Simplifier Academy

Courses & Documentation

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Access Business Object via Script

this.callBusinessObject(businessObjectName, method, payload, callback, showBusyIndica
tor, failOnError, failCallback, parametrized)

businessObjectName	the name of the business object
method	name of the script template to be called
payload	JSON object with parameters as required by the called script
callback	function, which is called after the successful execution of the connector
showBusyIndicator	boolean value that indicates whether the screen has to be
	blocked by a loading bar (true) or not (false)
failOnError	boolean value that indicates whether the connector should be
	called in case of an error of the function passed via
	"failCallback" (false) or not (true)
failCallback	function, which is called in case of an error in the connector,
	if false "failOnError" is passed
parametrized	boolean value that indicates whether the called parameters in
	the payload according to the rules in the script template are to
	be verified (true) or not (false)

Action

Navigation | UI Action | Mobile Action | Server Action

Navigation



The Navigation element is used to trigger a navigation from one screen to another. By dragging it to the main screen, a list of screens to navigate to will appear in the right pane.

You can set that the navigation should navigate back, or choose between several transitions: Slide, Fade, Flip or None.



Example

In most cases, a navigation will be used when clicking on a button, so by combining a clickable event (e.g. button press) with a navigation element this can easily be achieved.



UI Action

With the UI Action element, you can map different widgets, variables and auto fields to another.

Let's say there is a very simple login screen with an input field for the name and a button to submit. The button should not be responsive, as long as the login field is empty. This can be achieved with the UI Action in the Process Designer.

Step 1

At first, assign the input field "InputUsername" to the Event.

Step 2

Next, a condition is needed. Check, if the value of the input field equals an empty string.

Step 3

If the condition is true and there is nothing written in the input field, the button should not be responsive.

Add a UI Action and set within the mapping dialog the constant (boolean, false) on the left side (source) and map it to the equivalent widget on the right side (target). Select the screen, widget and property (in this case "enabled").

For the other scenario, when there actually is an input written, you can connect the condition to a second UI Action and set the **boolean** via the constant on true.

Example

In this example, we have an application that writes the value of the first widget to the second input field and writes the value of the auto field (username) to the third widget after clicking on the corresponding buttons.









Now in the Process Designer, use 2 Events and 2 UI Actions for this.

We've already added the press event on the first button and now we have to add the UI Action. By clicking on the mapping dialog, you can open the mapping.

Connect the value of the widget Input1 with the widget Input2. Select the property that we'd like to connect by double-clicking on the widget.

To connect the auto field with the third input field, add the auto field and select the one you need, also by double-clicking on it.

This is the result of the mapping:



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ton Anno					100
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Mobile Action



The Mobile Action element enables you to use mobile features within the application.

Drag and drop the activity 'Mobile Action' underneath 'Action' into the drawing area.

Currently, there are 14 different actions implemented in the Simplifier. Use the input/output mapping to define the source for the input (request) and the destination for its output (response).

Capture Image

Determine how many pictures should be taken.





Bettings C Action C Act

Scan Barcode

Set the format of the code you want to scan, the orientation of the camera and write a text in the prompt property.

Vibrate

Define how many milliseconds the mobile device should vibrate.



Scan Meter

Parameter

DataType

Valid Values

12 / 622

Active Directory

The Simplifier can sync users of Active Directories, like users from other LDAP sources.

≡ S		Admin User
	Settings	
Image: Server Image: S		
Authentication Settings) (j) (j)	ave X Cancel
*Name: *Mechanism: *Priority: *Host name: *Base DN: Firstname attribute: Lastname attribute: Email attribute: Mobile attribute:	Active Directory ~ 0	

Property	Description
Name	The name of the authentication mechanism
Mechanism	Active Directory
Priority	Priority in which the authentication system will be executed
	(descending)
Hose name	The address of the domain controller
Port	The port of the domain controller (default 389)
Base DN	Base distinguished name, the entry point (i.E.
	OU=area51,DC=simplifier,DC=io)
Firstname attribute	The attribute in the user object for the first name
Lastname attribute	The attribute in the user object for the last name
Email attribute	The attribute in the user object for the email
Mobile attribute	The attribute in the user object for the mobile number

Add a new Library

To add a new library click on the "+" in the right corner.

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			en	B Test
			E Save	× Cancel
Charljs 2.4.0 Copyright 2016 Nick Downie * Charl js http://charljs.org/ Version: 2.4.0				
UI5 Compatible: Angular Compatible: Angular2 Compatible:		Default for UI5:		
Lipkond addScript('Chart.2.4.0 min.js', 'chartjs');				
		+		
Name	Version	Actions		
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	Charlis 2.4.0 Copyright 2016 Nick Downie Charlis Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Cuto Compatible: ? Angutar Compatible: ? Angutar Compatible: ? Angutar Compatible: ? Angutar Compatible: ? Name Name Name	Chartis 2.4.0 Copyright 2016 Nick Downie Chart js thtp://chartjs.org/ Version: 2.4.0 UI5 Compatible: Angular Compatible: Angular Compatible: Angular 2 Compatible: Angular 2 Compatible: Angular 2 Compatible: Keine Daten Keine Daten	Charjs 2.4 Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016 Nick Downie Copyright 2016	Charge 2.4 Charge

Now you can fill in the following parameter:

	Parameter	Description
Name & Description	Name	The name of the library.
		NOTE: The combination of name and
		version number must be unique!
	Version	The version of the library.
	Vendor	The vendor of the library.
	Comment	A description of the library, or e.g.
		licence information.
Compatability	UI5 compatible	Controls the assignment to UI5 Apps.
	Angular JS compatible	Controls the assignment to Angular JS
		Apps.
	Angular 2 compatible	Controls the assignment to Angular
		2 Apps.
	Default for UI5	Assigns the library automatically when
		creating UI5 Apps.
	Default for Angular JS	Assigns the library automatically when
		creating Angular JS Apps.
	Default for Angular 2	Assigns the library automatically when
		creating Angular 2 Apps.
Content	ZIP file	The ZIP file, that contains the library.
	JS code to include	Code snippet to integrate the library
		into Apps.
Dependencies	Dependencies	Dependencies to other libraries.

Angular 2 libraries

If you mark a library as "Angular 2 compatible", you have to fill in additional configuration data in the Content Area (you don't need a file upload for Angular 2 libraries anymore).

In this additional configuration data field, you can configure npm dependencies of your Managed Library and import custom components. With this high level configuration it is possible to include any Angular 2 specific npm package and configure vanilla Angular 2 apps.

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≣ S			e	n 2	Test ~
Library Details			⊟ Sav	e ×	Cancel
Name & Description					
Name: Version: 4 Version: Comment: [Angular2 4.1.3 Google Default Angular2 library				
Compatibility					
	UIS Compatible: Angutar Compatible: Angutar2 Compatible:	Default for Angular2: 🗸			
Content					
Additional Configuration Data:	{ "dependencies"; ["adject: "@angularicommon"; "version"; "41.3"); "autilat:"@angularicomplet: "version"; "41.3"); "autilat:"@angularicomplet: "version"; "41.3"); "autilat:"@angularicom; "version; "41.3"; "autilat:"@angularicom; "				

Add a PDF Template

Add Template

To add a template, you need the following parameter:

URL	/client/1.0/PLUGIN/pdfPlugin/adminTemplateAdd		
Input-P	Input-ParaName Template name		
meter			
	Data	Template content (Base64-coded)	
Stylesheet	Content of the LESS Stylesheets		
		(Base64-coded, optional)	
	PreviewJson Content of the sample da		
		format (Base64-coded, optional)	
0.4.4	D- Maria		

Output-Pa None rameter

Example for a call:

```
{
    "name": "templatename",
    "data": "SGFsbG8gV2VsdA==\",
    "stylesheet: "SGFsbG8gV2VsdA==\",
    "previewJson": "SGFsbG8gV2VsdA==\"
}
```

Output example:

{
 "success": true
}

Additional Requirements for Oracle Databases as Backend

On-Premise Installation

Oracle as a DB backend for the Simplifier requires some additional server settings, which are listed below. The Simplifier is currently running with MySQL 5.7 and Oracle 11g.

Database Settings within the Oracle Database:

Parameter OPEN_CURSORS Recommended Value 3000

Supported Oracle version:

Oracle Database 11g Release 11.2 - 64bit

Desired/recommended instance names (Productive and Test):

simplifierp and simplified

Required tablespaces:

simplifier 5G, Temp 1G, Undo 512 MB, Users 5MB

Oracle user and required roles and permissions:

simplifier_np (in Prod and Test) permissions to run DDL

Database Characterset:

AL32UTF8

National Characterset:

UTF8

Default language:

German, Germany

Processes and Sessions:

Value to 1000

Administrate Templates

Templates are HTML templates that allow you to create and consistently use patterns.

To create a new template, click on the plus icon in the template overview. Select the folder name and enter a template name, optionally a description. Now enter the HTML template content and click on Save.

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	s de la constante de	en 📔 🔗 Felicitas Weber 🗸
	Templates	
		Save X Exit
Ŧ	*Folder name: system *Template Name: NewUserPassword/Mail_en Description: Description: Template Editor	K Ext

In the Template Editor, you have several options in the toolbar:

- Undo
- Redo
- Search
- Search and Replace
- Settings
- Fullscreen

In addition, it is possible to parameterize templates. To do this, switch to the tab 'Parameters'. Via the plus icon you can add new input parameter.

For information about how to send the Templates go to: Business Object Script Template - Send Email.

Android Client

Below is a description of the Simplifier Mobile Client for Android. After you have downloaded the Simplifier Mobile Client from the Play Store, start it on your mobile device.

First you have to authenticate yourself on the login screen with your Simplifier username and password. Enter the instance you want to access. If the device has a fingerprint reader, you can choose to restore your password with it. You can save your login so you don't have to re-enter it every time.

Since it is uncomfortably to type the instance, you can also use the QR code login. Read <u>here</u> how to create a corresponding QR code in the Simplifier.

Once you have successfully authenticated yourself, you are in the overview of installed applications. At the beginning, this overview is empty. At any time, you can log out by clicking on the logout button in the top left corner. At the top right, on the Simplifier icon, various information will be displayed.



To now use apps on your mobile device, switch to the screen **Browse Apps**. You now see an overview of all applications that are on the specified instance. To install apps, simply click on them. When the apps are downloaded, **Installed** will display a notification with the number of newly installed apps. You can delete installed application by swiping to the left.

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If an app, that you have already installed, has been newly deployed on the instance, you will be informed about updates of the application.



At the top right, you will find an overview of all settings.

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🖼 🛦 🖬 🔋 🎜 823	6 🖹 4:54 PM								
		🖾 🛦 🖸		₹. 4 8	81% 🖹 4:54 PM			-	
E			Browse Acos		Settings	S A 🖸		7.48	2% 0 4:53 PM
Installed Browse Updates Apps	Settings	instan 2	eu applic	auons		Ce LOGOL			s
GENERAL		Llood	torogo			Installed			
Autostart Business Applic	ati	6,5 MB	storage			Q	Apps		
		Remo	Remove all applications						
Automatic Login After opening the client login directly		All installe the device	ed application	s will be remov	ved from	Sma Sma	Z_Example_Si art_Maintenan	martMaintenar ce_Dashboard	ice©
Automatically update		Autom	natic upd	ates			SimplifierExt	placed	
authentication Sessions will be automatically extended		REMOTE C	ALL			S fier	Be	oilerplate App s	hov. 🗄
Dark theme The change will be active after a restart of the application		Defau	lt setting	S	•				
STORAGE		DEVELOPE	R MODE						
Libraries		Develo With this be activat	oper mod setting a deve ed	e loper mode ca					
Used storage		ERROR HA	NDLING						
		Send error logs							
Remove unused libraries		With the I applicatio	elp of error lo n can be reco	gs errors in the gnized and sol	e ived				

Anonymous Profile for Plugins

If you want to access plugins, you can work with anonymous users. Therefore the PluginAPI works with AnonymousAppProfile.

So only the assigned role to your Application needs the permission to use the Plugin.

Read more about roles.

App Links

Through App Links you can launch specific Simplifier business applications via Deep Links / URL. Use this feature to crosslink different business applications on your mobile device. App Links can be used with the following URL scheme:

Scheme:

```
simplifierclient:///<action>/<value>?<param>=<value>[&<paramN>=<valueN>]
```

Explanation:

simplifierclient:// – The url type, on that the simplifier client is registered. All uris with this link opens the client by default. If parameters or path components are missing, at least the client is always started.

/<action> – The action to take. For now only "appDirect" is available.

/<value> – The value for the action.

?<param>=<value> – The URL arguments are beeing passed to webview so business app can access them. So on the client the local href would be something like

$file:///some_very_long_ios_path/www/businessapps/Simplifier_Explored?foo=1\&bar=2$

Example:

simplifierclient:///appDirect/Simplifier Explored?foo=1&bar=2

The example above launches the simplifier client if installed and runs the app "Simplifier_Explored".

Restrictions:

- Simplifier Client needs to be installed
- if client is not running, client will be startet and user has to login
- shows popup with countdown when a link was clicked
- url-launch is higher prioritized than automatic app-launch
- if client is already running with a business app, nothing will happen to prevent misbehavoir in app lifecyle
- shows warning if desired app is not installed
- if autoupdate before launch is enabled, the business app will be updated before launch
- broken or non valid links are not beeing processed

Applications

II S		Simplifier	Dashboard	en 🖉 Felicitas Web
	APPLICATIONS 43	CONNECTORS 19	BUSINESS OBJECTS 14	DATA TYPES 139
	Create, manage and configure applications, widgets and libraries. Process mapping defined within user stories.	Create, manage and configure the interfaces and respective logins to connect to different systems and devices.	Merge the connectors, plugins and business objects for easy and fast reuse of complex business requirements.	Create, manage and configure domain types, structures and collections as well as define validation rules.
	USERS 10	TRANSPORTS 34	PLUGINS 5	LOGS & MONITORING
	Create, administrate and configure all of your Simplifier users, groups and roles with their corresponding user permissions.	Migration of applications and individual components to other Simplifier instances, inc. simulation and validation of transports.	Offers the possibility to extend or change the core functions of the Simplifier with the help of any external plugin.	Central monitoring and titlering of all user and system activities. Provides detailed information which are very helptul for debugging.
	JOBS 3	TEMPLATES 6		
	Create and administrate jobs for the execution of business objects. These are based on flexibly configurable time intervals.	Creation and definition of reusable HTML text components. These can be personalized by using of different, predefined placeholders.		

 \sim

The Simplifier transforms your business process into a configured business application for

- Web Portals for Desktop-Browsers (Chrome, Firefox, Microsoft Edge)
- Mobile Phones and Tablets
- Wearables Devices like Smartwatches and Glasses

Applications run on any device because it is generated on common open standard technology.

Overview

By clicking on the Applications tile, you will be lead to the overview. At default, there you will see a table with all created applications. Within this table, you'll get information like the name of the app, created by, last edited by, version, customization ratio, framework, and several actions.



At the top, to the right of the plus icon, you can switch between the list and table view. By changing the view, all lists in the Simplifier are changed.

There you will see all created applications with information like the name of the app, the description, created by, last edited by, and the framework.



If you click on an application in the overview, further information and actions are displayed on the right side. On the one hand, you can edit the app name, switch directly to the application preview, or delete the application. On the other hand, you can customize the description, the app icon, look at the customization ratio and the version. Below this information, you then have various actions, in this case, Copy Application and Show Releases.

App Created

Last Edited

Version Customization Ratio It's the name of the application.

The name of the person who has created the application (with date and time).

The name of the person who last edited the application (with date and time).

It's the version number of the releases.

Assets

To upload files like documents, images, videos, 3D models or office documents to your application, click on the assets button.

You can choose between three different options:

- Images like .PNG, .TIFF, .JPEG or .BMP Files
- Javascript for extending your application with other libraries
- Other files like .PDF Documents, 3D-Models or Media-Files (Audio, Video, etc)

To upload an image, choose it from your client via the upload button – a preview will be generated after uploading and also the path for referencing it later into an parameter of an image widget. In our screenshot the path is *img/Wine.jpg*. By clicking on the red cross on the right side, you can delete the asset file.

			Assets	5		\times	
Images	Javascript	other Files					
"Wine.	ipg*		Browse				
Imag	es						
3	Wine.jpg img/Wine.jpg	9			image/jpeg	\otimes	

To insert the assets into your user interface add, an image widget and write the path in the source field (src) in the Edit Area on the right.

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UI Designer Process De	esigner Code Designer											
YelloWorld		Preview	Assets	CSS Editor	🚱 Lang	lage 🛤	Theming			🐻 Release	🖫 Save	e 🗙 Exit
image	8 Q	Select target s	creen		Ę		1 +	Edit Ar	ea - Image1			
Actions	~			Screen1				Prope	Image	Event e1		
Composite	~							Туре	sap.u	i.commons.lr	nage	
🗄 MImage	+							src	img/V	Vine.jpg		
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		Content Scree	n1		$\leftarrow \uparrow$	\downarrow	$\rightarrow \overline{m}$	alt				
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Valueholders	\sim							width	200px	ĸ		

Assign Roles

Roles control who receives the messages. Any user who has the corresponding role and uses the Simplifier client at the time of sending a message will receive the message.

Enter the required roles in JSON notation as follows:

```
{
"roles": [
"<Role-1>",
"<Role-2>",
...
"<Role-n>"
]
}
```

Assigning Libraries to Apps

You can assign libraries to your application in the <u>UI</u> <u>Designer</u>.

Click on "Libraries" in the upper menu bar to see an overview of all the libraries that are currently used in your app.

If you click "+" you can add a library.

The icon left-handed computes all dependent libraries (of the app itself and its widgets as well as all transitive dependent libraries).

			Annihoation Dat	ala		
			Approation Day			
UI Designer Process Dashboard Data Violabench	Sucrety					Cude Designer
HelicWorld_Basic		😰 Preview 🛞 At	sets 🙆 C88 Editor 🕲 Lang	page 🕸 Libraries 📓 Theming		(i) Release D Deploy (ii) Save >
learch	۹.	Select target screen		0 8 / +	Edit Area - Start	
Actions	~	Al Desktop Phone	Tablet Smartglass Wate		Properties Select Event	
ActionLatiters	+	Net Helpflicht Lack Lockflichte Screen			ID Start	
ActionSelect	+				Description	
El Button	+				structurator [7]	
Compil	+			D-	abard advertises 17	
DateTimePicker	+	Contest Patview			anacones(0)	
FileUploaderWIIIUploadComplete	+				showOrtPhone 🕑	
GenericTite	+	Content Stat		$\leftarrow \uparrow \downarrow \rightarrow \equiv$	showOnSmartglass 💽	
imageContent	+	Widget Name	10	Appregation	shewOwTablet 💽	
MCheckbox	+	> CenterLayout	CenterLayout1	ScreenContent.	showOrWatch 🕑	
MDateTimePicker	+					
MenuButton	+					
MyTrainingButtorWidget	+					
🗄 Q8_Lirk	+					
BegmentedButton	+					
ToggleButton	+					
ToolHeader	+					
🗉 URLHøper	+					
Bars	~					
Toolbar	+					
ToolbarSeparator	+					
Chart	~					
Asynchronous Connector Request Json Examples

This section contains the required request data Jsons for different connectors and the description of each individual field.

The following Connectors are described with an example:

• OPC/UA Connector (Monitoring Requests)

Authentication Settings

The **Authentication settings** allow you to establish a connection to external Identity Providers in order to sync external user to the Simplifier.

The following Providers are supported:

LDAP	Active Directory		2 La Vite	SAP
LDAP	Active Directory (AD)	SAML 2.0	oAuth 2.0	SAP Single-Sign-On
				(SSO)

Note: if all authentication systems that are set have been run through and no result has been obtained, a login is executed against the Simplifier User database.

Automated Testing



On application deployment, the app generator provides a basic self-test for the business application. The automated tests are based on the <u>SAP OPA5</u> test framework.

The URL of the test page is relative to the deployed business application used under the subpath /test/integration/opaTests.qunit.html and can be opened with a browser.

As an admin, you can perform an automated test. Make sure you are already in the UI Designer for the testing application. Switch to the tab **Testing**.

To create a new test case, click on the plus icon. Enter a test case name and the testing code. Then click on show test page.

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∎ S							en A Felicitas Weber
			Application Details				
UI Designer Process Designer Data Workbench	Security Test	ng					Code Designer
*Demo_Automated Test		🗈 Preview 🕞 Assets 🕼	CSS Editor 🔞 Language	🌾 Libraries 📧 Theming	i		🕼 Release 🖒 Deploy 🗟 Save Screen 🗸 🗙 Exit
Search	Q	Select target screen		5	0 +	8 Edit Area - Sp	lash
		All Desktop Phone Tablet	Smartglass Watch			Droportion Coloct	Firent
Compounds	~					ID	Colorb
		' C				Description	อุมสรา
Generated	\sim	Spa	Connector	ectorikes		Description	
E Bar	+					showHeader	
Column	+	Content Preview				showOnDesktop	v
ColumnListItem	+	Splash Search	Q	$\leftarrow \uparrow \downarrow$	→ [†]	showOnPhone	~
E FlexBox	+	Widget Name D		Aggregation		showOnSmartglass	V
FlexitemData	+	> FlexBox Splas	_FlexBox_Layout	ScreenContent		showOnTablet	v
GenericTile	+					showOnWatch	
HBox	+						
E Image	+						
imageContent	+						
E Input	+						
Label	+		Click to Select				
Link	+						
List	+						
Messagestrip	+						
Ctandardi initiam	+						
StandardTile	+						
Table	+						
III Text	+						

Backups

Every instance is backed up daily in the Simplifier Cloud.



Both files and a logical database backup (dump) are stored directly on the machine. These are held locally for 4 weeks. This is very useful when restoring a single Simplifier instance.

Furthermore, the Simplifier Cloud is image-based backed up every day. These backups are held for 14 days. Should the system fail completely, we can initiate a complete restore at any time.

i ypt of backup	васкир інтеглаї	How long are the backups stored?
tarball of files and a logical database	daily	4 weeks
backup		
image-based backup of the whole	daily	2 weeks
Simplifier Cloud		
backup image-based backup of the whole Simplifier Cloud	daily	4 weeks 2 weeks

Basic Concept / Technology

All Simplifier applications are based on OpenUI5.



SAPUI5 and its open-source variant OpenUI5 help you build enterprise-ready Web apps that are responsive to all devices. The JavaScript UI library and development toolkit contains many feature-rich controls and implements the award-winning SAP Fiori user experience. It helps developers ease and speeds up the development of full-blown HTML5 Web applications.

The Simplifier App Generator generates OpenUI5 Applications based on OpenUI5 Controls. Within Simplifier OpenUI5 Controls are represented by <u>Widgets</u>.

User Interface

To create the user interface of Simplifier applications visually the UI Designer is used. In general, OpenUI5 uses pages to represent views within a single-page-app. Within Simplifier UI Designer, pages are represented by screens. Simplifier applications consist of one or more screens and every screen can be populated with widgets.

Application Logic

Within Simplifier application logic is separated by <u>user stories</u> within the Process Dashboard. Every user story contains an isolated part of the overall application logic and can be edited with the Process Designer. The Process Designer is a visual scripting environment to create application logic based on configuration elements. To find out how to use configuration elements see chapter Process Designer.

How	OpenUI5	concepts a	are handle	ed within	Simplifier

OpenUI5	Simplifier	Description
Pages (Views)	Screens	OpenUI5 pages are represented by
		screens within Simplifier. A screen
		collects several widgets in a specific
		order to represent the user interface.
Controls	Widgets	OpenUI5 controls are represented by
		widgets within Simplifier. A widget
		represents a specific element in the user
		interface like buttons, checkboxes,
		tables and input fields.
View Controller	Screen Controller/User	OpenUI5 view controllers are
	Story	represented by screen controllers/user
		stories. There is an n:n relation between
		user stories and controllers.
Models	Screen Models and	Within Simplifier there is a global

variableHolder Model model named variableHolder and each screen has its own model named by the screenId.

BROWSE Call - OPC/UA Connector

Call for BROWSE operations (the name TIA_BROWSE_ALL_VARIABLES is the arbitrarily chosen name for this call)

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			Edit Connectorcall "BROWSE"				
Call							
Connectorcall name:	BROWSE						
Description:							
out Parameters Output Parameters							
lidate:							
lidate:	Optional	Alias	Description	Constant Value	Data Type		Actions
lidate: arameter Name /operations(0)/filterSettings/filter/filterType	Optional	Alias	Description	Constant Value NODE_CLASS	Data Type String	đ	Actions
idate:	Optional	Alias	Description	Constant Value NODE_CLASS VARIABLE	Data Type String String	-C- -C-	Actions
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idate:	Optional	Alias	Description	Constant Value NODE_CLASS VARIABLE 84 0	Data Type String String String String	ප ප ප	Actions
ilidate: arameter Name /operations(0)/filterSettings/filter/filter/Type /operations(0)/filterSettings/filter/filter/Value /operations(0)/nodeld/identifier /operations(0)/nodeld/mamespaceIndex /operations(0)/operationTarget	Optional	Alias	Description	Constant Value NODE_CLASS VARIABLE 84 0 SIMPLE_ALL_CHILDI	Data Type String String String String String	67 67 67 67 67	Actions The second sec
idate:	Optional	Allas	Description	Constant Value NODE_CLASS VARIABLE 84 0 SIMPLE_ALL_CHILDI BROWSE	Data Type String String String String String String	67 67 67 67 67 67	Actions a a a a a a a a a a a a
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Ilidate: Parameter Name /operations(0)/fitter/Settings/fitter/fitter/Type /operations(0)/fitter/Settings/fitter/fitter/Value /operations(0)/nodeld/identifier /operations(0)/operationTarget /operations(0)/operationType /operations(0)/returnSet	Optional	Allas	Description [Constant Value NODE_CLASS VARIABLE 84 0 SIMPLE_ALL_CHILDI BROWSE LIST	Data Type String String String String String String	6) 6) 6) 6) 6) 6) 6) 6)	Actions 20 20 20 20 20 20 20 20 20 20 20 20 20

Input Parameter

For the Browse connector call, you need to configure the "**operationType**" and the "**nodeId**" (consisting of 2 parameter: **identifier** and **namespaceIndex**). Furthermore, you need to define the **operationTarget**, a **returnSet** and **filterSettings** (optional).

operationType: Defines which operation you want to execute, in this case, "BROWSE". Parameter Name: operations/arrayItem[0]/operationType Constant Value: BROWSE Data Type: String

nodeID: Defines the identification of the OPC/UA node. It is split in 2 parameter:

• Identifier:

Parameter Name: operations[0]/nodeId/identifier Data Type: String or Numeric

- NamespaceIndex: Parameter Name: operations[0]/nodeId/namespaceIndex Data Type: String In every namespace, each ID must be unique (it is possible to use the String "7617" and the Numeric 7167 together in one namespace)
- **identifierType** (**optional**): Searches for the Identifier with a fixes Data Type. Parameter Name: operations[0]/identifierType Constant Value: Numeric, UUID, String, Byte String

operationTarget: You can browse references forward, backward or in both directions. Choose between the basic attributes (simple) or further ones, depending on the class (extended). Parameter Name: operations/arrayItem[0]/operationTarget Data Type: String Constant Value: Choose between

- SIMPLE_ALL_CHILDREN
- SIMPLE_ALL_PARENTS
- SIMPLE_BOTH
- EXTENDED_ALL_CHILDREN
- EXTENDED_ALL_PARENTS
- EXTENDED_BOTH

returnSet:

Parameter Name: operations[0]/returnSet Data Type: String Constant Value: LIST

filterSettings (optional):

- Type: Parameter Name: operations[0]/filterSettings/filter/filterType Data Type: String Constant Value: NODE_CLASS
- Value: Parameter Name: operations[0]/filterSettings/filter/filterValue Data Type: String Constant Value: Choose between

DATA_TYPE
METHOD
OBJECT
OBJECT_TYPE
REFERENCE_TYPE
VARIABLE
VARIABLE_TYPE
VIEW
UNSPECIFIED

NOTE: The specific commands are NOT defined here!

Output parameters

You can return all output parameter like this:

Parameter Name: / Data Type: String

If you want to get only selected output parameter, use the following syntax:

Parameter Name: operationsResult/[0]/browseResult/children/nodes/ Data Type: depends on the parameter you want to be returned.

For now only the complete unformatted JSON will be returned.

Build a PDF Template

Administration

To generate a PDF and manage templates, the <u>role</u> "pdfPlugin" has to be assigned to your user.



Templates

You can build a PDF Template by using HTML, CSS and JSON. A live preview is provided on the right, so you can see changes in real time.

The rendering is executed with wkhtmltopdf, therefore every HTML format and feature that supports the QT Webkit render engine is working.

With every template, a stylesheet in LESS format is generated and will be embedded automatically. You can maintain this stylesheet via the same interface as the HTML template.

The inclusion of graphics (****) and additional stylesheets (**<link rel=''stylesheet'' href=''...''>**) is also supported.

These external asserts are retrieved via the "assets" slot of the AppServer (they should be uploaded there in advance). You can refer to them in the template with a relative filename (no "http://" prefix, no path, etc.!). Example: **** (if the file was uploaded as "image.jpg")

Furthermore, you can add expressions in mustache format. These "variables" are later replaced by values from the update file to a session.

The dynamic data is retrieved as a JSON string in the key-value-store with the key: "**sessiondata/\$session**". (\$session = the session ID that is specified for the generation)

Merging

You can combine your PDF document with other PDFs or images from the key-value store.

For this purpose, you can call the list of all the resources you want to merge with the key "**merge/\$session**" in the key-value store. The list should correspond to a JSON-Array, where the entries of the JSON-Array are the keys of the resources to be merged. For example: ["document1.pdf", "document2.pdf", "image.jpg"].

The binary data of the corresponding documents should be filed in the key-value store under the keys "document2.pdf", "document2.pdf" and "image.jpg".

If the list of merge resources is not found for a session or if the list is empty, the merge is skipped.

Saving the generated PDF

After a PDF has been successfully generated, the binary data is stored in the Key-Value Store under the key "**pdf/\$jobid.pdf**". (\$jobid = the job ID, that will be returned after the generation has started)

If the generation can not be executed successfully due to an error, a fault reporting is stored under the key "pdf/\$jobid.log" in the key-value store.

Business Objects



The Simplifier allows you to create complex integrated applications up to a high degree solely through configuration. Nevertheless, at some point in time, advanced business logic might be required, which can't be implemented merely by configuration. This is when Business Objects come into play.

Business objects are implemented via JavaScript. This way they integrate seamlessly into Simplifier applications. They enable you to write arbitrary business logic and interact with other Simplifier artifacts like connectors, plugins or other business objects. They can also be used among different applications.

APPLICATIONS	43	CONNECTORS 19	BUSINESS OBJECTS 14	DATA TYPES 139
USERS	10	TRANSPORTS 34	PLUGINS 5	LOGS & MONITORING
Create, administrate and configure Simplifier users, groups and roles corresponding user permissions.	a all of your with their	Migration of applications and holdwall components to other Simplifier instances, inc. simulation and validation of transports.	Offers the possibility to extend or change the core functions of the Simplifier with the help of any external plays.	Central monitoring and literage of all sizes and system activities. Provides detailed information which are very helpful for debugging.

 \sim

To copy a business object, just click in the overview of business objects on the 'Copy Business Object' button on the right of the selected entry.



Copy Business Object

After you have clicked on it, a pop-up appears in

which you can specify the new name of the business object. Then click on 'Save'.

	Business Objects	en 🛛 🖉 Felicitas Weber 🖂
Server-side		_ m
jobexample		। ।
ø JobExample	ه د	obExample / 🗟 📷
		Description
	Copy of Business Object "JobExample" *Business Object Name: JobExample_Copy Gancet Cancet	Business object usage Capy Business Object 10 Edit methods Add Tag Image: The sendilessage

Now the business object has been copied. All included connectors, plugins and other business objects, as well as the script templates, are available in the copy.

Related Forum Topics:

Search for:

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• Posts

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anuragkumar

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in: Simplifier Forum

• 2

• 2

• 9 months, 1 week ago

Mathieu Roll

• Calling a Connector via BusinessObject

Started by: A dcyborra
in: Simplifier Forum
3
3
9 months, 2 weeks ago
13

Viewing 3 topics – 1 through 3 (of 3 total)

•

Change your Password

For security reasons, it is always a good idea to update your password regularly.

In order to change your password, you have to switch to the 'Users' tile in the Simplifier dashboard. After that, search for the user whose password you want to change and click on the **edit** icon underneath ,Actions'.

Ⅲ ⊊	ŝ				en en	\underline{S} Felicitas Weber \checkmark
			User Management			
Felicitas	sers Roles Grou	A QR Generator Permissions				+
First Nam	ie	Last Name	User Name	E-Mail	Actions	
Felicitas		Weber	f005	felicitas.weber@itizzimo.com	R 🗾	D 6
					d	Edit

You will be lead to the user details of the selected user. Now click on the 'Send Password Link'. You will receive an email with a link to change your password.

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 5				en A F	elicitas Weber \sim
	User Details				
					X Consol
				(j) Save	s X Calicel
Details Password Attributes					
Salutation: Miss V	Dalas Crauna				
*First Name: Felicitas	Roles Groups				
*Last name: Weber	Add Role				
*Login Name: f005	Assigned Roles				
*E-Mail: felicitas.weber@itizzimo.com	Role Name	Role Description	Role Status	Actions	
Send Password Link	AppDigital_Repair_Guidance	Role for application: Digital_Repair	\checkmark	Ŵ	
Renewal Date: 12.12.2999	AppDigitalForm	Role for application: DigitalForm	\checkmark	W	
Mobile Number:	AppDigitalRepair	Role for application: DigitalRepair	✓	(III)	
	Appfe	Role for application: fe	✓	Ŵ	
	AppHelloWorld	Role for application: HelloWorld	✓	ŵ	
	Appmobileaction	Role for application: mobileaction	✓	Ŵ	
	AppMyFirstApplication	Role for application: MyFirstApplication	✓	ŵ	
	AppOPCUAMachineMonitoring	Role for application: OPCUAMachine	✓	Ŵ	
	AppPredictiveMaintenance	Role for application: PredictiveMainte	\checkmark	Ŵ	
	AppServerAction	Role for application: ServerAction	✓	Ŵ	

If you need help, please contact an admin.

If you're an admin and want to change someone's password, click on the ,**Password**⁺ tab in the upper left corner. Now all you

have to do is enter the new password, confirm it and finally click on , Change Password'.

 S. S. S	en	$\underline{\circ}$ Felicitas Weber \checkmark
User Details		
		× Cancel
Details Password Attributes		
*New Password:		
Change Password		

Checklist - Simplifier onPremise Installation

Here you will find a checklist for all On Premise installations. You can check off the points when you've finished them. **During this time, please do not reload this page.**

Have a <u>FQDN</u> (Fully-Qualified Domain Name) for each instance of the <u>D (Development) Q (QA /Test System) P</u> (<u>Productive) System</u>

Checklist SAP SSO over SOAP



SAP SSO WORKFLOW FOR SOAP / SAP ENTERPRISE SERVICES LOGON

* http://hostname.example.com:8000/sap(bD1kZSZjPTgwMA==)/bc/bsp/sap/system_test/test_sso2.htm

Check 1: SSO2 Check

- 1. Start Transaction SE80
- 2. Choose Type BSP Application
- 3. Choose SYSTEM_TEST/test_sso2.htm
- 4. Test/Run (F8)

http://hostname.example.com:8000/sap(bD1kZSZjPTgwMA==)/bc/bsp/sap/system_test/test_sso2.htm

5. Check if Cookie ,MYSAPSSO2=...' available

Check 2: SSO Parameter

- 1. Run transaction code RZ11(temporary) RZ10 (permanent)
- 2. Check if the following parameter has been set

login/accept_sso2_ticket login/create_sso2_ticket icm/host_name_full 1 2 (without certificate) FQDN

(e.g. hostname.example.com)

Check 3: SSO Login

1. Open transaction SA38

2. Choose report SEC_TRACE_ANALYZER

Check 4: Permissions

Every user needs the following permission object:

S_SERVICE

Attributes SRV_NAME SRV_TYPE Values Name of Webservice Type of Webservice (HS)

Troubleshooting / Common Errors & Solutions

The following section documents the most common errors with possible solutions.

- Q: What should I do when HTTPS/SSL is not available?
- A: If you have problems with the connection set it from SSL to None
- Q: What if the WSDL Consumer has problems parsing the WSDL?
- A: Manually replace the string ws_policy in the WSDL with standard
- Q: How can I monitor the error log of SAP Web services?
- A: The error log can be viewed with transaction "srt_util".
- Q: How can I change the SAP web service login language?

A: The standard login language is also via SAP Webservices in English. Thus, all data determinations according to e.g.: Status texts, material text ect. always return in English language.

To be able to change it to German, the following prefix must be appended to the **SOAP Webservice operation URL**: "?sap-language=DE"

This does NOT mean the WSDL URL!

Q: How can I call the web service from another SAP client?

A: The **web service operation call** must be done with the parameter?sap-client=[client] so that the system can recognize the client.

Q: What if the Simplifier does not have access to the SAP system?

A: Check the following points:

Please make sure that there is a physical connection between the Simplifer (host) instance and the system. Firewall/Ports may need to be enabled to allow communication in both directions.

The Simplifier Docker or host system must be maintained with the correct network settings for on premise installations. This includes, for example, the setting for DNS servers.

Client-Side - Access Connectors

To access a connector using your business object, you must first add the connector to it.

var lfx_success = function(data) {
 console.log(data)
 };
 var lfx_error = function(data) {
 console.log(data)
 };
 var lb_showBusyIndicator = true;
 var lb_failOnError = true;
 Simplifier.Connector.GIS.getGisDivision({ }, lfx_success, lb_showBusyIndicator, lb_failOnError, lfx_error)

Client-Side - Access other Business Objects

To access other business objects using your business object, you must first add them to your current business object.

Access Server-Side Business Object

 $Simplifier.BusinessObject.ContentRepository.contentFolderEdit(\{\}, lfx_success, lb_showBusyIndicator, lb_failOnError, lfx_error$

Access Client-Side Business Object

Simplifier.ClientsideBusinessObject.ClientSideBO.getData({}, lfx_success, lb_showBusyIndicator, lb_failOnError, lfx_error)

Client-Side - Access Plugins

To access a plugin using your business object, you must first add the plugin to it.

var lfx_success = function(data) {
 console.log(data)
 };
 var lfx_error = function(data) {
 console.log(data)
 };
 var lb_showBusyIndicator = true;
 var lb_failOnError = true;
 Simplifier.Plugin.contentRepoPlugin.contentFileEdit({ }, lfx_success, lb_showBusyIndicator, lb_failOnError, lfx_error)

Client-Side Business Object API

You can access any methods of the Simplifier by using the Simplifier Object.

Connectors

```
Simplifier.Connector.<ConnectorName>(payload: object, successCallback: function, busy
Flag?: boolean, failOnError?: boolean, errorCallback?: function): void
Simplifier.Connector.<ConnectorName>.<CallName>(payload: object, successCallback: fun
ction, busyFlag?: boolean, failOnError?: boolean, errorCallback?: function): void
```

Example:

```
var payload = {bindingName: "Binding", operationName: "MyOp", soap: {foo: "bar"}};
function onSuccess (data) { resolve(data); };
Simplifier.Connector.MySoap(payload, onSuccess, true, true);
Simplifier.Connector.MySoap.myCall(payload, onSuccess, true, false, function () { con
sole.log("something went wrong"); });
```

Business Objects

Simplifier.BusinessObject.<BOName>.<MethodName>(payload: object, successCallback: fu
nction, busyFlag?: boolean, failOnError?: boolean, errorCallback?: function, parametr
ized?: boolean = true): void

Example:

```
var payload = {leftOperand: 3, operation: "add", rightOperand: 4};
function onSuccess (data) { resolve(data); };
Simplifier.BusinessObject.OtherBO.someMethod(payload, onSuccess, true, false, functio
n () { console.log("something went wrong"); }, true);
```

Client-side Business Objects

```
Simplifier.ClientsideBusinessObject.<CSBOName>.<FunctionName>(payload: object, succes
sCallback: function, busyFlag?: boolean, failOnError?: boolean, errorCallback?: funct
ion): void
Simplifier.CurrentClientsideBusinessObject.<FunctionName>(payload: object, successCal
lback: function, busyFlag?: boolean, failOnError?: boolean, errorCallback?: function)
: void
```

Example:

```
var payload = {leftOperand: 3, operation: "add", rightOperand: 4};
function onSuccess (data) { resolve(data); };
Simplifier.ClientsideBusinessObject.OtherBO.someMethod(payload, onSuccess, true, fals
e, function () { console.log("something went wrong"); });
Simplifier.CurrentClientsideBusinessObject.someMethod(null, onSuccess, true, false, f
unction () { console.log("something went wrong"); });
```

Plugins

```
Simplifier.Plugin.<PluginName>.<SlotName>(payload: object, successCallback: function,
busyFlag?: boolean, failOnError?: boolean, errorCallback?: function): void
```

Example:

```
var payload = {name: ""};
function onSuccess (data) { resolve(data); };
Simplifier.Plugin.contentRepoPlugin.listRepos(null, onSuccess);
Simplifier.Plugin.contentRepoPlugin.createRepo(payload, onSuccess);
```

CryptoJS

```
var sMySecretKey = "secret";
var oCrypted = CryptoJS.AES.encrypt("dontStealMyData", sMySecretKey);
output.result = CryptoJS.AES.decrypt(oCrypted, sMySecretKey).toString(CryptoJS.enc.Ut
f8)
```

Take also a look at crypto-js.

Code Designer

Collaboration

It is possible to see if another user is editing the screens within the application. The number on the top left of the screen tile represents the number of editors on each screen.

Select target	screen					Þ	Ē	Ø	+
All Des	ktop Phone	Tablet	Smartglass	Watch					
		1 Splash	1 Connector	Connector	Res				
Content	Preview								
A Connec	ctor Sear	ch	Q	5	℃ ←	\uparrow	\downarrow	\rightarrow	Ŵ

As soon as another user starts editing the same screen, the color of the button (in the upper right as well as in the content area) changes to red. To show all editors, click on the button to open a popover with the editing users.

Select target screen			Ę	€		Ø	+	Edit Area - Cor	nnector
All De	esktop Phone	Tablet Smartglass Watch						Properties Select E	Event
								ID	Connecto
		Splash Connector Cor	InectorRes					Description	
								showHeader	 Image: A start of the start of
Content	Preview							showOnDesktop	\checkmark
2 Conne	ector Search	Q	じ C ← /	↑	\downarrow	\rightarrow	W	showOnPhone	~
Editing users	ie	ID	Aggregation					showOnSmartglass	\checkmark
felicitas.weber	x	Connector_FlexBox_Layout	ScreenContent					showOnTablet	\checkmark
laura.streng	sageStrip	Connector_MessageStrip_Info	items					showOnWatch	\checkmark
X Close	lexitemData	Connector FlexItemData Me	layoutData						<u> </u>

The list of editors is always up to date, so you get an immediate response if someone else starts editing the screen.

Due to the autosave function, there are possibilities to make changes undo or redo. That means, that user actions within the screen content and properties can be undone by clicking on the undo-icon.

https://academy.simplifier.io

Content Preview				
Screen1 Search	Q	บ ๙ ← ↑ ↓ -	→ <u></u>	
Widget Name	ID Set property Screen1_E	Button_Next of type		
	Set property Screen1_E	Button_Next of description		
Button	Scre Changed ID of Screen1	_Button2 to Screen1_Button_Next		
✓ Table	Scre	n2		
Column	Scre Changed ID of Screen1	Changed ID of Screen1_Table1 to Screen1_Table		
Column	Screen1_Colur	Inserted Screen1_Column2		
Button	Screen1_Button_Next	ScreenContent	8	

The undo-list offers the last actions on the current screen, starting with the last one. If you select an entry from the list, it will be undone including its subsequent actions.

An avatar screen of the corresponding user is displayed within the list. In the case of collaboration, it becomes obvious that the operation will eventually undo the work of another user.

The following actions are listed:

- edit the screen properties
- add and remove widgets (screen elements)
- move widgets in the element tree
- edit widget properties, including ID, data aggregation, validations and events

Please note:

The undo lists at the application level are only retained as long as a user is active in the UI Designer. When the last user leaves the application, the lists and all deleted screens are permanently deleted.

The redo-icon provides recently undone actions to redo. The list is cleared when regular editing takes place.

Screen1 Search	Q	ଅ ⊂ ← ↑ ↓ → 🖻
Widget Name	ID Set propert	y Screen1_Button_Next of description
Button	Screen1_Button1	ScreenContent
✓ Table	Screen1_Table	ScreenContent
Column	Screen1_Column1	columns
Column	Screen1_Column2	columns
Button	Screen1_Button_Next	ScreenContent

Collection Type

Collections represents multiple results of Structs. For example a databank request may deliver a list of addresses from numerous people.

To create a new Collection Type click on the "+" button.

Collections						
Count: 11						
Search				Q		
Name	Collectiontype	Description				
ET_STKO	ES_STKO		۵ / ۱			
ET_STRUC	ES_STRUC		R / 🗑			
ET_RETURN_BOM	ES_RETURN_BOM		۵ / ۱			
QMEL_SearchCollection	QMEL_SearchStruct		R / 🗑			
ET_STPO	ES_STPO		۵ / ۱			
GetOrdersCollection2	GetOrdersStruct	Auftragssammlung	R / 🗑			
ET_RETURN	ES_RETURN	SAP Nachrichtentabelle	۵ / ۱			
IT_NOTIFPARTNR	IS_NOTIFPARTNR	SAP Partnertabelle zur SAP Meldung	R / 🗑			
GetOrdersCollection	RestGetOrders	Collection	۵ / 🖻			
GetPositionsCollection	GetPositions	Catch 'em all	Q / m			

You can define a unique collection name and a description.

By clicking on "Parenttype" a new pop up opens, where you can choose the parenttype from. **NOTE:** A Collection can only reference to a Struct or single Domain Types.

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After you have clicked on apply, the parenttype will be used.

≣ S		en	<u>₹</u> Test ~
	Types		
圉 Create		G Save	× Cancel
Name:	Address List]	
Parenttype:	Address ~		
Description:	collection of addresses		

Conferencing Plugin for WebRTC Calls

The Cordova Conferencing provides WebRTC Conferencing functionality via Intel's WebRTC SDK.

Intel WebRTC SDK Version: 4.1

Platforms:

- Android (5.0+ x86, armV7, arm64-v8a)
- iOS (11+)

Cordova: 8+

General information

When the local user connects to a room, this plugin overlays the cordova webview to show local and/or remote media streams.

Possible Actions

Active Actions

Actions triggered by local user

- init Take stun/turn-, userconfig and initializes connection
- joinRoom Join a room
- leaveRoom Leave a room
- getParticipant Get participants of a room
- editParticipant Update participant properties
- kickParticipant Kick a participant
- createRoom Create a room
- getRoom Get a room
- editRoom Update room options
- deleteRoom Delete a room
- subscribe Subscribe a remote stream
- unsubscribe Unsubscribe a remote stream
- publish Publish a local stream to a room
- unpublish Unpublish a local stream
- startScreenSharing Start to sharing/streaming the screen content
- stopScreenSharing Stop screen sharing
- sendMessage Send message to selected participants
- resizeRemoteContainer Resize the native view of remote stream
- resizePublishContainer Resize the native view of local stream
- getStream Get a stream of selected room
- editStream Update stream properties
- deleteStream Delete a stream
- startRecording Start recording a stream
- editRecording Update recording options
- stopRecording Stop recording a stream
- getRecording Get a recording
- startStreamIn Add an external stream to room
- stopStreamIn Remove the external stream

Passive Actions

Actions triggered by server/remote user/network

- onReceivedChatMessage User receives a chat message
- onChangedParticipantStatus Participant leaves room
- onChangedConnectionStatus Server/room get disconnected

Usage

Configuration description

Object connectionConfig (required)	Field username	Type String	Possible Values	Default	Description Defines the username
(required)	server untrustedCertificate	String boolean	URL-Schema		signaling server url Trust all certificates
viewConfig (optional)	scalingFactor	float	<1.0 = downscaling ->1.0 upscaling	0.	Scales CallUI width and height to given factor
	gravity	String	top_left, top_center, top_right, bottom_left, bottom_center, bottom_right, left_center, right_center	bottom_right	Aligns scaled UI to given value
mediaConfig (optional)	maxWidth	Integer	a resolution that makes sense	640	set maximum width of transmitted video to next (smaller) possible video resolution supported by device camera
	maxHeight	Integer	a resolution that makes sense	480	set maximum height of transmitted video to next (smaller) possible video resolution supported by device camera
	cameraDialog	boolean	true/false	true	enable / disable camera picker dialog
	preferFrontCamera	boolean	true/false	false	if camera dialog is turned off, front camera is prefered to be opened if device has such
	maxFps	Integer		30	max transmitted frames
	maxVideoBandwidt h	Integer	min 200 @ low resolution	1500	limits bandwidth of video channel to given value in mBit/s
	maxAudioBandwidt h	Integer	min ~30	100	limits bandwidth of video channel to given value in mBit/s
	videoCodec	String	VP8, VP9, H264, H265	H264	switches used hardware decoder. if h264 is not present on device, VP8 is

used as fallback

iceConfig (Array –	url	String	URL	Turn/Stun-URL
optional)	username	String		username for Stun/Turn authentication
	password	String		password – can be empty for anonymous access

Cordova API

init

/**

- * Initializes native views and config properties.
- *
- * @param config JSONObject The config data
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

```
*/
```

ConferencingPlugin.init(config, success, error);

joinRoom

/**

- * Create a conferencing token and join the selected room
- *
- * @param data JSONObject Username, roomId and role
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.joinRoom(data, token, success, error);

leaveRoom

/**

* Leave the current room and unpublish and unsubscribe all streams

*

- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.leaveRoom(success, error);

getParticipant

/**

- * Get all participants or the selected participant of a room
- *
- * @param data JSONObject RoomId and userId
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed
- */

ConferencingPlugin.getParticipant(data, token, success, error);

editParticipant

/**

- * Update the participant properties
- *
- * @param data JSONObject RoomId, userId and userProperties
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.editParticipant(data, token, success, error);

kickParticipant

```
/**
 * Kick a participant
 *
 * @param data JSONObject - RoomId and userId
 * @param token String - The simplifier token
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
ConferencingPlugin.kickParticipant(data, token, success, error);
createRoom
```

/**

- * Create a room
- *
- * @param data JSONObject Name and roomOptions
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed
- */

ConferencingPlugin.createRoom(data, token, success, error);

getRoom

/**

* Get all rooms or the selected room

*

- * @param data JSONObject RoomId
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful

* @param error The error callback is triggered when process failed

*/

ConferencingPlugin.getRoom(data, token, success, error);

editRoom

/**

- * Update the room options
- *
- * @param data JSONObject RoomId and roomOptions
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.editRoom(data, token, success, error);

deleteRoom

/**

- * Delete a room
- *
- * @param data JSONObject RoomId
- * @param token String The simplifier token
- \ast @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.deleteRoom(data, token, success, error);

subscribe

/**

* Subscribe a remote stream

- *
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed
- */

ConferencingPlugin.subscribe(success, error);

unsubscribe

/**

- * Unsubscribe a remote stream
- *
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.unsubscribe(success, error);

publish

/**

* Publish a local stream in a room

*

- \ast @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.publish(success, error);

unpublish

/**

* Unpublish a local stream

*

- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.unpublish(success, error);

startScreenSharing

/**

- * Start screen sharing
- *
- \ast @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed
- */

ConferencingPlugin.startScreenSharing(success, error);

stopScreenSharing

/**

- * Stop screen sharing
- *
- \ast @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.stopScreenSharing(success, error);

sendMessage

/**

* Send messages to the selected participants in a room

*

- * @param message String The config data
- * @param data JSONArray Selected participants

- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.sendMessage(message, participants, success, error);

onReceivedChatMessage

/**

- * Action triggered by server when received a chat message
- *
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.onReceivedChatMessage(success, error);

onChangedParticipantStatus

/**

* Action triggered by server when participant changed his status (participant leave room)

- *
- \ast @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.onChangedParticipantStatus(success, error);

on Changed Connection Status

/**

* Action triggered by server when server/room changed his connections status

*

* @param success The success callback is triggered when process is successful

* @param error The error callback is triggered when process failed

*/

ConferencingPlugin.onChangedConnectionStatus(success, error);

resizeRemoteContainer

/**

- * Resize the native view of a remote stream
- *
- * @param div HTML Object The HTML remote stream view
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.resizeRemoteContainer(div, success, error);

resizePublishContainer

/**

- * Resize the native view of a local stream
- *
- * @param div HTML Object The HTML local stream view
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.resizePublishContainer(div, success, error);

getStream

/**

- \ast Get all streams or the selected stream of a room
- *

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- * @param data JSONObject RoomId and streamId
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.getStream(data, token, success, error);

deleteStream

/**

- * Delete a stream
- *
- * @param data JSONObject RoomId and streamId
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.deleteStream(data, token, success, error);

editStream

/**

- * Update the stream properties
- *
- * @param data JSONObject RoomId, streamId and streamProperties
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.editStream(data, token, success, error);

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startRecording

```
/**
 * Start recording a stream of a room
 * @param data JSONObject - RoomId, container (mp4), media
 * @param token String - The simplifier token
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
ConferencingPlugin.startRecording(data, token, success, error);
editRecording
/**
 * Update the recording options
 * @param data JSONObject - RoomId, recordId, recordingOptions
 * @param token String - The simplifier token
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
ConferencingPlugin.editRecording(data, token, success, error);
stopRecording
/**
 * Stop recording of a stream
```

- * @param data JSONObject RoomId and recordId
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful

* @param error The error callback is triggered when process failed

*/

ConferencingPlugin.stopRecording(data, token, success, error);

getRecording

/**

- * Get all or the selected recording of a room
- *
- * @param data JSONObject RoomId and recordId
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.getRecording(data, token, success, error);

startStreamIn

/**

- * Add an external stream to a room
- *
- * @param data JSONObject RoomId, url, transport (tcp), media (audio or video)
- * @param token String The simplifier token
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

*/

ConferencingPlugin.startStreamIn(data, token, success, error);

stopStreamIn

/**

```
* Remove the external stream
*
*
* @param data JSONObject - RoomId and streamId
* @param token String - The simplifier token
* @param success The success callback is triggered when process is successful
* @param error The error callback is triggered when process failed
*/
```

```
ConferencingPlugin.stopStreamIn(data, token, success, error);
```

General event object description

```
{
    "action": "<action>", //see "Possible Actions"
    "result": "<String>", //some results depending on action
}
```

Examples

Predefined callbacks and variables for the examples

```
let successCallback = function(event){
    console.log("Success: " + event);
}
let errorCallback = function(event){
    console.warn("Error: " + event);
}
```

let token = "dk4dfanew30239naa12dk2323r90asdf=="

```
– init
```

```
let config = {
    "connectionConfig": {
        "username": "paul",
        "server": window.serverUrl,
        "untrustedCertificate": true
    },
    "iceConfig": [{
        "url": "stun:turn.itizzimo.com:3478"
        },
        {
            "url": "stun:turn.itizzimo.com:3479"
        }
```

```
},
    {
        "url": "stun:turn.itizzimo.com:5349"
    },
    {
        "url": "stun:turn.itizzimo.com:5350"
    },
    {
        "url": "turn:turn.itizzimo.com:3478?transport=tcp",
        "username": "admin",
        "password": "admin"
    },
    {
        "url": "turn:turn.itizzimo.com:3478?transport=udp",
        "username": "admin",
        "password": "admin"
    },
    {
        "url": "turn:turn.itizzimo.com:3479?transport=tcp",
        "username": "admin",
        "password": "admin"
    },
    {
        "url": "turn:turn.itizzimo.com:3479?transport=udp",
        "username": "admin",
        "password": "admin"
    },
    {
        "url": "turn:turn.itizzimo.com:5349?transport=tcp",
        "username": "admin",
        "password": "admin"
    },
        "url": "turn:turn.itizzimo.com:5349?transport=udp",
        "username": "admin",
        "password": "admin"
    },
    {
        "url": "turn:turn.itizzimo.com:5350?transport=tcp",
        "username": "admin",
        "password": "admin"
    },
    {
        "url": "turn:turn.itizzimo.com:5350?transport=udp",
        "username": "admin",
        "password": "admin"
    }
],
"viewConfig": {
    "scalingFactor": 0.3,
    "gravity": "bottom_right"
},
"mediaConfig": {
    "maxWidth": 640,
    "maxHeight": 480,
```

```
"cameraDialog": true,
        "preferFrontCamera": true,
        "maxFps": 60,
        "maxVideoBandwidth": 5000,
        "maxAudioBandwidth": 200,
        "videoCodec": "H264"
    },
    "debug": {
        "local": {
            "fps": false,
            "bitrate": false,
            "audiolevels": false
        },
        "remote": {
            "fps": false,
            "bitrate": false,
            "audiolevels": false
        }
    }
};
```

ConferencingPlugin.init(config, successCallback, errorCallback);

– joinRoom

```
let data = {
    "role": "presenter",
    "username": "specialUser28",
    "room": "3023dak23dka1" //roomId
};
```

ConferencingPlugin.joinRoom(data, token, successCallback, errorCallback);

getParticipant

```
let data = {
    "room": "ksdfkfsdew3232", //roomId
    "userId": "9SN_jqHVelwHksjaAACf" //optional
};
```

ConferencingPlugin.getParticipant(data, token, successCallback, errorCallback);

- editParticipant

```
let data = {
    "room": "5clb966d9869270cb9134328",
    "participantId": "HfwkX_3D1HYHjq-4AAEC",
    "items": [{
        "op": "replace",
        "path": "/permission/publish",
        "value": {
```

```
"audio": false,
    "video": false
}
}]
};
```

ConferencingPlugin.editParticipant(data, token, successCallback, errorCallback);

kickParticipant

```
let data = {
    "room": "5c1b966d9869270cb9134328",
    "participantId": "wRgmC31dz3hJHJzjAAEB"
};
```

ConferencingPlugin.kickParticipant(data, token, successCallback, errorCallback);

```
- createRoom
```

```
let data = {
    "name": "Testroom",
    "options": {
        "views": [{
             "video": {
                 "parameters": {
                     "resolution": {
                          "height": 1080,
                          "width": 1920
                     },
                     "framerate": 60
                 },
                 "format": {
                     "codec": "h264"
                 }
             }
        }],
         "participantLimit": 10,
         "inputLimit": -1
    }
};
```

ConferencingPlugin.createRoom(data, token, successCallback, errorCallback);

- getRoom

```
let data = {
    "room": "5clb966d9869270cb9134328" //optional
};
```

ConferencingPlugin.getRoom(data, token, successCallback, errorCallback);

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– editRoom

```
let data = {
    "room": "5c1b966d9869270cb9134328",
    "options": {
        "name": "Testroom2", //required
        "views": [{
            "video": {
                 "parameters": {
                     "resolution": {
                         "height": 480,
                         "width": 640
                     },
                     "framerate": 30
                },
                 "format": {
                     "codec": "h264"
                 }
            }
        }],
        "participantLimit": 24
    }
};
```

ConferencingPlugin.editRoom(data, token, successCallback, errorCallback);

- deleteRoom

```
let data = {
    "room": "5c1b966d9869270cb9134328"
};
```

ConferencingPlugin.deleteRoom(data, token, successCallback, errorCallback);

– getStream

```
let data = {
    "room": "5c3c632f2686480cbf83e7e1",
    "streamId": "519038650981614300" //optional
};
```

ConferencingPlugin.getStream(data, token, successCallback, errorCallback);

– deleteStream

```
let data = {
    "room": "5c3c632f2686480cbf83e7e1",
    "streamId": "519038650981614300"
};
```

ConferencingPlugin.deleteStream(data, token, successCallback, errorCallback);

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- editStream

```
let data = {
    "room": "5c3c632f2686480cbf83e7el",
    "streamId": "140827592383601540",
    "items": [{
        "op": "replace",
        "path": "/media/video/status",
        "value": "inactive"
    }]
};
```

ConferencingPlugin.editStream(data, token, successCallback, errorCallback);

- startRecording

```
let data = {
    "room": "5bbb5a846ee20b02aa9cf430",
    "container": "mp4",
    "media": {
        "audio": {
             "from": "764484888390779500",
             "format": {
                 "codec": "opus",
                 "sampleRate": 48000,
                 "channelNum": 2
             }
        },
        "video": {
             "from": "764484888390779500",
             "format": {
                 "codec": "h264"
             },
             "parameters": {
                 "resolution": {
                     "width": 640,
                     "height": 480
                 },
                 "framerate": 30,
                 "bitrate": "x0.8",
                 "keyFrameInterval": 30
            }
        }
    }
};
```

ConferencingPlugin.startRecording(data, token, successCallback, errorCallback);

- getRecording

let data = {

```
"room": "5c3c632f2686480cbf83e7e1",
    "recordId": "287103235454593920" //<optional>
};
```

ConferencingPlugin.getRecording(data, token, successCallback, errorCallback);

– editRecording

ConferencingPlugin.editRecording(data, token, successCallback, errorCallback);

- stopRecording

```
let data = {
    "room": "5c3c632f2686480cbf83e7e1",
    "recordId": "915058137572230700"
};
```

ConferencingPlugin.stopRecording(data, token, successCallback, errorCallback);

– startStreamIn

```
let data = {
    "room": "5c3c632f2686480cbf83e7el",
    "url": "<video url>",
    "transport": "tcp",
    "media": {
        "audio": true,
        "video": true
    }
};
```

ConferencingPlugin.startStreamIn(data, token, successCallback, errorCallback);

– stopStreamIn

```
let data = {
    "room": "5c3c632f2686480cbf83e7e1",
    "streamId": "5c3c6313752307bf83e7d121"
```

};

ConferencingPlugin.stopStreamIn(data, token, successCallback, errorCallback);

Sample Eventlog

```
//initialization success
Success: {"action":"init","result":"App initialized"}
//get all rooms - Result: Name, id, options
Success: {"action":"getRoom", "result": JSONArray}
//join room
Success: {"action":"createToken","result":"asdj0dDK3kf239332=="}
//get participant - Result: id, user, role, permissions
Success: {"action":"getParticipant", "result": JSONArray}
//publish local stream to room
Success: {"action":"publish","result":"Published stream"}
//subscribe common stream of the selected room
Success: {"action":"subscribe","result":"Subscribed stream"}
//unsubscribe remotestream
Success: {"action":"unsubscribe","result":"Unsubscribed stream"}
//create room - Result: Name, id, options
Success: { "action": "createRoom", "result": JSONObject }
//delete room
Success: {"action":"deleteRoom","result":"Room deleted"}
//start screen sharing
Success: {"action":"startScreenSharing","result":"ScreenSharing started"}
//stop screen sharing
Success: {"action":"stopScreenSharing","result":"ScreenSharing stopped"}
//start stream recording - Result: id, storagePath, mediaOptions
Success: {"action":"startRecording", "result": JSONObject}
//stop stream recording
Success: {"action":"stopRecording","result": ""}
//add external stream to room - Result: id, info, options
Success: {"action":"startStreamIn","result": JSONObject}
//remove external stream
Success: {"action":"stopStreamIn","result":""}
//leave room
Success: {"action":"leaveRoom","result":"Room left"}
```

More Information

Intel WebRTC SDK: https://software.intel.com/en-us/webrtc-sdk

Connector Access via Script

this.callConnector(connectorName, payload, callback, showBusyIndicator, failOnError, failCallback)

connectorName payload callback	the name of the connector a JSON object with the required parameters of the call function, which is called after the successful execution of the connector
showBusyIndicator	boolean value that indicates whether the screen has to be blocked by a loading bar during the call (true) or not (false)
failOnError	boolean value that indicates whether the connector should be called in case of an error of the function passed via "foilCallbool" (folse) or not (true)
failCallback	function, which is called in case of an error in the connector, if false "failOnError" is passed

Connector Call Specific Parameters

The user interface for configuring a connector call is generic, thus it looks the same for all kinds of underlying types of connectors. Having the same interface for all kinds of connector calls is very convenient. But one drawback of this approach is, that some connectors require fixed parameters to be set, in order to work properly. This section tells you more about these details.

You can declare parameters of Connectors as optional.

_								en	Felicitz
			Edit Conn	nectorcall "_ITIZ_BUS0010_SEARCH_GETLIST"					
ctc	Call								
									?
2	Connectorcall name:	_ITIZ_BUS0010	_SEARCH_GETLIST						
	Description:								
в									
в									
B	nut Parameters Output Parameters								
.8									
B Val	alidate: 🔘								+
P	Parameter Name	Optional	Alias	Description	Constant Value	Data Type		Actions	
P	Parameter Name /bindingName	Optional	Alias	Description	Constant Value BUS0010	Data Type String	đ	Actions	
P	Parameter Name /bindingName /operationName	Optional	Alias	Description	Constant Value BUS0010ITIZ_BUS0010_SE	Data Type String String	۲ ۲	Actions 団	
P	Parameter Name /bindingName /operationName /soap/_tTiZ_BUS0010_SEARCH_GETLIST/IS_SEARCH	Optional	Alias	Description	Constant Value BUS0010ITIZBUS0010_SE	Data Type String String String	ප ච ච	Actions 団 団	
P	Parameter Name /bindingName /operationName /soap/_TTIZ_BUS0010_SEARCH_GETLIST/IS_SEARCH	Optional	Alias	Description	Constant Value BUS0010ITIZBUS0010_SE	Data Type String String String	ති ති ති	Actions 団 団	
P	Parameter Name //bindingName //operationName //soap/_ITIZBUS0010_SEARCH_GETLIST/IS_SEARCH	Optional	Alias	Description	Constant Value BUS00101TIZ_BUS0010_SE	Data Type String String String	ව ව ව	Actions 団 団	
P	Parameter Name /bindingName /operationName /soap/_ITIZBUS0010_SEARCH_GETLIST/IS_SEARCH	Optional	Alias	Description	Constant Value BUS00101TIZ_BUS0010_SE	Data Type String String String	ව ව ව	Actions	
	Parameter Name //bindingName //operationName //soap/_ITIZBUS0010_SEARCH_GETLIST/IS_SEARCH	Optional	Alias	Description	Constant Value BUS0010TITZ_BUS0010_SE	Data Type String String String	ව ව ව	Actions ම ම	
P	Parameter Name //bindingName /operationName /soap/ITIZBUS0010_SEARCH_GETLIST/IS_SEARCH	Optional	Alias	Description I	Constant Value BUS0010ITIZ_BUS0010_SE	Data Type String String String	ප ප ච	Actions ම ම	
P	Parameter Name /bindingName /operationName /soap/_iTiZ_BUS0010_SEARCH_GETLIST/IS_SEARCH	Optional	Allas	Description	Constant Value BUS0010TTIZ_BUS0010_SE	Data Type String String	ප ච ච	Actions	
P	Parameter Name /bindingName /operationName /soap/_iTiZ_BUS0010_SEARCH_GETLIST/IS_SEARCH	Optional	Allas	Description	Constant Value BUS00101TIZ_BUS0010_SE	Data Type String String String	ව ව ව	Actions ক্র ক্র	

When declaring a parameter as non optional, the validation of the call will fail if the parameter is not provided.

Data Type Selector

If you click on the data type field, a selector opens.

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Number	Description
1	The currently selected data type.
2	In this filtering list of all data types, you can find manually and automatically built data types. Custom data types are only manual data types. When the dialog opens in an automatically generated connector call, the data types of the connector can also be selected.
3 4	Prefilter of base and domain types, structs and collections. You can always step deeper in the structure to select a data type.

Connector Call via Script

In order to execute a connector call please use this code snippet:

this.callConnectorCall(connectorName, connectorCallName, payload, callback, showBusyI
ndicator, failOnError, failCallback)

connectorName	the name of the connector
connectorCallName	the name of the connector call name
payload	a JSON object with the required parameters for the call
callback	function, which is called after the successful execution of the connector call
showBusyIndicator	boolean value that indicates whether the screen has to be
	blocked by a loading bar during the call (true) or not (false)
failOnError	boolean value that indicates whether the connector call should
	be called in case of an error of the function passed via
	"failCallback" (false) or not (true)
failCallback	function, which is called in case of an error in the connector call, if false for "failOnError" is passed

Connectors

Connectors are used to retrieve data from backend systems and third-party sources and write back changed data into them. They can be used by a unique name within configured business applications or business objects. It represents the systems part of the simplifier.

Connector

Connector Call

Adresses a specific backend systems like SAP, Salesforce or a Database Brings a specific connector into action. It contains input and output parameters

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						0.000
					en	A Felicitas Weber
		Connectors	3			
Connector						+
Search						Q
Connector name	Connector type	Description	Active	e.	Actions	
MyGo_SAP_RFC_Connector	Connector SAP-RFC			5	Q E / \ G ∅	
SAP_BU_Equipment	Connector SOAP			9	€ € / % B [®]	
SAP_BU_Functional_Locations_RFC	Connector SAP-RFC			8	6 E / 6 D m	
SAP_BU_PMNotification	Connector SOAP			3	62 E / 6 D 1	
SAP_BU_TechnischerPlatz	Connector SOAP			5	°a € / % B m	
SAP_Meldung_Explored	Connector SOAP			1	62 B / 6 D B	
SAP_TechnischerPlatz	Connector SOAP			2	6 E / 6 D 🖻	(
Smart_Maintenance_OPCUA	Connector OPC/UA			2	® E / % 9 0	
Smart_Maintenance_Push	Connector Push Notification			2	6 6 / % G 🖻	

You can choose between different Connector Types. A Connector Type represents the technical protocol. Description Connector Type **Push Notification** Sends Push Notifications over Websockets directly to Simplifier Clients or Simplifier Browser Apps without using Google or Apple's Cloud services to support data privacy and protection. oData Proxy for using oData v2 Services . oData Open Data Protocol (OData) is an open protocol which allows the creation and consumption of queryable and interoperable **<u>RESTful</u>** <u>APIs</u> in a simple and standard way. **SOAP** Simple Object Access Protocol based on HTTP and XML Format. **CSV** Read and/or write comma separated files on a local file store. **MOTT Client** Message Queue Telemetry Transport (MQTT) is a lightweight messaging protocol for small sensors and mobile devices, optimized for high-latency or unreliable networks. This Connector acts as a client and can publish or subscribe messages from a mqtt broker. **Logging Write** This Connector can transfer the Simplifier application logs to a central monitoring tool / logwatch server. **REST** Connector for HTTP REST Services. Representational State Transfer (REST) architecture uses standardized operations (GET, PUT, POST, DELETE) on web services. SOL Database Connector for executing SQL Statements on a database schema. Email Email Connector for sending Emails over SMTPS (Simple Mail Transfer Protocol) with or without SSL Encryption. Open Platform Communication - Unified Architecture **OPC-UA** Connector, it connects to an OPC-UA server and performs READ/WRITE/SUBSCRIBE operations. For now READ/WRITE operations are supported through connector calls, here and Live-Value Monitoring through websockets, here. Connector based on standard JCO SAP RFC Connector to **SAP-RFC** call remote function blocks

Content Files

Add		
Slot contentFileAdd		Description This function adds a new content file
FileSystem:		
Input parameters		
Key	Туре	Description
folderId	Integer	ID of the parent
name	String	File name (also MimeType)
description	String (optional)	Description of t
securitySchemeID	String	'public': file is j not public
permissionObjectType	String	Must be specifie
permissionObjectID	String	The ID of the O selected

ID of the parent folder File name (also used to determine the MimeType) Description of the file 'public': file is public, 'private': file is not public Must be specified as 'Session' The ID of the Object Type can be freely selected Base64 encoded content of the file Session of an AppServer Html5 Upload ID of the copied file

Note:

data

uploadSession

copyFrom

The content of the file can be transferred in three different ways. Exactly one of the following parameters must be passed:

• data: The content is passed directly with the JSON request as a Base64 encoded byte array.

String (optional)

String (optional)

Integer (optional)

- uploadSession: The content is first transferred to the AppServer via chunked HTML5 upload and the returned session is used as source. The Content Repository plugin downloads the file from the app server and uses it as content of the file
- copyFrom: The content is copied from another existing content file (copyFrom contains the ID of the file to be copied). Attention: The calling user must have the appropriate permissions to read the content file. Only the content is copied, not other properties (such as names, access rights, etc.). Any content file can be used as a source file, even in a different repository.

```
{
    "folderId" : 5,
    "name" : "test.txt",
    "description" : "My file description",
    "securitySchemeID" : "public",
    "permissionObjectType" : "Session",
    "permissionObjectID" : "abc",
    "data" : "dGVzdA=="
}
```

Output parameters

Key	
id	
name	

Type Integer String

Description ID of the created content file Name of the created content file

```
{
    "id": 15,
    "name": "test.txt"
}
```

ClearFileSystem:

Input parameters

Key contentId fileName folderPath data uploadSession copyFrom forceOverwrite Type Integer String String (optional) String (optional) String (optional) Boolean (optional) Description

ID of the content repository Name of the file Path under which the file is to be stored Base64 encoded content of the file Session of an AppServer Html5 Upload ID of the copied file If the flag has the value 'true', any existing file with the same name will be overwritten; If not set or 'false', the creation leads to an error if a file with the same name already exists

Note:

The content of the file can be transferred in three different ways. Exactly one of the following parameters must be passed:

- data: The content is passed directly with the JSON request as a Base64 encoded byte array.
- **uploadSession**: The content is first transferred to the AppServer via chunked HTML5 upload and the returned session is used as the source. The Content-Repo plugin downloads the file from the AppServer and uses it as the content of the file
- **copyFrom**: The content is copied from another existing content file (copyFrom contains the ID of the file to be copied). Attention: The calling user must have the appropriate permissions to read the content file. Only the content is copied, not other properties (such as names, access rights, etc.). Any content file can be used as a source file, even in a different repository.

```
{
    "contentId" : 5,
    "fileName" : "test.txt",
    "folderPath" : "MyParentFolder/MyChildFolder"
    "data" : "dGVzdA=="
}
```

Find

Slot contentFileFind

FileSystem:

Input parameters Key folderId

Type Integer **Description** This function lists the searched content file

> **Description** ID of the content folder in which the

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```
content is listed
name
                                     String
                                                                         Name of the searched file
{
     "folderId": 3,
     "name": "test.txt"
}
Output parameters
                                     Type
                                                                         Description
Key
                                                                         Array of all files (max. 1 element)
files
                                     Array
id
                                     Integer
                                                                         ID of the file
                                                                         Name of the file
                                     String
name
description
                                     String
                                                                         Description of the file
permissionObjectType
                                     String
                                                                         Must be specified as 'Session'
permissionObjectID
                                     String
                                                                         The ID of the Object Type can be freely
                                                                         selected
securitySchemeID
                                     String
                                                                         Security scheme ('public'/'private')
statusSchemeID
                                                                         Status scheme (not implemented yet;
                                     String
                                                                         always 'default')
statusID
                                     String
                                                                         Status scheme (not implemented yet;
                                                                         always 'default')
                                     Object
                                                                         MimeType information
mimeType
mimeType/extension
                                     String
                                                                         The file extension
mimeType/mimeType
                                     String
                                                                         The mimeType stored in the
                                                                         MimeMapping for the file extension
url
                                     String
                                                                         The download URL of the file
{
     "files": [
          {
               "id": 3,
               "name": "test.txt",
               "description": "My file description 1",
               "statusSchemeID": "Default",
               "statusID": "Default",
               "securitySchemeID": "public",
               "permissionObjectType": "Session",
               "permissionObjectID": "abc",
               "mimeType": {
                    "extension": "jpg",
                    "mimeType": "image"
               },
               "url": "
http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/ParentFolder/
ChildFolder/file.jpg/",
          }
     ]
}
```
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```
ClearFileSystem:
```

Input parameters		
Key	Туре	Description
contentId	Integer	ID of the content repository in which you want to search
fileName	String	Name of the searched file
folderPath	String (optional)	Path of the folder to search in
<pre>{ "contentId": 3, "filename": "test.txt", "folderPath: "MyParentFo }</pre>	lder/MyChildfolder"	

Output parameters		
Key	Туре	Description
files	Array	Array of all files
filePath	String	Path of the file
mimeType	Object	MimeType information
mimeType/extension	String	The file extension
mimeType/mimeType	String	The mimeType stored in the
		MimeMapping for the file extension
url	String	The download URL of the file

```
{
    "files": [
        {
            "filePath": "MyParentFolder/MyChildFolder/test.txt",
            "mimeType": {
                "extension": "txt",
                "mimeType": "text"
            },
            "url": "
http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyParentFolde
r/MyChildFolder/test.txt/"
        },
        {
            "filePath": "MyParentFolder/MyChildFolder/MyFolder/test.txt",
            "mimeType": {
                "extension": "txt",
                "mimeType": "text"
            },
            "url": "
http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyParentFolde
r/MyChildFolder/MyFolder/test.txt/"
        }
    ]
}
```

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Output parameters

List		
Slot contentFileList	Description This function lists a file	
FileSystem:		
Input parameters		
Key folderId	Type Integer	Description ID of the listed content folder
{ "folderId": 3 }		

	T.	
Key	Type	Description
files	Array	Array of all files
id	Integer	ID of the file
name	String	Name of the file
description	String	Description of the file
permissionObjectType	String	Must be specified as 'Session'
permissionObjectID	String	The ID of the Object Type can be freely selected
securitySchemeID	String	Security scheme ('public'/'private')
statusSchemeID	String	Status scheme (not implemented yet; always 'default')
statusID	String	Status scheme (not implemented yet; always 'default')
mimeType	Object	MimeType information
mimeType/extension	String	The file extension
mimeType/mimeType	String	The mimeType stored in the
	-	MimeMapping for the file extension
url	String	The download URL of the file

```
{
    "files": [
        {
            "id": 3,
            "name": "test.txt",
            "description": "My file description 1",
            "statusSchemeID": "Default",
            "statusID": "Default",
            "securitySchemeID": "public",
            "permissionObjectType": "Session",
            "permissionObjectID": "abc",
            "mimeType": {
                "extension": "txt",
                "mimeType": "text"
            },
            "url": "
```

http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyParentFolde



```
ClearFileSystem:
```

Input parameters

Key contentId

folderPath

```
{
    "contentId": 3,
    "folderPath": "MyFolder"
}
```

Туре

Туре

Integer

String (optional)

Output parameters

Key

files	Array
fileName	String
mimeType	Object
mimeType/extension	String
mimeType/mimeType	String
url	String
,	
"files": [
{	

"fileName": "test.txt",

Description
ID of the listed content repository
Path of the folder of the listed files

Description
Array of all files
Name of the file
MimeType information
The file extension
The mimeType stored in the
MimeMapping for the file extension
The download URL of the file

"mimeType": { "extension": "txt", "mimeType": "text" }, "url": " http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyParentFolde r/MyChildFolder/test.txt/" }, { "name": "test2.txt", "mimeType": { "extension": "txt", "mimeType": "text" }, "url": " http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyParentFolde r/MyChildFolder/test2.txt/" }] }

Get	
Slot	

Slot		Description
contentFileGet		This function queries
FileSystem:		
Input parameters		
Key	Туре	Description
id	Integer	Primary key

{		
	"id":	3
}		

Output parameters		
Key	Туре	Description
id	Integer	ID of the file
folderId	Integer	ID of the parent folder
name	String	Name of the file
description	String	Description of the file
permissionObjectType	String	Must be specified as 'Session'
permissionObjectID	String	The ID of the Object Type can be freely selected
securitySchemeID	String	Security scheme ('public'/'private')
statusSchemeID	String	Status scheme (not implemented yet; always 'default')
statusID	String	Status scheme (not implemented yet; always 'default')
data	String	Base64 encoded content of the file

mimeType mimeType/extension mimeType/mimeType	Object String String	MimeType information The file extension The mimeType stored in the
url	String	MimeMapping for the file extension The download URL of the file
<pre>"id": 3, "folderId": 5, "name": "test.txt", "description": "My file description", "statusSchemeID": "Default", "statusID": "Default", "securitySchemeID": "public", "permissionObjectType": "Session", "permissionObjectID": "abc", "data": "dGVzdA==", "mimeType": { "extension": "txt", "mimeType": "text" },</pre>		
http://localhost:8080/client	<u>/2.0/plugin/contentRepoPlugi</u>	n/file/RepoName/MyParentFolde
r/MyChildFolder/test.txt/"		
}		

ClearFileSystem:

Input parameters

}

"filePath": "MyFolder/test.txt"

Key	Type	Description
contentId	Integer	ID of the listed content repository
filePath	String	Path of the file
{ "contentId": 3,		

Output parameters		
Key	Туре	Description
filePath	String	File name
data	String	Base64 encoded content of the file
length	Integer	Length of the file in bytes
mimeType	Object	MimeType information
mimeType/extension	String	The file extension
mimeType/mimeType	String	The mimeType stored in the
		MimeMapping for the file extension
url	String	The download URL of the file

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```
{
    "filePath": "MyFolder/test.txt",
    "data": "dGVzdA==",
    "length": 59570,
    "mimeType": {
        "extension": "txt",
        "mimeType": "text"
    },
    "url": "
http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyFolder/test
.txt/"
}
```

Get Metadata

"id": 3

}

Slot contentFileGetMetadata		Description This function queries the metadata
FileSystem:		
Input parameters		
Key	Туре	Description
id	Integer	Primary key
{		

Output parameters		
Key	Туре	Description
id	Integer	ID of the file
folderId	Integer	ID of the parent folder
name	String	File name
description	String	Description of the file
permissionObjectType	String	Must be specified as 'Session'
permissionObjectID	String	The ID of the Object Type can be freely selected
securitySchemeID	String	Security scheme ('public'/'private')
statusSchemeID	String	Status scheme (not implemented yet; always 'default')
statusID	String	Status scheme (not implemented yet; always 'default')
mimeType	Object	MimeType information
mimeType/extension	String	The file extension
mimeType/mimeType	String	The mimeType stored in the
	-	MimeMapping for the file extension
url	String	The download URL of the file

{

"id": 3,

```
"folderId": 5,
    "name": "test.txt",
    "description": "My file description",
    "statusSchemeID": "Default",
    "statusID": "Default",
    "securitySchemeID": "public",
    "permissionObjectType": "Session",
    "permissionObjectID": "abc",
    "mimeType": {
        "extension": "txt",
        "mimeType": "text"
    },
    "url": "
http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyParentFolde
r/MyChildFolder/test.txt"
}
```

ClearFileSystem:

Input parameters	Input	parameters	
------------------	-------	------------	--

Output parameters

mimeType

mimeType/extension

mimeType/mimeType

Key filePath

Key	Туре	Description
contentId	Integer	ID of the listed content repository
filePath	String	Path of the file
ſ		

Type

String

Object

String

String

String

```
{
    "contentId": 3,
    "filePath": "MyFolder/test.txt"
}
```

Description
File name
MimeType information
The file extension
The mimeType stored in the
MimeMapping for the file extension
The download URL of the file

url

```
{
    "filePath": "MyFolder/test.txt",
    "mimeType": {
        "extension": "txt",
        "mimeType": "text"
    },
     "url": "
http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyFolder/test
.txt"
}
```

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Get Metadata batched

Slot

 $content \\ File \\ Get \\ Meta \\ data \\ Batched$

FileSystem:

Input parameters

Key

contentId

files files/id

```
{
```

```
"contentId": 1,
"files": [{
        "id": 1
     },
     {
        "id": 2
     }]
}
```

Description

Type

Integer

Integer

Array[Object]

This function queries the metadata batched

Description ID of the repository in which the files are stored A list of file objects ID of the file

Output parameters		
Key	Туре	Description
fileMetadata	Array[Object]	A list of metadata objects
fileMetadata/id	Integer	ID of the file
fileMetadata/folderId	Integer	ID of the parent folder
fileMetadata/name	String	Name of the file
fileMetadata/description	String	Description of the file
fileMetadata/permissionObjectType	String	Must be specified as 'Session'
fileMetadata/permissionObjectID	String	The ID of the Object Type can be freely selected
fileMetadata/securitySchemeID	String	Security scheme ('public'/'private')
fileMetadata/statusSchemeID	String	Status scheme (not implemented yet; always 'default')
fileMetadata/statusID	String	Status scheme (not implemented yet; always 'default')
fileMetadata/mimeType	Object	MimeType information
fileMetadata/mimeType/extension	String	The file extension
fileMetadata/mimeType/mimeType	String	The mimeType stored in the
		MimeMapping for the file extension
fileMetadata/url	String	The download URL of the file

{

```
fileMetadata: [{
    "id": 1,
    "folderId": 5,
    "name": "test.txt",
    "description": "My file description",
```

```
"statusSchemeID": "Default",
        "statusID": "Default",
        "securitySchemeID": "public",
        "permissionObjectType": "Session",
        "permissionObjectID": "abc",
        "mimeType": {
            "extension": "txt",
            "mimeType": "text"
        },
        "url": "
http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyParentFolde
r/MyChildFolder/test.txt"
    },
    {
        "id": 2,
        "folderId": 3,
        "name": "picture.jpg",
        "description": "My file description",
        "statusSchemeID": "Default",
        "statusID": "Default",
        "securitySchemeID": "public",
        "permissionObjectType": "Session",
        "permissionObjectID": "abc",
        "mimeType": {
            "extension": "jpg",
            "mimeType": "picture"
        },
        "url": "
http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/MyParentFolde
r/MyChildFolder2/picture.jpg"
    }]
}
```

ClearFileSystem:

Input parameters

Key contentId files files/filePath **Type** Integer Array[Object] String **Description** ID of the listed content repository A list of file objects Path of the file

{

```
' "contentId": 6,
 "files": [{
    "filePath": "Folder/picture.jpg"
    },
    {
        "filePath": "Folder2/text.txt"
    }]
}
```

Output parameters Key Type Description fileMetadata Array[Object] A list of metadata object fileMetadata/filePath String File name fileMetadata/mimeType Object MimeType information fileMetadata/mimeType/extension String The file extension fileMetadata/mimeType/mimeType The mimeType stored in the String MimeMapping for the file extension The download URL of the file fileMetadata/url String { fileMetadata: [{ "filePath": "Folder/picutre.jpg", "mimeType": { "extension": "jpg", "mimeType": "picture" }, "url": " http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/Folder/pictur <u>e.jpg"</u> }, { "filePath": "Folder2/test.txt", "mimeType": { "extension": "txt", "mimeType": "text" }, "url": " http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/Folder2/test. txt" }] }

Edit

Slot contentFileEdit		Description This function edits a content file
FileSystem:		
Input parameters		
Key	Туре	Description
id	Integer	ID of the data to be processed
name	String	File name (also used to determine the
		MimeType)
description	String (Optional)	Description of the file
securitySchemeID	String	'public': file is public, 'private': file is not public
permissionObjectType	String	Must be specified as 'Session'
permissionObjectID	String	The ID of the Object Type can be freely selected
data	String	Base64 encoded content of the file

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```
{
    "id" : 5,
    "name" : "test.txt",
    "description": "My new file description",
    "securitySchemeID" : "public",
    "permissionObjectType" : "Session",
    "permissionObjectID" : "abc",
    "data" : "dGVzdA=="
}
```

ClearFileSystem:

Input parameters

Key	Туре	Description
contentId	Integer	ID of the content repository in which the
		file is stored
sourceFilePath	String	Path of the file to be edited
destFilePath	String	Path incl. new name under which the file
		is to be stored
forceOverwrite	Boolean (optional)	If the flag has the value 'true', any
		existing file with the same name will be
		overwritten;
		If not set or 'false', the creation leads to
		an error if a file with the same name
		already exists

```
{
    "contentId" : 5,
    "sourceFilePath" : "MyParentFolder/test.txt",
    "destFilePath": "MyParentFolder/MyChildFolder/myRenamedMovedFile.txt"
}
```

Delete		
Slot contentFileDelete		Description This function deletes a content file
FileSystem:		
Input parameters		
Key id	Type Integer	Description Primary key
{ "id": 15 }		

ClearFileSystem:

"filePath" : "MyFolder/myFile.txt"

}

Input parameters		
Key	Туре	Description
contentId	Integer	ID of the content repository in which the
		file is stored
filePath	String	Path of the file to be deleted
{		
"contentId": 10,		

Content Repository

The Content Repository Plugin is used to implement a persistence layer for data so that you can store images and videos using this plugin. It contains a repository, folders and files, so you create a repository (parent folder) in which subfolders can be stored in any hierarchy.

Example call of a Content Repository Plugin function via a server-side Business Object:

var result = JSON.parse(PLUGIN_contentRepoPlugin.run(JSON.stringify(payloadClearFileS
ystem)))

The payload configuration depends on the required slot.

Difference between File System and Clear File System:

The file system stores the received content repository data in a database. The clear file system stores this data in an actual file system (compare Windows Explorer).

Content Repositories

Add

Slot	Description
contentRepositoryAdd	This function adds a new content repository

FileSystem:

Input parameters			
Key	Туре		
name	String		
description	String (optional)		
provider	String		
permissionObjectType	String		
permissionObjectID	String		

Description Name of the repository Description of the repository Content provider (must be specified as 'FileSystem') Must be specified as 'App' The ID of the Object Type can be freely selected

{

}

```
"permissionObjectType" : "App",
"permissionObjectID": "DummyApp",
"provider" : "FileSystem",
"name": "MyTestRepo",
"description": "MyTestRepoDescription"
```

Output parameter



description provider

String (optional) String

Description of the repository Content provider (must be specified as 'ClearFileSystem')

```
{
    "name": "MyTestRepo",
    "provider" : "ClearFileSystem",
    "description": "MyTestRepoDescription"
}
```

Output parameters

Key id description Туре Integer String

```
{
    "id": 15,
    "description": "MyTestRepoDescription"
}
```

Description ID of the created ContentRepository Description of the repository

Find			
Slot contentRepositoryFind		Description This function lists only repositories for which the user has authorizations	
FileSystem:			
Input parameter			
Key name	Type String	Description Name of the searched repository	
{ "name": "MyRepo" }			
Output parameters			
Key repositories	Type Array	Description Array of all repositories (max. 1 element)	
id	Integer	ID of the repository	
name	String	Name of the repository	
description	String	Description of the repository	
permissionObjectType	String	Must be specified as 'App'	
permissionObjectID	String	The ID of the Object Type can be freely selected	
provider	String	Content provider (must be specified as 'FileSystem')	
{			

"repositories": [
 {
 "id": 3,
 "name": "MyRepo",
 "description": "My repo description",
 "permissionObjectType": "App",
 "permissionObjectID": "DummyApp",
 "provider": "FileSystem",
 }
]

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ClearFileSystem:

nput	parameter	

Input parameter		
Key	Туре	Description
name	String	Name of the searched repository
{		
"name": "MyRepo"		
}		
Output parameters		
Key	Туре	Description
repositories	Array	Array of all repositories (max. 1
		element)
id	Integer	ID of the repository
name	String	Name of the repository
description	String	Description of the repository
provider	String	Content provider (must be specified as
		'ClearFileSystem')

```
{
    "repositories": [
        {
             "id": 3,
             "name": "MyRepo",
             "description": "My repo description",
             "provider": "ClearFileSystem"
        }
    ]
}
```

List

Slot contentRepositoryList

Description

This function finds only repositories for which the user has authorizations

FileSystem:

Input parameter Key provider

Туре String (optional) Description Content provider (must be specified as 'FileSystem') If no provider is specified, all repositories are returned

```
{
    "provider": "FileSystem"
}
```

Output parameters

Key	Туре	Description
repositories	Array	Array of all repositories
id	Integer	ID of the repository
name	String	Name of the repository
description	String	Description of the repository
permissionObjectType	String	Must be specified as 'App'
permissionObjectID	String	The ID of the Object Type can be freely
		selected
provider	String	Content provider

```
{
    "repositories": [
        {
            "id": 3,
            "name": "MyRepo",
            "description": "My repo description",
            "permissionObjectType": "App",
            "permissionObjectID": "DummyApp",
            "provider": "FileSystem",
        },
        {
            "id": 4,
            "name": "MyRepo2",
            "description": "My repo description 2",
            "permissionObjectType": "Session",
            "permissionObjectID": "abc",
            "provider": "FileSystem",
        }
    ]
}
```

ClearFileSystem:

Input parameter Key

provider

{

Type String (optional) Description

Content provider (must be specified as 'ClearFileSystem') If no provider is specified, all repositories are returned

```
"provider": "ClearFileSystem"
```

}

{

```
Output parameters
```

Key
repositories
id
name
description
provider

rovider String
"repositories": [
{
 "id": 5,
 "name": "MyRepo5",
 "description": "My repo description 5",
 "provider": "ClearFileSystem"
 },
 {
 "id": 6,
 "name": "MyRepo6",
 "description": "My repo description 6",
 "provider": "ClearFileSystem"
 }
]

Type

Array

Integer

String

String

Get

}

Slot

contentRepositoryGet

FileSystem:

Input parameter



Type Integer **Description** Primary key

Description

Array of all repositories

Name of the repository

Description of the repository

ID of the repository

Content provider

https://academy.simplifier.io

Key	Туре	Description
id	Integer	ID of the repository
name	String	Name of the repository
description	String	Description of the repository
permissionObjectType	String	Must be specified as 'App'
permissionObjectID	String	The ID of the Object Type can be freely selected
provider	String	Content provider (must be specified as 'FileSystem')

```
{
```

```
"id": 3,
    "name": "MyRepo",
    "description": "My repo description",
    "permissionObjectType": "App",
    "permissionObjectID": "DummyApp",
    "provider": "FileSystem",
}
```

Туре

Туре

Integer

String

String

String

Integer

ClearFileSystem:

Input parameter Key id {

"id": 3 }

Output parameters

Key
id
name
description
provider

```
{
    "id": 3,
    "name": "MyRepo",
    "description": "My repo description",
    "provider": "ClearFileSystem",
}
```

Description Primary key

Description

ID of the repository Name of the repository Description of the repository Content provider (must be specified as 'ClearFileSystem')

Edit

Slot

contentRepositoryEdit

FileSystem:

Input parameters

Key	Туре
id	Integer
name	String
description	String (optional)
permissionObjectType	String
permissionObjectID	String

```
{
   "id" : 15,
   "permissionObjectType" : "App",
   "permissionObjectID": "DummyApp",
   "name": "MyTestRepo",
   "description": "My new description",
}
```

Description This function edits a content repository

Description Primary key (ID of the repository) Name of the repository Description of the repository Must be specified as 'App' The ID of the Object Type can be freely selected

ClearFileSystem:

Input parameters

Key id name description **Type** Integer String String (optional)

```
{
    "id" : 15,
    "name": "MyTestRepo",
    "description": "My new description"
}
```

Description Primary key (ID of the repository) Name of the repository Description of the repository

Delete

A repository can only be deleted if it does not contain any content folders.

Slot contentRepositoryDelete

Description This function deletes a content repository

Input parameter

Key	Туре	Description
id	Integer	Primary key

{ "id": 15 }

Copy Connector Calls

You can copy a connector call within a connector in the connector call overview by clicking the appropriate copy button.

≣ S					en	Adr	min User $ \smallsetminus $
	Connectorcalls						?
Calls of "test_SQL"					≷, Edit	Connector	S Exit
Search							Q
Name	Description	Input Parameters	Output Parameters	Actions			
allUser	simple	2	1	园	/ 🧕 ୯ 🗊		
parameterized	parameterized	3	1	B	Copy Connectorcall		

By clicking the button a new pop up opens in which you can specify the name of the copied connector call. The default value is the name of the copied connector call added _copy.

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									en & AG	lmin User 🗸
	Connectorcalls									
Calls of "test SOI "									7a Edit Connector	6 Evil
										+ Add
Search										۹
Name	Description		Input Parameters	Output Parameters	Actions					
allUser	simple		2	1			1 5	S	Ū	
parameterized	parameterized		3	1			13	S	•	
		Copy Connectorcall "allUser"								
		*Connectorcall name:								
		allUser_Copy								
		Cancel								

Once you have assigned a name, click on the save button. Your connector call has been copied with all input and output parameters.

Copy Data Types

You can copy any Data Type of the Simplifier. The copy will have all attributes/fields and any tags given to the copied template.

≣ \$				en 📗 🛕 Admin User 🗸
		Турез		
Domain hypes Structs Collections				
Count: 19				+
Search				Q
Name	Parenttype	Description	Actions	
Decimal	Integer		E / D 🖬	
Decimal_Copy	Float		С Сору	

Click on the copy icon and a new pop-up will appear.

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						0. A starting Linear
		Types				
Coman types Structs Cottections						
Count: 19						+
Search						٩
Name	Parenttype	Description		Actions		
Decimal	Integer				/ 🖻 💼	
Decimal_Copy	Float	Comunif Domaintume "Day	ine 10		1 9 8	
Forename	String	Copy of Domaintype Dec	imai		/ 🕤 🗑	
Test	String	*Data Tupo Namo:			/ G 🗑	
TestInt	Integer	Data Type Name.			/ 🕞 🗑	
TestType	Integer	Decimal_Copy			19	
TestType2	String				1 3 0	
Thetest	String		Cancel Save		/ 🕒 🝵	
ZIP	String	a postal code	<u> </u>	B	0 5 8	

By default, "_Copy" is added to the current Data Type Name. However, you can also assign a new name. Click 'Save' and the copy has been created.

Create an individual Transport



Enter tile "Transports" on the Simplifier Dashboard and click on Transportcollection to define a new Transport or edit an existing one. This leads you to the overview page, which lists all existing Transports:

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≣ S					e	n	$\underline{\circ}$ Test \lor
Transportcollection							4
							+ Add
Search							Q.
Feature Name	Creator	Approver	Export				
AnylineTest_TP	paul			E	Ø	Ŵ	
CortexDemo_TP	eugen	eugen	Ŷ	Ð	P	Ŵ	
DemoTransport	admin	admin	Ŷ	Ð	Ø	W	
Enera_ShowCaseTransport	sbs	eugen	\$	Ð	Ø	W	
Flo_TestTransport	sbs	eugen	\$	R	Ø	W	
HelloWorld_TP	k006			R	Ø	W	
MeineAppCKTransport	sbs			R	Ø	Ŵ	
MobileAPIDemo	admin	admin	\$	Ð	Ø	W	
MobileAPIDemo_TP	admin	admin	\$	Q	Ø	Ŵ	
MyNewBusinessObject	k006	k006	\$	R	Ø	Ŵ	

To create a new Transport, or edit an existing one, make sure you've got the "Transport Creation" permission associated to one of your roles. Click on "+" on in the upper right corner to create a new Transport from scratch or press the edit button beside one of your existing one to edit it. This leads you to a new page which allows you to define all Transport artifacts:

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	∋									Admin Us	ser
anspo	ortcollection										
æ Cr	eate Transport								🖫 Sa	ve 🗙 Cance	əl
		Transport Name: myTestTrans	port								
Trans	port Items										
Featu	res				Items	5					
Searc	h		Q		Sear	ch				Q	
	Name	Feature					Name	Feature			
	Simplifier_Explored_Hauke	Application				۲	Test	Application			
	spms_smartservice_mobile	Application				2 ⁶	AppLayoutTest	Role			
	MachineMonitoring	Application									
	IOT_Dashboard	Application		>							
	MobileAssetManagement	Application		<							
	asdasdasd	Application									
	VisualInspection	Application									

The upper part of the screen allows you to enter a name for your Transport.

The lower part of the screen is dedicated to the selection of the artifacts which shall be part of your Transport. The left pane lists all available features (Apps, Connectors, Roles, Business Objects, Datatypes, Widgets & Libraries) and allows you to search for specific ones. Ideally, the features of your app have an identical name part, so you can easily find all belonging features through the search bar. You can filter the list by clicking on "Name" or "Feature" and select e.g. only Widgets.

∎ ₽	5						en	81
ranspo	rtcollection							
⇔ Edi	t HelloWorld_TP					Approve	🖫 Save	× Canc
		Transport Name: F	HelloWorld_TP					
> Me	etadata							
Transp	port Items							
Featu	res				Items			
Search	1		Q		Search			Q
	Name	Feature			Name	Feature		
	ZaehlerMAM	Application	_			 Application		
	GWTest	Application						
	MobileAPIDemo	Application		Fe	ature			
	AndritzHackathonPreparation	Application			Sort Ascending			
	contiBrowserClient	Application		Ξ	Sort Descending			
	AngularTest	Application		T	Filter Widget			
				Wi	aget			
				Wi	dget			
				Wi	dget			

Select an artifact by checking the checkbox beside it. After clicking the right arrow, all selected artifacts are immediately listed in the right pane. (Attention: The "Application" feature represents only the cover of your app and its standard Widgets, not all your used features like e.g. customized Widgets, Business Objects or Connectors!

When you're done, press the "Save" button in the upper right corner or "Cancel", if you want to omit your changes.

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Create an OpenUI5 Widget



If you choose to create a new OpenUi5 Widget, you have to take a look at the constructor details in its API reference.

Here you can find the **OpenUi5 API** of all Widgets and a description when to use them.

Start

Let's create a mobile version of a Panel. For starters search new sap.m.Panel in the API reference. You will see the supported settings, in this case: Properties, Aggregations and Events.

Constructor Detail
new sap.m.Panel(sId?, mSettings?)
Constructor for a new Panel.
Accepts an object literal mSettings that defines initial property values, aggregated and associated objects as well as event handlers. See sap.ui.base.ManagedObject for a general description of the syntax of the settings object
The supported settings are:
 Properties headerText: string (default:) width : sap.ui.core.CSSSize (default: 100%) height: sap.ui.core.CSSSize (default: auto) expandable : boolean (default: false) expanded : boolean (default: false) expanded : boolean (default: true) backgroundDesign : sap.m.BackgroundDesign (default: Translucent) Aggregations content : sap.ui.core.Control[] (default) headerToolbar : sap.m.Toolbar infoToolbar : sap.m.Toolbar expand : fnListenerFunction, oListenerObject] or [oData, fnListenerFunction, oListenerObject]
In addition, all settings applicable to the base type sap.ui.core.Control can be used as well.
Parameters:

{stid? ID for the new control, generated automatically if no ID is given {object} mSettings? Initial settings for the new control

- Properties describe the different attributes of an element (e.g. width or height).
- Aggregations describe which other elements the Widget could contain (e.g. a panel consists of a header & info toolbar and content).

Depending on the Control that is displayed in the API, you can use every or just specific Controls (e.g. sap.ui.core.Control vs sap.m.Toolbar)

• Events describe the possible direct interactions for the user (e.g. expand the panel).

Step 1

For the first step name your Widget, write a short description and choose a category in the Widget tab.

≣ S				en	$\stackrel{O}{\rightharpoonup} {\rm Test} \lor$
Widget Customizer				🖫 Save	× Cancel
Widget OpenUI5 Angular					
Name Description			\$		
Default Binding-Property		~			
Category	Layout	~			
lags	Add tag				
Properties Events Aggregation	Libraries				+
Search					Q
Name Descript	ion	Default Value	Data Type	Translatable	
	No data				

In addition you've got now the possibility to add custom tags to the widget. You can search and filter for widget tags in the search field of the widget overview list and in the widget search field of the UI designer.

Step 2

Click on the OpenUI5 tab to fill out the specific parameters. The Widget Type has to be the same as the UI5 control name. In this case: *sap.m.Panel*

Constructor Detail

```
new sap.m.Panel(sId?, mSettings?)
```

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API reference

Template	Script		
	Default Binding-Property: Type of a Widget:	∽ sap.m.Panel	

Simplifier Widget Type

Step 3

Fill in the template for the Widget. It represents a blueprint of the Widget which can be used by the Simplifier. The OpenUI5 templates are written in JSON with Mustache placeholder syntax.

The Simplifier supports three different types:

- String: "{{&placeholderName}}"
- Boolean: {{placeholderName}}
- Aggregation: [{{#placeholderName}}"{{&}}",{{/placeholderName}}]

The placeholderName will be used to declare properties, events, etc.. It is advisable to use the OpenUI5 names. For SAP Controls (e.g. sap.m.BackgroundDesign) you can use the "String" Data Type.

	Templale Script	
	Default binding-Property: V Type of a Weiget: Sap.m.Panel	
Procentes Indext*Ext::string(default:) width::squuit.orev.CSSS2e(default:100%) width::squuit.orev.CSSS2e(default:100%) exquantable::bookan(default:100%) exquandable::bookan(default:100%) exquandable::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan::bookan(default:Table) exquand::bookan(default:Table) exquand::bookan::bookan::bookan(default:Table) exquand::bookan::bookan(default:Table) exquand::bookan::bookan(default:Table) exquand::bookan::bookan::bookan(default:Table); exquand::bookan::boo	<pre>1 * {</pre>	

Step 4

All attributes that are declared with a mustache value in the template, have to be declared in the properties / events / etc. area below as well, so you can work with them in the UI Designer later in the process. You can use constant values instead of mustache e.g. if you don't want a property to be editable.

• Properties:

Fill in the name (your template placeholderName), a description (optional), the default value and the data type (as written in the API reference). If a property should be translatable, you have to check it here.

• Events:

Simply put the name (again the template placeholderName) on the list.

• Aggregation:

Transfer your template placeholderName and the content type (API reference).

If your aggregation shall be able to contain more than just one control, check the "Multiple" checkbox.

≣ S					en	<u>A</u> ⊤est ∨		
Widget	CpenUI5 Angular							
Default Binding-Property: Type of a Widget: sap.m.Panel ''d'': "((%dot))", ''Type': "((%dot))", ''Type': "((%dot))", ''type': "((%dot))", ''type': "((%dot))", ''type': "((%dot))', ''type': "((keondet)), ''type': ((keondet)), ''type': ((keond						3	Properties Indefinite: 1 storing (default:) Indefinite: 1 spail.core.cSSSIR: (default: 100%) Indigit : spail.core.cSSSIR: (default: 100%) expanded: boolen: (default: Take) expanded: boolen: (default: Take) expanded: boolen: (default: Take) expanded: boolen: (default: Take) expanded: spain.core.core.core.core.core.core.core.core	
Properties	Events Aggregation	Data Aggregations	Ş					
+								
Search						Q		
	bechyle	 No data						

Step 5

If all properties are listed, you can set the Default Binding-Property which is the prioritized widget property used in the edit mode of a user story (Process Designer).

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						_							
					en	B Test \							
Widget Customizer				1	🗄 Save	× Cancel							
Image: Widget Image: OpenUIS Image: Angular													
Template Script													
Default Binding-Property		×											
Type of a Widget	expandAnimation												
1 ~ [(] 2 ~ [id": "{{[id]}}",	height					\bigcirc							
<pre>3 "Type": "{{Type}}", 4 "headerText": "{{headerText}}", 5 "width" = "{{width"}</pre>	headerText												
<pre>6 "height": "{height}", 8 7 "expandable": {(expandable}), 9 Texpandable": {(expandable), 9 Texpandable": {(expandable), 9 Texpandable</pre>	visible												
<pre>* expanded : ((expanded)), 9 "expandAnimation" : ((expandAnimation)), 10 "backgroundDesign" : "{(backgroundDesign)}",</pre>	expandable												
<pre>11 "expand": "{{expand}}", 12 "content": [{{#content}}"{(&.}}",{{/content}}], 13 "headerToolbar": [{{#headerToolbar}}"{{&.}}",{{/headerToolbar</pre>	expanded												
<pre>14 "infoToolbar" : [{{#infoToolbar}}"{{&.}}",{{/infoToolbar}}], 15 "visible" : {{visible}} 16 J</pre>	backgroundDesign												
	width												
Properties Events Aggregation Libraries Data Aggregations													
+													
Search .													
Name Description		Default Value	Data Type	Translatable									
expandAnimation		true	Boolean V			Û							
height		auto	String ~			W							
headerText			String V			Ŵ							
visible		true	Boolean ~			Ū							
End

After hitting the "Save" button, you've successfully created a Panel Widget for your application.

Create and Edit Transports

There are two different options to create a Transport:

• Adding an individual Transport via the "Transportcollection" tile

				en	8	Admir	n User	~
Transportcollection								5
							+ Add	
test							⊗ Q	
Feature Name	Creator	Approver	Export					
LayoutTest_TP	vwassmuth			Ð	Ø	Ŵ		
Test_TP	admin			Ð	Ø	W		
TripsTest_TP	timobammert	eugen	\$	Ð	Ø	Ŵ		
rolandtest_TP	Rlunck			EQ.	Ø	Ŵ		

• Releasing your app in the UI Designer

						en 🔒 Test ∽
			Application Details	i de la companya de l		
UI Designer Process Dashboard Code Designer						
*DemoTestApp		🗈 Preview 🕼 Asse	ts 🗇 CSS Editor 🚯 Languag	e 🌾 Libraries 📑 Theming		🐻 Release 🗟 Save 🗙 Exit
Search	Q	Select target screen		3 6 / +	Edit Area - Login	
Actions	× +	All Desklop Phone T	ablet Smartglass Watch	LailsScreen	Properties Select Event ID Login Description	
Composite	+ ~				showHeader	
BarChart	+				showOnDesktop 🔽	
BarChartWithLib	+	Content Preview			showOnPhone 🔽	
E ChartData	+	Content Login		$\leftarrow \uparrow \downarrow \rightarrow \equiv$	showOnSmartglass	
Dlalog_AddToCart	+	Widget Name	ID	Aggregation	showOnTablet	
iii Map	+	✓ CenterLayout	CenterLayout1	ScreenContent	showOnWatch	
Mimage	+	Image	ImageSimplifier	content		
Netzportal_ABSLogin	+	Label	Label1	content		
Netzportal_AngabenGruppe	+	Input	InputUsername	content		
Netzportal_AngabenGruppe_2	+	Label	Label2	content		
Netzportal_AngabenOrganisation	+	Input	InputPassword	content		
Netzportal_AngabenOrganisation_2	+	Button	LoginButton	content		
Netzportal_AngabenPerson	+					
Netzportal_AngabenPerson_2	+					
Netzportal_AnschriftGroup	+					
Netzportal_CheckboxGroup	+					
Netzportal_Dialog	+					

Create and manage connector calls



Connectors define the connection (entry point) to an external system. Given such a connection, you might send several different requests to the connected system. We call one such concrete pair of request / response a "connector call". In order to use a connector call in the edit mode of a user story (Process Designer), you must create at least one connector call for each connector.

Attention

To use a connector within an app, you have to configure a specific connector call and assign data types within the configuration! Otherwise the connector will not be visible in the Process Designer.

Step 1

Choose a connector from the overview and click the call icon. In the call overview add a new call for each connector operation.

									2	Felicita	s Weber \sim
		Connectors									
											+
Search											ų
Connector name	Connector type	Description	Active	S			Actio	ons			
Demo_Connector	Connector CSV			0	C2	B	Ø	S	Ð	W	
MyGo_SAP_RFC_Connector	Connector SAP-RFC			5	C2	B	Ø	S	Ð	Ŵ	
SAP_BU_Equipment	Connector SOAP			9	(°s	Ð	Ø	S	Ð	W	
SAP_BU_Functional_Locations_RFC	Connector SAP-RFC			8	®2	Ð	Ø	S	Ð	Ŵ	
SAP_BU_PMNotification	Connector SOAP			3	®2	Ð	Ø	S	Ð	Ŵ	
SAP_BU_TechnischerPlatz	Connector SOAP			5	€ <u>s</u>	B	Ø	S	Ð	Ŵ	
SAP_Meldung_Explored	Connector SOAP			1	€ <u>s</u>	Ð	Ø	Sho	w calls	1 Ū	
SAP_TechnischerPlatz	Connector SOAP			2	Æ	Ð	Ø	S	Ð	Ŵ	
Smart_Maintenance_OPCUA	Connector OPC/UA			2	€ <u>s</u>	R	Ø	S	Ð	Ŵ	
Smart_Maintenance_Push	Connector Push Notification			2	(<u>s</u>	Ð	Ø	S	Ð	Ŵ	
test	Connector SOAP			0	€ <u>s</u>	B	Ø	S	Ð	Ŵ	

Step 2

For SOAP and SQL connectors, you have the possibility to use the Connector Wizard. It helps you to create your connector calls much easier and faster. If you click on it, you can choose the ones that you need.

		Connect	or SAP BU TechnischerPlatz					_	
	-	CONNEC	a sector exercised						
							Grante Calls for Donna	eur 'SAP,	BJ_TechnischerFunt*
	600 C28					O treat Operation		- G	Configure Operations
					JE Convector Weart				
						Person senior plan regard operations in the label	or the ort.		Bold: A connector can arready result to
		Description	00	62	Actum	Search .	9,		Sec.1
	IN OR EVENING CHEATE		2		8 / B V 8	Possile Operations			 Derected Operations
	CALK STREAM LED, UR 1		1	1	8 / 8 V 8	D 848010, 72, 848010, 854010	8075.07		0 \$10010,772,84,081,94000,954,9
	E BU, CRU BURBER, NEAD, HER.		4	2	8 2 8 4 8	BURNIN, (T.L., BURNIN, DWC), D	(3.)NT		BURNIN, TEL, BLOB, JURNIN, JPDATE
	INCOLUMNING SPEAK		1		8 / 8 4 8	BURNIN, (%2, 808000, 009058)	,807		D. 848910, FE, 81, 051, 34919, 04045
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Otherwise click on the plus icon in the upper right and enter a unique call name that describes the operation (e.g. read, write, update, delete, search, ...).

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Connecto	Call									
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Poorah		Connectorcall name:	_ITIZ_BU_OBJ_B	US0010_READ						ira
Name		Description:	Description of _IT	Z_BU_OBJ_BUS0010_REA	AD					- 1
	Input Parameters Output Param	neters								
_ITIZ_B	Validate:									+
	Parameter Name		Optional	Alias	Description	(Constant Value	Data Type	Actions	
					No parameters					
-										- 1

Connector Call name

Unique name without spaces to describe the operation.

Description

Description of the operation.

Step 3

For configuring a connector call, you have to specify input and output parameters in the following tables: Each connector call has its own <u>specific parameters</u>.

	1.0	Constant (11,31,31	(Long)Car					- 8
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tenjer nazvire na //, h. h. http://doi.org/10/10/10		(Antonia		1000	11	1	1	1
								4
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Validate

You can validate the Input and Output parameter in the backend. It validates:

- Base type against type security
- Domain type against security and restrictions
- Structures against type security and underlying property types
- Collections against type security and the underlying types / property categories

If the validation is **not** successful, the client is notified of all failed validations and it's written to the Connector log or System log at the same time.

For every new Connector Call, this flag is set by default. Already existing Connector Calls **do not** have this checkbox flagged to guarantee the compatibility.

Parametername

The technical path or name within a rest api definition or web service description language or csv header column.

Alias

A meaningful non-technical description for the technical parameter. This wording is used in the edit mode for a user story (Process Designer) for mapping data with ui elements.

Description

Optional description of the parameter.

Constant Value

A constant value like SAP Client or company code that can't be overwritten by any business apps. The value will be validated, so that it's not possible to use a constant value with a wrong base type in Connector Calls and Buisness Objects.

Data Type

Assigned Simplifier data type for validating data before it gets back or from a backend system.

Step 4

After finishing the parameters, you can save the connector call settings.

Create and Manage Connectors



Connector Type | Login Method | Connector Details | Copy a Connector | Usage of Connector

To create a new connector, click on the plus icon on the upper right corner within the connector overview. It opens a new pop up where you can select the connector type and enter the required and optional information.

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		Add C	Connector		
Conne	Connector				
Search	cor	nnectorDetailView_Title_Caption		SOAP Specific Data	+ Q
Connector	*Name:		*WSDL URL:		<u> </u>
MyGo_SAF	Connector Type:	Connector SOAP ~	Ignore invalid SSL-Certificates:		
SAP_BU_E	Description:				
SAP_BU_F	Active:				
SAP_BU_F	*Timeout (in seconds):	60			
SAP_BU_T	Result Type:	Multiple Results (e.g. Array)			
SAP_Meldi	lays.	Add Tag			
SAP_Techr		Login Method +			
Smart_Mai	Name:	None V			
	Description:				
	Method Type:				
L					E Save X Cancel

Connector Type

Name	The connector needs a unique name.
Connector Type	Set the technical protocol of the interface – see chapter
	Connector Types.
Description	Add a description.
Active	Set the connector active. You can see within the overview
	which connector is active.
Timeout time (in seconds)	Set the time in seconds until the connector request will run.
	After the set timeout, the request will be discontinued.
Result Type	Type of result from the connector request. It can either be a
	single result or multiple results (e.g. Array).
Tags	You can add tags to your connector (e.g. the name of a
	project).

Login Method

You can add or select the login method for the specific backend systems. To select an existing login method, click on the corresponding field. It opens a drop down where you can select it.

If you want to create a new one, you can choose between using UserCredentials and SingleSignOn.



If you'd like to get an overview on your existing login methods and manage them, click on the "Logins" tab in the connector overview.



Connector Details

On the right side you can add data to your connector. Each connector has specific details that depend on the properties of the communication protocol. Read more on the following pages.

Copy a Connector

You can also copy an existing Connector. The complete configuration of the Connector, including its Connector Calls, is copied and created with the duplicate.



Usage of Connector

You can see which applications are using the connector. For that, click on the appropriate icon within the connector overview underneath 'Actions'.

		Actio	ns				
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It opens a popup that displays all applications that uses the connector:

i Connector usage							
Refe	erences you have permission on: 1 / 1						
Sear	ch	Q					
۲	OrderList This app shows an order list						
		Ok					

By clicking on an entry, the application opens so that you can edit it.

Create and manage Methods

The logic of a business object is implemented via script templates/methods. Each business object can hold as many methods as wanted. Click on the 'Edit methods' icon to add some templates via the '+'.

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	arver-side Citent-side		+ =
Sear	h for name or description		۹ ≡
Ø	JobExample	>	MyNewBusinessObject 🖉 🗟 🖥
			Description
Ø	JSONStore	>	
Ø	latemenausfall	>	1
Ø	MyGo_SAP_RFC_Connector	>	Business object usage
ø	MyNewBusinessObject	>	Copy Business Object //// Edit methods
Ø	SAP_BU_Equipment	>	Add Tag
Ø	SAP_Functional_Location_RFC	>	1 ⊗⁰ ⊗⁰ ⊮ ⁰⁰
Ø	SAP_PMNotification	>	f(x) helloWorld

Creating a script template involves writing a method via JavaScript and editing parameters. In the script editor you can code logic that can be called in the Process Designer.

The content corresponds to the inner body of a JavaScript function. In other words: your main code block must not be wrapped into a separate function definition but rests on the top level context. It's nevertheless possible to define sub-functions on top of

your main code block.

It's best practice to wrap your main code block in a try-catch-block to handle possible errors.

Let's have a typical hello world example:

Script Parameter		
Business Object Script		
	52888	\bigcirc
1 - try {		
<pre>3 var helloName = input.name; 4</pre>		
<pre>5 output.message = "Hello " + helloName + "!";</pre>		
7		
8 - } catch (e) {		
<pre>9 output.success = talse; 10 output.error = e.message;</pre>		
11 }		

In the toolbar above you have several possibilities: undo, redo, search, search and replace, format code, settings and fullscreen.

This example reads a name which is provided to the business object as an input parameter, compiles it into a greeting message and writes the result to the output.

Take a look at the try-catch-block surrounding the main code section:

If no error occurs, the upper part of the code inside the "try"-section will execute and return the greeting message and output.success = true. However, if any error occurs, the function will jump down into the "catch" section and return output.success = false and assign any details of the failure to attribute output.error.

In order to use the script template correctly, you have to add the same input and output parameters you used in the payload. Those parameters will be shown in the mapping dialogs in the Process Designer. Please note the correspondent handling of inand output through the (JSON) objects "input" and "output". Both of them may carry arbitrary attributes.

In this example the object "input" carries the attribute:

• *input.name* to read the inserted name.

The "output" object carries the attributes:

- *output.message* to send a greeting message.
- output.success (true/false) to indicate whether the script template executed successfully.
- *output.error* to hold the root cause of an error in case of failure.

s			Business Objects	;			en 🛛 🖉 Fel	icitas Web
pt Templates of "MyNe	wBusinessObject"					G	🖁 Save & Test 🛛 🗒 Sa	ve 🗙
	*Nam	HelloWorld						
	Script Typ	e: JavaScript						
cript Parameter								
put Parameters Validate								
arameter Name	Optional	Alias	Description	Constant Value	Data Type		Actions	
name			inserted name	String	String	P		
utput Parameters Valida	ate 🗾							
arameter Name	Optional	Alias	Description	Constant Value	Data Type		Actions	
message			greeting message	String	String	P	ŧ	
success					Boolean	đ	Ū	
error			error message	String	String	d'	1	

Validate

You can validate the input and output parameter in the backend. It validates:

- Base type against type security
- Domain type against security and restrictions
- Structures against type security and underlying property types
- Collections against type security and the underlying types/property categories

If the validation is **not** successful, the client is notified of all failed validations and it's written to the business object log or system log at the same time.

For every new business object, this flag is set by default. Already existing business objects **do not** have this checkbox flagged to guarantee the compatibility.

NOTE You have the possibility to declare parameters as optional. When declaring a parameter as non-optional, the validation will fail if the parameter is not provided.

Create client-side Business Object

Business objects are managed under the module 'Business Objects'. The main screen lists all existing business objects in table form. On the top left, you can switch between server-side and client-side business objects.

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			Bus	iness Objects								
~ ~												
Server-side Client-side												
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Client-side Business Object Na	Connectors	Plugins	Business Objects	Client-side Business Objects	Managed Libraries	Functions	Actions					
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Press '+' in the upper right corner to create a new one from scratch. This fires up the following screen:

∎ \$				en A Felicitas Weber
		Business Objects		
Create client-side Business Object				🖫 Save 🗙 Cancel
Client-side Business (Object Name:			
Client-side Business Object	ct Description:			
	Tags: Add Tag			
Add Connector / Plugin / Business Object				
	Selected Elements			
Connectors	Туре	Name	Actions	
Plugin				
Ð				
Server-side Business Object				
Client-side Business Object				
G		No data		
Managed libraries				

First, choose a name for your client-side business object, e.g. 'MyNewBusinessObject' and set a description (optional). Add some tags, so you can search in the overviews and the UI Designer by the tags.

You may then select any connector, plugin, server-side business object, client-side business object or managed libraries on the left side. It opens a dialog where you can select it. Each selected item appears in the list below, from where you might also remove it again by clicking the delete icon underneath 'Actions'.

∎ S					en	Felicitas Weber
		E	Business Objects			
Create client-side Business Object						Save X Cancel
Client-side Busines	s Object Name:	MyNewBusinessObject				
Client-side Business Obj	ect Description:	This is the description of my new client-side business object.				
	Tags:	client-side Business Object 🛞				
Add Connector / Plugin / Business Object						
	Selected El	ements				
Connectors	Туре		Name	Actions		
6	Clientside B	usiness Object	MyTestBO	Ū		
Plugin	Server Busin	ness Object	Registration	Ī		
5 Server-side Business Object	Connector		SAP_Equipment	Ū		
Client-side Business Object						
Ð						
Managed libraries						

When you're done, leave the screen by hitting the 'Save' button and return to the overview page. Your new business object appears in the table.

Usage of client-side Business Objects

You can see which applications or interfaces are using the business object. For that, click on the appropriate icon within the business object overview underneath 'Actions'.

କ୍ତ	Business object usage

It opens a popup that displays all used applications:

	i Client-side Bus	iness Object usage	
۲	OrderList This app shows an order list	շիդ	
٢	Release78 Demo App for Release 78	Show item	
۲	Release81 Demo App for Release 81		
		Ok	

By clicking on an entry, the application opens so that you can edit it directly.

Accessing input and output parameters of client-side Business Objects

You can access your input parameters via oPayload.<myInputParameter>.

To use the output parameters you have to return an object that has your parameters as properties. E.g.

```
return {
    myOutputParameter : myOutputValue
}
```

As client-side Business Objects and their contents are called asynchronously, it may happen when a connector call is called that it is not yet finished and is returned undefined or null.

To avoid this, you must call fnSuccess instead.

```
fnSuccess ({
    myOutputParameter : myOutputValue
})
```

It must be called in your last callback/function of your client-side Business Object and returns the data.

In the case of an error, the following can be specified:

```
fnError ({
    myErrorMessage : myErrorMessageValue
})
```

Create server-side Business Objects

Business objects are managed under the module 'Business Objects'. The main screen lists all existing business objects in table form. On the top left you can switch between server-side and client-side business objects.

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			Business Objects		
Server-side					+
Search					Q
Business Object Name	Connectors	Plugins	BusinessObjects	Script Templates	Actions
PushObject	1	0	0	1	5 E / B C m
Randomizer	0	0	0	1	% R / G G 🕯 🖻
Registration	0	0	0	5	% R / B C ē
Release47	0	0	0	1	~ R / G G 🗑
Release49	0	0	0	2	% R / G G 🛱 🗑
Release49_Auto_Fields	0	0	0	1	~ R / G G 🗑
Release53	1	0	0	5	% R / G G 🕯 🖻
Release59	0	0	0	2	~ R / B G 🖬
Release60	0	0	0	3	% R / G G 🗑
Release67	1	0	0	2	% R / G C e
Release69	1	0	1	1	~ R / G G 🗑
Release73_Jobs	1	0	0	5	% R / G C o
SAP_BU_Equipment	1	0	0	1	® E / G G 🗑
SAP_BU_Equipment_RFC	1	0	0	1	% R / G G 🕯 🖻
SAP_Functional_Location_RFC	2	0	0	7	% E / G G 🗑
SAP_PM_Service_Order_RFC	1	0	0	1	% R / G G 🕯 🖻
SAP_PMNotification_RFC	1	0	0	4	% R / G C ē
SAP_TechnischerPlatz	2	0	0	7	® E / 9 G 🕯 🗑
SomeStrings	0	0	0	1	6 6 / G G e

Press '+' in the upper right corner to create a new one from scratch. This fires up the following screen:

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https://academy.simplifier.io

S						en 🛛 🔒 Feli	citas Weber 🗸
		E	Business Objects				
Create Business Object						🙁 Save	× Cancel
Business	Object name:						
Business Obje	ect description:						
	Tags:	Add Tag					
Add Connector / Plugin / Business Object							
	Selected Eler	ments					
Connectors	Туре		Name	A	ctions		
۲							
Plugin							
BusinessObjects							
6							
			No data				
			no dua				

First, choose a name for your business object, e.g. "MyNewBusinessObject" and set a description (optional). Add some tags, so you can search in the overviews and the UI Designer by the tags.

You may then select any connector, plugin or other business objects you want to refer on the left side. It opens a dialog where you can select it. Each selected item appears in the list below, from where you might also remove it again by clicking the delete icon underneath ,Actions'.

		E	Business Objects			
eate Business Object					🖫 Save	× Cance
Busines	s Object name:	MyNewBusinessObject				
Business Obj	ect description:	This is the description of my new business object.				
	Tags:	Business Object 🛞 BO 🛞				
Add Connector / Plugin / Business Object						
- /	Selected Ele	ements				
nnectors	Туре		Name	Actions		
f	Business Ob	oject	Registration		Ū.	
igin	Connector		SAP_Equipment		Ū	
sinessObjects						
đ						

When you're done, leave the screen by hitting the 'Save' button and return to the overview page. Your new business object appears in the table.

Usage of server-side Business Objects

You can see which applications or interfaces are using the business object. For that, click on the appropriate icon on the right.

ලි Busir

siness object usage

It opens a popup that displays all used applications:

	i Business object usage	
Refe	erences you have permission on: 1 / 1	
Sear	rch	Q
۲	OrderList This app shows an order list Show item	
		Ok

By clicking on an entry, the application opens so that you can edit it directly.

Create your first Application



To create a new application, click on the Applications module.

APPLICATIONS



Create, manage and configure applications, widgets and libraries. Process mapping defined within user stories.

41

Then click on the "+" button on the top right to create a new business app:

	5	Applications				en		is Weber \sim
Ap	Apps Widgets Latraries						Ę	
SI	arch for name, description, author or framework Demo demo demo demo Created: 1005 2/13/2019, 11:30.52 AM Last Edited: 1005 2/13/2019, 11:46 14 AM	G) >	Dem	Description		Add r	hew Application
	Demo_Application Demo_FW Created: 1005 2/7/2019, 1:25:32 PM Last Edited: 1005 2/7/2019, 2:58:41 PM	G) >		demo			
G	Demo_FelicitasWeber Demo_FW Created: 005 2/7/2019, 10:39:42 AM	Ģ	> >		Version	App-Icon:		_
	Demo_SOAP_OrderList	6	 > > 		-	Copy Application		
	This app displays an order list Created: 1005 2/6/2019, 2:56 31 PM Last Edited: admin 2/6/2019, 4:28:49 PM	(* >		<	Show Releases		

The following dialog will appear:

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Create App		×
Арр Туре:	UI5 ~	
*App Name:	SmartMaintenance	
*App Description:	An app for maintenance	
Default Language:	American English \checkmark	
*App Transport-Name:	SmartMaintenance_TP	
		Save

Fill out the necessary fields analog to the table below:

Арр-Туре	Choose UI5 as technology for your business app.	
	For more information, see the chapter <u>Basic Concept</u> ∠Technology.	
App-Name	Unique app name like "SmartMaintenance"	
App-Description	A short description of your app	
Default Language	Your default language for configuration – you can translate this	
	language later via the language translation feature	
App-Transport-Name	The name of the transport for transferring your configuration to	
	another Simplifier instance like a quality assurance system	

After the app creation you can configure it with the following tabs:



UI Designer

Configure the user interface and mark all necessary events to design your workflow.

Process Dashboard

Define your workflow with simple visual events and actions.


CSS Editor

Preview	Assets	🕼 CSS Editor	🚯 Language	🌾 Libraries	📧 Theming

To design your application, you can use CSS for styling with standard web cascading style sheets.

Warning: The syntax for accessing widgets by ID with CSS is: #<screenId>-<widgetId>

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	CSS Editor		×
1 - 2	<pre>FApplication{ background_image: url(/img/background.ipg); </pre>		
3	background-repeat: no-repeat;		
4	background-size: cover;		
6			
7 -	#DetailsLconTabBarlheader{		
9	opacity: 0.75;		
10	} · · · · · · · · · · · · · · · · · · ·		
11	.sapMHeader-CTX{		
<u>A</u> 13	background-color: #1C98D6 !important;		
14	}		
A 16 -	div.sapMBtnInner.sapMBtnEmphasized{		
A 17	background-color: #2eccfa limportant; background-color: #2eccfa limportant;		
10)		
20			
21 -	neader { box-shadow: #333333 @ox 3ox 10ox !important:		
23	}		
24	header > div > div {		
26	text-shadow: none;		
27	}		
20 -	.sapMBtnInner {		
<u>A</u> 30	<pre>text-shadow: none !important;</pre>		
31	3		
33 -	.greenPanelBackground > div:first-child {		
34	background-color: #99cc99 ;		
36			
37 -	.redPanelBackground > div:first-child(
39	background-color; #bligle;		
40			
41 +	.redranelbackground > divitirst-child > div { color: white !important:		
43	}		
44	.ereenPanelBarkeround > div:first-child > div {		
<u>4</u> 6	color: white important;		
47	}		
49 -	.machineDataTile, #LoginLoginPanel {		
50	box-shadow: #333333 4px 5px 10px;		
51			
		Ok	Cancel

After changing CSS properties you have to deploy your application.

If you would like to learn more about CSS, take a look at the tutorials of the w3 schools or Codecademy.

CSV Connector

CSV Specific Data

*Path:	target/Address.csv
*Delimiter:	- 2
*Charset:	UTF-8
Mode:	Read / Write 🗸
Header:	
Quote all items:	

Path

Filepath and Filename to local .CSV File that should be written, relative to the current working directory of the application server. It is recommended to give an absolute path, so it doesn't matter which directory is set as "Current Working Directory" from the appserver start script.

Delimiter

Delimiter of the columns that separates the values like comma or semicolon. This must be exactly one character, more than one character is not supported by the library.

In order to use the tabulator character, the expression '\t' can be used in the Admin UI. If more than one character is specified, all but the first character will be discarded.

Charset

Character encoding used to read/write the file. If a charset is used that is unknown to the application server JVM, all read/write operations will fail.

Mode

Operation Mode of the Connector, either READ, WRITE or READ/WRITE – the CSV Connector can currently only read the referenced csv file.

Attention!

Please make sure that the Simplifier application Server has the right permissions to access and read the file on the operating system level.

Header

Activate the checkbox if the CSV File has a header in the first row.

Quote all Items

Activate the checkbox if all items should be quoted in terms of strings ("). Otherwise only values which contain the delimiter are put in quotes. This setting is irgnored when reading.

Go to <u>CSV Connector Calls</u> to configure the corresponding Calls.

CSV Connector Calls

Go to CSV Connector Details for more information about the CSV Connector.

A CSV Connector can be configured in 3 different modes:

- * READ: The connector can only read from the specified CSV file path, no write operations are permitted.
- * WRITE: The connector can only write to the CSV file, but not read from it.
- * READ/WRITE: The connector can read from the file and also write to it.

READ

The CSV Connector Call for a READ operation requires 2 Input parameters: "action" and "resultmode".

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				Create Connectorcall					÷
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	Connectorcall name:	ad							(?)
Search	Description:								C
Name									
Push									
	Input Parameters Output Parameters								+
	Parameter Name	Optional	Alias	Description	Constant Value	Data Type		Actions	
	resultmode				columnname	String	ď	1	
	action				read	String	ß	Ē	
							Save Save	& Test 🖫 Save	X Cancel

To execute a read operation, call the Connector with the parameter "action" and the constant value "read".

Reading Connectors get the result as JSON array of arrays by default. There can be definied two "resultmode" parameter:

- "columnnumber" returns an array of JSON objects, where the key is "col0", "col1", ... "colX" for the column.
- "*columnname*" returns an array of JSON objects where the key is the String taken from the header row (only available if `*headerInFirstLine*` is true see <u>CSV Connector Details</u>).

The Connector returns everything if you use "/" as Output parameter.

Current Release & Archive

The Documentation refers to the latest version of Simplifier (4.0). If you have an On-Premise installation and need help with an older version, please contact us via <u>contact@simplifier.io</u>, we are glad to support you.





New Features Release 4.0

Collaboration

In order to optimize the teamwork in the UI Designer, it is now possible to work on an application simultaneously with several users. The new AutoSave function ensures that no changes can get lost and that every user works with the latest version. Like in version 3.5, user stories can be saved separately. In addition, the Simplifier indicates who is currently working in which user story to enable conflict-free working in the Process Designer.

UI Designer: Read more »

Process Designer: <u>Read more »</u>

Test-History

To simplify the testing of interfaces (connectors) and business objects, there is now a test history. Input parameters and test results for the test procedures are stored and archived. Users can retrieve this information at any time and repeat the tests as required.

Connectors: <u>Read more »</u>

Business Objects: <u>Read more »</u>

Automated testing

To reduce the manual testing effort of applications, users can create automated tests by using the OPA5 technology. An absolute innovation in the low-code market is the connection to an automated German test cloud. This allows the app to be tested automatically on different browsers and operating systems*.

*paid feature

Read more »

App documentation

For a better traceability during the app creation, the app process documentation is now automatically generated in Markdown format. In addition, the last editor of applications and connectors is displayed.

Read more »

Additional authentication methods

For external user management systems and single sign-on scenarios, the Simplifier now supports even more authentication methods such as OAuth 2.0, SAML 2.0 and OpenID Connect. The connection to an existing LDAP, Active Directory or SAP system via SSO2 is still supported.

Open Authorization (OAuth): <u>Read more »</u>

Security Assertion Markup Language (SAML): Read more »

Archive Logs

With version 4.0, the central log for the monitoring of Simplifier applications during runtime can be archived via the central settings.

Read more »

Updated Features

User experience

To increase the user experience in the Simplifier, we have reworked the display views. This includes the Simplifier Dashboard and all list views of components.

In order to enable faster work, it is now also possible to switch directly to the edit mode of applications, connectors or business objects via usage lists.

Extended search functions

It is possible to search for widgets in the screens within the UI Designer. In addition, users can use the arrow keys to navigate between the widgets.

The search function in the Process Designer displays all activities such as events, scripts, connectors and business objects.

UI Designer: Read more »

Process Designer: <u>Read more »</u>

Further configuration options

To reduce the need for users to create code themselves in the future, it is now possible to iterate via data aggregation and nest conditions via an OR function.

Read more »

Function in the section of connectors

We have enhanced the SOAP and SAP RFC connectors with query parameters, for example, to change the current language settings in the SAP backend system.

In addition, it is now possible to send messages to Simplifier user groups using the push connector. Parameters in SQL connectors can be used several times in the statement and foreign key dependencies can be created for SQLite connectors.

Adaption of templates

The user interface of the text templates was adapted to the Simplifier design and extended by transfer parameters analogous to the business objects.

It is furthermore possible to configuratively integrate templates in the Process Designer into the application workflow.

Read more »

Compatibility with UI5 Theme Designer

The <u>SAP UI5 Theme Designer</u> can be used seamlessly to create UI5 themes representing the corporate design that can be imported to Simplifier.

More safety functions

The Simplifier has been extended by several security features:

- captcha in the login mask after too many failed logins
- filtering iFrames in the Simplifier System Messages
- using CryptoJS in Server-Side Business Objects

Conferencing Plugin

The Conferencing Plugin for real-time audio and video calls has been optimized.

Read more »

Data Workbench

Elements can be edited within the Data Workbench. Users also get more information about variables and auto fields at first glance, e.g. the exact data type.

In addition, we have added some attributes to the Auto-Field URL, such as protocol, port and source address.

For more information, have a look at Data Workbench and the following pages.

Data Centers of Simplifier Cloud

[vc_row row_type="row" stretch_row_type="no"][vc_column][vc_column_text]The Simplifier Cloud is hosted in data centers of T-Systems Germany.

The locations of the twin-core data centers are:

Lübecker Str. 2	Am Schiens 10-11
39124 Magdeburg	39221 Bördeland/Biere
Germany	Germany

[/vc_column_text][/vc_column][/vc_row][vc_row row_type="row" stretch_row_type="ro"][vc_column][vc_gmaps link="#E -8_JTNDaWZyYW11JTIwc3JjJTNEJTIyaHR0cHMIM0ElMkYlMkZ3d3cuZ29vZ2xlLmNvbSUyRm1hcHMIMkZkJTJGdSUy RjAlMkZlbWJIZCUzRm1pZCUzRDF2YXJBRGVLbkpzYkQ0UW9ZX19FTW15OUpLT0ZhcE5JdyUyMiUyMHdpZHRoJT NEJTIyNjQwJTIyJTIwaGVpZ2h0JTNEJTIyNDgwJTIyJTNFJTNDJTJGaWZyYW11JTNF" title="T-Systems data center"][/vc_column][/vc_row]

Data Object

Connector | Asynchronous Connector | Business Object | Mapping Collections | Mapping Structs



Data Objects represent data sources and destinations, which can be triggered for execution. You can choose either a predefined connector (you can activate it to asynchronous) or a business object.



Description

If you select this option, the value helper assistant only offers asynchronous connectors.

If you open the value helper, an assistant opens that guide you to your connector.

You have the possibility to configure if the UI is blocked by the busy indicator, or can configure which element on your screen should be blocked by it.

You can map variables, auto fields, widget properties and constants to the input parameter of your connector.

You can map the output parameter of your connector to variables and properties.





Function Asynchronous

Value Helper

Show Busy Indicator

Input Mapping

Output Mapping

Connector

A typical example of a data object is a previously defined connector call. An assistant offers all configured connectors that own connector calls. You can search for the connector name or even the connector type. If you select a connector, all calls are listed on the right side.

Choose the required <u>Connector</u> and the <u>Call</u> you want to execute.

You have the possibility to configure if the complete UI should be blocked by the **busy indicator**, or which element(s) on your screen should be blocked by it.

If you want to assign a connector call to a data object, you have to define the sources for the connector input (the request) and the destination for its output (the response). This is called the "Input Mapping" and "Output Mapping": Clicking one of these two buttons opens a new pop up which allows you to connect widgets with the input or output attributes of a connector call. Independent of whether you're defining the input or output mapping, you'll always find the mapping sources in the left pane and the destinations on the right.

If you define e.g. the input mapping, you'll find the list of widgets in the left pane and the available connector call request parameters on the right.

Within the output mapping dialog, the widgets are on the right pane, as they are the destination of the received data.In this example, the request of the selected connector call provides only a single input parameter, an ID field named "TechnischerPlatzId". This input parameter is connected with the value of the widget "CustomerType". This means, that once the data object is triggered, e.g. through a button press event, the connector will be called with the actual value of the widget "CustomerType" as the request parameter.You can choose the exact source that you want to use for the input parameter by double-clicking on the widget. It opens a list of all properties so you can choose the one you need as input.



Asynchronous Connector

You can configure asynchronous connectors in the Process Designer. The configuration works as same as with the synchronous <u>connector</u>.

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When setting a connector to asynchronous, the assistant only offers connectors with asynchronous interfaces (Push, MQTT and OPC/UA).

It has two inputs "subscribe" and "unsubscribe" and one output.

subscribe unsubscribe output can be triggered with any output can be triggered with any output will be triggered on any async. message the Data Object receives

Business Object

The input and output mapping of **Business Objects** works equivalent to the mapping of Connectors.

After selecting the right business object and the predefined script template, you can map the input and output parameters.



Function	Description
Client-side	You can choose between client-side and server-side business
	objects. Read more about <u>client-side</u> and <u>server-side</u> business
	objects.
Value Helper	By opening the value helper, an assistant opens that takes you
	to your business object.
Show Busy Indicator	You have the possibility to configure if the complete UI
	should be blocked by the busy indicator, or which element on
	your screen should be blocked by it.
Input Mapping	You can map variables, auto fields, widget properties, and
	constants to the input parameter of your business object.
Output Mapping	You can map the output parameter of your business object to
	variables and widget properties.
The dialog shows all configured business objects that include	

methods. You can search for the name of the business object. By selecting a business object, all methods are listed on the right-hand side.



Mapping Collections

<u>Collections</u> represent multiple results of <u>Structs</u>. For example, a database request may deliver a list of addresses from numerous people and you can map them to the equivalent widget within a data object.

Input Mapping

Unfortunately, the input mapping of collections is not yet possible. Nevertheless, you can use the "Script" tile and map your data via code.

There is a general pattern you can follow and adapt it to your specific data. To map data to your table, you must have a predefined connector with at least one connector call. Now click on the Script tile and edit the code.

Step 1

Build an object.

Step 2

Add payload to your object. If the input parameter of your connector call is filled in with an alias, you can add them as keys to your object.

Otherwise, you need an escape function.

Example:

payload[escape("soap/_-ITIZ_-OBJ_BUS2012_UPDATE/IT_PO_ITEMS(1)/QUANTITY")] = "X"

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Step 3

Add a global function call with the following Parameters:

- 1. Parameter: Connector name
- 2. Parameter: Connector call name
- 3. Parameter: Keys you added above (payload)
- 4. Parameter: Success function
- 5. -7. Parameter: Error function, showBusyIndicator and error message

this.callConnectorCall("CONNECTOR", "CONNECTOR_CALL", dataForSAP, successCallback, true, true, null);

Output Mapping

The output mapping of a data object to a table, a list or a selected widget can be easily done in the Process Designer.

Click on "Output Mapping" and add the output parameter (on the left) and your table widget (on the right) to the screen. Double click on each to select the items.

Now map the equivalent items together via drag & drop.

Validation of mandatory Parameters

All configured parameters have an indicator if it's mandatory.

If you haven't mapped all input parameters of a data object that has been marked as mandatory, the following warning will appear:





Mapping Structs

<u>Structs</u> describe a package of domain types. For example, the struct "address" contains different domain types like name, street, city, ZIP Code, etc.

You can map structs as input and output parameter within your data object or when using a UI action.

Example:

In the example below, we want to use a business object that needs the information first name, last name, street and city as input parameter. Prior to our work in the Process Designer, we have created the struct data type "Person" that contains several domain types like "Firstname" and another struct which is called "Address".



Within the input mapping of our business object, we can assign the input fields with the equivalent data to the struct "Person" that the business object needs.

By double-clicking on the struct you can choose exactly which parameter you want to select.

Navigate higher or deeper in the struct by clicking on the arrows (e.g. to select the domain type "Street" within the struct "Address").



Data Types

The module "Data Types" is the central way to define different types of data, structures and collection of Data Types and their validation rules.

Data Types are a way to ensure data are sent and received in the right type format to and from the backend systems. With this feature, you can define data definitions to validate your data with client and server-side validation to prevent security issues and backend saving problems due to wrong data formats or hacker attacks.

Data Types can be assigned to widgets and connector calls to validate input and output data.

There are six Base Data Types defined in the Simplifier:

Date	Date Format
String	Characters, numbers and any other symbols from the Unicode
	Character Set
Boolean	True or False
Integer	Positive and negative numbers like -2, -1, 0, 1, 2
Float	Numbers with precisions like 2,503
Any	Accept all kind of Data Types even heterogeneous Arrays.

With the "Data Types" tile, you are able to enhance the Base Types and define your own logic. The new Data Types are split into three different types:

- Domain types
- Structs
- Collections

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			Types							
📰 Domain types										
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Search										Q.
Name	Parenttype		Description							
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Forename	String		Forename of a Person				B 4	1		
ZIP	String		a postal code			B 4	1			
≡ _{>} Structs										
Count: 16										+
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Name		Description								
POHISTORY		History data for the PO			6	0	Ū.			
OPC_UA_WriteResult		The OPC/UA "WRITE" result.		B	0	Ì				
Collections										
Count: 13										+
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You can assign tags to Data Types to find them easily in the searchbar. Already existing tags are suggested including tags of widgets.

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Description:	a postal code	
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	Min'	
	Max: 5	
	Regex:	
possible	e values (json):	
	Nullable:	

Data Workbench



Custom Events | Global Variables | Global Auto Fields

Within the Data Workbench, it is possible to administer custom events, global variables and auto fields that you want to use cross-functional in the user stories.

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Custom Events

Custom events can be imagined as tunnels which connect different user stories or processes.

By publishing an event, you open the entrance to the tunnel and by subscribing to this particular event, you create the exit of the tunnel. This enabled you to jump between the user stories and helps you to have a clearly laid out working space.

To create a new custom event, click on the plus icon. Enter a name and then you can use it in the Process Designer.

Go to <u>Events</u> for an example of using the custom event in the Process Designer. In this section, you can also find out how to create a custom event directly in the Process Designer.

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Global Variables

Use global variables as a container to buffer data, e.g. if a connector returns a lot of data and you would like to use some of it later in your work process, you can save the parameter as variables and map them later.

To create a new one, click on the plus icon. Enter a variable name, variable type and default value (optional).

You can also select, e.g. a struct as the variable type.

Add Variable *Variable Nan Number Variable Type 6P Integer Default Value 5 X Can 🗸 Ok / 8 Add a new Variable Variable Nam folling_machine Variable Type ő Machine Default Value ď No value set ត្រូ s X Cance

4

If you have selected a struct as a variable type and clicking on the value helper for the variable type, the dialog on the right appears.

The dialog lists the fields of the 'Machine' struct on the left side like a tree. The struct is expanded to its first children so that the user can immediately see which are the fields of the parent node 'Machine'.



You get the information about the fields on the right panel to configure the default values.

In general, the fields have four different appearances depending on their own data type:

Data type	Appearance	Behavior/Usage
String, Integer, Float	Input field with validation (depending on data type)	Values are written in the input field and
	on data type)	
Date	Date time picker	The date time picker dialog opens and
		the user is able to select the date and
		time.
Boolean	Switch	The switch can be set to true or false.
Collection, Struct	Link	By clicking on the link, you will be
		navigated to a complex data type in the
		left tree, that will also be selected
		automatically.

Example of a link press for clarification:

By pressing the 'lubricant' link from the dialog above, there are also different appearances of the tree items depending on their datatype:

Data type Base (String, Integer, Float, Date, Boolean)	Icon	Is Expandable No	Plus Button No	Remove Button No
Domain	2 =	No	No	No
Struct	(\equiv)	Yes	No	No
Collection		Depending on collection items	Yes	No (only if it is a collection in a collection)

Collection exception:

By adding a collection object, the item is inserted into the structure below the collection. The collection object can then be clicked like an ordinary tree element. The only difference is that a collection item can be removed using the delete button.

You can reference variables in data objects as in- or output parameter. To do so, drag a variable (that you've created previously in the Data Workbench) from the toolbar in the mapping dialog.



Global Auto Fields

Auto fields are automatically computed/filled fields. You can use them e.g. if you want to greet the user who is logged in with his actual name or load e.g. the version number. To create a new auto field, click on the plus icon in the Data Workbench. Enter a name for the auto field, the type, and the characteristic.

It is possible to declare auto fields from five types:

- Application
- User
- URL
- Geolocation
- Device



Category	Characteristic	Description	
Application	Name	The name of the application.	
	Version	The current version of the application. If the application is not yet released, it is stated as "n/a".	
User	Name	The currently logged in user name.	
URL	Complete URL	The complete URL:	
		https://academy.simplifier.io:443/doc/current-release/?search=help#8263	

	Origin	The origin part:
		https://academy.simplifier.io:443/doc/current-release/?search=help#8263
	Protocol	The protocol part:
		https://academy.simplifier.io:443/doc/current-release/?search=help#8263
	Host Name	The host name:
		https://academy.simplifier.io:443/doc/current-release/?search=help#8263
	Host and Port	The host name with port number:
		https://academy.simplifier.io:443/doc/current-release/?search=help#8263
	Port	The port number part:
		https://academy.simplifier.io:443/doc/current-release/?search=help#8263
	Path	The path component:
		https://academy.simplifier.io:443/doc/current-release/?search=help#8263
	Query Parameter	The value of a selected query parameter:
		https://academy.simplifier.io:443/doc/current-release/?search=help#8263
	Hash/Page fragment	The page fragment (URL part after the hash-symbol):
		https://academy.simplifier.io:443/doc/current-release/?search=help#8263
Geolocation	Longitude	The longitude of a place or city.
	Latitude	The latitude of a place or city.
Device	Online	Holds the current connection state.

Mobile Client	Tells you if your application is running on the Cordova Client.
Screen orientation	The screen orientation is set.
Device Type	The auto field can hold these values: desktop, phone, tablet, watch and smartglass.

In the overview, the type of the auto field is displayed underneath its name and the characteristic is displayed on the right-hand side.

To edit an auto field, use the edit icon. It opens the same dialog as creating the auto field, but of course, predefined with the data, you set before. If you no longer need an auto field, delete it by clicking the appropriate icon.

How to use Auto Fields

You can use auto fields within a data object. In this example, we created an auto field that automatically gets the user name. It is mapped with the input parameter 'userName' of a preconfigured business object.

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We configured some more auto fields like "applicationVersion" or 2 URL parameter. The result is shown below:

At first, you can see the former way of typing in the information by hand. On the second Screen, we used the Auto Fields and you get the information automatically, simply by clicking on the button.



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Delete a PDF Template

Delete Template

To delete a template, you need the following parameter:

URL	/client/1.0/P LUGIN/pdf Plugin/admi nTemplateD elete
Input- NameTemp Parameter late name	
Output- None Parameter	
Example input::	
{	
"name": "templatename"	
}	
Example output:	
{	
"success": true	
}	

Deploy and Preview

Applications can be deployed rapidly and previewed within a standard web browser and on the mobile device using the <u>Simplifier Mobile Client</u>.
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() *Basic_Course		E Preview E Assets	🕼 CSS Editor 🛞 Langua	age 🌾 Libraries 📧 Theming		🔞 Release 🕨 Deploy 🗙 Exit
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1 48	~	All Desktop P	hone Tablet Smartgla	ass Watch	Properties Select Event	
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E NavigationList	+	Widget Name	ID	Aggregation	showOnPhone	
E NavigationListItem	+	SimpleForm	Main SimpleForm1	ScreenContent	showOnSma 🔽	
RatingIndicator	+	Label	Main_CampleTonTT	content	showOnTablet	
E SideNavigation	+	Laber	Main_Label_Function	content	showOnWatch	
Bars	~	Butten	Main_Input_FuncLoc	content		
	-	Button	Main_button_Scan	Content		
	+	Button	Main_Button_ShowD	ScreenContent		
ToolbarSeparator	+					
III ToolbarSpacer	+					

If you click on preview, it opens a new browser tab. Every time you will deploy your application, the browser tab will be reloaded automatically.

Warning: Make sure that pop-ups are not blocked in your browser for your Simplifier instance.

You can simulate your preview for different mobile devices with the <u>Chrome Developer Tools</u> or use it for debugging.

To access the DevTools, open your app preview in Google Chrome and press F12.

Alternatives:

• Select the **Chrome menu**

at the top-right of your browser window, then select **Tools** > **Developer Tools**.

• Or use Ctrl+Shift+I (or Cmd+Opt+I on Mac).

Via the toggle device toolbar, you can simulate different devices like Galaxy S5, iPhone 6 or iPad to preview your application. More information on <u>Google Chrome DevTools Device Mode</u>.

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Layout	~	Content Preview			contentWidth 70%
E SimpleForm	+	Content FirstScreen		$\leftarrow \land \downarrow \rightarrow \overline{\square}$	layoutID
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		✓ CenterLayout	CenterLayout1	ScreenContent	
E Image	+	MImage	MImage1	content	
	+	Input	Username	content	
Imeline+iterListitem	+	Button	LoginButton	content	
E TimelineItem	+	Button	FirstScreen	content	
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Deployment & Installation Instructions

A Simplifier application can be deployed in different ways. You can deploy to your local machine for development and testing, you can deploy to the Simplifier cloud, Cloud Foundry-based platforms, Azure, AWS, SAP Cloud, or a server you configured yourself.



Cloud installations are hosted and maintained by Simplifier AG. Each instance is reachable via a unique DNS name:

https://<instance-name>.simplifier.io

On-premise installations are hosted by our customers, on their own infrastructure. This scheme is especially useful if the Simplifier shall be integrated into a closed network infrastructure.

Checklist for Installation

For Installation of the Simplifier, the following persons and things are required:

- IT Security Officer
- System owner regarding Backend Interfacing
- Firewall Administrators
- Reverse Proxy Administrator
- IT Administrators
- SSL Certificates for HTTPS

Use the following checkpoints for an successful installation

Checkpoint



Description System-Requirements are clear

Domain-Name for Development, QA and Productive Systems are clear SSL Certificates for all 3 Instances is available

Firewallports 443 and 587 are open

Backendsystem is reachable via Supported Protocols



Device Condition

The Simplifier is able to recognize the device type that is used by the application, so you can assign different functionalities to it, e.g. different designed login screens for mobile or wearable devices.

At first, you need to create a new auto field type with the auto field type "Device" and the characteristic "Device Type". How to create auto fields, you can see <u>here</u>.

Add a new Auto Field	
*Auto Field Name:	
DeviceType	
Auto Field Type:	_
Device	\sim
Characteristic:	
Device Type	\sim
Cancel	Save

Within the Process Designer, you can refer to this auto field using a <u>condition</u>. Select the corresponding auto field and assign it to a constant (String).

Choose between:

- desktop
- phone
- smartglass
- tablet
- watch

Please pay attention to the lower case!



Docker Hub

The Simplifier is also available on Docker Hub.

Short Instructions

Create the directory which will host all external user-specific data: \$ mkdir -p /home/simplifier/data \$ export SIMPLIFIER_DIR="/home/simplifier/data"

Install SSL certificates: \$ mkdir -p \$SIMPLIFIER_DIR/certs \$ cp <certificate.pem> SIMPLIFIER_DIR/certs/default.crt \$ cp <keyfile.pem> SIMPLIFIER_DIR/certs/default.key

Run docker: Alternative 1: with SSL/Certificates \$ docker run -d -v \$SIMPLIFIER_DIR:/opt/simplifier/data \ -p 80:80 -p 443:443 -p 8090:8090 \ ---name=simplifier simplifierag/onpremise:latest

Alternative 2: without SSL/Certificates \$ docker run -d -v \$SIMPLIFIER_DIR:/opt/simplifier/data \ -p 80:8080 -p 8090:8091 \ ---name=simplifier simplifierag/onpremise:latest

Docker Installation

Get Docker CE

Referenced to the official Docker instructions.

Note: This installation instructions is based on the example of the operating system Ubuntu 16.04 LTS.

SET UP THE REPOSITORY

Update the apt package index:

\$ sudo apt-get update

Install packages to allow apt to use a repository over HTTPS:

```
$ sudo apt-get install \
    apt-transport-https \
    ca-certificates \
    curl \
    software-properties-common
```

Add Docker's official GPG key:

\$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -

Verify that you now have the key with the fingerprint 9DC8 5822 9FC7 DD38 854A E2D8 8D81 803C 0EBF CD88, by searching for the last 8 characters of the fingerprint.

```
$ sudo apt-key fingerprint 0EBFCD88
pub 4096R/0EBFCD88 2017-02-22
Key fingerprint = 9DC8 5822 9FC7 DD38 854A E2D8 8D81 803C 0EBF CD88
uid Docker Release (CE deb) <docker@docker.com>
sub 4096R/F273FCD8 2017-02-22
```

Use the following command to set up the stable repository. You always need the stable repository, even if you want to install builds from the edge or test repositories as well. To add the edge or test repository, add the word edge or test (or both) after the word stable in the commands below.

Note: The lsb_release -cs sub-command below returns the name of your Ubuntu distribution, such as xenial. Sometimes, in a

distribution like Linux Mint, you might have to change \$(lsb_release -cs) to your parent Ubuntu distribution. For example, if you are using Linux Mint Rafaela, you could use trusty.

amd64:

```
$ sudo add-apt-repository \
   "deb [arch=amd64] https://download.docker.com/linux/ubuntu \
   $(lsb_release -cs) \
   stable"
```

INSTALL DOCKER CE

Update the apt package index:

\$ sudo apt-get update

Install the latest version of Docker CE:

\$ sudo apt-get install docker-ce

Docker on Mac

Install Docker for Mac

Docker for Mac is the Community Edition (CE) of Docker for MacOS. To download Docker for Mac, head to Docker Store.

Download from Docker Store

What to know before you install

README FIRST for Docker Toolbox and Docker Machine users

If you are already running Docker on your machine, first read <u>Docker for Mac vs. Docker Toolbox</u> to understand the impact of this installation on your existing setup, how to set your environment for Docker for Mac, and how the two products can coexist.

- **Relationship to Docker Machine**: Installing Docker for Mac does not affect machines you created with Docker Machine. You have the option to copy containers and images from your local default machine (if one exists) to the new Docker for Mac <u>HyperKit</u>VM. When you are running Docker for Mac, you do not need Docker Machine nodes running at all locally (or anywhere else). With Docker for Mac, you have a new, native virtualization system running (HyperKit) which takes the place of the VirtualBox system. To learn more, see <u>Docker for Mac vs. Docker Toolbox</u>.
 - Mac hardware must be a 2010 or newer model, with Intel's hardware support for memory management unit (MMU) virtualization, including Extended Page Tables (EPT) and Unrestricted Mode. You can check to see if your machine has this support by running the following command in a terminal: sysctl kern.hv_support
 - macOS El Capitan 10.11 and newer macOS releases are supported. We recommend upgrading to the latest version of macOS.
 - At least 4GB of RAM
 - VirtualBox prior to version 4.3.30 must NOT be installed (it is incompatible with Docker for Mac). If you have a newer version of VirtualBox installed, it's fine.**System Requirements**: Docker for Mac launches only if all of these requirements are met.

Note: If your system does not satisfy these requirements, you can install <u>Docker Toolbox</u>, which uses Oracle VirtualBox instead of HyperKit.

• What the install includes: The installation provides <u>Docker Engine</u>, Docker CLI client, <u>Docker Compose</u>, <u>Docker Machine</u>, and <u>Kitematic</u>.

Install and run Docker for Mac

1. Double-click Docker.dmg to open the installer, then drag Moby the whale to the Applications folder.

DP DP	AG & DROP
Docker.app	Applications

2. Double-click Docker.app in the Applications folder to start Docker. (In the example below, the Applications folder is in "grid" view mode.)



You are prompted to authorize Docker.app with your system password after you launch it. Privileged access is needed to install networking components and links to the Docker apps. The whale in the top status bar indicates that Docker is running, and accessible from a terminal.

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If you just installed the app, you also get a success message with suggested next steps and a link to this documentation. Click the whale () in the status bar to dismiss this popup.

<i>÷</i>
Docker is now up and running!
Open your favorite terminal and run Docker commands:
•••
\$ docker ps
Log in with your Docker ID:
Docker ID
Password
Log In
If you don't have a Docker ID, create one on cloud.docker.com
We send usage statistics, check your <u>privacy settings</u> .

- 3. Click the whale () to get Preferences and other options.
 4. Select About Docker to verify that you have the latest version.

Congratulations! You are up and running with Docker for Mac.

Docker on Ubuntu / Debian

Get Docker CE

Referenced to the official Docker instructions.

Note: This installation instructions is based on the example of the operating system Ubuntu 16.04 LTS.

SET UP THE REPOSITORY

Update the apt package index:

\$ sudo apt-get update

Install packages to allow apt to use a repository over HTTPS:

```
$ sudo apt-get install \
    apt-transport-https \
    ca-certificates \
    curl \
    software-properties-common
```

Add Docker's official GPG key:

\$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -

Verify that you now have the key with the fingerprint 9DC8 5822 9FC7 DD38 854A E2D8 8D81 803C 0EBF CD88, by searching for the last 8 characters of the fingerprint.

```
$ sudo apt-key fingerprint 0EBFCD88
pub 4096R/0EBFCD88 2017-02-22
Key fingerprint = 9DC8 5822 9FC7 DD38 854A E2D8 8D81 803C 0EBF CD88
uid Docker Release (CE deb) <docker@docker.com>
sub 4096R/F273FCD8 2017-02-22
```

Use the following command to set up the stable repository. You always need the stable repository, even if you want to install builds from the edge or test repositories as well. To add the edge or test repository, add the word edge or test (or both) after the word stable in the commands below.

Note: The lsb_release -cs sub-command below returns the name of your Ubuntu distribution, such as xenial. Sometimes, in a

distribution like Linux Mint, you might have to change \$(lsb_release -cs) to your parent Ubuntu distribution. For example, if you are using Linux Mint Rafaela, you could use trusty.

amd64:

```
$ sudo add-apt-repository \
   "deb [arch=amd64] https://download.docker.com/linux/ubuntu \
   $(lsb_release -cs) \
   stable"
```

INSTALL DOCKER CE

Update the apt package index:

\$ sudo apt-get update

Install the latest version of Docker CE:

\$ sudo apt-get install docker-ce

Docker on Windows 10

Install Docker for Windows

Docker for Windows is the <u>Community Edition (CE)</u> of Docker for Microsoft Windows. To download Docker for Windows, head to Docker Store.

Download from Docker Store

What to know before you install

If your system does not meet the requirements to run Docker for Windows, you can install <u>Docker Toolbox</u>, which uses Oracle Virtual Box instead of Hyper-V.

- **README FIRST for Docker Toolbox and Docker Machine users**: Docker for Windows requires Microsoft Hyper-V to run. The Docker for Windows installer enables Hyper-V for you, if needed, and restart your machine. After Hyper-V is enabled, VirtualBox no longer works, but any VirtualBox VM images remain. VirtualBox VMs created with docker-machine (including the defaultone typically created during Toolbox install) no longer start. These VMs cannot be used side-by-side with Docker for Windows. However, you can still use docker-machine to manage remote VMs.
- Virtualization must be enabled in BIOS and CPU SLAT-capable. Typically, virtualization is enabled by default. This is different from having Hyper-V enabled. For more detail see <u>Virtualization must be enabled</u> in Troubleshooting.
- The current version of Docker for Windows runs on 64bit Windows 10 Pro, Enterprise and Education (1607 Anniversary Update, Build 14393 or later).
- Containers and images created with Docker for Windows are shared between all user accounts on machines where it is installed. This is because all Windows accounts use the same VM to build and run containers.
- Nested virtualization scenarios, such as running Docker for Windows on a VMWare or Parallels instance, might work, but come with no guarantees. For more information, see <u>Running Docker for Windows in nested virtualization</u> <u>scenarios</u>
- What the Docker for Windows install includes: The installation provides <u>Docker Engine</u>, Docker CLI client, <u>Docker Compose</u>, <u>Docker Machine</u>, and <u>Kitematic</u>.

About Windows containers

Looking for information on using Windows containers?

- <u>Switch between Windows and Linux containers</u> describes the Linux / Windows containers toggle in Docker for Windows and points you to the tutorial mentioned above.
- <u>Getting Started with Windows Containers (Lab)</u> provides a tutorial on how to set up and run Windows containers on Windows 10 or with Windows Server 2016. It shows you how to use a MusicStore application with Windows containers.
- Docker Container Platform for Windows Server 2016 articles and blog posts on the Docker website

Install Docker for Windows desktop app

- 1. Double-click **Docker for Windows Installer.exe** to run the installer.If you haven't already downloaded the installer (Docker for Windows Installer.exe), you can get it from <u>download.docker.com</u>. It typically downloads to your Downloads folder, or you can run it from the recent downloads bar at the bottom of your web browser.
- 2. Follow the install wizard to accept the license, authorize the installer, and proceed with the install.You are asked to authorize Docker.app with your system password during the install process. Privileged access is needed to install networking components, links to the Docker apps, and manage the Hyper-V VMs.
- 3. Click **Finish** on the setup complete dialog to launch Docker.

Start Docker for Windows

Docker does not start automatically after installation. To start it, search for Docker, select **Docker for Windows** in the search results, and click it (or hit Enter).

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When the whale in the status bar stays steady, Docker is up-and-running, and accessible from any terminal window.



If the whale is hidden in the Notifications area, click the up arrow on the taskbar to show it. To learn more, see <u>Docker</u> <u>Settings</u>.

If you just installed the app, you also get a popup success message with suggested next steps, and a link to this documentation.



When initialization is complete, select **About Docker** from the notification area icon to verify that you have the latest version.

Congratulations! You are up and running with Docker for Windows.

Domain Type

A Domain type represents a single Data Type that inherits from a Base Type like String, Integer, Float, Date etc. and can include different properties.

For example a ZIP Code is an inherited type of string with the property of a maximum of 5 chars length.

To create a new Domain Type click on the "+" button.

∎ S			en	Admin User
		Types		
🖃 Domain types				
Count: 5				+
Search				Q
Name	Parenttype	Description		
test1	Integer	test1	Q / 10	Ī
Forename	String	Forename of a Person	Q / 1	Ī
ZIP	String	a postal code	Q / 10	Ī
TestType	Integer	asdf	Q / 1	Ī
Number_Not_Null	Integer	Number with length of 12 may not be Null!	2 / 1	f

Enter a unique Name for the Domain Type and an optional Description. Also select a Parenttype to inherit from by clicking on the appropriate field.

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= s			en	$^\circ$ Admin User \sim
		Data Tuno Soloction		
		Data type selection		
Edit "ZIP"	Tags Selected Data type : String		🗄 Sa	ve × Cancel
	Search Q			
		Base Types Domain Types Structs Collections		
	All Data Types			
	Custom	searon	-	
	All Custom Data Types	Any	>	
		Boolean	>	
		Date	>	
		Float	>	
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B Edit "ZIP" Name: ZIP Parenttype: String Description: a postal code Properties Min: Same Same Same Same Num: Same Same Same Properties Nume: Same Nume: Same Nume: Same Same				en Ares
Edit "ZIP"			Туреѕ	
Image: String Description: a postal code Properties Min: S Reger: S possible values (json): Nullable: C	Edit "ZIP"			🖫 Save 🗙 Cancel
Name: ZIP Parenttype: String Description: a postal code Properties Min: S Regex: possible values (ison): Nullable:				
Parenttype: String Description: a postal code Properties Min: Rege: possible values (json): Nullable:		Name:	ZIP	
Description: a postal code Properties Min: Max: 5 Regex: possible values (json): Nullable:		Parenttype:	String ~	
Properties Min: 5 Max: 5 Regex: 0 possible values (json): 0 Nullable: 0		Description:	a postal code	
Properties				
Properties Min: Min: S Regex: possible values (json): Nullable:				
Properties Min: Min: Min: S Regex: Possible values (json): Nullable: Nullable:				
Min: Max: Max: possible values (json): Nullable: Nullable: Nullable: Nullable: Nullable: Nullable: Nullable: Nullable:	Droportion			
Min: Max: Regex: possible values (json): Nullable:	Properties			
Max: 5 Regex: Nullable: 10			Min [.]	
Regex: possible values (json): Nullable:			Max: 5	
possible values (json):				
Nullable:			Regex	
Nullable:		possible	values (json):	
			Nullable:	

In the area below you can set the properties of your Data Type:

Min

Minimum length of a String, minimum number of a range, earliest date of a date range.

Max

Maximum length of a String, maximum number range, latest date of a date range.

RegEx

Regular expression to validate this Domain Type - for more information see https://developer.mozilla.org/en-

US/docs/Web/JavaScript/Reference/Global_Objects/RegExp.

Possible Values

Simple JSON Array of Strings repesenting literals of chosen Base Type.

Nullable

If activated, this value can be empty (null).

Don't overwrite data

The options "Don't overwrite" and "Overwrite" are going to import the data to your system.

By choosing "Don't overwrite", only new features are uploaded. Every feature with the same name like an existing one is skipped.

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HelloWorld version 1.sl Browse				
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Overwrite				
Import				
矽 Start Import				
Import Log				
Imported (5 artifacts)				
Search				Q
Name	Status	Feature		
E Button	Skipped	Widget		
A6 AppHelloWorld	Skipped	Role		
a Label	Skipped	Widget		
E CenterLayout	Skipped	Widget		
B HelloWorld	Skipped	Application		

DQP System

For each step in the development and update process of the Simplifier, an independent instance should be used.

- Development
- Quality Assurance
- Productive

Here we would like to give you an example for deploying a DQP system on three virtual machines.



Deployment and Integration Workflow D-Q-P



- Development of an app on the DEV instance
- Transport to the QA instance
- Testing the app on the QA instance
- Transport to the Productive instance

Dry run

A "Dry run" analyzes the content of the file and displays a list of all features. It does not import the data so you can simply test how the transport would work out.

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Impo	rtfile					
Helk	World_version_1 st Browse					
Optio	ons					
۲	Dry Run					
	Dont overwrite					
	Overwrite					
Impo	rt					
ጭ ያ	Start Import					
Impo	rt Log					
	Imported (5 artifacts)					
Sea	ch				9	-
	Name	Status	Feature			
±*	Button	Analyzed	Widget			
86	AppHelloWorld	Analyzed	Role			
<u>*</u>	Label	Analyzed	Widget			
<u>1</u>	CenterLayout	Analyzed	Widget			
۲	HelloWorld	Analyzed	Application			

Edit a PDF Template

Edit Template

To edit a PDF template, you need the following parameter:

URL

Input-Parameter

Data

Stylesheet

PreviewJson

Output-Parameter

Example for a call:

```
{
    "name": "templatename",
    "data": "SGFsbG8gV2VsdA==\",
    "stylesheet: "SGFsbG8gV2VsdA==\",
    "previewJson": "SGFsbG8gV2VsdA==\"
}
```

Output example:

{
 "success": true
}

Email Connector

Email Specific Data

*Sender address:	fw@simplifie.io
*SMTP host:	mail.itizzimo.com
*SMTP port:	25
SMTP authentication:	
enable SMTP StartTLS:	

SMTP host

Hostname of SMTP Server

SMPT port

Port of SMTP server

SMTP authentication

If enabled, the client attempt to authenticate the user using the AUTH command. Default to false.

SMTP StartTLS

If activated, it enables the use of the STARTTLS command (if supported by the server) to switch the connection to a TLSprotected connection before issuing any login commands. Note that an appropriate trust store must configured, so that the client will trust the server's certificate. Default to false.

Take a look at Email Connector Call.
Email Connector Call

The email connector call requires 3 input parameters to be defined:

receiver	The email address of the	String
	receiver. Several email addresses can be	
	specified separated by a comma.	
subject	The subject of your message.	String
msg	The message itself.	String

All data types should be set as String.

There are 3 optional parameters that can be configured as well:

ent]
(

ByteAttachment

```
{
    "session": String,
    "fileName": String,
    "attachmentMimeType": String
}
```

Example:

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ແ ເ				Connectors					en	A Felicitas Weber
Connecto				Create Connectorca	all					ve h E
Connecto	Call									
										?
Search	Connectorcall nam	e: EmailConne	ctorCall							+
Name	Descriptio	n: This is an en	mail connector call.							
	Input Parameters Output Parameters									
	Validate									+
	Parameter Name	Optional	Alias	Description	Const	ant Value	Data Type		Actions	
	msg				~	Hello. This is a test message.	String	ð	Ē	
	subject				~	Test message	String	ď	1	
	receiver				<	fw@simplifier.io, vk@simplifier.io	String	ð	1	
								🖫 Save & Tes	t 🖫 Save 🗄	× Cancel

Enumeration in Widget Properties

You can maintain enumeration for widget properties. Enumerated properties can only hold the defined values and will be displayed as a selection in the UI Designer.

In order to define the enumerations, you have to add them in an array notation to the default value of the property. It is not necessary to set the values in quotes.

Example

There are different predefined types of buttons in OpenUI5. The properties can be maintained as a list in the widget mask. In our example, we look at all different button types in the OpenUi5 API Reference and transfer them into the widget edit mask with the appropriate syntax: [typ1, typ2].

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Documentation AP	I Reference	Samples Demo Apps
button 🛞 🏹		enum sap.m.ButtonType
✓ sap.f.semantic		enam eapinibation ype
SemanticButton		Overview Fields
SemanticToggleButton		
∨ sap.m		Different types for a button (predefined types)
Button		
ButtonType		FIELDS
MenuButton		Name
MenuButtonMode		sap.m.ButtonType.Accept
OverflowToolbarButton		accept type (green button)
PagingButton		sap.m.ButtonType.Back
RadioButton		back type (back paying tion by then for beader)
RadioButtonGroup		
SegmentedButton		sap.m.Button lype.Default
SegmentedButtonItem		default type (no special styling)
ToggleButton		sap.m.ButtonType.Emphasized
✓ sap.m.semantic		emphasized type
SemanticButton		sap.m.ButtonType.Reject
		reject style (red button)
Button		sap.m.ButtonType.Transparent
ButtonStyle		transparent type
MenuButton		sap.m.ButtonType.Unstyled
RadioButton		Unstyled type (no styling)
RadioButtonGroup		sap m Button Type Up
SegmentedButton		
ToggleButton		up type (up navigation button for header)

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Properties	Events	Aggregation	Libraries						
									+
Search									Q
Nam		C	Description	Default Value	Data Type		Translatable	Actions	
icon					String	ð		Ŵ	
type				[Accept,Back,Default,Emphasized,Reject,Transparent,Unstyled,Up]	String	ď		Ū	
visible				true	Boolean		Ū		
activelcon					String	ð		Ē	
textDirection				Inherit	String	ď		Ū	

Result in the UI Designer

Properties	Select Event								
ID	Button2								
Туре	sap.m.Button								
text	Click me!	\sim							
Description	Accept								
activelcon	Back								
enabled	Default								
icon	Emphasized								
iconDensi	Reject								
iconFirst	Transparent								
textDirection	Unstyled								
tooltip	Up								
type	Accept	1							

Events

Publish Custom Events | Subscribe to Custom Events

Each workflow in the Process Designer starts with an event.

Click on the Event element under "Activities" on the left pane and drag & drop it into the drawing area.

If you double click on the shape of the activity, the event selection assistant opens. You can also open it by clicking right underneath "Subscribe event" / "Publish event".



It guides you to your required event. When subscribing to an Event, you can select events from these categories: Widget Events, Screen Events, Custom Events and System Events. Each category is sorted and searchable.

If you want to use the Event in the User Story you are currently working in, select one of the Events under the tab "Subscribe Event".



Widget Events	Events that are available for certain widgets, e.g. button press event.
Screen Events	Events related to screens, e.g. onInit and onAfterShow.
Custom Events	Individual events within an application that can be published and subscribed at any time.
System Events	Events related to devices, e.g. onDeviceGoesOffline and onOrientationChange.

Publish Custom Events

If you want to make an event usable in other user stories, create a new Custom Event under the tab "Publish Event".



A shortcut for creating Custom Events can be found in the top right-hand corner.

	Settings		
	Event		
Â		A	
P	ublish event		
			<u>F</u>
			\bigcirc

Subscribe to Custom Events

You can subscribe to a custom event in another user story to connect the logic between different user stories.

Example:

You have a process in User Story 1 that contains a condition to check if an input field is filled out after clicking on a "Login" button. Afterwards, the user should be navigated forward to the next screen.

Imagine you have the other user story exclusively for the whole navigation of your application. So you want the end of the event from User Story 1 (the navigation) subscribed to User Story 2.

Therefore we published the new Custom Event "LoginButton" in User Story 1 and subscribed to it in User Story 2.

?

User Story 1



User Story 2



Custom Events can be maintained in the Data Workbench.

Example Apps

To demonstrate various features of Simplifier the following Example Apps are available with every <u>Simplifier Freemium</u> <u>Instance</u> and can be downloaded <u>here</u>

Appname	Description	Video
ITIZ_Example_SmartMaintenanceDas	The Smart Maintenance Dashboard is	Play Video
hboard	used for real-time monitoring of machine	-
	data. A color-coded indicator shows	
	immediately whether a production line is	
	outside the predefined threshold values.	
	This enables a quick reaction	
	In the dashboard the user sees an	
	overview of all machines assigned to him	
	For each machine he gets information	
	about manufacturer and sensor data. The	
	about manufacturer and sensor data. The	
	sensor data is displayed in the shape of a	
	chart. In addition, the user can perform	
	the following activities: Remote Service	
	Call, Create notification in the SAP	
	system and Detail view.	
ITIZ_Mobile_Example_SimplifierExpl	This application shows a selection of	
ored	functions of the Simplifier (e.g. Toggle	
	Light, Vibrate, Scan Barcode, Take a	
	picture)	
	IMPORTANT : most functions can only	
	be used on a mobile device. Please run	
	this application in the Mobile Client.	
ITIZ_Template_OPCUA	In this application you can specify an	Play Video
	OPC UA node. The sensor data will then	
	be displayed in real-time.	
ITIZ_Template_REST_ToDoList	In this application you can create different	Play Video
-	to-dos with subject, text and user. You	
	can also edit or delete existing to-dos.	
	This application is using a REST	
	interface.	
ITIZ Template SAPRFC PurchaseOr	With the Purchase Order Application, you	Play Video
der	can display the details of a purchase order	
	and also change the quantity of existing	
	items	
ITIZ Template SAPSOAP Functional	This application shows you the functional	Play Video
Location	location of a machine. You get the	<u>- 149 - 1400</u>
	information about the manufacturer as	
	well as details about the location with	
	representation in a map. The machines are	
	displayed in a structure list and it is	
	possible for example to remove the	
	possible, for example, to femove the	
ITIZ Tomplete SOI Sharping int	In this application you can add a product	Dley Widee
1112_1emplate_SQL_SnoppingList	in this application you can add a product	<u>riay video</u>
	and the quantity to the snopping list. You	
	nave the possibility to delete existing	
	values.	

Example of using OData

In this example, the data of the OData connector is displayed in a listitem. So the logic behind the application in the Process Designer may look like this:

\triangleright	Su	bsc	ribe)				Ò	Βι	isin	ess	Ob	ojec	t					Ð	So	ript:			
Main » onAfterRendering							П	ΊΖ_U	Jtilitie	es »	Getl	JserT	Foker	۱¢-	Suc	cess		set	oDa	ta Mo	odel (¢.		
																•	Erro	7		set	oDa	ta Mo	odel	

First you subscribe to a screen event on AfterRendering. A business object is then addressed in order to read the user token of the logged in Simplifier user. Mapping takes place within the business object. The token is written to a variable that must be created in advance. You can find out how to do this <u>here</u>. The business object is necessary because the connector is addressed later in the script activity in the route and an authentication is necessary.



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Finally, the script activity is used to set the model:



var oModel = new sap.ui.model.odata.ODataModel("/client/1.0/PATH" + this.getGlobals()
.getVar("token"));
console.log(this.getGlobals().getVar("token"));
oModel.read("/T_IOT_190603718A7C2818EE3D?", null, null, true, function(oData, respons
e) {
 this.setItemModel("ID of the SCREEN", "ID of the WIDGET", "ITEMS", oData.results);
}.bind(this));

In this case, it's:

```
var oModel = new sap.ui.model.odata.ODataModel("/client/1.0/odata/ODATA_Procurement_0
verview/?SimplifierToken=" + this.getGlobals().getVar("token"));
console.log(this.getGlobals().getVar("token"));
oModel.read("/T_IOT_190603718A7C2818EE3D?", null, null, true, function(oData, respons
e) {
    this.setItemModel("Main", "Main_List1", "items", oData.results);
    }.bind(this));
```

Execution Log

You can use the execution log to trace the execution of e.g. connectors.

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រ								Admin Use
				Logs & Monitoring				
Verview Customize Us	er	Execution System Mobile	Transport	FR				
							1 - 40	~ of
User		Time	Category	Action	Log Level	User		Details
Search for Users		Dec 12, 2017, 12:02:53 PM	Execution	Application Simplifier_Explored opened	INFO			
Log Level		Dec 12, 2017, 12:02:45 PM	Execution	Application Simplifier_Explored opened	INFO			
Choose Please 🗸 🗸		Dec 12, 2017, 11:52:35 AM	Execution	Application Simplifier_Explored downloaded	INFO	paul		
Category		Dec 11, 2017, 3:06:30 PM	Execution	BusinessObject Method Release60 / storePerson executed	INFO	admin		i
Execution V		Dec 11, 2017, 3:06:18 PM	Execution	Application Release60 downloaded	INFO	admin		
_		Dec 11, 2017, 9:54:22 AM	Execution	Application AAB_Test_Christian opened	INFO			
From		Dec 11, 2017, 9:53:47 AM	Execution	Application AAB_Test_Christian opened	INFO			
minin u, y, n.inin.as u		Dec 11, 2017, 9:50:11 AM	Execution	Application Release60 opened	INFO			
Until		Dec 11, 2017, 9:50:06 AM	Execution	Application Release60 opened	INFO			
MMM d, y, h:mm:ss a		Dec 11, 2017, 9:48:49 AM	Execution	Application Release60 opened	INFO			
C		Dec 11, 2017, 9:48:33 AM	Execution	Application Release60 opened	INFO			
_		Dec 9, 2017, 3:29:36 PM	Execution	Application Release60 downloaded	INFO	admin		
		Dec 8, 2017, 6:58:05 PM	Execution	Job ateamRunner executed	INFO	admin		i
		Dec 8, 2017, 6:16:06 PM	Execution	Application Release60 downloaded	INFO	admin		
		Dec 8, 2017, 6:02:47 PM	Execution	Application Release60 downloaded	INFO	admin		
		Dec 8, 2017, 5:56:50 PM	Execution	Application BatteryStatusTest opened	INFO			
		Dec 8, 2017, 5:38:57 PM	Execution	Application Release60 opened	INFO			
		Dec 8, 2017, 5:32:16 PM	Execution	Application Release60 opened	INFO			
		Dec 8, 2017, 5:31:52 PM	Execution	Annication Delease60 opened	INFO			

The following type of entries are logged:

Туре	Description
Open App	When the direct path to an app is opened (appDirect).
Download App	When downloading the app to the client (user context is provided).
Connector Execution	When using a connector directly, the execution and payload will be logged.
Connector Call Execution	When a connector call is invoked. All parameters, even the constant parameters are logged.
Business Object Execution	When using a business object, the payload and parameters are logged.
Plugins	Plugins which are called by the old akka interface.
Asynchronous Connectors	When subscribing and unsubscribing a connector.
Job Execution	Every execution of the job.
Any above	Any exception by executing an artefact above.

Features and supported operating systems

- Remote Debugging for Mobile Devices
- Debug View within Simplifier Mobile Client (Debug Version)
- Auto-Login Functionality
- oAuth Login
- Developer Mode
- Dark Theme
- App Autostart
- Call Settings

See the full featured list of supported operating systems:

	Browser	Android > 4.4+	iOS > 10.x+	Windows 10	Hololen
Capture/Play Audio/Video	?	•	•	•	?
This plugin provides access to the					-
device's audio, image, and video					
capture capabilities.					
Get Device Information	?	•	•	•	?
This plugin defines a global device					
object, which describes the device's					
hardware and software. Although the					
object is in the global scope, it is not					
available until after the deviceready					
event.					
Access Accelerometer	?	•	•	•	?
This plugin provides access to the					
device's accelerometer. The					
accelerometer is a motion sensor that					
detects the change (delta) in					
movement relative to the current					
device orientation, in three					
dimensions along the x, y, and z axis.					
Access Device Orientation	•	•	•	•	?
Provides information about the					-
physical orientation and motion of the		5.0+			
device.		5.01			
Access Compass	•	•	•	•	•
This plugin provides access to the					
device's compass. The compass is a					
sensor that detects the direction or					
heading that the device is pointed,					
typically from the top of the device. It					
measures the heading in degrees from					
0 to 359.99, where 0 is north.					
Access file system	•	•	•	•	•
This plugin implements a File API					
allowing read/write access to files					
residing on the device.					
Up-/Download Content	•	•	•	•	?
This plugin allows you to upload and					
download files.					
Access GPS	•	•	•	•	?
This plugin provides information					

about the device's location, such as					
latitude and longitude.					
Get Network Information	•	•	•	•	?
This plugin provides an					
implementation of an old version of					
the Network Information API. It					
provides information about the					
device's cellular and wifi connection,					
and whether the device has an					
internet connection.					
Native Dialogues	•	•	•	•	•
This plugin provides access to some					
native dialog UI elements					
Trigger / Handle Notifications	?	•	•	•	?
The essential purpose of local					
notifications is to enable an					
application to inform its users that it					
has something for them — for					
example, a message or an upcoming					
appointment — when the application					
isn't running in the foreground.					
Access/Configure Statusbar	?	•	•	?	?
This plugin enables the user to make	•			•	•
changes to the status bar of a mobile					
device					
Access Device Vibrator	Chrome Firefox	•	•	•	?
This plugin provides a way to vibrate					•
the device.			Ignores the specified Ma	x time is 5000ms	
			time and vibrates for (5s) and min time is	
			a pre-set amount of		
			a pre-set amount of	11115	
Soon Donoodog			time.	_	9
Scan many different kinds of	•	•	•	•	•
barcodes					
Baccon Sconning	0			0	0
This plugin provides the functionality	•	•	•	•	•
the second secon					
to use beacons with the iBeacon					
A second and a second s	0			9	0
This plugin provides sugmented	?	•	•	?	?
reality functionality by Wilstuda					
Plants ath	0				
Bluetooth	?	•	•	•	?
I his plugin enables communication					
between a phone and Bluetooth Low					
Energy (BLE) peripherals.					_
PDF Viewer	•	•	•	•	?
View PDF files.					
Toggle Flash	•	•	•	?	?
Toggle the flash light of the device.					
Text to Speech	•	•	•	•	?
Text to Speech functionality.					
Speech recognition	?	•	•	?	?
Speech to text.					
Share with	?	•	•	•	?
This plugin allows you to use the					

native sharing window of your mobile device. SQLite ? ? • Native interface to sqlite. Fullscreen ? ? ? Set your app fullscreen. **Battery Status** ? ? Get battery status and information. **Offline Work** ? ? ? Login and run your applications offline. **Remote Call** ? Audio/Video communication.

separate applier

Fetch a PDF Template

Fetch Template

To fetch a PDF template, you need the following parameter:

URL	/client/1.0/PLUGI	N/pdfPlugin/adminTemplateFetch	
Input-Parameter	Name		Template name
Output-Parameter	Value	Template	HTML Template Content
			(Base64-coded)
		Stylesheet	Content of the LESS
			Stylesheets ((Base64-coded, optional)
		PreviewJson	Content of the sample data in
			JSON format (Base64-coded,
			optional)

Example for a call:

{
 "name": "templatename"
}

Output example:

```
{
    "success": true,
    "value": {
        "template": "SGFsbG8gV2VsdA==\",
        "stylesheet: "SGFsbG8gV2VsdA==\"
        "previewJson": "SGFsbG8gV2VsdA==\"
        }
}
```

Filter

The Logs & Monitoring tile uses all search features of the backend (i.e. pagination or filtering).

On the left-hand side you can set filters.

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Logs & Monitoring						
Image: Weight of the second on the second						
					1 - 40	~ of 181
User	Time	Category	Action	Log Level	User	Details
Search for Users	2017-09-15T15:29:35.000+02:00	System	Plugin sessionPlugin registered	INFO		i
Log Level	2017-09-15T15:29:35.000+02:00	System	Plugin captcha registered	INFO		i
Choose Please 🗸 🗸	2017-09-15T15:29:35.000+02:00	System	Plugin AdressvalidierungGWN registered	INFO		i
Category	2017-09-15T15:29:35.000+02:00	System	Plugin gelsenwasserPermissionPlugin registered	INFO		i
Choose Please V	2017-09-15T15:29:35.000+02:00	System	Plugin Adressvalidierung registered	INFO		i
From	2017-09-15T15:29:35.000+02:00	System	Plugin pdfPlugin registered	INFO		i
MMM d, y, h:mm:ss a	2017-09-15T15:29:35.000+02:00	System	Plugin keyValueStorePlugin registered	INFO		i
Intil	2017-09-15T15:29:35.000+02:00	System	Plugin jsonStore registered	INFO		i
MMM d. v. h:mm:ss a	2017-09-15T15:29:35.000+02:00	System	Plugin stepByStepGuidancePlugin registered	INFO		i
	2017-09-15T15:29:28.000+02:00	System	Simplifier version: 2.5.54.5	INFO		
	2017-09-15T15:29:27.000+02:00	System	Simplifier started	INFO		
	2017-09-15T13:38:04.000+02:00	System	Server setting "LoginToken" updated	INFO	admin	i
	2017-09-15T13:01:59.000+02:00	System	Server setting "LoginToken" updated	INFO	admin	i
	2017-09-15T12:02:15.000+02:00	System	Plugin contentRepoPlugin registered	INFO		i
	2017-09-15T12:02:14.000+02:00	System	Plugin powerSupplyPlugin registered	INFO		i
	2017-09-15T12:02:11.000+02:00	System	Plugin pdfPlugin registered	INFO		i
	2017-09-15T12:02:11.000+02:00	System	Plugin gelsenwasserPermissionPlugin registered	INFO		i.
	2017-09-15T12:02:11.000+02:00	System	Plugin AdressvalidierungGWN registered	INFO		i
	2017-09-15T12:02:11.000+02:00	System	Plugin captcha registered	INFO		i
	2017-09-15T12:02:11.000+02:00	System	Plugin Adressvalidierung registered	INFO		i
	2017-09-15T12:02:11.000+02:00	System	Plugin stepByStepGuidancePlugin registered	INFO		i

You can choose between the following filters.

Filter User Log Level	Function Filter for specific user actions Filters based on the severity of the message:
Category	INFO, WARNING, ERROR The categories as shown in the tabs:
From Until	Customize, User, Execution, System, Mobile, Transport, File From Date Until Date

In the logs on the right-hand side, you can click a detail button, which will open further information.

Plugin gelsenwasserPermissionPlugin registered	Details { "old":{ "enableCheck":true, "checkIntervalSeconds":50, "tokenMaxAgeSeconds":3600 }, "new":{ "enableCheck":false, "checkIntervalSeconds":50, "tokenMaxAgeSeconds":3600 } }		i
Plugin Adressvalidierung registered			i
Plugin pdfPlugin registered			i
Plugin keyValueStorePlugin registered			i
Plugin jsonStore registered			i
Plugin stepByStepGuidancePlugin registered			i
Simplifier version: 2.5.54.5			
Simplifier started			
Server setting "LoginToken" updated			i
Server setting "LoginToken" updated			i
Plugin contentRepoPlugin registered			i
Plugin powerSupplyPlugin registered			i
Plugin pdfPlugin registered			i
Plugin gelsenwasserPermissionPlugin registered			i

FQDN

A fully qualified domain name (FQDN) is sometimes also referred to as an absolute domain name.

Example on our Simplifier cloud:

Development Quality Assurance Productive dev-yourcompany.simplifier.io qa-yourcompany.simplifier.io yourcompany.simplifier.io

Example for onpremise installation:

Development Quality Assurance Productive dev-simplifier.yourcompany.com qa-simplifier.yourcompany.com simplifier.yourcompany.com

General Instructions

Here you will find general instructions about Simplifier deployment:

- Docker Installation
- <u>Reverse Proxy Requirements</u>
- Additional Requirements for Oracle Databases as Backend
- Docker Hub

General Requirements for On-Premise-Installations

We support you with on-premise installations of Simplifier. To do that, we deliver a prepared Docker image to you. The image comes pre-configured and contains all the required components, including a Simplifier server in its most recent version.

The target instance must fulfill the following requirements:

- At least 12 GB RAM minimum, 16 GB recommended
- x64 CPU with minimum 2 cores, 4 cores recommended and at least 2 GHz per core
- At least 40 GB of free hard disk space
- Opened incoming ports: http/80 (TCP), https/443 (TCP), https/8090 (TCP)
- Optional: Opened outgoing ports for
 - preconfigured SMTP-Server (StartTLS Port 587) by Simplifier
 - your Backend Systems to configure and reach the Data Sources successfully
 - SSL Certificate for encrypted https traffic in frontend access
- Operating system:
 - Linux (recommended)
 - In general, the Docker engine can run on all Linux versions with kernel version >= 3.10, but for the versions below, there are "official" releases. If you are uncertain about the compatibility go to the <u>Docker</u> website.

Tested Distributions:

- Ubuntu: 64-Bit Versions of Ubuntu 18.04 (Bionic Beaver), 16.04 (Xenial) or 14.04 (Trusty)
- <u>CentOS</u> 7.3: 64-Bit
- <u>Debian</u>: Debian Stretch (Testing), Jessie (8.0), Wheezy (7.7, with Kernel-Update to Version 3.10)
- Fedora: Versions 24 & 25
- RHEL (Redhat Enterprise Linux) and SUSE Enterprise are officially supported only by paid docker variants (EE), Installations from CentOS Repository respectively OpenSUSE Repository are possible to use
- Windows

Install Docker for Windows

Windows 10 Professional

The runtime is given, but not as a Windows Service. The Docker Containers only stays The Simplifier Windows Deprogramment for production use, because of the limited support for container

• Mac

Install Docker for Mac

Note: Our Docker containers, respectively the database server, require a file system which can be case-sensitive under MacOS. Therefore, it may be necessary to create a separate volume for the user data which is configured with the option "-v" when the container is started.

The Simplifier MacOS Deployment is not recommend for production use, because of the limited support for container

"D-Q-P"-landscape

To ensure high availability and qualified operations, it is necessary to build a three-stage system landscape (= \underline{DQP} -landscape: development, quality, production). Please note that with a DQP-landscape the system requirements are tripled.

Getting Started



Simplifier is a low code platform for mapping business processes in integrated business and IoT applications and to interconnect internal and external IT infrastructures. Applications only need to be configured once to be available on any mobile device and operating system. Basically the functionality can be divided in two main categories:

- Application Creation, Operation and Maintenance
- abstract Integration Layer to connect external data sources

Main Features:

- Collaborative web-based Development Environment to configure integrated Mobile, Wearable and Browser applications
- Customization of Applications with <u>UI Designer</u> and <u>Process Designer</u> for visual Application Logic
- Customization of Backend Interfaces through standardized Connectors
- Rapid Deployment and Over-the-Air-Updates
- Contextual Technologies (Augmented Reality / Realtime Communication, Scanning, Device Sensors)
- Multi-Device (Browser, Smartphones, Tablets, Wearables)
- Multi Platform Mobile Client for Android and iOS

Using state-of-the-art technologies, we accelerate your application creation. We have designed and built our platform in terms of logic and usability to accommodate the modern, agile development processes within companies. Due to the low-code approach, applications no longer need to be elaborately programmed but instead can be easily configured and integrated into any system. Thus, applications can be mapped process-oriented.



The main features of Simplifier can be accessed from the central Dashboard, that consists of the following parts:

- Applications
- <u>Connectors</u>
- Business Objects
- Data Types
- <u>Users</u>
- <u>Transports</u>
- <u>Plugins</u>
- Logs & Monitoring
- <u>Jobs</u>
- <u>Templates</u>

Basically, creating an application with Simplifier can be divided into the following 5 steps:

Glossar

Here you will find general and Simplifier specific abbreviations, technical terms and their meaning.
Group Overview

A group contains several users and could be used for workflow logic in business apps like informing a team via email or push notification about a certain event or task.



Details View of a Group

≣ S		User Management		en	\underline{A} Felicitas Weber \sim
					← Close
*Group Name: // Group Description: //	Accounting All team members for Acco	counting			
Assigned Users					
First Name	La	ast Name	Login Name		
Felicitas	We	/eber	f005		
Laura	Str	treng	1003		
John	Do	oe	john.doe		

To create a new group, you have to specify a unique name and an optional description, e.g. for a team or special task force group.

==	ູຊ	User Management	en 🛛 🔒 Felicitas Weber 🗸
			딩 Save 🗙 Cancel
	*Group Name:	Accounting	
	Group Description:	All team members for Accounting	
	Add User to Group:	Search for Users 다	
		3	

To add users, click into the 'Add User to Group' Field and search for specific usernames. Mark (optional) several users and click OK to add them.

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Handling & Updating an On-Premise Installation

Docker Basic Commands

Start the Simplifier container:

\$ docker start simplifier

Stop the Simplifier container:

\$ docker stop simplifier

Restart the Simplifier container:

\$ docker restart simplifier

Create a backup of the complete Simplifier data directory, e.g.

```
$ docker stop simplifier
```

```
$ tar cvzf simplifier_backup.tar.gz /home/simplifier
```

Updating

In case of updates, we will prepare a new docker image for you, preserving your personal settings. Please download the image to a temporary directory of your choice (e.g. /tmp) and change into the directory. Finally unpack and load it, as described in steps 3-4 in the installation instruction.

To perform the update, proceed as follows:

1. Stop the container and remove it from Docker. Take care NOT to remove your data directory /home/simplifier/data ! 2. Perform the following commands in order:

```
$ docker stop simplifier
```

\$ docker rm simplifier

\$ docker run --name simplifier {additional options as in step 6 before}

How to use Widgets in the UI Designer

Add Widgets to the Screen

1 #		Application D	etalo			
	9) (L) That has				(d) Controller
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Composite	~					
Cholex, here	+					
and clearly design	+					
Compounds	~					
PL scores	+					

To fill your screen with UI elements like text fields, charts or action buttons, use the widget panel on the left side. First, search for a specific widget using the name or just browse the list, then add the widget to the screen via the plus icon. The widget will appear in the content area of the screen.

Sort Widgets in the right order

Widgets can also be nested in a structured hierarchy – representing the positions within the document structure. For example, a table must have columns and rows – so the columns and rows have to be added nested underneath the table element. So in the first step, add the table to the existing screen. After that, select the table and then add columns.

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enality and a second	+					
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erpecturiese	+					
Composite	~					
Chuodos, Brienpi	+					
[] dod, Dealtha, Bridings	+					
Compounds	~					
[] supray	+					

The column widget is now nested under the table widget.

You can also use the **arrow keys** to structure the widgets in the content area into a hierarchy, or alternatively use **WASD** on your keyboard.

 \mathbf{W} or \uparrow A or \leftarrow moves the widget upwards

de-nests the widget

S or \downarrow moves the widget downwards nests the widget underneath the one above (if possible)

 \mathbf{D} or \rightarrow nests the widget underneath the one above (if possible)

With the **arrow keys on your keyboard**, you can navigate through the content area as follows:

Up ?	Navigates up
Down ?	Navigates down
Right ?	Opens the currently selected tree item (if possible)
Left ?	Closes the currently selected tree item (if possible)

Copy Widgets within the Screen Content

8 Screen1	Search		Q,	9 ℃ ← ↑ ↓	→ 1
Widget Name		ID		Aggregation	
input		Screen1_Input1		ScreenContent	8
Copy					
Cut 12					
Paste					

You can copy Widgets and insert them on a different Screen or even another Application. For that, use the Copy, Cut and Paste function.

Edit Widget Properties

Every widget has properties to configure how the widget behaves. In the following example the properties of a button widget are shown.

Edit Area - SearchB	utton
Properties Select	Event
ID	SearchButton
Туре	sap.m.Button
text	Search
Description	
activelcon	
enabled	v
icon	sap-icon://search

In this example, the text property represents the text shown on the button in the user interface.

If you want to set an icon to a widget, use the following syntax: *sap-icon://iconName* You can find all possible icons with the <u>OpenUI5 Icon Explorer</u>.

Client Validation of Default Properties

The data type of default properties in application items can now be overwritten, but only domain types with the same basic type can be used.

You can find the settings in the Properties panel of the UI Designer. The button opens a popover, which lets you define the data type and the validation event. If the validation is enabled (checkbox), an indicator will be displayed. You can change the valueState and valueStateText as result. In this example, we wanted to make sure, that the input field will be filled with the correct data, a ZIP Code. Therefore we added the validation for the predefined Datatype "ZIP" (a String with exactly 5 numbers) on the change Event.

Properties Select	tEvent
D	Input1
Type	sap.m.input
value	
Description	
Jescription	
rditable	✓
leidWidth	50%
alaceholder	
equired	
howSuggestion	
ype	Text
valueLiveUpdate	
valueStateText	Wrong input
isible	v
ritth	1005

Now, if you open the application in the preview and type in anything else than 5 numbers, the valueState of the input field would change to "ERROR" and the valueState text "Wrong Input" is displayed.

Input with ValueState	65656565675	65658	
Input without ValueStat	Wrong Input 656565656	37565658	
Back			\square

Import Transport



To import a file to your Simplifier instance click on the "Import Transport" tile. You will be forwarded to an import overview page.

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			1
≣ S		en	A Felicitas Weber V
Import Transport			5
Importile			
Choose file Browse			
Options			
Import			
_			
Dry Run			
or Startiniport			
Import Log			
Search			Q
Name	Status	Feature	

Choose your file you want to import. If you select 'Dry Run', it simulates the import.

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mport Transport			
Importfile			
Smart_Maintenance_Da Browse			
Options			
Overwrite			
Import			
✔ Dry Run 주 Start Import			
Import Log			
Import Log Import Log			
Import Log Imported (92 artifacts) Search			Q
Import Log Imported (92 artifacts) Search Name	Status	Feature	Q
Import Log imported (92 artifacts) Search Name icc. cloud_ds_HBox	Status transportArtifactImportStatus_SuccessfullyAnalyzedMissing	Feature Widget	٩
Import Log imported (92 artifacts) Search Name cloud_gs_HBox cloud_us_HBox cloud_MRade/ButtonGroup	Status transportAntifactImportStatus_SuccessfullyAnalyzedMissing transportAntifactImportStatus_SuccessfullyAnalyzedMissing	Feature Woget Woget	Q
Import Log imported (92 artifacts) Search Name cloud_gs_HBox cloud_MRadioButtonGroup 'fs_, Smart_Maintenance_Settings_TableLine	Status transportArtifactImportStatus_SuccessfullyAnalyzedMissing transportArtifactImportStatus_SuccessfullyAnalyzedMissing transportArtifactImportStatus_SuccessfullyAnalyzedExisting	Feature Widget Widget Datatype	q
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Import Log v Imported (92 artifacts) Search kame c cloud_qs_HBox c cloud_gs_HBox c clo	Status transportArtifactImportStatus_SuccessfullyAnalyzedMissing transportArtifactImportStatus_SuccessfullyAnalyzedMissing transportArtifactImportStatus_SuccessfullyAnalyzedMissing transportArtifactImportStatus_SuccessfullyAnalyzedMissing transportArtifactImportStatus_SuccessfullyAnalyzedMissing transportArtifactImportStatus_SuccessfullyAnalyzedMissing	Feature Widget Datatype Widget Widget Widget Widget	Q

If the transport works correctly, you can import it with the option 'Overwrite'. When certain artifacts already exist and you do not select 'Overwrite', only the new artifacts are transported.

Installation PDF Plugin

Configuration

To use the pdf Plugin, you have to configure it first.

Copy the file "settings.conf.dist" from the directory "plugins/pdfPlugin/src/main/resources", save it as "settings.conf" and adjust it as follows:

In order to start the conversion, you need to install the program <u>wkhtmltopdf</u> on your operation system. The path to the wkhtmltopdf executable must be stated in the "settings.conf" file. Furthermore you need two folders, one to file your template and the other for the temporary data during the conversion. You can either use relative or absolute paths for the folders.

For example:

settings.conf

```
pdfPlugin {
    storageDir = "templates"
    tempDir = "tmp"
    wkhtmltopdf = "C:/Program Files/wkhtmltopdf/bin/wkhtmltopdf.exe"
}
....
```

NOTE:

If you use wkhtmltopdf on a Linux without the X11 Server, the error "wkhtmltopdf: cannot connect to X server" may occur.

In this case you need to install the program "xvfb" via the package manager to simulate the X11 server.

Create a wrapper (e.g. /usr/local/bin/wkhtmltopdf-xvfb) for the "wkhtmltopdf" program and write the path in the PdfPlugin Config.

wkhtmltopdf-xvfb

```
<#!/bin/bash>
xvfb-run --server-args="-screen 0, 1024x768x24"/usr/bin/wkhtmltopdf$*
```

Plugin Execution

The Plugin is located in the directory: plugins/pdfPlugins. It can be activated with the SBT/Activator via a "run" command. The STDIN command "stop" ends the Plugin execution.

You can adapt the logback-configuration file "plugins/pdfPlugin/src/main/resources/logback.xml" to configure the log output or display it in another file.

Installing an On-Premise Image

We always prepare an all-in-one Docker image for our customers which contains all required components.

Given a target machine that matches the requirements described in the previous chapter, the installation is quite easy:

1. Create the directory which will host all external user-specific data:

```
$ mkdir -p /opt/simplifier/data
```

```
$ export SIMPLIFIER_DIR="/opt/simplifier/data"
```

2.1 If your server has an Internet connection, you can get the Docker image from Docker Hub.

```
$ docker pull simplifierag/onpremise:latest
# for the Onpremiseversion include MySQL and Nginx
```

```
$ docker pull simplifierag/netzportal:latest
# for the Netzportalversion with config files for your own Oracle DB
```

View the variants and their versions.

2.2 As an alternative we can provide a tarball for download. Copy the downloaded file with ending .tar.gz to a temporary directory on the target machine, e.g. /tmp and cd to this directory.

\$ wget -0 <filename>.tar.gz

Unpack the file in place:

\$ tar xzvf <filename>.tar.gz

You will get two files: one readme.txt and the docker image with the ending .tar.

Inside the directory which contains the unpacked file, run the following commands as root- (super-) user:

```
$ docker load -i <imagefile.tar>
```

3. Install SSL certificates:

\$ mkdir -p \$SIMPLIFIER_DIR/certs

```
$ cp <certificate.crt> $SIMPLIFIER_DIR/certs/default.crt
```

\$ cp <keyfile.key> \$SIMPLIFIER_DIR/certs/default.key

4. Run docker image:

Alternative 1: with SSL/Certificates

```
$ docker run --name simplifier -v $SIMPLIFIER_DIR:/opt/simplifier/data \
```

```
-p 80:80 -p 443:443 -p 8090:8090 \
```

-d <Docker Tag>

Alternative 2: without SSL/Certificates

 $\$ docker run --name simplifier -v $\$ DIR:/opt/simplifier/data $\$

- -р 80:8080 -р 8090:8091 \
- -d <Docker Tag>

Replace the <Docker Tag> with the selected variant, e.g. simplifierag/onpremise:latest

5. Open your browser

Now use your browser at your Client Computer to access http(s)://<IP> or <FQDN>/UserInterface. The Simplifier will prompt a license dialog. After pasting that license you can start configuring Apps in the AdminUI.

Integration of external Libraries

Sometimes it is necessary to add an extra library to your app, e.g. if you want to display some special charts. You can upload and manage those external libraries under the "Libraries" tab in the Application tile.

If you want to know how to implement them into your application, go to "Assigning Libraries To Apps"

Apps Wrdgets Libraries		Application Overview						
Image: Constraint of the second sec								
Count: 29								+
Search								q
Name	Version	Vendor	Compatible	Default	Is Referenced	Actions		
RecoderJS	0.6.2	https://github.com/chris-rudmin/Recorderjs			v	B	Ø	8
test	test	test				6	0	8
test	abc	abc	(in 14)			R	I	ŧ.
AngularMaterial2	2.0.0-beta8	Google	6		1	B	0	8
QRCode	0.1.4	Grizzly GmbH				6	1	8
Angular-NVD3	1.0.4	Konstantin Skipor		A	1	R	0	官
jQuery	1.11.1	jQuery Foundation	in 1997 🔊		*	B	Ø	8
PDFjs	1.0.925	Mozilia Foundation	l 💿 🔕		4	6	1	8
Chart.js	2.5.0			A	4	R	ı	官
Angular-PDF-Viewer	0.2.0	Varun Vachhar	(1)	A	1	B	0	8

In the list overview you get information about:

- the name
- the version info
- the vendor
- if it is compatible to Angular JS, Angular 2 or UI5
- if it was set as a default for Angular JS, Angular 2 or UI5
- if the library is referenced in any application

Standard Equipment

The Simplifier provides the following libraries by default:

App Technology	Library	Version	Туре
UI5	OpenUI5	1.38.2	Direct

AngularJS	AngularJS	1.4.7	Direct
Angular	Angular Material	1.0.0-rc4	Direct
Angular	Angular-Fittext	3.3.3	Direct
Angular	Angular-PDF-Viewer	0.2.0	Direct
Angular	Angular-NVD3	1.0.4	Direct
Angular	jQuery	1.11.1	Dependency
Angular	PDF.js	1.0.925	Dependency
Angular	NVD3	1.8.1	Dependency
Angular 2	Angular2	4.1.3	Direct
Angular 2	Ionic	3.4.2	Dependency

Integration of Libraries - addAfterInitHandler

addAfterInitHandler

Parameter Handler **Type** Function **Description** Callback function, which is called after all scripts have been loaded completely.

Integration of Libraries - addBeforeInitHandler

addBeforeInitHandler

Parameter Handler **Type** Function **Description** Callback function, which is called immediately before the loading of the script begins.

Integration of Libraries - addScript

To integrate the library with a js code snippet, use the following parameter:

JS code to include: addScript('js/d3.min.js','d3'); addScript('js/nv.d3.min.js','nvd3',['d3']);

addScript(ScriptPath, Name, Dependencies)

Parameter ScriptPath	Type String	Description Relative path in the uploaded ZIP structure to the .js file you want to include (e.g. src/js/includedScript.js).
Name	String	Name of the library you can use to access the .js file (e.g. includedScript). By using "includedScript" in your script code you can now use all methods of your integrated library.
Dependencies	Array <string></string>	Dependent scripts (refers to the parameter "name" of "addScript".) It guarantees, that all dependencies are loaded beforehand. Use this if your library needs other libraries to work properly.

It is important to ensure that all scripts specified under "dependencies" are either integrated into the same library, or a dependency is set on the library in which the script is integrated.

Integration of Libraries - addStyle

To integrate the library with a js code snippet, use the following parameter:

JS code to include:

addStyle('css/nv.d3.min.css','d3style');

addSyle

Parameter	Туре	Description
StyleURL	String	Relative path to the uploaded ZIP
		structure of the library.
Name	String	Style name (optional).

iOS Client

Below is a description of the Simplifier Mobile Client for iOS. After you have downloaded the Simplifier Mobile Client from the App Store, start it on your mobile device.

First you have to authenticate yourself on the login screen with your Simplifier username and password. Enter the instance you want to access. If the device has a fingerprint reader, you can choose to restore your password with it. You can save your login so you don't have to re-enter it every time.

Since it is uncomfortably to type the instance, you can also use the QR code login. Read <u>here</u> how to create a corresponding QR code in the Simplifier.

Once you have successfully authenticated yourself, you are in the overview of installed applications. At the beginning, this overview is empty. At any time, you can log out by clicking on the logout button in the top left corner. At the top right, on the Simplifier icon, various information will be displayed.



To now use apps on your mobile device, switch to the screen **Browse Apps**. You now see an overview of all applications that are on the specified instance. To install apps, simply click on them. When the apps are downloaded, **Installed** will display a notification with the number of newly installed apps. You can delete installed application by swiping to the left.

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Logout Installed 😑	÷ 🕈	4:52 PM \$	•			
	C Logout	Browse Apps 😑	÷ 🕈		4:27 PM	
	a		C Log	out	Installed	6
			Q			
		SimplifierExplored professional control of the second seco		ITIZ_Ex	ample_SmartMainten	anci
		_Template_AR_Augmented	-	Smart_M	faintenance_Dashboard	
	Vort	age für Wikitude Projekte	S	ITIZ_Sir	mplifierExplored	
	S ITIZ Terr	_Template_OPCUA plate Application for OPCUA Co	-	inplate A	pp showing many Feature	85 OT
No installed applications available	S ITIZ	_Template_REST_ToDo				
		Template SAPRFC Purch				
	SAP SAP	Purchase Order				
		_Template_SAPSOAP_Func Functional Location				
	Sho	_Template_SQL_Shopping pping List				
		_Template_UI emplates				
Analited Concernence Appendix Updates Settings	- Qô	Q (#) (3				
	installed	Browse Apps Updates Settings	2		Q (B)	(C) Setting

If an app, that you have already installed, has been newly deployed on the instance, you will be informed about updates of the application.





At the bottom right, you will find an overview of all settings.

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ISO Certificates and Audits

Our cloud infrastructure provider, T-Systems operates data networks for customers worldwide and processes data in its own data centers – data protection and data security have absolute priority. The ICT provider, therefore, has its services regularly audited by independent institutions and has itself certified that it complies with global standards and norms, for example through ISO certifications.

Here you will find an overview of the current certificates:

Certificate Description	Download
Quality management according to DIN EN ISO 9001	<u>ISO 9001</u>
Information security management according to ISO/IEC 27001	ISO/IEC 27001
Business continuity management according to ISO 22301	<u>ISO 22301</u>
Environmental management according to ISO 14001	<u>ISO 14001</u>
Occupational health and safety management according to	<u>OHSAS 18001</u>
OHSAS 18001	
Information security measures for cloud services according to	ISO/IEC 27017
ISO/IEC 27017	
Protection of personal data in public clouds according to	ISO/IEC 27018
ISO/IEC 27018	
Trusted cloud privacy profile for cloud services (TCDP)	Open Telekom Cloud
Security of cloud service providers according to CSA CLOUD	<u>CSA STAR</u>
CONTROL MATRIX	
Cloud service according to TÜV trust it requirements catalogue	Trusted Cloud Service
Zero outage as a certified service process	Zero Outage
Compliance management systems (CMS) according to IDW PS	auditor's certificate
980	

Jobs



Jobs are server-side executed and recurring tasks which use business objects as logic. They can be found by clicking on the 'Jobs' tile on the dashboard.

≣ \$	Simplifier Dashboard						
APPLICATIONS 43	CONNECTORS 19	BUSINESS OBJECTS 14	DATA TYPES 139				
Create, manage and configure applications, widgets and litraries. Process mapping defined within user stories.	Create, manage and configure the interfaces and repractive logins to connect to different systems and devices.	Merge the connectors, plugins and business objects for eary and fast reuse of complex. business requirements.	Create, manage and configure domain types, structures and collections as well as define validation rules.				
Crester, scherikistrate and configure all of your Simplifier users, proops and rokes with their corresponding user permissions.	Migration of applications and addividual components to other Simplifier Instances, Inc. simulation and validation of transports.	Offers the possibility to extend or change the core that the being of any external plage.	Central monitoring and filtering of all user and system activities. Provider detailed information which are very helpful for debugging.				
JOBS 3 Create and administrate jobs for the execution of business objects. These are based on flexibly compared time thremwas.	TEMPLATES 6						

 \sim

They are used to automate business objects. The selected business object method will be executed by the Simplifier on a periodic basis. You may schedule the jobs in order to trigger them without further user intervention.

The red and green icons within the **overview** indicate whether the job is active. The red icons signify that it's inactive and the green icons signify that it's active.

To create a new job, you have to name it and set an interval after which the job is called in repeatedly. Selecting the business object and the function provides the job with functionality. Furthermore, you can choose the user who should execute the job (in case he has all permissions required). The active time zone on the server applies to all dates and time settings. You can choose between the 5 following intervals:

Interval

It's a recurring interval at which the job is executed in the format <hh>:<mm>:<ss>. If the new execution overlaps with a previous run, it's only started after it has been completed and after a further interval.

₩ S			$ $ en $ $ \underline{A} Felicitas Weber \sim
	Jobs		
🖹 Create job			頥 Save X Cancel
Name:	NewJob		
Active:			
Frequency of execution:	Interval ~	10:15:00	
Business Object:	ApiTest	×	
Function:	Success	~	
Execute as:	1005	~	
Description:	Test		

One Time

With this you can set an actual date <dd>.<MM>.<yyyy> and time <hh>:<mm>:<ss>.

If the selected time is in the past, the job will **not** be executed!

					en 🛛 🔒 Felicita	s Weber $ \sim$
		Jobs				
聞 Create job					🖫 Save 🗲	Cancel
Name:	NewJob					
Active:						
Frequency of execution:	One Time 🗸		06.07.2018, 16:45:00	5		
Business Object:	ApiTest			\sim		
Function:	Success			\sim		
Execute as:	f005			\sim		
Description:	Test					

Daily

You can set a daily time in the format: <hour>:<minute>:<second>

Weekly

If you select this interval, it will be repeated every week. Set it in <hour>:<minute>:<second> and the appropriate day(s).

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Monthly

Set this interval if you want that it's repeated monthly. Set it in <hour>:<minute>:<second> and the day(s) within this month.

If the selected day doesn't occur in this month, e.g. the 30th February, the job will not be executed in this month.



Language



Applications can be localized easily by adding language files (.po-format) to the application. A fallback language has to be defined. At default the language will be set according to user's environment, browser or device language.

For the translation of the individual applications, .po files are used in the Simplifier. Those can be viewed, downloaded and uploaded via the Language tab in the UI Designer.

	💵 Previe	ew 📳 Assets	🕼 CSS Editor	🚯 Language	🌾 Libraries	📧 Theming	
To create a new translation file, you can download a template from this overview by clicking on the corresponding button.							
E Preview							
Lar	nguage Code	Language Description	Distribution Languag	ge Default Languag	e Actions	+	
en	US	American English	\checkmark	✓	↑ ↓	\otimes	

The downloaded file can be edited in the text editor of your choice (e.g. Notepad ++ or <u>POEditor</u>). For more convenience, you can also use the <u>online PO file editor</u>.

Important: translatable values must be flagged within a widget in order for them to appear in the default language file!
```
"POT-Creation-Date: \n"
"PO-Revision-Date: \n"
"Last-Translator: Your Name <email@example.com>\n"
"Language-Team: \n"
"MIME-Version: 1.0\n"
"Content-Type: text/plain; charset=UTF-8\n"
"Content-Transfer-Encoding: 8bit\n"
# Default translation: Sprache ändern
msgid 'Main$Main_Button$text"
msgstr<sup>.</sup>"Change language"
# Default translation:
msgid 'Main$Main_Button$tooltip"
msgstr<sup>.</sup>""
# Default translation: Dies ist ein Test
msgid 'Main$Main_Text$text"
msgstr "This is a test"
# Default translation:
msgid 'Main$Main_Text$tooltip"
msgstr<sup>.</sup>""
```

In this template, all values marked as translatable in the widgets used are listed and can be translated into the target language.

This file can then be added via the Plus icon. You have to select the target language and the file you want to edit. In order to avoid cache problems, rename the file before uploading.

- Droviour	×
Choose Language:	
American English	~
Upload PO-File:	
Translation_Test.po Browse	
	ß

If the desired language is not available, please contact your administrator, as these are maintained in the server settings.

To change the language at runtime, the following script must be inserted in the Process Designer: sap.ui.getCore().getConfiguration().setLanguage("en"), where "en" can be replaced by the desired abbreviation.

To start an application with a specific language, the URL of the following query parameters can be added:

?sap-language=en

LDAP

: \$		
	Settings	
Image: Sever Image: Sever<		
Authentication Settings		🔄 Save 🗙 Cance
"Name		
*Mechanism	LDAP V	
*Priority	0	
"Host name		
*Port	0	
*Base DN		
Test Authentication		
Demon		
	Test connection	

Name Mechanism Priority

Host name Port Base DN Defines the name of the authentication LDAP This defines the order in which the authentication mechanisms are processed This defines the IP/host of the authentication service This defines the authentication port This defines the domain name of the entry point

You can test the connection by inserting a username and password.

Libraries

You can assign different libraries to your application and get an overview on their dependencies. Go to "<u>Integration of external Libraries</u>" for more details.

€ *Hello_World	a Preview		S Back
			: ∃ +
Name	Version	Actions	
Chartjs	2.4.0	Ŵ	
OpenUI5	1.38.4	Ŵ	

List of Plugins

The Simplifier comes with the following plugins:

Plugin Name	Description
keyValueStorePlugin	Offers a Key/Value Store Database based on Java MapDB
pdfPlugin	Offers a PDF Template Designer and Generator based on wkthmltopdf
contentRepoPlugin	Offers a Content Repository for saving and sharing documents in a folder hierarchy with own permission objects
jsonStore	Offers a Database Plugin to save and read back customer information (and application data) from apps in json format.
sessionPlugin	Offers a User-Session Plugin to save and manage User Session
stepByStepGuidancePlugin	Offers a generator (like a wizard) to build simple apps consisting of one information (image, text, video) per screen and one of the predefined functions.
captcha	Server-Side Generation of Captcha Images for the UI5 Captcha Widget

You can find more plugins on the Marketplace.

List your PDF Templates

List Templates

To list your templates, you need the following parameter:

URL		/client/1.0/P LUGIN/pdf Plugin/admi nTemplateL ist
Input-	None	
Parameter		
Output-	ValueJSON	
Parameter	-Arra	
	y with	

all te mplat e nam es

Example output:

```
{
    "success": true,
    "value": [
        "templatename1",
        "templatename2",
        "templatename3"
    ]
}
```

Live Debugging with Chrome DevTools

You can debug your applications on the Simplifier in real time on mobile devices.

Enter chrome://inspect into your Chrome browser.

Connect your mobile device via USB and enable "USB Debugging" within the device settings. Chrome will autodiscovering your mobile device and integrating it within the developer tools options.

When connected, you can begin screencasting by clicking the appropriate button in the developer tools window. Then your mobile device can be supplied directly with input from your desktop screen. Any changes are instantly displayed on your mobile device.



By the way, the "Port forwarding" button above provides some flexibility for those who don't have their screen and developer machine on the same network. In this scenario, you can create a TCP port on your mobile device and assign it to a specific TCP port on your development machine. All forwarded traffic is transferred via USB, bypassing the mobile device's network configuration.

Mobile Preview

By clicking the "Toggle device toolbar" button, the current page is reduced to the imitated screen parameters according to the set properties. This imitated display can be operated with the mouse in the same way as with the finger on a physical device.

In this view, you can simulate pinch zooming, finger scrolling and even multi-touch events.

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Purchase Order Number:	4500006370						
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Locally

You can install the Docker engine on your local machine and start the Simplifier Docker for development and testing.

The Docker Engine runs on



further Instructions to start the Simplifier

Logging Connector

Choose the Connector Path:

	Logging Specific Data	
Connector Path	: File Path 	
	O System Path	
*Absolute Log-Path	c: /opt/simplifier/data/logs/simplifierlogs/android.log	
	Logging Specific Data	
Connector Path:	O File Path	
	 System Path 	
*Log-Group Filter:	Арр	\sim

How to use a Logging Connector in a REST-Client

You can choose between READ and WRITE.

Write Logging Connector Handler

```
{
   "connectorName": "WriteLoggingConnectorHandler",
   "json": {
        "msg": "Test Log Konnektor umgeschrieben",
            "logLvl": "debug",
            "logGroup": "pickIt",
            "deviceMac": "",
            "timestamp": 1425293416
   }
}
```

Read Logging Connector Handler

```
{
    "connectorName": "ReadLoggingConnectorHandler",
    "json": {
        "logGroup": "pickIt",
            "logLvl": "debug"
    }
```

}

Logic

Condition | Iterator | Script

Condition

Conditions give you the possibility to make the process flow dependent on the evaluation of certain expressions.

In such an expression, you can compare auto fields, variables, an actual value of a widget or a given constant with each other and decide upon the result, if the process continues one way or the other. Or you might decide to continue the process only if one condition holds and omit the alternative, which in turn results in a process stop at this stage.

If you double click on the shape, it will add a new condition. Alternatively, you can click on the plus icon on the right. By default, an AND condition is created. You can switch between AND and OR (not XOR) conditions using the toggle switch.



Let's see an example:

The process pane contains a condition, that's executed after the login button got pressed. The condition compares a widget value (value property of widget InputUsername) with the fixed constant value "admin". This means that the expression evaluates to true if the input value of field username equals "admin". In this case, the process flow leads to navigate to screen "BusinessScreen". If the username does not equal "admin", the user will be navigated to the screen "PrivateScreen".

Comparing a Widget



Selecting a widget property for comparison is guided via a three-step dialog. It asks you to select the screen in the first step, then one of the widgets on this screen and finally the property of the widget that you like to use for the comparison.

Comparing a Constant

	Set constant value
tior	Choose type:
	String 6
H.	Fill in value:
I.	admin
	✓ Ok × Cancel

Defining a constant value for comparison is even easier: you specify the data type via a selection in a drop-down box and set the value in the field below.

Comparing a Variable



If you want to compare a variable, every existing one in the Data Workbench will be shown within the list. You can switch between the tabs Base Types, Domain Types, Structs, and Collections.

Comparing an Auto Field



You can select every generated auto field for comparison as well.

Iterator



An iterator is an object that sequentially passes data structures. It respectively returns the following element and determines if there are another elements following.

With the Iterator activity, you iterate over a variable. It has two output ports: each and after.

Port each after

Description

For every iteration, the following process will be executed. After all iterations ended the following process will be executed.

The Iterator Selection Helper can be accessed by opening the mapping dialog on the right. The mapping dialog can also be opened by double-clicking on the shape.

You can drag and drop the parameter in the drawing area in the middle. By double-clicking on the parameter you can select the

collection you want to iterate.

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					O NAME OF COLUMN					



The mapping dialog is aware of its type and offers only collection variables that are defined in the app.

By opening the mapping dialog, you can drag and drop the element on the left and on the right in the middle. By doubleclicking on it, you find all parameter/variables that can be mapped listed in a pop-up.

Script

The Script element allows you to integrate a custom JavaScript snippet. It is activated by the previous event. Drag the activity "Script" underneath "Logic" in the drawing area.

The activity "Script" shows a preview of the JavaScript full screen and its (optional) description on the right side. You can also enter code in this section, the changes were saved and also transferred in the full screen. The full screen will be opened by double-clicking on the shape or by clicking on the appropriate icon.



Pretty Print

You can prettify JavaScript code with just one click. Therefore you have to have the script activity on full screen. By clicking on the appropriate icon, your code will be simply prettified.



Logs & Monitoring

The error log is the central logging and monitoring area where all data-streams and errors are logged and saved.

ព			Logs & Monitoring			en 2	C Felicitas Weber
*erview							
			≪ < 1 ∨ of 50 Entries per page 50 ∨ > ≫				
Jser	Time	Category	Action	Log Level	User		Details
Search for Users	Jan 14, 2019, 11:14:30 AM	User	User f005 logged in	INFO	f005		
.og Level	Jan 14, 2019, 8:57:40 AM	User	User f005 logged in	INFO	f005		
Please Choose V	Jan 11, 2019, 11:28:56 AM	User	User f005 logged in	INFO	f005		
ategory	Jan 11, 2019, 9:25:01 AM	User	User f005 logged in	INFO	f005		
Please Choose V	Jan 10, 2019, 2:56:59 PM	User	User f005 logged in	INFO	f005		
rom	Jan 10, 2019, 8:34:42 AM	User	User f005 logged in	INFO	f005		
MMM d, y, h:mm:ss a 🛛 🔂	Jan 10, 2019, 8:33:29 AM	System	Plugin contentRepoPlugin registered	INFO			i
Jntil	Jan 10, 2019, 8:33:22 AM	System	Plugin keyValueStorePlugin registered	INFO			i
MMM d, y, h:mm:ss a 🔀	Jan 10, 2019, 8:33:22 AM	System	Plugin captcha registered	INFO			i
a	Jan 10, 2019, 8:33:22 AM	System	Plugin jsonStore registered	INFO			i
	Jan 10, 2019, 8:33:21 AM	System	Plugin pdfPlugin registered	INFO			i
	Jan 10, 2019, 8:33:13 AM	System	Server setting "Support" updated	INFO			i
	Jan 10, 2019, 8:33:09 AM	System	Simplifier version: 4.0.86-LTS.1	INFO			
	Jan 10, 2019, 8:33:09 AM	System	Simplifier started	INFO			
	Jan 9, 2019, 3:04:47 PM	Customize	Process "fgh" in application Demo_FelicitasWeber created	INFO	f005		i
	Jan 9, 2019, 2:56:38 PM	User	User f005 logged in	INFO	f005		
	Jan 9, 2019, 1:20:47 PM	User	User f005 logged in	INFO	f005		
	Jan 9, 2019, 12:10:14 PM	Execution	Connector Call SOAP_OrderL / ordersSoap11_getOrderList executed	INFO			i
	Jan 9, 2019, 12:10:11 PM	Execution	Application OrderListL opened	INFO			
	Jan 9, 2019, 12:09:43 PM	Customize	Role AppOrderListL updated	INFO	1003		i
	Jan 9, 2019, 12:07:33 PM	Execution	Application OrderListL opened	INFO			

Manage Screens

Each process step can be configured as a screen. A screen represents one single user interface page and can contain several widgets.

	Select ta	arget screen					5	C 🔄	Ø	+
_	All	Desktop	Phone	Tablet	Smartglass	Watch				
					Login	Welcome				

In the screen section you can do the following actions:

Ð	Copy Screen	Copy a screen and paste it into the actual or a different application.
	Paste Screen	Paste the previously copied screen into the current or a different application.
	Edit Screen	Activate the edit mode to change screen order or delete screens.
+ -	Add Screen	Add a new screen to the actual application.

To rename screens, select it and change the ID within the properties section on the right.

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Use the 'Description' field to comment on the screen. This helps to identify the purpose of the screen later.

Mark Widgets as deprecated

You can mark widgets as deprecated to prevent them from being displayed within the UI Designer.

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			Application Datalla			
			Application Details			
	2					
UI Designer Process Designer Data Workbench Secu	irity					Code Designer
*Simplifier Explored »		🗈 Preview 🕞 Assets	G CSS Editor 🚯 Languag	e 🌾 Libraries 📧 Theming		🔞 Release 🕨 Deploy 🖫 Save 🗙 Exit
Search	Q	Select target screen		 ⊡ □ / +	Edit Area - Navigatio	m MenuButton1
Actions	\sim	All Desktop Phone	Tablet Smartglass Watch		Properties Select	Event
Breadcrumbs	+				ID	Navigation_MenuButton1
E Link	+	Navigation Device	Controls Context	Media Connectors	Туре	sap.m.MenuButton
MenuButton	+		• •		text	
NavigationList	+				Description	
NavigationListItem	+	Content Preview			activolcop	
RatingIndicator	+	Content Navigation			activercon	
SideNavigation	+	Content Navigation			buttonMode	Regular
Bars	~	Widget Name	ID	Aggregation	enabled	
CverflowToolbar	+	∨ Bar	HeaderBar	ScreenContent	icon	
Toolbar	+	Text	Heading	contentMiddle	iconDensityAware	
ToolbarSeparator	+	Image	SFLogo	contentLeft	textDirection	Inherit
ToolbarSpacer	+	MenuButton	Navigation_MenuButton1	contentRight	type	Default
Chart	~	✓ CenterLayout	CenterLayout1	ScreenContent	useDefaultAction	
		Button	DeviceButton	content	visible	✓
	+	Button	ControlsButton	content	width	
- bindingcinechant		Button	MediaButton	content		
	- T	Button	ContextButton	content		
	Τ'	Button	Connectors	content		
Composite	~	Button	DataAggregation	content		

For that, you have to go back to the application overview and switch to the widgets tab. Search for the appropriate widget and edit it. All you have to do now is to activate the toggle 'Deprecated' of the widget and click on save.

i≣ S	Widget Customizer	en <u>8</u>	Felicitas Weber $ \smallsetminus $
Widget Customizer		I	🖫 Save 🗙 Exit
Image: Symplectic symplecti symplecte symplectic symplectic symplectic symplectic symplectic			
*Name:	MenuButton		
Description:			
Default Binding-Property:	~ ~		
Category:	Generated V		
Tags:	<i>Λ</i> ΤΙΖ <i>Ι</i> ⊗		
Deprecated:			

If deprecated is active, the widget will no longer be available on the left side of the UI Designer.

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						en A Felicitas Weber ~
			Application Details			
UI Designer Process Designer Data Workbench Security						Code Designer
Simplifier_Explored >>		😰 Preview 📔 Assets	CSS Editor 🚯 Language	f Libraries 📧 Theming		🕼 Release 🕨 Deploy 🖫 Save 🗙 Exit
Search	Q	Select target screen		96/+	Edit Area - Navigatio	n_MenuButton1
Actions	~	All Desktop Phone	Tablet Smartglass Watch		Properties Select	Event
Rreadcrumbs	-				ID	Navigation_MenuButton1
	+	Navigation Device	Controls Context	Media Connectors	Туре	sap.m.MenuButton
NavigationList	+		• •		text	С,
NavigationListItem	+				Description	
E RatingIndicator	+	Content Preview				
SideNavigation	+	Content Navigation			activercon	
Bars	\sim	Content Navigation			buttonMode	Regular
CverflowToolbar	+	Widget Name	ID	Aggregation	enabled	
Toolbar	+	∨ Bar	HeaderBar	ScreenContent	icon	
ToolbarSeparator	+	Text	Heading	contentMiddle	iconDensityAware	
ToolbarSpacer	+	Image	SFLogo	contentLeft	textDirection	Inherit
Chart	~	MenuButton	Navigation_MenuButton1	contentRight	type	Default
- bindingChartDataRoint	-	✓ CenterLayout	CenterLayout1	ScreenContent	useDefaultAction	
binding ineChart	+	Button	DeviceButton	content	visible	✓
E chartLabel	+	Button	ControlsButton	content	width	
templateChartDataset	+	Button	MediaButton	content		
Composite	~	Button	Connectors	content		
	· ·	Button	DataAggregation	content		
E CheckBox_Bindings	+	DUILUIT	Datanggregation	comon		

Deprecated widgets that were used before they were marked as deprecated, will still be shown within the application content. The application will also still be saved and deployed without issues or warnings and runs as before.

Marketplace

The marketplace module is central to the Simplifier Experience and Workflow. It does not only provide a variety of applications ready to import to your own account, but also any other type of module content such as Connectors, Virtual Connector packages, Business Objects, custom widgets and more.

To add any type of content to your own account, browse the marketplace and click "request" to send us an e-mail with all the information we need so we can provide the content to you.

In the future, this feature will be automated, so you can add content with one click.

MQTT Connector

	MQTT Specific Data
*Broker name:	SimplifierBroker
Broker hostname:	172.16.13.71
*Port:	1883
TLS:	
Keep-Alive:	20
Clean session:	
Last will topic:	Simplifier
Last will payload:	TEST PAYLOAD
Last will is retained:	
Last will qos:	At most once 🗸 🗸
Allow multiple executions in reordering:	
Continue after an exception:	

Broker Name	The name of the broker. This is used by the Call to select the correct broker.
Broker Hostname	Hostname of the broker IPv4 OR hostname!
Port	The port, the broker is running on (1883 is standard for TCP and 8883 is standard for SSL).
TLS	TLS Encryption. Not yet available!
Keep-Alive	The number of seconds the client should be kept alive if no activity takes place.
Clean-Session	Determines whether the session is cleaned after a reconnection.
Last will topic	The topic for which a message is sent if the client dies
	(testament).
Last will payload	The message for the testament.
Last will retained	Flag to decide whether the message should be retained by the
	broker.
Last will QoS	Flag to decide how often the message will be sent.
(Quality of Service)	
Allow multiple executions in reordering	If you send the "order" list to rearrange the given operations,
	you can decide with the flag whether operations should be
	executed several times.
Continue after an exception	Flag to decide whether the next operation should be executed
	after an error or whether the execution completely stops.

How to use a MQTT Connector in a REST-Client

You can choose between 2 operations: PUBLISH and SUBSCRIBE.

Build the payload like this:

Parameter operationType brokerName

returnSet (for SUBSCRIBE operations)

Description

Type of the operation, PUBLISH or SUBSCRIBE. The name of the broker, as it is specified in the Connector Details. If no name is given, the default broker is selected. Option which information the incoming messages contain. "STANDARD": Only the payload and the topic are displayed. "WITH_QUALITY_INFORMATION": Equivalent to the "STANDARD" but additionally with information whether the message is duplicated / withheld and QoS. "VERBOSE": As before but with Client ID as well as message ID.

Native Mobile Action

To use other native mobile actions, you need to implement code via a Script activity.

\triangleright	Su	bsci	ribe										Ð	Sc	ript		
	Mol	oileA	ction	» Bu	itton_	_Mob	ileA	ction	» pre	ess		-		Scri	pt	•	

With the Simplifier, you can build your application using web technologies like JavaScript. If you want to use native functionalities, you need a bridge between those technologies. Therefore you can use pre-installed Cordova Plugins in the Simplifier Client and integrate different predefined APIs.

Here is a list of plugins to use and a link to their documentation on GitHub:

Plugin

Conferencing for WebRTC Calls Device information (2.0.2) Device orientation (2.0.1)Storage (6.0.1) File IO (1.7.1) Geolocation (4.0.1)Network information (2.0.1) Alerts/ Beeps/ logs (2.0.1) Statusbar (2.4.2) Beacons (3.6.1)Cordova inapp Browser (2.0.2) Keyboards (1.2.0) Wikitude (8.0.0) Battery (1.0.1) Splashscreen (5.0.1) Keepscreen on (4.3.0)Speech recognition (0.3.0)

Stream audio and video in a fullscreen (0.1.4) Document viewer (0.9.9) Document handler (1.0.14)

Bluetooth (1.2.2) Runtime permissions (1.2.0) Remove arm64 (0.0.1) Whitelist (1.3.3) Build info (1.1.0) Fullscreen (1.0.3) Record / Play Audio (5.0.2) Social Sharing (5.4.1)

Accelerometer (2.0.1)

Link to Documentation

https://academy.simplifier.io/doc/current-release/#10424 https://github.com/apache/cordova-plugin-device https://github.com/apache/cordova-plugin-device-orientation https://github.com/apache/cordova-plugin-file https://github.com/apache/cordova-plugin-file-transfer https://github.com/apache/cordova-plugin-geolocation https://github.com/apache/cordova-plugin-network-information https://github.com/apache/cordova-plugin-dialogs https://github.com/apache/cordova-plugin-statusbar https://github.com/petermetz/cordova-plugin-ibeacon https://cordova.apache.org/docs/en/latest/reference/cordovaplugin-inappbrowser https://github.com/cjpearson/cordova-plugin-keyboard https://github.com/Wikitude/wikitude-cordova-plugin.git https://github.com/apache/cordova-plugin-battery-status https://github.com/apache/cordova-plugin-splashscreen https://github.com/EddyVerbruggen/Insomnia-PhoneGap-<u>Plugin</u> https://github.com/macdonst/SpeechRecognitionPlugin https://github.com/nchutchind/cordova-plugin-streaming-media https://github.com/sitewaerts/cordova-plugin-document-viewer https://github.com/PolarCape/polarcape-cordova-plugindocument-handler.git https://github.com/don/cordova-plugin-ble-central https://github.com/apache/cordova-plugin-compat https://github.com/Ponsen/cordova-plugin-remove-arm64 https://github.com/apache/cordova-plugin-whitelist https://github.com/Durzan666/cordova-plugin-buildinfo https://github.com/filfat-Studios-AB/cordova-plugin-fullscreen https://github.com/apache/cordova-plugin-media https://github.com/EddyVerbruggen/SocialSharing-PhoneGap-**Plugin** https://github.com/apache/cordova-plugin-device-motion

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OData Connector

OData (Open Data Protocol) enables the creation of REST-based data services that allows resources identified by Uniform Resource Identifiers (URIs) and defined in a data model to be published and edited through the use of HTTP messages by Web clients.

It allows flexible access to the databases and to create, read, update and delete (CRUD) valid data on the web. OData is able to provide consistent semantics for data exchange in client-server communication.

Contrary to the other connectors, OData does not require any connector calls because the metadata is updated automatically.

Create a new connector and select OData as connector type. Within the specific data on the right, define the endpoint. Optionally, you can also define request headers to pass through and response headers to pass through.

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	Add	Connector		
Connector				
	General		OData Specific Data	
*Name	OData_Procurement_Overview	*Endpoint:	https://sapes5.sapdevcenter.com/sap/opu/odata/sap/SEPMRA_OVW/\$metada	a
Connector Type	OData 🗸 🗸	Request headers to pass-through:	Enter header names	
Description	Procurement Overview	Response headers to pass-through:	Enter header names	
Active				
*Timeout (in seconds)	60			
Tags	Add Tag			
	Login Method	-		
Name	- None 🗸 🗸			
Description				
Method Type				
			🗑 Save 🗙 Ci	Cancel

You can read about how to use and address the connector in an application here.

Offline Applications

You can react on losing connection of your application/device in the <u>Process Designer</u>.

There are two default events added in every application: onDeviceGoesOnline and onDeviceGoesOffline.

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Event onDeviceGoesOnline

onDeviceGoesOffline

Function

Will be triggered when the device has established a connection to the Wi-Fi or LTE. Will be triggered when the device has lost the connection to Wi-Fi or LTE.

Add a new Auto Field

The auto field type "Device" holds the current connection
state - characteristic: online. How to create a new auto field,
you can see <u>here</u> .

ImOnline	
Auto Field Type:	
Device	~



It can be used in every mapping and also in conditions.



On Premise

On Premise means that as a customer you run the Simplifier on your own servers. Whether this is a dedicated root server, a virtual machine in VM Ware or a cloud computing instance at a cloud provider like Amazon does not matter in this case.





Dedicated Root Server

Virtual Machine

Elastic Compute Cloud

You are responsible for the installation, operation, maintenance, updates of the Simplifier instance and guaranteed availability.

To learn how to deploy the Simplifier on-premises, look at the Checklist for onPremise installations.
OPC-UA Connector Calls

This section describes the necessary parameters and data types for OPC-UA connector calls. There are 3 different kind of calls

- Calls for READ operations
- Calls for WRITE operations
- Calls for BROWSE operations

NOTE: Please refer for the necessary data types here.

OPC-UA Connector Data Types

This section describes the nescessary collections as well as their meaning, required to use OPC-UA READ/WRITE connector calls.

Collections

- Values: List of values that should be written into nodes.
- Actions: List of actions consisting of READ or WRITE that should be performed.
- Order: List of the order in which the actions should be performed.
- Node Names: List of node names, that should be either written into or read from.
- Namespace Indices: List of the corresponding name space index for each node.

OPC-UA Monitoring Requests

After sending the subscription, the OPC-UA Connector will subscribe the given nodes for monitoring requests. Every change will be sent through the websocket to the client and can be received by the *onMessage* function, which has been described <u>here</u>,

Request JSON

var requestData = {
 "operation": String,
 "nodes": Array of String,
 "namespaceIndices": Array of String,
 "publishingInterval": Float,
 "clientHandlingID": Integer,
 "samplingInterval": Float,
 "queueSize": Integer,
 "discardOldestItem": Boolean,
 "monitoringMode": String,
 "returnedTimestamps": String
}

operation

The operation, which should be done by the asynchronous OPC-UA connector. Only the following options are valid at the moment.

• MONITORING_SUBSCRIBE

nodes

The names of the nodes, which should be subscribed. The name is one of two parts, which defines a node Id.

NOTE: If more than one item should be subscribed with one request, then the amount of *nodes* must be the same as the amount of *namespaceIndices*.

namespaceIndices

The namespace indices where the nodes resides

NOTE: If more than one item should be subscribed with one request, then the amount of *namespaceIndices* must be the same as the amount of *nodes*.

publishingInterval

The interval, in which the OPC-UA server will publish the changes in the subscribed nodes. According to the *queueSize* all changes, which are still stored in the queue will be published. The used timeunit are *milliseconds*.

clientHandlingID

An internal unique handling key for the OPC-UA server to distinguish the monitoring subscriptions.

NOTE: Each request must have an unique clientHandlingID or else only message from the latest subscription will be returned.

samplingInterval

The interval in which the OPC-UA server will sample the subscribed nodes for changes. This parameter will be only used if *SAMPLING* is the chosen *monitoringMode*. The used timeunit are *milliseconds*.

queueSize

The size of the queue that logs all changes of the subscribed nodes. Each node has an own queue. If the queue is full and new changes occurs, then the oldest changes are discarded automatically.

discardOldestItem

If this option is selected, then the oldest entry in the queue of each subscribed node will be discarded regardless whether the queue is not full or not.

monitoringMode

The monitoring mode. The following two modes are available:

- **Reporting:** Reports all changes after a defined publishing interval.
- Sampling: Samples the nodes after a defined interval and then returns the changes.

returnedTimestamps

This option decides what timestamps are returned in each message. The application server timestamp will be returned every time. For now the following options are allowed:

- Both: The timestamp of the OPC-UA Server as well as the source will be returned.
- Neither: Only the application server timestamp will be returned.
- Server: The timestamp of the OPC-UA server will be returned.
- Source: The timestamp of the source of the node will be returned.

OPC-UA Monitoring Requests Examples

This section contains examples for the OPC-UA Monitoring Request Subscriptions

Attention

The status code of a frame might return either "Good" or "Bad" if later case occurs, then also the OPC-UA Error Message will be returned!

Request with Reporting Both Timestamps

var requestData = {
 "operation": "MONITORING_SUBSCRIBE",
 "nodes": ["myNode","myOtherNode"],
 "namespaceIndices": [2,2],
 "publishingInterval":1000.0,
 "clientHandlingID": 1,
 "samplingInterval": 1000.0,
 "queueSize": 2,
 "discardOldestItem": true,
 "monitoringMode": "Reporting",
 "returnedTimestamps": "Both"
}

This request subscribes the nodes "myNode" and "myOtherNode" that resides in namespace 2 to the OPC-UA server, which will report the latest 2 changes after 1 second. The returning message frame contains the application server, OPC-UA server and source timestamps. The oldest item will be dropped.

Returning Message Frames

```
{
"frameType":"data",
"subscriptionKey":"bb827118-f1b0-2170-9937-f8c7e1620107?,
"content":{
"data":{
"nodeName":"myNode",
"namespaceIndex":2,
"value":"448828049?,
"appServerTime":"Wed Oct 19 19:37:42 CEST 2016?,
"OPCUAServerTime":"Mon Jan 01 01:00:00 CET 1601?,
"OPCUASourceTime":"Mon Jan 01 01:00:00 CET 1601?,
"statusCode":"Good"
},
"success":true
}
}
```

{ "frameType":"data", "subscriptionKey":"bb827118-f1b0-2170-9937-f8c7e1620107?, "content":{ "data":{ "nodeName":"myOtherNode", "namespaceIndex":2, "value":"22223423?, "appServerTime":"Wed Oct 19 19:37:43 CEST 2016?, "OPCUAServerTime":"Mon Jan 01 01:00:00 CET 1601?, "OPCUASourceTime":"Mon Jan 01 01:00:00 CET 1601?, "statusCode":"Good" }, "success":true } }

Request with Reporting Source Timestamp

```
var requestData = {
   "operation": "MONITORING_SUBSCRIBE",
   "nodes": ["myNode","myOtherNode"],
   "namespaceIndices": [2,2],
   "publishingInterval":500.0,
   "clientHandlingID": 1,
   "samplingInterval": 1000.0,
   "queueSize": 1,
   "discardOldestItem": true,
   "monitoringMode": "Reporting",
   "returnedTimestamps": "Source"
}
```

This request subscribes the nodes "myNode" and "myOtherNode" that resides in namespace 2 to the OPC-UA server, which will report the last change after 500 milliseconds. The returning message frame contains the application server and source timestamps. The oldest item will be dropped but it does not matter, as the queue can contain only one element.

Returning Message Frames

"data":{

```
{

"frameType":"data",

"subscriptionKey":"aa827118-f1b0-2170-9937-f8c7e1620107?,

"content":{
```

```
"nodeName":"myNode",
"namespaceIndex":2,
"value":"324234?,
"appServerTime":"Wed Oct 19 19:37:42 CEST 2016?,
"OPCUASourceTime":"Mon Jan 01 01:00:00 CET 1601?,
"statusCode":"Good"
},
"success":true
}
}
{
"frameType":"data",
"subscriptionKey":"aa827118-f1b0-2170-9937-f8c7e1620107?,
"content":{
"data":{
"nodeName":"myOtherNode",
"namespaceIndex":2,
"value":"2333543?,
"appServerTime":"Wed Oct 19 19:37:43 CEST 2016?,
"OPCUASourceTime":"Mon Jan 01 01:00:00 CET 1601?,
"statusCode":"Good"
},
"success":true
}
}
```

Request with Reporting Server Timestamp

var requestData = {
 "operation": "MONITORING_SUBSCRIBE",
 "nodes": ["myNode","myOtherNode"],
 "namespaceIndices": [2,2],
 "publishingInterval":2000.0,
 "clientHandlingID": 1,
 "samplingInterval": 1000.0,
 "queueSize": 20,
 "discardOldestItem": false,
 "monitoringMode": "Reporting",
 "returnedTimestamps": "Server"

}

This request subscribes the nodes "myNode" and "myOtherNode" that resides in namespace 2 to the OPC-UA server, which will report the last 20 changes after 2 seconds. The returning message frame contains the application server and OPC-UA server timestamps. The oldest item will not be dropped.

Returning Message Frame

```
{
"frameType":"data",
"subscriptionKey":"cc827118-f1b0-2170-9937-f8c7e1620107?,
"content":{
"data":{
"nodeName":"myNode",
"namespaceIndex":2,
"value":"4488280898?,
"appServerTime":"Wed Oct 19 19:37:42 CEST 2016?,
"OPCUAServerTime":"Mon Jan 01 01:00:00 CET 1601?,
"statusCode":"Good"
},
"success":true
}
}
{
"frameType":"data",
"subscriptionKey":"cc827118-f1b0-2170-9937-f8c7e1620107?,
"content":{
"data":{
"nodeName":"myOtherNode",
"namespaceIndex":2,
"value":"22223425?,
"appServerTime":"Wed Oct 19 19:37:43 CEST 2016?,
"OPCUAServerTime":"Mon Jan 01 01:00:00 CET 1601?,
"statusCode":"Good"
},
"success":true
}
}
```

Request with Reporting Neither Timestamps

var requestData = {
 "operation": "MONITORING_SUBSCRIBE",
 "nodes": ["myNode","myOtherNode"],
 "namespaceIndices": [2,2],
 "publishingInterval":100.0,
 "clientHandlingID": 1,
 "samplingInterval": 1000.0,
 "queueSize": 5,
 "discardOldestItem": true,
 "monitoringMode": "Reporting",
 "returnedTimestamps": "Neither"
 }

This request subscribes the nodes "myNode" and "myOtherNode" that resides in namespace 2 to the OPC-UA server, which will report the last 5 changes after 100 millieconds. The returning message frame contains only the application server timestamp. The oldest item will be dropped.

Returning Message Frames

```
{
"frameType":"data",
"subscriptionKey":"dd827118-f1b0-2170-9937-f8c7e1620107?,
"content":{
"data":{
"nodeName":"myNode",
"namespaceIndex":2,
"value":"448828042?,
"appServerTime":"Wed Oct 19 19:37:42 CEST 2016?,
"statusCode":"Good"
},
"success":true
}
}
{
"frameType":"data",
"subscriptionKey":"dd827118-f1b0-2170-9937-f8c7e1620107?,
"content":{
```

"data":{
 "nodeName":"myOtherNode",
 "namespaceIndex":2,
 "value":"22223421?,
 "appServerTime":"Wed Oct 19 19:37:43 CEST 2016?,
 "statusCode":"Good"
 },
 "success":true
}

Request with Sampling

var requestData = {
 "operation": "MONITORING_SUBSCRIBE",
 "nodes": ["myNode"],
 "namespaceIndices": [2],
 "publishingInterval":1000.0,
 "clientHandlingID": 1,
 "samplingInterval": 100.0,
 "queueSize": 10,
 "discardOldestItem": true,
 "monitoringMode": "Sampling",
 "returnedTimestamps": "Neither"
}

This request subscribes the nodes "myNode" that resides in namespace 2 to the OPC-UA server, which will sample the node every 100 milliseconds and return the last 10 changes after 1 seconds. The returning message frame contains only the application server timestamp. The oldest item will be dropped.

Returning Message Frame

```
{
    "frameType":"data",
    "subscriptionKey":"ff827118-f1b0-2170-9937-f8c7e1620107?,
    "content":{
    "data":{
        "nodeName":"myNode",
        "namespaceIndex":2,
        "value":"448828043?,
        "appServerTime":"Wed Oct 19 19:37:42 CEST 2016?,
        "statusCode":"Good"
    },
        "success":true
```

}

OPC/UA Connector

*Endpoint Address:	80.150.165.50
*Endpoint Port:	62541
*Timeout Time:	5000
Timeout Unit:	Milliseconds \checkmark
Security Mode:	None \checkmark
Security Policy:	None \checkmark
Multiple Executions:	
Exceptions depending on status:	
Permissions:	$\begin{tabular}{ c c c c c c } \label{eq:read} {\sf Read} \otimes & {\sf Write} \; {\sf Write} \; {\sf Write} \; {\sf Wonitorin} \; & $$$ \end{tabular}$

OPC/UA Specific Data

Endpoint Address

The IPv4 address of the OPC-UA server, this server should connect.

Endpoint Port

The port of the OPC-UA server, this server should connect.

Timeout Time

The timeout time for one OPC-UA operation. The maximum possible timeout time will be one hour regardless of the given input.

Timeout Unit

The corresponding timeout unit for one OPC-UA operation. Three units are supported

MILLISECONDS
 SECONDS
 MINUTES

Security Mode

The security mode the OPC-UA server. The following modes are available (For now only "None" is accepted)

- 1. Sign
- 2. None
- 3. Sign and Encrypt

Security Policy

The encryption of the OPC-UA server connection. The following four modes are available (For now only "None" is accepted)

- 1. None
- 2. Basic 128 Bit RSA 15
- 3. Basic 128 Bit
- 4. Basic 128 Bit SHA 256

Multiple Executions

If you reorder the operations in your code and want the possibility to do multiple executions, activate the switch.

Exceptions depending on status

Not implemented yet!

Permissions

Determines what kind of OPC-UA operations this connector might perform. There are currently 7 modes

1. Read

2. Write

3. Browse

4. Read History

5. Write History

6. Monitoring

7. Call

Take a look at OPC-UA Connector Calls.

Open Authorization (OAuth)

OAuth (Open Authorization) is an open standard for token-based authentication and authorization on the Internet.

To set OAuth as authentication, make sure you have administrator rights.

After you have logged in as usual in the login mask with your user credentials, click on your name in the upper right corner and then on the settings.

Switch to the Authentication tab in the upper toolbar.



To add a new authentication mechanism, click on the plus icon in the upper right corner.

Authentication Settings

First, fill out the following fields:

Authentication Settings	
*Name:	
*Priority:	0
*Mechanism:	OAuth2.0 V

Name Priority Mechanism Specify any name. 0 -The priority can be ignored in this case. Select OAuth 2.0.

You can enable different types of OAuth 2.0 authentication mechanisms by applying the required data in a generic form. This allows using any OAuth 2.0 authorization service. On the subpages, you will find examples of authorizations with <u>Google</u>, <u>Amazon</u> and <u>Azure</u>.

OAuth 2.0 Settings

These settings depend on the third-party provider.

OAuth 2.0 Settings

*Display Name:			
*Client ID:			
*Client Secret:			
*Scope:			
*Authorization Endpoint:			
*Token Endpoint:			
Redirect Endpoint:			
Additional Query Parameters:			
	Name	Value	+
		No data	
Icon:			
Γ			

Display Name Client ID	The display name is shown on the login button. The client ID identifies the application and is defined by the configuration on the OAuth server.
Client Secret	The client secret authenticates the application and is defined
	by the configuration on the OAuth server.
Scope	The scope determines which rights are gained with the access
	token. E.g. 'profile', 'email', etc. for gaining rights to access
	the user profile/user email.
Authorization Endpoint	The authorization endpoint is the URL to which an authorization request is sent.
Token Endpoint	The token endpoint is the URL to which an access token request is sent.

https://academy.simplifier.io

Redirect Endpoint

Additional Query Parameters

Icon

entered in the OAuth server configuration.You can add additional query parameters, such as name and value.The icon will be displayed on the login mask above the display name.

The redirect endpoint is the URL to which the browser is directed after successful authorization. This URL needs to be

OAuth Profile

OAuth Profile

*Profile URL:		?
*Profile Path:		?
*Profile Verb:	GET ~	
*First Name:	first_name	?
*Last Name:	family_name	?
*E-Mail Address:	email	?
Mobile Phone Number:		?

Profile URL Profile Path	The URL to which a user profile request is sent. The path which points to the user profile. E.g. '.', 'profile', etc.
Profile Verb	GET, POST, PUT
First Name	The path which points to the entry of the user profile containing the first name. E.g. 'givenName', 'person.firstName', etc.
Last Name	The path which points to the entry of the user profile containing the last name. E.g. 'surName', 'person.lastName', etc.
E-Mail Address	The path which points to the entry of the user profile containing the email address. E.g. 'mail', 'emails.0.value', etc.
Mobile Phone Number	The path which points to the entry of the user profile containing the mobile phone number. E.g. 'phone', 'phones.mobile', etc.

Test Authentication

The settings for OAuth 2.0 can be tested within the configuration. Since the test procedure includes several steps, it is necessary to save the settings first.

The assignment of an access token can be tested by pressing the 'Test authentication' button, while pressing the 'Test profile

extraction' button initiates the complete OAuth 2.0 procedure, which assigns an access token and also collects a user profile with the required data.

Test Authentication

Test authentication

Test profile extraction

Other Clouds / PaaS

By providing the Simplifier Image on <u>Docker Hub</u>, we enable deployment on various public clouds and structures, e.g. Container as a Service (CaaS) on Amazon Web Services (AWS), Google Container Engine (GKE), Azure, SAP Cloud Platform and IBM Bluemix.



Overview

To see the active Plugins, click on the Plugin tile.

II S		Simplifier Dashboard en A felicitas t				en A Felicitas Webe	
APPLICA	TIONS 43	CONNECTORS	19	BUSINESS OBJECTS	14	DATA TYPES	139
Cr an ste	eate, manage and configure applications, widgets d libraries. Process mapping defined within user rifes.	Create, manage and configure the respective logins to connect to diff and devices.	e interfaces and lerent systems	Merge the connectors, plugins and by objects for easy and fast reuse of con business requirements.	usiness nplex	Create, manage and con structures and collections validation rules.	ïgure domain types, as well as define
USERS	10	TRANSPORTS	34	PLUGINS	5	LOGS & MONITORIN	G
Cre Sim con	ate, administrate and configure all of your plifter users, groups and roles with their esponding user permissions.	Migration of applications and ind components to other Simplifier in simulation and validation of trans	ividual Istances, inc. sports.	Offers the possibility to extend or chi functions of the Simplifier with the he external plugin.	ange the core alp of any	Central monitoring and fit system activities. Provide which are very helpful for	tering of all user and s detailed information debugging.
JOBS	3	TEMPLATES	6				
Cre bus con	ate and administrate jobs for the execution of iness objects. These are based on flexibly figurable time intervals.	Creation and definition of reusable components. These can be person different, predefined placeholders.	HTML text alized by using of				

SIMPLIFIER

Every Plugin can be an own configuration app, that is visible in the upper menu bar.

You can see the following information in the table above:

Overview Netzportal Pdf Plugin		
Plugins (Loaded: 7)		
Search		
Plugin Name	Connection URL	Configuration
captcha	akka.tcp://captcha@127.0.0.1:6010/user/captcha	
contentRepoPlugin	http://127.0.0.1:47488/slots	
jsonStore	akka.tcp://jsonStore@127.0.0.1:6020/user/jsonStore	
keyValueStorePlugin	akka.tcp://keyValueStorePlugin@127.0.0.1:6002/user/keyValueStorePlugin	
pdfPlugin	akka.tcp://pdfPlugin@127.0.0.1:6003/user/pdfPlugin	V Pdf Plugin
powerSupplyPlugin	http://127.0.0.1:51043/slots	Vetzportal
wordGeneratorPlugin	http://127.0.0.1:58870/slots	

PluginName Technical name of the Plugin.

Connection URL

On what server runs the plugin and which tcp port does it use.

Configuration

If this plugin offers you a configuration user interface, the checkbox is activated and you can see them as tabs in the upper bar.

Overwrite data

Be careful if you choose to overwrite the existing data. If you changed e.g. the properties of the widget "Button" and import a transport which contains the "old" button widget, your new changes will be overwritten. To avoid this, delete your existing application on the system and import your transport with the option "Don't overwrite"!

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## «	>			en	
Import	Transport				•
Impo	rtfile				
Hello	World_version_1.sl Browse				
Ontio					
Opuc	JIS				
	Dry Run				
۲	Dont overwrite				
	Overwrite				
Impo	rt				
ধ্য হ	tart Import				
Impo	rt Log				
	Imported (5 artifacts)				
Sear	ch				Q
	Name	Status	Feature		
£*	Button	Skipped	Widget		
86	AppHelloWorld	Skipped	Role		
	Label	Skipped	Widget		
±=	CenterLayout	Skipped	Widget		
۲	HelloWorld	Skipped	Application		

Partner-Sucess

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Antrag erfolgreich eingegangen

Wir werden Ihre Projekt-Registrierung prüfen und uns zeitnah bei Ihnen mit der Entscheidung zur Annahme oder Ablehnung melden.

 $\label{eq:link="url:https%3A%2F%2Facademy.simplifier.iowards} \end{tabular} Vielen Dank! [/vc_column_text] [vc_btn title="Zurück zum Partnerportal" link="url:https%3A%2F%2Facademy.simplifier.iowards] \\ \end{tabular} \end{tabular} \end{tabular} Vielen Dank! [/vc_column_text] [vc_btn title="Zurück zum Partnerportal" link="url:https%3A%2F%2Facademy.simplifier.iowards] \\ \end{tabular} \end{tab$

Partnerportal

[vc_row row_type="row" stretch_row_type="no"][vc_column][vc_tta_tabs active_section="1?][vc_tta_section title="Projekt Deal Registrierung" tab_id="1536144032872-b57e2075-c785?]

Bitte geben Sie in das Feld "Projekt" folgende Informationen ein:

- Endkunde
- Projekt Beschreibung
- Projekt Status (Sales)
- Erwarteter Projektabschluß

[/vc_tta_section][vc_tta_section title="Partner Programm Bibliothek" tab_id="1498550130453-d394ac3c-8424?][vc_empty_space height="20px"][vc_column_text]

Partnerprogramm Dokumente

[/vc_column_text][vc_btn title="Allgemeine Lizenz- und Nutzungsbedingungen DE (PDF)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwp -content%2Fuploads%2Fpartner%2F190214-Simplifier_Allgemeine%20Lizenz-und-Nutzungsbedingungen.pdf||target:%20_blank|"][vc_btn title="Partner Guide DE (PDF)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwpcontent%2Fuploads%2Fpartner%2F190314_Simplifier-Partner-Guide.pdf||target:%20_blank|"][vc_btn title="Vermittlungsprovision für Partner DE (PDF)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwp-content%2Fuploads%2Fpartner%2F190314-Si mplifier_Referral%20Fee_Vermittlungsprovision-f%C3%BCr-Partner.pdf||target:%20_blank|"][vc_btn title="Partner Deal-Registrierung DE (PDF)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2Fw2Facademy.simplifier.io%2Fpartner%2F190314-Si url:https%3A%2F%2Facademy.simplifier.io%2Fwp-content%2Fuploads%2Fpartner%2F190314-Simplifier_Partner-Deal-Registrierung.pdf||target:%20_blank|"][vc_btn title="Angebot – Get Ready Package DE (PDF)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwp-content%2Fuploads%2Fpartner%2F190313-Simplifier_Partner-Get-Ready-Package.pdf||target:%20_blank|"][vc_btn title="Geheimhaltungsvereinbarung NDA DE (PDF)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwp-content%2Fuploads%2Fpartner%2F190313-Simplifier_Partner-Get-Ready-Package.pdf||target:%20_blank|"][vc_btn title="Geheimhaltungsvereinbarung NDA DE (PDF)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwp-

content%2Fuploads%2Fpartner%2F190401-Simplifier_Geheimhaltungsvereinbarung_NDA.pdf||target:%20_blank|"][vc_btn title="Simplifier Partner Präsentation DE (PDF)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwp-content%2Fuploads%2Fpartner%2F190404-Simp lifier_Partner_Channel_Pr%C3%A4sentation.pdf||target:%20_blank|"][vc_column_text]

Hinweis:

Bitte beachten Sie, dass sowohl die Vertragsvorlage als auch die aktuelle Preisliste nur auf Anfrage bei unserem Partner Manager erhältlich ist. Bitte wenden Sie sich diesbezüglich direkt an <u>Tina Bosco</u>. Vielen Dank

[/vc_column_text][vc_column_text]

[/vc_column_text][/vc_tta_section][vc_tta_section title="Partner Sales Training" tab_id="1536565869197-b9b6179a-f078?][vc_column_text]

Simplifier Partner Sales Training

Um Simplifier Projekte bei ihren Kunden identifizieren zu können ist es unabdingbar, dass Ihre Vertriebs- und Pre-Sales-Kollegen sich in der Ansprache mit dem Simplifier sicher fühlen. Der Simplifier bietet aufgrund seiner Eigenschaften hervorragende Möglichkeiten mit Ihren Kunden über wettbewerbsfähige, spannende und vor allem agile Projekte in unterschiedlichen Themenbereichen in den Dialog zu gehen. Oft haben Kunden bereits IoT Plattformen, ERP Systeme uvm. im Einsatz. Genau hier liegt einer der vielen Mehrwerte des Simplifier und seinen Einsatzmöglichkeiten. Denn mit ihm sind Sie u. a. in der Lage Geschäftsprozesse in integrierten Business und IoT Applikationen abzubilden und interne und externe IT-Landschaften miteinander zu vernetzen. Anwendungen müssen nur einmal konfiguriert und nicht programmiert werden, um diese auf allen Endgeräten und Betriebssystemen zur Verfügung zu stellen. Gewinnen Sie an Effizienz durch eine schnellere, nachhaltigere und ökonomischere Anwendungserstellung.

Aus eigener Erfahrung wissen wir, wie wichtig es ist, gerade durch die Beratung, der Prozessoptimierung und vor allem innerhalb neuer Trendthemen, Kunden zu begeistern aber auch ein Stück weit mit viel Kompetenz und Fingerspitzengefühl den Bedarf zu evaluieren.

Im Rahmen Ihrer Partnerschaft und vor allem mit dem "Get Ready Package" für Partner bieten wir Ihrem Unternehmen unter anderem und kostenlos die Möglichkeit einer entsprechenden Simplifier Sales und Pre-Sales Ausbildung. Das Package enthält noch weitere attraktive Bausteine für Sie bereit!

Beide Trainings sind webbasiert und bieten daher die Möglichkeiten mit maximaler Flexibilität, selbstständig den passenden Zeitpunkt zur Absolvierung einzuplanen.

Die Trainings sind inhaltlich aufeinander abgestimmt, so dass nach erfolgreichem Abschluss, unterschiedliche Dialoge zum Simplifier mit dem Kunden geführt werden können. Pre-Sales in Anlehnung daran, dem Kunden dann den Simplifier im Rahmen von Demo oder Websessions zu präsentieren.

Ein modularer und abwechslungsreich gestalteter Inhalt mit Videos, Statements, Erfahrungsaustausch unserer Kollegen aus eigenen Projekten sowie Beispielen von Business oder Use Cases runden die Trainings ab. Aber das sind nur Beispiele, wo der Simplifier zum Einsatz kommt! Denn Projekte sind mit dem Simplifier bereits heute so gut wie bei jedem Ihrer Kunden identifizierbar! Darüber hinaus stellen wir sicher, dass das pragmatische Simplifier Lizenz- und Preismodell vermittelt wird, als auch die Themen Wartung & Support, Dienstleistung, Workshops, Hackathons uvm.

Bei erfolgreichem Abschluss stellen wir automatisiert ein personalisiertes Sales / Pre-Sales Zertifikat aus!

Beide Trainings sind somit Grundlage um schnell und eigenständig ertragreiches Simplifier Neugeschäft zu generieren und Ihren Dienstleistungsumsatz zu steigern!

Darüber hinaus erhalten Sie weitere Nachlässe auf ihren Basis-Nachlass, wenn Sie im Besitz von Sales und Pre-Sales Zertifikaten sind!

Module 1	Simplifier Partner Sales Training
Vorwort & Einleitung	
Unit 1	Vorwort & Einleitung
Module 2	Part I
Christopher Bouveret zeigt Ihnen einen Überblick des Simplifi	ers und Low-Code Marktanalyse.
Unit 1	Simplifier Überblick & Low-Code Marktanalyse
Unit 2	Quiz
Module 3	Part II
Dominik Meier spricht über die Lösungsplattform im Manufac	turing Bereich.
Unit 1	Einführungsvideo Manufacturing
Unit 2	Simplifier – Lösungsplattform Manufacturing
Unit 3	Quiz Manufacturing
Module 4	Part III
Tim Deckmann spricht über die Lösungsplattform für Stadtwei	·ke.
Unit 1	Einführungsvideo Utilities
Unit 2	Simplifier – Lösungsplattform für Stadtwerke
Unit 3	Quiz Utilities
Module 5	Part IV
Florian Rühl spricht über Lizenzierung, Pricing und Support.	
Unit 1	Simplifier – Lizenzierung Pricing Support
Unit 2	Quiz Lizenzierung Pricing Support
Unit 3	Summary Partner Sales Training

[/vc_column_text][vc_column_text][/vc_tta_section][vc_tta_section title="Partner Pre-Sales Training" tab_id="1538637051896-5fde74f6-5ba6?][vc_column_text]

Simplifier Partner Pre Sales Training

Um Simplifier Projekte bei ihren Kunden identifizieren zu können ist es unabdingbar, dass Ihre Vertriebs- und Pre-Sales-Kollegen sich in der Ansprache mit dem Simplifier sicher fühlen. Der Simplifier bietet aufgrund seiner Eigenschaften hervorragende Möglichkeiten mit Ihren Kunden über wettbewerbsfähige, spannende und vor allem agile Projekte in unterschiedlichen Themenbereichen in den Dialog zu gehen. Oft haben Kunden bereits IoT Plattformen, ERP Systeme uvm. im Einsatz. Genau hier liegt einer der vielen Mehrwerte des Simplifier und seinen Einsatzmöglichkeiten. Denn mit ihm sind Sie u. a. in der Lage Geschäftsprozesse in integrierten Business und IoT Applikationen abzubilden und interne und externe IT-Landschaften miteinander zu vernetzen. Anwendungen müssen nur einmal konfiguriert und nicht programmiert werden, um diese auf allen Endgeräten und Betriebssystemen zur Verfügung zu stellen. Gewinnen Sie an Effizienz durch eine schnellere, nachhaltigere und ökonomischere Anwendungserstellung.

Aus eigener Erfahrung wissen wir, wie wichtig es ist, gerade durch die Beratung, der Prozessoptimierung und vor allem innerhalb neuer Trendthemen, Kunden zu begeistern aber auch ein Stück weit mit viel Kompetenz und Fingerspitzengefühl den Bedarf zu evaluieren.

Im Rahmen Ihrer Partnerschaft und vor allem mit dem "Get Ready Package" für Partner bieten wir Ihrem Unternehmen unter

anderem und kostenlos die Möglichkeit einer entsprechenden Simplifier Sales und Pre-Sales Ausbildung. Das Package enthält noch weitere attraktive Bausteine für Sie bereit!

Beide Trainings sind webbasiert und bieten daher die Möglichkeiten mit maximaler Flexibilität, selbstständig den passenden Zeitpunkt zur Absolvierung einzuplanen.

Die Trainings sind inhaltlich aufeinander abgestimmt, so dass nach erfolgreichem Abschluss, unterschiedliche Dialoge zum Simplifier mit dem Kunden geführt werden können. Pre-Sales in Anlehnung daran, dem Kunden dann den Simplifier im Rahmen von Demo oder Websessions zu präsentieren.

Ein modularer und abwechslungsreich gestalteter Inhalt mit Videos, Statements, Erfahrungsaustausch unserer Kollegen aus eigenen Projekten sowie Beispielen von Business oder Use Cases runden die Trainings ab. Aber das sind nur Beispiele, wo der Simplifier zum Einsatz kommt! Denn Projekte sind mit dem Simplifier bereits heute so gut wie bei jedem Ihrer Kunden identifizierbar!

Darüber hinaus stellen wir sicher, dass das pragmatische Simplifier Lizenz- und Preismodell vermittelt wird, als auch die Themen Wartung & Support, Dienstleistung, Workshops, Hackathons uvm.

Bei erfolgreichem Abschluss stellen wir automatisiert ein personalisiertes Sales / Pre-Sales Zertifikat aus!

Beide Trainings sind somit Grundlage um schnell und eigenständig ertragreiches Simplifier Neugeschäft zu generieren und Ihren Dienstleistungsumsatz zu steigern!

Darüber hinaus erhalten Sie weitere Nachlässe auf ihren Basis-Nachlass, wenn Sie im Besitz von Sales und Pre-Sales Zertifikaten sind!

Module 1	Simplifier Partner Pre Sales Training
Vorwort & Einleitung	
Unit 1	Vorwort & Einleitung DE
Module 2	Part I
Christopher Bouveret zeigt Ihnen einen Überblick des Simplifi	ers und Low-Code Marktanalyse.
Unit 1	Simplifier – Überblick & Low-Code Marktanalyse DE
Module 3	Part II – Tutorials
Tutorials	
Unit 1	First Overview
Unit 2	Manage Settings
Unit 3	Create new user
Unit 4	Create new connector
Unit 5	Create connector call
Unit 6	Test a connector call
Unit 7	Create a new application
Unit 8	UI Designer overview
Unit 9	Create user story
Unit 10	Use data object
Unit 11	Mobile action
Unit 12	Create transport
Unit 13	Import transport
Module 4	Part III – Demo Applications
Demo Apps	
Unit 1	Template: SAP-RFC Purchase Order
Unit 2	Template: REST ToDo List
Unit 3	Template: SQL Shopping List
Unit 4	Example: Smart Maintenance Dashboard
Unit 5	Template: OPCUA

Unit 6	Template: SOAP-SAP Functional Location
Module 5	Part IV
quiz Unit 1	Quiz

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Simplifier Logos (Web)

[/vc_column_text][vc_btn title="Simplifier Logo transparent (PNG)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwpcontent%2Fuploads%2Fpartner%2FSimplifier-Logoschrift-web-300×1302.png||target:%20_blank|"][vc_btn title="Simplifier Logo weißer Hintergrund (JPG)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwp-content%2Fuploads%2Fpartner%2FSimplifier-Logoschriftweb-300×1302-white.jpg||target:%20_blank|"][vc_btn title="Simplifier Logo weißer Hintergrund (PNG)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier web-300×1302-white.jpg||target:%20_blank|"][vc_btn title="Simplifier Logo weißer Hintergrund (PNG)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fa-file-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier web-300×1302-white.png||target:%20_blank|"][vc_column_text]

Brand Guidelines

[/vc_column_text][vc_btn title="Brand Guidelines DE (PDF)" style="flat" color="sky" size="lg" i_icon_fontawesome="fa fafile-pdf-o" add_icon="true" link="url:https%3A%2F%2Facademy.simplifier.io%2Fwp-content%2Fuploads%2F2017%2F04 %2F170228-iTiZZiMO-Partner-Program-Brand-Guidelines-Final-DT.pdf||target:%20_blank|"][/vc_tta_section][/vc_tta_tabs][vc_raw_js]JTNDc2NyaXB0JTIwdHlwZSUzRCUyMnRleHQlMkZqYXZhc2NyaXB0JTIyJTNFJTBBZG9jdW1lbnQuYWRk RXZlbnRMaXN0ZW5lciUyOCUyMCUyN3dwY2Y3bWFpbHNlbnQlMjclMkMlMjBmdW5jdGlvbiUyOCUyMGV2ZW50JT IwJTI5JTIwJTdCJTBBJTIwJTIwJTIwJTIwbG9jYXRpb24lMjAlM0QlMjAlMjdodHRwcyUzQSUyRiUyRmFjYWRlbXkuc2lt cGxpZmllci5pbyUyRmRvY3VtZW50YXRpb24lMkZwYXJ0bmVycG9ydGFsJTJGcGFydG5lci1zdWNlc3MlMjclM0IIMEEI N0QlMkMlMjBmYWxzZSUyMCUyOSUzQiUwQSUzQyUyRnNjcmlwdCUzRSUwQSUwQQ==[/vc_raw_js][/vc_column][/ vc_row]

PDF Plugin

The PDF Plugin can be used to generate files with a fixed layout but dynamic values.

It is structured in such a way that you can create a new template for the PDF plugin on the left. Use the plus icon on the left. In the middle you see the content, which you can create according to your needs in HTML, CSS and JSON. On the right you will see a preview of your template.



The sub-articles describe how to use it.

Permissions

The ownership concept provides that a user only can use artifacts, that were created by himself.

3				
Lisers Roles Groups OR Generator Permissi	ons			
mission Settings for Artifacts				
-				
Permission Settings for User Created Artifacts				
Permission Settings for User Created Artifacts Name	view	edit	delete	execute
Permission Settings for User Created Artifacts Name Applications	view	edit	delete	execute
Permission Settings for User Created Artifacts Name Applications Connectors	view	edit V	delete V	execute
Permission Settings for User Created Artifacts Name Applications Connectors Login Methods	view	edit V V	delete ✓ ✓ ✓	execute
Permission Settings for User Created Artifacts Name Applications Connectors Login Methods Business Objects	View	edit V V V	delete V V V	execute
Permission Settings for User Created Antifacts Name Applications Connectors Login Methods Business Objects Citent Business Objects	View View V V V V	edit V V V V V	delete v v v v v v v v v	execute

You have the possibility to share your own artifacts with other users. The permissions a user receives for a shared artifact has to be set by the admin.

Plugin development

Open developer plugin-Doc in new tab

?

Plugins

Plugins extend the Simplifier core features in all manners. They are standalone programs that can contain

- Proprietary interfaces that are not supported by connectors
- Embedded system calls for hardware programming
- Business logic like our business objects
- User interfaces that are different to our business apps

In short: Every time you are not able to configure logic, interfaces or ui elements within the Simplifier, you can do it with your own plugin.

Plugins are coded JAR Files that can be developed in the classic way like Eclipse, Netbeans or another Java IDE. The Plugins can be ran standalone and remotely and communicate with the Simplifier via akka message bus system over tcp. Every Plugin has its own port number and, if necessary, also its own ip addresses.

Plugins can be coded in any programming language, it's only necessary that an HTTP interface will be provided.


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Plugins via Script

this.callPlugin(pluginName, slot, payload, callback, showBusyIndicator, failonError, failCallback)

pluginName	the name of the plugin
slot	slot (function, interface) within the plugin
payload	a JSON object with the required parameters for the plugin
callback	function, which is called after the successful execution of
	the plugin
showBusyIndicator	boolean value that indicates whether the screen has to be
	blocked by a loading bar (true) or not (false)
failonError	boolean value that indicates whether the plugin should be
	called in case of an error of the function passed via
	"failCallback" (false) or not (true)
failCallback	function, which is called in case of an error in the plugin, is
	false for "failOnError" is passed

Prerequisites

For Simplifier Configuration & App Development within Simplifier Admin Interface we recommend using **Google Chrome Browser.**

click here to download

- for Mobile Preview, Console, Debugging and DOM Inspection use Google Developer Tools
- to inspect and debug your UI5 Application install and use the <u>UI5 Inspector Chrome Extension</u>
- For testing Applications on mobile devices download **Simplifier Mobile Client** available for <u>iOS</u> and <u>Android</u>
- Apps created with Simplifier are based on OpenUI5. As OpenUI5 is based on CSS3, HTML5, and the ECMAScript 5 (ES5) JavaScript API,

only browsers with HTML5 capabilities are supported, please find a detailed Overview of supported Browsers and Platforms

in the **OpenUI5** Documentation

• as Simplifier is a Low Code Platform there is at least basic web technology knowledge needed to build complex applications,

we recommend the following online courses regarding webtechnology skills:

Code cade <u>my:</u> Learn <u>HTM</u> L Code cade <u>my:</u> Learn <u>CSS</u> Code cade my: I ntrod uction to Jav ascrip <u>t</u> Open <u>UI5 /</u> SAP UI5 Walkt hroug h Tut <u>orial</u> Introd uction <u>to</u> <u>SAP</u> **Open** UI5 Apps

Process Dashboard and Designer



Process Dashboard | Process Designer

The Process Designer allows defining process flows as the result of an event in an intuitive, graphical way. The Process Designer tab is located next to the UI Designer. By that, it follows the classic workflow of creating an application: First you design the screen of your application, followed by the definition of the workflow between these elements in the Process Designer.

Process Dashboard

By clicking on the Process Designer tab, you get to the Process Dashboard.

The Process Dashboard is divided into different user stories, which you can save individually, so it's possible to work on it simultaneously with several people. After deploying the entire application in the UI Designer or Process Designer, all user stories are merged into one. If you save a user story in the Process Designer, the changes won't be displayed in the preview as long as it is not deployed.

You can add a new story by dragging "Story" on the left into the middle. A pop-up appears to set a name, an external link and the link text for it and a story description. You can open multiple user stories at the same time. To switch between the user stories, simply switch between the tabs.

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I Desper I Desper I Desper		Application Details		
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Stories Story Image: Story Image: Story <td>Q. Process Dashboard</td> <td>Q Process Dashboard</td> <td></td> <td>Settings</td>	Q. Process Dashboard	Q Process Dashboard		Settings
Story Image: Story Image: Story Image: Story		Add a new story		III Story Overview
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To edit or delete an existing user story, click on the equivalent icons. The stories are ordered alphabetically (or by number if you use them). It's possible to sort the user stories in ascending or descending order. You can do this on the right with the appropriate icons.

By double-clicking on the whole tile or clicking on the edit icon, you will be forwarded to the Process Designer, where you can work on your user story.

If another user is editing the user story, it is displayed by a small avatar image of the user in the user story tile. By mouse over such an avatar image, a tooltip with the user's login name is displayed.

Similarly, a small button in the upper left corner in the **Process Designer** itself displays users who are editing the same user story. The color of the button turns to red when another user starts editing the same user story. To view all editors, click on the button to open a pop-up.

It displays the avatar screen and the user's login name. The colors depend on the user's login name, so each user is given an individual color. The list of editors will always be up to date so you will get an instant response when someone starts editing the same user story.



Deep Search

You have the possibility to search within the Process Dashboard for occurrences of elements.

Therefore, switch between the live search for story names (frontend search) and the search for widgets, activities and data objects (backend search) in the Process Dashboard. While the search for story names continues to apply a live filter to the list of tiles, the search for widgets, activities and data objects need to be explicitly confirmed by pressing the search button or press enter.

Note: Auto fields cannot be found by name, but only by the expression they represent.



As a result, all activities that match the search term are highlighted in green within **Process Designer**.

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Process Designer

The main view of the Process Designer is split into three main sections:

- 1. The selection of the building blocks on the left, namely Event, Logic, Action and Data Object. The activities are subdivided again. You can see this in the subitems of this page.
- 2. The drawing area in the center.
- 3. On the right side you can either see your user story, edit it and save it. Or you have also the possibility to configure your shapes on the right side.

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Process Documentation

For a better understanding of the application creation, use the Process Documentation. You can open it in the Process Dashboard as well as in the Process Designer itself. It opens a dialog, that displays a textual documentation of the application process in Markdown format.

Description A Description Description	Preview Process documentation
Present recorder 2 In classification In classification	- Cim
Image:	Process excentration X
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<pre># 128 T 149 T 15 Calling (1997) # 128 T 150 T 15</pre>	 In the interpretation of the interpretation of the second s
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	R - HI to lation
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Dynamic Process Settings

The toolbar within the Process Designer gives you control of the appearance of your process.



Numb	Function	Description
er		
1	Grid resolution	This slider changes the size of the grid in combination with the "snap to grid" function (2), you have
		full control to properly align your process.
2	Snap to grid	When deactivating (click on the icon), you can freely move all activities.
3	Zoom	You can zoom out (left icon), zoom in (right icon) and reset the zoom with the icon in the middle.
4	Connection	
	settings	

Push Notification Connector

With the Push Notification Connector, you are able to send a notification to all logged in users who have the selected role or are in the selected group on the Simplifier instance.

Select via the value helper the roles and/or the groups to which you want to send a message in the connector configuration mask. Unfortunately, a multi-select is not yet possible and you have to select several roles in succession.

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	Add	Connector				
Connector						
	General			Push Specific Data		
*Name:	Message		Add role:	Add role		ß
Connector Type:	Push V		Selected roles:	iTZ_AdminUI		Ŵ
Description				AppOrderList		Ŵ
Active						
*Timeout (in seconds):	60		Add group:	Add group		6
Tags	Add Tag		Selected groups:	No groups selected		
	Login Method -	-				
Name	None V					
Description						
Method Type						
					🗑 Save	× Cancel

To create the connector calls for this connector, take a look at <u>Push Notification Connector Calls</u>.

How to use a Push Connector in a REST-Client (e.g. the Advanced Rest-Client)

Step 1: You need a Token

```
Request Type: POST
Content Type: application/json
Payload:
{"user":"<username>", "pass": "<password>"}
```

```
Returns:
{
    "result": "someprettylongtoken",
    "success": true
}
```

> https://simplifier-dev.itizzimo.com/genToken/							
O GET POST O PUT O DELETE	O PATCH Other methods	✓ Custom content type					
Raw headers	Headers form	Headers sets	Variables				
<pre>accept: application/json</pre>							
♣ Content-Type header is not defined			24 bytes				
Raw payload		Data form	Files				
{"user":"paul", "pass": "paulpaul"}							
			SEND				

Step 2: Make a Connector request with this Token

• Example 1: Send a message as push notification

```
XHR Type: POST
Content Type: application/json
Header: SimplifierToken
Payload:
{
 "connectorName" : "<connector_name>",
 "json": {
 "msg" : "<some_string>"
 }
}
  > https://simplifier-dev.itizzimo.com/client/1.0/connectorRequest
                                                  Other methods
                                                                             application/json
          POST
                   O PUT O DELETE O PATCH
                                                                        -
 O GET
             Raw headers
                                               Headers form
                                                                                  Headers sets
   content-type: application/json
   SimplifierToken: e1795c4f7c448ab00e64c768c4cbe0e65ffed9ed520f355a2973d6fba5f45c29
   Ą,
                    Raw payload
                                                                    Data form
   {
       "connectorName" : "Push",
       "json": {
           "msg" : "test"
       }
   }
```

Sample:

```
{
    "connectorName" : "Push",
    "json": {
    "msg" : "test"
    }
}
```

• Example 2: Send an order as push notification

```
XHR Type: POST
Content Type: application/json
Header: SimplifierToken
Payload:
{
    "connectorName" : "<connector_name>",
    "json": {
    "msg": "{"order_id":"<NotificationMessage> <header> <message_id>1234567890</message
_id><created>date_time</created> <request> <site>9999</site> // Asset Nr.<resource>St
ation_1</resource> // Ressource/ Workplace<order>variant_123</order> // Order-/ SFC N
r.<variant>variant_123</variant> // Variant Nr.<assy>assembly_123</assy> // Assembly
Group Nr. <time>180</time> // Time allowance </request> </header> </NotificationMessa
ge>"}"
}
```

Take a look at Push Notification Connector Calls.

Push Notification Connector Calls

The Push Notifiaction Connector Call requires only one input parameter to be defined:

Parameter Name

msg

Data Type String

Example:

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				Create Connectorcall					
Connecto	Call								
									?
Search	Connectorcall name	Push							
Name	Description	Demo Push Conr	nector Call						
									- 1
	Input Parameters Output Parameters								
	Validate:								+
ľ	Validate:	Optional	Alias	Description	Constant Value	Data Type		Actions	+
ľ	Validate: Parameter Name	Optional	Alias Message	Description	Constant Value	Data Type String	Ð	Actions	+
	Validate: Parameter Name msg	Optional	Alias Message	Description	Constant Value	Data Type String	Ð	Actions	+
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ľ	Validate: Parameter Name msg	Optional	Allas Message	Description	Constant Value	Data Type String	ð	Actions 前	+
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l	Validate: Parameter Name msg	Optional	Allas Message	Description	Constant Value	Data Type String	8	Actions 101	+
	Validate: Parameter Name msg	Optional	Allas Message	Description	Constant Value	Data Type String	ð	Actions	+
	Validate: Parameter Name msg	Optional	Allas Message	Description	Constant Value	Data Type String	ð	Actions	•

You can subscribe to a push notification connector. For this, create a new connector call in which you only have to define one output parameter. Input parameters are not necessary for this.

Parameter Name

Data Type String

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Create Connectorcall							
Scall							
Connectorcall name:	Subscribe_Push						
Description:	Demo: subscribe	push notification connector					
put Farameters Output Farameters							
lidate:	Optional	Alias	Description	Constant Value	Data Type	Actions	
lidate: Parameter Name msg	Optional	Alias Message	Description	Constant Value	Data Type	Actions	
lidate: Parameter Name msg	Optional	Alias Message	Description	Constant Value	Data Type	Actions	
Idate: Parameter Name msg	Optional	Alias Message	Description	Constant Value	Data Type String 습기	Actions	
lidate i i i i i i i i i i i i i i i i i i i	Optional	Allas Message	Description	Constant Value	Data Type String d ⁵	Actions	
Ildate Couport annihilation	Optional	Allas Message	Description	Constant Value	Data Type String d ⁵¹	Actions	
Ildate Cupor annices Parameter Name msg	Optional	Alias Message	Description	Constant Value	Data Type String d ²	Actions	
Ildate Cupor annices	Optional	Alias Message	Description	Constant Value	Data Type String d ²	Actions	
Ildate Couport annihilitation	Optional	Alias Message	Description	Constant Value	Data Type String d ⁰	Actions	

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QR Login-Generator

The QR Login-Generator lets you generate your individual QR code for login purposes especially for wearable devices without a keyboard. You don't need to type in your credentials anymore, just scan the QR code and you are logged in on your instance. Especially when using smart glasses, this feature is comfortable as it takes just a quick scan to enter Server URL, username and password without typing.

To generate such a QR code, go to the tile **Users** on the Simplifier dashboard and switch then to the tab **QR Generator** in the user overview.



You have to enter the required user with password and the Server URL. By default, this is already filled in. Generate the login code and now you can log in to other devices easily and quickly by scanning the QR code.



READ Call - OPC/UA Connector

Call for READ operations (the name TIA_READ is the arbitrarily chosen name for this call)

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			Create Connectorcall				
Call							
							?
Connectorcall name:	TIA_READ						
Description:	Reads one Nod	le					
Insuit Deservation							
Unput Parameters Output Parameters							
Validate:							+
Parameter Name	Optional	Alias	Description	Constant Value	Data Type		Actions
operations/arrayItem[0]/nodeId/identifier		nodeldentifier			String	ð	Ū
operations/arrayItem[0]/operationType				READ	String	ð	Ī
operations/arrayItem[0]/nodeld/namespaceIndex		nodeNameSpaceIndex			String	Ð	Ŵ
					-		-

Input Parameter

For the READ Connector Call, you need to configure the "**operationType**" and the "**nodeId**" (consisting of 2 parameters: **identifier** and **namespaceIndex**). Furthermore, you can define the **Identifier Type** (optional) and the **order** of the operations in the code (optional).

operationType: Defines which operation you want to execute, in this case, "READ". Parameter Name: operations[0]/operationType Constant Value: READ Data Type: String

nodeID: Defines the identification of the OPC/UA node. It is split in 2 Parameter:

• Identifier:

Parameter Name: operations[0]/nodeId/identifier Data Type: String or Numeric

• NamespaceIndex: Parameter Name: operations[0]/nodeId/namespaceIndex

Data Type: String In every namespace, each ID must be unique (it is possible to use the String "7617" and the Numeric 7167 together in one namespace)

• identifierType (optional): Searches for the Identifier with a fixes Data Type. Parameter Name: operations[0]/identifierType Constant Value: Numeric, UUID, String, Byte String

order (optional): Order in which the actions should be performed.

This parameter changes the execution order of the specified READ commands e.g. if we have three READ commands. Command 1 reads from node x, command 2 reads from node y and command 3 from node z, the normal execution order would be: x, y, z.

By specifying the read order with numbers starting from 0 to the last command number subtracted by one (e.g. for three commands it would be 2), the execution will be changed according to the defined number.

For example, by adding "order": [2,1,0] to your code, you switched the operations, so the read commands would be executed the following way. z, x, y.

NOTE: The specific commands are NOT defined here!

Output parameters

You can return all Output Parameter like this:

Parameter Name: / Data Type: String

If you want to get only selected Output Parameter, use the following syntax:

Parameter Name: operationsResult/[0]/dataType/name (exemplary) Data Type: depends on the Parameter you want to be returned.

For now, only the complete unformatted JSON will be returned.

Receive message via Process Dashboard

To receive messages via the Process Dashboard, you need to perform the following steps:

- 1. Drag the <u>Asynchronous Data Object</u> into the drawing area.
- 2. Select the appropriate connector and the connector call for receiving the message.
- 3. You can continue with or without script.

Continue with script:

var lv_msg = data.data.msg;

data.data.msg must eventually be adapted to the output parameter specified in the connector call. lv_msg is the received message (type String, can be e.g. a JSON string, then parse to get object:

```
JSON.parse(data.data.msg)
```

It returns the object:

```
{propertyOne: 'abc', propertyTwo: 5}
```

Continue without script:

Use the output mapping to map received messages, e. g. to a widget or to save it in a variable.

Release your Application



Besides the creation of individual <u>transports</u>, there is a second approach to export your data to another system. By releasing your app after you finished your project or along the way for testing purpose.

Every time you create a new application, a transport file will be generated automatically with your app's name. It is advisable to update this Transport during your working process (add every feature you use).

For releasing the app, your Transport has to be approved by an Admin in advance. If the approval was given, click on the "Release" button in the UI Designer to export your app. Next, you can add a release note.

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If your release was successful, you can see the current version of your app in the Application Overview. Click on the "Show Releases" Icon for an overview of the metadata and a direct download option.

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Release Notes:

Release	documentation
Release Number:	1
Release Note:	Test
Creation Date:	2017-03-28T15:21:46.506+02:00
Release Publisher Name:	Test
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Release Contents

Applications

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Add Metadata to the Release

With this action button in the release overview, you will be redirected to the metadata dialog.

Here you can insert additional information like requirements, compatible devices or add screenshots of the application.

The metadata will be displayed in the Marketplace if you upload the app. You can maintain the metadata in German or English.

	: s						en	8	Test 🗸
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Release Metadata

Data

Description

El S	1 Release Metadata	Refease Defails	en 🔒 182 ~	Name	Name of the app (is set by Simplifier)
	Name: Version: Release Date:	Released3 1 2017-09-01		Version	Version of the release (is set by Simplifier)
	Languages: Mahufaturer: Compatible Sergitiker Versions: Compatible Devices:	41,55 FE2MO 1 5 C PHSD () Tellet () Phone () VADA () Smartpass		Release Date	Date of the release (is set by Simplifier)
				Languages	Languages defined in the app (is set by Simplifier)
				Manufacturer	The Manufacturer

Compatible SimplifierVersion of Simplifier on whichVersionsthe app is runningCompatible DevicesCompatibility to
desktop/mobile/wearables

Internationalized Marketplace Descriptions

Internationalized Marketplace Descriptions		Data	Description
Engañ Germa Markejden Tite: Coverage Requirements:	Research Coverage Broakeneeth	Marketplace Title Coverage	The title of the app that is displayed in the Marketplace Scope of the app
Description:	(b)(d)(0)(b)	Requirements Description	System requirements (like OPC/UA system) Description of the app
lcon:	Course File to Lond	Icon	Application icon that is displayed in the Marketplace
Somenisholds:		Screenshots	Screenshots of the app (is displayed at the bottom)
		Demo-Link	Oütional demo link to the app
Deno Link:	Choose File to Upsad Thomas 🗑	Media-Link	Optional media link (e.g. an
Media Link:	rredaEN		embedded YouTube link)

Additional Settings

Lineine Violenty:	Additional Settings	
Templata:	Limited Visibility:	
	Template:	

Data

Limited visibility

Description

Triggers if the app is visible in the Marketplace or only available by a secret link

Template

Request Types (Asynchronous Connectors)

This section contains a description of all possible websocket requests for an asynchronous connector (For now only the subscription and unsubscription are documented).

Subscription Request

This request subscribes the websocket to an asynchronous connector and will receive messages from it.

```
var request = null;
request = {
  "frameType": "subscribe",
  "subscriptionKey":[requestUUID],
  "json": [requestData]
};
```

Unsubscription Request

This request unsubscribes the websocket from an asynchronous connector and will not receive messages from it any more. Whether the connector stops working or not depends on the connector implementation.

var request = null; request = { "frameType": "unsubscribe", "subscriptionKey": [requestUUID] };

[requestUUID]

A unique String, which acts as the identification key. An example key might be **"bb827118-f1b0-2170-9937-f8c7e1620107"**.

[requestData]

A Json object, which will be send to the respective connector. Examples can be found here and here.

Requirements for Remote Service applications

(On-Premise Installation)

Remote Service applications demand some additional requirements, especially on the network side. To successfully establish a connection between two clients, e.g. the Remote Service Portal, running in the browser on a Desktop machine and the Remote Service Client running on a Smart Glass, they must either reside in the same network, or a STUN-/TURN-server must be used.

The minimum requirements for using a remote service application are:

- Simplifier server and clients must either be in the same physical network segment or be connected via a virtual private network (VPN). If this requirement can't be fulfilled, a STUN-/TURN server can be used as an intermediate communication partner.
- If you want to use a STUN-/TURN server, the following TCP and UDP ports must be open: 3478, 3479, 5349, 5350.
- Fixed domain for the server and valid certificates for this domain. Remote Service requires these certificates because it runs exclusively over HTTPS for security reasons.
- If you plan to use remote service over a cellular network, be sure that your provider allows these services in your contract. In case of Deutsche Telekom, this means that option "Voice over IP" must be enabled.
REST Connector

Connector endpoint

The URL defines the REST endpoint.

3. Connector Type Data

Specific Data

Service URL: https://cloud.simplifier.io/client/1.0/

Ignore invalid SSL-Certificates:

Take a look at <u>REST Connector Calls</u> to define the connector calls for the connector.

REST Connector Calls

This section describes the necessary parameters and data types for REST connector calls.

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			Create Connectorcall					
Call								
								?
C	connectorcall name: test							
	Description: test							
Input Parameters Output Parameters								
Validate:								Н
Validate:	Optional	Allas	Description	Constant Value	Data Type		Actions	-
Validate:	Optional	Alias	Description	Constant Value	Data Type String	đ	Actions	-
Validate: Parameter Name postFormat postBody/a	Optional	Alias	Description	Constant Value	Data Type String String	6 B	Actions 1111	
Validate: Parameter Name postFormat postBody/a postBody/b	Optional	Allas a b	Description	Constant Value	Data Type String String String	6 6 6	Actions 12 12 13 14 14 14 14 14 14 14 14 14 14 14 14 14	-
Validate: Parameter Name postFormat postBody/a postBody/b headParams/myHeader	Optional	Allas a b head	Description	Constant Value	Data Type String String String String	67 67 67 67	Actions 10 10 10 10	-
Validate: Parameter Name postFormat postBody/a postBody/b headParams/myHeader pathParams/segment[1]	Optional	Allas a b head segment	Description	Constant Value	Data Type String String String String String String	ප ප ප ප ප	Actions	
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Validate: Parameter Name postFormat postBody/b headParams/myHeader pathParams/segment[1] queryParams/query verb	Optional	Allas a b head segment query	Description	Constant Value Consta	Data Type String	ප ප ප ප ප ප ප ප ප ප ප ප ප ප ප ප ප ප ප	Actions 10 10 10 10 10 10 10 10 10 10 10 10 10	
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- *optional postFormat: format and Content-Type of postBody to be sent to REST Endpoint. Possible values are :
 JSON: Json fomat
 - PLAIN: Plain text format
 - FORM: URLencoded from
 - XML: xml format
- *verb*: REST Verb with possible values :
 - GET
 - POST (postFormat is mandatory)
 - DELETE
 - PUT (postFormat is mandatory)
 - PATCH (postFormat is mandatory)
 - OPTION
 - HEAD
- pathParams (optional): a sequence defining ordered list of path segments added to Rest endpoint.
- Exp.: {("pathParams[1]": "add", "pathParams[2]": "to", "pathParams[3]": "path")} will add the path segments "add/to/path" to the endpoint.
- *postBody (optional)*: a JSON defining the post body. If postBody PLAIN is selected, a string JSON representation of the key/value list will be send to the REST Endpoint
- *headParams (optional)*: key/value object defining additional headers of the REST Request. Any head parameters concerning possible authentication will be add, regardless of any earlier definition by headerParams feature.
- queryParams (optional): key/value object defining query path parameter added to the REST endpoint

Connector execute result

When the connector is executed, it will only return a JSON as a result, if the content-type of the http result is "application/json". In all other cases, the connector will return a JSON object with the following keys:

- *RESTBinaryResult* with the BASE64 encoded result body
- *RESTTextResult* (returns only if it can be displayed as text)
- Content-Type mime type of result body

Reverse Proxy Requirements

The Simplifier Server needs a typcial Reverse Proxy as standard setup.

The Reverse Proxy should provide the following services for a secure setup

- SSL Offloading
- Virus / Malware Scanning
- Web Application Firewall

Forwarded Ports:

- 443 (HTTPS)
- 8090 (Websocket)

Port 443

- HTTPS (valid certificate)
- modern, secure TLS configuration (incl. HTTP Strict Transport Security)
- HTTP2 if possible
- Header:
 - "Upgrade": Pass from client (for WebSockets)
 - "X-Real-IP": IP address of the client
 - "X-Forwarded-Forwarded-For": Remote address of the client, or X-Forwarded-For Header of the parent proxy server.
 - "X-Forwarded-Proto": Original protocol of the request ("http" or "https")
 - CORS Headers (see below)
 - (Temporary) Redirect from "/" to either AdminUI ("/UserInterface/") or App of choice ("/appDirect/\$appName")
 - Proxy connection/read/send Timeout to high value, e. g. 10 min
 - Maximum body size (post, put) to appropriate value, e. g. 20 MB (doesn't have to be too big, because packets > 20 MB are transferred as single chunks)
 - Proxy forwarding to Simplifier AppServer port 8080 (if on another server, must be reachable via firewall)

Proxy must be able to pass through WebSocket connections!

Port 8090

- HTTPS (valid certificate)
- modern, secure TLS configuration (see above)
- http2 if possible
- proxy connection/read/send Timeout to high value, e. g. 10 min
- proxy forwarding to Simplifier AppServer port 8090 (if on another server, must be reachable via firewall)

Proxy must be able to pass through WebSocket connections!

CORS headers

Cross-Origin Resource Sharing (CORS) is a mechanism that uses additional HTTP headers to allow a user agent to access selected resources from a server located on a different origin (domain) than the currently used Web site. A user agent makes a cross-origin HTTP request when requesting a resource from another domain, protocol, or port than the one from which the current document originates.

The CORS mechanism supports secure cross-domain queries and data transfers between browsers and web servers. Modern browsers use CORS in an API container such as XMLHttpRequest or Fetch to minimize the risks of cross-origin HTTP requests.

For request methods' POST',' GET',' PUT',' DELETE':

Header name

Access-Control-Allow-Origin Access-Control-Allow-Credentials Access-Control-Allow-Methods Access-Control-Allow-Headers

Additionally for request method 'OPTIONS':

Header name Access-Control-Max-Age Response name Empty Content

Header value

true GET, POST, PUT, DELETE, OPTIONS DNT,X-CustomHeader,Keep-Alive,User-Agent,X-Requested -With,If-Modified-Since,Cache-Control,Content-Type,Authorization,SimplifierToken

Header value 1728000 Response code 204, No proxy call required

The following paths should be configured for routing it back to the Simplifier

Location / Path "^/genToken/\$" "^/assets/(.*)\$" "^/client/(.*)\$"

"^/library-managed/(.*)\$"

"^/library-static/(.*)\$"

"^/appDirect/(.*)\$"
"^/UserInterface/(.*)\$"

"^/authentication/(.*)\$"
"^/passwordExpired/(.*)\$"
"^/marketplace/(.*)\$"
"^/develop/(.*)\$"

Description

The Simplifier Authentification Service based on Tokens The static assets like images , pdf files etc for an Application The Client REST API to access business objects, connector or plugins Third Party Javascript Libraries that need for the HTML5 Applications Third Party Javascript Libraries that need for the HTML5 Applications Hosting Path for the created HTML5 Applications Admin Backend Interface Application (should only accessible in a secure environment, internal network) External Authentication Provider for e.g. oAuth Password Reset Page for Admin Interface Simplifier Marketplace Plugin Interface

RFC Connector Call - EXECUTE

To use the RFC Connector Call with the operation EXECUTE, you have to configure the following input parameter in the Simplifier:

- [FUNCTION_MODULE_NAME]/[PARAMETER_TYPE]/[PARAMETER_NAME]
- [X]/[FUNCTION_MODULE_NAME]/[PARAMETER_TYPE]/[PARAMETER_NAME] (if you want to execute batch calls)

The second one is optional.

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		Ed	it Connectorcall "DATE_AND_TIME"				
Call							
Connectorcall name:	DATE_AND_TIME						
Description:	Shows the compatible	Date and Time					
Parameter Name	Optional	Alias	Description	Constant Value	Data Type		Actions
Parameter Name Z_C002_CHANGEING_W_DATE/CHANGING/CS_DATE	Optional	Alias Date	Description YYYYMMDD or YYYY-MM-D	Constant Value	Data Type String	Ð	Actions
varameter Name Z_C002_CHANGEING_W_DATE/CHANGING/CS_DATE Z_C002_CHANGEING_W_DATE/CHANGING/CS_TIME	Optional	Alias Date Time	Description YYYYMMDD or YYYY-MM-D TTMMSS or TT:MM:SS	Constant Value 19991212 232323	Data Type String String	c C	Actions
Varameter Name Z_C002_CHANGEING_W_DATE/CHANGING/CS_DATE Z_C002_CHANGEING_W_DATE/CHANGING/CS_TIME	Optional	Alias Date Time	Description YYYYMMDD or YYYY-MM-D TTMMSS or TT:MM:SS	Constant Value 19991212 232323	Data Type String String	ප ප	Actions 亩 亩
Parameter Name Z_C002_CHANGEING_W_DATE/CHANGING/CS_DATE Z_C002_CHANGEING_W_DATE/CHANGING/CS_TIME	Optional	Alias Date Time	Description YYYYMMDD or YYYY-MM-D TTMMSS or TT:MM:SS	Constant Value 19991212 232323	Data Type String String	ප ප	Actions
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🖫 Save & Test 🖙 Save 🗙 Cancel

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operation

In this case: EXECUTE

operationTarget

Defines which parameters you pass - you can transfer imports, changings and tables and then fire the function.

- configuration/operation/operationTarget
- [X]/configuration/operation/operationTarget

The value is a list of one or more values, but only one of these values exists once:

- CHANGING
- IMPORT
- TABLE

returnInformation

Defines the return parameter.

• [X]/configuration/operation/returnInformation

The value is a list of the following values, but only one of them can be used at the same time.

- INPUT
- OUTPUT

additionalReturnSetInformation

Returns additional changing parameter to see if the tables have changed somehow when executing the function block (point of time is depending on the returnSet).

• [X]/configuration/operation/additionalReturnInformation

The value is a list of the following values, but only one of them can be used at the same time.

- IMPORT
- TABLE
- EXCEPTION
- EXPORT
- CHANGING

If you've set INPUT as returnInformation, the changing parameter before the function has been executed will be displayed.

If you've set OUTPUT as returnInformation, the changing parameter after the function has been executed will be displayed.

RFC Connector Call - GET

To use the RFC Connector Call with the operation GET, you have to configure the following input parameter in the Simplifier:

- [X]/Z_C002_CHANGEING_W_DATE (with any constant value)
- Z_C002_CHANGEING_W_DATE (with any constant value)
- [X]/configuration/operation/operationType GET
- configuration/operation/operationType GET

operation

In this case: GET

operationTarget

Defines the exact information you want to return from the function block. Choose between:

• [X]/configuration/operation/operationTarget (list that is passed)

With the following values (but the value may only appear once in the list, e.g. [import, template];[export])

- IMPORT (returns all parameter, that are passed to the function)
- EXPORT (returns all export parameter)
- CHANGING (returns the changing parameter that is used by the function)
- TABLE (returns table structures, that are stored in the function)
- EXCEPTION (returns exceptions, that are defined within the function)
- TEMPLATE (returns all)

returnInformation

Lists the complete structure (with SAP metadata) of the function block. Choose between:

• [X]/configuration/operation/returnInformation

• configuration/operation/returnInformation

Enter the value as a list. [STRUCTURE, METADATA]

Structure is the default.

Role Overview



The section Role Overview defines permissions for your users. Here you can configure roles that you can then apply to your users in order to permit or restrict certain actions, like administering applications and users or allow the use of special applications and restrict the use of others. Usually, there is one administrator-role that is allowed to use all features and functions of the Simplifier.

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demo				\otimes ପ୍	
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Max	Mustermann	demo	mm@test.de	R /	Ŵ
Demo	Nutzer	demonstration	demo@lieren.de	2	Ŵ
Demo	User	DemoUser	db@itizzimo.com	E /	Ŵ
MAN_DEMO	MAN_DEMO	MAN_DEMO	man@man.com	E /	Ŵ
Sales	Demo	Sales	sales@demo.com	E. /	Ŵ

To create a new role, click on the plus icon to enter the create dialog. To add permission, use the selection helper on the right and choose the needed permission category. To enable or disable a single permission, click on the checkbox in the corresponding column. Finally, assign the role to existing users. Hit the save button to finish the role creation or the update.

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Roles Overview

🖫 Save 🗙 Cancel

*Role Name: MyFirstRole Description: Role for testing purpose In Use:

Permissions ß Add Permission Assigned Permissions Permission Name Characteristic Value Test All Apps Execute Ŵ **~** Users Create **~** Ŵ Users Read all Users ✓ Ŵ Users Read Self **v** Ŵ Users Edit all Users **~** 1 Users Edit Self **~** Ŵ

Within the right tab you can add a user to the role. Use the selector for this.



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Run Simplifier Docker locally

Short Instructions

Create the directory which will host all external user-specific data

For Linux and Mac

```
$ mkdir -p /home/simplifier/data
$ export SIMPLIFIER_DIR="/home/simplifier/data"
```

For Windows, please replace "SIMPLIFIER_DIR" with an absolute path. Example: "C:\Docker\Simplifer\Data"

Install SSL certificates:

```
$ mkdir -p SIMPLIFIER_DIR/certs
$ cp <certificate.pem> SIMPLIFIER_DIR/certs/default.crt
$ cp <keyfile.pem> SIMPLIFIER_DIR/certs/default.key
```

Run docker:

Alternative 1: with SSL/Certificates

```
$ docker run -d -v $SIMPLIFIER_DIR:/opt/simplifier/data \
-p 80:80 -p 443:443 -p 8090:8090 \
--name=simplifier simplifierag/onpremise:latest
```

Alternative 2: without SSL/Certificates

```
$ docker run -d -v $SIMPLIFIER_DIR:/opt/simplifier/data \
-p 80:8080 -p 8090:8091 \
--name=simplifier simplifierag/onpremise:latest
```

Access Simplifier on localhost:

Now you can open the Simplifier in your browser. http(s)://localhost/UserInterface

To avoid certificate errors, you can create a local host entry for your domain stored in the certificate for the HTTPS connection.

e.g. https://simplifier.<yourcompany>/UserInterface

SAP RFC Connector

Mandatory Information | Optional Information | Connection Pool | Host Information | Use External System (optional) | Settings | SAP Router (optional) | SNC Settings (optional)

Here you can find information about all specific data of an SAP RFC connector. To set up a basic SAP RFC connector, please follow the instructions in <u>SAP RFC Quickstart</u>.

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Add Connector				
Connector				
	General	SAP RFC Specific Data		
*Name:	SAP_RFC_PMNotication	> SAP System Mandatory Information		
Connector Type:	SAP RFC V	SAP System Optional Information		
Description: Active:		> Connection Pool		
*Timeout (in seconds):	60	SAP System Host-Information		
Tags:	Add Tag	> Use External System (Optional)		
	Login Method +	> Settings		
Name:	RFCSIMP_ID4 V			
Description:	Logindaten ID4	> Permissions		
Method Type:	Username/Password	> SAP Router (Optional)		
		> SNC Settings (Optional)		

SAP System Mandatory Information

The following parameters are mandatory:

Parameter	Description	Exampl e	Mandator v	JCo Configuration Key
System ID	Unique ID of the SAP System	ID4	Yes	_
System Number	SAP System instance number, maximum two digits	80	Yes	jco.client.sysnr
Client Number	Number of the SAP Client, always three digits	100	Yes	jco.client.client
Language	Default language of the SAP System that must have the language installed	en	Yes	jco.client.lang

✓ SAP System Mandatory Information

*System ID:	ID4
*System Number:	80
*Client Number:	100
*Language:	en

SAP System Optional Information

The following parameters are optional:

Parameter	Description	Example	Mandatory	JCo Configuration Kev
User name alias	Alias for the user name	RFCtest	No	v
				jco.client.alias_user
R3 system number	Number of the SAP R3 system	80	No	

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				jco.client.r3name
SAP system group	SAP system group	GRP	No	
				jco.client.group
SAP Client Type	SAP internal value	Not Defined	No	
				jco.client.type

SAP Internal Value

Name	Description	SAP Internal Value
Not Defined	It is never set in the configuration, it serves only as	-
	default value.	
R2 System	The R2 system.	2
R3 System	The R3 system.	3
External System	An external system.	E

SAP System Optional Information

User name alias:	RFCtest	
R3 system number:	80	
SAP system group:	GRP	
SAP Client Type:	Not Defined	\sim

Connection Pool

Parameter	Description	Mandatory	JCo Column Key
Peak Limit	Peak Limit in [Milliseconds]	No	

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jco.destination.peak_limit

Pool capacity	Pool capacity (default value is 1)	No	
			jco.destination.pool_capacity
Expiration Time	Expiration Time in [Milliseconds]	No	
			jco.destination.expiration_ti me
Expiration Period	Expiration Period in [Milliseconds]	No	
			jco.destination.expiration_ch eck_period
Maximum Client Get	Maximum Client Get Time in [Milliseconds]	No	
Time			jco.destination.max_get_clie nt_time

Connection Pool \sim

Peak Limit:	Peak Limit in [Milliseconds]
Pool capacity:	Pool capacity (Default Value is 1)
Expiration Time:	Expiration Time in [Milliseconds]
Expiration Period:	Expiration Period in [Milliseconds]
Maximum Client Get Time:	Maximum Client Get Time in [Milliseconds]

SAP System Host-Information

Please fill out either application server or gateway server hostname to define the endpoint to the SAP backend system.

Parameter

Description

Example Mandatory Application Server Hostname

(or) Message Server Hostname	Message Server IPv4 address or hostname	10.111.29.0	Yes
Gateway Service Hostname	Gateway Service IPv4 address or hostname	10.101.26.0	No
Gateway Host Hostname	Gateway Host IPv4 address or hostname	10.111.29.9	No

Application Server IPv4 address or hostname

10.111.25.7 Yes

✓ SAP System Host-Information

*Application Server Hostname:	10.111.25.7
*(or) Message Server Hostname:	10.111.29.0
Gateway Service Hostname:	10.101.26.0
Gateway Host Hostname:	10.111.29.9

Use External System (Optional)		
Parameter	Description	Mandatory
Use external system	Activate the usage of an external system	No



Settings

Activate the following settings as you need them.

Settings



SAP Router (Optional)

JCo Configuration Key: jco.client.saprouter

A maximum of one router can be configured, so it is currently not possible to connect them in series.

Parameter	Description	Mandatory
Use an SAP Router	Activate the use of an SAP Router	No
Router name	The IPv4 address or hostname of the SAP router	Yes
Use a default port	Activate the use of a default port	No
Port	Port of Router (0-65535)	Yes

SAP Router (Optional)

Use a SAP Router:	
*Router name:	The IPv4 address or hostname of the SAP router.
Use a default port:	
*Port:	Port of Router (0-65535)

SNC Settings (Optional)

The Simplifier can authenticate itself via X509 server certificates for RFC connections to SAP systems.

It is necessary that the environment variables for the SAP Key Store and Secure Lib are set correctly. The user name of the X509 certificate must match the name specified with the user name of the specified User Credentials login method.

Parameter	Description	Ma nda tory	JCo Con figu rati on Kev
SNC Mode Active	Activates the SNC communication. SNC Parameters may be configured	Yes	1109

			jco. clie nt.s nc_ mod e
SNC Name	The name of the SNC user that is used for the SNC communication	No	jco. clie nt.s nc_ myn ame
SNC Partner	The name of the SNC Communication Partner	Yes	jco. clie nt.s nc_ part nern ame
SNC-SSO Mode	Determines whether SSO attempts should be included in SNC communication	Yes	jco. clie nt.s nc_s so
SNC Quality of Protection	The protection quality of the SNC communication determines which part of the communication is encrypted	Yes	jco. clie nt.s nc_ qop

SNC Settings (Optional)

SNC Mode Active:	
SNC Name:	SNC Username
*SNC Partner:	SNC Communication Partner
SNC-SSO Mode:	
SNC Quality of Protection:	Privacy Protection on top of integrity protection and authentication
	Only Authentication
	Integrity Protection on top of authentication
	Privacy Protection on top of integrity protection and authentication
	Default Protection
	Maximum Protection

SNC Quality of Protection

Name	Description	SAP Internal Value
Only Authentication	Minimum protection	1
Integrity Protection on top of authentication	Authentication and integrity	2
Privacy Protection on top of integrity protection	Maximum protection	3
and authentication		
Default Protection	Use the value from snc/data_protection/use on the application server	8
Maximum Protection	Use the value from snc/data_protection/max on the application server	9

SAP RFC Connector Calls

This section describes the necessary parameters and data types for RFC connector calls. There are two different kind of calls

- Calls for GET operations
- Calls for EXECUTE operations

SAP RFC Quickstart

1. Fill mandatory information for basic SAP RFC setup	 System ID System Number Client Number Language Application Sequer/(Lest Name)
	• Application Server/Host Name
2. Find mandatory information within SAP	Launch SAP Logon on your local machine, right click on the system and choose Properties.



System Entry Properties				
	Cada Rasa			
Choose the connection type and	change the system parameters as required. Delete the old of	escription		
Choose the connection type and change the system parameters as required. Delete the old description f you want the system to propose a description. Button 'QK' is only active when all required input data has been entered.				
Connection Type:	Qustom Application Server	-		
Sustem Connection Parameters				
System Connection Parameters	F			
Description:				
Application Server:	10.10.20.7			
System ID:	10m			
SAProuter String:	(My/2011-0-1111-010)030300			
<u>Q</u> K <u>Cancel</u>		Help		
Losse the dialog and	the following login server	vi want to		
log in to. You will se	the me following login screen v	vnere you		
can obtain the client.	ID and language.			

	SAP	
	New password	
	Client	800
	User Password	******
	Logon Language	EN
3. Enter the information in the SAP RFC connector configuration within Simplifier		



✓ SAP System Mandatory Information		
*System ID:	104	
*System Number	80	
*Client Number	100	
Language.	cii	
 SAP System Host-Information 		
*Application Server Hostname:	10.111.25.7	
*(or) Message Server Hostname:	10.111.29.0	
Gateway Service Hostname:	10.101.26.0	
Gateway Host Hostname:	10.111.29.9	

SAP Single Sign On via RFC

Furthermore you can use the mechanism type RFC. It works on the same principle as SOAP. You can log on to the Simplifier via SAP and start connector calls with the SSO2 Token.

≣ S		en SAdman
Authentication Settings		☑ Save X Cance
*Name:		
*Mechanism:	SAP SSO V	
*Mechanism Type:	RFC V	
*Priority:	0	
*SAP Server Type:	Application Server 🗸	
*Host name:		
*SAP System ID.		
*SAP System Number:		
*SAP System Language:		
*SAP Client Number:		
SAP Router Hostname:		
SAP Router Port		
Create profile regardless of received SSO-Token:		
Enforce default values for the profile extraction:		
SAP Client Type:	Not Defined V	
SAP Username Alias		
SAP R3 System Number		
SAP System Group:		
Test Authentication		
Usemame		
Password		•
	Test authentication	
	Test profile extraction	
	Test	

Name Mechanism Mechanism Type Priority

SAP Server Type

Host name SAP System ID SAP System Number SAP System Language SAP Client Number SAP Router Hostname SAP Router Port Defines the name of the authentication SAP SSO RFC This defines the order in which the authentication mechanisms are processed The type of the SAP Server: Application Server, Gateway Service, Gateway Host, Message Server, Message Server Port This defines the IP/ Host of the authentication service This defines the IP/ Host of the authentication service This defines the ID of the SAP System This defines the number of the SAP System This defines the language of the SAP System This defines the number of the SAP Router This defines the hostname of the SAP Router
Create profile regardless of received SSO-Token	If this switch is on, then the Simplifier will try to extract the profile. The used authentication method will be only: {Basic-Authentication}. If the username or password consists of non-alphanumerical symbols, then the authentication required for retrieving the user details might fail.
Enforce default values for the profile extraction	If this switch is on, then all missing information in the profile will be replaced by default values. This will even happen when critical information, required for further extraction steps is missing. If this switch is off, then the extraction process will be terminated and an error will be returned.
SAP Client Type	The type of the SAP Client: Not defined, R2, R3 or External
SAP Username Alias	You can assign an alias
SAP R3 System Number	This defines the number of the SAP R3 System
SAP System Group	This defines the group of the SAP System

You can test the profile extraction and token retrieval as well as the whole chain seperately.

SAP Single Sign On via SOAP

Using SAP SSO

You can use the SOAP service to authenticate via a SAP system and get a SSO2 Token for SAP SOAP webservices. The user synchronization is done by the iTiZZiMO own SAP RFC Module *-ITIZ-_USER_READ* or with a different SOAP-Webservice, which calls the standard SAP-Module *BAPI_GET_USER_DETAIL*.

≣ S		en	8	Admin User 🗸
Image: Server Image: S				
Authentication Settings		g Sa	ve ×	Cancel
*Name:				
*Mechanism:	SAP SSO V			
*Mechanism Type:	SOAP V			
*Priority:	0			
*Host name:				
*Port:	0			
*URI Type:	http ~			
*WSDL Endpoint:				
*SAP Client Number:				
*Timeout [seconds]:				
Create profile regardless of received SSO-Token:				
Enforce default values for the profile extraction:				
Operation Name:	ITIZUSER_READ			
Binding Name:	USER			
Test Authentication				
Username:				
Password:		۲		
	Test authentication Test profile extraction Test			

Name Mechanism Mechanism Type Priority

Host name Port URI Type WSDL Endpoint

Client Number Ignore Invalid SSL Certificates Timeout (in seconds) Defines the name of the authentication SAP SSO SOAP This defines the order in which the authentication mechanisms are processed This defines the IP/ Host of the authentication service This defines the IP/ Host of the authentication service This defines the URI Type (HTTP or HTTPS) This defines the URI Type (HTTP or HTTPS) This is composed of Host name, Port, URI Type and Client Number This defines the SAP Client Number You can ignore invalid SSL Certificates You can set a timeout Operation Name Binding Name This defines the Operation name This defines the Binding name

You can test the connection by inserting a Username and Password.

Security

Assignment

You can assign roles to apps, which is the first step in order to have anonymous logins.

≡ S		en 🛛 🙆 Admin User 🗸
	Application Details	
Ul Designer Process Dashboard Data Workbench Security		Code Designer
*Release58		× Exit
Assigned Roles		
Allow anonymous users		+
Name	Description	Actions

All assigned roles to the app are imported and exported by the transport system. By default it is not allowed for anonymous users to execute data operations in the app.

Allowing anonymous users must be allowed with a conscious consent. For this you have to tick the checkbox besides "Allow anonymous users". After that, the plus icon is available to assign a role.



You can also remove roles. All you have to do is click on the corresponding icon.

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		en 🛛 🔒 Admin User 🗸
	Application Details	
Image: Non-State Image: Non-State<		Code Designer
© ^Release58		× Exit
Assigned Roles		
✓ Allow anonymous users		+
Search		Q
Name	Description	Actions
AppRelease57	Role for application: Release57	Ē
AppRelease58	Role for application: Release58	Remove

When disallowing anonymous users, all assigned roles will be removed.

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a 3		en 🛛 🔗 Admin User 🗸
	Application Details	
Ul Designer Process Dathboard Data Workbench Security		Code Designer
© *Release58		× Exit
Assigned Roles		
Allow anonymous users		+
Search		
Name		
AppRelease58		
	▲ Remove assigned roles	
	Assigned roles will be removed. Are you sure you want to remove them?	
	×	

Runtime

When you navigate to an application, an authentication of the app for accessing an application token is triggered. All roles assigned to the app are linked to the application token. This feature allows anonymous users to e.g. execute connectors.

As a further security aspect, the app needs to provide a security functionality in order to obtain an application token.

Security Assertion Markup Language (SAML)

SAML (Security Assertion Markup Language) is an Extensible Markup Language (XML) standard that allows users to log in to networked but separate websites with just a single login.

To set SAML 2.0 as authentication, make sure you have administrator rights.

After you have logged in as usual in the login mask with your user credentials, click on your name in the upper right corner and then on the settings.

Switch to the Authentication tab in the upper toolbar.



To add a new authentication mechanism, click on the plus icon in the upper right corner.

Authentication Settings

First, fill in the following fields:

Authentication Settings	
*Name:	
*Priority:	0
*Mechanism:	SAML 2.0 V

Name Priority Mechanism Specify any name. 0 - The priority can be ignored in this case. Select SAML 2.0.

SAML Settings

Fill in the Identity Provider Information:

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Display Name	The display name is shown on the login button underneath the icon.
Force authentication	If this option is enabled, the identity provider must authenticate the presenter directly and not rely on a previous security context. When both Force authentication and Passive are enabled, the identity provider must not re-authenticate the presenter unless the limitations of 'Passive' can be satisfied.
Passive	If this option is set, the identity provider and the user agent themselves must not visibly take control of the requester's user interface and interact with the presenter in a noticeable manner.
Sign Assertions Maximum lifetime	If set, the assertion within the SAML response will be signed. Used to determine whether a user login is sent within a valid time period after the user's last login.

If so, the user is automatically logged in without having to re-

Service Provider Entity-ID	enter a user name and password. By default, the entity ID of your application (the server provider) corresponds to the callback URL.
IDP Metadata	You can force your own entity ID by setting this parameter. XML that contains the configuration of your IDP (Identity Provider). For example, it contains the certificate for signing the communication. This file is usually distributed by your
	IDP.
Icon	The icon is shown on the login button.

SAML profile

Below the Identity Provider settings are the profile attributes that can be mapped within the Identity Provider. These attributes are synchronized in the user interface of the Simplifier.

SAML profile		
*First Name:	firstname	
*Last Name:	lastname	
*E-Mail Address:	email	
Mobile Phone Number:	0	

First Name	Name of the parameter maintained in the IDP for the first
Last Name	Name of the parameter maintained in the IDP for the last
	name, e.g. 'lastname', 'familyname' etc.
E-Mail Address	Name of the parameter maintained in the IDP for the mail
	address, e.g. 'mail', 'email' etc.
Mobile Phone Number	Name of the parameter maintained in the IDP for the mobile
	phone number, e.g. 'mobile', 'phone' etc.

Security Guidelines

The following tables refer to the <u>OWASP Top 10 Security Measures 2017</u> and explain the security measurements and relevant settings to avoid security flaws within the Simplifier platform.

A1: Injection

Simplifier Prevention

User supplied data is not validated, filtered or santizied by the Double validation against data type definition (client and backend validation application.

Hostile data is used directly with dynamic queries or non-parameterized All connector calls are parameterized, including SQL queries calls for the interpreter without context-aware escaping.

Hostile data is directly used or concatenated, so that the SQL or command All connector calls are parameterized, including SQL queries contains both structure and hostile data in dynamic queries, commands, or in stored procedures.

A2: Broken Authentication

You may have authentication weakness if your application...

Simplifier Prevention

The Simplifier uses a token authentication. This token expire server security settings).

Permits credential stuffing, where the attacker has a list of valid usernames The permission object view own user details prevents the apparent and passwords.

Permits brute force or other automated attacks.

Send message via Process Dashboard

To send messages via the Process Dashboard, you need to take the following steps:

- 1. Drag the Asynchronous Data Object activity into the drawing area.
- 2. Select the appropriate connector and the connector call for sending the message.
- 3. Fill the parameters in the input mapping.

Send message via Script

An object can be passed as a message by converting it into a JSON string:

```
JSON.stringify({propertyOne: 'abc', propertyTwo: 5})
var lo_payload = {
  'msg:'<requested message>'
  };
function successCallback(po_result) {
  //Enter any code that will be executed in case of success
  }
function errorCallback(po_result) {
  //Enter any code that will be executed in case of error
  }
this.callConnector("<connector-
name>", lo_payload, successCallback, true, true, errorCallback);
```

Server-Side - Access Connectors

You can access all connectors you've previously assigned to your business object inside your script template.

```
Simplifier.Connector.<ConnectorName>(payload?: string|object): object
```

Example:

```
var connectorResult = Simplifier.Connector.MySoap({bindingName: "Binding", "operation
Name": "MyOp", "soap": {"foo": "bar"});
```

Each call to a connector in a script template follows this convention:

Simplifier.Connector.<ConnectorName>.<CallName>(payload?: string|object): object

Example:

var connectorCallResult = Simplifier.Connector.MySoap.myCall({"Foo": "bar"});

Server-Side - Access other Business Objects

You can call any other business objects in your current one in a similar way than calling a connector, using the following syntax:

```
Simplifier.BusinessObject.<BOName>.<MethodName>(payload?: string|object, parametrized
?: boolean = true): object
```

```
Simplifier.CurrentBusinessObject.<MethodName>(payload?: string|object, parametrized?:
boolean = true): object
```

The payload has to be a stringified JSON object. The result of the business object method is a string and therefore it has to be parsed.

Example:

```
var otherMethodResult = Simplifier.BusinessObject.OtherBO.someMethod({"foo": "bar"});
```

```
var unparamtetrizedResult = Simplifier.BusinessObject.OtherBO.someMethod("{\"foo\": \
"baz\"}", false);
```

```
var sameBoResult = Simplifier.CurrentBusinessObject.someMethodOnSameBO({"baz": "baz"});
```

var noArgsResult = Simplifier.CurrentBusinessObject.methodWithoutArgs();

Server-Side - Access Plugins

In order to call a plugin from your business object you need to add the plugin to your business object first (see <u>Create Server</u> <u>Side Business Objects</u>) and afterwards access it within a Business Object Function using this syntax:

```
Simplifier.Plugin.<PluginName>.<SlotName>(payload?: string|object): object
```

Example:

```
var repos = Simplifier.Plugin.contentRepoPlugin.listRepos();
var newRepo = Simplifier.Plugin.contentRepoPlugin.createRepo({name: "MyRepo"});
Simplifier.Plugin.contentRepoPlugin.updateRepo("{\"id\": 15}");
```

Server-Side Business Object API

You can access any methods, like Logging, Utils/Tools, Email, Connectors, Business Objects, Plugins, Users, Permissions, Groups and Roles of Simplifier by using the Simplifier object.

Variables marked with question marks are optional parameters.

Logging

Simplifier.Log.info	
Creates a log entry with level INFO.	
Input : (string)	Result: ()
message: string	_

Simplifier.Log.info(message: string, details: string|object): void

Simplifier.Log.warn	
Input : (string)	Result: ()
message: string	_

Simplifier.Log.warn(message: string, details: string|object): void

Simplifier.Log.error		
Input : (string)	Result: ()	
message: string	_	

Simplifier.Log.error(message: string, details: string|object): void

Simplifier.Log.critical		
Input : (string)	Result: ()	
message: string	_	

Simplifier.Log.critical(message: string, details: string|object): void

Simplifier.Log.debug		
Input : (string)	Result: ()	
message: string	_	

Simplifier.Log.debug(message: string, details: string|object): void

Examples:

These examples apply to all log levels.

Simplifier.Log.warn("Test log entry");

Simplifier.Log.info("Test log entry with Details", "Details String");

Simplifier.Log.error("Test log entry with Details", { 'key': 'value' });

Simplifier.Log.info("test", ["Array",1337,42.1,null,true, {key:"value"},[1,3,3,7]])

Simplifier.Log.critical("test", 1337)

Simplifier.Log.debug("test", 42.1)

Simplifier.Log.info("test", null)

Simplifier.Log.warn("test", true)

Utils/Tools

```
Simplifier.Util.xml2json(xml: string): string
Simplifier.Util.json2xml(json: string): string
Simplifier.Util.xml2jsonValue(xml: string): object
Simplifier.Util.jsonValue2xml(json: string): string
Simplifier.Util.encodeBase64(string: string): string
Simplifier.Util.decodeBase64(json: string): string
```

Examples:

```
var encoded = Simplifier.Util.encodeBase64("String to encode");
var decoded = Simplifier.Util.decodeBase64(encoded);
```

```
output.jsonResult = Simplifier.Util.xml2jsonValue("<root><test>hello</test></root>");
output.stringResult = Simplifier.Util.xml2json("<root><test>hello</test></root>");
```

```
output.stringInput = Simplifier.Util.json2xml(JSON.stringify({test: "hello"}));
output.jsonInput = Simplifier.Util.jsonValue2xml({test: "hello"});
```

Email

Simplifier.Email.sendTemplateMail(payload: string|object): void

Examples:

```
Simplifier.Email.sendTemplateMail({
  templateNamespace: "MyNamespace", templateName: "MyTemplate", emailCharset: "UTF_8",
  emailMime: "text/html",
  receiver: "test@test.de", receiverCC: ["cc@test.de"], subject: "My Mail", "data": {"V
  arl": "Replacement1"}
});
```

Connectors

```
Simplifier.Connector.<ConnectorName>(payload?: string|object): object
```

```
Simplifier.Connector.<ConnectorName>.<CallName>(payload?: string|object): object
```

Examples:

```
var connectorResult = Simplifier.Connector.MySoap({bindingName: "Binding", "operation
Name": "MyOp", "soap": {"foo": "bar"});
```

```
var connectorCallResult = Simplifier.Connector.MySoap.myCall({"Foo": "bar"});
```

Business Objects

```
Simplifier.BusinessObject.<BOName>.<MethodName>(payload?: string|object, parametrized
?: boolean = true): object
```

```
Simplifier.CurrentBusinessObject.<MethodName>(payload?: string|object, parametrized?:
boolean = true): object (--> BOName = Currently executed Business Object)
```

Examples:

```
var otherMethodResult = Simplifier.BusinessObject.OtherBO.someMethod({"foo": "bar"});
```

```
var unparamtetrizedResult = Simplifier.BusinessObject.OtherBO.someMethod("{\"foo\": \
"baz\"}", false);
```

var sameBoResult = Simplifier.CurrentBusinessObject.someMethodOnSameBO({"baz": "baz"});

```
var noArgsResult = Simplifier.CurrentBusinessObject.methodWithoutArgs();
```

Plugins

```
Simplifier.Plugin.<PluginName>.<SlotName>(payload?: string|object): object
```

Examples:

```
var repos = Simplifier.Plugin.contentRepoPlugin.listRepos();
```

var newRepo = Simplifier.Plugin.contentRepoPlugin.createRepo({name: "MyRepo"});

Simplifier.Plugin.contentRepoPlugin.updateRepo("{\"id\": 15}");

Users

Simplifier.User.getAll		
Retrieves all	created users.	
Input : ()	Result: Array(object)	
_	<pre>[id: Number, login: String, firstName: String, lastName: String, email: String, mobileNumber: String?, activeFrom: String?, activeFrom: String?, active: Boolean?, salutation: String?, roles: [{ id: String, name: String, description: String, active: Boolean}]?, groups: [{ id: Number, name: String, description: String}]?, attributes: [{name: String, category: String, value: String, description: String?}]?]</pre>	

Simplifier.User.getById		
Retrieves the user with the given id.		
Input: (number)	Result: object null	
id: number	id: Number,	
	login: String,	
	firstName: String,	
	lastName: String,	
	email: String,	
	mobileNumber: String?,	
	activeFrom: String?,	
	activeTill: String?,	
	active: Boolean?,	
	salutation: String?,	
	roles: [{ id: String, name: String, description: String, active: Boolean}]?,	
	groups: [{id: Number, name: String, description: String}]?,	
	attributes: [{name: String, category: String, value: String, description: String?}] null	

Simplifier.User.getByName Retrieves the user with the given login name.		
Input: (string)	Result: object null	
loginName: string	id: Number, login: String, firstName: String, lastName: String, email: String, mobileNumber: String?, activeFrom: String?, activeFrom: String?, active: Boolean?, salutation: String?, roles: [{ id: String, name: String, description: String, active: Boolean}]?, groups: [{ id: Number, name: String, description: String}]?, attributes: [{name: String, category: String, value: String, description: String?}] null	

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Simplifier.U	Jser.getCurrentUser		
Retrieves the	Retrieves the currently logged in user.		
Input: ()	Result: object null		
	id: Number, login: String, firstName: String, lastName: String, email: String, mobileNumber: String?, activeFrom: String?, activeFrom: String?, active: Boolean?, salutation: String?, roles: [{ id: String, name: String, description: String, active: Boolean}]?, groups: [{ id: Number, name: String, description: String}]?, attributes: [{name: String, category: String, value: String, description: String?}] null		

Simplifier.User.create	
Creates a new user.	
Input: (object)	Result: object
Input: (object) login: String, firstName: String, lastName: String, email: String, mobileNumber: String?, activeFrom: String?, activeFrom: String?, active: Boolean?, salutation: String?, roles: [String]?, groups: [Number]?, attributes: [{ name: String, category: String, value: String,	Result: object id: Number, login: String, firstName: String, lastName: String, email: String, mobileNumber: String?, activeFrom: String?, activeTill: String?, active: Boolean?, salutation: String?, roles: [{ id: String, name: String, description: String, active: Boolean}]?,
description: String? }]?	groups: [{id: Number, name: String, description: String}]?, attributes: [{name: String, category: String, value: String, description: String?}]

Simplifier.User.update			
Updates a user identified by the assigned id.			
Input: (number, object)		Result: object	
id:Number	id: Number,		
login: String,	login: String,		
firstName: String,	firstName: String,		
lastName: String,	lastName: String,		
email: String,	email: String,		
mobileNumber: String?,	mobileNumber: String?,		
activeFrom: String?,	activeFrom: String?,		
activeTill: String?,	activeTill: String?,		
active: Boolean?,	active: Boolean?,		
salutation: String?,	salutation: String?,		
roles: [String]?,	roles: [{ id: String, name: String	description: String, active:	
groups: [Number]?,	Boolean}]?,		
attributes: [{ name: String	,gaategorf/{iStrNigmbelnen&nen§tr	ing, description: String}]?,	
description: String? }]?	attributes: [{name: String, categ	ory: String, value: String,	
	description: String?}]		

Simplifier.User.update			
Updates a user identified by the assigned login name.			
Input: (string, object)	Result: object		
login: String	id: Number, login: String, firstName: String, lastName: String, email: String, mobileNumber: String?, activeFrom: String?, activeTill: String?, active: Boolean?, salutation: String?, roles: [{ id: String, name: String, description: String, active: Boolean}]?, groups: [{ id: Number, name: String, description: String}]?, attributes: [{ name: String, category: String, value: String, description: String?}]		

login: String, firstName: String, lastName: String, email: String, mobileNumber: String?, activeFrom: String?, activeTill: String?, active: Boolean?, salutation: String?, roles: [String]?, groups: [Number]?, attributes: [{ name: String, category:	
activeTill: String?,	
active: Boolean?,	
salutation: String?,	
roles: [String]?,	
groups: [Number]?,	
attributes: [{ name: String, category:	
String, value: String, description: String?	
}]?	

Simplifier.User.delete	
Deletes a user identified by the assigned id.	
Input: (number)	Result: ()
id: Number	-

Simplifier.User.checkLogin	
<i>Checks whether a user can login providing the given credentials.</i>	
Input: (string, string)	Result: (boolean)
login: string	true, false
password: string	

Simplifier.User.assignRole	
Assigns the role with the given ID to the user, identified by	
the given login name.	
Input: (string, string)	Result: ()
loginName: string	_
roleId: string	

Simplifier.User.assignRole	
Assigns the role with the given ID to the user, identified by the given login name	
Input: (number, string)	Result: ()
id: number	_
roleId: string	

Simplifier.User.unassignRole	
Dissolves the user-role relation of the given user and role.	
Input: (string, string)	Result: ()
loginName: string	_
roleId: string	

Simplifier.User.unassignRole	
Dissolves the user-role relation of the given user and role.	
Input: (number, string)	Result: ()
id: number	_
roleId: string	

Simplifier.User.assignGroup	
Assigns the group with the given ID to the user, identified by	
the given login name.	
Input: (string, number)	Result: ()
loginName: string	_
groupId: number	

Simplifier.User.assignGroup	
Assigns the group with the given ID to the user, identified by	
the given login name.	
Input: (number, number)	Result: ()
id: number	-
groupId: number	

Simplifier.User.unassignGroup	
Dissolves the user-group relation of the given user and group.	
Input: (string, number)	Result: ()
loginName: string	_
groupId: number	

Simplifier.User.unassignGroup	
Dissolves the user-group relation of the given user and group.	
Input: (number, number)	Result: ()
id: number	_
groupId: number	

Simplifier.User.getAttribute	
Retrieves the attribute with the given name and category of a	
user identified by the user's ID.	
Input: (number, string, string)	Result: (object null)
id: number	name: string
name: string	category: string
category: string	value: string
	description: string? null

Simplifier.User.getAttribute	
<i>Retrieves the attribute with the given name and category of a user identified by the user's ID.</i>	
Input: (string, string, string)	Result: (object null)
loginName: string	name: string
name: string	category: string
category: string	value: string
	description: string? null

Simplifier.User.getAttributes	
-------------------------------	--

Retrieves all attributes of the user identified by the given ID.

Input: (string)	Result: Array (object)
loginName: string	[name: string
	category: string
	value: string
	description: string?]

Simplifier.User.getAttributes

Retrieves all attributes of the user identified by the given ID.

Input: (number)

Result: Array (object)

Settings



As a user that is defined as an admin by the corresponding role, you can hit the settings button by clicking on your user profile name on the top right corner.

Within the settings panel, you can define several settings: Server, Password, License, Authentication, Messages and Log.

en	Admin User 🗸 🗸
	°c Settings
	Send error report
	i Version info
	() Logout

Server Settings

The **Server settings** control your session. At the subtitle **Authentication token**, you can set the lifetime of the authentication token and its checking interval.

If you set the authentication token to active, the checking interval to 10 seconds and the maximum lifetime of the authentication token to 3600 seconds, that means that every 10 seconds it will be checked if you are inactive. If you are inactive for about 3600 seconds, you will be automatically logged out.



Simplifier Client API

All external programs, business applications and the mobile client access the Simplifier via the Simplifier Client API.

The Simplifier Client API is documented by Swagger and can be accessed by opening the URL:

https://<pcmr.simplifier.io>/client/2.0/api-docs/

A detailed documentation of the client API is displayed and you can try out the API using the tools built into Swagger. All changes in the API are automatically transferred to the documentation.

Note: Make sure that you have select HTTPS under schemes.

🕀 swagger	/client/2.0/api-docs/swagger.json	Explore
Simplifier Cl [Base URL: /client/2.0/] (client/2.0/api-docs/swagger.json) Client route for Simplifier App Simplifier Docs	ient API 🚥	
Schemes HTTPS ~		Authorize
Application		~
GET /appDeps/{app	oName } Get dependencies for application	a
GET /apps/{appNar	ne } Download application ZIP	a
Dependencies		\checkmark
GET /appDeps/{app	oName } Get dependencies for application	₽
GET /libs List all libr	aries	▲
Business Object		~
POST /business-obj	<pre>ject/{businessObject}/{method} Execute Business Object Method</pre>	a

Application

GET GET	/appDeps/{appName} /apps/{appName}	Get dependencies for application Download application ZIP
Dependencies		
GET GET	/appDeps/{appName} /libs	Get dependencies for application List all libraries
Business Object		
POST	<u>/business-</u> object/{businessObject}/{method}	Execute Business Object Method

Execution

POST	/business-	Execute Business Object Method
	<pre>object/{businessObject}/{method}</pre>	
POST	/connector/{connector}	Execute Connector
POST	/connector/{connector}/{call}	Execute Connector Call
POST	/pluginSlot/{plugin}/{slot}	Execute Plugin Slot

Connector

POST	/connector/{connector}	Execute Connector
POST	/connector/{connector}/{call}	Execute Connector Call

Download

GET	<u>/apps/{appName}</u>	Download
GET	<u>/libs/{libId}</u>	Download

Library

GET

<u>/libs</u>

List all libraries

application ZIP library ZIP

Mobile Client

POST POST	/log/MobileClient /log/WebView	Post general message to simplifier logger Post WebView message to simplifier logger
Example		
GET POST	/ping /ping	Get default ping/pong message Get custom ping/pong message
Plugin		
POST	<pre>/pluginSlot/{plugin}/{slot}</pre>	Execute Plugin Slot
Simplifier		
GET	/version	Get version of the currently running Simplifier app server

Simplifier Cloud

The Simplifier Cloud is the default deployment option when you get started with the Simplifier. As an integrated solution, the Simplifier Cloud includes automatic backups, monitoring, high availability, and more. The availability is at least **99.95%**.

The Simplifier Cloud will be deployed in Deutsche Telekom's data centers OTC. Data protection and data security are a matter of trust.

The protection and security of your data has the highest priority. The Open Telekom Cloud is operated and data is secured in our own, highly secure twin-core data centers in Germany. Data processing is subject to the strict requirements of the European Data Protection Ordinance (DSGVO).

In addition, the Open Telekom Cloud is certified according to the Trusted Cloud Data Protection Profile (TCDP) 1.0. This certifies that the Open Telekom Cloud – currently one of the few cloud offerings on the market – offers companies the technical requirements necessary to meet the basic European data protection requirements (DSGVO). Further information can be found here.

Simplifier Cloud SLA

You will find the SLA of the Simplifier Cloud below:

- The Licensor operates the provided Platform under the criteria of highest possible care, reliability, and availability of 99.7%, 7 days a week, 24 hours a day, 365 days a year. Downtimes are not considered in the calculation of availability if the Licensee expressly agreed to it in writing or if these downtimes are default times mentioned in paragraphs 4 and 5.
- 2. The Licensee has the right to reduce the agreed monthly fee for the maximum of 2% for every full percentage point that is below the assured availability. Any further claims of the customer remain unaffected.
- 3. Down times for maintenance, servicing and upgrades are explicitly pre-announced in writing between the parties, if these deviate from the default times mentioned in paragraphs 4 and 5.
- 4. The maintenance of the Simplifier is carried out by default on Saturday from 22:00 to 24:00 CET (Central European Time). Divergent or in addition necessary maintenance must be announced to the Licensee in writing, at least four weeks in advance and require the Licensee's written approval.
- 5. Every six months a release upgrade will be installed, namely on Saturday of the month's last weekend, unless the contracting parties agree in a specific case for a different arrangement.
- 6. Updates and upgrades, that change the process, have to be announced to the Licensee in writing and before the implementation and will require written approval.
Simplifier Mobile Client

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The age display as other lat	
Matalineat Ingelspotteras application for spair processes	
FI, 349, Mildia, Fundama, Dolm, App Malain, Fundama, Inder	
R, Incl., Michigano, Juditaci R, Jacob Michigano, Juditaci	
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S Righter	444
102, Template, AB, AugmentedReality Instage for Wildows Property	HM
100, Semplate, (01)1A Template: Application for (01)1A Connector	Passion1 https://twenium-demo.simplifer.io
Strangton, SANNI, Parchaselbiter	ametry 1070
Ing, Semplete, SAFEGAP / Intellined, southing 1947 Functional counties	Login speichern 0 QR-Code-Login 5
All Reader All Residue	

Download the Simplifier Mobile Client in the appropriate stores, depending on your mobile device.



SOAP Connector

	SOAP Specific Data	
*WSDL URL: Ignore invalid SSL-Certificates:	http://freemium-service.simplifier.io:8091/ws/orders.wsdl	C

WSDL URL

The URL to the Web Service Description Language Document (WSDL) of the SOAP Service. Please don't mix up with the SOAP Service Endpoint.

Take a look at <u>SOAP Connector Calls</u>.

SOAP Connector Calls

Stick to the standard protcol | Use the protocol manually | Connector Wizard

SOAP is a network protocol. You can either stick to the standard when using the protocol like SAP or use it manually like Microsoft. The way the protocol is used decides on how you have to build your connector call.

A) Stick to the standard protocol

In this case, the SOAP connector call requires two input parameters to be defined:

bindingName

operationName

The name attribute of your wsdl:binding attribute in your WSDL file The name of the wsdl:operation attribute in your WSDL file for the operation that you want to call in your connector call

Example:



Parameters, that are required by the called SOAP operation, take the following form:

soap/<operationName>/<parameterName>, e.g. soap/_-ITIZ_-BU_OBJ_EQUI/index

SOAP connectors provide one or more optional parameters prefixed with 'queryParams/'.



Those fields are appended as query parameters on the SOAP request URL to provide additional meta information. It works in the same way as queryParams on <u>REST</u> connectors.

B) Use the protocol manually

In this case, the SOAP Connector Call requires two additional input parameters to be defined:

bindingName	The name attribute of your wsdl:binding attribute in your WSDL file.
operationName	The name of the wsdl:operation attribute in your WSDL file for
	the operation that you want to call in your connector call.
strict	Determines whether services (strict == true) or local bindings

endpoint

Example:

	Constitution of cares Receiptors	phonikas in an in analo an Pan				
Partners () was						
Assessing Marco	-	description (Constant Value	inter land	lipters.	
404	1		Table	takes .		
group of the second sec	10.000		Status Team	ing .		
automatic entering and	the second second		Recognition, and	1000		
- and good	-		Applicated allocate conductions	1000		
significant set	100110		a status tratificay, retires these	100		
and a general sector of the se	-		Exchange the result day	1000		
safetis/hat/petransi			Card Price	in a		
replacements required	datio			1000		
Deput Presenter () wines						
Parameter Bana	1010	Institute	Terrates Take	the first	Tables .	
				in a		

(strict == false) are used to determine endpoints in the WSDL. If you don't use the standards, you have to set this parameter. The Data Type is "boolean". Set the value to "false". By adding this as parameter, you can choose the endpoint manually. If the endpoint is not set, the endpoint which is defined in the WSDL file will be used.

All possible nodes (even if marked as optional) have to be defined in the Connector Call. They take the same form as in the standard use of the protocol:

soap/<operationName>/<parameterName>, e.g. soap/Query/index

Inline attributes are characterized like this:

soap/<xml-node>/@attribute, e.g. soap/RequestServerVersion/@Version

Connector Wizard

In the connector call overview, you can find the **Connector Wizard** in the top right corner.

By clicking on it, the assistant helps you to create the connector calls.

en Adr	nin User 🗸
	?
ষ্ট্ Edit Connector	S Exit
	+ Add

First Step – Select Operations:

In the first step you can select the operations you want to execute.

		Create Calls for Connector "SAP_TechnisoberPlatz" X				
•	elect Operations		- 2	Configure Operations		
Please s	select your required operations in the table on the left.				Bold: A connector call already exists for this operation.	
56	anh	Q.		Search	Q,	
	Possible Operations			 Selected Operations 		
	binding_Biz_obj_bus0010/_ITIZGBJ_BUS0010_READ					
	binding_82_obj_bus0010/_1TIZ_OBJ_BUS0010_SEARCH					
	binding_ldz_obj_bus0010/_HTZ_OBJ_BUS0010_GETSTRU					
	binding Hz obj bus0010 scap12/ -ITIZ -OBJ BUS0010 READ					
	binding_itz_obj_bus0010_scep12/_rTIZ_rOBJ_BUS0010_SEARCH					
	binding_82_obj_bus0010_soap12/_rTIZ_rOBJ_BUS0010_GETSTRU					
			>			
			<			
					No data	

Second Step – Configure Operations:

In the second step you can edit the name and description of the connector calls.

	Create Calls for Connector "SAP_TechnischerPlatz"	:
1 Select Operations	Configure Operations	
Please check and edit your selected operations.		Bold: A connector call already exists for this operation.
Snach		Q.
Connector Call Name	Operation Name	Description
BUS0010_SEARCH	binding_8z_obj_bus0010_soap12/_rTIZ_rOBJ_BUS0010_SEARCH	Automatically generated connector call based on operationITIZOBJ_BUS0
BUS0010_GETSTRU	binding_82_0bj_bus0010_soap12/_rTI2_rOBJ_8US0010_GETSTRU	Automatically generated connector call based on operationITIZOBJ_BUS0

SQL Connector

	SQL Specific Data	
Datasource:	MySQL ~	
*Host:	localhost	
*Port:	3306	
*Database Schema:	crmdata	
*Connection-String:	jdbc:mysql://localhost:3306/crmdata	
Result Type:	Multiple Results (e.g. Array)	

Datasource

The JDBC Driver of the supported database: MySQL, Sybase, Oracle, PostgreSQL, SQLite, HANA and Microsoft SQL.

Host

The hostname of the database server.

Port

The TCP Port of the database server. The standard is 3306.

Database Schema

The name of the database.

Connection-String

The connection string specifies information about a data source and the means of connecting to it. It is generated automatically, depending on your previous selections.

Result Type

The result type is a Monadic type holding a returned value or an error code. Choose between Multiple Results (e.g. Array), Single Result and No Result.

If you have created an SQL connector with the SQLite data source, files are created for a special directory for SQLite data files. The connector creates an SQLite database on the Simplifier server in the connector properties if it's not available. When changing the connector, a backup of the file is created.

Attention: Deleting the connector also deletes the data file.

Take a look at the <u>SQL Connector Calls</u>.

SQL Connector Calls

Simple Call | Query Call | Execute Call | Connector Wizard

An SQL connector call requires the two parameters "mode" and "request".

You can choose between 3 different modes:

- simple
- query
- execute

Simple Call

The 'Simple Call' corresponds to an unparameterized SQL call.

The SQL request is defined by a 'String' without variable substitution.

In order to be able to process the output of the SQL request, it must be defined in the output parameter of the connector call.

Currently, you can still map the entire JSON result to a single parameter.

This is possible by specifying a '/' as the parameter name and the data type 'String' in the output parameters.



Query Call

The 'Query Call' is used to transfer the result from an SQL statement to the Simplifier. (Usually, SELECT statements have a result)

The SQL request of the 'Query Call' is parameterized (in contrary to the 'Simple Call').

				Create Connectorcall				
6								
								?
	Cone	ectorcali name:	arameterized					
		Description:	arameterized					
Input Parameters 0	utput Parameters							
vandaste:								+
Parameter Name	Optional	Alan	Description	Constant Value	Data Type		Actions	
Negoest	Cptonal	Alan	Description	Constant Value select 1 from User_Data where email like imail String:	Data Type String	e	Actions	
Negest Jacansimal		Alan	Description	Constant Value select * from User_Data where email like :mail Shing.	Data Type String String	Ð	Actors 12	
Aparama nama Aparama mai mode		nai	Description	Constant Value select "from User_Data where email like imail String every	Cels Type Simg Simg Simg	0 0 0	Actors 0 0 0	
requisit parametmail mode	Cystored	rai	Description	Combat Wee select " from User_Data where email like .mail Sking: every	Cata Type String String String	8 8	Actors E E	
Haransinal Inde	Cptorel	Alan	Description	Constant Value select * from User_Data where email life :mail String: corry	Cata Type Simg Simg Simg	8 8 8	Actors 12 12 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14	
regest regest paransinal node	Cptoreal	rai	Description	Constant Wales Select "from User_Data where email like mail Sking Every	Data Type String Baring String	6 6 6	Actors 10 10 10	
Ingeni Apareninali Ingeni Apareninali Inge	Cptoral	rai	Description	Constant Wee select * Non-User_Cuts where email like that Diring every	Data Type String String String	8 8 8	Adom B B B	
regent rank rank rank rank rank		Alas	Description	Constant Yolau Jakes Thom Joer, Jose where email like mail Sting Genry	Data Type String String String	8) 8) 8	Adom	
Indexest	Cptoral	Alan	Description	Consider Vision	Calit Type String String String	8 8 8	Adom B B	
Properti		Alaa	Description	Consider Vision Used Thiron Long, Cales where email like mail String Users	Cuta Type Grang Grang Grang Grang Grang	8 8 8	Actors	

Definition of the constant value for the request parameter	The input value of the request parameter is represented by a name and a Simplifier data type. In our example, we used the name 'mail' and the data type 'String'. A parameter definition is initiated and ended with a colon
	Between the colons is a pair of values, separated by a colon as well, which represents the name and the type of the parameter.
	In a parameterized SQL request: select * from USER_Data where email like :mail:String:
	If you use more values in an SQL statement you have to use a syntax separated by a comma, e.g. VALUES
Definition of the parameter in the Connector Call	(:id:String:,:mail:String:). In order to use the parameter that has been defined in the SQL request via the connector call interface, a new connector call parameter must now be inserted, which corresponds to the parameter definiton of the SQL request.
	All connector call parameters that refer to an SQL request have the prefix /params/.
	In the example above, a new parameter name /params/mail with the Simplifier data type 'String' has been created.
	The parameter expressions 'alias', 'description' and 'constant value' are equivalent to the usual connector calls.
	The result of a 'Query Call' can be assigned via the output parameters equivalent to the 'Simple Call'.

Execute Call

The 'Execute Call' is quite similar to the 'Query Call'. But with the 'Execute Call', no result is sent back to the Simplifier.

Typically SQL INSERTs, UPDATEs, or DELETEs are displayed in that way.

Connector Wizard

In the connector call overview, you can find the **Connector Wizard** in the top right corner.

With the SQL Wizard, it's easy to configure new connector calls based on SQL Connectors for MySQL and Oracle.

When opening the Wizard, all tables available for the schema are displayed.

en Adr	nin User 🗸
	?
र्षे Edit Connector	S Exit
 -	+ Add

First Step – Select Queries:

In the first step you can search for the table, and then select under "Actions" whether you want to select all columns (right icon) or only certain ones (left icon).

	Greate Calls for Corne	eter "ConnectorRelease57"	
Select Queries		Configure Connector Calls	
nave select your required database tables and, if recessary, columns in	the table on the left.		
Search	9	Search	9
Table	Actors	Geory	Actors
App	17 H		
App_Asset	12 32		
App_AutoField	E E		
App_AutoField_Parameter	12 13		
App_Oustom_Events	15 H		
App_ten	12 13		
App_hem_Dela_App	15 H		
App_ten_Event	12 13	the second s	
App_hem_Prop	15 H	NO QUERES HAVE DEED ON	adakti yet
App_ten_Tion	12 13		
App_Lang	15 H		
App_Meta	12 13		
App_Meta_Res	15 H		
App_Process	12 12		
App_Release	15 H		
App_Release_Image	12 12		

If you only want to select certain ones, click on the left icon. A new popup opens in which you can select the desired columns. Then click OK.



Second Step – Configure Connector Calls:

After you have selected the desired tables and, if necessary, their columns, you can edit the connector calls by clicking on "Edit Connector Calls".

When you have edited the calls, click on "Create connectorcalls".

	orean output of the second			
Select Queies () Configure Connector Calls				
se check and edit your selected queries.				
Search				
Connector Call Name	Query	Description	Actions	
Select_Al_App	SELECT * FROM App	Automatically generated connector call based on query "SELECT * FROM -	官	
Select_80	SELECT name, description FROM BO	Automatically generated connector call based on query "SELECT name, de	- 12	
Select_User_Data	SELECT lastName, firstName FROM User_Data	Automatically generated connector call based on query "SELECT lasPlame	8	

Start PDF Generation

Start PDF Generation

URL	/client/1.0/PLUGIN/pdfPl	/client/1.0/PLUGIN/pdfPlugin/generatePdf		
Input-Parameter	Template	Template name		
	Session	Session ID (to retrieve transaction data)		
	Config	PDF parameter for the generation as JSON String (optional)		
Output-Parameter	Value	JSON Object with the parameter " jobId " (contains the generated JobID)		

Example for a call:

```
{
    "template": "templatename",
    "session": "12345678910",
    "config": "{\"orientation\" : \"Portrait\",\"page-size\" : \"A4\",\"margin-top\"
: \"lin\",\"margin-bottom\" : \"lin\",\"margin-left\" : \"lin\",\"margin-
right\" : \"lin\",\"footer-center\" : \"[page] / [toPage]\"}\"}"
```

```
}
```

Output example:

```
{
    "value": {
        "jobId": "alef6b46-1671-425a-947c-d9e552d4e755"
    },
    "success": true
}
```

The specified parameters for the config correspond to the parameters for wkhtmltopdf or the PdfConfig class of the wrapper. This can be used to control page formats, margins, headers, footers, etc.

Struct Type

Structs describe a package of Domain Types. For example the Struct "address" contains different Domain Types like Name, Street, City, ZIP Code, Mobile Number etc.

To create a new Struct Type click on the "+" button.

<≡, Structs					
Count: 12					+
Search					Q
Name	Description				
BAPISDHD1	structure for IS_ORDER_HEADER_IN NOT FINISHED	R	P	Ŵ	
GetOrdersStruct	Aufträge	E	Ø	W	
ES_STKO		E	Ø	Ŵ	
RestGetOrders		E	Ø	Ŵ	
QMEL_SearchStruct	Structure for QMEL Search Output Parameter	হ	Ø	Ū	
GetPositions	Get positions for Rest Mock data	R	Ø	Ŵ	
ES_STRUC	SAP Technischer Platz Struktur	R	Ø	Ŵ	
ES_RETURN_BOM	ES_RETURN complexType name="BAPIRET2" (BOM + S	E	P	Ŵ	
ES_STPO		E	Ø	W	
IS_VIQMEL	Test QMEL	R	Ø	Ŵ	

You can define a unique struct name:

Click into the appropriate field to select the type.

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Click e.g. on Domain Types on the top and search for the domain type in the searchbar.

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# S			en	\underline{P} Admin User \sim
		Data Type Selection		
'≡, Edit "Address"	Tags Selected DataType : ZIP		🖫 Sav	ve 🗙 Cancel
	Search Q			
	All All Data Types	Base Types Structs Collections		
	Custom	Ζφ 🛞 🔾		
	All Custom Data Types	ZIP Custom Data Type	>	
Fields				+ Add
Name				
FirstName				
LastName				
City				
ZIP				
		X Cancel 🛱 Ar	pły J	

After clicking on apply, the type will be applied.

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In the fields table can you add the following Data Types:

Name

Name of the field in the structure.

Optional

With this setting it isn't necessary to provide all fields in Connector or Business Object Calls.

Туре

Base or Domain Type or even another structure or collection.

Description

Description of the field.

SUBSCRIBE Call - OPC/UA Connector

This call can only be used with an asynchronous connector.

Parameter	Description	Data Type	Mandatory
operationType	The type of the performed operation	String	Yes
	here: MONITORING		
publishingInterval	The interval in [milliseconds] when	Double	Yes
	changes are published		
returnedTimestamps	Enumeration value, which type of	String	Yes
	timestamp should be returned, see		
	ReturnedTimestampEnumeration		
globalMonitoringParameters	Global configuration for all monitored	MonitoringParamet	Yes
	items. See MonitoringParameters	ers	
monitoredItems	The list of items, which should be	List[MonitoredIte	Yes
	monitored i.e. from which value changes	m]	
	should be pushed by the connector.		

ReturnedTimestampEnumeration

- NEITHER_TIMESTAMPS: No timestamp should be retruned at all.
- SERVER_TIMESTAMP:
 - The timestamp from the OPC-UA Server should be returned. The timestamp from the Source should be returned.
- SOURCE_TIMESTAMP:BOTH_TIMESTAMPS:
 - The timestamp from the OPC-UA Server as well as the Source should be returned.

MonitoringParameters			
Parameter	Description	Data Type	Mandatory
monitoringMode	The monitoring mode	String	Yes
	enumeration value see		
	MonitoringModeEnumeration		
samplingInterval	The sampling interval in	Double	Yes
	[milliseconds] in which the		
	OPC-UA Server looks if		
	changes occurred for the		
	monitored items		
queueSize	The queue size of changes,	Int	Yes
	which are aggregated for a		
	publishing interval		
discardOldestItem	A flag, which indicates, that	Boolean	Yes
	the oldest change may be		
	dropped.		

MonitoringModeEnumeration

• REPORTING: Each change will be propagted.

- SAMPLING: Changes will be determined by samples in a provided samplingInterval.
- DISABLED: No Changes will be propagated at all.

MonitoredItem			
Parameter	Description	Data Type	Mandatory
nodeId	The node Id information, see	[NodeId]	Yes
	NodeId		
monitoringParameters	The optional monitored item	[MonitoringParameters]	No
	parameter definition, see		
	MonitoringParameters		

NodeId			
Parameter	Description	Data Type	Mandatory
	The identifier name.	String	Yes
namespaceIndex	The namespace index from 0 to 65535	String	Yes
identifierType	The identifier type enumeration, see IdentifierTypeEnumeration, the identifier will be searched as the provided identifier type.	String	No

IdentifierTypeEnumeration

- NUMERIC: The identifier is a numerical value.
- UUID: The identifier is a 16-characters Unique Identifier.
- STRING: The identifier is a string.
- BYTE_STRING: The identifier is a byte array in a string representation.

Technical call of a PDF Plugin

The following subpages show the calls that can be executed via the interface. Therefore they do not have to be implemented.

Administration and Generation

You can manage your templates or start a new creation via REST.

All calls are started via a POST request, which may contain parameters in JSON format in the body. The return is always in JSON format. It includes the result parameter "success" to indicate whether the call was successful.

If the call is not successful, an error code (as a return parameter "code") and an error message (as a return parameter "message") are returned.

The following errors are possible:

Error Code	Message	At Request
1	template name invalid	adminTemplateFetch,
		adminTemplateEdit,
		adminTemplateDelete, generatePdf,
		adminTemplateAdd
2	template not existing	adminTemplateFetch,
		adminTemplateEdit,
		adminTemplateDelete, generatePdf
3	template name already in use	adminTemplateAdd
400	bad request	All
500	internal error	All

(Errors 400 and 500 correspond to the HTTP status codes and indicate errors when parsing the parameter or processing errors)

The sub-sites describe the merging and saving of PDFs as well as the different requests to manage your templates.

Templates

Within the tile for Templates you can create templates in HTML-format.

≣ ព		Simplifier I	Dashboard	en 🖉 Felicitas Webs
	APPLICATIONS 43	CONNECTORS 19 Constant The set of the	BUSINESS OBJECTS 14	DATA TYPES 139 () Create, manage and configure domain types, structures and cohections as well as define valuation rules.
	USERS 10 Create, administrate and configure at et your Simplifier users, groups and roles with their composition of the second seco	TRANSPORTS 34 Image: Second sec	PLUGINS 5	LOGS & MONITORING
	JOBS 3 Create and administrate jobs for the execution of buinters objects. These are based on feedby configurable time intervals.	TEMPLATES B Image: Creation and definition of reusable HTML text components. These can be personalized by using of officient, proceeding placeholders.		

~

Test a Connector Call



As an admin, you can test your connector call by clicking on the 'Test Connectorcall' icon in the connector call overview or click on 'Save & Test' within the create/edit dialog of a connector call.



Connector

Calls

The upcoming dialog provides an input field for all input parameters, that to not have a constant value.

Test "ordersSoap11_getOrderList"				
(b) History			API 1.0 V 👗 Test	
	Test values	Re	sult	
Parameters		Press the test button above to see the result		
*soap/getOrderListRequest/companyName;	String			
Constants				
*bindingName (-):	ordersSoap11			
*operationName (-):	getOrderList			
			× Close	

After entering the test values, click on the 'Test' button. It runs the call and displays the result in JSON format.

	Test "ordersSoap11_getOrderList"	
History		API 1.0 V
	Test values	Result
Parameters *soap/getOrderListRequest/companyName: Constants *bindingName (-): *operationName (-):	Simplifier ordersSoap11 getOrderList	<pre>{ "soap". { "getOrderListResponse": { "orderList": [</pre>
		X Close
A history entry is created for each test and displayed in a closable panel on the left side of the dialog. Parameters from a current call can be imported into the next test by clicking the corresponding icon of the history entry.

Note: Values that are marked as constants in the current call definition are not imported!

			Test "ordersSoap11_getOrderList"	
(L) History				API 1.0 V 📕 Test
Search for values, timestamp, status		Q	Test values	Result
Nov 28, 2018			Parameters	
> Nov 28, 2018, 11:49:23 AM	Ŵ	∋		"soap": { "getOrderListResponse": {
Nov 26, 2018			*soap/getOrderListRequest/co: Simplifier	"orderList": [{
> Nov 26, 2018, 8:49:05 AM	Ŵ	ģ.	Constanto	"ordernumber": "12T5-7HHJ56-300", "status": "OLIALITY ASSLIDANCE"
> Nov 26, 2018, 8:48:53 AM	Ē	EUs	evalues for next test	"machine": "B19",
> Nov 26, 2018, 8:47:49 AM	Ū)	*bindingName (-): ordersSoap11	"dateOrcompletion": "2018-09-232" },
Nov 23, 2018			*operationName (-): getOrderList	{ "ordernumber": "12F5-A72847-200",
> Nov 23, 2018, 4:35:38 PM	Ŵ	Ð		"status": "DONE", "machine": "A23"
> Nov 23, 2018, 4:35:08 PM	W)		"dateOfcompletion": "2018-02-03Z"
> Nov 23, 2018, 4:34:53 PM	Ū	÷		j. f
Nov 19, 2018				"ordernumber": "12S5-JK3499-205", "status": "IN PROGRESS",
> Nov 19, 2018, 4:17:37 PM	Ŵ	Ð		"machine": "C55.2", "dateOfcompletion": "2018-05-30Z"
)))
		_		× Close

History entries can be deleted by pressing the trash icon. The history entries also display detailed error messages if a call was unsuccessful.

		Test call "send"		
History				API 1.0 V 👗 Test
Search for values, timestamp, status	Q	Test values		Result
31.8.2018		Decomplete	0	
> 31.8.2018, 10:48:27	Ī	Parameters		
✓ 31.8.2018, 10:44:11	Ī	address (-): No value set		
Result: Error address (-): Value set date (-): Aug 31, 2018, 10:41:46 ml (-): 13,37 msg (-): <i>String</i> useless (-):	⑦ (⑦)))))))))	Alg 15, 2018, 10.48; 51 AM Los msg (-): Test Test Test Test Test Test Test Test Test		
> 31.8.2018, 10:43:44				
> 31.8.2018, 10:42:26	Ī			
> 31.8.2018, 10:42:02				
				X Close

Parameter- and constant names, -aliases and datatypes can be inspected by hovering over the parameter name. If the parameter

is of a complex type, an info symbol is displayed. Hovering over this symbol will show a tooltip containing the value.

	Test "send"		
() History			API 1.0 V 👗 Test
	Test values		Result
Parameters a (-): date (-) msg (-): useless (-):	3 Nov 6, 2018, 8:51:00 AM (34	{ "result": "success" }	
Constants			
address (addressAlias): ml (-):	Value set 13,37	("houseNumber": 0, "crip": ", "street": ""	
			X Close

The input validation in the test UI only takes place if 'Validate' is active for input parameters. The test parameters are always passed as a string.

# 8	ຳກ							en		Weber \sim
				Ed	it Connectorcall "ordersSoap11_getOrderList"				ve	S Exi
Conr	a	Call								
Sear Nam orde	ch e rsSc	Connectorcali nam Descriptio	e: ordersSoap1'	1_getOrderList generated connector call t	based on operation getOrderList of binding ordersSoap11.				() 	+ d
orde	rsSt	Input Parameters Validate							+	
		Parameter Name	Optional	Alias	Description	Constant Value	Data Type	Actions		
		soap/getOrderListResponse/orderList				No value set	order_Col 🗗	Ŧ		
	L			G					1	
	L								1	
							🔚 Save & Te	st 🖫 Save	× Cancel	

Test Business Object Methods

As an admin, you can test your script template by clicking on the 'Test Method' icon in the Methods overview of a business object or click on 'Save & Test' within the creation of a Method.

						en	A Felicitas Weber ~
	Business Objects						?
Script Templates of "SAP_PMNotification"							S Exit
							+
Search							Q
Parameter Name	Туре	Input Parameters	Output Parameters	Actions			
generateItems	JavaScript	1	1		8 /	A	
generateLongtext	JavaScript	1	2		8 /	Test Script Tem	plate
getLongtext	JavaScript	1	1		R /	4 0	
searchNotification	JavaScript	3	1		8 /	<u>⊿</u>	

3		en 🛛 🖉 Felicitas Weber 🛇
	Business Objects	
Script Templates of "SAP_PMNotification"		U Save & Test Save × Exit
*Name Script Type	generaleLongtext JavaScript	
Script Parameter		
L vac console = output.console = Orl		3
<pre>2 console.input = input; 5 = if (Input.ECT) { 6 console.input = input.TEXT.split(~%m^); 6 console.inps = input.TEXT.split(~%m^); 12 = input.tOWETEXT = []; 13 = output.tOWETEXT = []; 14 = input.toWETEXT = []; 15 = console.inps : console.inps : 16 = console.inps : console.inps : 17 = console.inps : console.inps : 18 = console.inps : console.inps : 19 = console.inps : console.inps : 19 = console.inps : console.inps : 19 = console.inps : 19 = console.input.text 19 = console.inps : 19 = console.input.text 19 = console.input.text 10 = console.input.text</pre>		

The upcoming dialog provides an input field for all input parameters, that do not have a constant value.

Tost "apportations"		
lest generateitens		
() History		API 1.0 V 👗 Test
Test values	Re	sult
Parameters	Press the test button above to see the result	
NOTIFICATION (NOTIFICATION)		
	1	
		-¥ Close
		X Close

After entering the test values, click on the 'Test' button. It runs the template and displays the result in JSON format.

Test "generateLongtext"	
(S) History	API 1.0 V 👗 Test
Test values	Result
Parameters <pre></pre>	34.
	X Close

A history entry is created for each test and displayed in a closable panel on the left side of the dialog. Parameters from a current template can be imported into the next test by clicking the corresponding icon of the history entry.

Note: Values that are marked as constants in the current call definition are not imported!

			Test "generate	Longtext"		
(L) History					API 1.0 V	👗 Test
Search for values, timestamp, status	Q		Test values		Result	
Dec 4, 2018		Paramotors			{	
> Dec 4, 2018, 11:35:26 AM	ō Ō	1 didificters			"LONGTEXT": [{	
> Dec 4, 2018, 11:35:05 AM	Ū D		TEXT (TEXT): Simplifier		"OBJTYPE": "QMEL", "FORMAT COL": "*",	
> Dec 4, 2018, 11:34:41 AM	t d				"TEXT_LINE": "Simplifier"	
> Dec 4, 2018, 11:34:31 AM	- Ē	h], "concole": (
> Dec 4, 2018, 11:30:45 AM	t d	Use values for next test			"input": {	
					<pre> "lines": ["Simplifier"] } </pre>	
						X Close

History entries can be deleted by pressing the trash icon. The history entries also display detailed error messages if a call was unsuccessful (hover over the info symbol).

Testing WebSocket Connection through Reverse Proxy

Testing WebSocket Connections through Reverse Proxy

The WSS Protocol is used for realtime data communication and server to client push mechanism.

To test a sucessfull connection, following the steps below

- 1. Login via /UserInterface/ to the Administration Interface
- 2. Set a System Message like "Web Connection Test" within <u>Settings</u> (Chapter Messages)
- 3. Logout
- 4. Login again into the Administration UI via the Reverse Proxy and you should see the message pushed by Websocket from Server



If not, please check the <u>Reverse Proxy Requirements</u>

Theming

You can upload a particular theme to give your app a specific look corresponding to your corporate design. To do this, you need a third party less compiler as an external tool.

When the less compiler has run through, you have to put all CSS files in a ZIP file. Then upload it in the UI Designer under Theming.

You have the possibility to download your already uploaded theme again. The icon for this is located to the left of the delete icon.

Image: Second
Application Details
Image: Base of the second s
🕒 *Smart, Maintenance 🔟 Preview 🗇 Assets 💮 CSS Editor 😗 Language 🏘 Libraries 😤 Theming 🖆 Release 🕨 Deploy 🗒 Save X
Theme Overview (?)
fs Bar
Theme Upload Theme
Theme Name Actions
sm52p

To activate the theme, use the client-side business object ITIZ_Utilities with the function ApplyTheme.



Set the input mapping.

To create a theme we recommend to use the UI5 Theme Designer.

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Token Generation

A token is required for a secure communication with the application server. You can generate a token with the following AJAX-Request

```
var token = null;
$.ajax("http://localhost:8080/genToken/client/1.0", {
  method: 'GET',
  headers: {'Authorization': '[Authorization]' // [userName] : [userPassword]},
  success: function(data) {
  if (!data.result) {
    alert("Error retrieving token: " + data.message);
  return;
  }
  token = data.result;
  }});
```

[userName]

The name of the user as String.

[userPassword]

The passsword of the respective user as String.

[Authorization]

The authorization data required for identification. Consisting of the authorization method here the String Basic and the [userName]:[userPassword] as a Base64 encoded String.

Token, Websocket and Request Sending Example

This section contains a detailed code example for generating a token and establishing a websocket with a connector, then a complete subscription followed by a complete unsubscription example. The arbitrary chosen connector is the "TIA_Connector"

Token Generation Example

var token = null; \$.ajax("http://localhost:8080/genToken/client/1.0", { method: 'GET', headers: {'Authorization': 'Basic YWRtaW46YWRtaW4=' // admin : admin}, success: function(data) { if (!data.result) { alert("Error retrieving token: " + data.message); return; } token = data.result; }});

Attention

Using the admin as user might be a security risk. In productive systems the admin should be changed into an authorized user with the respective permissions.

Websocket Connection Example

var webSocket = null
webSocket("ws://localhost:8080/client/1.0/connectorAsync/" + "TIA_Connector" + "?SimplifierToken=" +
token);

Complete Subscription Example

```
var requestSubscribeData = {
   "operation": "MONITORING_SUBSCRIBE",
   "nodes": ["myNode","myOtherNode"],
   "namespaceIndices": [2,2],
   "publishingInterval":1000.0,
   "clientHandlingID": 1,
   "samplingInterval": 1000.0,
   "queueSize": 2,
   "discardOldestItem": true,
   "monitoringMode": "Reporting",
   "returnedTimestamps": "Both"
}
```

```
var requestSubscribe = null;
request = {
  "frameType": "unsubscribe",
  "subscriptionKey":"bb827118-f1b0-2170-9937-f8c7e1620107"
};
```

var requestSubscribe = null; requestSubscribe = { "frameType": "subscribe", "subscriptionKey": "bb827118-f1b0-2170-9937-f8c7e1620107", "json": requestData };

webSocket.send(requestSubscribe);

Complete Subscription Example

var requestUnsubscribe = null; requestUnsubscribe = { "frameType": "unsubscribe", "subscriptionKey":"bb827118-f1b0-2170-9937-f8c7e1620107" };

webSocket.send(requestUnsubscribe);

Transport Approval and Execution

Before a transport is available for downloading, it has to be approved by an Admin. With the right permissions, you will find the "Approve" button next to the "Save" and "Cancel" options in the Transport.

Attention: Save the Transport in advance, else your changes won't appear in the Transport file!

##	ື່										8	Admin Us	ser 🗸
Tran	sport	collection											5
₿	Edit	HelloWorld_TP							J Approve	🖫 Sa	ive	X Cance	эl
		Tr	ansport Name: HelloWorld	_TP									
>	Met	adata											
Tra	anspo	ort Items											
Fe	ature	25				Item	s						
W)			$\otimes \circ$		Sear	rch					Q	
		Name	Feature					Name	Feature				
	ළ	AppHelloWorld	Role				۲	HelloWorld	Application				
	<u>1</u> =	Netzportal_PasswordResetDialog	Widget										
	<u>2</u> =	cwForgotPassword	Widget										
					<								

If the approval process was successful, a download icon appears in the Export column and your transport is now ready for downloading. By clicking on the icon, some metadata about the creator, approver and dates are provided.

The downloaded file can be used to import the data on a different system.

					e	n	Adn	nin User \sim
Transportcollection								جر
								+ Add
Hello								8 Q
Feature Name	Creator	Approver	Export					
HelloWorld_TP	admin	admin		Φ	[<u>a</u> ,	1	
	Export Transport		-					
	Transport Data							
	Transport Name:							
	HelloWorld_TP							
	and a							
	admin	admin						
	Create Date:	Approve Date:						
	2017-02-01 11:10	2017-02-01 12:52						
	Export							
	Export							
	Export Log							

Transports

Imagine you've build a fancy application for one of your customers on a Simplifier instance that you've reserved exclusively for development tasks. Now that it's ready to roll out, you're faced with the question on how to bring this application finally to the customer's Simplifier instance? How can you export and import it, preserving all its dependencies, like connectors and associated roles?

That's when Transports come into play. They allow you to define all of your app's artifacts and let the Simplifier collect them to create a bundle.

Clicking on the "Transports" tile forwards you to an intermediate page where you can choose between the Transport ollection and importing Transports.

 ື່			en	Admin User 🗸
	Tran	sports		
	Transportcollection	Import Transport		

Typical Use-Case PDF Plugin

1. Create a HTML template for PDF generation, including variables and loops in Mustache format.

2. Upload the template with a selected name via the REST interface.

- 1. If you want to correct your template later, change it via the REST interface.
- 2. Upload all required images and stylesheets as uploads in the AppServer.

3. In the App:

- 1. Generation of dynamic data.
- 2. Upload the generated dynamic data under a unique session ID in the key-value store (via the REST interface of the KV store).

The payload needs an unique key and the dynamic data you want to save.

```
var payloadKeyValueStore = {
    key: "sessiondata/myTestApp/" + sap.ui.getCore().getModel().getData().sessionKey,
    content: btoa(JSGN.stringify(sap.ui.getCore().getModel().getData()))
};
this.callPlugin("keyValueStorePlugin", "puthttp", payloadKeyValueStore, callbackStoreSession, true, false, onKeyValueStureFail)
```

- 3. Optional: Uploading additional documents for merging into the key-value store (via the REST interface of the KV store).
- 4. Optional: Uploading a list of these document keys as a merge list in the key-value store (via the REST interface of the KV store).
- 5. Start of the PDF generation with the template name, the session ID and (optional) configuration data for the PDF generation via the REST interface.

```
var callbackStoreSession = function(data){
    if(data.success){
        var payloadGeneratePdf = {
            "template": "templatename",
            "session": " myTestApp/" + sap.ui.getCore().getModel().getData().sessionKey,
            //"configt": "(\"orientation\" : \"Portrait\",\"page-size\" : \"A4\",\"margin-top\" : \"lin\",\"margin-bottom\" : \"lin\",
            //"configt": "(\"orientation\" : \"Portrait\",\"page-size\" : \"A4\",\"margin-top\" : \"lin\",\"margin-bottom\" : \"lin\",
            //\"margin-left\" : \"lin\",\"margin-right\" : \"lin\",\"footer-center\" : \"[page] / [toPage]\"]\"]
    };
    busyDialog.setText("Antrags PDF wird generiert. Bitte haben Sie etwas Geduld.");
    $this.callPlugin("pdfPlugin", "generatePdf", payloadGeneratePdf, callbackGeneratePdf, true, false, onGeneratePdfFail);
    };
};
```

6. Remember the jobID.

4. Asynchronous execution of the PDF generation (background operation).

- 1. Call the Template.
- 2. Call the dynamic data.
- 3. Evaluate the data in the template.
- 4. Call the static assets (images, stylesheets) from the AppServer.
- 5. Convert the finished HTML-file in a PDF.
- 6. Get the merge list and the merge binaries.
- 7. Merge the created PDF with the merge files.
- 8. Save the finished PDF in the key-value store.

5. Call the key-value store via the REST interface with the restrained jobID to see, if the PDF has already been finished.

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```
var jobId;
var callbackGeneratePdf = function(data){
    if(data.success){
        jobId = {
            key: "pdf/"+data.value.jobId+".pdf"
        };
        //timeout for demo purpose
        setTimeout(function(){
            Sthis.callPlugin("keyValueStorePlugin", "gethttp", jobId, callbackFetchPdf, true, false, onKeyValueStureFail);
        },10000);
    };
  };
  var callbackFetchPdf = function(data){
        if(data.success){
            var pdfData = data.result;
            window.open("data:application/pdf;base64,"+pdfData);
    };
  };
  };
}
```

UI Designer



With the UI Designer, you can create and design the user interface of your applications. The interface is divided into four sections: On the left side, you can browse the widgets available for the selected UI. The center presents the content structure as well as an overview about the different screens. On the editing area to the right side, you can change the parameters of the widget that is currently selected in the content structure.

			Application De	etails		en 🛛 🤷 Felicitas Weber 🗸
UI Designer Process Designer Data Workbench	Security Test	ing TBaaS Tests				Code Designer
*FC_SAP_Mobile_Purchase_Order_App		😰 Preview 📔 Ass	sets 🕼 CSS Editor 🛞 Lar	nguage 🌾 Libraries 📧 Theming		🕼 Release 🕞 Deploy 🗙 Exit
Search	Q	Select target screen		5 C 🗟 🖉 +	🚊 Edit Area - Main	
Actions Breadcrumbs Coud_Button NavigationList	× + + +	All Desktop Phone	Tablet Smartglass V Details Ec	Vatch	Properties Select Event ID Main Description showklaster	
NavigationListItem	+	Content Preview			showneauer	
RatingIndicator SideNavigation	++++++	🔓 Main Searc	h Q	$\exists \leftarrow \downarrow \rightarrow \exists \exists$	showOnDesktop V showOnPhone V	
Bars	~	Widget Name	ID	Aggregation	showOnSmartglass 🔽	
CverflowToolbar	+	> qs_Label	labelOrderNumber	ScreenContent	showOnTablet	
ToolbarSeparator	+	qs_SimpleForm	simpleFormOrder	ScreenContent	showOnWatch	
ToolbarSpacer	+					
Chart	~					
iii bindingChartDataPoint	+					
bindingLineChart	+					
chartLabel	+					
templateChartDataset	+					
Composite	~					
CheckBox_Bindings	+					
cloud_CheckBox_Bindings	+					

You have several options in the upper menu bar to navigate to specific features:

₽≡	Preview	Preview your application in the browser – be aware that there are no mobile features like camera available. To preview your mobile applications, use the <u>Simplifier</u> <u>Mobile Client</u> .
	Assets	You can upload assets like documents, images, CAD models or any other file types.
	CSS Editor	Use the CSS Editor to change the layout of your application.
	Language	Translate your application into different languages and set the fallback language.
	Libraries	Add Libraries to your application and get an overview about their dependencies.
	Theming	Upload a particular theme to give your app a specific look according to your corporate design guidelines.
	Release	If you have tested your application successfully, you can release a new version with release notes.
\triangleright	Deploy	Saves and deploys the current app configuration. It's necessary to deploy your application before starting the preview.
	Save	Save the current app configuration.



User Management

The User Management module lets you define many different parameters for users and the roles they take. The <u>QR-Code generator</u> for easy accessing, especially with smart glasses, is also located here.

≣ S	Simplifier Dashboard					
	APPLICATIONS 41	CONNECTORS 29 Costs, manage and configure the interfaces and respective logins to connect to different systems and devices.	BUSINESS OBJECTS 20	DATA TYPES 163 () Create, manage and configure domain types, structures and collections as well as define valuation rules.		
	USERS 11	TRANSPORTS 26 Image: A state of applications and individual components to other Sterighter Instances, enc. studenton and validation of transports. 26	PLUGINS 6	CORES & MONITORING		
	JOBS 3 Create and administrate jobs for the execution of business objects. These are based on flexiby configurable time intervals.	TEMPLATES 6 Creation and definition of resultable HTML text components. These can be personalized by using of different predefined placeholders.				

The following table explains the different User Management functions and their meanings:

User	User Master data	Master data for a user account like Email, Username, Expire Date, Address Data
Roles	Collection of permissions	A role represents a number of permissions and can be assigned to a specific user
Permission	Permissions	Permissions are an authorization like granting access to a specific connector or business app
Groups	Collection of users	A user group contains several users and could be used for workflow logic in business apps like informing a team via email or push notification about a certain event or task

User Overview - Create a new user



The user overview presents you all users of your own Simplifier instance. Aside from the first name and last name you also can see the username and the expiry date of the user. Four icons on the left side allow you to see details of the user, edit or delete the user (only when your role has the permissions) and see if the user has been blocked.

					en	8	Felicitas W	eber 🗸
		User Management						
Angle Angle <th< th=""><th>(&) Permissions</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>	(&) Permissions							
Search								+
First Name	Last Name	User Name	E-Mail	Actions				~
Admin	Liter	admin	admin@tact.do		1 1	ta .c		
Edk	Hufeld	e004	admini@rest.ue	R	11			
Enlicitae	Wabar	(005	falicitas wahar@itizzimo.com	R	1			
Licer	Cast	aast	nast@mail.com	E	1 1			
	Gasi	yası	jas poutrona@itanino.com	E	0 I			
Jan	Paulitanz	Jan.pauliranz	Jan.pauirranz@itizzimo.com			≝ c		
Laura	Streng	1003	laura.streng@itizzimo.com	5.				
Tobias	Schneider	tobias.schneider	tobias.schneider@itizzimo.com	E.	0			

To add a new user click on the "+" icon on the right above the user table. Within the User Details, fill out all required user information and assign a role or group for the user.

⊞ ⊊	3					en d	C Felicitas W	/eber
			User Details					
						Ei	Save 🗙 C	Cancel
D	etails Attributes							
	Salutation: *First Name: *Last name: *Login Name:	Mister V John Doe iohn doe	Roles Groups					
	*E-Mail:	john.doe@gmail.com	Role Name	Role Description	Role Status	Actions		
	Renewal Date: Mobile Number:	20.09.2026	ITZ_AdminUI	This is a role for all AdminUI permissi	V	Ū		
send	d create password link:	V						

After creating a user, a one-time-link via email will be sent to the created user. After email activation via the link, a new password can be set.

You can also assign different **attributes** to a user.

https://academy.simplifier.io

	Add Attribu	t	
Name:			
Division			
Value:			
01			
Category:			
Commissioner_	Information		
Description (option	nal):		
electricity			
		Save	Cancel

Example Use Case:

Let's say we have a utility company.

They use an application to administrate their commissioners. They can add a new commissioner within the app and assign different attributes to him, e.g. a ZIP code or in which division he is working (gas, water, electricity or district heating). Now every commissioner is created as an own user in the Simplifier and you can manage the attributes directly in the user management.

	ABS Bus	inessApp	g [≡] Katrin Bichlmeier ∨
Status Management Email Editor Commissioner	r Submission	Documents Commodity	
+ Add Commissioner			
ZIP Code			
Company			
Expert Firstname			
Expert Lastname			
Phone Number			
Email			
External?			
Division			~
Note			
		L	
User-Log

User-Log logs the Login and Logout actvities from the users.

≣ S					en	Admin User 🗸
			Logs & Monitoring			
Overview Customize User	Execution System Mobile	Transport	a le			
					1 - 40	 of 489
User	Time	Category	Action	Log Level	User	Details
Search for Users	2017-10-17T09:11:30.000+02:00	User	User admin logged in	INFO	admin	
Log Level	2017-10-16T19:09:44.000+02:00	User	User admin logged in	INFO	admin	
Choose Please V	2017-10-16T17:47:48.000+02:00	User	User c015 logged in	INFO	c015	
Category	2017-10-16T17:21:39.000+02:00	User	User paul logged in	INFO	paul	
Choose Please V	2017-10-16T17:19:30.000+02:00	User	User paul logged in	INFO	paul	
From	2017-10-16T17:19:14.000+02:00	User	User paul logged in	INFO	paul	
MMM d, y, h:mm:ss a	2017-10-16T15:48:37.000+02:00	User	Failed login of stresstest3	INFO		
0-40	2017-10-16T15:29:30.000+02:00	User	User paul logged in	INFO	paul	
MMM d v himmiss a	2017-10-16T15:28:36.000+02:00	User	User paul logged in	INFO	paul	
100 LO	2017-10-16T14:59:40.000+02:00	User	User paul logged out	INFO	paul	
C	2017-10-16T14:53:24.000+02:00	User	User paul logged in	INFO	paul	
	2017-10-16T14:53:20.000+02:00	User	User paul logged in	INFO	paul	

Using OAuth for authorization on Amazon

Authentication Settings

Authentication Settings
*Name: Amazon

*Priority: 0

*Mechanism: OAuth2.0

OAuth 2.0 Settings

These settings depend on the third-party provider.

 \sim

OAuth 2.0 Settings



Display Name	The display name is shown on the login button.
Client ID	The client ID identifies the application and is defined by the
	configuration on the OAuth server.
Client Secret	The client secret authenticates the application and is defined
	by the configuration on the OAuth server.
Scope	The scope determines which rights are gained with the access
	token. E.g. 'profile', 'email', etc. for gaining rights to access
	the user profile/user email.
Authorization Endpoint	The authorization endpoint is the URL to which an
	authorization request is sent.
Token Endpoint	The token endpoint is the URL to which an access token

Redirect Endpoint

Additional Query Parameters

Icon

OAuth Profile

OAuth Profile

*Profile URL:	https://api.amazon.com/user/profile	
*Profile Path:		
*Profile Verb:	GET	\sim
*First Name:	name	
*Last Name:	name	
*E-Mail Address:	email	
Mobile Phone Number:		

The redirect endpoint is the URL to which the browser is directed after successful authorization. This URL needs to be

You can add additional query parameters, such as name and

The icon will be displayed on the login mask above the

entered in the OAuth server configuration.

request is sent.

display name.

value.

Profile URL Profile Path	The URL to which a user profile request is sent. The path which points to the user profile. E.g. '.', 'profile', etc.
Profile Verb	GET, POST, PUT
First Name	The path which points to the entry of the user profile containing the first name. E.g. 'givenName', 'person.firstName', etc.
Last Name	The path which points to the entry of the user profile containing the last name. E.g. 'surName', 'person.lastName', etc.
E-Mail Address	The path which points to the entry of the user profile containing the email address. E.g. 'mail', 'emails.0.value', etc.
Mobile Phone Number	The path which points to the entry of the user profile containing the mobile phone number. E.g. 'phone', 'phones.mobile', etc.

Test Authentication

The settings for OAuth 2.0 can be tested within the configuration. Since the test procedure includes several steps, it is necessary to save the settings first.

The assignment of an access token can be tested by pressing the 'Test authentication' button, while pressing the 'Test profile

extraction' button initiates the complete OAuth 2.0 procedure, which assigns an access token and also collects a user profile with the required data.

Test Authentication

Test authentication

Test profile extraction

Using OAuth for authorization on Azure

Authentication Settings

Authentication Settings	
*Name:	Azure
*Priority:	0
*Mechanism:	OAuth2.0 V

OAuth 2.0 Settings

These settings depend on the third-party provider.

OAuth 2.0 Settings



Display Name	The display name is shown on the login button.
Client ID	The client ID identifies the application and is defined by the configuration on the OAuth server.
Client Secret	The client secret authenticates the application and is defined by the configuration on the OAuth server.
Scope	The scope determines which rights are gained with the access token. E.g. 'profile', 'email', etc. for gaining rights to access the user profile/user email.
Authorization Endpoint	The authorization endpoint is the URL to which an authorization request is sent.
Token Endpoint	The token endpoint is the URL to which an access token request is sent.
Redirect Endpoint	The redirect endpoint is the URL to which the browser is

Additional Query Parameters

Icon

OAuth Profile

OAuth F	Profile
---------	---------

directed after successful authorization. This URL needs to be entered in the OAuth server configuration.

You can add additional query parameters, such as name and value.

The icon will be displayed on the login mask above the display name.

*Profile URL:	https://graph.microsoft.com/v1.0/me	?
*Profile Path:		?
*Profile Verb:	GET V	
*First Name:	givenName	?
*Last Name:	surname	?
*E-Mail Address:	mail	?
Mobile Phone Number:	telephoneNumber	?

Profile URL	The URL to which a user profile request is sent.
Profile Path	The path which points to the user profile. E.g. '.', 'profile',
	etc.
Profile Verb	GET, POST, PUT
First Name	The path which points to the entry of the user profile containing the first name. E.g. 'givenName', 'person.firstName', etc.
Last Name	The path which points to the entry of the user profile containing the last name. E.g. 'surName', 'person.lastName', etc.
E-Mail Address	The path which points to the entry of the user profile containing the email address. E.g. 'mail', 'emails.0.value', etc.
Mobile Phone Number	The path which points to the entry of the user profile containing the mobile phone number. E.g. 'phone', 'phones.mobile', etc.

Test Authentication

The settings for OAuth 2.0 can be tested within the configuration. Since the test procedure includes several steps, it is necessary to save the settings first.

The assignment of an access token can be tested by pressing the 'Test authentication' button, while pressing the 'Test profile extraction' button initiates the complete OAuth 2.0 procedure, which assigns an access token and also collects a user profile with the required data.

Test Authentication



Using OAuth for authorization on Google

Authentication Settings

Authentication Settings	
*Name:	Google
*Priority:	0
*Mechanism:	OAuth2.0 V

OAuth 2.0 Settings

These settings depend on the third-party provider.

OAuth 2.0 Settings



Display Name	The display name is shown on the login button
Client ID	The client ID identifies the application and is defined by the
	configuration on the OAuth server.
Client Secret	The client secret authenticates the application and is defined
	by the configuration on the OAuth server.
Scope	The scope determines which rights are gained with the access
	token. E.g. 'profile', 'email', etc. for gaining rights to access
	the user profile/user email.
Authorization Endpoint	The authorization endpoint is the URL to which an authorization request is sent.
Token Endpoint	The token endpoint is the URL to which an access token request is sent.
Redirect Endpoint	The redirect endpoint is the URL to which the browser is directed after successful authorization. This URL needs to be entered in the OAuth server configuration
Additional Query Parameters	You can add additional query parameters, such as name and value.

Icon

The icon will be displayed on the login mask above the display name.

OAuth Profile

OAuth Profile

	https://www.googloopio.com/olup/rd/pooplo/mo	0
"PIOIIIE ORL.	nups.//www.googleapis.com/plus/v1/people/me	Ø
*Profile Path:		?
*Profile Verb:	GET v	
*First Name:	name.givenName	?
*Last Name:	name.familyName	?
*E-Mail Address:	emails.0.value	?
Mobile Phone Number:		?

Profile URL Profile Path	The URL to which a user profile request is sent. The path which points to the user profile. E.g. '.', 'profile',
Profile Verb First Name	GET, POST, PUT The path which points to the entry of the user profile containing the first name. E.g. 'givenName',
Last Name	'person.firstName', etc. The path which points to the entry of the user profile containing the last name. E.g. 'surName', 'person.lastName', etc.
E-Mail Address	The path which points to the entry of the user profile containing the email address. E.g. 'mail', 'emails.0.value', etc.
Mobile Phone Number	The path which points to the entry of the user profile containing the mobile phone number. E.g. 'phone', 'phones.mobile', etc.

Test Authentication

The settings for OAuth 2.0 can be tested within the configuration. Since the test procedure includes several steps, it is necessary to save the settings first.

The assignment of an access token can be tested by pressing the 'Test authentication' button, while pressing the 'Test profile extraction' button initiates the complete OAuth 2.0 procedure, which assigns an access token and also collects a user profile with the required data.

Test Authentication

Test authentication

Using SAML with Goolge - G Suite

The prerequisite for using SAML with Google is G Suite with administration rights.



≡ Google Admin 8 ? * Apps APPS SETTINGS Marketplace settings 51 1 11 Additional Google services G Suite Marketplace apps G Suite Core Services Blogging, photos, video, social tools Add and manage third-party apps and more These services are governed by your G Suite agreement. These services are not governed by your G Suite agreement, and other terms apply. Learn more 4 SAML apps Manage SSO and User Provisioning

Log in at admin.google.com with your Google account, select the item "Apps" and then the item "SAML-Apps".

Use the "+" button to create an SSO for a SAML application.

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≡ Google Admin	Q Search for users, groups, and settings (e.g. add do	main) 8 ?	
Apps > SAML Apps			÷ i
Services	Status 🔺	Certificate	
7 Man marpha n	[1]]]] WWWWW	la preside del CALINA (CLARA), dela del 19 Serie del CALINA (CLARA)	8 8 2
1 Anna		la preside del la presidente de la presi	:
1 Annual	[11]]11.00007710	la preside del la facto de la dela dela del	:
S ####	CRUH MURIPHI	berrika dari berkeri berkeri bakaka ber Balandari kerika	:

Enable SSO for a SAML Application

At the bottom of the pop-up, you can select "SETUP MY OWN CUSTOM APP".

Step 1

Enable SSO for SAML Application

Select an service/App for which you want to setup SSO

Filter Apps

Services	Provisioning supported	
15Five	\checkmark	>
4Me		>
7Geese		>
Accellion		>
Adaptive Insights		>
Adobe Sign		>
AgileApps Cloud		>

SETUP MY OWN CUSTOM APP

Google will provide you with two options. Please download the IDP Metadatafile under option two and press NEXT.

×

Step 2 of 5 Google IdP Information

Choose from either option to setup Google as your identity provider. Please add details in the SSO config for the service provider. Learn more

Option 1	
SSO URL	https://accounts.google.com/o/saml2////////////////////////////////////
Entity ID	https://accounts.google.com/o/saml2?////////////////////////////////////
Certificate	Google_2023-2-28-113451_SAML2.0
	Expires Feb 28, 2023
	▲ DOWNLOAD
	OR
Option 2	
IDP metadata	▲ DOWNLOAD

PREVIOUS

CANCEL NEXT

×

Here you can assign a freely selectable name, in our example "Simplifier-Tutorial" with the description "Simplifier SAML". In the lower area you can upload a logo. Here you can download the Simplifier logo.



Step 3 of 5 Basic information for your Custom App

Please provide the basic information needed to configure your Custom App. This information will be viewed by end-users of the application.

Application Name *	Simplifier-Tutorial		app-id:
	simplifier-tutorial		
Description	Simplifier SAML		
Upload logo	CHOOSE FILE		
	Download.png	1.88 KB	
	This logo will be displayed for all	users who have access t	o this application

This logo will be displayed for all users who have access to this application. Please upload a .png or .gif image of size 256 x 256 pixels.

PREVIOUS

CANCEL NEXT

×

Now open the user interface of Simplifier parallel in a new tab and open the settings and select "Authentication". Here you create a new authentication method with the "+" symbol, set a name for this method e.g. "Google", set priority to "0" and select Mechanism to "SAML 2.0".

Now you can specify a display name and set the maximum lifetime to "486000" seconds (8 hours) as suggested by us.

Copy the Service Provider Endpoint and paste it into the Service Provider Entity ID.

Now open the IDP Metadata File already downloaded from Google: GoogleIDPMetadata-<your-domain>.xml with a text editor of your choice and copy the content into IDP Metadata. Additionally you can define a logo.

🗮 🛱 simplifier	Settings	② Admin User ~
Image: Server Image: S	Log Server Environment	
Authentication Settings		(E) Save 🗶 Exit
■Name: ■Priority: ■Mechanism:	Goolge 0 SAML 2.0	
SAML Settings		
Service Provider Endpoint: ©Display Name: *Force authentication: *Passive: *Sign Assertions: *Maximum Lifetime (in seconds): *Service Provider Entity ID: *IDP Metadata: Icon:	https://tutorial.simplifier.io/authentication/saml/Goolge/authenticate	0 0 0 0 0 0 0

Please copy the Service Provider Entity ID again and switch to the Google Admin Portal. There you paste the previously copied URL under ACS URL and Entity ID. In the field ACS URL, the domain must be added ":443".

Leave the Start URL field empty and tick the checkbox at Signet Response.

S	SAML-Tutorial ON for everyone
Service Provider De	etails
Please provide service provid	der details to configure SSO for SAML-Tutorial. The ACS url and Entity ID are mandatory.
ACS URL *	https://tutorial.simplifier.io:443/authentication/saml
Entity ID *	https://tutorial.simplifier.io/authentication/saml/Goc
Start URL	
Certificate	Google_2023-2-28-113451_SAML2.0 Expires Feb 28, 2023
	Manage certificates
Signed Response	
Signed Response Name ID	Basic Information Primary Email

Click on NEXT and then on FINISH.

Then you have to edit the attributes Mapping.

Click on ADD NEW MAPPING.

Please transfer the values from the Simplifier Settings page as in the example and save them in Simplifier as well as in the Google Admin Portal.

*First Name:	firstname	0
*Last Name:	lastname	0
*E-Mail Address:	email	3
Mobile Phone Number:		0

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≡ Google Admin	Q Search for users, gro	pups, and settings (e.g.	add	user)				8	?		
Apps > SAML Apps > Settings fo	for SAML-Tutorial								Z	Î	:
	SA OFF fo	ML-Tutoria	l			✓ EDIT S	SERVICE				
^ Attr	Service Provider Details Set up basic service provider (SP) deta ribute Mapping	ails like the ACS URL, entity id a	and mo	re							
Provi	vide mappings between service prov	ider attributes to available u Basic Information	ser pro	ofile fields. First Name	*						
lastr	tname	Basic Information	Ŧ	Last Name	Ŧ						
ema	ail	Basic Information	*	Primary Email	*						
ADI	DD NEW MAPPING										
						DISCARD	SAVE				

Finally, the SAML app must be activated for all or certain users in Google. Click on EDIT SERVICE and select "ON for everyone" and SAVE.

≡ Google Admin					8	?	
Apps > SAML apps > Setti	ings for SAML-Tutorial > Service status						
	SAML-Tutorial		Showing settings for users in all organisation	al units			
4	All users in this account		Service Status		^		
	Organisational units	^	Service status:	IN for everyone DFF for everyone			
	Search for organisational units	_	0	Changes may take up to 24 hours to propagate to all users.			
	- Comparente			CANCEL	SAVE		

Now you can login to Simplifier with your Google account by clicking on the SAML button, in our case "Google". This will open the Google Login page. After successful authentication, you will be redirected to the Simplifier dashboard.

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Using SAML with Microsoft ADFS

For using Microsoft ADFS as SAML Service Provider, you must build a XML metadata file.

Important: The ADFS setting for maximum lifetime is 480 minutes (8 hours), so increase this value when authenticating with an ADFS service.

Go to <u>SAML TOOL</u> to build the XML metadata and fill out the required fields:

SAML TOOL	Simplifier	Description
Attribute Consume Service Endpoint	Service Provider Entity ID	Endpoint URL that needs to be
(HTTP-POST)		configured in SAML IDP. It is set by the
		instance name and the previously
		assigned authentication name by
		Simplifier.
EntityId	Service Provider Endpoint	At default, the entity ID of your
		application (Service Provider) is equal to
		the callback URL, but you can force
		your own entity ID by setting this
		parameter.
SP X.509 cert	The certificate bundle is created in the	Only the certificate (*.crt) is required.
	next step and inserted into Simplifier	
	data storage.	

A certificate bundle is required for SAML authentication. To create the XML metadata, the CRT in x.509 format is needed and Simplifier needs a JKS bundle.

To create the required certificates, we have created a bash script in the Simplifier Docker Container.

docker exec -it <Simplifier Container Name> \ bash -c "/opt/simplifier/bin/create_sam
l_keystore.sh"

root@vm-builddownload:~# docker exec -it simplifier bash -c "/opt/simplifier/bin/create_saml_keystore.sh"
Please enter a password of at least 6 digits for the certificate. : YourPassword
Please enter your 2 digit country code (e.g. for Germany 'DE'). : DE
Please enter the name of your city. : Würzburg
Please enter the name of your company or organization. : Simplifier AG
Please enter the name of your company or organization unit. : Academy
Enter the name of the FQDN of the Simplifier Server (e.g. simplifier.yourcompany.com) : tutorial.simplifier.io
Generating a 2048 bit RSA private key writing new private key to 'default.key' Signature ok subject=/C=DE/L=WS\xC3\x83\xC2\xBCrzburg/O=Simplifier AG/OU=Academy/CN=tutorial.simplifier.io Getting Private key Importing keystore samlKeystore.p12 to samlKeystore.jks... keytool error: java.io.IOException: Keystore was tampered with, or password was incorrect include "/opt/simplifier/data/conf/saml.conf" When creating the metadata XML at www.samltool.com a SP X.509 cert is required. Please paste this in: -BEGIN CERTIFICATE-MIIDmjCCAoKgAwIBAgIJAIlnIssXmYNKMA0GCSqGSIb3DQEBCwUAMG8xCzAJBgNV BAYTAKFMRUWEWYDVQQHDAxXU80Dwrxyemj1cmcxfjAUBgNVBAoMDVNpbXBsaW2p ZXIgQUcxEDA0BgNVBAsMB0FjYWR1bXkxHzAdBgNVBAMMFnR1dG9yaWFsLnNpbXBs aWZpŹXIuaW8wHhĊNMTkwNjIxMDgzMDM0WhĊNMjkwNjE4MDgzMDMÓWjBvMQsŵCQYD aw2p2Atdaw6winickiitkwkjrakdg2winickiijkwkjc4mig2AuD40wjb5kg2wCg1D VQQGEwJERTEVMBMGA1UEBswMV1PD98K8cnpidXJnMRYwFAYDVQQKDA1Taw1wbG1m aWVyIEFHMRAwDgYDVQQLDAdBY2FkZW15MR8wHQYDVQQDBZ0dXRvcmlhbC5zaW1w bG1maWVyIm1vMIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEA1KPu+2wT aqiBIjso25Qn4sMtMa0J/DTMq9XN1+eF7mZbg3ld3ZlGVX4+yWeUz6XM+73QwH1)W57eCu9afDCN1eJZpRrVCvCGnf+kQCogCB2RSLv1W81xRfWCzZsRc+9vt70MITz i+csK1Y4dmQkMeC9q6GnsoQAqcX1UTQ/IIjGq/jK3X1wtNRj8/c1MXm8yyCgtL9J x0iN1A17F2RkZAQaEK87LoVJHhfLW8/5X6vHHR1QLarKL2k8c7/rSp14w1K9oPat WTocMe99vvci7ojexRb43PNJA0vg3gFKPwj1HEmUDKXOQk+jUY8A+p3DOMPx06WQ jOExvle7Q2zQjwIDAQABozkwNzASBgNVHRMBAf8ECDAGAQH/AgEAMCEGA1UdEQQa JDEXYTE 7Q22QJWTDAQABO2KWKAASBGNYHAMBATOBCDAGAQH AQBAMCBGATOGBQQA MBiCFnR1dG9yaWFsLnNpbXBsaWZpZXIuaW8wDQYJKOZIhvcNAQELBQADggEBABhT JD90x+82mpvBPE30zSpEGW+yUJ062UapPsxlotgi3xLJDhKoQsio5yhaNOHGRjFZ fAavLftZMYY6GRaB70NwduJH2alhsS3tIGMybSPM54UNGayPRL0yvravbUZXVAHB g53prqinkTgBymwX5FrfkvpZPXnZW21B4Epr/xifJ3FqJEy74xRz4MRRaWtX34KC GNwZDecsGZvY8IWKzFrVSVyQDa/DsjmeRBjC0Z34QhqvoGLQB5eMTPZnanfVmQ4d StVGbJqZk8u/eAxw5tyjvHCcUgfJlN+Brd1exAWk2sKvPaZ2US1+EvF99EXcYPy3 V1402Lxz/CBP6m1B END CERTIFICATE

Insert the output of the script (certificate) into the SAML tool and click on the button 'BUILD SP METADATA'.

Please save the XML text as a file.

In the configuration for ADFS, you now need to run the Add Trust Positions for Trusted Pages wizard and insert the XML file.

The IDP metadata file required for Simplifier can now be obtained from the SPE. This must be entered in the IDP metadata field.

With ADFS (Windows Server 2016) this would be:

https://<ADFS-SERVER>/FederationMetadata/2007-06/FederationMetadata.xml

Websocket API Documentation (Incomplete)

This section contains a description for the websocket methods. As for now this API is considered incomplete.

onOpen

The function, which will be executed, when the websocket is opend. The code block can be found below:

webSocket.onopen = function(message) {[FunctionLogic]};

onClose

The function, which will be executed, when the websocket is beign closed. The code block can be found below:

webSocket.onclose = function(message) {[FunctionLogic]};

onError

The function, which will be exceuted, when the websocket throws an error. The code block can be found below:

webSocket.onerror = function(message) {[FunctionLogic]};

onMessage

The function, which will be executed, when the websocket returns a message. The code block can be found below:

webSocket.onmessage = function(message) {[FunctionLogic]};

close

This function closes the websocket.

webSocket.close();

send

A specific request will be send to the websocket and interpreted by the other side of the connection. In this case a connector:

webSocket.send([request]);

[FunctionLogic]

This parameter contains the function, which will be executed.

[request]

This parameter is a JSON object send to the respective function. The requests for the Connector can be found here.

Websocket Communication

The following sections contain information about how to use asynchronous connector subscriptions and unsubscriptions. For now, the subscription and unsubscription process can be initialized only programmatically and solely with the OPC/UA Connector.

Websocket Generation

After receiving a token, as described <u>here</u>, a websocket connection can be established with the application server with the following code:

var webSocket = null
webSocket = new WebSocket("ws://localhost:8080/client/1.0/connectorAsync/" + [ConnectorName] + "?SimplifierToken=" +
[Token]);

[ConnectorName]

This parameter represents the connector, that the websocket connection will be established to.

[Token]

The generated token object.

Widget Assistant

An assistant is provided for maintaining OpenUI5 widgets. If you enter any UI5 control type in the Widget Customizer on the OpenUI5 tab and click the magic wand button, the template, properties, events, and aggregation is filled with the information of the control and all its ancestors.

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≣ S					in Admin User
Image: Widget Image: CopenDiff Image: CopenDiff Image: CopenDiff Template Script	Angular2				
Def	Type of a Widget: sap m.Table		ļ		
<pre>2 'idr: ?((a);), 3 'typ: :((typ)), 6 'typ: :((typ)), 6 'typ: :(byp)), 7 'fields/outra: '((sieldsforp(a)), 7 'fields/outra: '((sieldsforp(a)), 9 'type://sieriest), 10 'headerOsign: '((sheaderOsign)), 11 'footnat: '((skeatract)), 12 'type://sieriest), 13 'matst: ?((skeatract)), 13 'matst: ?(skeatract), 14 'matst: ?(skeatract), 15 'matst: ?(skeatract), 15 'matst: ?(skeatract), 16 'matst: ?(skeatract), 17 'matst: ?(skeatract), 18 'matst: ?(skeatract), 19 'matst: ?(skeatract), 19 'matst: ?(skeatract), 19 'matst: ?(skeatract), 19 'matst: ?(skeatract), 19 'matst: ?(skeatract), 10 'matst: ?(skeatr</pre>	v?), sslection)), tor)), 				
					+
Search					Q
Name	Description	Default Value	Data Type	Translatable	Actions
busy	boolean	false	Boolean ~		Ē
busyIndicatorDelay	int	1000	Integer ~		Ŵ
visible	boolean	true	Boolean		Ŵ
fieldGroupIds	string[]		String ~		100
					(E)
Widgets

A widget represents a specific element in the user interface (e.g. checkbox, button or login screen).

To customize a widget, click on the 'Applications' tile and choose the 'Widgets' tab.



Press the '+' button on the right to add a new one.

If you want to create a new widget, you will be forwarded to the Widget Customizer. There you'll have 4 different tabs:

The first one describes all global settings of the widget which are independent of UI5 or Angular (e.g. category). The OpenUI5, Angular and Angular 2 tabs contain the specific parameters and settings for each framework.

Later on, the Simplifier will choose the right parameters depending on your application type.

Take a look at the constructor details in its API reference and search for the control/widget you want to create in the Simplifier.

Now add a name and optionally a description, default binding-property, category and tags.

Widget Customizer	
Widget OpenUI5 Angular Angular2	
*Name: Description:	Panel The panel is a container for grouping and displaying information. It can be collapsed to save space on the screen.
Default Binding-Property: Category:	Layout ~
Tags: Deprecated:	layout⊗ panel⊗ i

Switch to the tab OpenUI5 and enter the widget type. It has to be the same as the UI5 control name. Use the wizard, to extract the widget data automatically.

Widget Customizer	
Image: Widget OpenUI5 Angular Angular2	
Template Script	
Type of a Widget: Default Binding-Property:	sap.m.Panel

So the template for the widget was filled in as well as the properties with the data type and default value.

Template	Script												
		Defau	Type of a Widget: It Binding-Property:	sap.m.Panel				×					
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fieldGroupIds			string[]						String	ð		Ē	
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The events and the aggregations with content type. If the aggregations shall contain more than one control, they are marked as multiple.

Properties	Events	Aggregation	Libraries	Data Aggregations		
						+
Search						Q
			Name		Description	Actions
validationSucce	ss				Event validationSuccess	Ū
validationError					Event validationError	Ū
parseError					Event parseError	Ŵ
formatError					Event formatError	Ŵ
modelContextC	hange				Event modelContextChange	1

Properties	Events	Aggregation	Libraries	Data Aggregations			
							+
Search							Q
		Name		Description	Content Type	Multiple	Actions
tooltip				Aggregation tooltip	sap.ui.core.TooltipBase		Ū
customData				Aggregation customData	sap.ui.core.CustomData	v	ŵ
layoutData				Aggregation layoutData	sap.ui.core.LayoutData		Ŵ
content				Aggregation content	sap.ui.core.Control	v	Ū
headerToolbar				Aggregation headerToolbar	sap.m.Toolbar		Ū

After hitting the "Save" button, you've successfully created a new widget.

Within the overview, you can edit, take a look at the details, delete or copy a widget or take a look at the description, category, tags, and if it's deprecated or not.

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Count: 198		🖔 Widget Categories	+ 1	Ħ
sf_panel			⊗ Q [∃	=
SF_Pa	nel Lis a container f	x grouping and displaying information. It can be collapsed to save space on the screen.	SF_Panel	Ŵ
			The panel is a container for grouping and displaying information. It can be collapsed to save space on the screen. Category Layout Tags panel Deprecated Cg1 Copy Widget	

WRITE Call - OPC/UA Connector

Call for WRITE operations (the name TIA_WRITE is the arbitrarily chosen name for this call)

			Create Connectorcall				
Call							
Connectorcall n	ame: TIA_WRITE						
Descrip	otion: Writes a value	into one Node					
put Parameters Output Parameters							
put Parameters Output Parameters							
put Parameters Output Parameters	Optional	Allas	Description	Constant Value	Data Type		Actions
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Input Parameter

For the WRITE Connector Call, you need to configure the "**operationType**" and the "**nodeId**" (consisting of 2 parameters: **identifier** and **namespaceIndex**). Furthermore, you need to define the **operationTarget** and the **value**.

operationType: Defines which operation you want to execute, in this case, "WRITE". Parameter Name: operations/arrayItem[0]/operationType Constant Value: WRITE Data Type: String

nodeID: Defines the identification of the OPC/UA node. It is split in 2 parameter:

- Identifier: Parameter Name: operations[0]/nodeId/identifier Data Type: String or Numeric Constant Value: 84
- NamespaceIndex: Parameter Name: operations[0]/nodeId/namespaceIndex
 Data Type: String Constant Value: 0 In every namespace, each ID must be unique (it is possible to use the String "7617" and the Numeric 7167 together in one namespace)
- identifierType (optional): Searches for the Identifier with a fixes Data Type. Parameter Name: operations[0]/identifierType Constant Value: Numeric, UUID, String, Byte String

operationTarget:

Parameter Name: operations[0]/operationTarget Constant Value: Choose between

- WITHOUT_EVERYTHING
- WRITE_ONLY
- CONFIRM_ONLY
- WRITE_THEN_CONFIRM
- READ_ONLY
- READ THEN WRITE
- READ_THEN_CONFIRM
- READ_THEN_WRITE_THEN_CONFIRM

values The values, which are going to be written into the nodes.

Parameter Name: operations[0]/value

Data Type: String

The position of the values will equal the position of the node. For example, if node a is on the first position and node b on the second, whereas value x is on the first and value y on the second position then value x will be written into node a and value y into node b.

NOTE: The specific commands are NOT defined here!

Output parameters

You can return all output parameter like this:

Parameter Name: / Data Type: String

If you want to get only selected output parameter, use the following syntax:

Parameter Name: operationsResult/[0]/newValue/value (exemplary) Data Type: depends on the parameter you want to be returned.

For now, only the complete unformatted JSON will be returned.

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