



# How To... Copy & Paste in BEx Web Applications

Applicable Releases:

SAP NetWeaver 7.0

IT Practice:

Business Information Management

IT Scenario:

Business Planning and Analytical Services

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## Document History

<b>Document Version</b>	<b>Description</b>
1.00	Official release of this guide

## Typographic Conventions

Type Style	Description
<i>Example Text</i>	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options.  Cross-references to other documentation
<b>Example text</b>	Emphasized words or phrases in body text, graphic titles, and table titles
Example text	File and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
<b>Example text</b>	User entry texts. These are words or characters that you enter in the system exactly as they appear in the documentation.
<b>&lt;Example text&gt;</b>	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE TEXT	Keys on the keyboard, for example, F2 or ENTER.

## Icons





Icon	Description
	Caution
	Note or Important
	Example
	Recommendation or Tip

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## 1. Business Scenario

You are using BEx Web Applications for planning. As the data to be entered is frequently taken from other sources like MS Excel you like to paste values into cells of the input ready query. This How to Guide describes a JavaScript implementation to add this functionality to BEx WebApplications.

## 2. Background Information

The implementation allows selecting a cell range by a single left mouse click for the left upper and shift left click for the bottom right corner. This is the same pattern as known from Microsoft Excel.

The selected cells are highlighted as shown in the screenshot.

**Revaluate**

10 Revaluate Copy Paste Clear Selected Cells

Account number ⇅		Amount ⇅
		EUR
5100	Direct Labor Costs	
2000	Accounts Payable	
1520	Vehicules	
1100	Accounts Receivable	123,00
Overall Result		123,00

Press *Copy* to transfer the content of the highlighted cells to the Microsoft Windows clipboard. Use the standard paste functionality like CTRL+V to move it to your target application (e.g. Microsoft Excel).

The *Paste* button requires text located in the Microsoft Windows clipboard. Insertion point in the analysis item is a single highlighted cell. Cells not ready for input are skipped. Please note that the *Paste* button works in the context of an analysis item only.

The *Clear* button is an example for a simple function deleting the content of highlighted cells. You could take this a sample implementation to create your own functions that use or modify cell content like revaluations, calculating totals and averages, etc.

```
function sapbi_rig_cp_clear(){
  var info = sapbi_rig_cp_inf;
  if (sapbi_rig_cp_isValidState(info) === false){
    alert("Selection not defined properly.");
    return;
  }
  var cell;
  for(var cntSel = 0; cntSel<info.activeSel.length; cntSel++){
    cell = document.getElementById(info.activeSel[cntSel][0]);
    sapbi_rig_cp_setContent(cell, "");
  }
}
```

### 3. Prerequisites

The JavaScript requires the permission to access the windows clipboard object. If the access right is not given the JavaScript described in this HowTo prompts you that copy or paste can't be performed. In such a case please contact your system administrator.

Details about clipboard access from JavaScript and informations about granting access rights can be found here:

IE 7.0 and Clipboard [http://msdn.microsoft.com/en-us/library/bb250473\(VS.85\).aspx](http://msdn.microsoft.com/en-us/library/bb250473(VS.85).aspx)

IE 6.0 and Clipboard <http://support.microsoft.com/kb/224993>

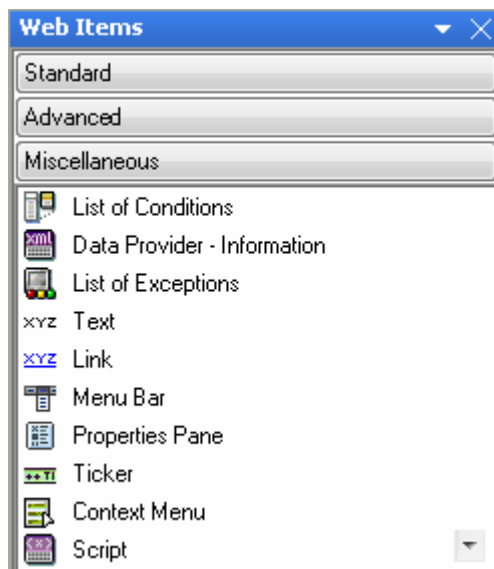
FireFox [http://kb.mozillazine.org/Granting\\_JavaScript\\_access\\_to\\_the\\_clipboard](http://kb.mozillazine.org/Granting_JavaScript_access_to_the_clipboard)

## 4. Step-by-Step Procedure

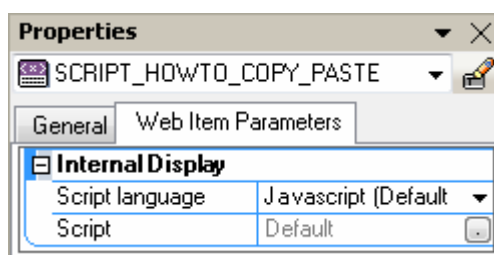
There are two things to do: First insert the JavaScript given in the appendix / extra file into a script item of the WAD. Secondly insert buttons for copy, paste and clear into the BEx Web Application.

### 4.1 Inserting the Java Script

1. Open your BEx Web Application you like to enhance.
2. Insert a java script item located in the miscellaneous group of Web Items



3. Change the default name to SCRIPT\_HOWTO\_COPY\_PASTE

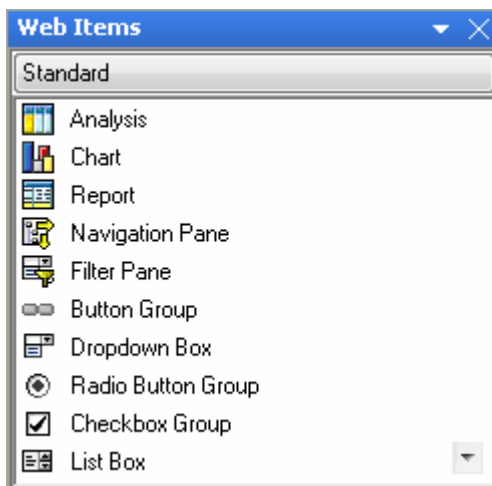


4. Choose the value help button in the property section – line Script. As a result an editor will
5. Pop-up.
6. Paste the JavaScript source code into the pop-up.
7. Save the current setup

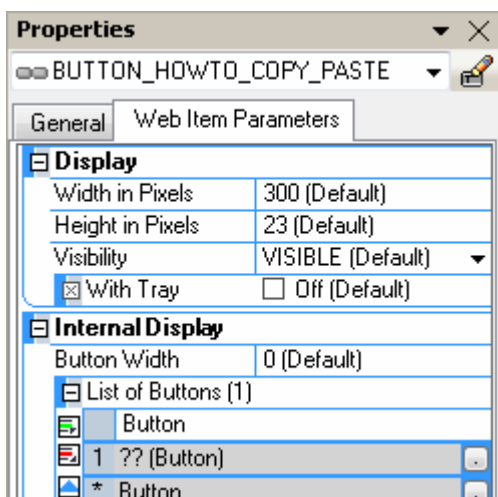


## 4.2 Insert Buttons to Trigger new Actions

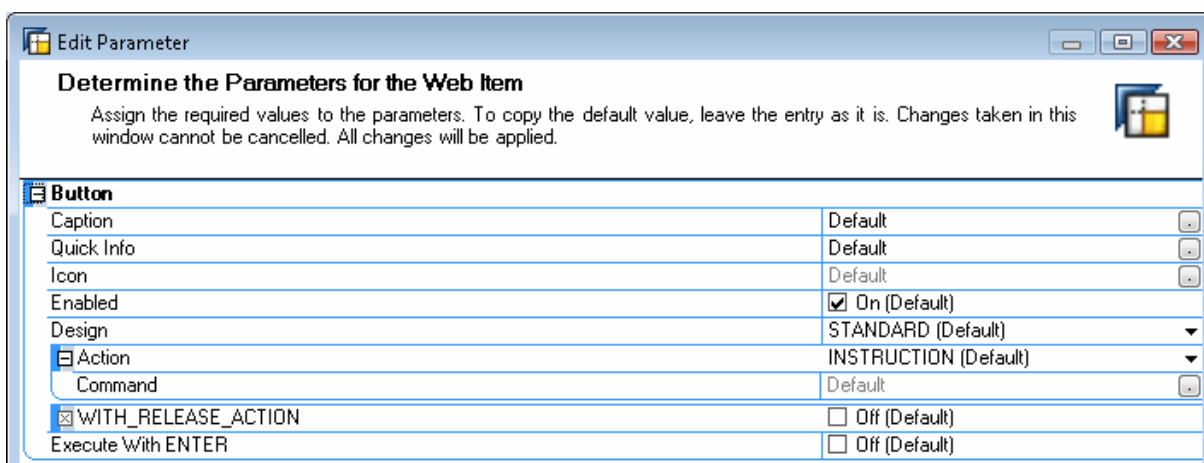
1. Insert a button Group Item from the standard group



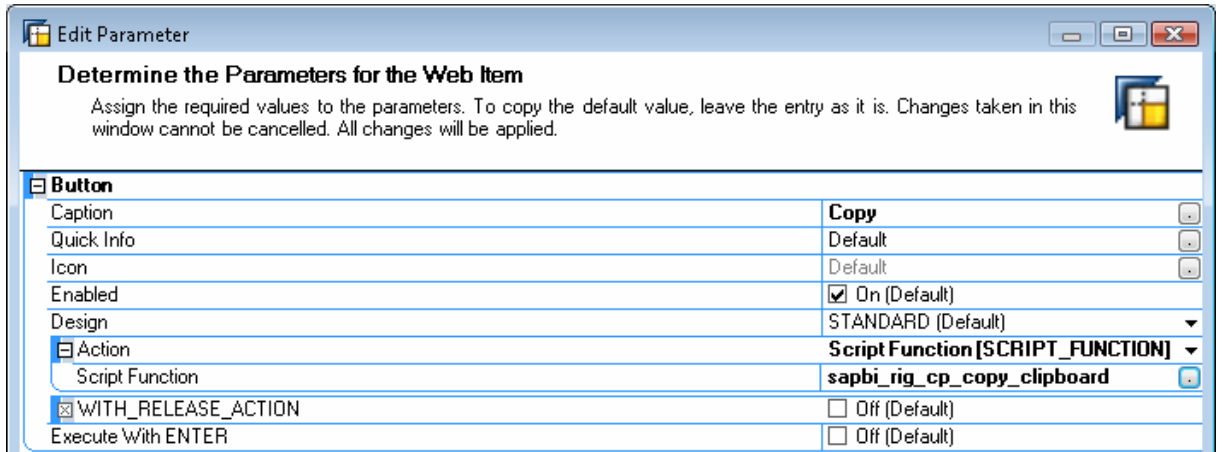
2. Rename the item to BUTTON\_HOWTO\_COPY\_PASTE



3. Now we insert the copy button. Trigger the dialog via the value help in line 1 of the button section. A dialog comes up like this:



4. Change the properties for caption, action and script function as shown in bold here:



Determine the Parameters for the Web Item	
Assign the required values to the parameters. To copy the default value, leave the entry as it is. Changes taken in this window cannot be cancelled. All changes will be applied.	
<b>Button</b>	
Caption	<b>Copy</b>
Quick Info	Default
Icon	Default
Enabled	<input checked="" type="checkbox"/> On (Default)
Design	STANDARD (Default)
<b>Action</b>	<b>Script Function [SCRIPT_FUNCTION]</b>
Script Function	<b>sapbi_rig_cp_copy_clipboard</b>
<input checked="" type="checkbox"/> WITH_RELEASE_ACTION	<input type="checkbox"/> Off (Default)
Execute With ENTER	<input type="checkbox"/> Off (Default)

Caption: Copy

Action: Script Function

Script Function: sapbi\_rig\_cp\_copy\_clipboard

5. Repeat the step for the paste function using the following values:

Caption: Paste

Action: Script Function

Script Function: sapbi\_rig\_cp\_paste\_clipboard

6. Repeat the step for the delete function using the following values:

Caption: Delete

Action: Script Function

Script Function: sapbi\_rig\_cp\_clear

7. Save the results.

## 5. Appendix

### Appendix A – Source Code

```
// -----
// Copy and Paste for SAP BI Analysis Item
// last change by: Olaf Fischer, SAP AG - 24.7.2008
// -----
// Functionality: selecting a rectangle in Analysis Item
// - mouse click and shift click to define
// - paste: select single cell and paste
// - paste: select multi cell and paste will fill all with identical content
// - paste: select multi and paste multi - message!
// - paste ignores table fields which are not input enabled (no tagName 'INPUT')
// -----

// List of global dependencies:
/*jslint browser: true */
/*global
  sapUrMapi_SapTable_setCellSelection,  sapUrMapi_Table_getClickedRowIndex,
  sapUrMapi_Table_getClickedColIndex,  sapUrMapi_SapTable_getClickedCellId,
  sapUrMapi_SapTableSelectCell,       sapUrMapi_SapTable_getClickedColIndex,
  sapUrMapi_SapTable_getClickedRowIndex, sapUrMapi_Table_getClickedCellId,
  UR_SELECTION_STATE, ur_Table_create */

var sapbi_rig_cp_inf = [];
sapbi_rig_cp_inf.top = -1;
sapbi_rig_cp_inf.left = -1;
sapbi_rig_cp_inf.bottom = -1;
sapbi_rig_cp_inf.right = -1;
sapbi_rig_cp_inf.activeSel = [];
sapbi_rig_cp_inf.activeTabId = "";
sapbi_rig_cp_inf.brwsType = "";

// Check if state is OK to perform copy or paste action
// -----
function sapbi_rig_cp_isValidState(info){
  if (info.top === -1 || info.bottom === -1 || info.left === -1 || info.right === -
1){
    return false;
  }
  if (info.activeTabID === "" || info.activeSel.length === 0){
    return false;
  }
}

function sapbi_rig_cp_getTableId(src){
  var cellId;
  if (sapbi_rig_cp_inf.brwsType === "IE"){
    cellId = sapUrMapi_SapTable_getClickedCellId(src);
  } else {
    cellId = sapUrMapi_Table_getClickedCellId("",src);
  }
  var cell = document.getElementById(cellId);
  var parentTbl = cell;
  while (parentTbl !== null && parentTbl.tagName !== "TABLE"){
    parentTbl = parentTbl.parentNode;
  }
  parentTbl = parentTbl.parentNode;
  while (parentTbl !== null && parentTbl.tagName !== "TABLE"){
    parentTbl = parentTbl.parentNode;
  }
  if (parentTbl === null){
    return "";
  } else {

```

```

    return parentTbl.id;
  }
}

// Set selection coordinates and activeItem based on src-element
// -----
function sapbi_rig_cp_onclick(row, col, tabId, shiftKey, info){

  if (shiftKey !== true || info.activeTabId !== tabId){
    info.top    = row;
    info.left   = col;
    info.bottom = row;
    info.right  = col;
    info.activeTabId = tabId;
  } else {
    if (info.top === -1 || info.left === -1){
      info.top    = row;
      info.left   = col;
    } else {
      // sort coordinates
      if (info.top > row){
        info.bottom = info.top;
        info.top = row;
      } else {
        info.bottom = row;
      }
      if (info.left > col){
        info.right = info.right;
        info.left = col;
      } else {
        info.right = col;
      }
    }
  }
}

// Store IDs of selected cells and perform highlighting
// -----
function sapbi_rig_cp_highlight(on, info){

  // clear previous selection
  var TDInfo = [];
  if (info.activeSel !== undefined){
    var cntDelMax = info.activeSel.length;
    for (var cntDel = 0; cntDel < cntDelMax; cntDel++){
      TDInfo = info.activeSel.pop();
      var refTD = document.getElementById(TDInfo[0]);
      if (refTD !== null){
        if (sapbi_rig_cp_inf.brwsType === "IE"){
          sapUrMapi_SapTable_setCellSelection(refTD, UR_SELECTION_STATE.NOT_SELECTED);
        } else {
          sapUrMapi_SapTableSelectCell(refTD, false, false, true);
        }
      }
    }
  }
  if (on === false){return;}

  // set new selection
  var refTbl = ur_Table_create(info.activeTabId);
  if (refTbl === null){alert("ur model not found"); return;}

  for (var cntRow = info.top; cntRow <= info.bottom; cntRow++){
    for (var cntCol = info.left; cntCol <= info.right; cntCol++){
      refTD = refTbl.rows[cntRow].cells[cntCol].ref;
      if (refTD !== null){
        if (sapbi_rig_cp_inf.brwsType === "IE"){
          sapUrMapi_SapTable_setCellSelection(refTD, UR_SELECTION_STATE.SECONDARY);
        }
      }
    }
  }
}

```

```

    }else{
        sapUrMapi_SapTableSelectCell(refTD,false,true,true);
    }

    TDInfo = [];
    TDInfo[0] = refTD.id;
    TDInfo[1] = cntRow;
    TDInfo[2] = cntCol;
    info.activeSel.push(TDInfo);
}
}
}
}
// Handler for OnClick Event
// -----
function sapbi_rig_cp_onclickHandler(e){

    var src;
    var sId;
    if (sapbi_rig_cp_inf.brwsType === "IE"){
        e = window.event;
        src = e.srcElement;
    } else{
        src = e.target;
    }
    var shiftKey = e.shiftKey;

    if (src === null || src.tagName === 'BODY' || src.tagName === 'HTML'){
        sapbi_rig_cp_highlight(false, sapbi_rig_cp_inf);
        return;
    }
    var row;
    var col;
    if (sapbi_rig_cp_inf.brwsType === "IE"){
        row = sapUrMapi_SapTable_getClickedRowIndex(e);
        col = sapUrMapi_SapTable_getClickedColIndex(e);
    } else {
        var cellRef = document.getElementById(sapUrMapi_Table_getClickedCellId("",e));
        if (cellRef !== null){
            row = cellRef.getAttribute("rr");
            col = cellRef.getAttribute("cc");
        }
    }
    if (isNaN(row) || isNaN(col)){
        return;
    }
    var tabId = sapbi_rig_cp_getTableId(e);
    sapbi_rig_cp_onclick(row, col, tabId, shiftKey,sapbi_rig_cp_inf);
    sapbi_rig_cp_highlight(true, sapbi_rig_cp_inf);
}

if (typeof( window.addEventListener ) != "undefined" ){
    sapbi_rig_cp_inf.brwsType = "NN";
    document.addEventListener('click',sapbi_rig_cp_onclickHandler,false);
} else {
    sapbi_rig_cp_inf.brwsType = "IE";
    document.body.attachEvent('onclick', sapbi_rig_cp_onclickHandler);
}

function sapbi_rig_cp_getContent(cell){
    if (cell === null){return "";}
    var inputField = cell.getElementsByTagName("INPUT");
    if (inputField.length === 0){
    if (sapbi_rig_cp_inf.brwsType === "IE"){
        return cell.innerText;
    }else{
        return cell.textContent;
    }
}

```

```

}
}else{
    return inputField[0].value;
}
}

function sapbi_rig_cp_setContent(cell, value){
    if (cell === null){return;}
    var inputField = cell.getElementsByTagName("INPUT");
    if (inputField.length !== 0){
        inputField[0].value = value;
    }
    if (sapbi_rig_cp_inf.brwsType === "IE"){
        inputField[0].fireEvent('onchange');
    }else{
        var evt = document.createEvent("HTMLEvents");
        evt.initEvent('change', true, true );
        inputField[0].dispatchEvent(evt);
    }
}

// Copy data to clipboard (including input-field handling)
// -----
function sapbi_rig_cp_copy_clipboard(){
    var info = sapbi_rig_cp_inf;
    if (sapbi_rig_cp_isValidState(info) === false){
        alert("Selection not defined properly.");
        return;
    }
    var refTD;
    var ClipBoardStr = "";
    var refTbl = ur_Table_create(info.activeTabId);
    if (refTbl === null){alert("ur model not found"); return;}

    for (var cntRow = info.top; cntRow<=info.bottom; cntRow++){
        for(var cntCol = info.left; cntCol<=info.right; cntCol++){
            refTD = refTbl.rows[cntRow].cells[cntCol].ref;
            ClipBoardStr = ClipBoardStr + sapbi_rig_cp_getContent(refTD);
            if (cntCol < info.right){
                ClipBoardStr = ClipBoardStr + "\t";
            }
        }
        if (cntRow < info.bottom){
            ClipBoardStr = ClipBoardStr + "\n";
        }
    }
    // alert("ClipBoardStr"+ClipBoardStr);
    if (ClipBoardStr.length > 0){
        var retCode = window.clipboardData.setData("Text",ClipBoardStr);
        if (retCode === false){
            alert("Access to clipboard not successful - potential reason: security doesn't
allow access.");
        }
    }
}

function sapbi_rig_cp_paste_clipboard(){
    var info = sapbi_rig_cp_inf;
    if (sapbi_rig_cp_isValidState(info) === false){
        alert("Selection not defined properly.");
        return;
    }
    if (!window.clipboardData) {
        alert("Access to clipboard not successful - potential reason: security doesn't
allow access.");
        return;
    }
}

```

```

var clipBoardData = window.clipboardData.getData("Text");

var selSingle = (info.activeSel.length === 1);
var clpHasRows = (clipBoardData.indexOf("\n") !== -1);
var clpHasCols = (clipBoardData.indexOf("\t") !== -1);
var clpSingle = (clpHasRows === false && clpHasCols === false);

var cell;
if (clpSingle === true){
    for(var cntSel = 0; cntSel<info.activeSel.length; cntSel++){
        cell = document.getElementById(info.activeSel[cntSel][0]);
        sapbi_rig_cp_setContent(cell, clipBoardData);
    }
    return;
}

if (selSingle === true){
    var clipCol;
    var cellTD;
    var clipRow = clipBoardData.split("\n");
    var refTbl = ur_Table_create(info.activeTabId);

    var maxRows = (refTbl.rows.length - info.activeSel[0][1]) ;
    if (maxRows > clipRow.length){
        maxRows = clipRow.length;
    }
    var maxCols;

    for (var rowCnt = 0; rowCnt < maxRows ; rowCnt++){
        clipCol = clipRow[rowCnt].split("\t");
        maxCols = (refTbl.cols.length - info.activeSel[0][2]);
        if (maxCols > clipCol.length){
            maxCols = clipCol.length;
        }
        for (var colCnt = 0; colCnt < maxCols; colCnt++){
            cellTD = refTbl.rows[rowCnt+info.top].cells[colCnt+info.left].ref;
            sapbi_rig_cp_setContent(cellTD, clipCol[colCnt]);
        }
    }
    return;
}

alert("Ranges from selection and clipboard doesn't fit");
return;
}

function sapbi_rig_cp_clear(){
    var info = sapbi_rig_cp_inf;
    if (sapbi_rig_cp_isValidState(info) === false){
        alert("Selection not defined properly.");
        return;
    }
    var cell;
    for(var cntSel = 0; cntSel<info.activeSel.length; cntSel++){
        cell = document.getElementById(info.activeSel[cntSel][0]);
        sapbi_rig_cp_setContent(cell, "");
    }
}

```

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