Simplifier Developer

Documentation & Community

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Access Business Object via Script

https://developer.simplifier.io/documentation/applications/process-dashboard-and-designer/logic/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)

Access Control for Web Applications

https://developer.simplifier.io/documentation/security-guidelines/access-control-for-web-applications/

Access control is very important because it prevents unauthorized persons from having access.

Use the standard roles for access control



SF_Administrato	This is a role for all AdminUI permissions
r	
SF_AppBuilder	This role provides the permissions for App creation
SF_AppUser	This role provides the permission to execute Apps
SF_Developer	This role provides the permissions to create Apps and building blocks such as Business Objects,
	Connectors, etc.
SF_ExtAuthUser	This is a role for read-only users that are synced from an external authentication-service

In general, you should only assign permissions with the Characteristic Execute to end-users.

AppDemo	Ø	2
Description		
Role for application: Demo		
Active		
Users with this role		
f005		
Permissions		
App: Demo		
Edit		
Execute		\checkmark
Release meta data		
View		

Never assign the Permission Roles with the Characteristic Assign to external users!

Permissions

Add Permission Assigned Permissions					
Permission Name	Characteristic	Value	Actions		
Roles	Create	✓	Ŵ		
Roles	Read	✓	Ū		
Roles	Edit	✓	Ū		
Roles	Assign	X	Ū		
Roles	Delete	✓	<u>.</u>		

Never select this checkbox for external or non-administrative users!

Monitor role changes in the system centrally

All changes are written to the system log. This enables you to monitor role changes centrally, as well as role and permission assignments.

	😅 sımplifier			Logs & Monitoring	Details	\sim tas Weber \sim
0	ар Эно Verview			ling of 1 Bittler operands [50 yr] 1 Mil	{ "role":{ "role":{ "name":"AppDemo", "deciption":"Role for application: Demo", "active"true	
	User	Time	Category	Action), "oldRole":("name":"AppDemo",	Details
	Search for Users 🗗	Nov 20, 2019, 3:16:14 PM	Customize	Role AppDemo updated	"description":"Role for application: Demo", "active":true	
	Log Level	Nov 20, 2019, 3:15:38 PM	Customize	Role AppDemo updated	}, "changedPermissions":{	
	Please Choose V				added Permissions":[{	
	Category Customize ~				"technicalName","com.itizzimo.app.Demo", "characteristic","edit", "value","true"	
	From Nov 20, 2019, 3:00:00 PM				" technicalName":"com.itizzimo.app.Demo",	
	Until					
	MMM d, y, h:mm:ss a					

		K < 1 v of 1 Entries per page 50 v > W			
Time	Category	Action	Log Level	User	Details
Nov 20, 2019, 3:30:24 PM	Customize	User f005 updated	INFO	f005	
Nov 20, 2019, 3:30:24 PM	Customize	1 Roles added to user: [f005]	INFO	f005	
Nov 20, 2019, 3:16:14 PM	Customize	Role AppDemo updated	INFO	f005	ii)
Nov 20, 2019, 3:15:38 PM	Customize	Role AppDemo updated	INFO	f005	ii i

8/317

Action

https://developer.simplifier.io/documentation/applications/process-dashboard-and-designer/action/

Navigation | UI Action | Mobile Action | Server Action

Navigation

Vimeo Video

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.

Active Directory

https://developer.simplifier.io/documentation/admin-settings/authentication-settings/active-directory/

Simplifier is able to sync users of Active Directories, like users from other LDAP sources.

General Settings

Server	Passwords	License	Authentication	Messages	Log	C3 Server Environment			
Active Directory: Con	npany_ActiveDirectory								🖫 Save 🗙 Exit
General settings	Mechanism settings	User details	User attribute	s User roles	Test				
		*Na	ime: Company_A	ActiveDirectory				0	
		*Prio	rity: 0					0	
		*Mechan	ism: Active Direc	ctory			~	0	

Name	Name under which this authentication mechanism settings is saved
Priority	The position of the execution of the respective authentication mechanism – the higher the number, the earlier
	the respective authentication mechanism is used. If same numbers are available, the sequence is determined
	lexicographically ascending
Mechanism	The authentication mechanism

Mechanism Settings

Server	Passwords	 License	Authentication	Messages	Log	Server Environment						
Active Directory: Comp	pany_ActiveDirectory										🖁 Save	🗙 Exit
General settings	Mechanism settings	User details	User attribute	s User roles	Test							
		*Hostn	ame: 127.0.0.1						0			
		*	Port: 1						0			
		*Base	DN: OU=Users,0	OU=users,OU=cor	npany,OU=_Com	panies,DC=comp,DC=	local		0			

Hostname	The hostname of the server may be an IPv4 address or a fully-qualified hostname (FQHN)
Port	The port of the server
Base DN	The entry point for the directories.

Add a new Library

https://developer.simplifier.io/documentation/applications/including-libraries/add-new-library/

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

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📰 🛱 simplifier		Applications		2	\bigcirc Felicitas Weber \sim
Library Details					몇 Save 🗙 Cancel
Name & Description					
*Name: *Version: *System Library: Vendor: Comment:	ChartIS 272 0 II https://cdnjs.cloudflare.com/ajav/libs/Chart.js/272/Chart.min	jŝ			
Compatibility					
	UIS Compatible: 🗹		Default for UI5:		
Content					
ZIP File: JS Code to Include:	Upitad addScript(Chart.min.js', 'charUS');				
Dependencies					
			+		
	Name Version	Ad	tions		

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.
		license information
Compatability	UI5 compatible	Controls the assignment to UI5 Apps
	Default for UI5	Assigns the library automatically when creating UI5 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 can be added via the plus icon

Add a PDF Template

https://developer.simplifier.io/documentation/plugins/pdf-plugin/technical-call-pdf-plugin/add-pdf-template/

Add Template

To add a template, you need the following parameter:

 URL
 /client/1.0/PLUGIN/pdfPlugin/adminTemplateAdd

 Input-ParaName
 Template name

 meter
 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)

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

https://developer.simplifier.io/documentation/installation-instructions/general-instructions/additional-requirements-oracledatabases-backend-premise-installation/

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

https://developer.simplifier.io/documentation/templates/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. On the right side, you see a preview of the template. Once you have created the template content, click Save.

	S simplifier	Terr	plates		?	$\underline{\underline{O}}$ Felicitas Weber \vee
						Save X Exit
	Folder name: Template Name: Description:	system NewUserPasswordMaiLen				<u>{</u> ")
Те	Template Parameter		Preview			
i	(h)Simplifier account password link//hl) (dr) (dr)	🕷 🛛 😨 🔀	Simplifier account password link			
	<pre>9 carby 5 carby 5 carby 9 (carby) 10 (carby) 11 cbry 12 carby 13 carby 13 carby 14 carby 13 carby 15 carby</pre>	ount password(/a)	Please use this link to set the password the set of the	for your Simplifier account. word word link, please delete this mail.		
L	16 Thanks, br> 17 your Simplifier Team		Thanks, your Simplifier Team			

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.

Android Client

https://developer.simplifier.io/documentation/simplifier-mobile-client/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 Touch ID, 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.

Tip: Use the **QR code login** that fills in your username, password and instance URL. Read <u>here</u> how to create a corresponding QR code in Simplifier.

Once you have been successfully authenticated, you are in the overview of installed applications. In 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.



Browse Apps

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

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Application Updates

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



Settings

To define the settings, click on the right tab **Settings**.

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https://developer.simplifier.io



Section	Setting	Description
General	Autostart Business Application	Choose an application to start automatically after login (default none).
	Application start delay	Delay the autostart for a number of seconds (default 3 seconds).
	Automatic Login	After opening the client login directly (default off).
	Automatically update authentication	Sessions will be automatically extended (default off).
	Dark theme	Enable the dark theme (default off).
Storage	Libraries	Number of downloaded libraries.
	Used storage	Displays the used storage of libraries.
	Remove unused libraries	Removes unused libraries (it's a button).
	Modules	Number of downloaded modules.
	Used storage	Displays the used storage of modules.
	Remove unused modules	Removes unused modules (it's a button).
	Installed applications	Displays the number of installed applications.
	Used storage	Displays the used storage of applications.
	Remove all applications	Removes all business applications from the device.
	Automatic updates	Updates business application before launch (default off).
Remote Call	Default settings	Uses default remote call settings (default on). Custom settings will be visible if default is off.

	Local Stream	
	Resolution	Select a maximum target resolution supported by a camera (640x480px).
	Frames per second	Set the frames per seconds to be sent (default 30).
	Maximum video bandwidth	
		Set the maximum video bandwidth in kb/s (default 5000 kb/s).
	Maximum audio bandwidth	
		Set the maximum audio bandwidth in kb/s (default 200 kb/s).
	Video codec	
		Choose the video codec for the streams (default H264).
	Audio codec	
		Choose the audio codec for the streams (default OPUS).
	Remote Stream	
	Resolution	
		Select a maximum target resolution supported by a camera (640x480px).
	Frames per second	
		Set the frames per seconds to be sent (default 30).
	Bitrate multiplier	
		Reduce the bitrate by chosen value (default 1.0).
Developer Mode	Developer mode	
		With this setting, the developer mode can be activated (default

off).

	WebView Caching	Enable or disable webview caching (default enabled).
	Show JavaScript logs	
		Show a separate view with JavaScript logs (default off).
	Send JavaScript logs	
		The application will send all JavaScript to the Simplifier instance (default off).
	Transmission interval	The logs are being buffered until the specified time has passed (default 15 min).
	Log level	Specify the minimum level of logs to be sent (default Error).
	Enable Webview debugging	Debug the webview with <u>Chrome Dev Tools</u> (requires <u>adb</u> on your pc)(default depends on activated or deactivated Developer mode).
	Default Network Adapter	Force all connections through a selected and available network (default: system default).
Error Handling	Send error logs	

Anonymous Profile for Plugins

https://developer.simplifier.io/documentation/plugins/anonymous-profile-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

https://developer.simplifier.io/documentation/simplifier-mobile-client/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:

new

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

deprecated

```
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 being 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

https://developer.simplifier.io/documentation/applications/

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plifier	Simplifier	Dashboard	() {
Applications 9	Connectors 3	Business Objects 8	Data Types 1
wdgets and Ibranes. Process mapping defined within user stories.	and respective logins to connect to different systems and devices. Transports 8	business requirements.	structures and collections as well as detine validation rules. 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 filtering of all user a system activities. Provides detailed information which are very helpful for debugging.
Jobs 0	Templates 6	Database Designer 1	
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.	Create and deploy persistent data structures. These can store user-defined data of your apps and be accessed by connector via OData.	

😅 sımplıfıer

Simplifier transforms your business process into a configured business application for

- Web Portals for Desktop-Browsers
- Mobile Phones and Tablets
- Wearables Devices like Smartwatches and Glasses

Applications run on any device because it is generated on common open standard technology leveraging OpenUI5 / SAPUI5

Overview

By clicking on the Applications tile, you will be lead to the overview. At default, there you will see a table with all the 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.

Samplifier	Appleations						Ø	8	worke	
S C E S										
Applications										+
Anno -	Created	Lanthine	Varian	Conternieution Platie	Pamasak		h	-		
heir finne	685 57 52 23 650 33 AM	98533392119.25849 PM			۲	1	0	v.	63	2
besc, (some)	40141-5/022123, 20223 PM	ADVALUES, DOT M.PH			۲	1	3	2	64	8
OW	003 M92228 92346-4H	000 1000338 8-20-27 AM		(۵	1	8	12	6	

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

https://developer.simplifier.io/documentation/applications/ui-designer/assets/

Use **Assets** to upload files like documents, images, videos, 3D models or office documents to an application. It can be found under the tab **Other**.

🗹 Designer	最 Process 🔍 Data Workbench 🛛 👗 Tests			🗋 Other	
				🙆 CSS Editor	
		50		🗈 Assets 💦	

It is possible to upload the following file types:

- Images like .PNG, .TIFF, .JPEG or .BMP files
- JavaScript for extending an 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 **Browse** button. You can reference to the path in the properties of a widget.

In the following screenshot, the path of the image logo.png is *img/logo.png*.

Files		
Contract of the second		
Please select a file three-select		
Search		Q,
Deta		
site plan.pdf - databite plan.pdf	٥	8
Image		
S logs.prg - imglogs.prg	Φ	ġ

To insert e.g. an uploaded image into the user interface of your application, copy the path of it and paste it into the	imageSrc	
source field (src) in the properties of a widget.	img/logo.png	C

Det

Assign Roles

https://developer.simplifier.io/documentation/connectors/push-connector/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>"
]
}
```

Asynchronous Connector Request Json Examples

https://developer.simplifier.io/documentation/connectors/connector-via-script/websocket-communication-withconnectors/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

https://developer.simplifier.io/documentation/admin-settings/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	Microsoft Active Directory			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.

Authentication for Web Applications

https://developer.simplifier.io/documentation/security-guidelines/authentication-for-web-applications/

When authenticating for web applications, you should differentiate between internal and external employees.

Internal employees should only authenticate via single sign-on and internal IDP.

For external employees, you should define password policies and set up a logon configuration.

Server	Passwords	License	Authentication	Messages	Log	Server Environment
Passwordpolicy						
		l	Block user after spec Id captcha after spec	Count lowercas Count uppercas Cou Fo Prohibit parts of th ified number of fail	Minlength: e characters: e characters: unt numbers: rce symbols: ne username: ed attempts: ed attempts:	0 8 0 1 0 1 0 1 0 5 0 3

Automated Testing

https://developer.simplifier.io/documentation/applications/automated-testing/

Vimeo Video

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.



Select the type in the opened pop-up and enter a test case name.

		٩		4			
UI Designer	Process Designer	Data Workbench	Security	Testing		Create	
*ITIZ_Template_S	QL_ShoppingList						
	Page Objects				Type:	Journey	\sim
Journeys				т	*Name:	Journey	3
Search				Q		Page Object	
							୍ଳ Save

Click on Save.

Select the new Journey or Page Object on the left and add the testing code.

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(i) Ul Designer Process Designer Data Workbench Security	Testing	TBasS Tests	Code Designer
*ITIZ_Template_SQL_ShoppingList		▲ Show test page	🕨 Deploy 📳 Save 🗙 Exi
👗 Journeys 👩 Page Objects	+	Ä A_shopping_list_table_sho ×	
Search	Q		
A_shopping_list_table_should_have_columns_rows_and_a_pro	Ŵ	Name: A_shopping_list_table_should_have_columns_rows_and_a_proper_model_binding S 2 8 0 9 5	
When_adding_a_product_the_amount_should_be_validated	亩	<pre>1 // signated test 2 - copered(A shoping list table should have columns, rows and a proper model binding', function (Given, When, Then) { 3 Given.iStartThedop(); 4</pre>	
Uhen_adding_a_product_the_product_should_appear_in_the	Ē	5 // Test if the columns are labled correctly 6 The waitfor([7 viewlast: "Mein", 8 * matchers: [6 * [8 * matchers]	
A_product_in_a_shopping_list_should_be_editable	Ū	9 • new ropercystrictcquals() 10 name: 'text', 11 value: 'Product'' 22	
A_product_in_a_shopping_list_should_be_deletable	Ū	<pre>14 success function(sdonren)) { 15 0p5.assert.ok(true, "Product column is labled correctly"); 16 17); 17); </pre>	
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Deploy the Journeys or Page Objects and click on Show test page.
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		A	pplication Details					
UI Designer Process Designer Data Workbench Security	Testing							Code Designer
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Backups

https://developer.simplifier.io/documentation/installation-instructions/simplifier-cloud/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.

Type of backup tarball of files and a logical database	Backup interval daily	How long are the backups stored? 4 weeks
backup image-based backup of the whole Simplifier Cloud	daily	2 weeks
Shipino Cloud		

Basic Concept / Technology

https://developer.simplifier.io/documentation/applications/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 are handled 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

Models

Screen Models and variableHolder Model

user stories and controllers. Within Simplifier there is a global model named variableHolder and each screen has its own model named by the screenId.

Basic Protection of Internet Access

https://developer.simplifier.io/documentation/security-guidelines/basic-protection-of-internet-access/

To ensure the security of the Simplifier instance, you should get familiar with the paths in the table below.

These paths, with the exception of /UserInterface/, should be accessible to the **application user**.

Location / Path	Description
"^/genToken/\$"	The Simplifier Authentification Service based on Tokens
"^/assets/(.*)\$"	The static assets like images, pdf files, etc for an Application
"^/client/(.*)\$"	The Client REST API to access business objects, connector or plugins
"^/library- managed/(.*)\$"	Third-Party Javascript Libraries that need for the HTML5 Applications
"^/library-static/(.*)\$"	Third-Party Javascript Libraries that need for the HTML5 Applications
"^/appDirect/(.*)\$"	Hosting Path for the created HTML5 Applications
"^/UserInterface/(.*)\$"	

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BROWSE Call - OPC/UA Connector

https://developer.simplifier.io/documentation/connectors/opcua-connector-details/opc-ua-connector-calls/browse-call/

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

Sall							
Connectorcall n	ame: BROWSE						
Descrip	ption:						
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🗒 Save & Test 🗒 Save 🗙 Cancel

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

https://developer.simplifier.io/documentation/plugins/pdf-plugin/built-pdf-template/

Administration

To generate a PDF and manage templates, the role "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

https://developer.simplifier.io/documentation/business-objects/

Vimeo Video

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 allow 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.

్లో simplifier			Simplifier Dashboard			@ <u>8</u> 1	
Applications	265 nd configure applications, fes. Process mapping defined s.	Connectors Create, manage and co and respective logins to systems and devices.	445 nfigure the interfaces connect to different	Business Objects	752 ns and business ise of complex	Data Types	1369 configure domain types, tions as well as define
Users Create, administrat Simplifier user, gn corresponding use	172 e and configure all of your ups and roles with their permissions.	Transports Migration of applicatic components to other simulation and validati	444 ins and individual simplifier instances, inc. ion of transports.	Plugins Offers the possibility to ext core functions of the Simpli of any external plugin.	9 end or change the ifier with the help	Logs & Monitoring Central monitoring a system activities. Pro- information which an debugging.	g nd filtering of all user and wides detailed e very helpful for
Jobs Create and administ business objects. configurable time in	7 strate jobs for the execution of hese are based on flexibly ntervals.	Templates Creation and definition components. These can using of different, prode	26 of reusable HTML text be personalized by fined placeholders.				

😅 sımplıfıer

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'.

	S simplifier	Business Objects	0	$\underline{\underline{O}}$ Felicitas Weber \sim
	Server-side			
L io				+ =
	ۇ JobExample		JobExample Description	
		Copy of Business Object "JobExample"		-
		*Business Object Name:	Copy Business Object	
		JobExample_Copy	Business object usage Business object usage Additional Additiona Additional Additaditional Additional Additaditional Additional Additaditional A	
		Save Cancel		
			🐠 📎 (🔊	
			$f(\mathbf{x})$ sendMessage	>

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.

Change your Password

https://developer.simplifier.io/documentation/user-management/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 **Send Change password link** on the right side.



You will receive an email with a link to change your password.

If you need help, please contact an admin.

If you're an admin and want to change someones 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** '.

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Checklist - Simplifier onPremise Installation

https://developer.simplifier.io/documentation/installation-instructions/on-premise/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 FQDN (Fully-Qualified Domain Name) for each instance of the <u>D (Development) Q (QA /Test System) P</u> (Productive) System Set the 3 DNS entries for the 3 FQDN

Make sure that the Simplifier server reaches the Internet and make sure that the clients have access to the required ports of the Simplifier: 80 (TCP), 443 (TCP), 8090 (TCP) Install the latest version of docker engine

Create or specify the <u>Simplifier workspace</u>, set the environment variables, and ensure that enough space is available. Also for future updates. We recommend at least 60 GB Storage.

Use the image from the Docker Hub

"<u>simplifierag/onpremise:latest</u>" or use the image provided by our Infrastructure Team

Provide the SSL Certificate and Intermediate Certificate. Best practice is a globally valid certificate issued by a trusted certification authority.

If you do not want to use the database already provided in the on-premise Docker, set up an <u>external database</u> for the Simplifier Core platform

Checklist SAP SSO over SOAP

https://developer.simplifier.io/documentation/admin-settings/authentication-settings/sap-sso/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 1 login/create_sso2_ticket 2 (without certificate)

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

https://developer.simplifier.io/documentation/business-objects/create-client-side-business-object/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

https://developer.simplifier.io/documentation/business-objects/create-client-side-business-object/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

https://developer.simplifier.io/documentation/business-objects/create-client-side-business-object/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

https://developer.simplifier.io/documentation/business-objects/create-client-side-business-object/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

https://developer.simplifier.io/documentation/applications/code-designer/

Collaboration

https://developer.simplifier.io/documentation/applications/ui-designer/collaboration/

You will receive a notification at the bottom right as soon as another user starts editing the same application:

nav	RuttonTooltin					
	john.doe	>				
0	Is editing the application	۱ •				
UseidAs fille						

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



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://developer.simplifier.io



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.

͡☎ Main × +		
2		50
Search	Q 0/0 C	Inserted Button on screen Main
↑-	$\leftarrow \uparrow \downarrow \rightarrow$	

Collection Type

https://developer.simplifier.io/documentation/data-types/create-edit-a-collection-type/

Collections represent multiple results of structs. For example, a database request may deliver a list of addresses from numerous people.

To create a new collection type click on the "+" button.

■ ₽	ຳ simplifier	Types	0	A Felici	tas Weber 🗸
Do Count: 56 Search fr	man Types Structs Collections				
Ħ	_TTIZ_B_BUS2038_DATA_T	>	_ITIZ_B_BUS2038_DATA_T	ı	2
圏	_TTIZ_B_BUS0010_DATA	>			
围	_ITIZ_B_BAPI2080_NOTPARTNRE	>			
囲	LITIZ_B_BAPI2080_NOTITEME	>	Parenttype		
Ħ	TechnischerPlatzStruc_T	>	Tags		
Ħ	Smart_Maintenance_Settings_TableLine_T	>	[ා [නු Copy		
围	Smart_Maintenance_Object_T	>			

Define a unique collection **name** and a **description**.

By clicking on **Parenttype** a new pop up opens, where you can choose the parent type from.

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After you have clicked on **Apply**, the parent type will be used.

	S simplifier	Турез	? A Felicitas Weber ~
围	Create		🗑 Save 🗙 Cancel
	*Name:	Address List	
	Parenttype:	Address 🗗	
	Description:	collection of addresses	
	Tags:	Add Tag	

Conferencing Plugin for WebRTC Calls

https://developer.simplifier.io/documentation/simplifier-mobile-client/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 (5.1+ 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 in 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 stream in a room
- unsubscribe Unsubscribe a remote stream
- publish Publish a local stream to a room (screensharing or camera stream)
- unpublish Unpublish a local stream
- sendMessage Send message to selected participantIds
- getStream Get one stream or all streams in the 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
- getDevices Return microphone and camera ids of the device
- muteLocalAudioTrack Mute the audio track of the local stream
- unmuteLocalAudioTrack Unmute the audio track of the local stream
- disableLocalVideoTrack- Disable the video track of the local stream
- enableLocalVideoTrack Enable the video track of the local stream
- muteRemoteAudioTrack Mute the audio track of the remote Stream

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- unmuteRemoteAudioTrack- Unmute the audio track of the remote Stream
- disableRemoteVideoTrack Disable the video track of the remote Stream
- enableRemoteVideoTrack- Enable the video track of the remote Stream
- updateMediaOptions Update the media options for the next publication (fps, resolution, ...)
- getVideoCodecs Return the supported video codecs of the device
- getAudioCodecs Return the supported audio codecs of the device

Passive Actions

Actions triggered by server/remote user/network

- onReceivedChatMessage User receive a chat message
- onChangedParticipantStatus Participant leave room
- onChangedConnectionStatus Server/room get disconnected
- onRemoteStreamAdded A participant added a stream to the room
- onRemoteStreamEnded Remote stream of a participant was closed

Usage

Configuration description (deprecated)

Object connectionConfig (required)	Field server untrustedCertificate	Type String boolean	Possible Values URL-Schema	Default	Description signaling server url Trust all certificates
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
	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 a fallback

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	audioCodec	String	opus, pcma, pcmu	opus	switches used hardware decoder. if h264 is not present on device, VP8 is used a fallback
iceConfig (Array - optional)	url	String	URL		Turn/Stun-URL
	username	String			username for Stun/Turn authentication
	password	String			password - can be empty for anonymous access

Configuration description (new)

Object connectionConfig (required)	Field server untrustedCertificate	Type String boolean	Possible Values URL-Schema	Default	Description signaling server url trust all certificates
mediaConfig (optional)	localStream	JSON			includes settings of the published stream
	remoteStream	JSON			includes settings of the subscribed stream
localStream(optiona l)	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
	maxFps	Integer		30	max transmitted frames
	maxVideoBandwidt h	Integer	min 200 @ low resolution	1500	limits bandwidth of video channel to given value in kBit/s
	maxAudioBandwidt h	Integer	min ~30	100	limits bandwidth of video channel to given value in kBit/s
	videoCodec	String	VP8, VP9, H264	H264	switches used hardware decoder
	audioCodec	String	opus, pcma, pcmu	opus	switches used hardware decoder
remoteStream(optio nal)	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
	maxFps	Integer		30	max transmitted frames
	bitrateMultiplier	double	1.0, 0.8, 0.6, 0.4, 0.2	1.0	reduce the bandwidth of the received video
iceConfig (Array - optional)	url	String	URL		Turn/Stun-URL
(Fridand)	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 (see example)
 * @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 in 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 partici	ipant 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
*	/		
Coi	nferenci	ngPlugin.ed	<pre>ditParticipant(data, token, success, error);</pre>

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

/**	ŧ		
*	Delete	a 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
* /	/		
Cor	nferenci	ngPlugin.de	eleteRoom(data, token, success, error);

subscribe

/**
 * Subscribe an individual stream in the room
 * Possible stream kinds are a common stream with all participants or a stream with o
ne participant
 * Note: The common stream also includes your published stream
 *
 * @param div HTML Object - The HTML remote stream view
 * @param streamId String - The id of a stream. Use the getStream function to get all
 stream ids in a room.
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
ConferencingPlugin.subscribe(div, streamId, 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 (screensharing or camera stream).
* For the option screensharing choose "screen" as camera id and execute the function getDevices for a microphone id
* For the option screens according to the function scheme and shares a microphone.

* For the option camera stream execute the function getDevices and choose a micropho ne and a camera id

* Camera or microphone ids are optional values, but you have to set min. one device for a publication

```
*
```

* @param div HTML Object - The HTML local stream view

- * @param cameraID String The camera id
- * @param microphoneID String The microphone id
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed

```
*/
```

ConferencingPlugin.publish(div, cameraID, microphoneID, 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);

sendMessage

```
/**
```

* Send messages to the selected participants in a room

- *
- * @param message String messagetext
- * @param data JSONArray Selected participants (objects)
- * @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);

on Received Chat Message

```
/**
 * 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

/**

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

- *
- * @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);

onRemoteStreamAdded

```
/**
```

```
'* Action triggered by participant when he added his local stream in the room
*
* @param success The success callback is triggered when process is successful
* @param error The error callback is triggered when process failed
*/
ConferencingPlugin.onRemoteStreamAdded(success, error);
```

onRemoteStreamEnded

```
/**
 * Action triggered by participant when he closed his local stream in the room
 *
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
```

ConferencingPlugin.onRemoteStreamEnded(success, error);

getStream

/**
 * Get all streams or the selected stream in a room
 *
 * @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

/*:	k			
*	Delete a s	tream		
*				
*	@param dat	a JSO	NObject - RoomId and	streamId
*	@param tok	en Str	ing - The simplifier	token
*	@param suc	cess The	success callback is	triggered when process is successful
*	@param err	or The	error callback is t	riggered when process failed
*,	/			
Coi	nferencingP	lugin.delet	eStream(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);

startRecording

```
/**
 * Start recording a stream in 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 in 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);
```

getDevices

```
/**
```

- * Return microphone and camera ids of the device
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed
- */

ConferencingPlugin.getDevices(success, error);

muteLocalAudioTrack

/**

- * Mute the audio track of the local stream
- *
- * @param success The success callback is triggered when process is successful
- * @param error The error callback is triggered when process failed
- */

ConferencingPlugin.muteLocalAudioTrack(success, error);

unmuteLocalAudioTrack

```
/**
```

* Unmute the audio track of the local stream

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

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

ConferencingPlugin.unmuteLocalAudioTrack(success, error);

disableLocalVideoTrack

```
/**
 * Disable the video track of the local stream
 *
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
ConferencingPlugin.disableLocalVideoTrack(success, error);
```

enableLocalVideoTrack

```
/**
 * Enable the video track of the local stream
 *
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
ConferencingPlugin.enableLocalVideoTrack(success, error);
```

muteRemoteAudioTrack

```
/**
 * Mute the audio track of the remote stream
 *
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
CarfementinePlumin mutePerceteludieTrack(success cause);
```

ConferencingPlugin.muteRemoteAudioTrack(success, error);

unmuteRemoteAudioTrack

```
/**
 * Unmute the audio track of the remote stream
 *
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
```

ConferencingPlugin.unmuteRemoteAudioTrack(success, error);

disableRemoteVideoTrack

/**

* Disable the video track of the remote stream

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

```
*/
```

ConferencingPlugin.disableRemoteVideoTrack(success, error);

enableRemoteVideoTrack

```
/**
 * Enable the video track of the remote stream
 *
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
ConferencingPlugin.enableRemoteVideoTrack(success, error);
```

getVideoCodecs

```
/**
 * Return the supported video codecs of the current device
 *
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
ConferencingPlugin.getVideoCodecs(success, error);
```

getAudioCodecs

```
/**
 * Return the supported audio codecs of the current device
 *
 * @param success The success callback is triggered when process is successful
 * @param error The error callback is triggered when process failed
 */
ConferenciesPlugin activational audio codeca (success);
```

ConferencingPlugin.getAudioCodecs(success, error);

General event object description

```
{
   "action": "<String>", //see "Possible Actions"
   "result": "<String>", //some results depending on action
   "errorCode": "<Int>" //error code when action failed
}
```

Error Codes

Code	Description
1	SERVER_ERR
2	JSON_PARSE_ERR
3	PLUGIN_INIT_ERR
4	EDIT_COMMON_STREAM_ERR
5	JOIN_ROOM_ERR
6	CONFERENCE_CLIENT_CONFIGURATION_ERR
7	NO_ROOM_SELECTED_ERR
8	SUBSCRIPTION_ALREADY_EXIST_ERR
9	PUBLICATION_ALREADY_EXIST_ERR
10	SCREEN_PUBLICATION_ALREADY_EXIST_ERR
11	NO_SUBSCRIPTION_EXIST_ERR
12	NO_PUBLICATION_EXIST_ERR
13	NO_SCREEN_PUBLICATION_EXIST_ERR
14	PEER_TO_PEER_ERR
15	PUBLISH_STREAM_ERR
16	SCREEN_SHARING_ERR

17	SUBSCRIBE_STREAM_ERR
18	SEND_MESSAGE_ERR
19	LEAVE_ROOM_FAILED_ERR

Examples

Predefined callbacks and variables for the examples

- init

```
let config = {
        "connectionConfig": {
            "server": "serverUrl_simplifier",
            "untrustedCertificate": true
        },
        "iceConfig": [{
                 "url": "stun:turn.itizzimo.com:3478"
            },
            {
                 "url": "stun:turn.itizzimo.com:3479"
            ł,
            ł
                 "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": {
     "localStream": {
        "maxWidth": 1920,
        "maxHeight": 1080,
        "maxFps": 30,
        "maxVideoBandwidth": 1500,
        "maxAudioBandwidth": 200,
        "videoCodec": "h264",
        "audioCodec": "opus"
    },
    "remoteStream": {
        "maxWidth": 640,
        "maxHeight": 480,
        "maxFps": 30,
        "bitrateMultiplier": 1.0
    }
},
"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": "5clb966d9869270cb9134328",
    "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",
                     "profile": "CB"
   //For "h264" codec - output
only, CB", "B", "M", "H//Only for "h264" codec, possible values "CB", "B", "M", "H"
                }
            }
        }],
        "participantLimit": 10,
        "inputLimit": -1
    }
};
ConferencingPlugin.createRoom(data, token, successCallback, errorCallback);
```

- getRoom

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

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

- editRoom

```
"framerate": 30
},
"format": {
    "codec": "h264",
    "profile": "CB"
    }
}],
"participantLimit": 24
};
```

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

- deleteRoom

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

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

- getStream

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

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

- deleteStream

```
let data = {
    "room": "5c3c632f2686480cbf83e7el",
    "streamId": "519038650981614300"
};
```

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

- 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": "aac",
                 "sampleRate": 48000,
                 "channelNum": 2
             }
        },
        "video": {
             "from": "764484888390779500",
             "parameters": {
                 "keyFrameInterval": 2
             },
             "format": {
                 "codec": "h264",
                 "profile": "CB"
            }
        }
    }
};
```

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

- getRecording

```
let data = {
    "room": "5c3c632f2686480cbf83e7e1",
    "recordId": "287103235454593920" //<optional>
};
```

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

- editRecording

```
"value": 60
}
]
};
```

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);

- updateMediaOptions

```
let data = {
    "localStream": {
        "maxWidth": 640,
        "maxHeight": 480,
        "maxFps": 30,
        "maxVideoBandwidth": 1500,
        "maxAudioBandwidth": 200,
        "videoCodec": "h264",
        "audioCodec": "opus"
```

```
},
"remoteStream": {
    "maxWidth": 640,
    "maxHeight": 480,
    "maxFps": 30,
    "bitrateMultiplier": 0.4
};
```

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

Create a customized video layout for a room

A layout example for two participants in a room.

```
let data = {
    "name": "TestLayout",
    "options": {
        "views": [{
            "video": {
                 "parameters": {
                     "resolution": {
                         "height": 1080,
                         "width": 1920
                     },
                     "framerate": 60
                },
                 "format": {
                     "codec": "h264",
                     "profile": "CB"
                },
                 "layout": {
                     "fitPolicy": "letterbox", //letterbox or crop
                     "templates": {
                         "base": "fluid",
                                            //fluid, lecture, void
                         "custom": [{
                             "region": [
                                 {
                                 "id": "1",
                                 "shape": "rectangle",
                                 "area": {
                                     "left": "0",
                                     "top": "0",
                                     "width": "1/2",
                                     "height": "1"
                                 }
                                 },
                                 {
                                 "id": "2",
                                 "shape": "rectangle",
                                 "area": {
                                     "left": "1/2",
```

```
"top": "0",
"width": "1/2",
"height": "1"
}
}
}
}
}
}
}
}
}
}
}
```

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

Testing

}

If you want to test the conferencing plugin, you have to follow these steps.

1. Create a new cordova project

```
cordova create TestConferencingApp com.example.test TestConferencingApp
```

2. Add the following plugins

cordova plugin add cordova-plugin-test-framework

cordova plugin add cordova-plugin-conferencing

cordova plugin add cordova-plugin-conferencing-tests

3. Change the start page in config.xml from

<content src="index.html" /> to <content src="cdvtests/index.html" />

4. Add the android platform

cordova platform add android

5. Run the app

cordova run android

- Auto Tests
 - By clicking on the button Auto Testsyou can run the automatic tests.
 - **Note:**If there are problems with token/authentication, you can change the credentials for the server with the button **getSimplifierToken** in the Manual Tests section. After the change, you can run the auto tests again.
- Manual Tests
 - By clicking on the button Manual Testsyou can run the manual tests.
 - Note:For the conferencing functions you need a token and a conferencing room.

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":"subscribeConferencing","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

https://developer.simplifier.io/documentation/connectors/connector-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 "failCallback" (false) 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

https://developer.simplifier.io/documentation/connectors/create-and-manage-connector-calls/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.

al								
	777 01101							
Connectorcall name Description	e: _III2_8050	UUIU_SEARCH_GEILISI						
ut Parameters Output Parameters								
date 🔘								
arameter Name	Optional	Alias	Description	Cor	nstant Value	Data Type		Actions
/bindingName	\bigcirc			V	BUS0010	String	ð	Ū
operationName	0			V	ITIZBUS0010_SEARC	String	ð	Ŵ
soap/ITIZBUS0010_SEARCH_GETLIST/IS_SEARCH		IS_SEARCH				String	ð	Ū
-								

🖫 Save & Test 🛛 Save 🗙 Cancel

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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	Data Type Selection			
Tags Selected DataType : Bo	olean 1			
Search				
All All Data Types	2 Base Types Domain Types Structs Collections			
Custom	Search	Q		
All Custom Data Types	Any	>		
	Boolean	······		
	Date	>		
	Float	>>		
	Integer	>		
	String	>		
		4		

🖫 Apply 🗙 Cancel

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	Prefilter of base and domain types, structs and collections.
4	You can always step deeper in the structure to select a data
	type.

Connector Call via Script

https://developer.simplifier.io/documentation/connectors/connector-via-script/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

https://developer.simplifier.io/documentation/connectors/

Connectors are the interface between a backend system and Simplifier to communicate with each other. They consist of at least one connector call.

Connector	Addresses a specific backend system (like SAP, or Database, etc.)
Connector Call	Leads a connector into action and contains input and output parameters

	ದೆ simplifier	Connectors		? A Felicitas Weber \vee
	Connector Logins			
				+ =
Sea	ch for name, description, type, creator or editor			۹ =
Ø	Demo_Weather	SOAP	>	BasicCourse 🥒 🗟 💼
હે	ITIZ_OPCUA_Template_D	OPC/UA	>	Connector Type SOAP
à	ITIZ_REST_TodoDemo_P	REST	>	Description
Ø	ITIZ_SQL_ShoppingList Created: Last Edited: f005 3/29/2019, 11:49:06 AM	SQL	>	l
Ŕ	MyGo_SAP_RFC_Connector	SAP RFC	>	Active
Ø	OData_Procurement_Overview Procurement Overview Created: f005 2/12/2019, 10:48:35 AM Last Edited: admin 2/19/2019, 3:29:06 PM	Proxy	>	Timeout (in seconds) 60 Tags
à	Push Created: f005 2/21/2019, 12:05:31 PM Last Edited:	Email	>	Add Tag
હે	Relase68_RFC_1_5	SAP RFC	>	& Edit calls ट्रि Copy connector
હે	SAP_BU_Equipment	SOAP	>	C Show connector usage
હે	SAP_BU_Functional_Locations_RFC	SAP RFC	>	
	CAD DU Europhianall continu			

Standardized Connectors in Simplifier

Connector Type	Description
<u>SOAP</u>	Use the SOAP connector to access a Simple Object Access Protocol based on HTTP and XML Format.
<u>REST</u>	The REST (RE presentational State Transfer) connector is used for HTTP REST Services. The architecture uses standardized operations (GET, PUT, POST, DELETE) on web services. REST API is an alternative to other interfaces like SOAP. However, REST itself is neither protocol nor standard.
<u>SQL</u>	With the SQL (Structured Query Language) connector, SQL statements are executed in a database schema, to request or edit based databases.
OPC/UA	The OPC/UA (Open Platform Communications Unified Architecture) connector accesses to an OPC-UA server and performs READ/WRITE/SUBSCRIBE operations.
SAP RFC	The SAP RFC (SAP R emote F unction C all) connector is based on standard JCo SAP RFC to call functions

	in remote systems.
<u>MQTT</u>	MQTT (Message Queuing Telemetry Transport) is an open message protocol for machine-to-machine
	communication (M2M) that allows telemetry data to be transmitted as messages between devices, despite
	high delays or limited networks.
	This connector acts as a client and can publish or subscribe messages from an MQTT server (broker).
Push	The Push connector sends push notifications over WebSockets directly to Simplifier Clients or Simplifier
	Browser Apps without using Google or Apple's Cloud Services to support data protection and privacy.
<u>CSV</u>	Use the CSV (Comma-separated values) connector to read and/or write comma-separated files on a local
	file store.
OData V2	OData (Open Data Protocol) is an open protocol based on HTTP for data access to enable CRUD
	operations. It enables the creation of REST-based data services to be published and edited by Web clients
	using simple HTTP messages.
Email	Use the Email connector to send emails over SMTP (Simple Mail Transfer Protocol) with or without SSL
	Encryption.
Logging	The Logging connector transfers the Simplifier application logs to a central monitoring tool/logwatch.
Proxy	The Proxy Connector allows the usage of any HTTP services that are not based on specific protocol
	architectures such as <u>REST</u> , <u>SOAP</u> or <u>OData</u> .

Content Files

https://developer.simplifier.io/documentation/plugins/content-repository/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 folder	
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 (optional)	Base64 encoded content of the file	
uploadSession	String (optional)	Session of an AppServer Html5 Upload	
copyFrom	Integer (optional)	ID of the copied file	

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 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 **Type** Integer **Description** ID of the created content file

```
Name of the created content file
name
                                           String
{
      "id": 15,
      "name": "test.txt"
}
ClearFileSystem:
Input parameters
                                           Type
                                                                                     Description
Key
contentId
                                           Integer
                                                                                     ID of the content repository
fileName
                                           String
                                                                                     Name of the file
folderPath
                                           String
                                                                                     Path under which the file is to be stored
                                           String (optional)
                                                                                     Base64 encoded content of the file
data
uploadSession
                                           String (optional)
                                                                                     Session of an AppServer Html5 Upload
copyFrom
                                           String (optional)
                                                                                     ID of the copied file
                                                                                     If the flag has the value 'true', any
forceOverwrite
                                           Boolean (optional)
                                                                                     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:

Description This function lists the searched content file

Input parameters

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"folderId": 3, "name": "test.txt"

Key	Туре	Description
folderId	Integer	ID of the content folder in which the content is listed
name	String	Name of the searched file
{		

}

Output parameters		
Key	Туре	Description
files	Array	Array of all files (max. 1 element)
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": "jpg",
                "mimeType": "image"
            },
            "url": "http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/Re
poName/ParentFolder/ChildFolder/file.jpg/",
        }
    ]
}
```

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>	older/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/Re
poName/MyParentFolder/MyChildFolder/test.txt/"
        },
        {
            "filePath": "MyParentFolder/MyChildFolder/MyFolder/test.txt",
            "mimeType": {
                "extension": "txt",
                "mimeType": "text"
            },
            "url": "http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/Re
poName/MyParentFolder/MyChildFolder/MyFolder/test.txt/"
        }
    ]
}
```

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

Output parameters		
Key	Туре	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/Re
poName/MyParentFolder/MyChildFolder/test.txt/"
        },
```

```
{
            "id": 4,
            "name": "test2.txt",
            "description": "My file description 2",
            "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/Re
poName/MyParentFolder/MyChildFolder/test2.txt/"
        }
    ]
}
```

ClearFileSystem:

Input parameters

Key contentId folderPath

Output parameters Key files fileName mimeType

{

{

"fileName": "test.txt",

"extension": "txt", "mimeType": "text"

"mimeType": {

{

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

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

Key	Туре	Description
files	Array	Array of all files
fileName	String	Name 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": [

Type

Integer

String (optional)

```
107 / 317
```

```
},
            "url": "http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/Re
poName/MyParentFolder/MyChildFolder/test.txt/"
        },
        {
            "name": "test2.txt",
            "mimeType": {
                "extension": "txt",
                "mimeType": "text"
            },
            "url": "http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/Re
poName/MyParentFolder/MyChildFolder/test2.txt/"
        }
    ]
}
```

Get

Slot

contentFileGet

FileSystem:

Input parameters

Key id

{ "id": 3

Output parameters

}

Description This function queries

Type Integer

Description Primary key

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	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",
    "data": "dGVzdA==",
    "mimeType": {
        "extension": "txt",
        "mimeType": "text"
    },
    "url": "http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/M
yParentFolder/MyChildFolder/test.txt/"
}
```

ClearFileSystem:

Input parameters

Key	Туре	Description
contentId	Integer	ID of the listed content repository
filePath	String	Path of the file
<pre>{ "contentId": 3, "filePath": "MyFolder/te</pre>	st.txt"	

```
}
```

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

```
{
    "filePath": "MyFolder/test.txt",
    "data": "dGVzdA==",
    "length": 59570,
    "mimeType": {
```

"extension": "txt", "mimeType": "text" }, "url": "http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/M yFolder/test.txt/" }

Get Metadata

Output parameters

Slot contentFileGetMetadata		Description This function queries the metadata
FileSystem:		
Input parameters		
Key id { "id": 3 }	Type Integer	Description Primary key

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",
```

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```
"permissionObjectID": "abc",
    "mimeType": {
        "extension": "txt",
        "mimeType": "text"
    },
    "url": "http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoName/M
yParentFolder/MyChildFolder/test.txt"
}
```

ClearFileSystem: Input parameters

Key	Type	Description
contentId	Integer	ID of the listed content repository
filePath	String	Path of the file
<pre>{ "contentId": 3, "filePath": "MyFolder/te }</pre>	st.txt"	

Output parameters

Key	Туре	Description
filePath	String	File name
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
<pre>{ "filePath": "MyFolder/te "mimeType": { "extension": "txt", "mimeType": "text" }, "url": "http://localhost yFolder/test.txt" }</pre>	st.txt", :8080/client/2.0/plugin/cont	entRepoPlugin/file/RepoName/M

Get Metadata batched

Slot

content File Get Metadata Batched

FileSystem:

Input parameters

Description This function queries the metadata batched

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Key conte	entId
files/	/id
{	<pre>"contentId": 1, "files": [{ "id": 1 }, { "id": 2 }]</pre>

Туре Integer

Array[Object] Integer

Description

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

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/url

Output parameters

```
{
```

```
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/RepoNa
me/MyParentFolder/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/RepoNa
me/MyParentFolder/MyChildFolder2/picture.jpg"
    }]
}
```

```
ClearFileSystem:
```

Input parameters

Key contentId files files/filePath **Type** Integer Array[Object] String

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

Description ID of the listed content repository A list of file objects Path of the file

Output par	ameters
------------	---------

Key fileMetadata fileMetadata/filePath fileMetadata/mimeType fileMetadata/mimeType/extension fileMetadata/mimeType/mimeType

Type Array[Object] String Object String String

Description

A list of metadata object File name MimeType information The file extension The mimeType stored in the https://developer.simplifier.io

```
MimeMapping for the file extension
fileMetadata/url
                               String
                                                              The download URL of the file
{
    fileMetadata: [{
         "filePath": "Folder/picutre.jpg",
         "mimeType": {
             "extension": "jpg",
             "mimeType": "picture"
         },
         "url": "http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoNa
me/Folder/picture.jpg"
    },
    {
         "filePath": "Folder2/test.txt",
         "mimeType": {
             "extension": "txt",
             "mimeType": "text"
         },
         "url": "http://localhost:8080/client/2.0/plugin/contentRepoPlugin/file/RepoNa
me/Folder2/test.txt"
    }]
}
```

Edit

Slot	Description	
contentFileEdit	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
{		
"id" : 5,		
"name" : "test.txt	",	
"description": "My	new file description",	
"securitySchemeID"	: "public",	
"permissionObjectT	ype" : "Session",	

}

"permissionObjectID" : "abc",

"data" : "dGVzdA=="



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
<pre>{ "contentId" : 5, "sourceFilePath" : "MyPa "destFilePath": "MyParen }</pre>	arentFolder/test.txt", atFolder/MyChildFolder/myRena	medMovedFile.txt"

```
Delete
```

Slot contentFileDelete		Description This function deletes a content file
FileSystem:		
Input parameters		
Key	Туре	Description
id	Integer	Primary key
ſ		
1 "id": 15		
}		
ſ		
ClearFileSystem:		
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,
   "filePath" : "MyFolder/myFile.txt"
}
```

Content Repository

https://developer.simplifier.io/documentation/plugins/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:

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 contentRepositoryAdd	Descri This fu	ption nction adds a new content repository
FileSystem:		
Input parameters		
Key	Туре	Description
name	String	Name of the repository
description	String (optional)	Description of the repository
provider	String	Content provider (must be specified as 'FileSystem')
permissionObjectType	String	Must be specified as 'App'
permissionObjectID	String	The ID of the Object Type can be freely selected

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

https://developer.simplifier.io

```
"description": "MyTestRepoDescription"
}
Output parameter
Key Type Description
id String The ID of the created repository
{
    "id": 15
}
```

ClearFileSystem:

Input parameters

Key	Туре
name	String
description	String (optional)
provider	String

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

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

Output parameters

Key id description **Type** Integer String

Description ID of the created ContentRepository Description of the repository

{

```
.
```

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

https://developer.simplifier.io

}

Find

Slot
contentRepositoryFind

FileSystem:

Input parameter

}

Key name { "name": "MyRepo"

Description

This function lists only repositories for which the user has authorizations

Description Name of the searched repository

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
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')

Туре

String

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

Simplifier Documentation Release 5.0

https://developer.simplifier.io



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

List

}

Slot contentRepositoryList

FileSystem:

Input parameter

Key provider **Type** String (optional) Description

This function finds only repositories for which the user has authorizations

Description Content provider (must be specified as 'FileSystem')

If no provider is specified, all repositories are returned

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

Output parameters

Key	Туре
repositories	Array
id	Integer
name	String
description	String
permissionObjectType	String
permissionObjectID	String

provider

String

Description

Array of all repositories 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 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
                                   Туре
                                                                      Description
Key
                                                                      Array of all repositories
repositories
                                   Array
id
                                   Integer
                                                                      ID of the repository
                                   String
                                                                      Name of the repository
name
description
                                   String
                                                                      Description of the repository
provider
                                                                      Content provider
                                   String
{
     "repositories": [
          {
               "id": 5,
               "name": "MyRepo5",
               "description": "My repo description 5",
               "provider": "ClearFileSystem"
          },
{
               "id": 6,
               "name": "MyRepo6",
               "description": "My repo description 6",
               "provider": "ClearFileSystem"
          }
     ]
}
```

Get

Slot

content Repository Get

"id": 3

FileSystem:

Input parameter				
Key	Туре	Description		
id	Integer	Primary key		
{				

ι

}

Output parameters

Key	Туре
id	Integer
name	String
description	String
permissionObjectType	String
permissionObjectID	String

provider

```
String
```

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

ClearFileSystem:

	J		
Input p	arameter		
Key id	,	Type Integer	Des Prir
{			
}	"id": 3		

Output parameters

Key	Туре
id	Integer
name	String
description	String
provider	String

{

}

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

Description

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 Content provider (must be specified as 'FileSystem')

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

```
{
   "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.

Type

Integer

String

String (optional)

Slot

contentRepositoryDelete

Description

This function deletes a content repository

Input parameter

KeyTypeDescriptionidIntegerPrimary key

{ "id": 15 }

Controlled Integration of Data and Content into Web Applications

https://developer.simplifier.io/documentation/security-guidelines/controlled-integration-of-data-and-content-into-web-applications/

Recommendation: In general, uploads to Simplifier should be checked by a Web Application Firewall (WAF) virus scanner or by connecting an external virus scanner via ICAP interface in the configuration of the reverse proxy.

If a virus is found, the WAF or ICAP connected virus scanner should respond with an HTTP header status code to 409 (Conflict).

The body of the response (JSON format) should look like this:

```
{
  success: false,
  msg: "A virus was found in the file. The file cannot be uploaded."
}
```

The widget "FileUploader" is configured to process a status code 409 as a virus discovery.

fileType	.pdf	Ø
icon		Ø
iconFirst	\checkmark	Ø
iconHovered		Ø
iconOnly		Ø
iconSelected		Ø
maximumFileSize	5	Ø
maximumFilenameL	0	Ø
mimeType	application/pdf	Ø

Copy Connector Calls

https://developer.simplifier.io/documentation/connectors/create-and-manage-connector-calls/copy-connectorcalls/

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

Connector SAP_BU_TechnischerPlatz				Sxit
Connector Calls				
Search				X Connector Wizard 🕇
Name	Description	Ľ	Ľ	Actions
_ITIZ_BU_OBJ_BUS0010_CREATE		3	1	気 / 原 👗 🗃
_ITIZ_BU_OBJ_BUS0010_READ		3	1	

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.

					_	_	1 5 4
							n Exit
Connector Calls							
						🏂 Connector Wizard	+
							٩
Name	Description		Ľ	C	Actions		
_ITIZ_BU_OBJ_BUS0010_CREATE			3	1	/ 🕞 👗	1	
_ITIZ_BU_OBJ_BUS0010_READ			3	1	/ 🖯 👗	Ť	
_ITIZ_BU_OBJ_BUS0010_READ_HIER		Copy Connectorcall "_ITIZ_BU_OBJ_BUS	0010_CR	2	/ 🗗 👗	ŧ	
_ITIZ_BU_OBJ_BUS0010_UPDATE				1	/ 🗗 👗	Ť	
_ITIZ_BUS0010_SEARCH_GETLIST		*Connectorcall name:		1	/ 🕞 👗	ē	
BU_OBJ_BUS0010_READ	Description of the connector call	_ITIZ_BU_OBJ_BUS0010_CREATE_Copy		1	/ 🗗 👗	*	
		· · · · · · · · · · · · · · · · · · ·					
		G Save	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

https://developer.simplifier.io/documentation/data-types/copy-data-type/

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

📰 😴 sımplifier	Турез			?	A Felici	itas Weber 🥆	1
Domain Types	(C) Structs Callectons						
Count: 3						+ =	
Search for name, descr	tion or tags					৹ ≡	
E ZIP		> ZIF	>		Ø	8	
a postal code			Description				
ITIZ_Integer		>	a postal code				
🗄 Char		>					
			Parenttype				
			String				
			Tags				
			[3] Co	y ve	")		

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

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Count:				+ 🎟
Search	for name, description or tags			2 ≡
e			> ^{ZIP}	Pescription
8	ITIZ_Integer		>	a postal code
8	Char	Copy of Data Type "ZIP"	>	
		*Data Type Name: ZIP_Copy Save Cancel		Parenttype String Tags

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 a Transport

https://developer.simplifier.io/documentation/transports/create-a-transport/

Vimeo Video

If you switch to the Transports tab, the overview of transports appears. It allows you to define transport requests that group one or more packages.



Click on the plus icon to create a new transport. The name of a new transport is generated automatically and is unique within the <u>server environment</u>. It always consists of the instance name and a 10-digit number.

You can add a description, that will be displayed in the overview, and below you can add the packages to your transport with the > button and remove them again with the < button.

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₩ Simplifier	Transports		? A Felicitas Weber 🗸
🖶 Create Transport			🖫 Save 🗙 Cancel
Description:	Basic Course Version 1		
Transport Items			
Available Packages	Sele	ected Packages	
Search	Q	arch	٩
Package Name		Package Name	
Basic_Course2_TP		Basic_Course_TP	
Connector_SOAP_Order			
DemoApplication_TP			
Demo_Application_TP			
Demo_FelicitasWeber_TP			
Demo_LoginForm_TP			
Demo_SOAP_OrderList_TP			
Demo_TP			
DigitalForm_TP			

After you have saved your changes, you return to the overview of transports.

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🗰 😂 simplifier	Transports	?	A Felicitas	Weber \sim
Paskages Fransports GP3				
Search for name, description, creator or editor			Q	+
Default000000002	Default00000002		1 2	1
Orested: r005 7/29/2019.10.17.54 AM Last Edited:	Description Basic Course Version 1	ı		
	E Release			
	約 Transport			
	ংট Download ট্রি Copy			
	Image: Second Se			

On the right side you have the following possibilities:



Create an OpenUI5 Widget

https://developer.simplifier.io/?post_type=manual_documentation&p=8219

Vimeo Video

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 o
The supported settings are:
 Properties headerText: string (default: 100%) height: sap.ui.core.CSSSize (default: 100%) height: sap.ui.core.CSSSize (default: auto) expandable: boolean (default: false) expandable: boolean (default: false) expandable: noblean (default: false) backgroundDesign: sap.m.BackgroundDesign (default: Translucent) Aggregations content: sap.ui.core.Control[] (default) headerToolbar : sap.m.Toolbar expand : finListenerFunction or [finListenerFunction, oListenerObject] or [oData, finListenerFunction, oListenerObject]
in addition, all settings applicable to the base type sap.ul.core.Control can be used as well.
Parameters: {string} sId? 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	A Test V
Widget Customizer						🖫 Save	× Cancel
کی Widget Option	enUI5 Angular						
	Nam	:					
	Description	1:			5		
	Default Binding-Propert	/:		\sim			
	Categor	: Layout		~			
	Tag	s: Add tag					
Properties Ever	nts Aggregation	Libraries					
							+
Search							Q
Name	Descrip	tion		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?)
```

API reference

Simplifier Documentation Release 5.0

https://developer.simplifier.io

Template Script		
Default Binding-Property:	\sim	
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 Bindleg Property Vignal Stap m Panel	
Properties * Add/Text: string (default:) * expandizion (boolean (default: false) * expandizion (boolean (default: false) * expandizion(boolean (default: false) * expandizion(default: false	<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						$\underline{2}$ Test \sim	
Image: Widget Image: OpenUIS Template Script	Angular						
Default B	Binding-Property:	p.m.Panel	~			0	Properties headerflost: string (default:) headerflost: string (default:)
 Type": "((4))pe)", "televent set: "((4))pe)", "teleph": "((4))pe)", "teleph": "((4))pe), "teleph": "((4))pe), "teleph": "((4))pe), "teleph": "(4)pe), "telephenden": "(4)pe), "telephendenen": "(4)pe), "telephendenen": "(4)pe), "telephendenen": "(4)pe), "telephendenen": "(4)pe), "telephendenen": "(4)pe), "telephendenen": "telephendenen": "telephendenen: "telephe	<pre>aderText}}", ", ", aderText}}", addate addate</pre>)", nt));//mease=foolber))],)/;//deffoolber))],				(<u>•</u>)	hught : Sign Actions 25502 (default; satu) expanded : boolan (default; fate) expand : fullistenerfunction or (fullistenerfunction, sListenerObject] or [sData, fullistenerFunction, sListenerObject] expanded : fullistenerfunction or (fullistenerfunction, sListenerObject] or [sData, fullistenerFunction, sListenerObject]
Properties Events	Aggregation	Data Aggregations	ß				
						+	
Search	B		Berley Holdsteine	B -44 B -44		Q	
Name	Description		Default value	Data Type	Translatable		
		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 N
Widget Customizer					🗑 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	aderText				
<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>	acceleration of the second					
<pre>14 "infoToolbar" : [{{#infoToolbar}}"{{&.}}",{{/infoToolbar}}], 15 "visible" : {{visible}} 16 J</pre>	backgroundDesign					
	width					
Properties Events Aggregation Libraries Data A	 Iggregations					
						+
Search						Q
Name Description		Default Value	Data Type	Translatable		
expandAnimation		true	Boolean V			Ū
height		auto	String ~			Ū
headerText			String V			Ū.
visible		true	Boolean ~			Ū

End

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

Create and manage connector calls

https://developer.simplifier.io/documentation/connectors/create-and-manage-connector-calls/

Vimeo Video

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.

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.

Connector Logins Certificates							
							+ 18
sap_bu_te							<u>ଛ</u> ସ୍
Connector Name	Connector Type	Description	Created	Last Edited	Active	6	Actions
SAP_BU_TechnischerPlatz	SOAP					5	€ E / S 5 0 Edit calls

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.

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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				Create Connectorcall				
Call								
Input Parameters Output Param	Connectorcall name Description	: BU_OBJ_BUS	0010_READ f the connector call					?
Validate O								+
Parameter Name		Optional	Alias	Description	Constant Value	Data Type	Actions	
				No parameters				
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>.



Create Connectorcall



🗑 Save & Test 🖼 Save 🗙 Cancel

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

https://developer.simplifier.io/documentation/connectors/create-and-manage-connectors/

Connector Type | LoginMethod | Connector Details | Copy a Connector | Usage of Connector

Vimeo Video

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.

Connector Type

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	Simplifier			Con	nectors	?	A Felicitas	Weber \sim .
				Add	Connector			
C	Connector							⊢ ⊞
			General		SOAP Endpoints		+ 🗑	
छ ।	4	*Name:						
8		Connector Type:	SOAP	\sim				
		Description:						
<u>کر</u> ا		Active:						
		*Timeout (in seconds):	60					
ÌQ (Tags:	Add Tag					e .
× 1								
1 20. F								
× 1								
کم ا	-				ې دى. دى.	Save	X Cancel	

Endpoints

Name	The connector needs a unique name
Connector Type	Set the technical protocol of the interface
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
Tags	You can add tags to your connector (e.g. the name of a project)

After you have created the connector information, add your endpoints by clicking the plus icon.

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	S simplifier		Connectors		<u>? 8</u>	Felicitas Weber 🗸
		A	dd Connector			
c						
	Connector					+ =
		General		SOAP Endpoints	+	
<i>b</i> i	C *Name:				Add Configuration for Instance	
à	Connector Type:	SOAP		Name:	Default (Custom)	\sim
	Description:			Type:	Custom	
à	Active:			Url:	http://tutorial.simplifier.io	
íó.	*Timeout (in seconds):	60 Add Tag			e s	ave 🗙 Cancel
X	n					
à	F					
à	F C					
<i>i</i>	F				🗑 Save 🗙	Cancel

You can set several, but at least one is required.



You can switch between endpoints and customize the Specific Parameters. Each connector has specific parameters that depend on the properties of the communication protocol. Read more on the following pages.

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 Username/Password, Single-Sign-On, OAuth2 and SAML2.0.

Cantra Connector	Add	Connector		+ =
Search for	General		SOAP Endpoints	
Con Con Con Con Con Con Con Con	Name: SOAP Description: Constraints Active: O (in seconds): 60 Tags: Add Tag	Color Detault Quality SOAP Specific Parameters Color	None None CommonMail [D4_RFCSIMP_SOAP IoTBasicLogin Odata RFCSIMP_JD4 RFCSIMP_JD4 RFCSIMP_JD4 RecSIMP_JD4 Root db4free	
X Pi			5	Save X Cancel
Duck				

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

===	S simplifier	Connectors	?	\underline{A} Felicitas Weber \checkmark
	Connector			

Edit Calls

By clicking on **Edit calls**, you directly jump to the overview of connector calls.



Copy a Connector

You can copy an existing connector by clicking on Copy connector.



It opens the following dialog. Set a new name for the copied connector.

Copy of Connector "BasicCourse"



[Save

Cancel

The complete configuration of the connector, including its connector calls, is copied and created with the duplicate.

Usage of Connector

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

S	Edit calls
Ð	Copy connector
(G	Show connector usage

It opens a pop-up that displays all artifacts that use the connector:

References you have permission on: 1 / 1

Search		C	ζ
ŵ	Basic_Course2		
121	2	Հիդ	
		Show item	
		Ok	¢

By clicking on an entry, you jump directly into the item.

Create and Manage Functions

https://developer.simplifier.io/documentation/business-objects/create-and-manage-functions/

The logic of a business object is implemented via script functions. Each business object can hold as many functions as wanted. Click on the 'Edit functions' icon.



You are forwarded to the overview of the functions of the business object. There you can go to the function details, edit a function, test it, copy or delete it.

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https://developer.simplifier.io

	😅 sımplifier	Business Objects						?	A Felicitas Weber 🗸
F	unctions of "MyNewBusinessObject"								S Exit
Sea	arch								+ Q
Par	rameter Name	Туре	Input Parameters	Output Parameters	Actions				
hel	loWorld	JavaScript	1	3		8 /	2	5	

To add a new function, click on the '+'.

Creating a function involves writing a method via JavaScript and editing parameters. In the script editor, you can code <u>logic</u> 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:



In the toolbar above you have several possibilities:

- undo (ctrl+z)
- redo (ctrl+y)
- search (ctrl+f)
- search and replace
- format code
- validate code
- settings (ctrl+,)
- fullscreen

This example reads a name that 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 function 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 corresponding 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.

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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 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.

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

https://developer.simplifier.io/documentation/business-objects/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.

	🛱 simplifier	Business Objects		2	<u>8</u>	Felicitas V	Neber \sim
	Erer-side						
						+	
Sear	h for name or description						
Ø	consoleLog It just sends it to the console		conso	leLog	0	Ē.	
				Description			
Ó	ITIZ_Utilities	>		It just senas it to the console			
Ø	MyTestBO	>				Ø	
Ø	Utility Utility functions from window object	>		(s) Edit functions			
				Copy Business Object			
				R Business object usage			
				console 🛞 demo 🛞			
					(¥3) ⁰		
				f(x) SimpleScript		>	

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

Simplifier Documentation Release 5.0

https://developer.simplifier.io

📰 🛱 sımplıfıer	В	isiness Objects			?	8 Felic	tas Weber 🗸
Create Business Object						🖁 Save	× Cancel
*Business Object der	ect name: scription: Tags: Add Tag						
Add Connector / Plugin / Business Object							
Se	elected Elements						
Connectors Ty	уре	Name		Actions			
-C							
Plugin							
businessObjects							
Client-side Business Object		No data					
d Ibraries							
đ							

First, choose a name for your client-side business object and define 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'.

Simplifier Documentation Release 5.0

https://developer.simplifier.io

🚍 sımplıfıer	В	usiness Objects		() <u>A</u> Felic	itas Weber $ \smallsetminus $
Create Business Object					🗑 Save	× Cancel
*Business Object of Business Obj	bject name: MyNewClientSideBusinessObject description: This is the description of my new client-side business object. Tags: clob @					
Add Connector / Plugin / Business Object						
5	Selected Elements					
Connectors	Туре	Name	Actions			
۲ <u>۵</u>	connector	BasicCourse				
Plugin	clientbusinessobject	consoleLog				
6	serverbusinessobject	JobExample				
BusinessObjects	library	OpenUI5 1.44.14				
Client-side Business Object						
م						
Managed libraries						
ත						

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'.



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

https://developer.simplifier.io/documentation/business-objects/create-business-objects/

Business objects are managed in the tile '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.

Simplifier Documentation Release 5.0 https://developer.simplifier.io

	😂 sımplifier	Business Objects	0	A Felicita	s Weber 🗸
	ever-side Cleent-side				
					+
Sean	h for name or description		RusinessΩbiect	Q	
Ø	BusinessObject	>	Description	V LA	
Ø	ITIZ_OPCUA_Example	>			
Ø	ITIZ_User	>		U	Þ
Ø	JobExample	>	/(s) Edit functions		
Ø	JSONStore	>	Copy Business Object C Business object usage		
Ø	latemenausfall	>	Add Tag		
Ø	MyGo_SAP_RFC_Connector	>			
Ø	MyNewBusinessObject	>	$f(\mathbf{x})$ helloWorld	>	
Ø	SAP_BU_Equipment	>			
Ø	SAP_Functional_Location_RFC	>			
Ø	SAP_PMNotification	>			
Ø	SAP_TechnischerPlatz	>			

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

📰 😅 sımplıfıer	B	usiness Objects		?	8 Felic	tas Weber $ \smallsetminus $
Create Business Object					🗑 Save	× Cancel
 Business Object name Business Object description Tags 	:					
Add Connector / Plugin / Business Object						
Selected B	Elements					
Connectors Type		Name	Actions			
Plugin						
BusinessObjects						
		No data				

First, choose a name for your business object and define 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'.

Simplifier Documentation Release 5.0

https://developer.simplifier.io

	S simplifier		Bu	isiness Objects		3	A Felic	iitas Weber 🗸
Cr	eate Business Object						🖁 Save	X Cancel
	*Business C Business Object	Object name: MyN t description: This Tags: Busi	tewBusinessObject is the description of my new business object. nes $Object \otimes BO \otimes $					
/	Add Connector / Plugin / Business Object							
Cor	inectors	Selected Element	ts	Name	Actions			
	ъ	connector		BasicCourse				
Plu	gin d	serverbusinessobje	ect	TemplateMail		T		
Bus	inessObjects ත්							

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.

@

Business object usage

It opens a popup that displays all used applications:

	i Business object usage	
Refere	nces you have permission on: 1 / 1	
Search		Q
ŵ	ITIZ_Template_SAPSOAP_FunctionalLocation	
121	SAP Functional Location	
	Show item	
		Ok

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

Create your first Application

https://developer.simplifier.io/documentation/getting-started/create-your-first-application/

Vimeo Video

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



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

Simplifier Documentation Release 5.0 https://developer.simplifier.io

II S	simplifier	Applications				3	<u>A</u> Feli	iitas Weber 🗸
Applica	Image: Second							
۲	Basic_Course Text Greated: 1005 5/7/2019, 8:58 10 AM Last Exited: 1005 8/1/2019, 4:53 43 PM		Ø	>	Basic_Course Description		/ 3	
۲	Basic_Course2 2 Created: admin 6/3/2019, 2:03:23 PM Last Edited: admin 6/5/2019, 3:07:58 PM		Ì	>	Test			1
۲	CRM CRM Created: f005 7/8/2019, 9:23:44 AM Last Edited: f005 7/8/2019, 9:26:27 AM			>	App-Icon			
۲	Demo Greated: 1005 2/13/2019, 11:30:52 AM Last Edited: admin \$/31/2019, 11:20:34 AM			>	Customization Ratio		100	ж
	Demo.FW Created: 1005 3/28/2019, 7:49:58 AM Last Edited: 1005 3/28/2019, 7:51:27 AM			>	-			
	Demo_Application Demo_FW Created: 1005 07/2019, 125:32 PM Last Edited: 1005 3/26/2019, 914:36 AM			>	ত Copy Application			

The following dialog will appear:

Create App

*Name:	
SmartMaintenance	
*Description:	
maintenance	
Default Language:	
American English 🗸	
*Transport-Name:	
SmartMaintenance_TP	
+ Create 🗙 Cancel	

Fill out the necessary fields analog to the table below:

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

https://developer.simplifier.io/documentation/applications/ui-designer/css-editor/

Use the CSS Editor for styling your application with standard web cascading style sheets. It can be found under the tab Other.

🗹 Designer	品 Process	🕄 Data Workbench	👗 Tests	🗋 Other
				🐼 CSS Editor

Please keep in mind that CSS statements are mainly used for design purposes, not for the basic layout to maintain the responsiveness of UI5.

For the corporate design, we recommend the use of the UI5 theming functionality with the Theme Designer.

UI5 and CSS: Please be aware to use CSS directives mainly for design purposes, not for basic layouting to preserve the responsiveness of UI5. For design purposes, we recommend using the theming functionality of UI5. Therefore you can use the <u>Theme Designer</u>.

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

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	52 8 4]	
1 21	width: 100% !Important;		
<u>A</u> 22	<pre>float: none !Important;</pre>		
<u>A</u> 23	padding-left: 12px !Important;		
24			
25			
26 -	.sapMTile {		
<u>A</u> 27	border-radius: 10% !Important;		
<u>^</u> 28	-webkit-box-shadow: 0px 5px 20px 0px rgba(0, 0, 0, 0, 0.2) !Important;		
<u>A</u> 29	-moz-box-shadow: 0px 5px 20px 0px rgba(0, 0, 0, 0, 2) !Important;		
<u>A</u> 30	box-shadow: 0px 5px 20px 0px rgba(0, 0, 0, 0.2) !Important;		
31			
32			
33 -	.sapMGT {		
A 34	<pre>margin-left: 0.5rem!important:</pre>		
A 35	margin-top: 0.5rem!important:		
36	}		
37	-		
38 -	#Application {		
39	background-repeat: no-repeat:		
40	background-color: #f9f9f9;		
41	/*background-size: 40%:*/		
42	background-position: 95% 90%;		
43	background-image: none:		
44			
45			
46 -	.RelaseAppBackground {		
A 47	<pre>background-image: url(/img/simplifier-logo-1x.png) !Important:</pre>		
48	}		
49			
50 -	#ConditionCondition Panel1 > div {		
51	overflow: hidden:		Т
52	R		
53	~		
54 -	.testContent {		
A 55	color : green !important;		
A 56	background-color ; pink !important;		
A 57	height : 400px !important;		
58			
59	-		
60 -	<pre>.testHeaderContent {</pre>		
A 61	stalen - talen limontosto		
		Ok Cance	el

If you want to learn more about CSS, check out the tutorials of the <u>w3 schools</u> or <u>Codecademy</u>.

CSV Connector

https://developer.simplifier.io/documentation/connectors/csv-connector-details/

CSV Specific Parameters

- > Login Method
- > Certificates

	+
*Path:	target/Address.csv
*Delimiter:	;
*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 app server start script.

If you want to provide the files by the Html5 uploader you have to specify the path to the uploads directory. By default the path to the upload directory is

/opt/simplifier/data/storage/uploads.

Please consider: If you have defined a different path in your Simplifier configuration file (settings.conf) or in your docker environment, then change the path accordingly.

Delimiter

Delimiter of the columns that separate 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

+

The 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.

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 that contain the delimiter are put in quotes. This setting is ignored when reading.

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

CSV Connector Calls

https://developer.simplifier.io/documentation/connectors/csv-connector-details/csv-connector-calls/

Go to <u>CSV Connector Details</u> 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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Call Call								
	Connectorcall name: read							
	Description:							
out Parameters Output Parameter	s							
lidate	5							
out Parameters Output Parameter	s Optional	Alias	Description	Consta	ant Value	Data Type	Act	tions
out Parameters Output Parameter iidate O arameter Name resultmode	s Optional	Alias	Description	Consta	ant Value columnname	Data Type String	Act	tions
out Parameters Output Parameter lidate O arameter Name resultmode action	s Optional	Alias	Description	Consta	ant Value columnname read	Data Type String String	Act ව ව	tions
out Parameters Output Parameter lidate O arameter Name resultmode action	S Optional	Alias	Description	Consta Co	ant Value columnname read	Data Type String String	Act ව ව	ctions The second secon
out Parameters Output Parameter lidate O arameter Name resultmode action	s Optional	Alias	Description	Consta Consta	ant Value columnname read	Data Type String String	Act ව ව	tions T
put Parameters Output Parameter lidate O Parameter Name action	s Optional	Alias	Description	Consta v c	ant Value columnname read	Data Type String String	Act C	tions The second s
Dut Parameters Output Parameter lidate O Parameter Name action	s Optional	Alias	Description	Consta Consta C C C C C C C C C C C C C	ant Value columnname read	Data Type String String	Act	tions T
put Parameters Output Parameter lidate O arameter Name resultmode action	s Optional	Alias	Description	Consta Consta	ant Value columnname read	Data Type String String	수 Act	itions iii iii

🖫 Save & Test 🛛 Save 🗙 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>).
- "array" returns a two-dimensional array (array of arrays), where the first array contains the row and the second array the column. This mode is the stablest, as the data type conversion must be done by the user. This is also the standard mode if you do not provide a resultmode.

WRITE

The CSV Connector Call for a WRITE operation requires also 2 Input parameters: "action" and "data".

The data parameter must be a two-dimensional array consisting of only Strings. You can specify the array in the call itself by adding the respective indices after the data parameter name e.g.

data[0][0], data[0][1]. In this case you can provide multiple fields of the parameter data. You have to be sure, that the indices are unique.

Simplifier Documentation Release 5.0 https://developer.simplifier.io

Connectorcal name: Write Description:				Create Connectorcall			
Connectorcall name: Write Description:	Call						
Connectorcal name: Write Description:							?
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The Connector returns everything if you use "/" as Output parameter.

Current Release & Archive

https://developer.simplifier.io/documentation/current-release/

The Documentation refers to the latest version of Simplifier (5.0). 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 5.0

UI Designer

The UI Designer which is used for the creation of user interfaces has been completely redesigned.

Besides the already known features, such as real-time collaboration, the new **WYSIWYG editor** is our greatest achievement: You can drag & drop your widgets into the editor, which directly displays the preview of the interface in real time.

Vimeo Video

Live Preview

In addition, you can use the Live Preview on different device form factors to test the layout without deployment first. This makes application creation much easier and saves a lot of time! The different selection of corporate designs (themes) and your changes in the CSS editor are also directly visible.

Vimeo Video

Icon Explorer

To assign meaningful icons to your modern layout, we integrated an icon explorer for searching and using icons visually.

New Database Designer and No-SQL Access

A very special feature is the new <u>Database Designer</u>. It drastically simplifies database creation, as you can now create your database scheme directly visually in Simplifier and deploy it to multiple target databases like MySQL, Oracle, Microsoft SQL Server and SQLite.

Invite developer

Working on an application with other people makes many things way easier. The new Share Button allows you to easily invite other team members via E-Mail to work on your current app project.

New Datatype Generation of Test results of Business Objects and Connectors

To reduce the manual work of data type definition, you can create simple or complex datatypes from connector request or business objects results in the test dialog automatically.

Asset Editor

To help you better manage the static content of an app, we have created a new **Asset dialog**. This dialog allows you to upload and preview images as well as download them and provides more clarity.

Theming Administration

Corporate design is very important for every company. Accordingly, **themes** can be directly assigned and loaded to the Simplifier instance.

You can therefore use the application on different instances in different corporate designs. Separate loading of themes via business objects is now a thing of the past.

Attribute and Role Mapping from external IDP

Security and authentication are particularly important to us: The authentication mechanisms Active Directory, SAML 2.0, LDAP and OAuth 2.0 now offer central role and user attribute mapping based on defined rules.

Roles and attributes can thus be maintained centrally in your company's user administration and automatically synchronized in Simplifier. A new standard role can also be defined. This is automatically assigned to a new user.

Not to forget the metadata exchange via URL: This ensures that client and provider always use the most up-to-date metadata.

Administration Interface Dark Mode

It gets dark in our administration dashboard so you won't have to be in the dark when creating apps: The new **Dark Mode** follows the trend towards eye-friendly operation.

Functionality in Server-Side Business Objects

With the **Crypto JavaScript library** you can now both decrypt and encrypt data. The functions of the **Lodash library** offer you a wide range of data filters and manipulations. Via our **Simplifier User API** you can now add your own profile pictures to the user profile.

Mobile Actions

Now, you can also record a video configuratively with the camera on your mobile devices. Simply choose how many videos are created and how long they should be.

Plugin Secret Administration

You can now create your own keys in the plugin administration to register your own plugins securely with Simplifier.

Enhanced Feature-Set for OData v2 Connector

You can now use the test dialog for testing OData calls directly. We also support Function Imports in our OData wizard to easily use this kind of business logic as a connector call.

SQL Database Support for IBM DB2

In addition to the well-known databases, we now also support **IBM DB2** and **IBM DB2 for AS-400** systems for easy recycling of old Lotus Notes applications.

Support for Client X.509 Certificates

Simplifier allows you to manage **X.509 certificates** and use them as a login method for authentication on backend systems via our connectors.

Updated Features

Enhanced widget editing

Be it icons, widget wizard, revised interface or drag & drop zones for the WYSIWYG editor - **all UI5 versions of a widget** can be managed directly in the mask. This includes support for auto-generating controls from the commercial SAP UI5 library.

Optimized Process Designer

Links to **Process Designer Items** are now highlighted when selected. The selection of mobile actions has been reworked for better handling.

The Script Action now offers a selection of ready-made and useful JavaScript code to get results even faster.

Enhanced RFC connector

Our **SAP RFC connector** now also supports **TABLES parameters** for exchanging data from SAP function modules and **Auto Commit** to trigger automatic updates to the sap database.

Test Dialog of Connectors and Business Objects

The test results are now displayed in the test dialog for business objects and connectors formatted as JavaScript Object Notation (JSON) View including syntax highlighting.

Individual result rows can be folded in and out, to get a better overview.

Enhanced transport system

Business objects that refer back to themselves through other business objects (circular reference) are now imported correctly.

Templates Preview

Templates now directly generate a preview when the content is changed.

Optimized App Deployment

You can now optionally activate the following deployment parameters for production environments:

- Transpiler = The application is provided for browsers that only have ECMAScript5 support
- **Polyfill** = Creates workarounds for older browser versions such as Internet Explorer 11
- Minify = Compresses the JavaScript and CSS source for a minimal file size to optimize loading times

Standard rolls

Simplifier is delivered with new standard roles

- SF_Administrator (This is a role for all AdminUI permissions)
- SF_AppBuilder (This role provides the permissions for App creation)
- SF_AppUser (This role provides the permission to execute Apps)
- SF_Developer (This role provides the permissions to create Apps and building blocks such as Business Objects, Connectors, etc.)
- SF_ExtAuthUser (This is a role for read-only users that are synced from an external authentication service)

Optimized library administration

Syntax highlighting is now also available for the inclusion of third-party libraries. This makes it easier to read the code and recognize its structure.

Existing libraries can now also be downloaded.

Oracle 19c compatibility

Simplifier now also supports the latest Oracle 19c database.

Security Enhancement

The legacy route for direct execution of connectors is locked by default - in special cases this lock can still be removed in the system settings. In Release 5.5 this option will be removed completely.

Mobile Features

Live Preview on mobile devices

Together with our brand new WYSIYWG UI Designer, we also offer the live preview in our simplifier mobile client (has to be activated in the developer settings. That means, that every change in the user interface will be published in real-time on your real hardware. This enables you to test your layout on different device factors and smartphone / tablet models in realtime.

Support for Honeywell Scanners

Our Simplifier Mobile client runs natively on Honeywell laser scanners with android operating system. This means you can use the information from the laser scanner directly in your business app without any extra interface.

Updated Mobile APIs

Our native mobile feature sets are updated to the latest version to give you the best native mobile experience.

IOS 13 Support

Our iOS Client was optimized for iOS 13

New API for TCP socket connections

With our new native tcp support, you can exchange data directly with other devices over ethernet or wifi interface. We use this to support external fix-mounted laser scanners on a fork-lifter for intra-logistic use case in production environments or warehouses.

Discontinued Features

- Support for the Simplifier Windows 10 Client will be discontinued as Windows discontinues its Mobile 10 platform.
- Angular 2 Widgets and support for Angular 2 applications and runtime are no longer available.
- The simple option for executing SQL statements within the SQL connector is no longer supported in Release 5.0 the connector call is automatically migrated to execute. No effects on existing applications are to be expected.

Manual changes

The new UI Designer requires updated widgets and metadata such as aggregations and drop zones. For the OpenUI5 version 1.60 we provide these widgets at http://download.simplifier.io/transports

These must be imported and overwritten.

Attention: All customer specific changes to these widgets will be lost!

For the OpenUI5 version 1.38 and 1.44 you have to adjust the widgets manually in the widget editor.

Announcements

Client API for direct connector execution (without calls) will not be available in Version 5.5 anymore - please use only connectors with calls.

Data Centers of Simplifier Cloud

https://developer.simplifier.io/documentation/installation-instructions/simplifier-cloud/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

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Data Object

https://developer.simplifier.io/documentation/applications/process-dashboard-and-designer/data-objects/

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

Vimeo Video

Connector

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**.

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	Show Busy Indicator	\bigcirc
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Function	Description
Asynchronous	If you select this option, the value helper assistant only offers asynchronous connectors.
Value Helper	If you open the value helper, an assistant opens that guide you to your connector.
Show Busy Indicator	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.
Input Mapping	You can map variables, auto fields, widget properties and constants to the input parameter of your connector.
Output Mapping	You can map the output parameter of your connector to variables and properties.

Data Types

https://developer.simplifier.io/documentation/data-types/

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

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Applications Create, manage and configure a wedgets and libraries. Process m	41 applications, napping defined	Connectors Cests manage and configure the interfa	35 cces ent	Business Objects 20	Data Types 163
Winnin user stories. Users Create, administrate and configur Simplifier user, groups and roles	8 re all of your s with their	Vysems and owvees Transports Migration of applications and individual components to other Simplifie instances	29 s, inc.	Outsness requirements.	Validation rules. Logs & Monitoring Orestal monitoring and fittering of all user and system activities. Provide detailed
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Create and administrate jobs for business objects. These are base configurable time intervals.	the execution of d on flexibly	Creation and definition of reusable HTML to components. These can be personalized by using of different, predefined placeholders	text V s.		

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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

You can assign tags to Data Types to find them easily in the search bar.

Data Workbench

https://developer.simplifier.io/documentation/applications/data-workbench/

Custom Events | Global Variables | Global Auto Fields

Vimeo Video

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

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).

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



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:

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

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	<≡,	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	

Database Setup

https://developer.simplifier.io/documentation/installation-instructions/on-premise/database-setup/

In the following article, you find a description of how to set up an external database for the Simplifier Core platform.

```
1. Switch to configuration persistence path, e.g. /opt/simplifier/data/conf/
```

2. Create new include.conf file with the following format:

```
database {
  dbms: "oracle"
  user: ""
  pass: ""
  host: ""
  port: 1521
  database: ""
  table_prefix: ""
```

Database Credentials

}

dbms	mysql or oracle
user	Username of the database
pass	Password of the database user
host	IP address of the database server
port	Port of the database server
database	Name of the database / database scheme
table_prefix	Prefix of the table

Delete a PDF Template

https://developer.simplifier.io/documentation/plugins/pdf-plugin/technical-call-pdf-plugin/delete-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- Parameter	None	
Example inp	put::	
{		
"nam	e": "templatename"	
}		
Example ou	tput:	
{ "suc	cess": true	
}		

Deploy and Preview

https://developer.simplifier.io/documentation/applications/ui-designer/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>.

Application Functiona	alLocation 🕐		🗹 Designer	品 Process	🕄 Data Workbench	👗 Tests	Dther			× Exit
		✿ Login × +							De De	ploy _→ Open
Screens	🗇 Widgets	8			50				🔒 🛱 Properties	Events
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Start Screen	ଜ	customHeader				0			ID	
🗖 Login		subHeader							Login	
Others	~	✓ ScreenContent							Description	
🗖 Main		Login								
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By clicking on **Open**, it opens a new browser tab. Every time you deploy your application, the browser tab reloads automatically.

Make sure that pop-ups are not blocked in the browser for the Simplifier instance.

You can simulate your preview for different mobile devices with the Chrome Developer Tools 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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Deployment & Installation Instructions

https://developer.simplifier.io/documentation/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
- The initial login credentials are admin / admin

Use the following checkpoints for a 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

https://developer.simplifier.io/?post_type=manual_documentation&p=8244

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 ~
Characteristic:
Device Type 🗸
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

https://developer.simplifier.io/documentation/installation-instructions/general-instructions/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

https://developer.simplifier.io/documentation/installation-instructions/general-instructions/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 \setminus
```

apt-transport-https $\$

ca-certificates \setminus

curl \setminus

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

https://developer.simplifier.io/documentation/installation-instructions/locally/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.

•••	
CO	DRAG & 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.

success message with suggested next steps and a link to this documentation. Click the whale (\clubsuit) in the status bar to dismiss this popup.

<i>6</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 (b) 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

https://developer.simplifier.io/documentation/installation-instructions/locally/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 \setminus
```

apt-transport-https $\$

ca-certificates \setminus

curl \setminus

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

https://developer.simplifier.io/documentation/installation-instructions/locally/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).
Simplifier Documentation Release 5.0

https://developer.simplifier.io



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

https://developer.simplifier.io/documentation/data-types/create-edit-a-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.

▦	Simplifier	Турез		? 👌 Felicitas Weber 🗸
	Domain Types Structs Collections			
Count	3			
Sean	n or name, description or tags ZIP a postal code	>	ZIP	
2	ITIZ_Integer	>		Description a postal code
æ	Char	>		
				Parenttype String
				Tags
				Сору

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.

simplifier		Турез	? A Felicitas Weber \sim
🖴 Create		Data Type Selection	🗑 Save 🗙 Cancel
	Tags Selected DataType : String		
	Search Q		
	All All Data Types	Esse Types Domain Types Structs Collections	
	Custom	Search	٩
	All Custom Data Types	Boolean	>
		Date	>
Properties		Hoat	>
		String	>
		E Apply X C	Cancel

Simplifier Documentation Release 5.0

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	😂 sımplıfier	Турез	0		as Weber 🗸
	Treate			🖁 Save	× Cancel
	**	7/0			
	"Name:	String -			
	Parentype.	a nostal code			
	Description.	a barra cono			
	Tags:	Add Tag			
_	Properties				
		Min: (O)			
		Max: 0 5			
		Regex:			
		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 - <u>click here for more information</u>.

Possible Values

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

Nullable

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

DQP System

https://developer.simplifier.io/documentation/glossar/dqp-system/

Simplifier usually consists of 3 environments:

- Development
- Quality Assurance
- Productive

An environment can be configured within global <u>Simplifier Settings- Server Environment</u> and is used to transport applications within the defined Simplifier Instances (D,Q,P). Following is an example for deploying a DQP system on three virtual machines.



Deployment and Integration Workflow D-Q-P

Simplifier Documentation Release 5.0

https://developer.simplifier.io



- 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

Please see also <u>Transports</u> and <u>Remote Transports</u> for detailed information on how to transport Apps within a <u>Simplifier Server</u> <u>Environment</u>

Edit a PDF Template

https://developer.simplifier.io/documentation/plugins/pdf-plugin/technical-call-pdf-plugin/edit-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

https://developer.simplifier.io/documentation/connectors/email-connector-details/

Email Specific Parameters

- > Login Method
- > Certificates

	+
*Sender address:	fw@simplifier.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 be configured, so that the client will trust the server's certificate. Default to false.

Take a look at Email Connector Call.

+

Email Connector Call

https://developer.simplifier.io/documentation/connectors/email-connector-details/email-connector-call/

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

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

All data types should be set as String.

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

receiverCC	The email address of the copy receiver. Several email addresses can be specified	String
	separated by a comma	
receiverBCC	The email address of the blind copy	String
	receiver. Several email addresses can be	
	specified separated by a comma	
sender	The email address of the sender	String
attachments	A list of all attachments	List[ByteAttachment]

ByteAttachment

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

session The session id of an uploaded file by the HTMLUploader is		
	frontend.	
fileName	The filename which will be displayed in the email	
attachmentMimeType	The file's MIME type, representing the file's encoding e.g.	
	image/jpeg, audio/wav, text/xml etc.	

Example:

Contraction of the second seco						
Call						
	Connectorcall name: send Description:					
ut Parameters Output Parameters						
out Parameters Output Parameters	Optional	Alias	Description	Constant Value	Data Type	Actions
ut Parameters Output Parameters date arameter Name attachments	Optional	Alias	Description	Constant Value	Data Type ListOfByteAtt	Actions
date Output Parameters date Annue An	Optional	Alias	Description	Constant Value No value set	Data Type ListOfByteAtt6 String 6	Actions 10 10
date Output Parameters date O srameter Name attachments msg receiver	Optional 0	Alias	Description	Constant Value No value set	Data Type ListOfByteAtt 6 String 6 String 6	Actions
ut Parameters Output Parameters idate O arameter Name attachments msg receiver receiverBCC	Optional O O	Alias	Description	Constant Value No value set	Data Type ListOfByteAtt 6 String 6 String 6 String 6	Actions 10 10 10 10 10
ut Parameters Output Parameters date O arameter Name attachments msg receiver receiverBCC subject	Optional O O O O O O O O O O O O O	Alias	Description	Constant Value No value set	Data Type ListOfByteAtt String String String String String String	Actions To To To To To
out Parameters Output Parameters idate Oatput Parameters arameter Name attachments msg receiver receiverBCC subject	Optional 0 0 0 0 0 0	Alias	Description	Constant Value No value set	Data Type ListOfByteAtt String String String String String String	Actions

🖫 Save & Test 📲 Save 🗙 Cancel

233 / 317

Enumeration in Widget Properties

https://developer.simplifier.io/documentation/applications/widget-customizer/enumeration-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].

Documentation API Reference	Samples Demo Apps
button 🛞 🏹 😽 🛠	enum sap m ButtonType
✓ sap.f.semantic	cham oup.m.batton type
SemanticButton	Overview Fields
SemanticToggleButton	
∨ sap.m	Different types for a button (predefined types)
Button	
ButtonType	FIELDS
MenuButton	Name
MenuButtonMode	sap.m.ButtonType.Accept
OverflowToolbarButton	accent type (green button)
PagingButton	san m Button Tune Back
RadioButton	sap.m.Button type.Back
RadioButtonGroup	back type (back navigation button for header)
SegmentedButton	sap.m.ButtonType.Default
SegmentedButtonItem	default type (no special styling)
ToggleButton	sap.m.ButtonType.Emphasized
✓ sap.m.semantic	emphasized type
SemanticButton	sap.m.ButtonType.Reject
SemanticToggleButton	reject style (red button)
✓ sap.ui.commons	sap.m.ButtonType.Transparent
Button	transparent type
ButtonStyle	can m Butten Type Unctyled
MenuButton	sap.m.Button type.onstyled
RadioButton	Unstyled type (no styling)
RadioButtonGroup	sap.m.ButtonType.Up
SegmentedButton	up type (up navigation button for header)
ToggleButton	

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

Result in the UI Designer

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

Events

https://developer.simplifier.io/documentation/applications/process-dashboard-and-designer/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 side and drag & drop it into the drawing area in the center.

By double-clicking on the shape, the event selection assistant opens. You can also open it by clicking on the right side 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 current user story, select one of the Events under the tab **Subscribe Event**.

C ٢

Se

Subscribe Event × Custom Events Screens System Events Screens Widget Events Screen Events Q Search Screen Events AutoFields BusinessObjectDemo Q Search in AfterHide Connect in AfterRendering Dialogs in AfterShow onBeforeFirstShow ErrorMapping i onBeforeHide MainDesktop in Before Rendering MainMobile in BeforeShow MobileFeatures
ModelBinding 📄 onlnit onNavButtonPress RemoteCall
Screen1
Screen2 ShowcaseDragDropSplash . Templates

🗸 Ok 🗙 Cancel



🗸 Ok 🗙 Cancel

Event Type	Description
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.
onAfterHide	This event is triggered when the app has made the screen invisible. In the case of animated transitions, this event is triggered after the end of the transition. This screen will no longer be displayed and animated.
onAfterShow	This event is fired every time when the app has made this screen visible. In case of animated transitions this event is fired after the transition finishes. This screen is now being displayed and not animated anymore.
onBeforeHide	This event is triggered before the app hides the screen. For animated transitions, this event is triggered before the transition begins.
onBeforeShow	This event is fired every time before the app shows this screen. In case of animated transitions this event is fired before the transition starts.
onBeforeFristShow	This event is fired before the app shows this screen for the first time.
onNavButtonPress	This event is fired when Nav Button is pressed.
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



To use an event in other user stories, create a new **Custom Event** on the **Publish Event** tab.



A shortcut for creating Custom Events is located in the upper right corner.

	Publish Event	,
	Custom Events	
		4
Sean	(A	٩
5	CountTechnischerPlatz	
52	NewEvent	
123	SAPDatal coded	

√ Ok 🗙 Cancel

Subscribe to Custom Events

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

https://developer.simplifier.io/documentation/getting-started/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 and Description

Example of using OData

https://developer.simplifier.io/documentation/connectors/odata-v2-connector/example-of-using-odata/

In this example, the data of an **OData** service is displayed in a table by pressing a button.

The connector is configured as follows:

			🖫 Save	6 Exit
General		OData V2 Endpoints	-	F 🗑
ODataiD4 OData V2 V 60 Add Tag	Default OData V2 Specific Parameters ✓ Login Method Name: Description: Method Type: Source: Target:	RFCSIMP_ID4 Logindaten ID4 Username/Password Default Source Default Target	~	
	Certificates #Endpoint: Request headers to filter out:	No Certificates Assigned http://sapid405.itizzimo.kinamu.at8001/saplopu/odata/sap/2_SALES_ Enter header names	ORDER_SR\	+
	General Obsta 104 Obsta V2 C 60 Add Tag	General	General OData V2 Endpoints Obsta V2 Image:	General OData V2 Endpoints - ODetaID4 Image: Control of the second of the

Endpoint:

http://sapid405.itizzimo.kinamu.at:8001/sap/opu/odata/sap/Z_SALES_ORDER_SRV

Important: Do not skip the login method.

The connector calls were generated automatically using the Connector Wizard:



Search						≯≭ Co	nnecto	or Wizard]+ a
Name	Description	Ľ	C			Actions			
SalesOrderCollection_Create	Automatically generated connector call for creating a SalesOrder entity.	4	0	5	ı	Ð	4	Ŵ	
SalesOrderCollection_Delete	Automatically generated connector call for deleting a SalesOrder entity.	3	0	5	ı	Ð	7	Ŵ	
SalesOrderCollection_Read	Automatically generated connector call for reading a single SalesOrder entity.	3	1	5	ı	Ð	7	Ŵ	
SalesOrderCollection_ReadAll	Automatically generated connector call for reading all SalesOrder entities.	2	1	5	Ø	5	4	Ŵ	
SalesOrderCollection_Update	Automatically generated connector call for updating a SalesOrder entity.	4	0	5	Ø	Ð	4	Ŵ	

Aside from the automated generated connector calls, you always have the possibility to add other connector calls via the plus icon.

In this example, we will only go in detail on SalesOrderCollection_ReadAll.

Test the connector call to make sure it works before you use it in the application.

Test "SalesOrderCollection_ReadAll"	
(History	📓 Generate data type
Test values	Result 🗘 🐰
Constants *operation: readAll *path: SalesOrderCollection	S C M F 1 "result": { "success": true, "result": { "success": true, 3 "result": { "salesOrderCollection": [* 4 "success": true, "salesOrderCollection": [5 { "salesOrderCollection": [6 ''''''''''''''''''''''''''''''''''''
	X Close

Create the UI

Remember, we want to display the data of the Odata service in a table. The data should be loaded by pressing a button.

So at first, add the widget **Button** to the screen. Change the ID of the button accordingly (e.g. **Button_Read**) and add the appropriate **text** (e.g. Read) to the *Properties*.

General	iconDensityAware	Ø
ID		G
Button_Read	text	
Туре	Read	¢
io.simplifier.widgets.m.Button	activelcon	
L		6

For the UI you also need the Widget Table, so add it to the screen. Here you have to customize the properties as follows:

1. Make sure that **itemsTemplate** is activated.

Application Example_OData ⑦	🗾 🗹 Des	gner 🗸 Process 🕄 Data Workbench 👗 Tests 🗋 Other		🗙 Exit
	✿ OData × +		Deple	oy 📑 Open
Screens 💮 Widgets	8	50	8 Properties	Events
Search Q D C	Search Q 0/	0 C sap_belize_plus v	Search	Q
+ New Paste	$\uparrow^{-} \qquad \leftarrow \uparrow \downarrow =$	OData	showNoData	
Start Screen 🍙	customHeader			e
🗖 OData	subHeader	Read	modeAnimationOn	
	✓ ScreenContent	No data		C
	> Button_Read		swipeDirection	
	✓ Table1		Both	~ &
	> items		growingThreshold	0
	swipeContent		20	ď
	headerToolbar		1000	P
	layoutData		busy	
	columns		0	в
	infoToolbar		noDataText	
	footer			Ø
			Others	
			ite as - Dath	
			itemsPath	P
			cssClasses	Ŭ
				8
			tooltip	
				B
			itemsTemplate	
				e
			item	

2. Click on the Selection Helper at **items**.

A dialog opens in which you have to select the connector on the left and then the Collection SalesOrder_Collection.

	Data Type Selection
Tags Selected DataType : SalesOrder	Collection
Search Q	
All All Data Types	Base Types Domain Types Structs Collections
Custom	Search Q
All Custom Data Types	SalesOrder_Collection
BasicCourse	Connector ODataID4
Connector Data Types	
Demo_SOAP Connector Data Types	
ITIZ_KUN_MySQL	
Connector Data Types	
ITIZ_KUN_Oracle	
Connector Data Types	
ODatalD4 Connector Data Types	
SAP_BU_FunctionalLocation	
Connector Data Types	
SAP_BU_Functional_Locations_SOAP Connector Data Types	
SAP TechnischerPlatz	
Connector Data Types	
SIMP_SAP_Porsche_Order_SOAP	
Connector Data Types	
Since we want to display three values of the OData service, we still need three **Columns** in the table and a **ColumnListItem** that contains three **Text** widgets. Your screen content should look like this:

Application OData_Example ③	🗹 Designe	물 Process	🌒 Data Workbench 🛛 👗 Tests	C Other		× Exit
✿ OData × +					▶ Dep	oloy 📑 Open
Screens 🕅 Widgets			50		🔒 🖹 Properties	Events
Search Q Search	Q 0/0	C		🜗 🗖 🗖 💿 💭 🔊 sap_belize_plus 🗸	Search	Q
+ New 👔 Paste 🔨	$\leftarrow \uparrow \downarrow \rightarrow$		OD)ala	showNoData	
Start Screen 🟠 🗸 Table1						P
🗖 OData 🗸 items		Read			modeAnimationOn	
✓ ColumnListItem1		Buyer Id	Gross Amount	Currency Code		C
✓ cells					swipeDirection	
✓ Text1			No d	data	Both	~ 0
layoutData					growingThreshold	0
✓ Text2					20	¢
layoutData					1000	R
✓ Text3					busy	
layoutData					Ó	e
layoutData					noDataText	
swipeContent						e
headerToolbar					Others	
layoutData					itemeRath	
✓ columns					Temsraul	R
✓ Column1					cssClasses	`
✓ header						8
> Label1					tooltip	
layoutData						e
footer					itemsTemplate	
V Column2					\bigcirc	C
✓ header					items	
> Label2					SalesOrder_Collection	<u>0'</u>

Switch to the Process Designer and create the user story for the process logic.

Configure the Process Logic

Start the process with a Subscribe event of the read button (Widget Event: press). Then add the *Data Object* Connector and select the *Connector* and the corresponding *Connector Call* **Categories_ReadAll**.

		Choose Connector and Call	
8			
Connectors			
Connectors		Connector Calls	
Search	٩	Search	Q
Release9()	1 Connector Call	Categories_Create	Automatically generated connector call f
Relation		Categories_Delete	Automatically generated connector call f
Logging		Categories_Read	Automatically generated connector call f
Staging_Release_75_Logging	1 Connector Call	Categories_ReadAll	Automatically generated connector call f
OData V2		Categories_Update	Automatically generated connector call f
M002_Northwind	5 Connector Calls		
Northwind	4 Connector Calls		
ODatalD4	5 Connector Calls		
ODataReadWrite	5 Connector Calls		
Proxy			
odata	1 Connector Call		
REST			
Academy_REST_Demo	2 Connector Calls		
Academy_REST_Demo_Copy	2 Connector Calls		
AcademyRest	7 Connector Calls		
BigQuery	1 Connector Call		
			✓ Ok 🗙 Cancel

For the Read Connector Call you don't need an Input Mapping, because you don't have to pass a value to read all data.

Only the output mapping has to be defined.

Open the **Output Mapping** and drag the **Parameter** from the left. Go deeper into *Output* – **SalesOrderCollection**.

	Customize Parameter
686	
Parameters	
Parameters	
Search	٩
Output	
SalesOrderCollection SalesOrder_Collection	
Error	
ErrorMessage	

Select the fields you need. For example, select **BuyerId**, **GrossAmount** and **CurrencyCode** by clicking on the plus.

	Customize Parameter			
Parameters				
Parameters	Fields		Selection	
Search Q	Search	۹	Search	Q
Output BalesOrderCollection	SalesOrderCollection / CurrencyCode String	t .	SalesOrderCollection » BuyerId	
SalesOrder_Collection Error	BuyerName - String -	+	String GrossAmount String	Ū
ErrorMessage String	String -	+		
	Sold -	+		
	String -	÷		
	TaxAmount - String -	+		
	GrossAmount - String -	+		
	String	+		
			✓ Ok	X Cancel

After you have added the fields, click **Ok**.

Now you have to define the **widgets** (drag it from the right) in which the selected parameters should be mapped.

Select the screen, the widget **Table** and switch to **Data Aggregation** within the section *Properties and Aggregations*.

Go deeper into items.

Define Widget Mapping						
Screens	Widgets	Properties and Aggregations				
Search Q	Search Q	Search	Q			
OData	g= ColumnListItem1	Ê	目			
	Table1	items	> [http://www.com/article/com/article			
	E Column3		4			
	Text2					
	E Column2					
	<u>∎</u> = Column1					
	<u>∎</u> = Text3					
	E Text1					
	Button_Read					
			🗸 Ok 🗙 Cancel			
		·				

Now go deeper into the items of the Table - ColumnListItem.

OData » Table1 » items » Table1	
Table1 /	
Widgets	
Search	Q
Table1 » items	
ColumnListItem1	ک راس

You will now see the three **Text** widgets as cells of the list item. For each **Text** you have to select String **text** as property. It then appears on the right under *Selected Properties*.

OData » Table1 » items » Table1	le1 Define Widget Mapping				
Table1 / ColumnListItem1 /					
Widgets		Selected Properties			
Search	Q	Search		Q	
ColumnListitem1 » cells		Table1/ColumnListItem1/Text1/text			
Text1		text	i	Ŵ	
Text2					
Text3					
Properties of Text2					
Search	Q				
busyindicatorDelay	1 +				
maxLines	11 +				
String					
cssClasses	II +				
fieldGroupIds	II 🕂				
text					
textAlign	II 🕂				
textDirection	II 🕂				
tooltip	61 <mark>+</mark>				
visibleBinding	11 +				
width	11 +				

When you've done this for all three of them, click **Ok**.

Now map the parameters into the table. The **Output Mapping** should look like this:

https://developer.simplifier.io



Connect the two shapes with each other:

Simplifier Documentation Release 5.0

https://developer.simplifier.io



Make sure that the business application has the appropriate permissions to execute the connector.

After successful **deployment** the data will be read and displayed by clicking the button.

	OData	
Read		
Buyer Id	Gross Amount	Currency Code
10000000	25867.030	EUR
10000002	14602.490	EUR
10000005	5631.080	EUR

For this screenshot, in the UI Designer a label has been added to each column for the Buyer Id, Gross Amount and Currency Code.

Execution Log

https://developer.simplifier.io/documentation/logging-monitoring/execution-log/

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

S simplifier			Logs & Monitoring			?	8 Felicitas Weber
verview							
			K < 1 v of 53 Entries per page 50 v >	»I			
User	Time	Category	Action	Log Level	User		Details
Search for Users 🗗	Jul 30, 2019, 3:38:12 AM	Execution	Job FirstJob failed	ERROR	admin		
og Level	Jul 30, 2019, 3:38:12 AM	Execution	Connector Call MyGo_SAP_RFC_Connector / WRITE_PURCHASE_ORDER failed	ERROR	admin		i
Please Choose V	Jul 29, 2019, 12:59:27 PM	Execution	BusinessObject Output: Io_MyGo_SAP_RFC_Connector_WRITE_PURCHASE_ORDER_Result	INFO	admin		
	Jul 29, 2019, 12:59:27 PM	Execution	Job FirstJob failed	ERROR	admin		i
ategory	Jul 29, 2019, 12:59:26 PM	Execution	Connector Call MyGo_SAP_RFC_Connector / WRITE_PURCHASE_ORDER failed	ERROR	admin		
	Jul 28, 2019, 10:20:53 PM	Execution	Job FirstJob failed	ERROR	admin		i
rom	Jul 28, 2019, 10:20:53 PM	Execution	BusinessObject Output: Io_MyGo_SAP_RFC_Connector_WRITE_PURCHASE_ORDER_Result	INFO	admin		I
MMM d, y, h:mm:ss a 🔀	Jul 28, 2019, 10:20:53 PM	Execution	Connector Call MyGo_SAP_RFC_Connector / WRITE_PURCHASE_ORDER failed	ERROR	admin		i
ntil	Jul 28, 2019, 7:42:21 AM	Execution	Job FirstJob failed	ERROR	admin		i
MMM d, y, h:mm:ss a 🛛 🐻	Jul 28, 2019, 7:42:21 AM	Execution	Connector Call MyGo_SAP_RFC_Connector / WRITE_PURCHASE_ORDER failed	ERROR	admin		
c.	Jul 28, 2019, 7:42:21 AM	Execution	BusinessObject Output: Io_MyGo_SAP_RFC_Connector_WRITE_PURCHASE_ORDER_Result	INFO	admin		i
	Jul 27, 2019, 5:03:47 PM	Execution	BusinessObject Output: Io_MyGo_SAP_RFC_Connector_WRITE_PURCHASE_ORDER_Result	INFO	admin		
	Jul 27, 2019, 5:03:47 PM	Execution	Job FirstJob failed	ERROR	admin		i
	Jul 27, 2019, 5:03:47 PM	Execution	Connector Call MyGo_SAP_RFC_Connector / WRITE_PURCHASE_ORDER failed	ERROR	admin		
	Jul 27, 2019, 2:25:15 AM	Execution	Job FirstJob failed	ERROR	admin		i
	Jul 27, 2019, 2:25:15 AM	Execution	Connector Call MyGo_SAP_RFC_Connector / WRITE_PURCHASE_ORDER failed	ERROR	admin		
	Jul 27, 2019, 2:25:15 AM	Execution	BusinessObject Output: Io_MyGo_SAP_RFC_Connector_WRITE_PURCHASE_ORDER_Result	INFO	admin		i
	Jul 26, 2019, 11:46:52 AM	Execution	BusinessObject Output: Io_MyGo_SAP_RFC_Connector_WRITE_PURCHASE_ORDER_Result	INFO	admin		i
	Jul 26, 2019, 11:46:52 AM	Execution	Job FirstJob failed	ERROR	admin		i
	Jul 26, 2019, 11:46:52 AM	Execution	Connector Call MyGo_SAP_RFC_Connector / WRITE_PURCHASE_ORDER failed	ERROR	admin		i

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 artifact above

Features and supported operating systems

https://developer.simplifier.io/documentation/simplifier-mobile-client/features-and-supported-operating-systems/

Auto-Login Functionality OAuth Login Developer Mode App Autostart

See the full-featured list of supported operating systems:

Plugin	Description	Android >	iOS >
		5.1+	10.x+
<u>cordova-plugin-</u>	For the Cordova framework to perform infinite	?	?
background-mode	background execution		
<u>cordova-plugin-badge</u>	Displays a badge number beside the Simplifier icon	?	?
cordova-plugin-	Scans many different kinds of barcodes	?	?
barcodescanner			
cordova-plugin-ble-	Enables communication betweena phone and	?	?
<u>central</u>	Bluetooth Low Energy (BLE) peripherals		
cordova-plugin-device	Defines a global device object, which describes the	?	?
	device's hardware		
<u>cordova-plugin-device-</u>	Provides access to the device's accelerometer	?	?
motion			
<u>cordova-plugin-device-</u>	Provides information about the physical orientation	?	?
<u>orientation</u>	and motion of the device		
cordova-plugin-file	Implements a File API allowing read/write access to	?	?
	files residing on the device		
cordova-plugin-device-file-	Allows you to upload and download files	?	?
<u>transfer</u>			
<u>cordova-plugin-dialogs</u>	Provides access to some native dialog UI elements	?	?
cordova-plugin-embedded-	Views PDF files	?	?
<u>pdf-viewer</u>			
cordova-plugin-fullscreen	Interactive fullscreen mode	?	
cordova-plugin-	Provides information about the device's location, such	?	?
geolocation	as latitude and longitude		
cordova-plugin-ibeacon	Provides the functionality to use beacons with the	?	?
	iBeacon protocol		
<u>cordova-plugin-</u>	Provides an in-app browser	?	?
inappbrowser			
<u>cordova-plugin-</u>		?	?
conferencing			
	Plugin to provide WebRTC Conferencing functionality		
	via Open WebRTC <u>Toolkit</u> Media Server		
<u>cordova-plugin-keyboard</u>	Controls your soft keyboard	?	?
cordova-plugin-local-	Allows to schedule multiple notifications at once	?	?
notifications			
cordova-plugin-media	Provides the ability to record and play back audio files	?	?
	on a device		
cordova-plugin-media-	Provides access to the device's audio, image, and video	?	?
<u>capture</u>	capture capabilities		
	-		

<u>cordova-plugin-network-</u>	Provides an implementation of an old version of the	?	?
<u>information</u>	Network Information API		
<u>cordova-plugin-photo-</u>	Provides access to your photo libraries	?	?
<u>library</u>			
cordova-plugin-screen-	Sets/locks the screen orientation in a common way	?	?
<u>orientation</u>			
<u>cordova-plugin-</u>	Speech Recognition functionality	?	?
speechrecognition			
cordova-plugin-statusbar	Enables the user to make changes to the status bar of a	?	?
	mobile device		
cordova-plugin-streaming-	Allows you to stream audio and video in a fullscreen,	?	?
<u>media</u>	native player on iOS and Android		
cordova-plugin-tts	Text to Speech functionality	?	?
cordova-plugin-vibration	Provides a way to vibrate the device	?	?
cordova-sqlite-storage	A Cordova/PhoneGap plugin to open and use sqlite	?	?
	databases		
Flashlight-PhoneGap-	Allows you to switch the flashlight / torch of the	?	?
Plugin	device on and off		
Insomnia-PhoneGap-	Prevents the screen of the mobile device from falling	?	?
<u>Plugin</u>	asleep		
phonegap-nfc	Allows you to read and write NFC tags	?	?
phonegap-plugin-battery-	Provides an implementation based on the W3C Battery	?	?
<u>status</u>	Status Events API		
SocialSharing-PhoneGap-	Allows you to use the native sharing window of your	?	?
<u>Plugin</u>	mobile device		
sockets-for-cordova	Provides JavaScript API, that allows you to	?	?
	communicate with server through TCP protocol		
wikitude-cordova-plugin	Provides augmented reality functionality by Wikitude	?	?

Fetch a PDF Template

https://developer.simplifier.io/documentation/plugins/pdf-plugin/technical-call-pdf-plugin/fetch-pdf-template/

Fetch Template

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

 URL
 /client/1.0/PLUGIN/pdfPlugin/adminTemplateFetch

 Input-Parameter
 Name
 Template name

 Output-Parameter
 Value
 Template
 HTML Template Conten (Base64-coded)

 Stylesheet
 Content of the LESS

PreviewJson

HTML Template Content (Base64-coded) Content of the LESS Stylesheets ((Base64-coded, optional) 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

https://developer.simplifier.io/documentation/logging-monitoring/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.

S simplifier			Logs & Monitoring			<u>ع</u> (2)	Felicitas Weber
Dverview							
			K < 1 ∨ of 111 Entries per page 50 ∨ >	»I			
User	Time	Category	Action	Log Level	User		Details
Search for Users	Aug 1, 2019, 10:06:22 AM	Execution	BusinessObject Method SAP_PMNotification / generateLongtext executed	INFO	f005		i
Log Level	Aug 1, 2019, 10:05:59 AM	Customize	BusinessObjectMethod generateLongtext for BusinessObject SAP_PMNotification updated	INFO	f005		ii ii
Please Choose V	Aug 1, 2019, 10:05:50 AM	Customize	BusinessObjectMethod generateLongtext for BusinessObject SAP_PMNotification updated	INFO	f005		i
Calana	Aug 1, 2019, 10:05:41 AM	Execution	BusinessObject Method SAP_PMNotification / generateLongtext executed	INFO	f005		
Category	Aug 1, 2019, 10:05:19 AM	Customize	BusinessObjectMethod generateLongtext for BusinessObject SAP_PMNotification updated	INFO	f005		i
Please Choose	Aug 1, 2019, 9:58:36 AM	Execution	BusinessObject Method SAP_PMNotification / generateLongtext executed	INFO	f005		i
From	Aug 1, 2019, 9:58:29 AM	Execution	BusinessObject Method SAP_PMNotification / generateLongtext executed	INFO	f005		i
MMM d, y, h:mm:ss a	Aug 1, 2019, 9:55:13 AM	Execution	BusinessObject Method SAP_PMNotification / generateLongtext executed	INFO	f005		
Until	Aug 1, 2019, 9:54:54 AM	Customize	BusinessObjectMethod generateLongtext for BusinessObject SAP_PMNotification updated	INFO	f005		i
MMM d, y, h:mm:ss a	Aug 1, 2019, 9:52:26 AM	Customize	BusinessObjectMethod generateItems for BusinessObject SAP_PMNotification updated	INFO	f005		
2	Aug 1, 2019, 8:31:59 AM	Customize	BusinessObject JobExample_Copy deleted	INFO	f005		i
	Aug 1, 2019, 8:04:30 AM	User	User f005 logged in	INFO	f005		
	Jul 31, 2019, 11:33:40 PM	Execution	Job FirstJob failed	ERROR	admin		i
	Jul 31, 2019, 11:33:40 PM	Execution	Connector Call MyGo_SAP_RFC_Connector / WRITE_PURCHASE_ORDER failed	ERROR	admin		
	Jul 31, 2019, 11:33:40 PM	Execution	BusinessObject Output: Io_MyGo_SAP_RFC_Connector_WRITE_PURCHASE_ORDER_Result	INFO	admin		i
	Jul 31, 2019, 5:09:32 PM	Customize	Connector ProxyConnector created	INFO	f005		i
	Jul 31, 2019, 5:09:32 PM	Customize	Role iTZ_own_f005 updated	INFO	f005		i
	Jul 31, 2019, 5:07:03 PM	Customize	Role iTZ_own_f005 updated	INFO	f005		
	Jul 31, 2019, 5:07:03 PM	Customize	Login Method Simplifier created	INFO	f005		i
	Jul 31, 2019, 4:09:50 PM	User	User f005 logged in	INFO	f005		

You can choose between the following filters.

Filter User Log Level **Function** Filter for specific user actions

FQDN

https://developer.simplifier.io/documentation/glossar/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

https://developer.simplifier.io/documentation/installation-instructions/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

https://developer.simplifier.io/documentation/installation-instructions/on-premise/general-requirements-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:

- <u>Ubuntu</u>: 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 Window's 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

https://developer.simplifier.io/documentation/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.

nplifier		Simplifier Dashboard				2 ©	
Applications	9 Co	nnectors	3	Business Objects	8	Data Types	1:
Create, manage and configure widgets and libraries. Process within user stories.	applications, mapping defined	Create, manage and configu and respective logins to con- systems and devices.	are the interfaces inect to different	Merge the connectors, plug objects for easy and fast re business requirements.	gins and business euse of complex	Create, manage and constructures and collection validation rules.	ifigure domain types, is as well as define
Users	4 Tra	nsports	8	Plugins	6	Logs & Monitoring	
Create, administrate and config Simplifier users, groups and rol corresponding user permissions	ure all of your es with their s.	Migration of applications an components to other Simpl simulation and validation o	nd individual lifier instances, inc. f transports.	Offers the possibility to excore functions of the Simp of any external plugin.	xtend or change the alifier with the help	Central monitoring and system activities. Provic information which are v debugging.	filtering of all user ar les detailed ery helpful for
Jobs	0 Ter	nplates	6	Database Designer	1		
Create and administrate jobs fo business objects. These are bas configurable time intervals.	er the execution of sed on flexibly	Creation and definition of reu components. These can be p using of different, predefined	usable HTML text ersonalized by d placeholders.	Create and deploy persist These can store user-defin apps and be accessed by OData.	ent data structures. ned data of your connector via		

😅 sımplıfıer

The main features of Simplifier can be accessed from the central Dashboard, that consists of the following parts:

- Applications
- <u>Connectors</u>
- <u>Business Objects</u>
- <u>Data Types</u>
- <u>Users</u>
- <u>Transports</u>
- <u>Plugins</u>
- Logs & Monitoring
- <u>Jobs</u>
- <u>Templates</u>
- Database Designer

Basically, creating an application with Simplifier can be divided into the following 5 steps:

1. Connect systems

In the future, for each application, you can access the data that is needed contextually to make the integration process more efficient. Standardized connectors enable you to quickly connect to any back-end system and various data sources.

2. Create user interface

Easily, quickly and intuitively create the user-friendly interface for all your applications. Use the pre-designed elements designed for this purpose and create a uniform look and feel for improved user experience.

3. Configure processes

Configure the application logic of each application using the Process Designer. Based on individual user stories, reusable application logic is encapsulated within User Stories in the Process Dashboard. Each user story can be stored individually so that you can work with several people on different stories at the same time and thus be able to create application logic collaboratively.

4. Test application

Test your application at any time in the <u>Simplifier Mobile client</u> or in the browser. Intermediate testing allows for faster detection of misbehavior of your application at any point in time. The Simplifier Mobile Client supports the testing process by ensuring that applications can be used across devices and that the correct responsive display of the application on each end device can be ensured.

5. Publish application

The Simplifier transport system allows you to transfer the application to your productive system quickly and easily. And all without compilation or complex deployment processes. Quickly create a transport file of the finished application – it contains all the components of your applications and can be downloaded and imported directly into your production instance. Finished! The application is now available to any authorized user.

Glossar

https://developer.simplifier.io/documentation/glossar/

Here you will find general and Simplifier specific abbreviations, technical terms and their meaning.

Group Overview

https://developer.simplifier.io/documentation/user-management/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

📰 🛱 sımplifier	User Ma	0) \underline{A} Felicitas Weber \sim		
				🗑 Save 🗙 Cancel	
*Group Name:	ne: Accounting				
Group Description:	All team members for Accounting				
Add User to Group:	Search for Users	ð			
Assigned Users					
First Name	Last Name	Login Name	Actions		
Felicitas	Weber	f005			
Laura	Streng	1003	窗		
John	Doe	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.

 Simplifier	User Management	? A Felicitas Weber ~
		뛶 Save 🗙 Cancel
*Group Name:	Accounting	
Group Description:	All team members for accounting	
Add User to Group:	Search for Users	

To add users to the group, click into the 'Add User to Group' Field and search for specific usernames. Mark (optional) several users and click **OK** to add them to the group.



Save your changes.
Handling & Updating an On-Premise Installation

https://developer.simplifier.io/documentation/installation-instructions/on-premise/updating-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 2.2 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 <u>step 4</u> before}

Implementation of Web Application Firewalls

https://developer.simplifier.io/documentation/security-guidelines/implementation-of-web-application-firewalls/

As an example, a policy configuration of the OTC WAF for the use of the customer marketplace application "KUN" based on Simplifier

OPEN TELEKOM CLOUD	OPEN TELEKOM CLOUD o eu-de v Homepage Service List v Favorites v 🖂 🔝 ?											
\bigcirc	Policies > policy_j5tstBgu > Precise	Protection										
Security Console	Accurately identifies malicious and forged requests to protect sensitive information on websites.											
Web Application Firewall	plication Firewall Detection Mode Full Detection Full Detection Full Detection											
Events Policies	Add Rule You can add 96 m	Protection Rule	Protective Action	Priority Operation								
Domains Contribution	Block_userInterface	Path Include /UserInterface Path Exclude /UserInterface/api/messagequeue/	Immediately	Block	20 Delete Modify							
Key Management Service	Allow_KUN	Path Include /appDirect/Kundenmarktplatz	Immediately	Allow	30 Delete Modify							
Key Management Service	Allow_Simplifier	Path Include igenToken Path Include (assets Path Include (client Path Include (libray-managed Path Include (libray-static Path Include (libray-static Path Include (passwordExpired Path Include (marketplace Path Include (develop	Immediately	Allow	40 Delete Modify							
	Block_AllOtherApps	Path Include /appDirect	Immediately	Block	50 Delete Modify							

🚱 English

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Rule Name	Description
Block_userInterfac	Blocks the user interface for external access
e	
Allow_KUN	Allows dedicated access to the customer marketplace application
Allow_Simplifier	Allows basic functions
Block_AllOtherAp	Blocks all non-dedicated released applications
ps	

Activation of Basic Web Protection is recommended

OPEN TELEKOM CLOUD	eu-de Homepage Service List Favorites	• ⊠ lin ?
\bigcirc	Policies > policy_j5tst8gu > Basic Web Protection	
Security Console	Basic web protection defends against common OWASP security threats. Select the protection type that best fits your needs.	
Anti-DDoS Web Application Firewall		Save Cancel
Dashboard Events	Mode O Block Log only Protection Level Medium	
Policies Domains	General Check Protects against the following attacks: SQL injection, XSS, remote overflow vulnerability, file inclusions, Bash vulnerabilities, remote command execution, directory traversal, sensitive file access, and command and code injections.	Status
Certificates Key Management Service	Webshell Detection Protects against webshells from upload interface.	Status
	Search Engine Uses web crawlers to find pages for search engines, such as Googlebot and Baiduspider.	Status
	Scanner Scans for vulnerabilities, viruses, and performs other types of web scans, such as OpenVAS and Nmap.	Status
	Script Tool Executes automatic tasks and program scripts, such as HttpClient, OkHttp, and Python programs.	Status
	Other Crawlers for other purposes, such as site monitoring, access proxy, and webpage analysis.	Status

🛞 English

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Import Manual Transport

https://developer.simplifier.io/documentation/transports/import-manual-transport/

Vimeo Video

Switch to the tab Import to import a file to the Simplifier instance.

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	Image: Second				
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	Name	Status	Feature		

L	
Options	If you select Overwrite, all features that already exist are overwritten with those from your transport file.
	Otherwise, only the new features are transported.
Import	If you select Dry Run, the content of the transport file is analyzed and a list of all features is displayed. It does
	not import the data so you can simply test how the transport would work out.

After selecting your transport file and setting it all up, click Start Import.

Import Log	The whole import log will be copied to clipboard.
------------	---

History

Switch to the History tab to view an overview of all imported transports.

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Pad	ages Transports							
lm Searci	for name, user, strategy, source instance or date						Q	_
ጭ	*File upload* - Don't Overwrite 7292019. 19053 PM - M06	V	>	*File u	pload*			
ሞ	*File upload* - Don't Overwrite 7/29/2019.150/09 PM -f005	~	>		Import Date: 7/29/2019, 1:50:53 PM			
					Strategy: Don't Overwrite			
					Importer: f005			
					Source:			
					A Import Protoco	1		
					Import Protoco	d		

On the right side, you get information about the Import Date, Strategy, Importer and Source.

If you click on Import Protocol, the list of all imported artifacts is displayed.

Transport Protocol

 Image: A start of the start of	✓ Imported (10 artifacts)							
Sear	iearch Q							
	Name	Status	Feature					
1	NVD3	Skipped	Library					
1	PDF.js	Skipped	Library					
උ	WebRtcContentRepo	Skipped	Role					
1	jQuery	Skipped	Library					
1	AngularJS	Skipped	Library					
1	Angular-PDF-Viewer	Skipped	Library					
1	Angular-Fittext	Skipped	Library					
1	Angular Material	Skipped	Library					
4	Angular-NVD3	Skipped	Library					

X Close

Installation PDF Plugin

https://developer.simplifier.io/documentation/plugins/pdf-plugin/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

https://developer.simplifier.io/documentation/installation-instructions/on-premise/installing-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 SIMPLIFIER_DIR:/opt/simplifier/data <math display="inline">\
```

-p 80:8080 -p 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

https://developer.simplifier.io/documentation/applications/including-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 "Libraries"

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ę.	CharLIS 2.7.2 https://cdvjs.cloudflare.com/lgav/lbs/CharLjs/2.7.2/CharLmin.js	(0	>	- Vendor			
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*	LeafLet		3	>				
*	Mapzen 082		0	>	System Library			
*	Moment.js 2.18.1		0	>	Is Referenced			
*	NVD3 181Re-usable charts		0	>				
*	OpenUI5 14425		3	>				
1	OpenUI5 152 Hottix 20		3	>				
1	OpenUI5 1.44.14 OpenUI5 1.44.14	(9	>				

Standard Equipment

Simplifier provides the following library by default:

App Technology UI5

Library OpenUI5 **Version** 1.60

Integration of Libraries - addAfterInitHandler

https://developer.simplifier.io/documentation/applications/including-libraries/add-new-library/integration-libraries-addafterinithandler/

addAfterInitHandler

Parameter Handler **Type** Function **Description** Callback function, which is called after all scripts have been loaded completely.

Integration of Libraries - addBeforeInitHandler

https://developer.simplifier.io/documentation/applications/including-libraries/add-new-library/integration-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

https://developer.simplifier.io/documentation/applications/including-libraries/add-new-library/integration-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	Туре	Description
ScriptPath	String	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
		property

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

https://developer.simplifier.io/documentation/applications/including-libraries/add-new-library/integration-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 StyleURL

Name

Type String String **Description** Relative path to the uploaded ZIP structure of the library Style name (optional)

Interfaces

https://developer.simplifier.io/documentation/applications/modules/interfaces/

Interfaces are used for communication between the application and the modules to exchange data bidirectionally.

📰 😅 sımplıfı	er					Interfaces	0	$\stackrel{O}{\rightharpoonup}$ Felicitas Weber \lor
UI Designer	Process Designer	Q Data Workbench	Security	Testing	Interfaces			Code Designer
FirstModule								× Exit
Search for name or des								+
					Add an In	There are no Interfaces yet terface by pressing the plus button in the top right corner.		

When creating a new interface via the plus button on the top right, the following pop-up appears:

		Create In	terface				
Interface							
	Interface Name: Description:						
Input Parameters Output Parameters						+	
Parameter Name	Optional	Description	Constant Value	Data Type	Actions		
No Parameters							

An interface of a module is defined by its unique name and a set of parameters, where **Input Parameters** are passed from the application to a module and **Output Parameters** are sent from a module to an application.

			Edit Interface "Login"		
nterface					
	Interface Name: Description:	Login			
Duit Property Output Property					
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Use Interfaces in Process Designer

The Process Designer of the modules is similar to the <u>Process Designer of the applications</u>. However, among the activities, there is an explicit point for modules: **App Interface**.

App Interface ▶ Receive from App ↓ ↓ ↓ ↓ ↓ ↓

Receive from	This shape starts an action when the application is calling the module via an interface. Double click on it or
Арр	open the selection helper on the right side to configure the shape by selecting an interface of the current
	module and the mapping of parameters, that are received from the app.
Send to App	This shape is used to return parameter data and/or trigger an action in the controlling app. Double click on it
	or open the selection helper on the right side to configure the shape by selecting an interface of the current
	module and the mapping of parameters to send it to the application.

You also have the option to switch between these two activities.



Simplifier Developer

Documentation & Community

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