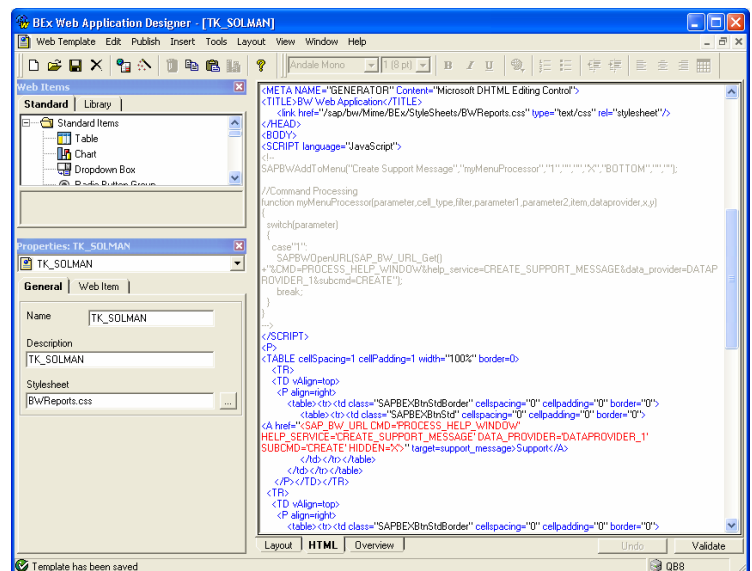
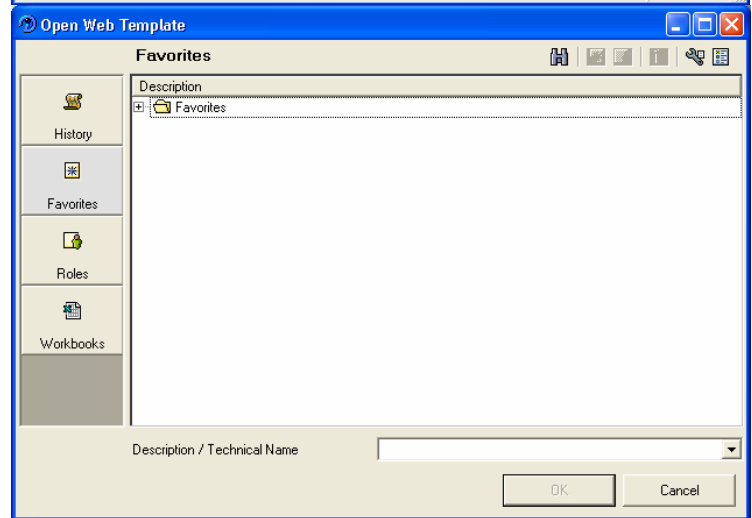
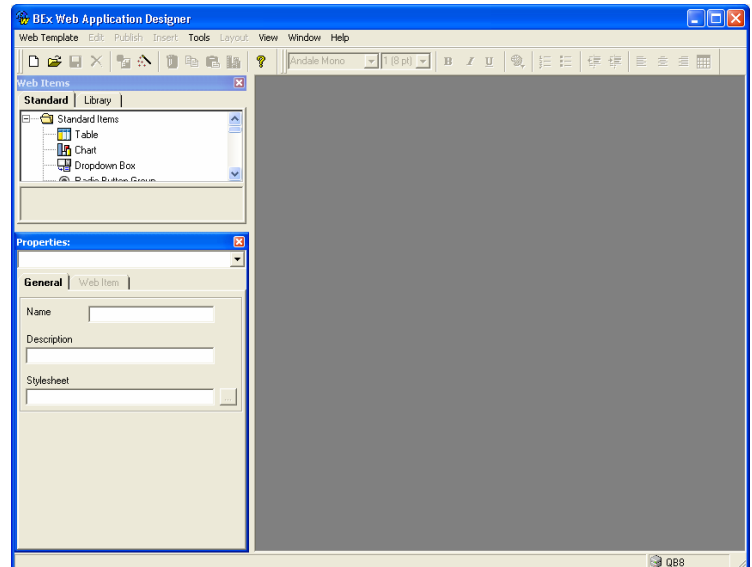
<http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnofftalk/html/office120999.asp>

1. Start BEx Web Application Designer with Start/Programs/Business Explorer/Web Application Designer.

2. Open an existing BW Web Template with File/Open or create a new BW Web Template with File/New.

In case of a new BW Web Template, design your BW Web Template as normal and follow the next step.

3. Switch to the HTML view using the register at the bottom of the BW Web Template window.



4. Header and Footer (with text elements) are defined in the @page area.

Text elements must be specified as &[<DATA_PROVIDER>/<TEXT_ELEMENT>].

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

Print Settings – Header and Footer

```
<!-- print settings for Web Printing with Excel
@page
    {mso-header-
data:"&L&G&C&\0022Arial,fed\0022&12&[DATA_PROVIDER_1/REPTX
TLG]";
    mso-footer-data:"&R&PV&N";
margin:1.0in .75in 1.0in .75in;
mso-header-margin:.5in;
mso-footer-margin:.5in;
mso-page-orientation:landscape;}
-->
```

5. Logo is defined in the @page and <x:Print> area.

&G indicates a picture where the source is specified in <x:print>.

Logos in Header and Footer are only support with Microsoft Excel XP, 2003 or higher.

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

Print Settings – Logo (Excel XP or higher)

```
<!-- print settings for Web Printing with Excel
@page
    {mso-header-
data:"&L&G&C&\0022Arial,fed\0022&12&[REPTXTLG]";
mso-footer-data:"&R&PV&N";
margin:1.0in .75in 1.0in .75in;
mso-header-margin:.5in;
mso-footer-margin:.5in;
mso-page-orientation:landscape;}
-->

<!-- print settings for Web Printing with Excel
<x:Print>
    <!-- ... add more print settings here ... - remove this line -->
    <x:HeaderPicture>
        <x:Location>Left</x:Location>

        <x:Source>http://www.sap.com/global/images/sap_logo.gif
        </x:Source>
        <x:Height>24.75</x:Height>
        <x:Width>86.25</x:Width>
        <x:LockAspectRatio/>
        <x:ColorType>Automatic</x:ColorType>
    </x:HeaderPicture>
</x:Print>
-->
```

6. Fit to Page is defined in the <x:Print> area.

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

Print Settings – Fit to Page

```
<!-- print settings for Web Printing with Excel
<x:Print>
    <x:FitWidth>2</x:FitWidth>
    <x:FitHeight>2</x:FitHeight>
    <!-- ... add more print settings here ... - remove this line -->
</x:Print>
-->
```

7. Page Orientation is defined in the @page area.

In case of portrait page orientation, remove mso-page-orientation.

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

Print Settings – Page Orientation

```
<!-- print settings for Web Printing with Excel
@page
    {mso-header-
data:"&L&G&C&0022Arial,fed\0022&12&[REPTXTLG]";
mso-footer-data:"&R&PV&N";
margin:1.0in .75in 1.0in .75in;
mso-header-margin:.5in;
mso-footer-margin:.5in;
mso-page-orientation:landscape;
-->
```

8. Page Breaks (Breaks in rows and in columns) are defined in the <x:PageBreaks> area.

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

Print Settings – Page Breaks

```
<!-- print settings for Web Printing with Excel
<x:PageBreaks>
    <x:ColBreaks>
        <x:ColBreak>
            <x:Column>9</x:Column>
            <x:RowEnd>78</x:RowEnd>
        </x:ColBreak>
    </x:ColBreaks>
    <x:RowBreaks>
        <x:RowBreak>
            <x:Row>42</x:Row>
            <x:ColEnd>15</x:ColEnd>
        </x:RowBreak>
    </x:RowBreaks>
</x:PageBreaks>
-->
```

9. Grid Lines (flexible bottom line) are defined in the <x:Print> area.

If no gridlines are required, remove <x:Gridlines/>.

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

Print Settings – Grid Lines

```
<!-- print settings for Web Printing with Excel
<x:Print>
    <x:Gridlines/>
    <!-- ... add more print settings here ... - remove this line -->
</x:Print>
-->
```

10. Column Widths are defined in the <x:ColWidths> area.

<x:ColWidths> is not an official Microsoft Office XML statement. It is a SAP BW-specific statement.

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not

Print Settings – Column Widths

```
<!-- print settings for Web Printing with Excel
<x:ColWidths>
    <col style='mso-width-source:auto'>
    <col width=200 style='mso-width-source:userset'>
    <col width=70 style='mso-width-source:userset'>
    <!-- ... add more columns here ... - remove this line -->
</x:ColWidths>
-->
```

copied correctly.

11. Define repeated rows and repeated columns in the area

`<x:RepeatedRows>` respectively
`<x:RepeatedCols>`.

`<x:RepeatedRows>` and
`<x:RepeatedCols>` are not official
Microsoft Office XML statements. They
are a SAP BW-specific statements.

Attention: Take care when you copy
sample coding into clipboard! Some
sign, e.g. quotation marks, might be not
copied correctly.

Print Settings – Hide Hierarchy Icons

```
<!-- print settings for Web Printing with Excel  
<x:RepeatedRows>  
    $1:$1  
</x:RepeatedRows>  
<x:RepeatedCols>  
    $A:$A  
</x:RepeatedCols>  
-->
```

12. Hide Hierarchy Icons is defined in the `<x:BW>` area.

`<x: BW >` is not an official Microsoft
Office XML statement. It is a SAP BW-
specific statement.

Attention: Take care when you copy
sample coding into clipboard! Some
sign, e.g. quotation marks, might be not
copied correctly.

Print Settings – Hide Hierarchy Icons

```
<!-- print settings for Web Printing with Excel  
<x:BW>  
    <hierarchy_icons hide=x>  
    <!-- ... add BW statements here ... - remove this line -->  
</x:BW>  
-->
```

3.8 Create print-specific BW Web Template (optional)

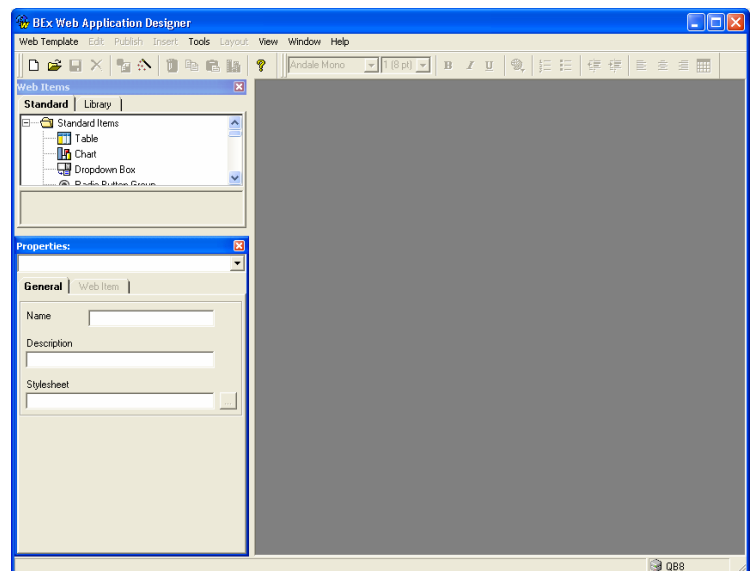
Print-specific BW Web Templates are useful if you wish a different output for the Web Browser and the print version. For example, the print version should contain more, less or other Web Items. It could be that your implementation of a BEx Web Design for Tables ABAP class differs between the Web and print version. Therefore you would like to specify different MODIFY_CLASS parameters.

| | |
|-----------------------------|--------------------|
| Web Template | ABC |
| Print-specific Web Template | ABC_<DEVICE_CLASS> |
| | ABC_ZXLS |

The placeholder <DEVICE_CLASS> consists of the<PREFIX> of your ABAP classes (by default “Z” in the transport) and “XLS”.

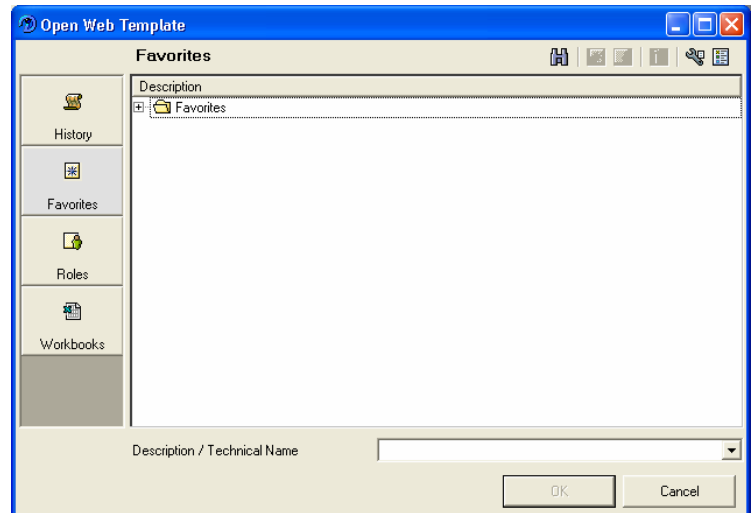
See documentation [Device-specific Web Template](#) for more details

1. Start BEx Web Application Designer with Start/Programs/Business Explorer/Web Application Designer.



2. Open an existing BW Web Template with File/Open or create a new BW Web Template with File/New.

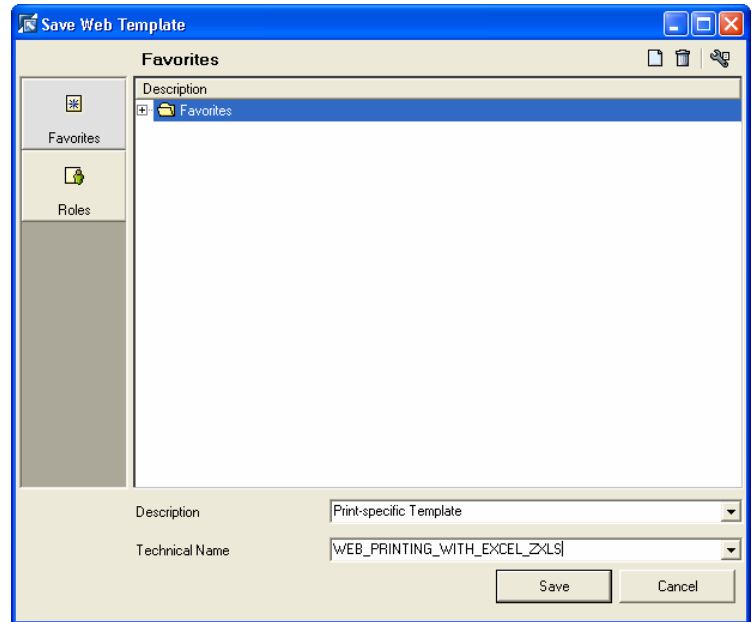
In case of a new BW Web Template, design your BW Web Template as normal and follow the next step.



3. Save the BW Web Template with File/Save as...

Append the `<DEVICE_CLASS>` to the technical name of the BW Web Template

You might change the content of the BW Web Template before (e.g. add or remove Web Items, change properties of Web Items, etc.).



4 Appendix

This appendix contains the following topics:

- 4.1 Sample BW Web Template
- 4.2 Change Print Cascading Style Sheet (CSS) in SAP BW Mime Repository
- 4.3 Change Cascading Style Sheet (CSS) styles for Microsoft Excel
- 4.4 Enable Open/Save dialog during export to Microsoft Excel
- 4.5 Using Web Protocol HTTPS with Web Printing with Microsoft Excel
- 4.6 Avoid Logon dialog for Hierarchy Icons

4.1 Sample BW Web Template

This is a sample BW Web Template.

In DATAPROVIDER_1 you have to replace QUERY <YOUR_QUERY> and INFOCUBE <YOUR_INFOCUBE> with your Query and InfoCube.

In TABLE_1 you have to set your prefix in HELP_SERVICE_CLASS <PREFIX> CL_RSR_WWW_HELP_WINDOW_PRINT.

In TEMPLATE PROPERTIES you have to replace TEMPLATE_ID <PREFIX> _WEB_PRINTING_WITH_EXCEL with your template ID.

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

```
<HTML>
<!-- BW data source object tags -->
<object>
  <param name="OWNER" value="SAP_BW"/>
  <param name="CMD" value="SET_DATA_PROVIDER"/>
  <param name="NAME" value="DATAPROVIDER_1"/>
  <param name="QUERY" value="<YOUR_QUERY>"/>
  <param name="INFOCUBE" value="<YOUR_INFOCUBE>"/>
  DATA_PROVIDER:      DATAPROVIDER_1
</object>

<object>
  <param name="OWNER" value="SAP_BW"/>
  <param name="CMD" value="SET_PROPERTIES"/>
  <param name="TEMPLATE_ID" value="<PREFIX>WEB_PRINTING_WITH_EXCEL"/>
  TEMPLATE PROPERTIES
</object>

<HEAD>
<META NAME="GENERATOR" Content="Microsoft DHTML Editing Control">
<TITLE>BW Web Application</TITLE>
  <link href="/sap/bw/Mime/BEx/StyleSheets/Meadow_BWReports.css" type="text/css" rel="stylesheet"/>
  <link href="/sap/bw/Mime/Custom/StyleSheets/BWReports_Excel_print.css" type="text/css" rel="stylesheet"
media="print"/>
  <script language="JavaScript">
SAPBWAddToMenu("Web Printing with Excel","myMenuProcessor","1","","","X","BOTTOM","","");
// Command Processing
function myMenuProcessor(parameter,cell_type,filter,parameter1,parameter2,item,dataprovider,x,y)
{
  switch (parameter) {
    case "1":
```

```

        SAPBWOpenURL(SAP_BW_URL_Get())+"&CMD=PROCESS_HELP_WINDOW&help_service=HELP_S
SERVICE_PRINT&item=TABLE_1&subcmd=PRINT_EXCEL");
        break;
    }
}
</script>
</HEAD>
<BODY>
<table><tr><td class="SAPBEXBtnStdBorder" cellspacing="0" cellpadding="0" border="0">
    <table><tr><td class="SAPBEXBtnStd" cellspacing="0" cellpadding="0" border="0">
        <A href="<sap_bw_url cmd='PROCESS_HELP_WINDOW' help_service='HELP_SERVICE_PRINT'
item='TABLE_1' subcmd='PRINT_EXCEL'>">
Web Printing with Excel</A>
    </td></tr></table>
</td></tr></table>
<P><object>
    <param name="OWNER" value="SAP_BW"/>
    <param name="CMD" value="GET_ITEM"/>
    <param name="NAME" value="NAVIGATIONBLOCK_1"/>
    <param name="ITEM_CLASS" value="CL_RSR_WWW_ITEM_NAV_BLOCK"/>
    <param name="DATA_PROVIDER" value="DATAPROVIDER_1"/>
    ITEM:      NAVIGATIONBLOCK_1
</object>
</P>
<P><object>
    <param name="OWNER" value="SAP_BW"/>
    <param name="CMD" value="GET_ITEM"/>
    <param name="NAME" value="TABLE_1"/>
    <param name="ITEM_CLASS" value="CL_RSR_WWW_ITEM_GRID"/>
    <param name="DATA_PROVIDER" value="DATAPROVIDER_1"/>
    <param name="HELP_SERVICE" value="HELP_SERVICE_PRINT"/>
    <param name="HELP_SERVICE_CLASS" value="<PREFIX>CL_RSR_XLS_HELP_WINDOW_PRINT"/>
    ITEM:      TABLE_1
</object></P>
<!-- Settings for Web Printing with Excel
// header with logo, footer, page orientation, margin, ...
@page
    {mso-header-data:"&L&\0022Arial,Fett\0022&12&G&C&\0022Arial,Fett\0022&14<&[REPTXTLG]> und
<&[DATAPROVIDER_1/REPTXTLG]>";
    mso-footer-data:"&R&A";
    margin:1.0in .75in 1.0in .75in;
    mso-header-margin:.5in;
    mso-footer-margin:.5in;}
// fit to page, grid lines, logo (header picture)
<x:Print>
<x:FitWidth>1</x:FitWidth>
<x:FitHeight>2</x:FitHeight>
<x:ValidPrinterInfo/>
<x:PaperSizeIndex>9</x:PaperSizeIndex>
<x:Scale>86</x:Scale>
<x:HorizontalResolution>600</x:HorizontalResolution>
<x:VerticalResolution>600</x:VerticalResolution>
<x:Gridlines/>
<x:HeaderPicture>
<x:Location>Left</x:Location>
<x:Source>http://www.sap.com/global/images/sap_logo.gif</x:Source>
<x:Height>37</x:Height>
<x:Width>73</x:Width>
<x:LockAspectRatio/>
<x:ColorType>Automatic</x:ColorType>
</x:HeaderPicture>
</x:Print>
// page breaks
<x:PageBreaks>
<x:ColBreaks>
<x:ColBreak>
<x:Column>9</x:Column>
<x:RowEnd>78</x:RowEnd>
</x:ColBreak>
</x:ColBreaks>
<x:RowBreaks>

```

```

<x:RowBreak>
<x:Row>42</x:Row>
<x:ColEnd>15</x:ColEnd>
</x:RowBreak>
</x:RowBreaks>
</x:PageBreaks>
// column widths
<x:ColWidths>
<col style='mso-width-source:auto'>
<col style='mso-width-source:auto'>
<col style='mso-width-source:auto'>
<col width=200 style='mso-width-source:userset'>
<col width=100 style='mso-width-source:userset'>
</x:ColWidths>
// Repeated Rows
<x:RepeatedRows>
    $2:$2
</x:RepeatedRows>
// Repeated Cols
<x:RepeatedCols>
    $B:$B
</x:RepeatedCols>
// BW parameters
<x:BW>
    <hierarchy_icons hide=>
</x:BW>
-->
</BODY>
</HTML>

```

Attention: Take care when you copy sample coding into clipboard! Some sign, e.g. quotation marks, might be not copied correctly.

4.2 Change Print Cascading Style Sheet (CSS) in SAP BW Mime Repository

Perform the following general steps to change the appearance of a style in a Cascading Style Sheet (CSS) used by a BEx Web Application:

1. Run BEx Web Application in Web Browser
2. View Source
3. Search for content of specific cell (do not search for content that is wrap over several lines because a
 could be between the lines)
4. Search backward to next "class=" statement to retrieve the BW style class name
5. Use transaction Object Navigator (transaction code SE80) to locate Cascading Style Sheet (CSS) in the Mime Repository (normally under SAP/...(PUBLIC)/BW/...(BEx or Customer)/StyleSheets)
6. Use context menu Change to open the Cascading Style Sheet (CSS) from the Mime Repository
7. Search for the BW style class name
8. Adjust the definition of the style class
9. Save the CSS file back in the Mime Repository
10. Use transaction ICM Monitor (transaction code SMICM) to reset the SAP Web Application Server Cache (see OSS note 529241)
11. Choose Goto/HTTP Server Cache/Invalidate/Global in System
12. Run BEx Web Application in Web Browser again

These steps are also valid and required when you would like to change styles for usage in Microsoft Excel (as described below).

4.3 Change Cascading Style Sheet (CSS) styles for Microsoft Excel

The solution Web Printing with Microsoft Excel is using the Cascading Style Sheet (CSS) to format the cells in Microsoft Excel. Microsoft Excel is supporting Cascading Style Sheet (CSS) in their proprietary Microsoft Office HTML/XML-specific format. The description below helps you to find the right style class in a Cascading Style Sheet (CSS) and to change it. If you save a Microsoft Excel file in the HTML/XML-specific format, all style class names are changed by Microsoft Excel. Therefore you have to remap the Microsoft Excel style class name to the original SAP BW style class name after you formatted the cell in Microsoft Excel.

The following steps are describing how to change a specific Cascading Style Sheet (CSS) style class that should be used in Microsoft Excel:

1. Use Microsoft Excel's Save as Web Page to get a original generated Microsoft Excel file to your hard drive
2. Open original generated Microsoft Excel file in Microsoft Excel
3. Change formatting of cells in Microsoft Excel (using the normal Microsoft Excel functionality)
4. Remember cell content of changed cell
5. Save Microsoft Excel file as Web Page under a new file name
6. Open original generated Microsoft Excel file in Notepad
7. Search for cell content to retrieve BW class name of style (used by SAP BW)
8. Open saved Microsoft Excel file in Notepad

9. Search for cell content to retrieve Microsoft Excel class name of style (newly generated by Microsoft Excel) (e.g. .xl23)
10. Search for class name of style from the beginning of the saved Microsoft Excel file to get the definition of style
11. Copy definition of style under the SAP BW style class name in the printing-specific Cascading Style Sheet (CSS)
12. Finally, you have to upload CSS file back to the Mime Repository (see 4.2 Change Print Cascading Style Sheet (CSS) in SAP BW Mime Repository, step 8 and following)

Note: Do not copy mso-pattern:auto:none to the style sheet because this is added automatically during the export to Microsoft Excel.

4.4 Enable Open/Save dialog during export to Microsoft Excel

Perform the following steps to enable the Open/Save dialog during the export to Excel:

1. Start Windows Explorer
2. Choose menu “Tools/Folder Options“
3. Select register “Files Types“
4. Choose extension “.XLS“
5. Click button “Advanced“
6. Enable “Confirm open after download“

If the button “Advanced“ is disabled, change the following registry key.

[HKEY_CLASSES_ROOT\Excel.Sheet.8]

"EditFlags"=dword:00000000 (new value)

"EditFlags"=dword:00010000 (old value)

<http://support.microsoft.com/default.aspx?scid=kb;en-us;140991>

4.5 Using Web Protocol HTTPS with Web Printing with Microsoft Excel

In case you are using the web protocol HTTPS, you have to perform the following steps to enable Microsoft Internet Explorer to save the exported file:

1. Start Internet Explorer
2. Choose menu “Tools/Internet Options“
3. Select register “Advanced“
4. Uncheck option “Do not save encrypted pages to disk” under section “Security“

This allows Internet Explorer to save the content to a file.

4.6 Avoid Logon dialog for Hierarchy Icons

If you try to print a BEx Web Application which contains a hierarchy, a logon dialog might appear in Microsoft Excel to retrieve the hierarchy icons from SAP BW.

Please have a look at OSS note 653099 to avoid this logon dialog.

www.sdn.sap.com/irj/sdn/howtoguides