

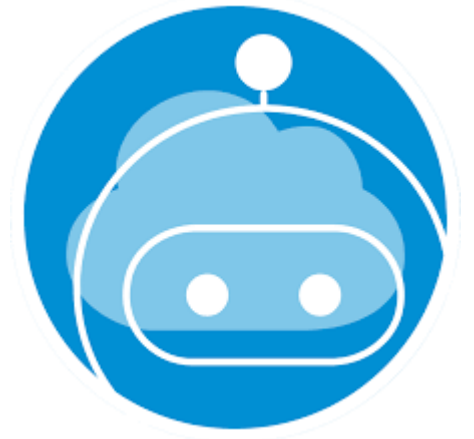


Week 4: Further Topics

Unit 2: SAP Connector – SAPUI5

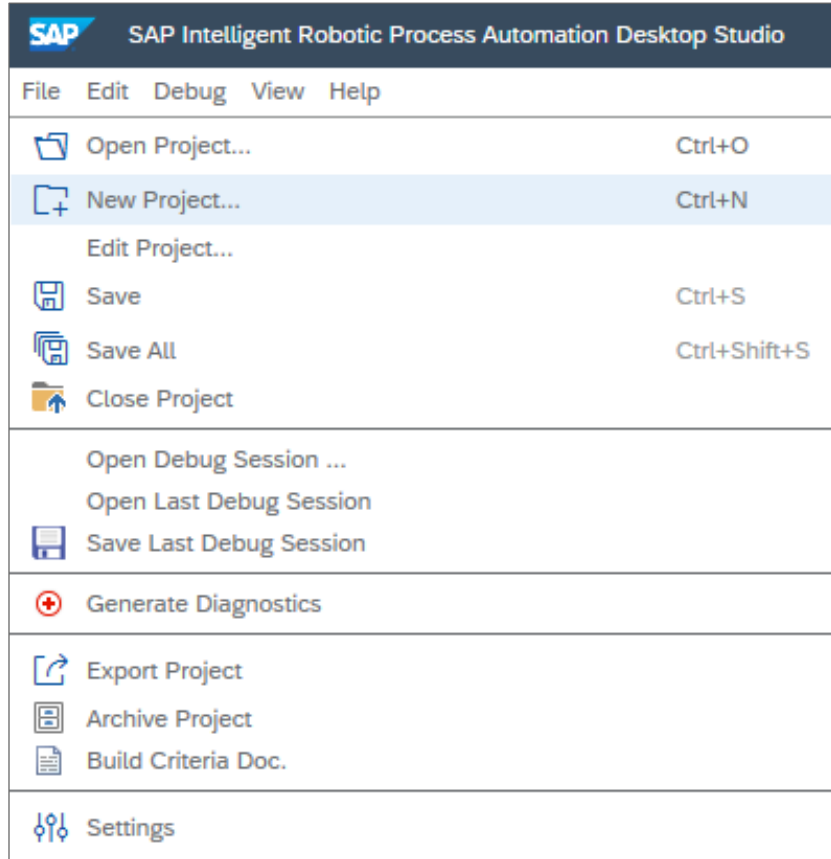
Introduction to SAPUI5 automation

- SAPUI5 is a framework that includes a collection of libraries that you can use to build applications that run in a desktop or mobile browser – while only maintaining one code base.
- An SAPUI5 application requires specific attention to be managed by Desktop Agent.
- There is a separate library that implements SAPUI5 object-specific behaviors. It overrides the standard methods and adds extra ones.

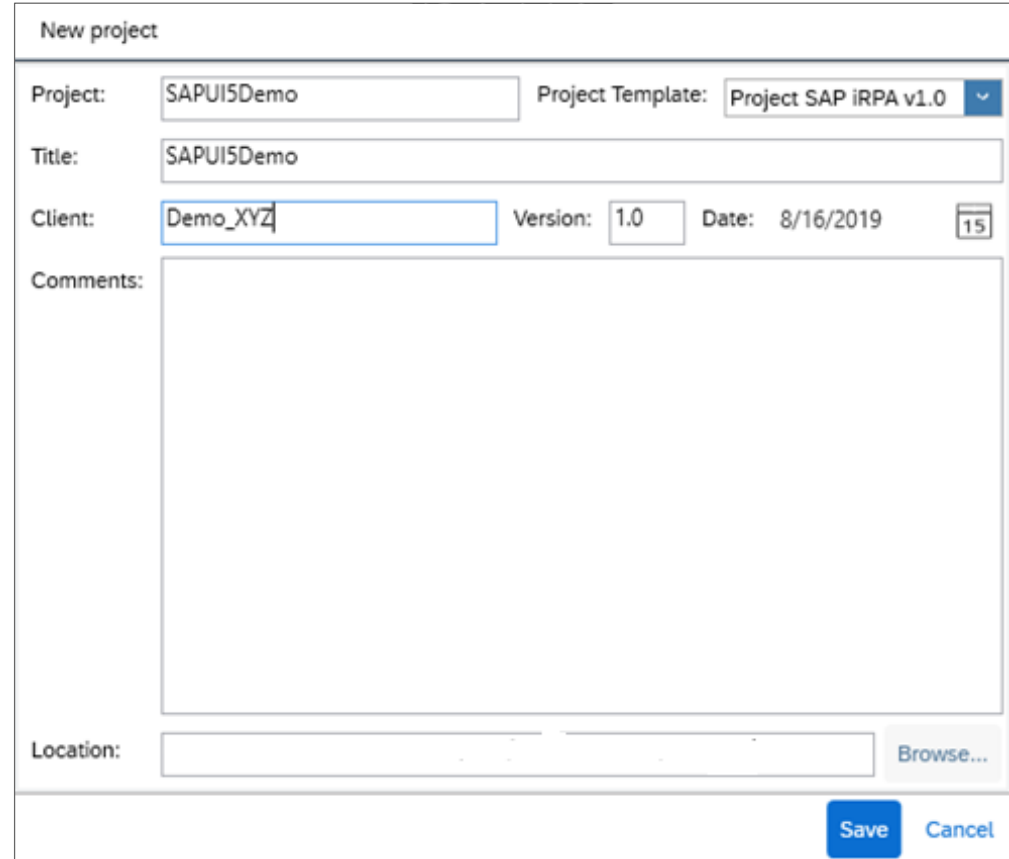


SAP Connector – SAPUI5

Add SAPUI5 library



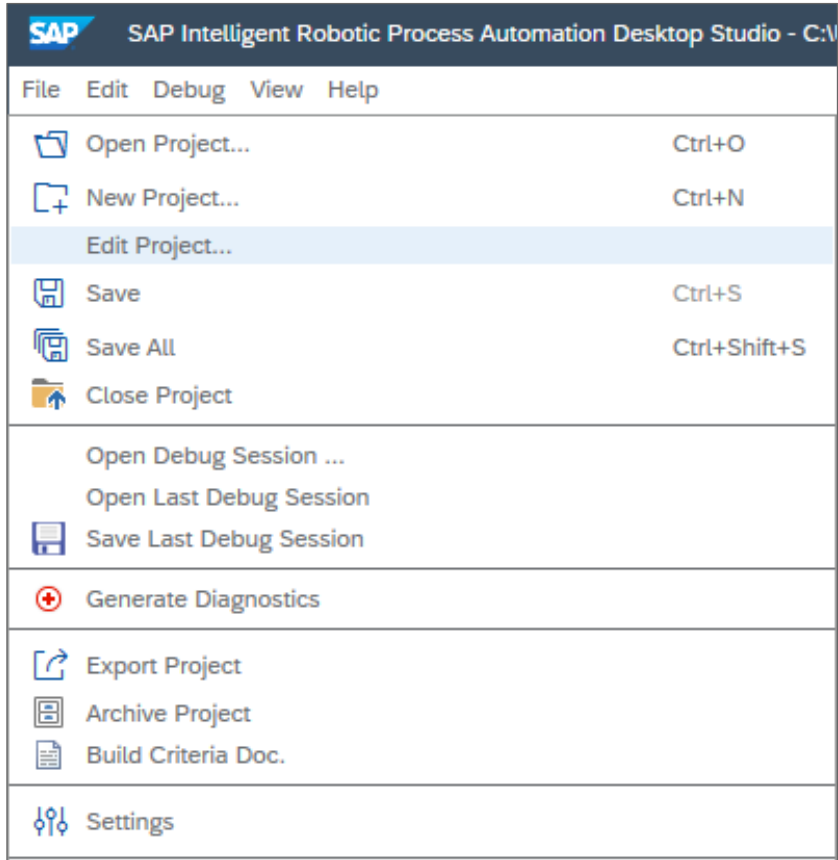
- Start Desktop Studio and in the menu bar, select File New Project



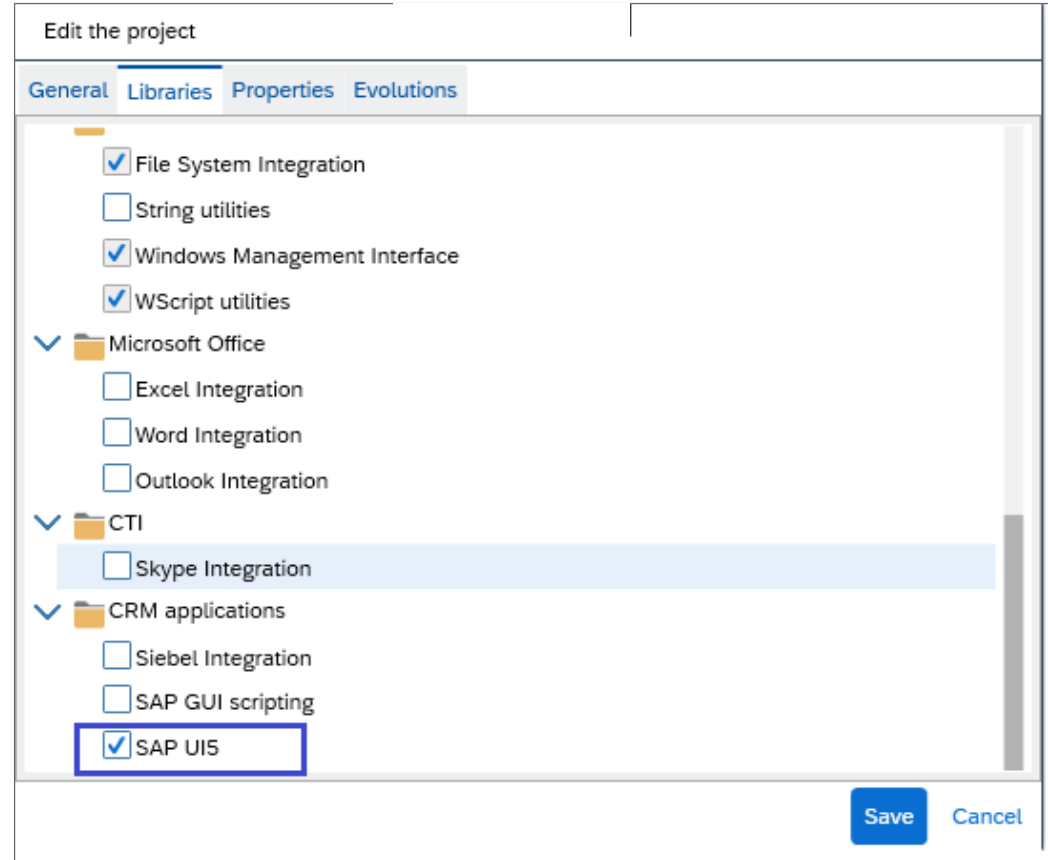
- Enter the properties of the project and click Save

SAP Connector – SAPUI5

Add SAPUI5 library



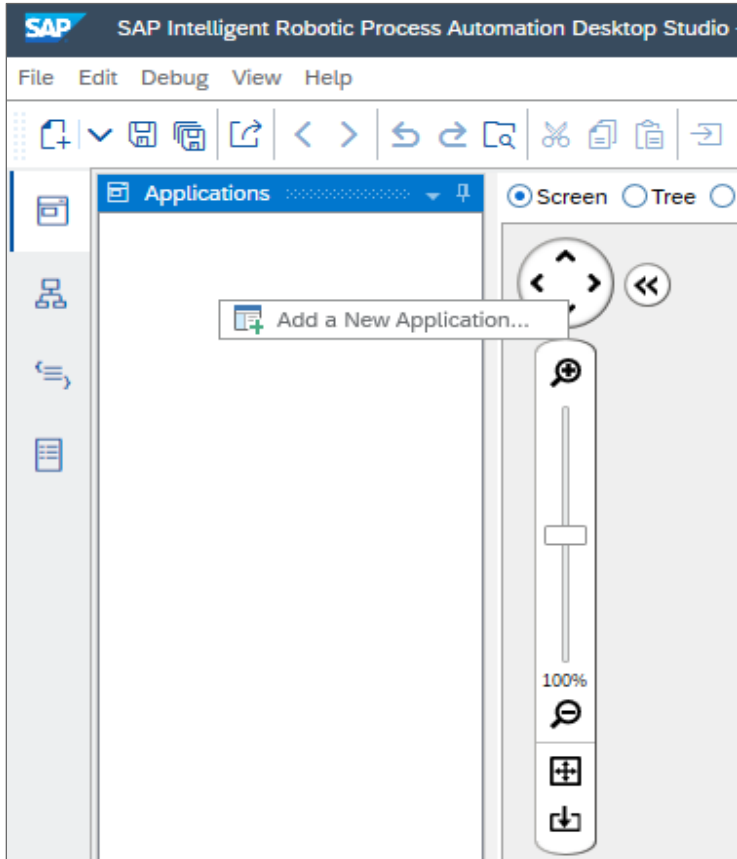
- In the menu bar select **File → Edit Project**



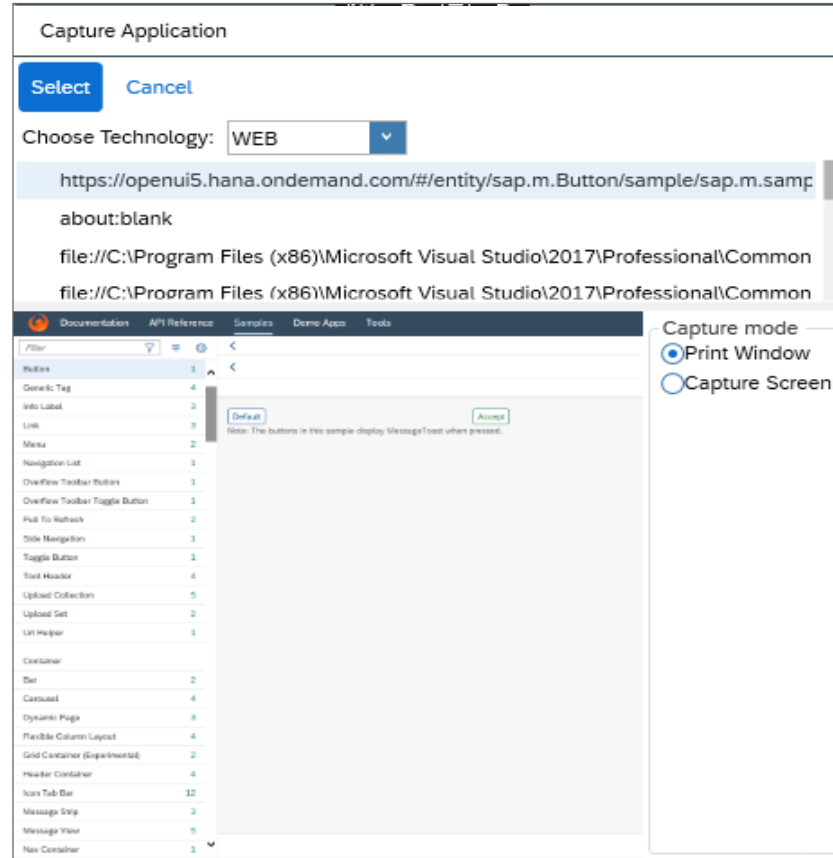
- Go to the **Libraries tab**
- Check the SAP UI5 box in the **CRM applications section**

SAP Connector – SAPUI5

Capture UI5 application



- Open UI5 page in Web browser
- Go back to Desktop Studio and in Explorer perspective, select Add a New Application



- Choose Technology: **WEB**
- Select UI5 **page** and choose **Select**
- You now have UI5 application in **Explorer view**

SAP Connector – SAPUI5

Custom type for UI5 application

The screenshot shows the SAP Connector IDE interface. On the left, the 'Applications' pane lists 'OpenUI5Hana'. The main workspace contains a diagram with a box labeled 'new Page' and a text box 'Dbl-click to Capture a new Page'. On the right, the 'Parameters' pane is open, showing the configuration for the selected application. The 'CustomType' dropdown is set to 'SAPUI5'. Below the 'Parameters' pane, the 'Criteria' pane shows the criteria for the application, and the 'Captured Data' pane shows the data captured from the application.

Parameters

- 1 - General
 - 1 - Name: OpenUI5Hana
 - 2 - Comment
 - 3 - Server
 - 3 - Techno SDK: V3
 - 5 - CustomType: SAPUI5
- 2 - Driver
 - No Wait for Load: Siebel
 - One Instance per Thread: bootstrap
 - Synchro Delay (ms) (Web3): 250
 - Use ID as Item Name: ☒
 - Use V3 Connector: ☒
- 9 - Technical
 - Driver: WEB3
 - Launch Path: https://openui5.hana.ondemand.com/#entity/sap.m
 - Offline Path: iDe
 - Technology: WEB

Criteria [OpenUI5Hana]

- Part(DOMAIN) = openui5.hana.ondemand.com

Captured Data

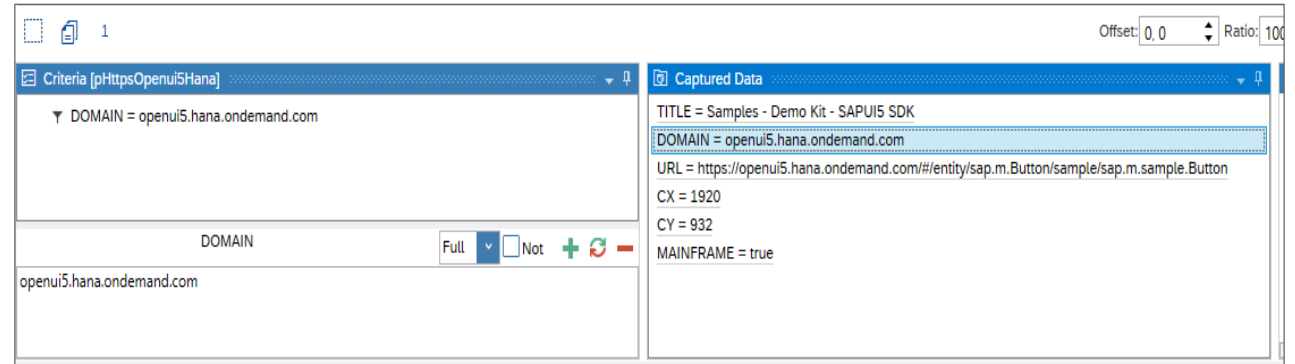
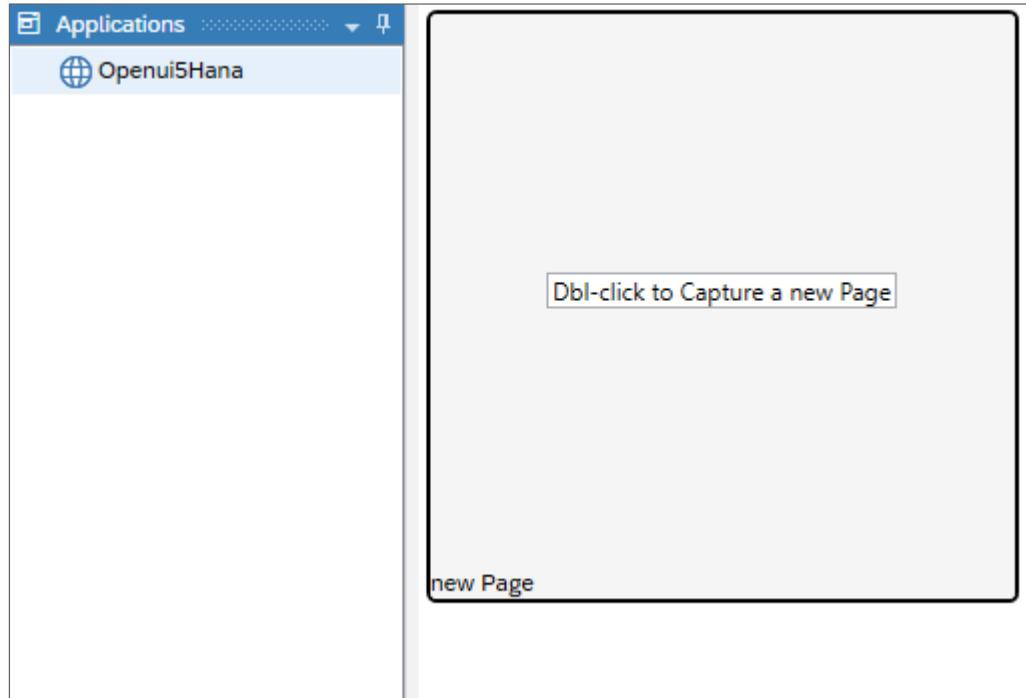
DOMAIN = openui5.hana.ondemand.com
URL = https://openui5.hana.ondemand.com/#entity/sap.m.Button/sample/sap.m.sample.Button
CX = 1920
CY = 932
MAINFRAME = true

Select SAPUI5 as Custom Type

Select criterion of the application

SAP Connector – SAPUI5

Capture page



- Double-click to capture a new page

- Select the criterion of the page

SAP Connector – SAPUI5

Declare UI5 control

The screenshot shows the SAP Intelligent Robotic Process Automation Desktop Studio interface. The main window displays a sample application with buttons. A right-click context menu is open over the 'Accept' button, with the option 'Associate to New Item' highlighted. The 'Parameters' panel on the right shows configuration details for the selected element. The 'Criteria' panel at the bottom left shows the domain 'openui5.hana.ondemand.com'. The 'Captured Data' panel at the bottom center shows the HTML structure of the button, including the 'data-sap-ui' tag. The 'Subtree' panel at the bottom right shows the DOM tree structure.

Parameters:

- 1 - General
 - 1 - Name: pHttpsOpenui5Hana
 - 2 - Comment: https://openui5.hana.ondemand.com/#/entity/sap.m
 - 4 - Technical: ☐
- 2 - Driver
 - Capture (Cache): ☐
- 9 - Technical
 - Driver: WEB3
 - Launch Path: https://openui5.hana.ondemand.com/#/entity/sap.m
 - Offline Path: C:\Users\502504\Documents\SAP\Intelligent RPA\De
 - Technology: WEB

Criteria [pHttpsOpenui5Hana]:

- DOMAIN = openui5.hana.ondemand.com

Captured Data:

```
TAG = BUTTON
id = __button16
Text = Accept
class = sapMBtnBase sapMBtn sapMBtnInverted
data-sap-ui = __button16
aria-describedby = __xmview1--acceptButtonDescription __xmview1--genericButtonDescription __
OuterHTML = <button class="sapMBtnBase sapMBtn sapMBtnInverted" id="__button16" aria-descr
...>
```

Subtree:

- SECTION
 - DIV
 - DIV
 - DIV
 - BUTTON

Select the element
→ right-click →
Associate to New
Item

“data-sap-ui”
tag in the
captured data

SAP Connector – SAPUI5

Custom type for UI5 application

The screenshot displays the SAP Intelligent Robotic Process Automation Desktop Studio interface. The main workspace shows a sample application with a button labeled "Accept". The left sidebar lists the application structure, including "OpenUI5Hana" and "phttpsOpenUI5Hana". The right sidebar shows the "Parameters" panel for the selected item, with the "CustomType" field set to "SAPUI5.button". The bottom panel shows the "Criteria" and "Captured Data" sections, with the "Criteria" section set to "BUTTON" and the "Captured Data" section showing the "Text" property.

Applications

- OpenUI5Hana
 - phttpsOpenUI5Hana
 - btAccept

Parameters

- 1 - General
 - 1 - Name: btAccept
 - 2 - Comment
 - 3 - Folder
 - 3 - Index (Specs)
 - 4 - Technical
 - 5 - CustomType: SAPUI5.button
- 2 - Driver
 - 1 - Must Exist
 - 1 - Must Not Exist
 - 2 - Ancestor
 - 3 - Capture: No
 - 4 - Occurs
 - 5 - Collection
 - 6 - Use Text Property
 - GetGetMethod (Web3)
 - SetGetMethod (Web3)
- 9 - Technical
 - Driver: WEB3
 - Offline Path: C:\Users\I502504\Documents\SAP\Intelligent RPA\De
 - Technology: WEB

Criteria [btAccept]

- 1 - BUTTON
 - Part(Text) = Accept

Captured Data

Text = Accept

class = sapMBtnBase sapMBtn sapMBtnInverted

data-sap-ui = __button16

aria-describedby = __xmview1--acceptButtonDescription __xmview1--genericButtonDescription __

OuterHTML = <button class="sapMBtnBase sapMBtn sapMBtnInverted" id="__button16" aria-descr

InnerHTML =

Subtree

- SECTION
 - DIV
 - DIV
 - BUTTON
 - DIV
 - DIV

Custom type of the item

Select right criterion of the item

Available UI5 controls and respective supported methods

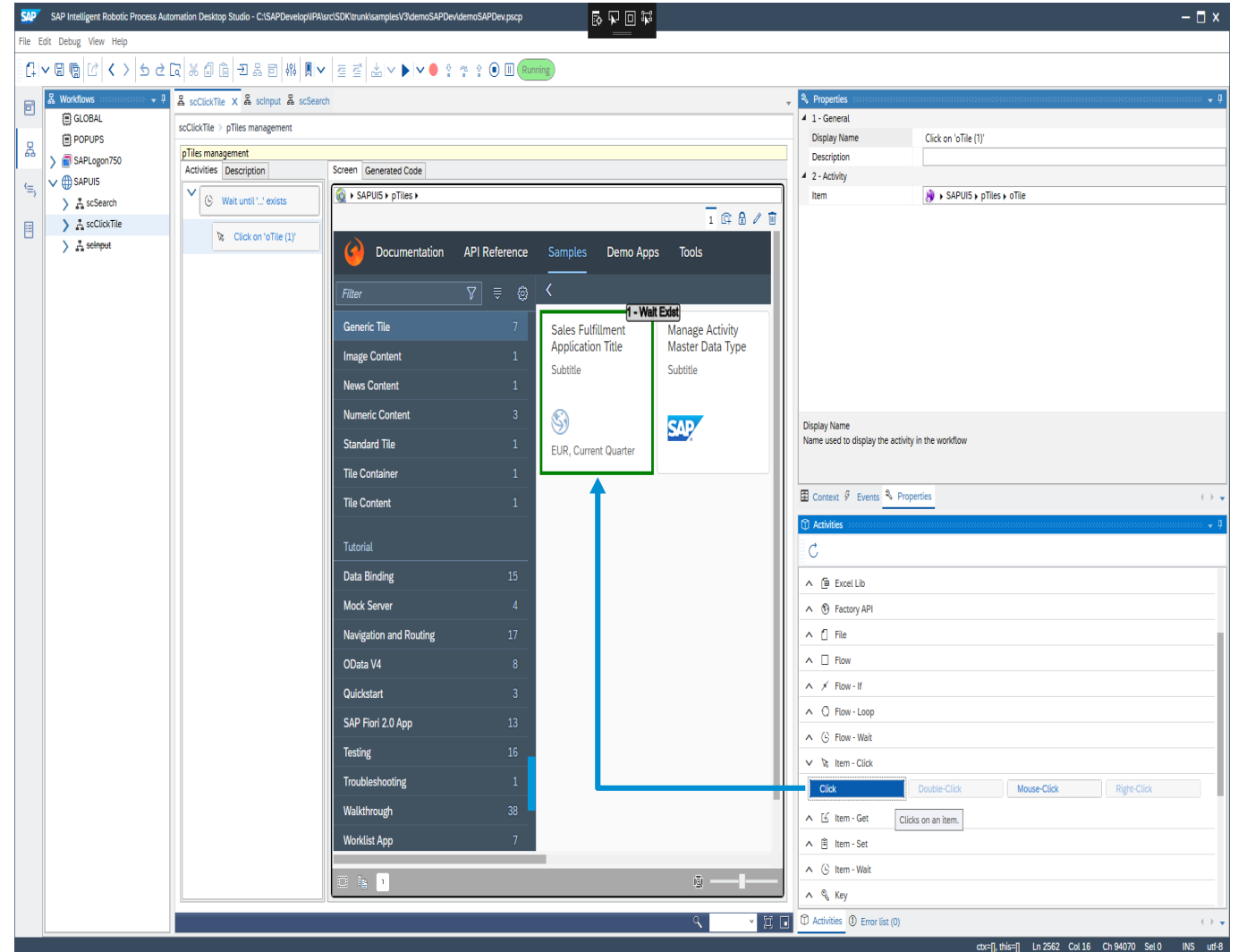
Sr. No.	UI5 Control	Supported UI5 Methods
1	toggleButton	click()
2	button	click()
3	searchfield	set(value)
4	slider	set(min, max)
5	menu	open()
6	combobox	set(value), getItems(), addItem(data)
7	radio	set(value)
8	checkbox	set(value)
9	inputswitch	set(value)
10	multiinput	set(data)
11	navigationlist	set(value), addItem(value), getItems()
12	segmentbutton	set(value), getItems(), addItem(value)
13	feedcontent	set(value), press()
14	actionselect	open()
15	calendar	addItem(data)
16	uploadcollection	set(value), addItem(value)
17	taccount	addCredit(value), addDebit(value), getCredit(value)
18	table	selectAll(ed), clearSelection(), setSelectedIndex(value), filter()
19	map	getRegions(), click(value)
20	carousel	next(), prev()
21	treegrid	expand(value)
22	input	set(value)
23	uploadcollection	set(value), addItem(value)
24	pseudobutton	click()
25	tablerow	click()

SAP Connector – SAPUI5

Add actions in UI5 Items

There are two ways you can add actions in the UI5 items to **perform repetitive tasks**.

- Drag and drop the activity in the **respective item**

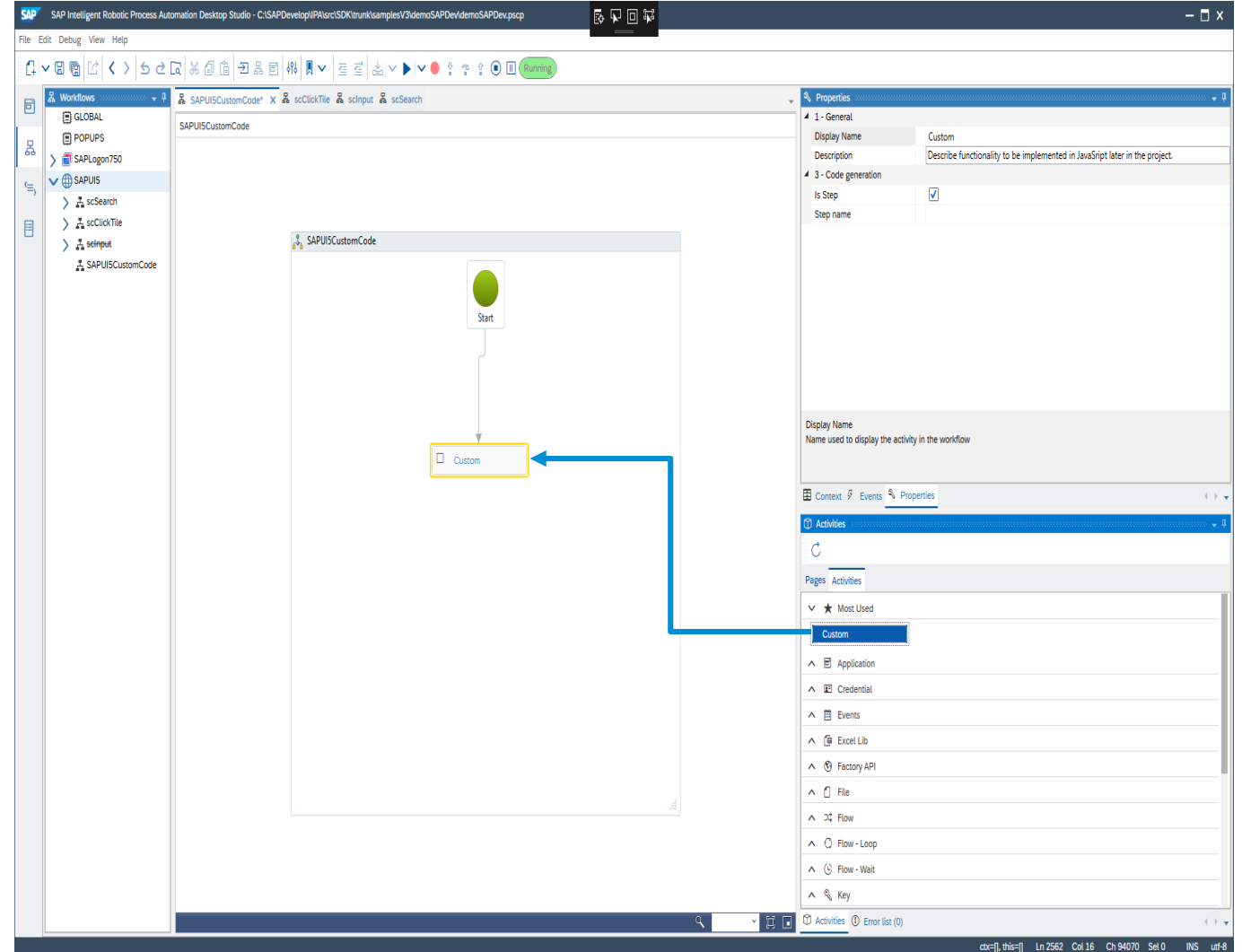


SAP Connector – SAPUI5

Add actions in UI5 Items

There are two ways you can add actions in the UI5 items to **perform repetitive tasks**.

- Add the Custom activity in the workflow.
- From editor, add the respective object of the UI5 control and call the necessary methods.



Demo on How to Automate SAP UI5 Applications

DEMO

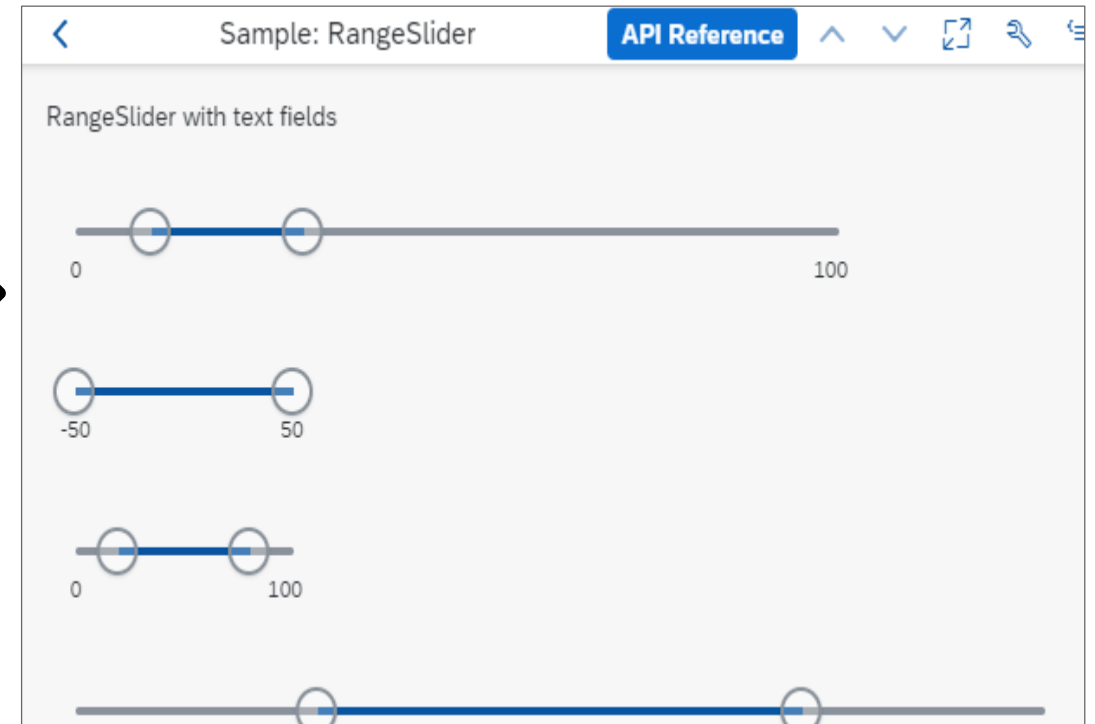
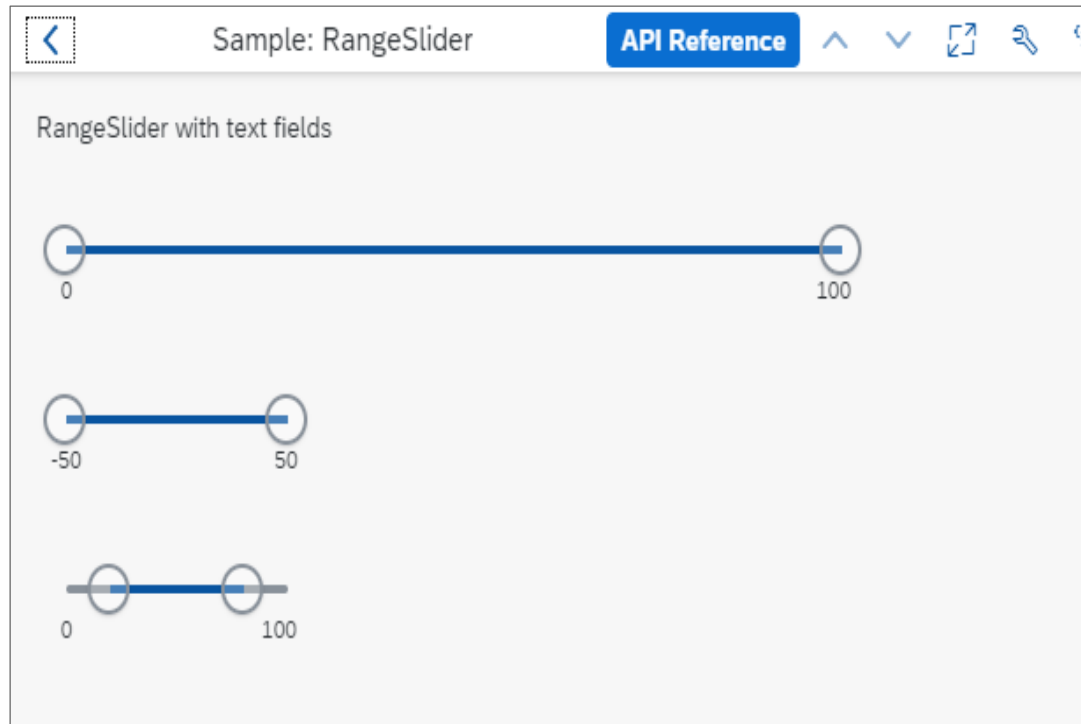


SAP Connector – SAPUI5

Implementation using Custom

Slider: Set value with start and end range

```
SAPUI5.pRangeSlider.waitFor(function(ev) {  
    SAPUI5.pRangeSlider.oSlider.set(20,30);  
    notifySuccess( ""END" event received: UI 5 application terminated successfully." );  
}, 0);
```

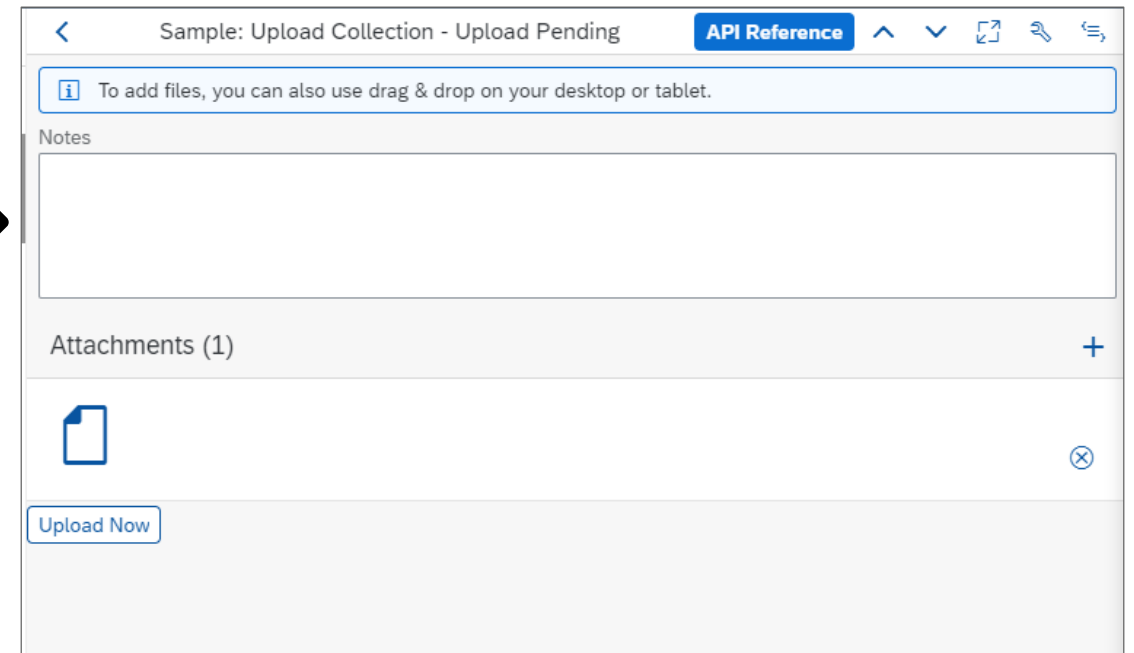
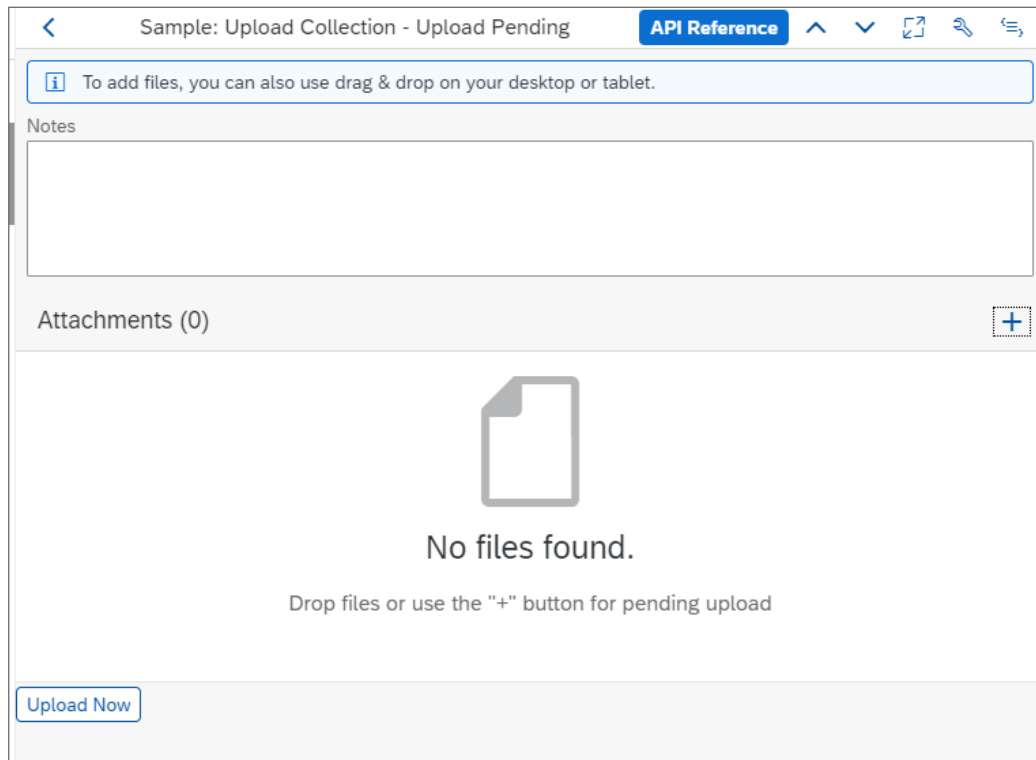


SAP Connector – SAPUI5

Implementation using Custom

Upload collection:
to upload file in UI5 page

```
SAPUI5.pRangeSlider.waitAll(function(ev) {  
    SAPUI5.pRangeSlider.oSlider.set(20,30);  
    notifySuccess( ""END" event received: UI 5 application terminated successfully." );  
}, 0);
```



SAP Connector – SAPUI5

Table activity

Select all the rows of the table:

`SAPUI5.pTableFilter.oTable.selectAll();`

Products ☐ ☐ ☐

<input type="checkbox"/>	Product Name	Category	Image	Status
<input type="checkbox"/>	Notebook Basic 15	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 17	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 18	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 19	Laptops	Show Image	Available
<input type="checkbox"/>	ITelO Vault	Accessories	Show Image	Available
<input type="checkbox"/>	Notebook Professional 15	Accessories	Show Image	Available
<input type="checkbox"/>	Notebook Professional 17	Laptops	Show Image	Available



Products ☒ ☒ ☒

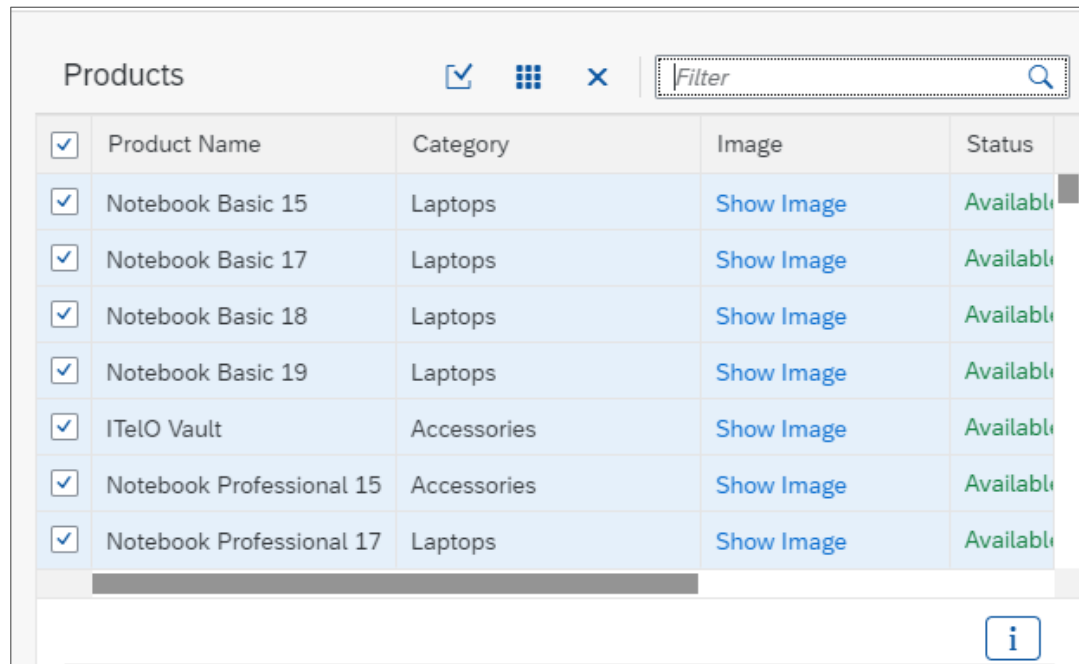
<input checked="" type="checkbox"/>	Product Name	Category	Image	Status
<input checked="" type="checkbox"/>	Notebook Basic 15	Laptops	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Basic 17	Laptops	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Basic 18	Laptops	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Basic 19	Laptops	Show Image	Available
<input checked="" type="checkbox"/>	ITelO Vault	Accessories	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Professional 15	Accessories	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Professional 17	Laptops	Show Image	Available

SAP Connector – SAPUI5

Table activity

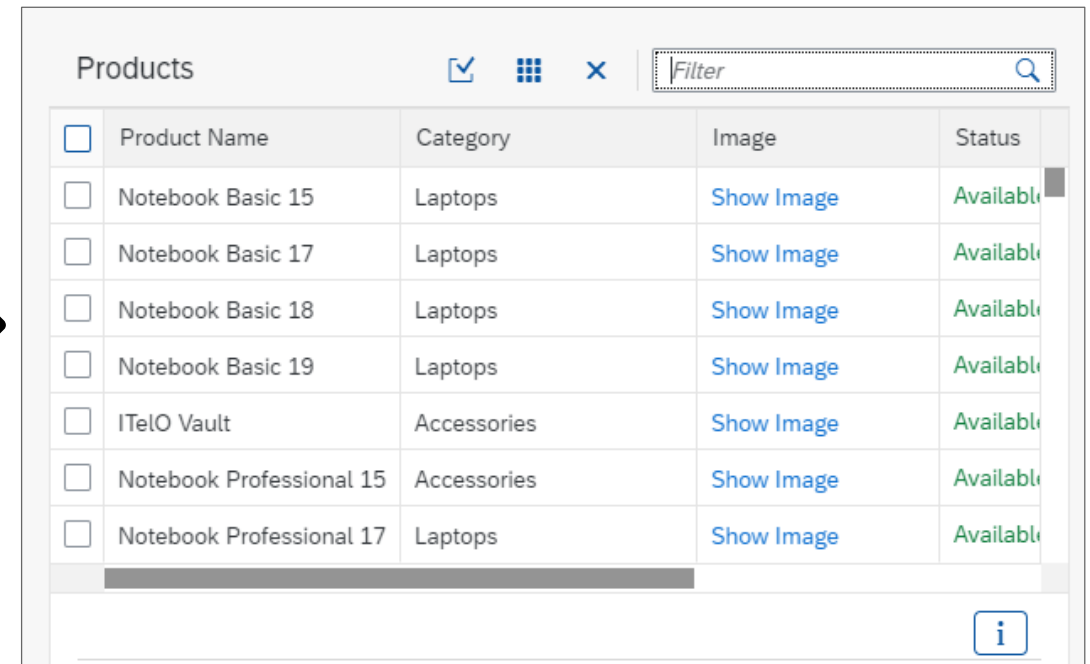
Deselect all the rows of the table:

```
SAPUI5.pTableFilter.oTable.clearSelection();
```



The screenshot shows a SAPUI5 table titled "Products". The table has five columns: "Product Name", "Category", "Image", and "Status". All rows are selected, indicated by checked checkboxes in the first column. The table includes a filter bar at the top and a scroll bar on the right.

<input checked="" type="checkbox"/>	Product Name	Category	Image	Status
<input checked="" type="checkbox"/>	Notebook Basic 15	Laptops	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Basic 17	Laptops	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Basic 18	Laptops	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Basic 19	Laptops	Show Image	Available
<input checked="" type="checkbox"/>	ITelO Vault	Accessories	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Professional 15	Accessories	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Professional 17	Laptops	Show Image	Available



The screenshot shows the same SAPUI5 table titled "Products" after the clearSelection() method has been called. All checkboxes in the first column are now unchecked, indicating that all rows have been deselected. The table structure and data remain the same as in the first screenshot.

<input type="checkbox"/>	Product Name	Category	Image	Status
<input type="checkbox"/>	Notebook Basic 15	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 17	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 18	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 19	Laptops	Show Image	Available
<input type="checkbox"/>	ITelO Vault	Accessories	Show Image	Available
<input type="checkbox"/>	Notebook Professional 15	Accessories	Show Image	Available
<input type="checkbox"/>	Notebook Professional 17	Laptops	Show Image	Available

SAP Connector – SAPUI5

Table activity

Select a row:

`SAPUI5.pTableFilter.oTable.setSelectedIndex(1)`

Products ☐ ☐ ☐

<input type="checkbox"/>	Product Name	Category	Image	Status
<input type="checkbox"/>	Notebook Basic 15	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 17	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 18	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 19	Laptops	Show Image	Available
<input type="checkbox"/>	ITelO Vault	Accessories	Show Image	Available
<input type="checkbox"/>	Notebook Professional 15	Accessories	Show Image	Available
<input type="checkbox"/>	Notebook Professional 17	Laptops	Show Image	Available



Products ☐ ☐ ☐

<input type="checkbox"/>	Product Name	Category	Image	Status
<input type="checkbox"/>	Notebook Basic 15	Laptops	Show Image	Available
<input checked="" type="checkbox"/>	Notebook Basic 17	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 18	Laptops	Show Image	Available
<input type="checkbox"/>	Notebook Basic 19	Laptops	Show Image	Available
<input type="checkbox"/>	ITelO Vault	Accessories	Show Image	Available
<input type="checkbox"/>	Notebook Professional 15	Accessories	Show Image	Available
<input type="checkbox"/>	Notebook Professional 17	Laptops	Show Image	Available

SAP Connector – SAPUI5

Multiple input

Set multiple input:

```
SAPUI5.pMultiInput.oMultiInput.set({text: "Test1", key:"Test1"});  
SAPUI5.pMultiInput.oMultiInput.set({text: "Test2", key:"Test2"});
```

Enter a search term, e.g. "Notebook", and add matching products as tokens

Multilnput with pre-selected tokens



Enter a search term, e.g. "Notebook", and add matching products as tokens

Multilnput with pre-selected tokens

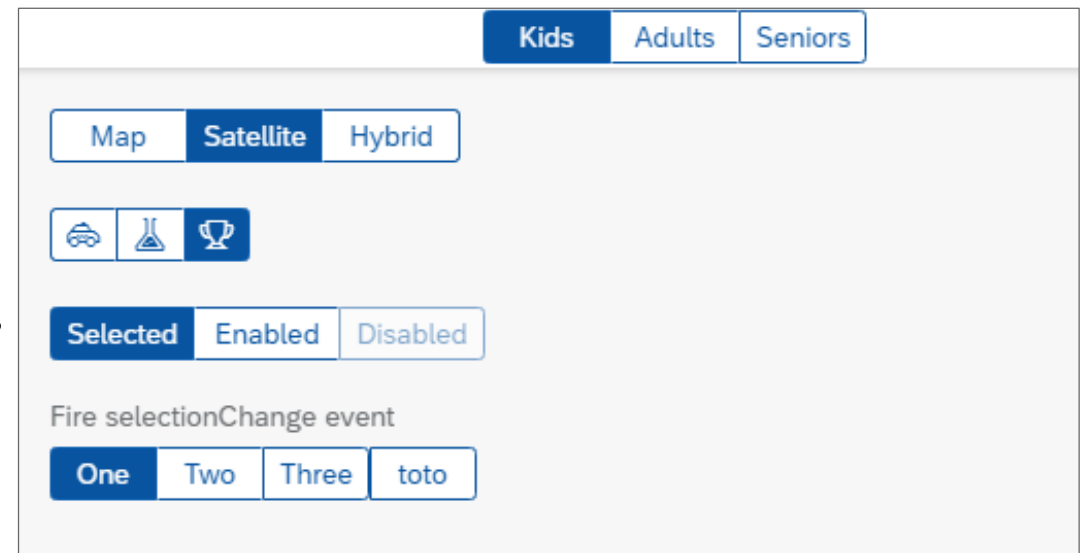
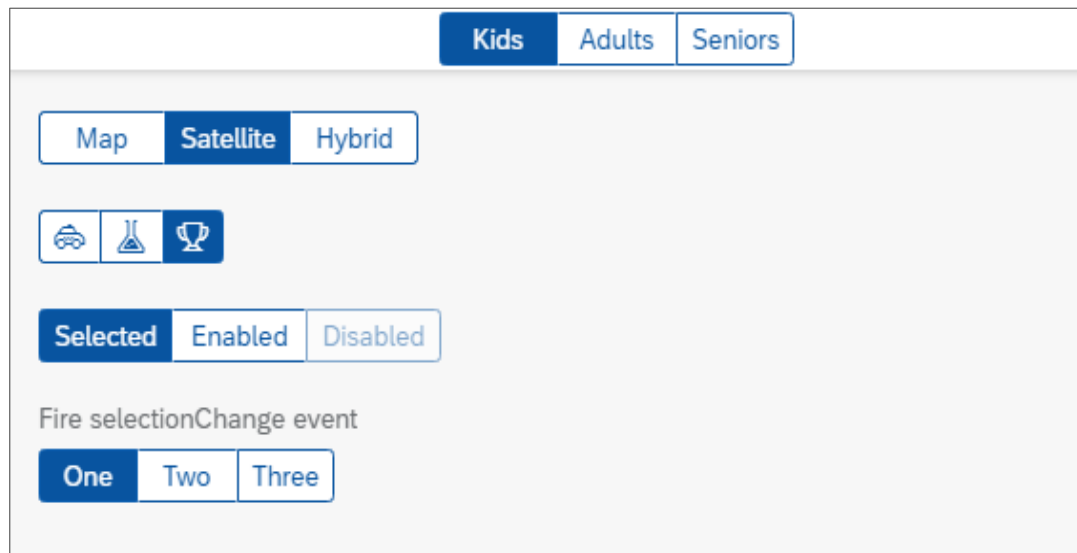
Test1 × Test2 ×

SAP Connector – SAPUI5

Segment button

Add item:

```
SAPUI5.pSegmentButton.oSegmentButton.addItem({text: "toto", key:"totoKey"});
```

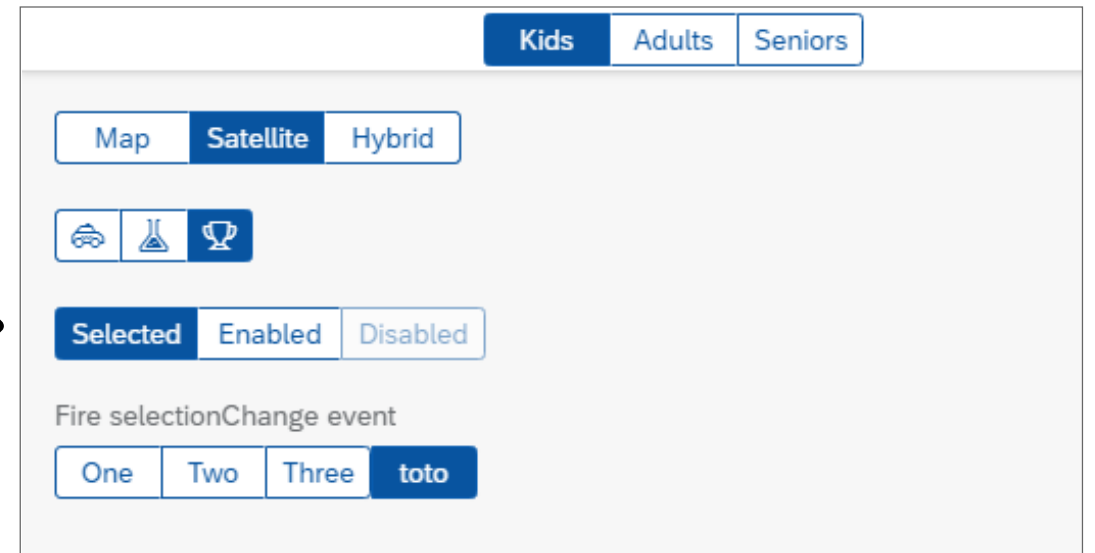
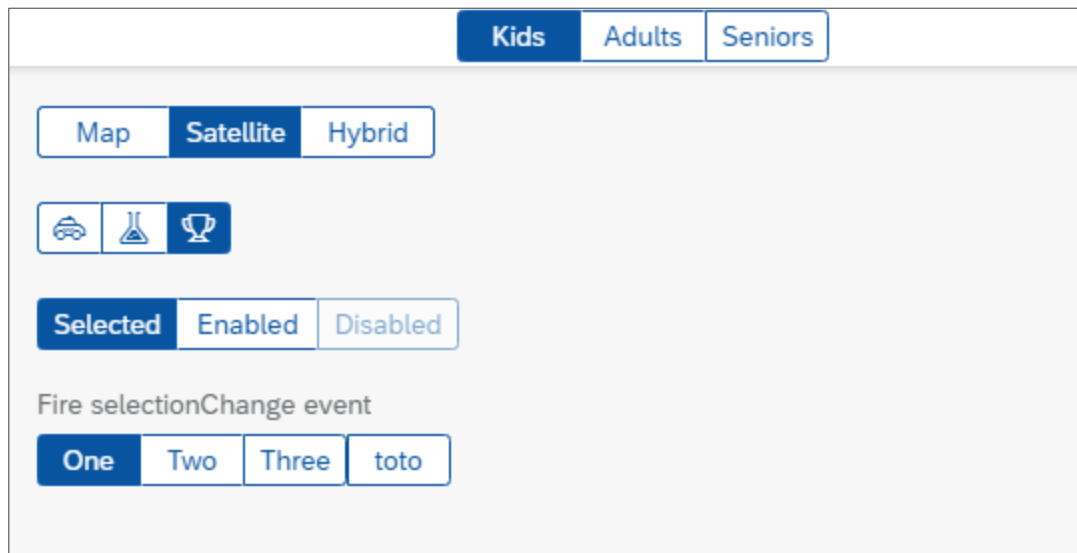


SAP Connector – SAPUI5

Segment button

Select one button:

`SAPUI5.pSegmentButton.oSegmentButton.set('totoKey')`

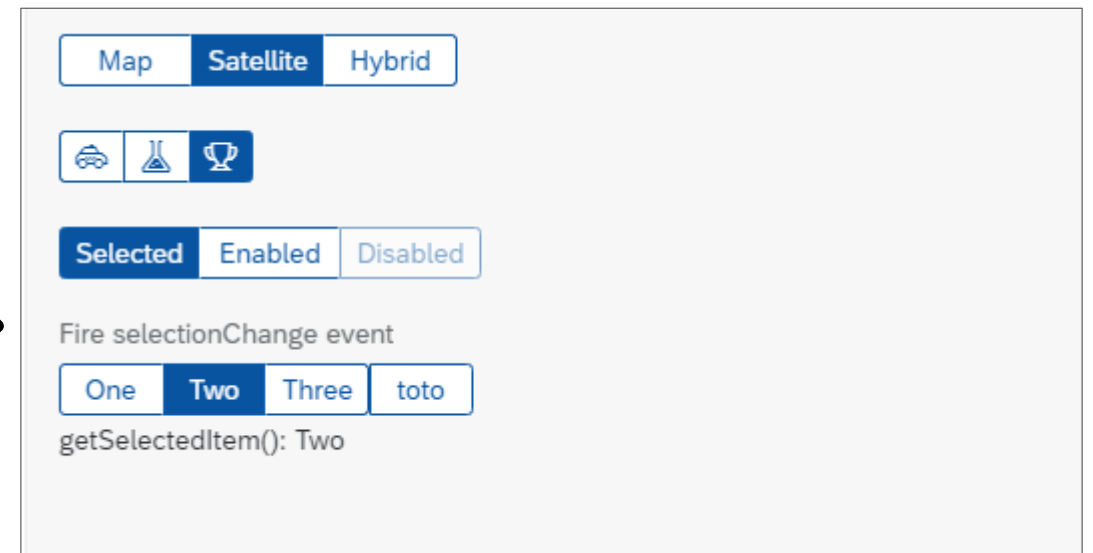


SAP Connector – SAPUI5

Segment button

Click one button:

`SAPUI5.pSegmentButton.oButton.click();`




SAP Connector – SAPUI5

Calendar

Select a date:

```
SAPUI5.pDatePicker.oDatePicker.set("5 May 1985");
```

Date Input

Date: 

Format Options


Short: 8/16/19
Medium: Aug 16, 2019
Long: August 16, 2019
Full: Friday, August 16, 2019

Relative Time Format

Relative Time: today



Date Input

Date: 

Format Options

Short:
Medium:
Long:
Full:

Relative Time Format

Relative Time:

Thank you.

Contact information:

open@sap.com

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