

Qlik Automate

Christof Schwarz



Meet your instructor

Masters Summit | for Qlik



Christof Schwarz

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data\bridge
creating limitless business value



Agenda

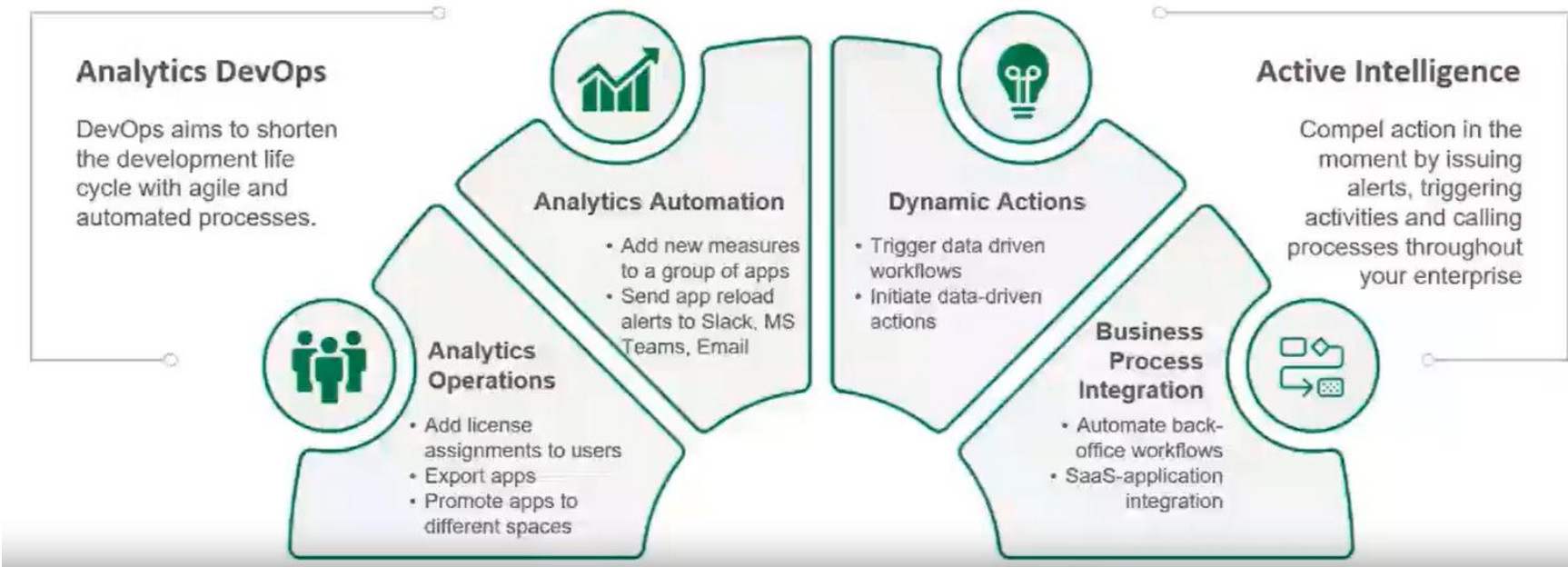
- Introduction
- Some Theory First
- Exercise 1
- REST API Excuse
- Exercise 2
- Loops and Lists
- Exercise 3
- Use of Variables
- Exercise 4
- Some Advanced Blocks
- Example: Master Items
- Administration of Automation
- Q&A



Introduction

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It's part of Qlik's "Active Intelligence Stack"



Analytics Operations

'To make sure all users, apps are on the right place and well documented'

- Add License Assignments to users
- Export – Import apps for version control.
- Promote apps to different spaces

Analytics Automation

'To make sure all apps running and running the way you want'

- Add new measures to a group of apps
- Send app reload alerts to Slack, MS Teams, Email

Dynamic Actions

'When something happens in the analyzed data, start a workflow.'

- When a consultant works six months for one client, start the workflow for a review.
- Start a survey when ... happens

Business Process Integration

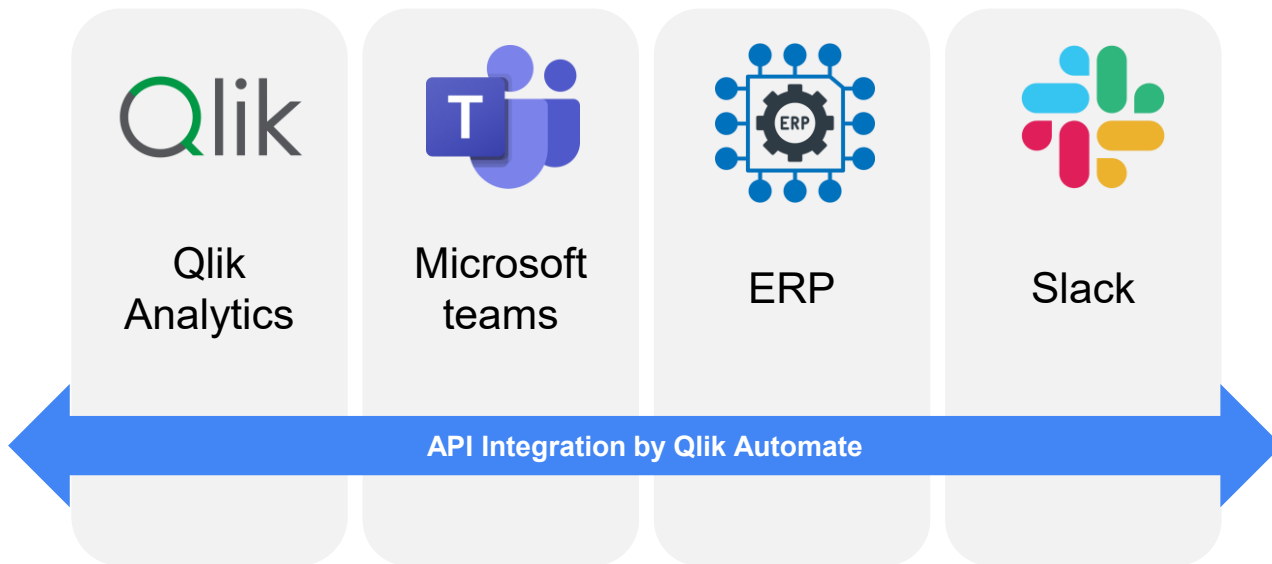
'Use QA to integrate business processes'

- Use variables in Qlik Apps to write back in your CRM.
- When a client has been added in your CRM; QA can make sure the new client will be added accross all systems.
- When a client has been added in your CRM; QA can initiate a reload process.

Qlik Automate Alternatives

Tool	Key Features	Popularity
Zapier	No-code automation across 5,000+ apps	★★★★★
Make (formerly Integromat)	Visual scenario builder, advanced logic	★★★
Microsoft Power Automate	Deep integration with Microsoft ecosystem	★★★★
Alteryx	Data prep, blending, and automation	★★
Apache Airflow	Open-source workflow orchestration	★★
n8n	Open-source, node-based automation with 350+ integrations	★

Qlik Automate integrates



Connectors:

- Amazon S3
- Dropbox
- GitHub
- HubSpot
- Jira
- Mail
- Microsoft Excel
- Microsoft Outlook 365
- Microsoft SharePoint
- Microsoft Teams
- Qlik Cloud Catalog
- Qlik Cloud Services
- Qlik Predict
- Qlik Reporting
- Qlik Talend Data Integration
- Salesforce
- ServiceNow
- Slack


Qlik Automate

Some Theory First

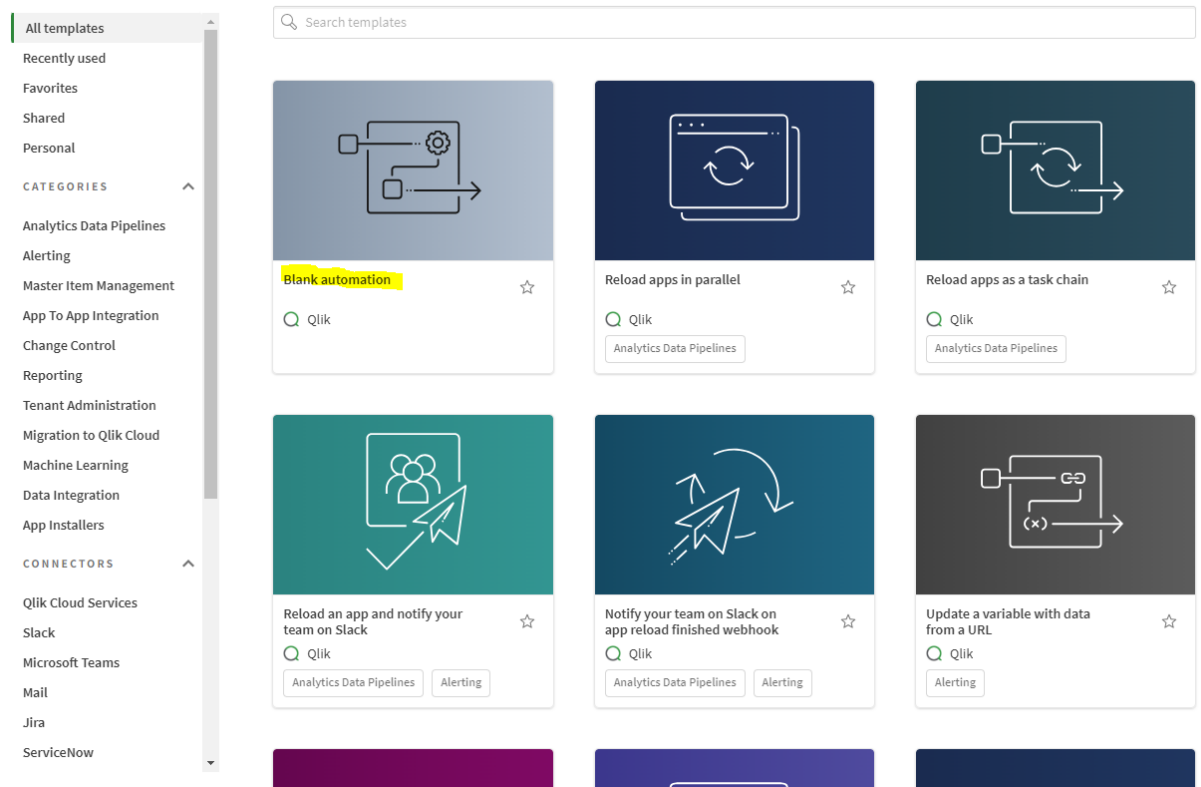
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Qlik Automate Templates

- All automations you make are personal. 
- For inspiration, look at some use cases in the templates
- For all exercises we will start with the Blank automation

Templates ⓘ



Search templates

All templates

Recently used

Favorites

Shared

Personal

CATEGORIES

Analytics Data Pipelines

Alerting

Master Item Management

App To App Integration

Change Control

Reporting

Tenant Administration

Migration to Qlik Cloud

Machine Learning

Data Integration

App Installers

CONNECTORS

Qlik Cloud Services

Slack

Microsoft Teams

Mail

Jira

ServiceNow

Blank automation

Qlik

Analytics Data Pipelines

Reload apps in parallel

Qlik

Analytics Data Pipelines

Reload apps as a task chain

Qlik

Analytics Data Pipelines

Reload an app and notify your team on Slack

Qlik

Analytics Data Pipelines

Alerting

Notify your team on Slack on app reload finished webhook

Qlik

Analytics Data Pipelines

Alerting

Update a variable with data from a URL

Qlik

Alerting

The Automation Interface

All building blocks

1 2

< Automations Edit History

Search

BLOCKS

- Basic >
- Lists
- Advanced
- Cloud storage

MY CONNECTORS

- Qlik Cloud Services
- Qlik Reporting
- Qlik AutoML
- Qlik Cloud Data Integration
- API Key
- GitHub
- Microsoft Excel
- Microsoft OneDrive

OTHER CONNECTORS

Workspace

3 4

Save Run

Start

Settings of blocks

100 %

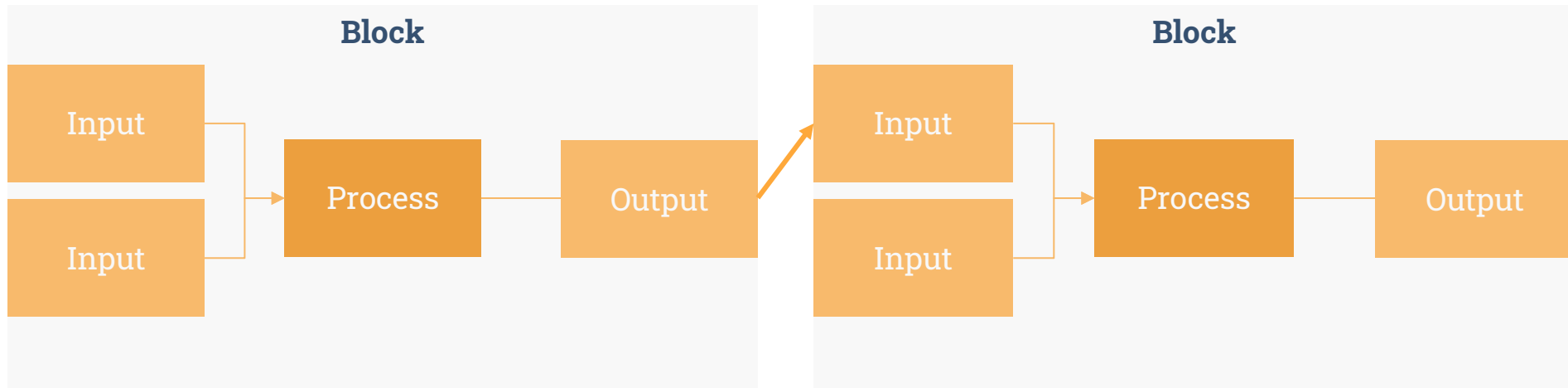
Start

Inputs

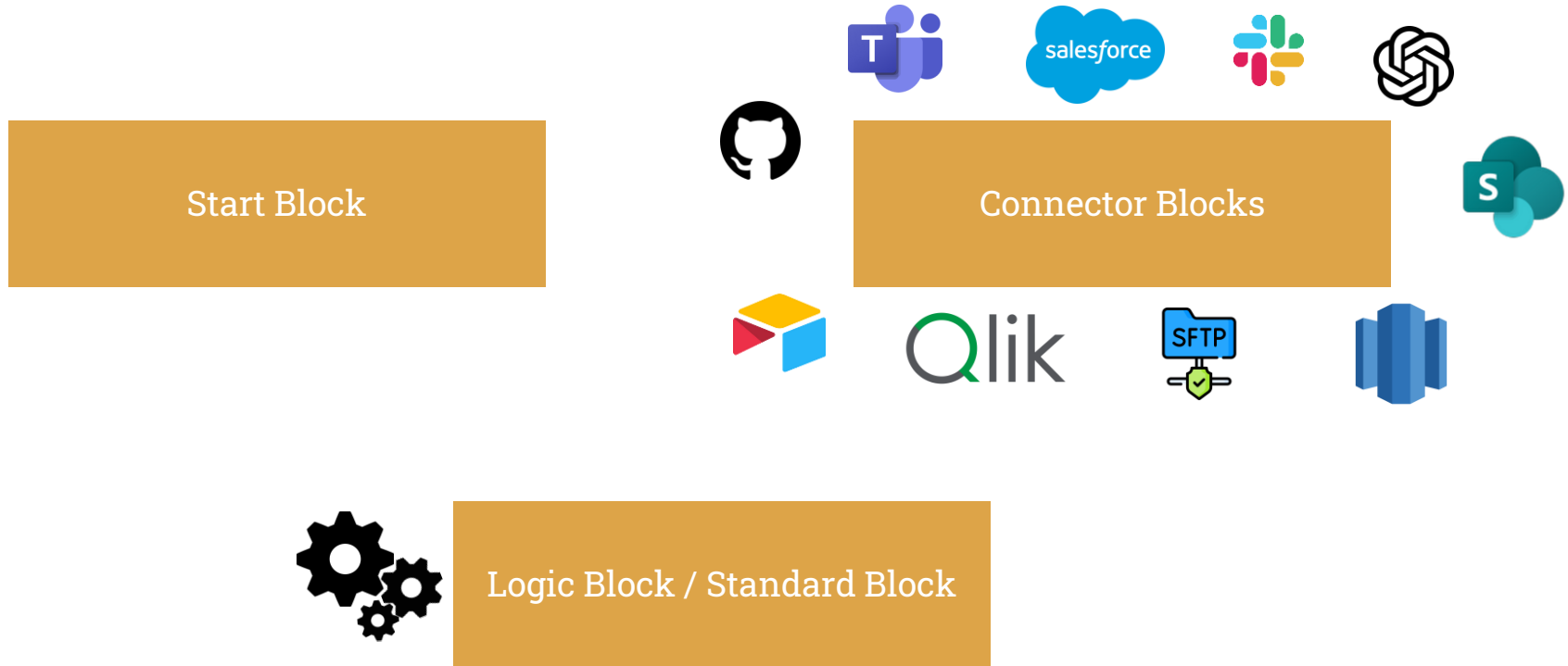
Run Mode *

Manual

How does a block work?



Building blocks



Start block

Start

Inputs

Run Mode *

Manual

Manual

Scheduled

Triggered

Webhook

Manual

Start

Inputs

Run Mode *

Scheduled

Schedule start

Schedule end

Schedule every *

Disabled

Schedule timezone *

Europe/Amsterdam

Schedule

Start

Inputs Settings History

Run Mode *

Triggered

Run asynchronously *

No

Webhook URL

POST example

curl 'https://bitmetric-bv.eu.qlikcloud.com/api/v1/automations/5fb82f5b-a152-4750-945c-03daec13c398/actions/execute' \

-XPOST \

-H 'X-Execution-Token: Rmn17W2lMH2KhCd3pMzhzqKkcgXOxdLU1sPskL5Z1s5qkkl'

Triggered

Run Started

Inputs Settings History

Run Mode *

Webhook

Connector *

Qlik Cloud Services

Event *

Run Started

Filter

Automation Ids *

Raw input

+ Add Automation Id

This field is required.

Webhook | Event

Start block

Asynchronously **No** =
Wait for completion of
automation.

Asynchronously **Yes** =
Just trigger
automation, not wait
for finishing

Manual **Schedule** **Triggered** **Webhook | Event**

With run-mode “**Triggered**” also **others** than the owner can run the automation using an **Execution Token**.

Start block

A webhook is an automated message sent from one application to another when a specific event occurs, like a "reverse API" or a "push notification" for apps.











Manual

Schedule

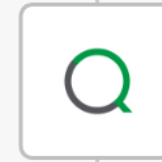
Triggered

Webhook | Event

Standard blocks

	Output	To output information in user screen
	Inputs	Request input from user or API call
	Condition	Condition block
	Loop	Loop over output (list) from other block.
	Call URL	Call URL – Manual REST connection
	Stop	Stop the automation.
	Sleep	Sleep
	Call Automation	Start other automation
	Variable	Set variable within the automation
	Error	Set output of automation to error.

Just watch this
Before you try yourself ...



Do Reload
Qlik Cloud Services

Exercise 1

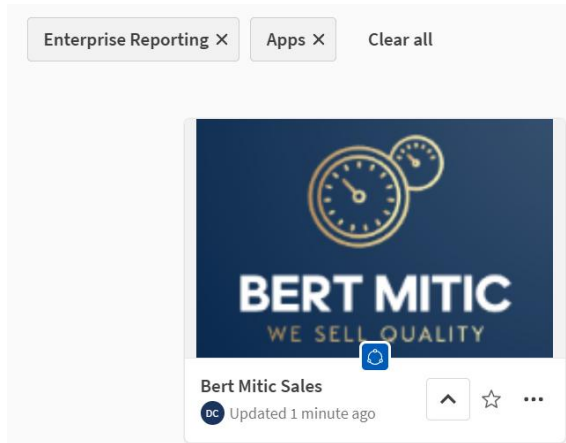
Reload one app



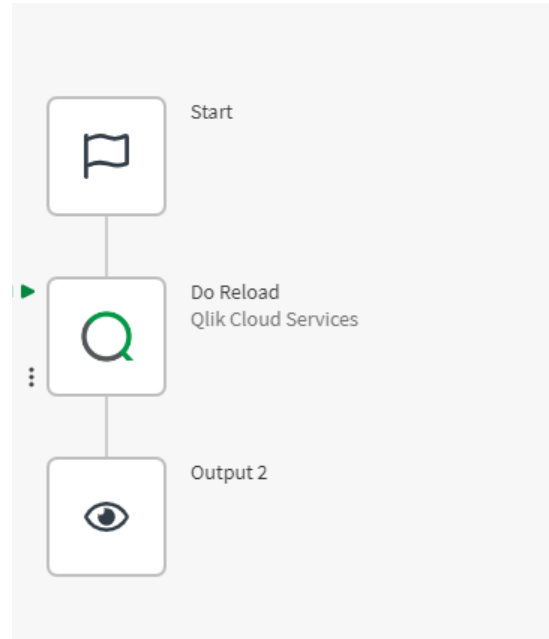
Reload one app

Steps:

1. Create a manual automation
2. Reload one app in your environment
3. Output the status of the reload



Solution



Well done



REST API Calls

Excuse

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REST Connection

Client

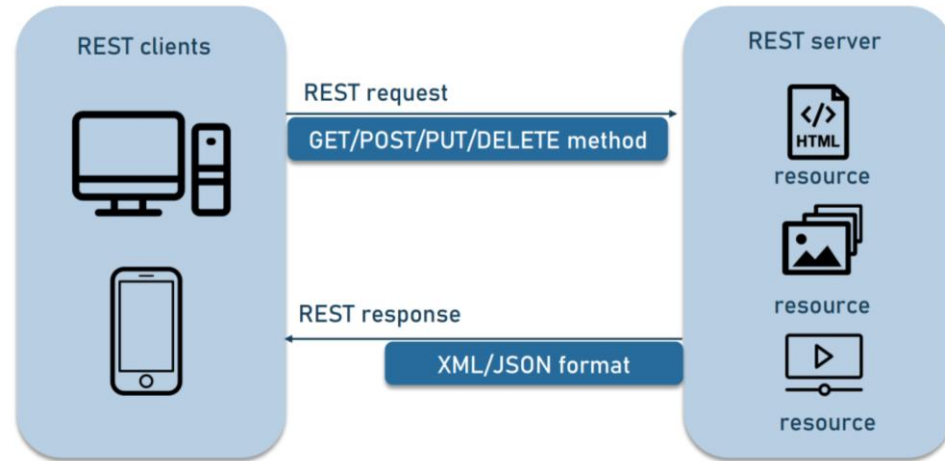
The person/program makes request for information

Server

Used by the application that receives the client requests. It performs some action, e.g. accesses the resource the client wants without giving direct access.

Resource

Any piece of information that the API can provide to the client.



Method

- GET, POST, PUT, DELETE

Header

- Section of request that contains metadata about the request and desired response

Query-Parameter

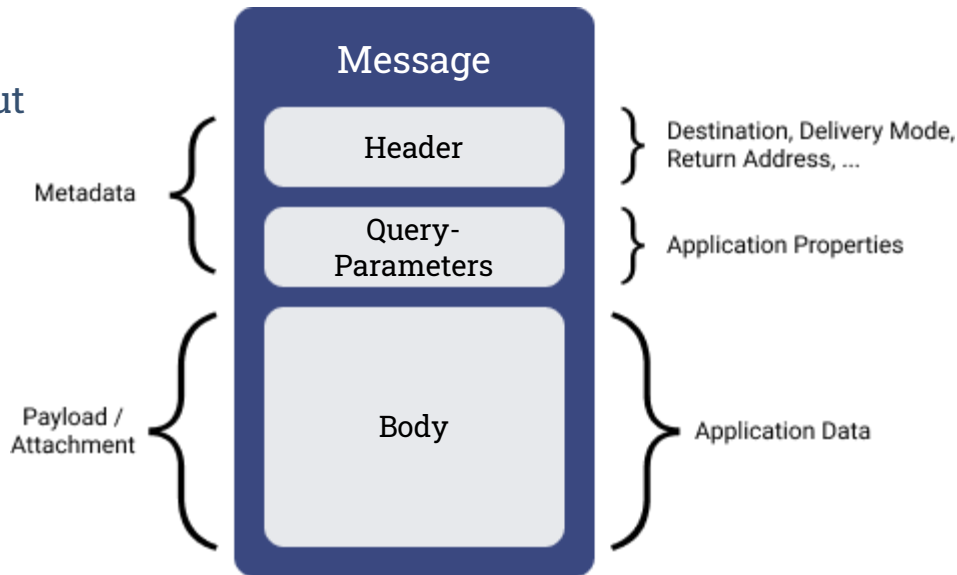
- Parameters to receive a specified part of data

Body

- The body contains the actual message.

Status response classes

- 100-199: Informational responses
- 200-299: Successfull responses
- 300-399: Redirection messages
- 400-499: Client error responses
- 500-599: Server error responses



Data

Name	Salary	Married
Sonoo	56000	true

Response in JSON

```
{
  "employee": {
    "name": "Sonoo",
    "salary": 56000,
    "married": true
  }
}
```

Response in XML

```
<?xml version="1.0" encoding="UTF-8" ?>
<root>
  <employee>
    <name>Sonoo</name>
    <salary>56000</salary>
    <married>true</married>
  </employee>
</root>
```

REST – Where to find in browser

- F12 – Developer screen – Network

1

2

3

4

Network

Fetch/XHR

Headers

Request URL: `https://masterssummit-303846.de.qlikcloud.com/api/v1/automations/4d9856ad-56e6-444c-93be-31635c989a46/actions/execute`

Request Method: POST

Status Code: 200 OK

Remote Address: `[2a05:d014:2cd:7e05:6372:4766:3ace:6852]:443`

Referrer Policy: strict-origin-when-cross-origin

Response Headers (8)

Request Headers

Authority: `masterssummit-303846.de.qlikcloud.com`

Method: POST

Path: `/api/v1/automations/4d9856ad-56e6-444c-93be-31635c989a46/actions/execute`

Scheme: https

Accept: */*

Accept-Encoding: gzip, deflate, br, zstd

Accept-Language: en-GB,en-US;q=0.9,en;q=0.8,de;q=0.7,ca;q=0.6

Content-Length: 238

Content-Type: application/json

Cookie: `fs_uid=#56WYV#ce3c3f35-2cb1-4bf2-a0ff-b91e161aa958:408eb014-322b-477d-f1788347623; eas.uid=FiwewvDqnoJ03RkVvCqHGAAMTnTUTVJU5N747hq1Fc7YUULLBP0oJZhPZE4tPF20PhYNPA4p6A0aRtzPxFZ-vfEBITuvaebpiNSe6gLC7_5Bqj0Pg7IA; qlikmetricsId=30a7084f-a47e-49d2-99f9-87cbcf11c2c; eas.sid=AZPLp-`

5

Payload

Request Payload

View source

Custom: "Bert Mitic Sales", app: "4f67cf4a-c7cc-46d8-9476-b1445a6b9626", sheet: "rgdcnm",

Custom: "Bert Mitic Sales"

app: "4f67cf4a-c7cc-46d8-9476-b1445a6b9626"

sheet: "rgdcnm"

space: "68d329b204439b22b051b59b"

tenant: "o1Kk1GkeHbOg1302w25hot55xupKTV-G"

time: "2025-09-27T14:24:40.471Z"

user: "68d29c4ce0e246004e3536b"

6

Response

1 ["App Bert Mitic Sales reloaded, status is SUCCEEDED"]

Trigger Automation externally

HTTP <https://masterssummit-303846.de.qlikcloud.com/api/v1/automations/4d9856ad-56e6-444c-93be-31635c989a46/actions/execute>

POST <https://masterssummit-303846.de.qlikcloud.com/api/v1/automations/4d9856ad-56e6-444c-93be-31635c989a46/actions/execute>

Params Authorization Headers (10) Body Scripts Tests Settings

Headers 9 hidden

	Key	Value	
<input checked="" type="checkbox"/>	X-Execution-Token	rnLKx1uYcDOgmZY00FOpeZvpLctDTKfpVFfzxWFRHBd8jSDyWUvbiZ...	
	Key	Value	

Body Cookies (2) Headers (10) Test Results ↺

{ } JSON Preview Visualize

```
1 [
2   | "status of reload: SUCCEEDED"
3   ]
```



Lets level up
Watch before you try ...

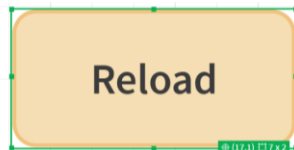


Can't I trigger
the reload from
a Sense App?



Button: “Execute automation”

- New Qlik Sense action button type “Execute Automation” makes integration of automation from Qlik Sense easy
- Passes user/session/app information to automation
- Can pass additional parameters to automation



Actions and navigation

☐ Runtime evaluation

Execute automation ⌵ ⋮

Label fx

Action Execute automation ⌵

Automation Reload Bert Mitic fx ⌵

[View this automation](#)

☐ Include selections

A bookmark containing all user selections and...

☒ Run mode: triggered

Allows every user to run the automation by pressing the button.

Show notifications On ⌵

Notification duration (seconds) fx

Notifications will be visible for the selected amount of time.

Open link in same tab Off ⌵

Add parameter

Copy input block

Exercise 2

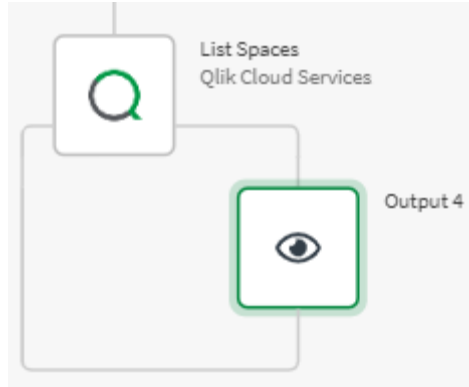
Button Triggered Automation



Loops and Lists

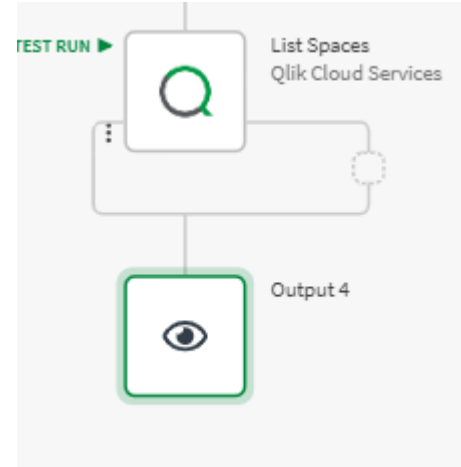
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For each ... Loop || Lists



Value from List Spaces:
Space 1, Space 2, Space 3, Space N

In this case, the automation will output all space names, one by one, until it has reached the last value.



In the second case the output will return:

- The entire list
- OR: the n^{th} value of the list
- OR: value that is equal to x

General tips:

- A list can be filtered (which is faster than a condition in following For ... Loop)
- Lookup Item in List can be used in 'applymap' context, when you need data from one object.
- With Transform List, you can change the current list to one or more key-value pairs.



Merge Lists



Filter List



Lookup Item In List



Deduplicate List



Compare Lists



Replace Field Names In List



Transform List



Limit

Exercise 3

Reload all apps in a
given space



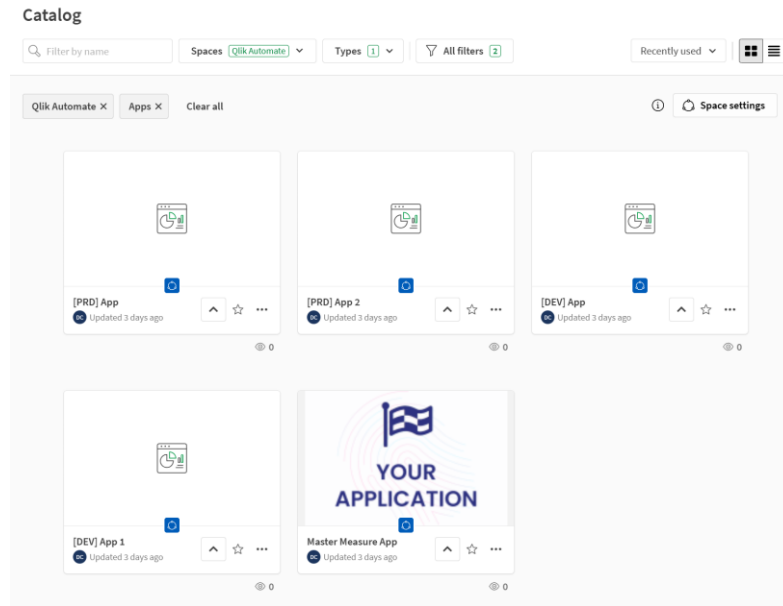
Exercise – Reload all apps

Goal:

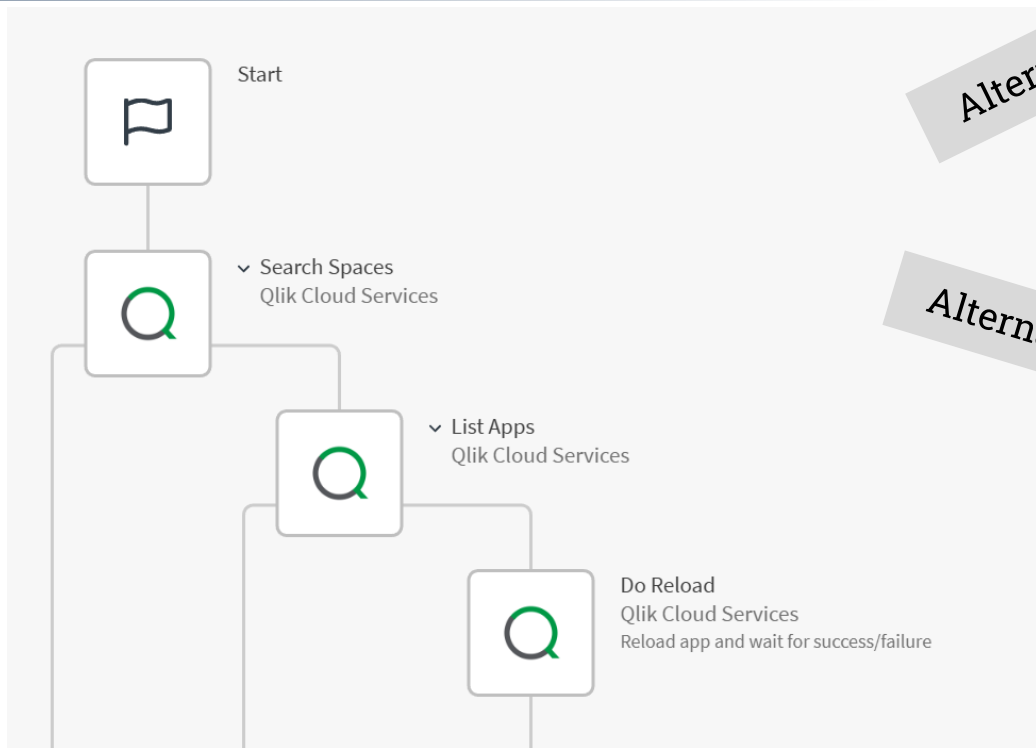
1. Reload all apps in the space “Qlik Automate”

Steps:

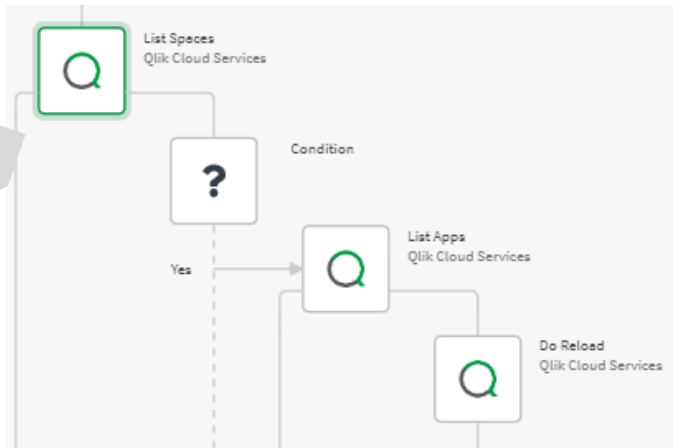
1. Create an empty automation
2. Figure out spaceId of “Qlik Automate”
3. List all apps in space
4. Reload all apps in space and wait completion
5. Output the status (succeeded or failed)



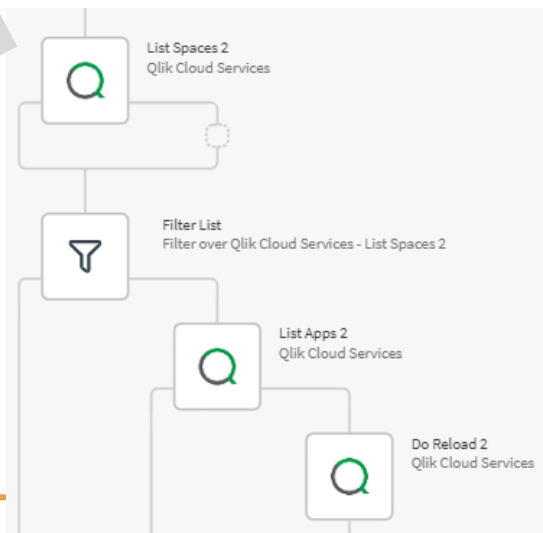
Solution – Reload all apps



Alternative 1



Alternative 2



Find solutions

If you got nowhere, go to /admin/automations
Change the owner of those automations to yourself ...

Automations

Runs

Connections

Filter by name

Last run status

Owner

Space 1

Third-party blocks

All filters 1

Actions (1)

Qlik Automate

Clear all

	Name	Status	Last run status	Owner	Space	Last run	Run mode	Created	Last updated	Description	Third-party blocks	Actions
<input type="checkbox"/>	Automation -- Labels	Disabled	No runs yet	Christof Schwarz	Qlik Automate		Manual	4 days ago	2 minutes ago		No	...
<input checked="" type="checkbox"/>	Reload all apps	Disabled	No runs yet	Christof Schwarz	Qlik Automate		Manual	4 days ago	3 minutes ago		No	...
<input type="checkbox"/>	Reload App Notification	Disabled	No runs yet	Christof Schwarz	Qlik Automate		Manual	4 days ago	3 minutes ago		No	...
<input type="checkbox"/>	Exercise 3	Enabled	Finished	Christof Schwarz	Qlik Automate	27 Sep 2025, 15:05:13	Manual	1 hour ago	30 minutes ago		No	...
<input type="checkbox"/>	Do While	Enabled	No runs yet	DE OAuth Client	Qlik Automate		Manual	4 days ago	4 days ago		No	...

View Runs

Move

Duplicate

Change Owner

Enable

Disable

Delete

Round of applause!



Use of Variables

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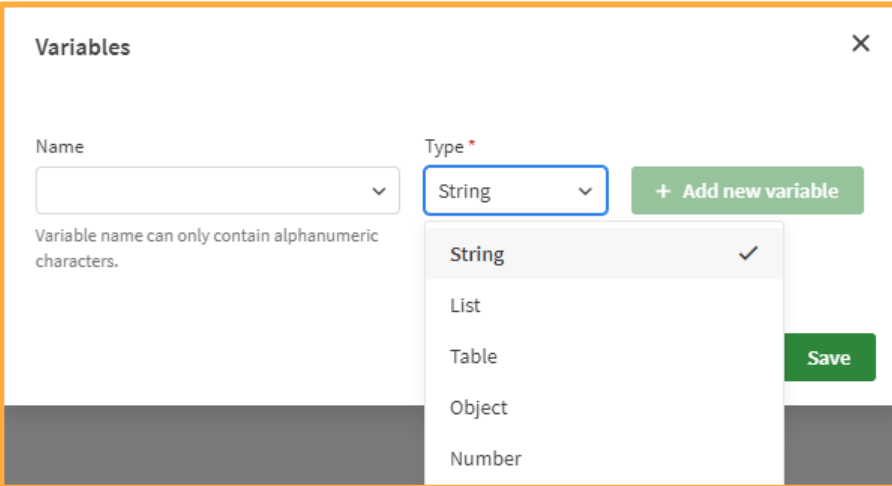


Variables in Qlik Automate

- Variables keeps data for one run (not remembered across runs)
- Variables have a specific **data type**
- Hint: prefix variable-name with data type (first character)

Each data type has its own operations:

- **Number** type variables can make mathematical operations (add, subtract ..)
- **String** types can concatenate more text
- **Lists** can change members (extend with a new value ...)



The screenshot shows the 'Variables' configuration window in Qlik Automate. It features a 'Name' input field with a dropdown arrow, a 'Type' dropdown menu currently set to 'String', and a green '+ Add new variable' button. Below the 'Name' field, a note states: 'Variable name can only contain alphanumeric characters.' The 'Type' dropdown is open, showing a list of options: 'String' (selected with a checkmark), 'List', 'Table', 'Object', and 'Number'. A green 'Save' button is located at the bottom right of the dropdown menu.

Exercise 4

Summary after all
apps are reloaded



Exercise – Send notifications

Goal:

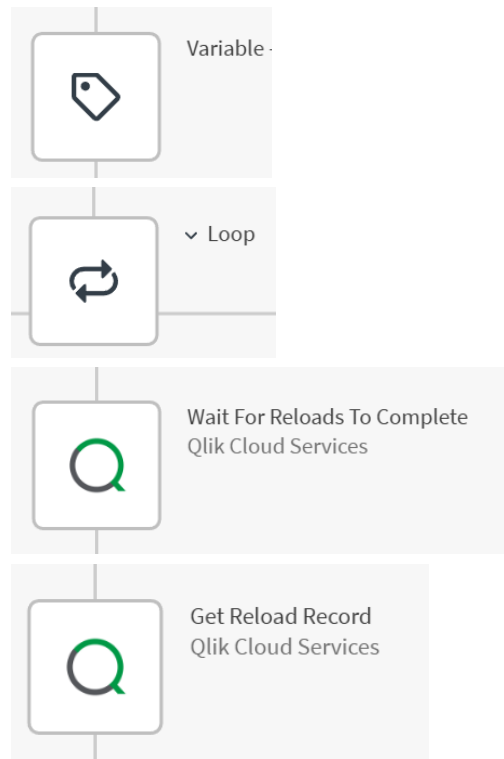
1. Output Success or failed based on output of reload

Steps:

1. Continue on previous automation
2. Reload all apps in parallel
3. When apps are finished check if one failed and output it

Bonus:

- Find the owner name of the app which failed to reload



Applause, Applause



Some Advanced Blocks

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- **Example: Master Items**
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General tips:

- **Pointers** (unlike variables) are saved after automation is finished. → can be used for incremental loads.
- Use **Label**, **Go To Label** and **Update Run Title** to keep your automation organized
- Custom code block knows three languages:
 - PHP
 - Node.js
 - Python.
- External packages can't be installed.



Update Run Title



List Pointers



Update Pointer



Delete Pointer



Compare Object



Redirect



Case



Go To Label



Label



Loop Batch



Exit Loop

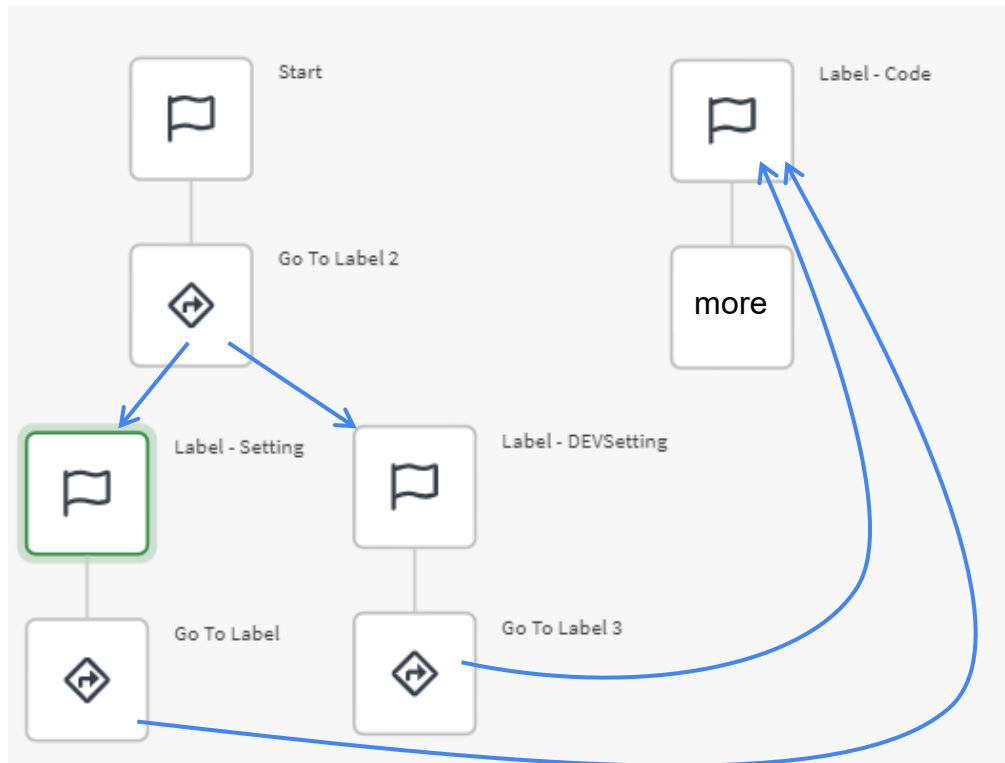


Custom Code

Use of Labels

With correct use of Label and Go To Label you can organize your script.

- Change your settings between TEST and PROD



Update Run Title

Advantages for using Block: "Update Run Title":

- In the history tab you can filter quickly on different statuses and where the automation has stopped
- During execution you can see the steps
- When the execution fails; you can quickly see after which step.

The screenshot displays the Qlik Automation interface. At the top, a workflow diagram shows two parallel paths. The left path starts with a 'Start' block (flag icon) followed by a 'Go To Label 2' block (diamond with arrow icon). The right path starts with a 'Label - Code' block (flag icon) followed by an 'Update Run Title 3' block (circular arrow icon) with the description 'Set run title to Starting Code'. Below the diagram, the 'History' tab is active, showing a table of automation runs. The table has columns for Status, Time started, Run title, and Duration. A search bar and a status filter dropdown (set to 'All') are at the top of the table.

Status	Time started	Run title	Duration
✓ Finished (manual)	11:29:24	Finished	1 second
✓ Finished (manual)	11:29:18	Finished	1 second
✓ Finished (manual)	11:29:08	Starting code block	1 second
✓ Finished (manual)	11:28:08	Running on TST	<1 second

General Tips

- A file is an object you are working on during the automation. The steps are:
 - Open / Create a file
 - Modify the file
 - Save and close the file
- These are generic blocks for files. Each connector has its own blocks.
- QA isn't an ETL Tool.



Open File



Create File



Copy File



Read Data From File



Write Line To File



Save And Close File



Delete File



Move File



Check If File Exists



List Files

Example

Copy Master Items
from template app



Example – Master measure

Goal:

1. Copy all measures from app: Master Measure App to app: [DEV] App

Steps:

1. Create a manual automation
2. List all measures from Master Measure App
3. Get Measure with all details from original app
4. Create or update measure in [DEV] App
5. Save app that has changed: [DEV] App

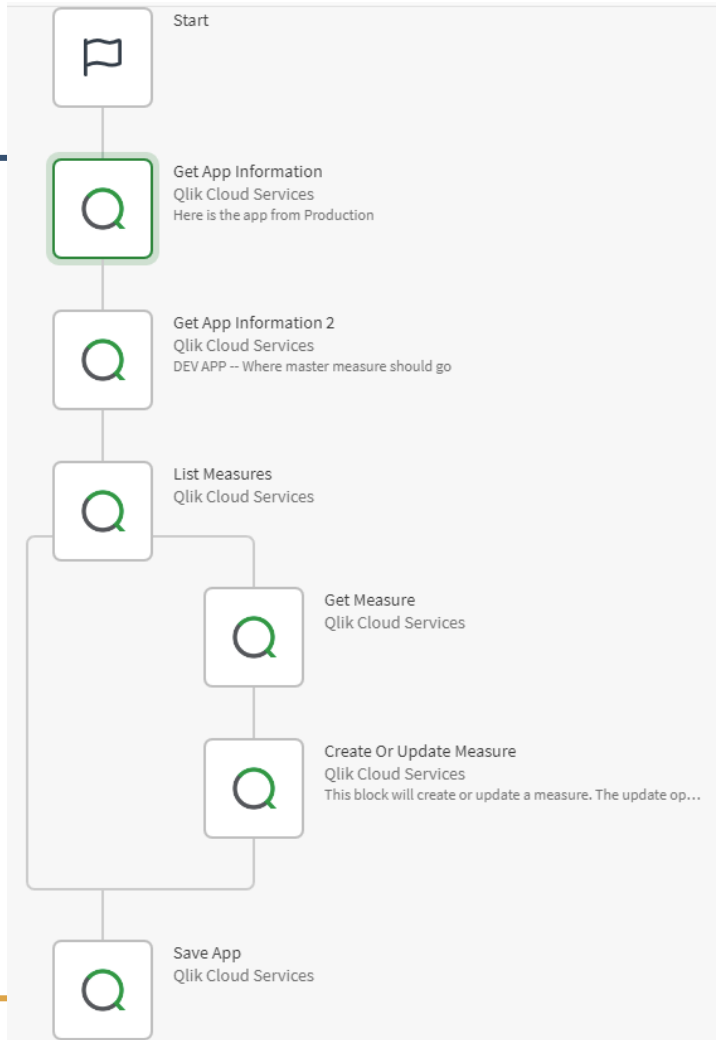
Solution – Master measure

Goal:

1. Copy all measures from app: Master Measure App to app: [DEV] App

Steps:

1. Create a manual automation
2. List all measures from Master Measure App
3. Get Measure with all details from original app
4. Create or update measure in [DEV] App
5. Save app that has changed: [DEV] App



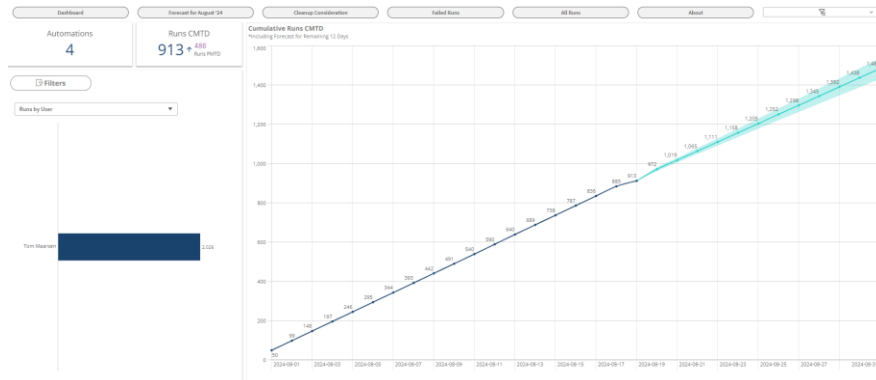
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Admin Of Automations

- Automation is always personal.
- When owner changes, the automation will be disabled.
- You can download and/or upload automations
- When downloading an automation, connection details are lost
- The values in a variable will be downloaded.
- Qlik has an app to monitor your automations



- ▶ Run
- 📄 Save
- 📄 Save as template


📄 Paste Block(s)

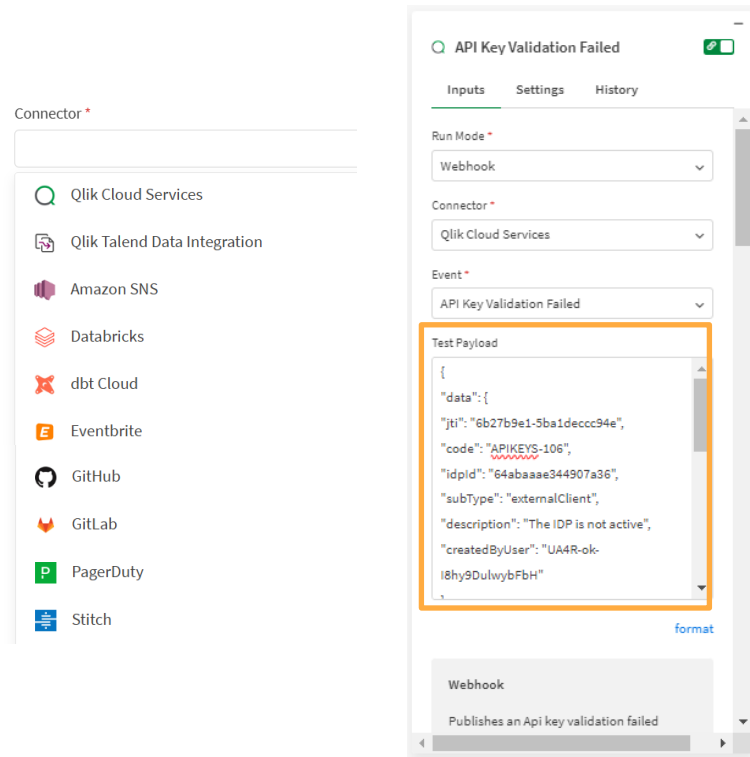
📄 Download workspace

📄 Upload workspace

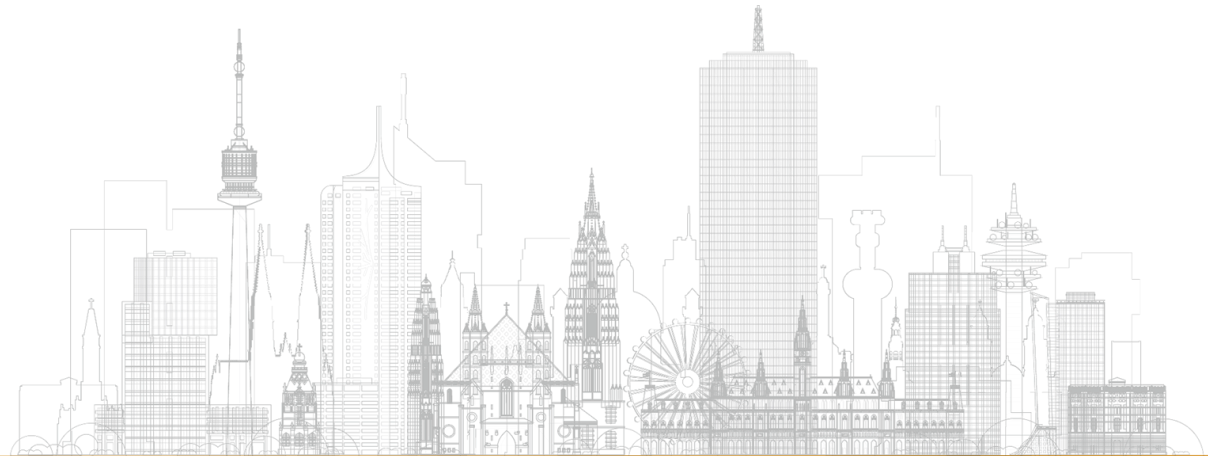
Menu on 'right-click'

Webhook

- With a webhook; you can start an automation based on an event that happened.
- This can be a reload of an app, a new user in the tenant, an automation finished ...
- During testing you can work with Test Payload. You can change this block with the correct JSON. During each Test Run it will use the Test Payload data.
-  Calculate upfront the amount of events you expect and if this fits to your #available automations in your license



Q&A





Session feedback