



Week 4: Further Topics

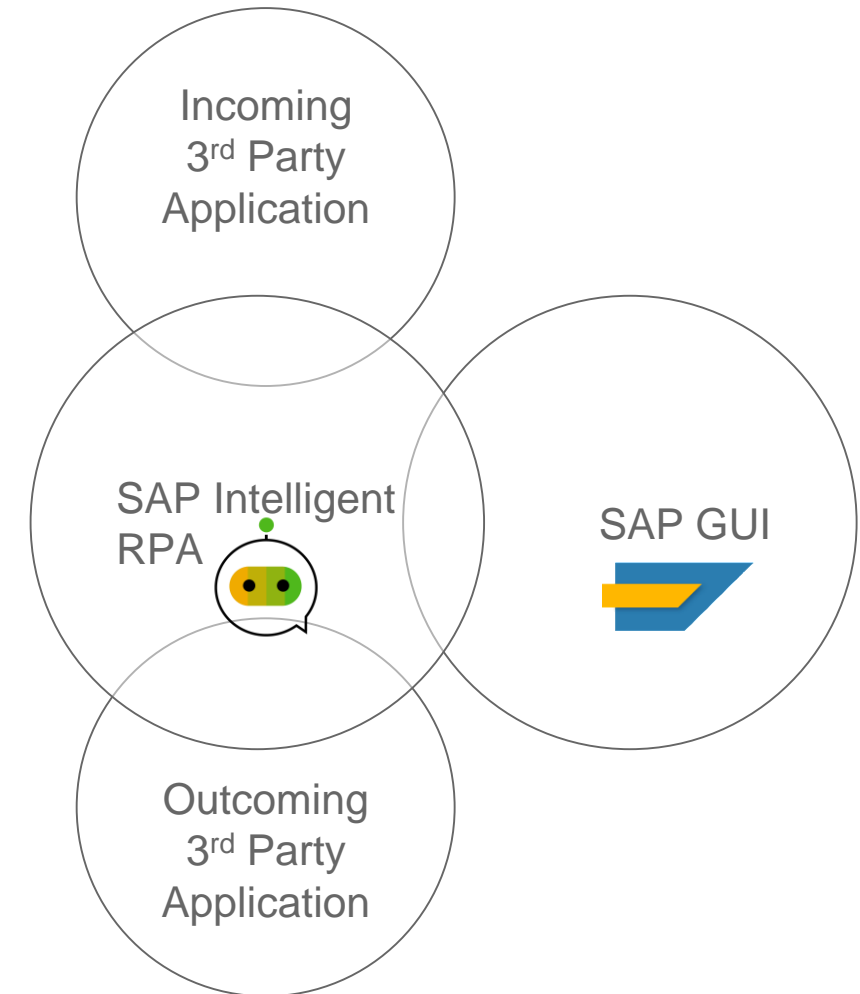
Unit 1: SAP Connector – SAP GUI

SAP Connector – SAP GUI

Overview

SAP Intelligent Robotic Process Automation provides a dedicated driver for enabling end-to-end business processes

- SAP GUI Scripting allows to automate SAP GUI
- SAP Intelligent RPA allows to automate SAP GUI and beyond



SAP Connector – SAP GUI

SAP GUI Scripting

SAP GUI Scripting



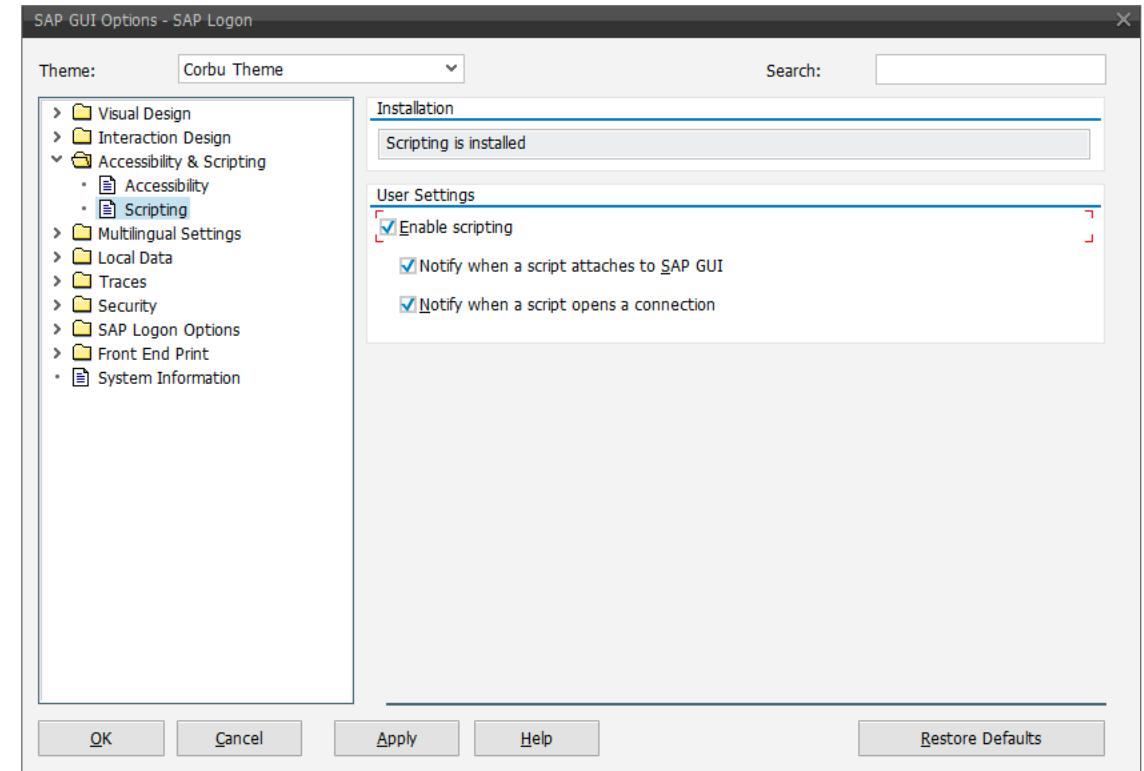
SAP Connector – SAP GUI

Enable SAP GUI Scripting

Check and enable scripting “client side”

Check if scripting is enabled

- Uncheck “Notify when a script attaches to SAP GUI”
- Uncheck “Notify when a script opens a connection”



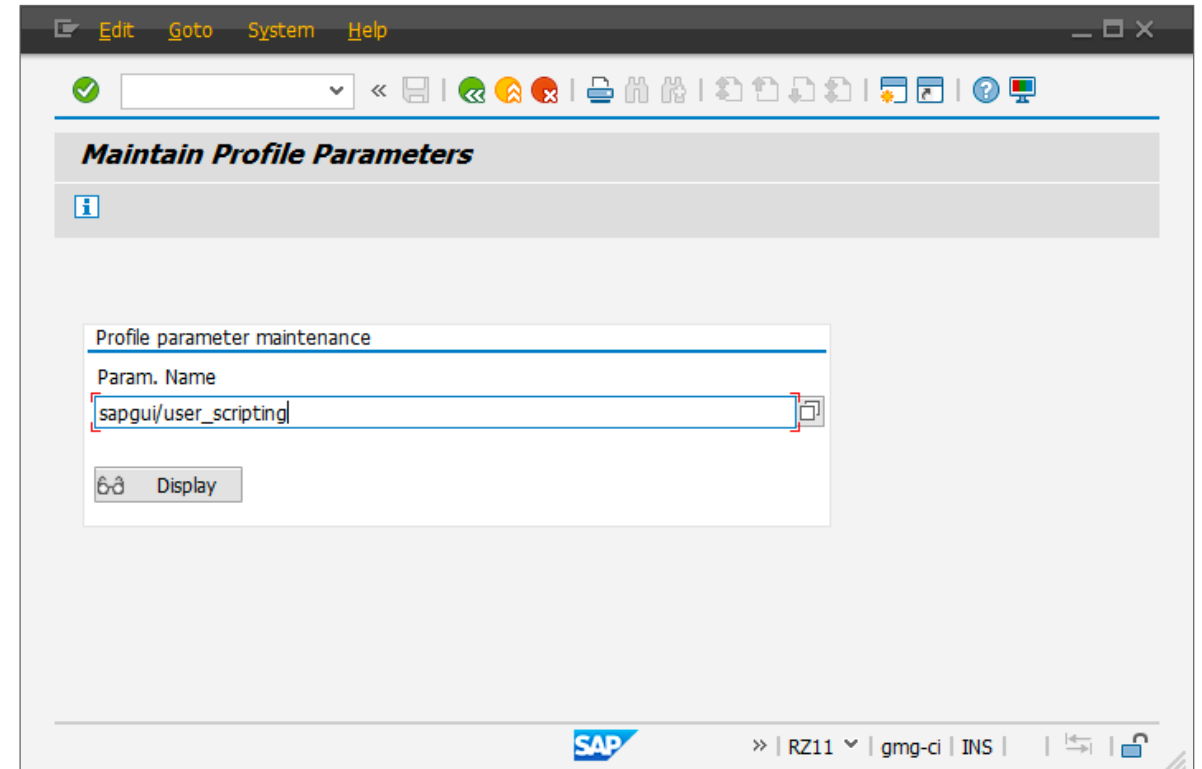
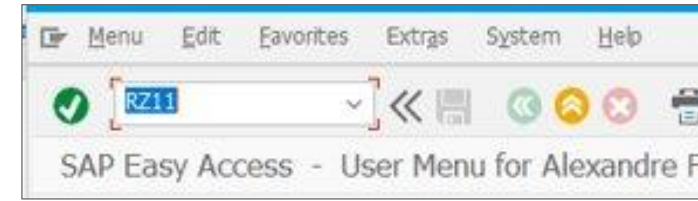
SAP Connector – SAP GUI

Enable SAP GUI Scripting

How to enable scripting “server side”

Enable scripting (server side)

- Launch transaction RZ11
- Enter `sapgui/user_scripting`
- Click Display



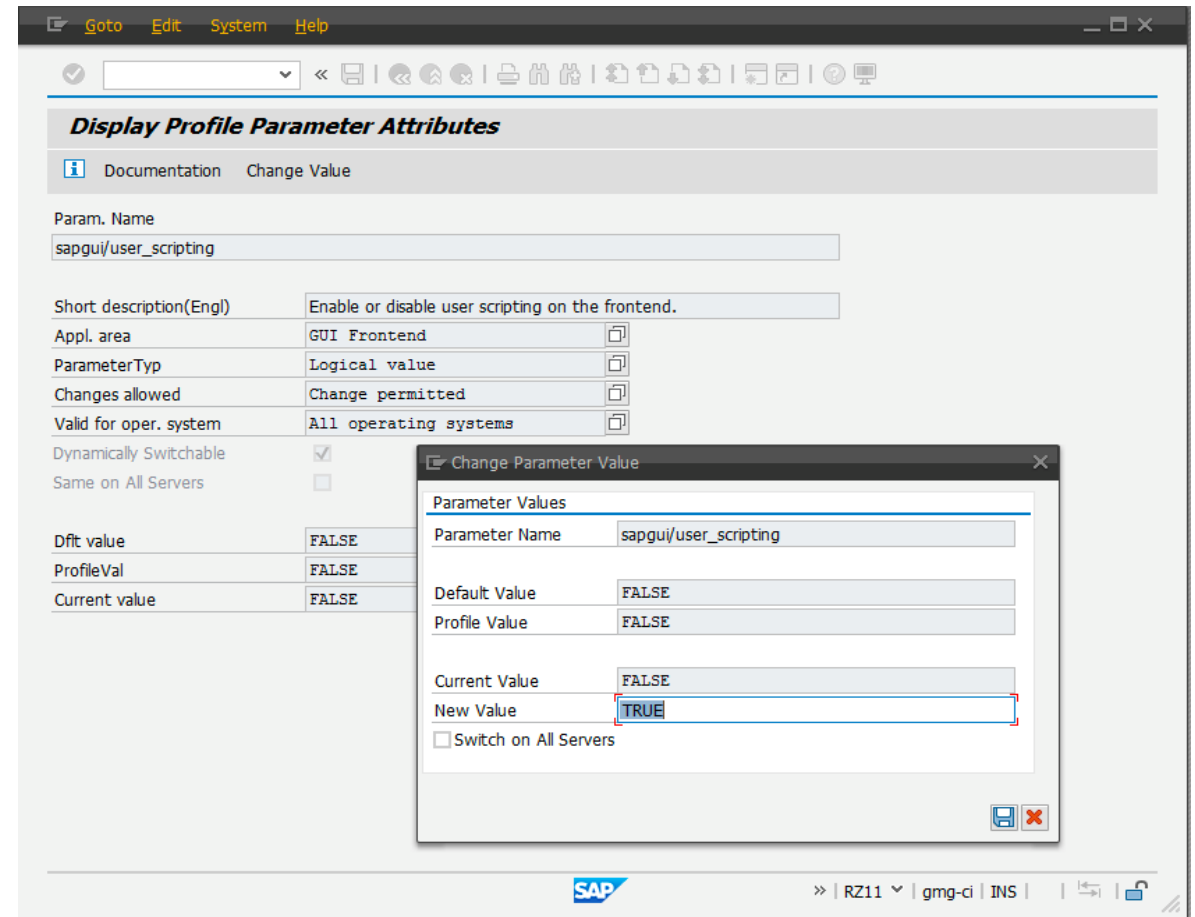
SAP Connector – SAP GUI

Enable SAP GUI Scripting

How to enable scripting

Within Display Profile Parameter Attributes

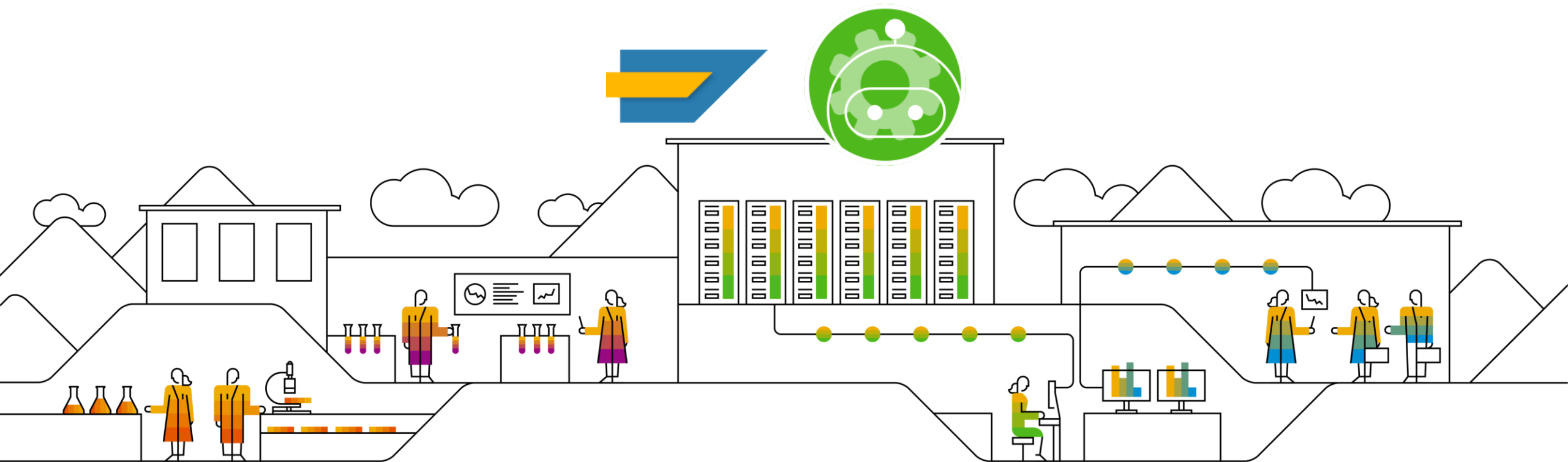
- Choose Change Value
- Enter TRUE in the new value field
- Click Save



SAP Connector – SAP GUI

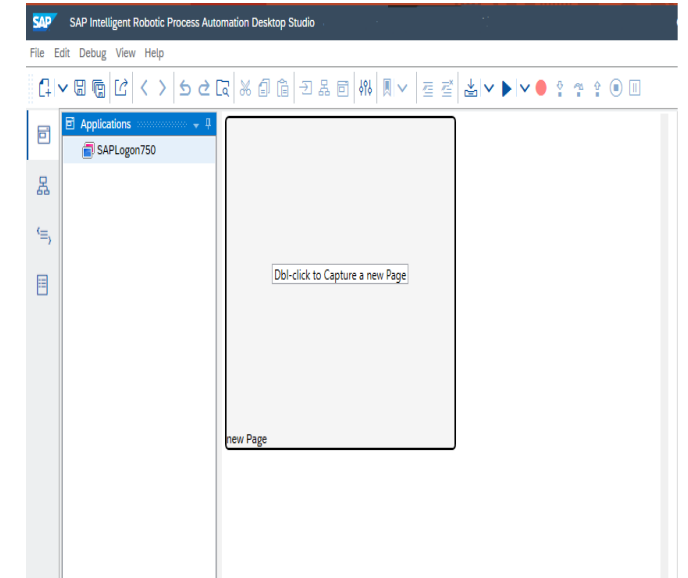
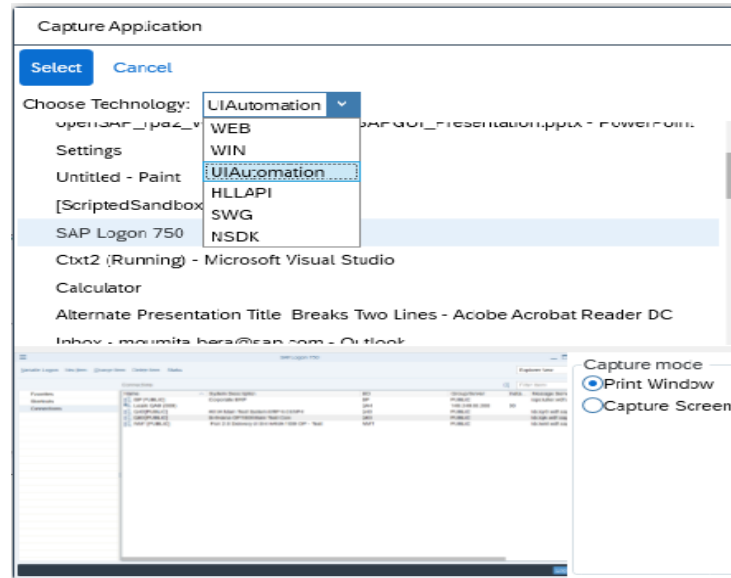
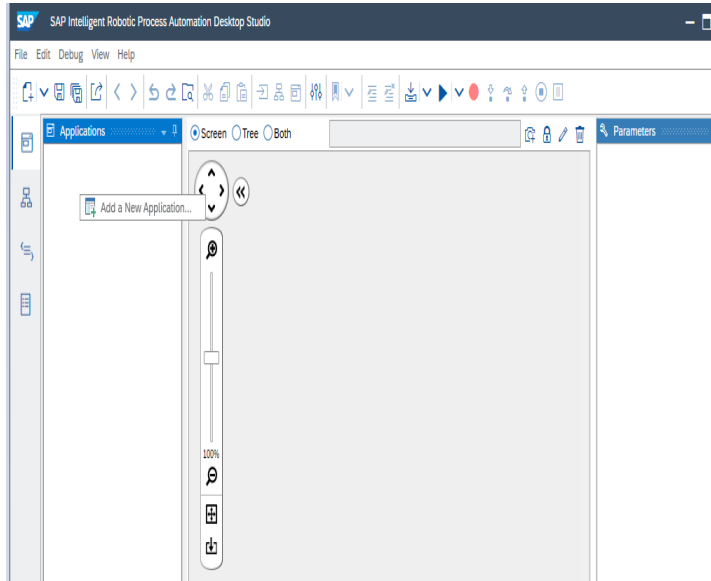
Capture in Desktop Studio

SAP GUI + Desktop **Studio**



SAP Connector – SAP GUI

Desktop Studio – Application capture



Launch the Studio

- Launch the SAP GUI for Windows
- Create a new project
- Right-click “Add a new Application”

- Choose the UIAutomation technology driver
- Select the SAPLogon application in the list

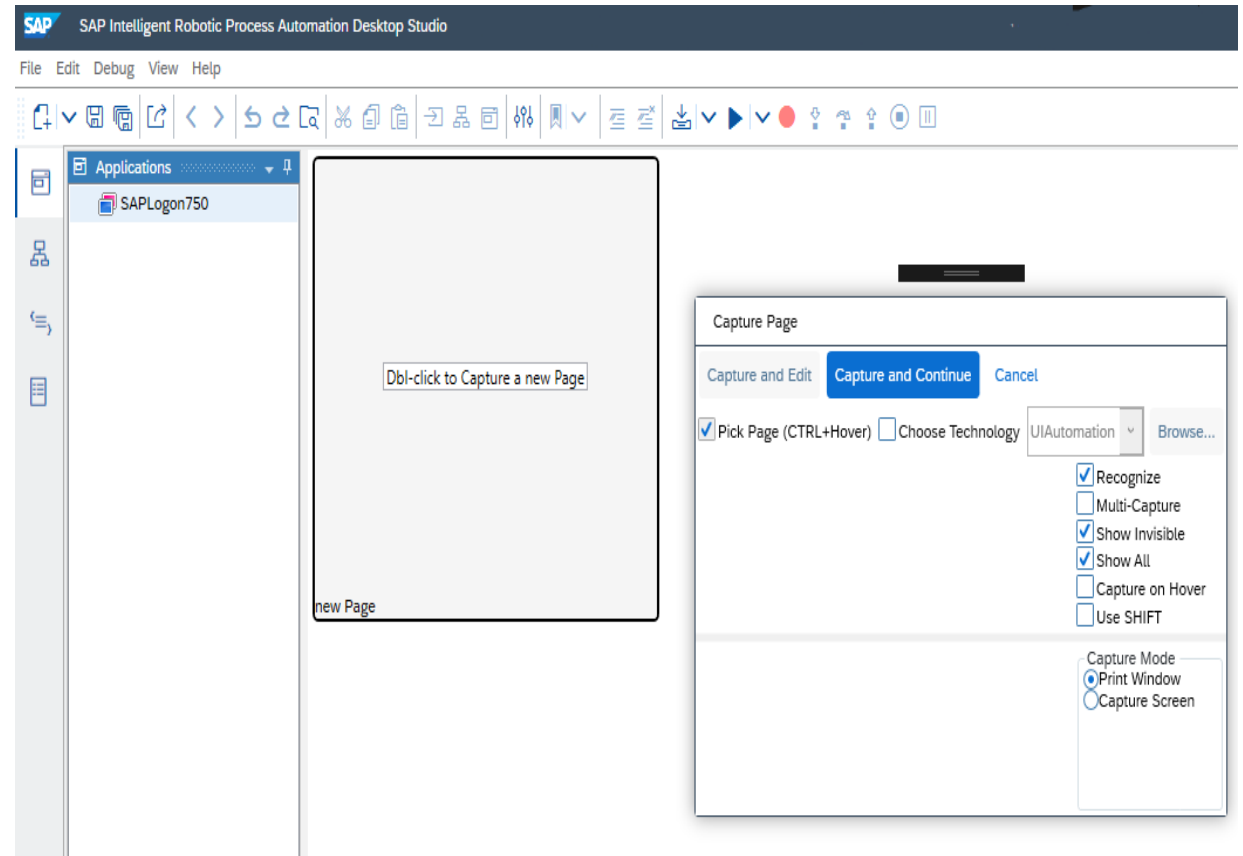
- You now have SAPLogon in the Explorer view

SAP Connector – SAP GUI

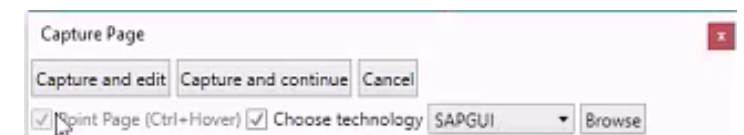
Desktop Studio – Page capture

Double-click to capture a new page

- A Capture Page dialog appears
- Now you can switch the focus to the SAPLogon application

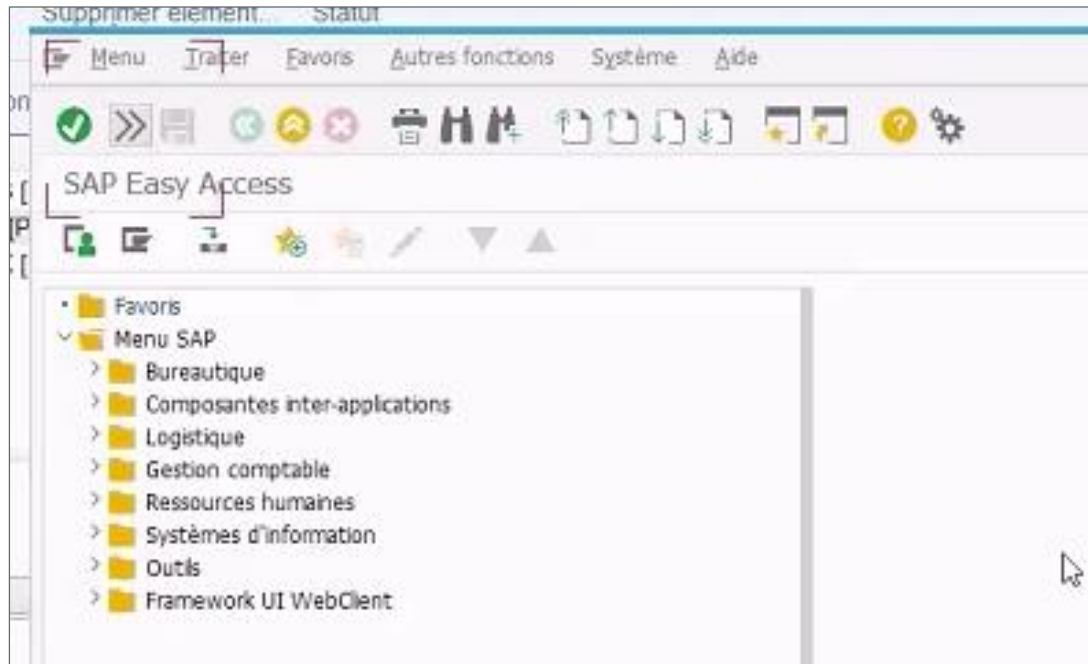


Tip: You usually do not need to choose the technology. Select only if required.



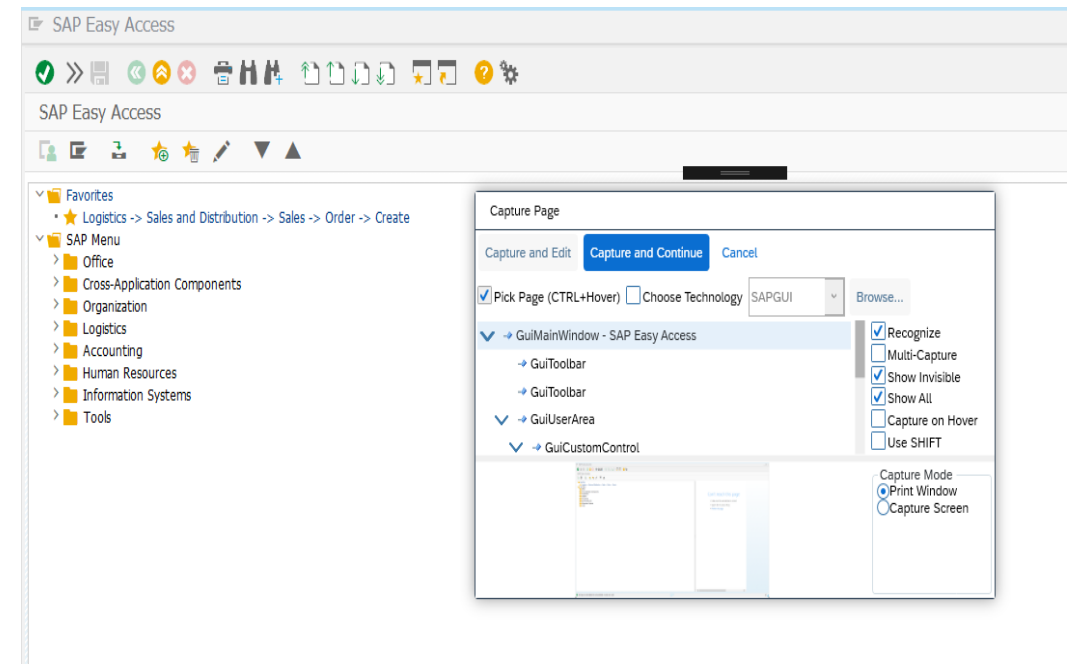
SAP Connector – SAP GUI

Desktop Studio – Page capture



Switch to SAPLogon app

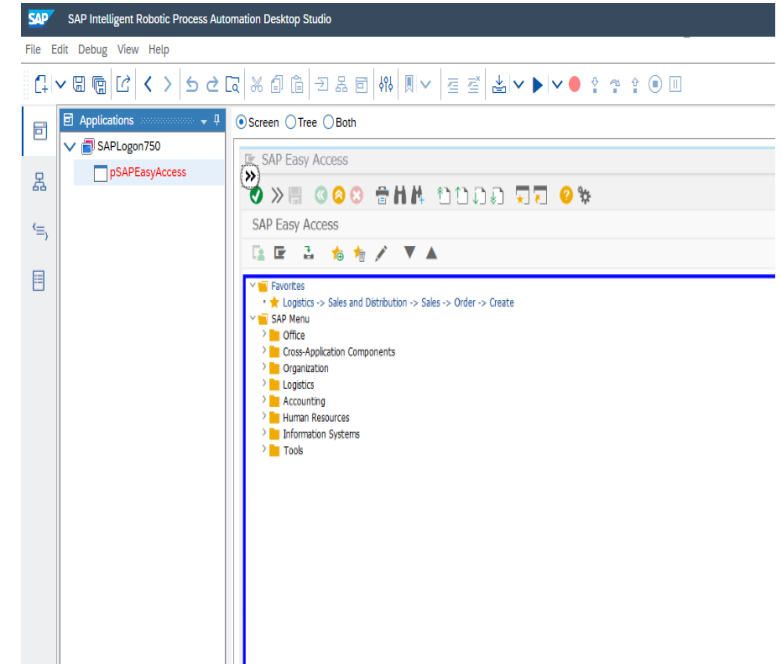
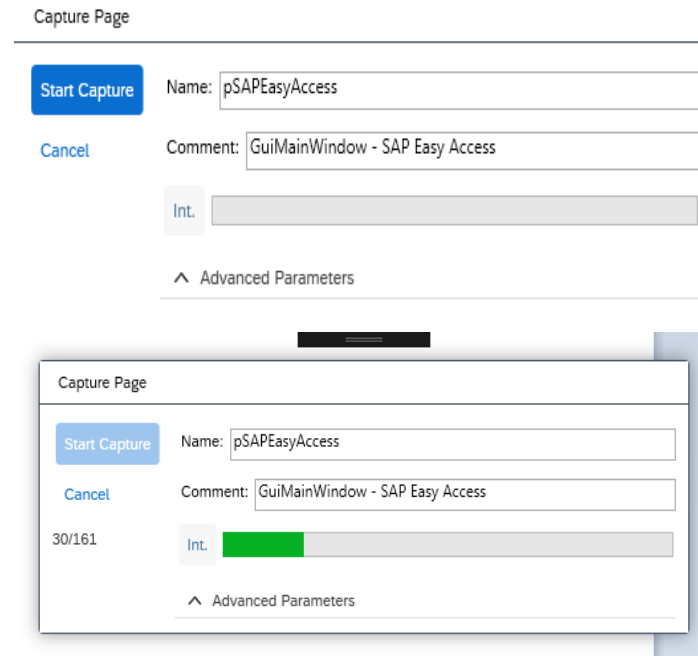
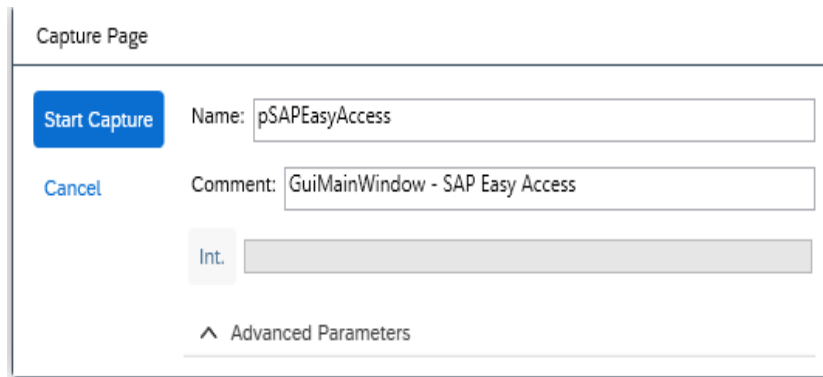
- Mouse over and press Control
- A red box will appear



- The list of all UI elements will appear in a hierarchical fashion
- Once ready, click “Capture and Edit”

SAP Connector – SAP GUI

Desktop Studio – Page capture



Click “Start capture”

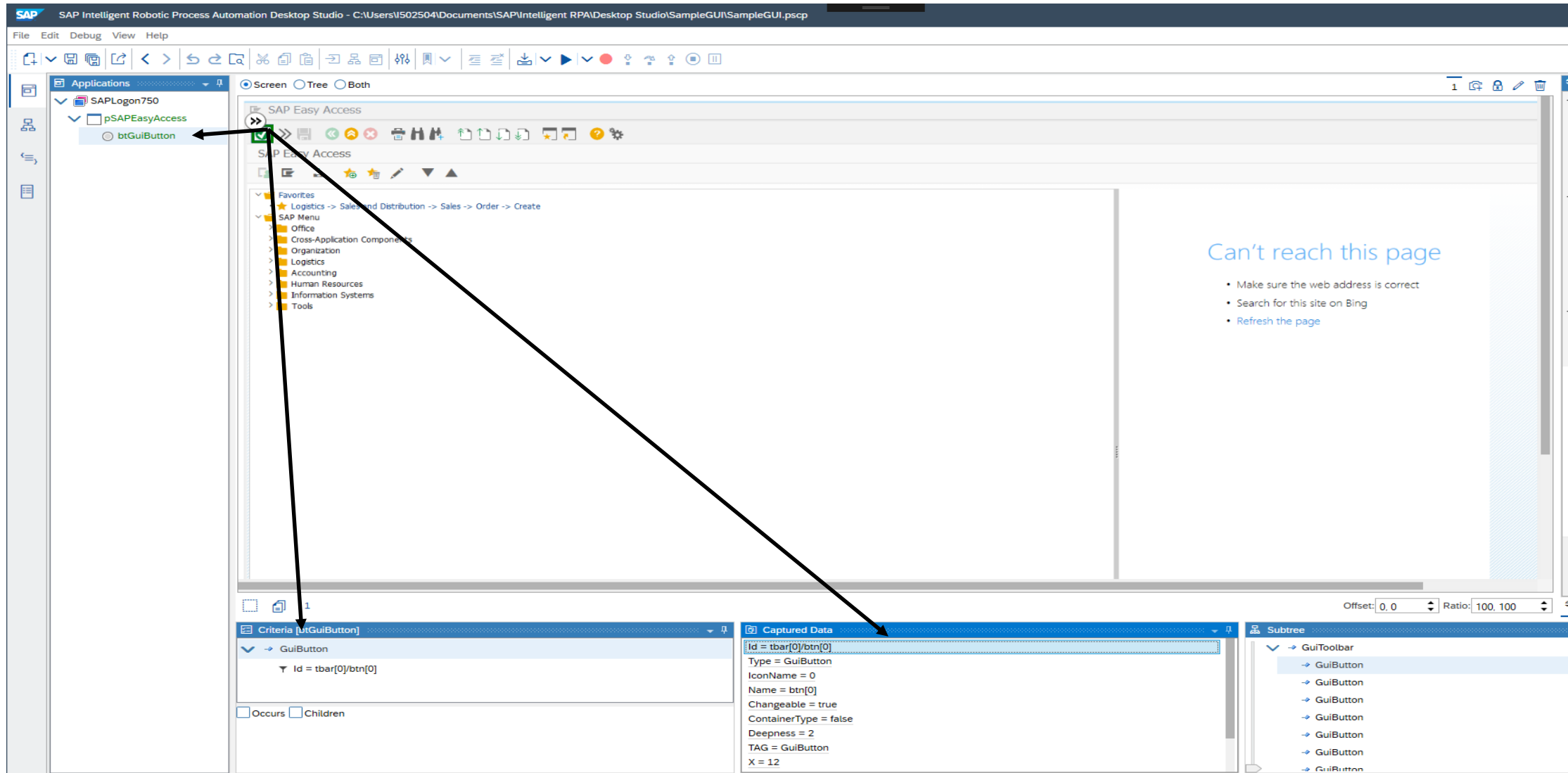
- The process will start

- The process will take some time

- Once finished, the page will appear in your project structure

SAP Connector – SAP GUI

Desktop Studio – Page and items declaration

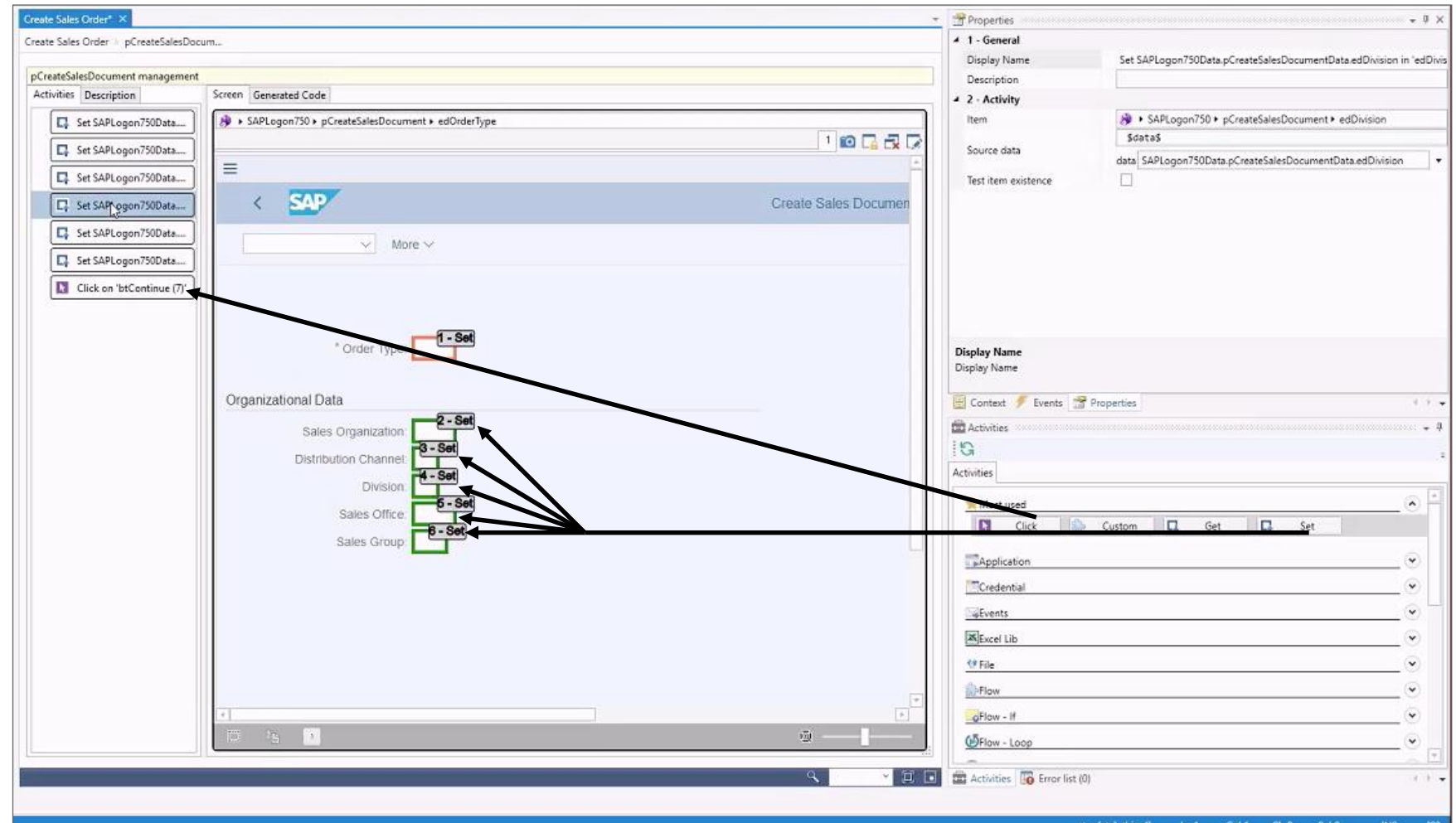


SAP Connector – SAP GUI

Desktop Studio – Workflow Designer

Link the corresponding activities to the UI elements

- Set – to enter a value
- Get – to retrieve a value
- Click... to click!



SAP Connector – SAP GUI

GuiCtrlGridView

The screenshot displays the SAP Intelligent Robotic Process Automation Desktop Studio interface. The main window shows a SAP GUI session titled "Central Access for Search Functions". A search for "TCURR" has been performed, resulting in 7 hits. The search results are displayed in a table with columns: Table Name, Short Description, and Package. The table contains the following data:

Table Name	Short Description	Package
/ICADMC/00001575	TCURR	\$TMP
/B364/MFTCURR	Generated Table for View	
CPED_TCURR_SIM	CPE - Exchange Rate Simulation	CPE_BASIS
ISLTCURRPLCTNTXT	Generated Table for View	CNV_IUUC_F
TCURR	Exchange Rates	SFIB
TRKVTTCURR	Contracts with Acct Bal. Int. Calc.: Permitted Curr. Change	ISCDFUN
V_TCURR	Generated Table for View V_TCURR	SFIB

An orange callout box labeled "GuiCtrlGridView" points to the search results table. The Parameters pane on the right shows the configuration for the "oSAPGUIGridViewCtrl1" element. The configuration is as follows:

- 1 - General
 - 1 - Name: oSAPGUIGridViewCtrl1
 - 2 - Comment:
 - 3 - Folder:
 - 3 - Index (Specs):
 - 4 - Technical: ☐
- 2 - Driver
 - 1 - Must Exist: ☐
 - 1 - Must Not Exist: ☐
 - 2 - Ancestor:
 - 3 - Capture Auto: ☐
 - 3 - Labelled By:
 - 4 - Occurs: ☐
- 9 - Technical
 - Driver: SAPGUI
 - Offline Path: C:\Users\J502504\Downloads\Debug\app\SAPLogon760
 - Technology: SAPGUI

The bottom pane shows the "Criteria" and "Captured Data" for the "GuiCtrlGridView" element. The "Criteria" pane shows the element's text as "SAPGUI.GridViewCtrl.1". The "Captured Data" pane shows the element's properties, including its ID, text, type, name, and various attributes like "Changeable", "ContainerType", "Deepness", and "TAG". The "Subtree" pane shows the element's position within the SAP GUI hierarchy, with "GuiCtrlGridView - SAPGUI.GridViewCtrl.1" selected.

SAP Connector – SAP GUI

GuiCtrlGridView

The screenshot displays the SAP Intelligent Robotic Process Automation Desktop Studio interface. The main window shows a SAP GUI application titled "Central Access for Search Functions". A search for "TCURR" has been performed, resulting in 7 hits. A table of results is displayed, with columns for Table Name, Short Description, and Package. The table data is as follows:

Table Name	Short Description	Package
/CAOMC/00001575	TCURR	STMP
/B364MFTCURB	Generated Table for View	
CPEO_TCURR_SM	CPE - Exchange Rate Simulation	CPE_BASIS
/BLTCURRPLCTXT	Generated Table for View	CMV_RUUC_I
TCURR	Exchange Rates	SFB
TCURR	Contracts with Acct Bal. Int. Calc. Permitted Curr. Change	ISCOFUN
V_TCURR	Generated Table for View V_TCURR	SFB

Two callouts highlight specific elements:

- ToolBar**: Points to the toolbar of the table search results.
- Table Data**: Points to the table data itself.

The bottom of the screenshot shows the "Captured Data" pane, which contains the following information:

```
Id = usr/cnt0016_CONTROL/shellcont/shell/shellcont[0]/shell/shellcont[1]/shell
Text = SAPGUI.GridViewCtrl.1
Type = GuiCtrlGridView
Name = shell
Changeable = true
ContainerType = true
Deepness = 8
TAG = GuiCtrlGridView
X = 295
Y = 190
CX = 1203
CY = 558
TableDetails = [{"position = 0, ColumnName = "Table Name", columnName = "TABNAME"}, {"position = 1, ColumnName = "Short..."}]
ToolBar = [{"Pos = 0, Id = "&DETAIL", Tooltip = "Details", Type = Button}, {"Pos = 1, Id = "&SORT_ASC", Tooltip = ...}]
```

The right side of the screenshot shows the "Parameters" pane, which contains the following information:

- 1 - General
 - 1 - Name: oSAPGUIGridViewCtrl1
 - 2 - Comment
 - 3 - Folder
 - 3 - Index (Specs)
 - 4 - Technical
- 2 - Driver
 - 1 - Must Exist
 - 1 - Must Not Exist
 - 2 - Ancestor
 - 3 - Capture Auto
 - 3 - Labelled By
 - 4 - Occurs
- 9 - Technical
 - Driver: SAPGUI
 - Offline Path: C:/Users/U502504/Downloads/Debug/app/SAPLogon760
 - Technology: SAPGUI

The bottom right shows the "Subtree" pane, which contains the following information:

- GuiContainerShell - SAPGUI.CONTAINERCTRL.1
 - GuiCtrlSplitter - SAPGUI.SplitterCtrl.1
 - GuiContainerShell - SAPGUI.CONTAINERCTRL.1
 - GuiContainerShell - SAPGUI.CONTAINERCTRL.1
 - GuiCtrlGridView - SAPGUI.GridViewCtrl.1

Capture and get GuiCtrlGridView ToolBar details

ToolBar

```
{(Pos = 0, Id = "&DETAIL", Tooltip = "Details", Type = Button),  
{Pos = 1, Id = "&SORT_ASC", Tooltip = "Sort in Ascending Order", Type = Button},  
{Pos = 2, Id = "&SORT_DSC", Tooltip = "Sort in Descending Order", Type = Button},  
{Pos = 3, Id = "&FIND", Tooltip = "Find", Type = Button},  
{Pos = 4, Id = "&FIND_MORE", Tooltip = "Find Next", Type = Button},  
{Pos = 5, Id = "&MB_FILTER", Tooltip = "Set Filter...", Type = ButtonAndMenu},  
{Pos = 6, Id = "&MB_VARIANT", Tooltip = "Choose Layout...", Type = ButtonAndMenu},  
{Pos = 7, Type = Separator},  
{Pos = 8, Id = "HELP", Tooltip = "Help on operating", Type = CheckBox},  
{Pos = 9, Id = "SHOW_WHERE", Tooltip = "Selection criterion", Type = CheckBox},  
{Pos = 10, Id = "DETAIL_MENU", Tooltip = "Environment Functions", Type = Menu},  
{Pos = 11, Id = "SHOW_FAVORITES", Type = Button},  
{Pos = 12, Type = Separator},  
{Pos = 13, Id = "TABLELANGU", Type = Button},
```

Captured Data

Id = usr/cntl0016_CONTROL/shellcont/shell/shellcont[0]/shell/shellcont[1]/shell

Text = SAPGUI.GridViewCtrl.1

Type = GuiCtrlGridView

Name = shell

Changeable = true

ContainerType = true

Deepness = 8

TAG = GuiCtrlGridView

X = 295

Y = 190

CX = 1203

CY = 558

TableDetails = [{(position = 0, ColumnName = "Table Name", columnId = "TABNAME"),
{position = 1, ColumnName = "Short...

ToolBar = [{(Pos = 0, Id = "&DETAIL", Tooltip = "Details", Type = Button),
{Pos = 1, Id = "&SORT_ASC", Tooltip = ...

Start

Capture and get GuiCtrlGridView TableDetails

TableDetails

```
[[{position = 0, ColumnName = "Table Name", columnId = "TABNAME"},  
{position = 1, ColumnName = "Short Description", columnId = "DDTEXT"},  
{position = 2, ColumnName = "Package", columnId = "DEVCLASS"},  
{position = 3, ColumnName = "Applic. Component", columnId = "PS_POSID"},  
{position = 4, ColumnName = "Language", columnId = "SPRSL"},  
{position = 5, ColumnName = "Favorite", columnId = "FAVORITE"},  
{position = 6, ColumnName = "Favorite", columnId = "FAVORITE_ICON"}]]
```

The screenshot shows the 'Captured Data' window in SAP GUI. It displays the following properties for a control:

- Id = usr/cntl0016_CONTROL/shellcont/shell/shellcont[0]/shell/shellcont[1]/shell
- Text = SAPGUI.GridViewCtrl.1
- Type = GuiCtrlGridView
- Name = shell
- Changeable = true
- ContainerType = true
- Deepness = 8
- TAG = GuiCtrlGridView
- X = 295
- Y = 190
- CX = 1203
- CY = 558

Below these properties, the 'TableDetails' are listed:

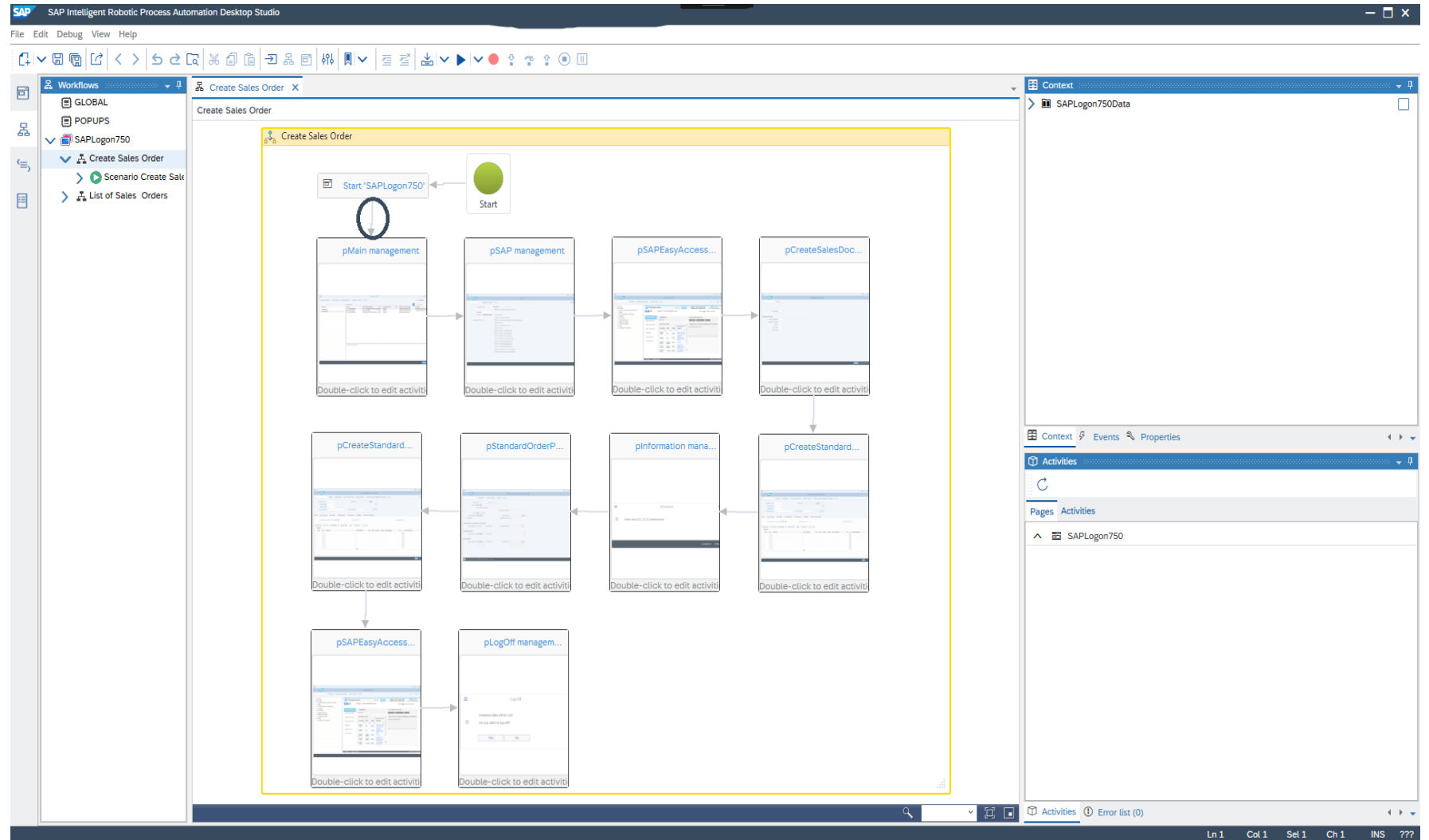
```
TableDetails = [[{position = 0, ColumnName = "Table Name", columnId = "TABNAME"},  
{position = 1, ColumnName = "Short...  
ToolBar = [{Pos = 0, Id = "&DETAIL", Tooltip = "Details", Type = Button},  
{Pos = 1, Id = "&SORT_ASC", Tooltip ...
```

A 'Start' button is visible on the right side of the window.

SAP Connector – SAP GUI

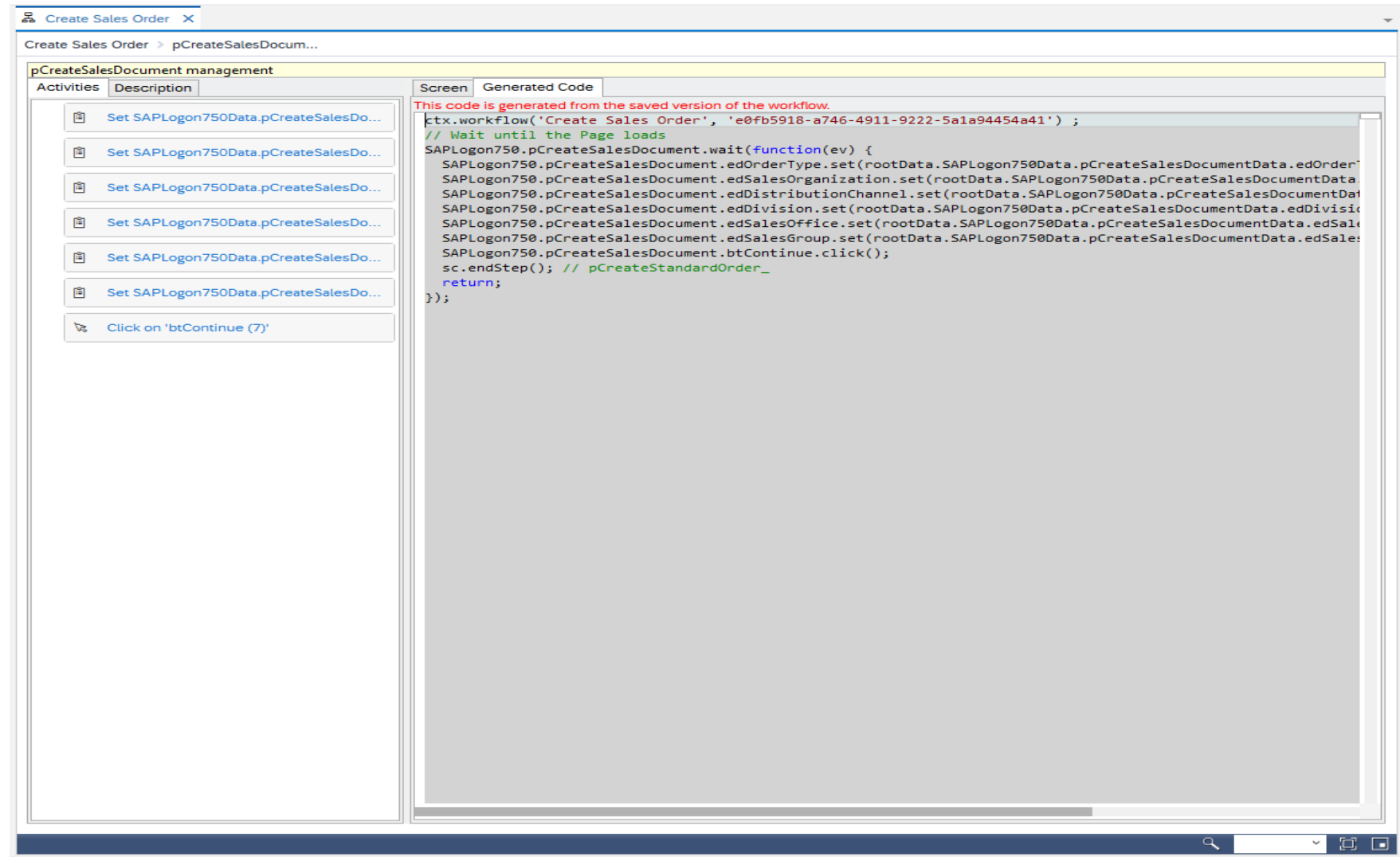
Desktop Studio – Workflow Designer

Map and link your pages within the Workflow Designer



SAP Connector – SAP GUI Desktop Studio – Workflow Designer

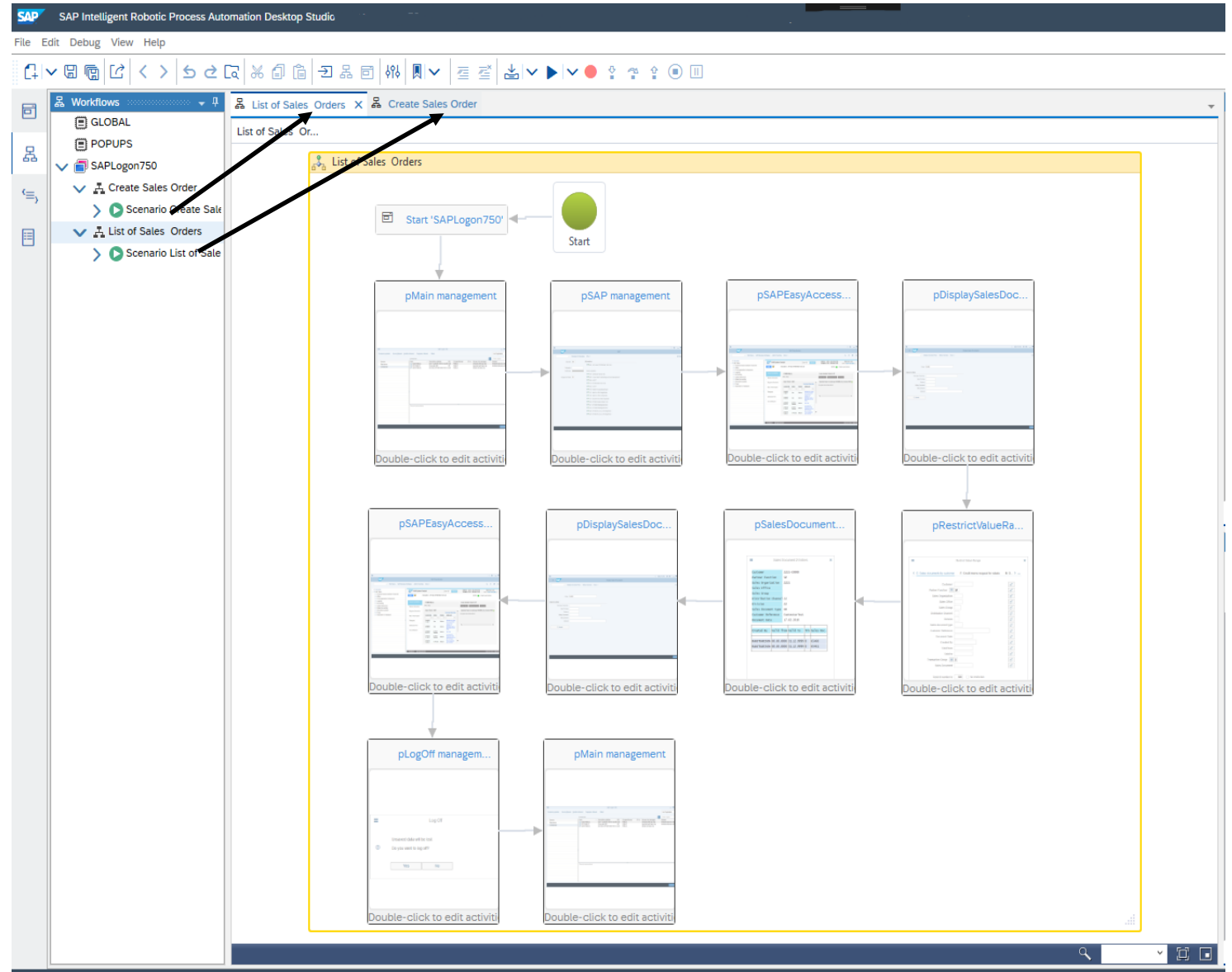
Get access to the
generated code



SAP Connector – SAP GUI

Desktop Studio – Workflow Designer

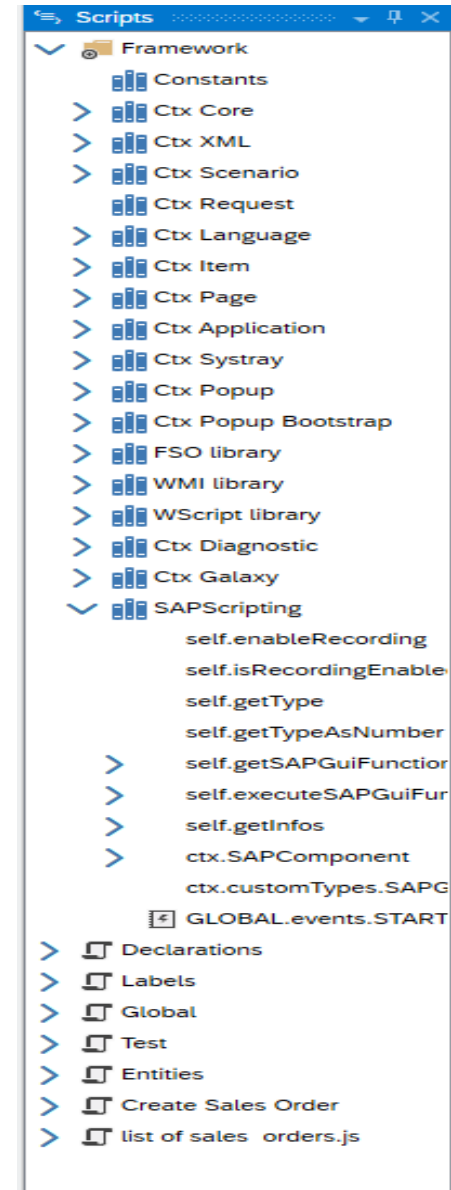
Several scenarios can be displayed with tabs



Desktop Studio – How it works

SAPScripting is part of the SDK

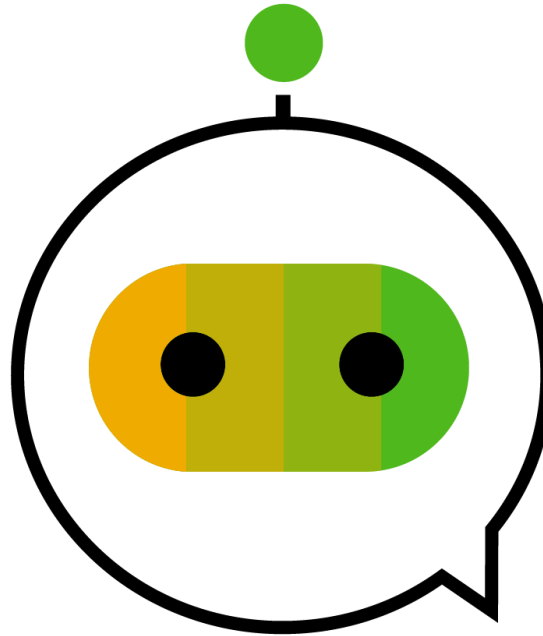
- Regular SDK methods (set, get, click...) are rerouted to the corresponding SAPScripting methods/SAP GUI elements
- Specific UI elements are then identified



SAP Connector – SAP GUI

Summary

Automate SAP GUI Application



Thank you.

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