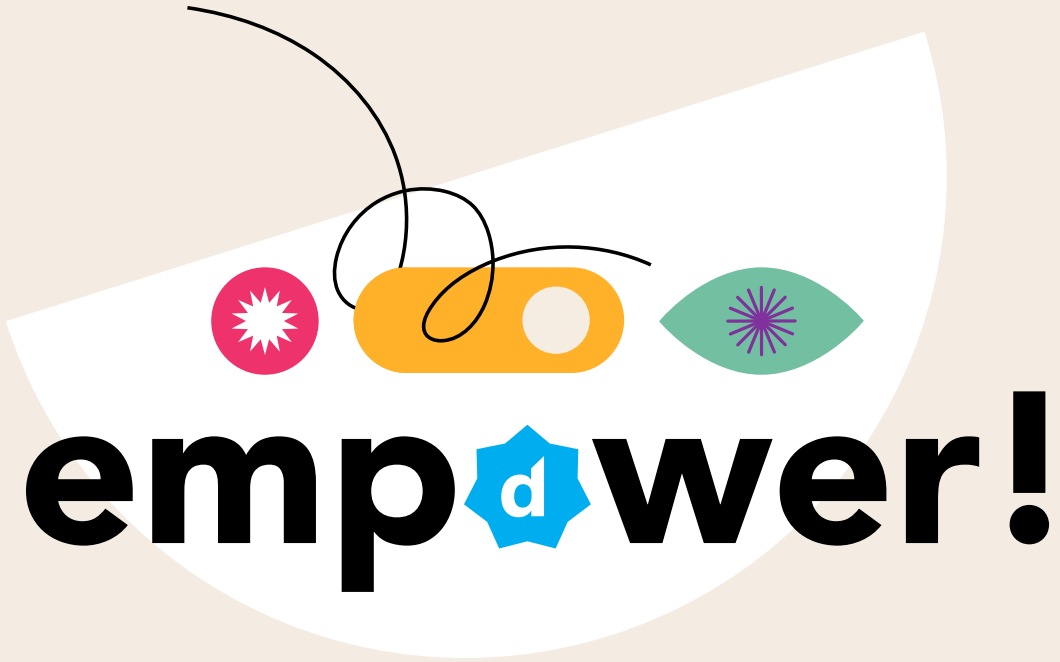

empowerd!

Welcome

empower!

dataminer.services

cloud native services

tailormade

for your DataMiner

CLOUD CONNECTION 101

YOUR HOST

Baptiste Pattyn

PRODUCT OWNER CLOUD

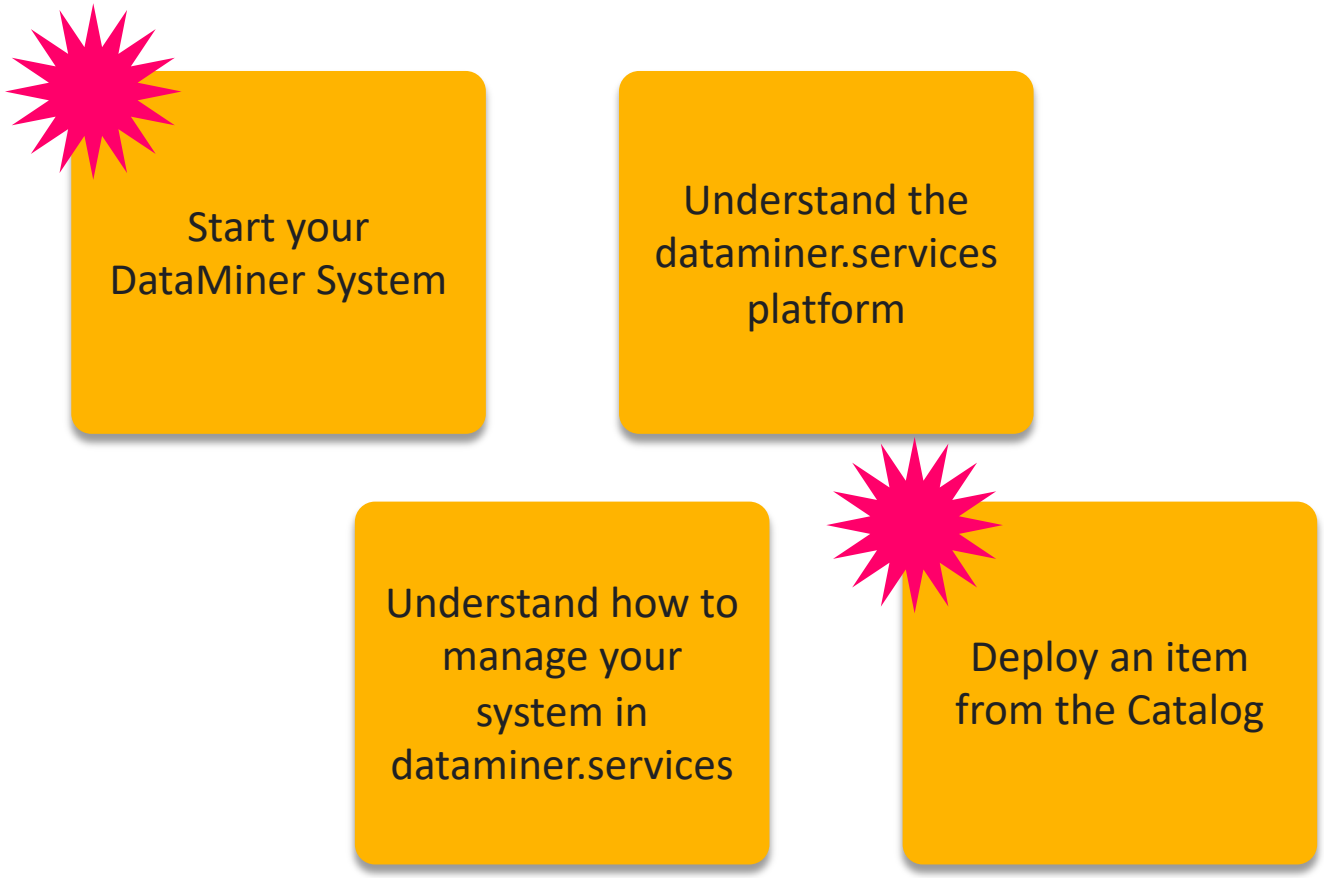
BAPTISTE.PATTYN@SKYLINE.BE

CATALOG
STAAS
DATAMINER.SERVICES
REMOTE ACCESS

Agenda

1. Start your own DataMiner system
2. Why dataminer.services?
3. How does it work?
4. Meet the features
5. How to manage your systems?
6. Deploy something from the Catalog

Goals

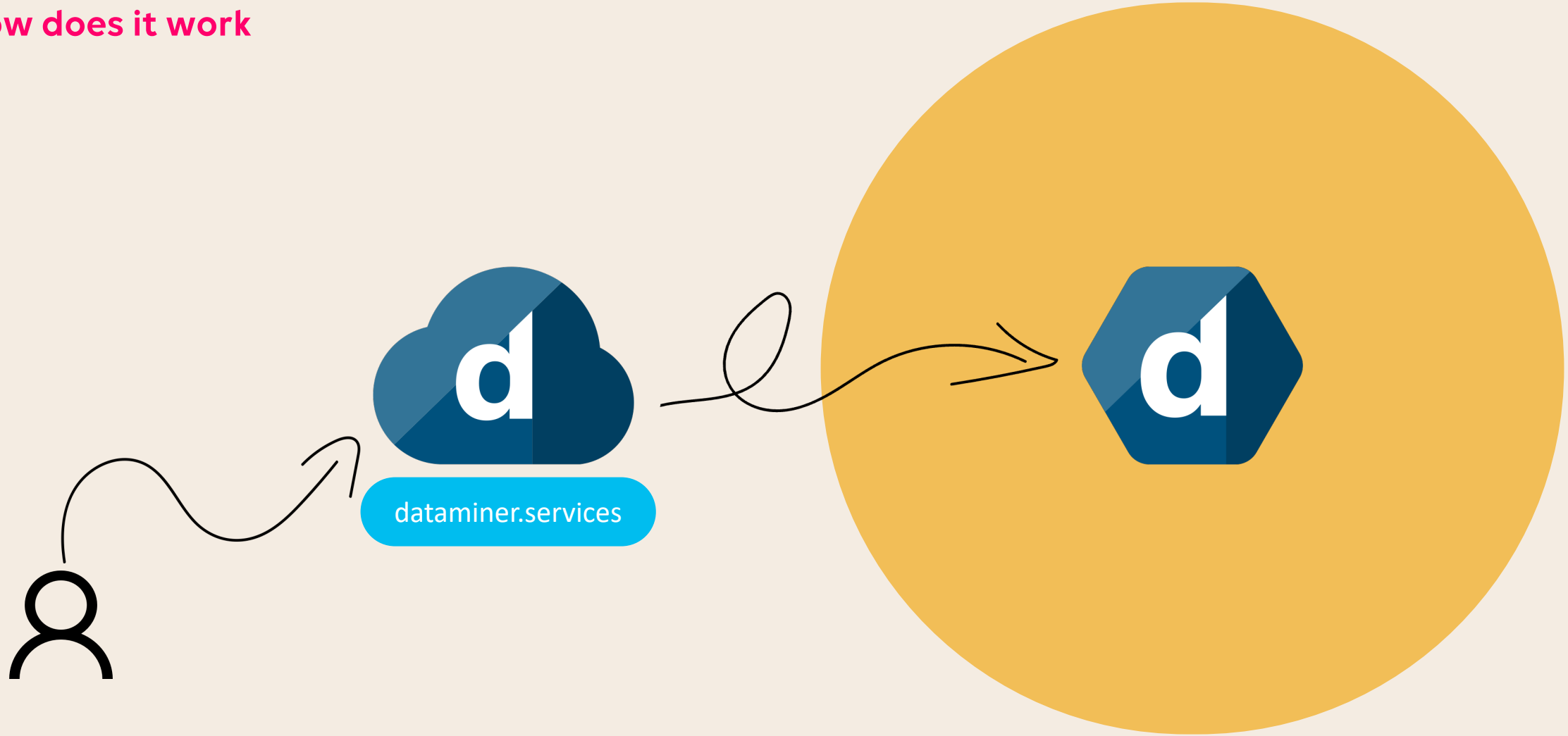

Start your DataMiner System
Understand the dataminer.services platform
Understand how to manage your system in dataminer.services
Deploy an item from the Catalog

Activate your DaaS

DataMiner deployments made easy

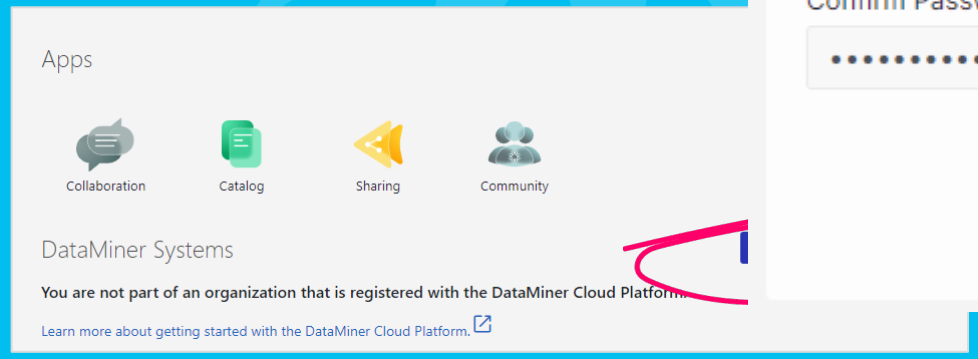
Activate your DaaS

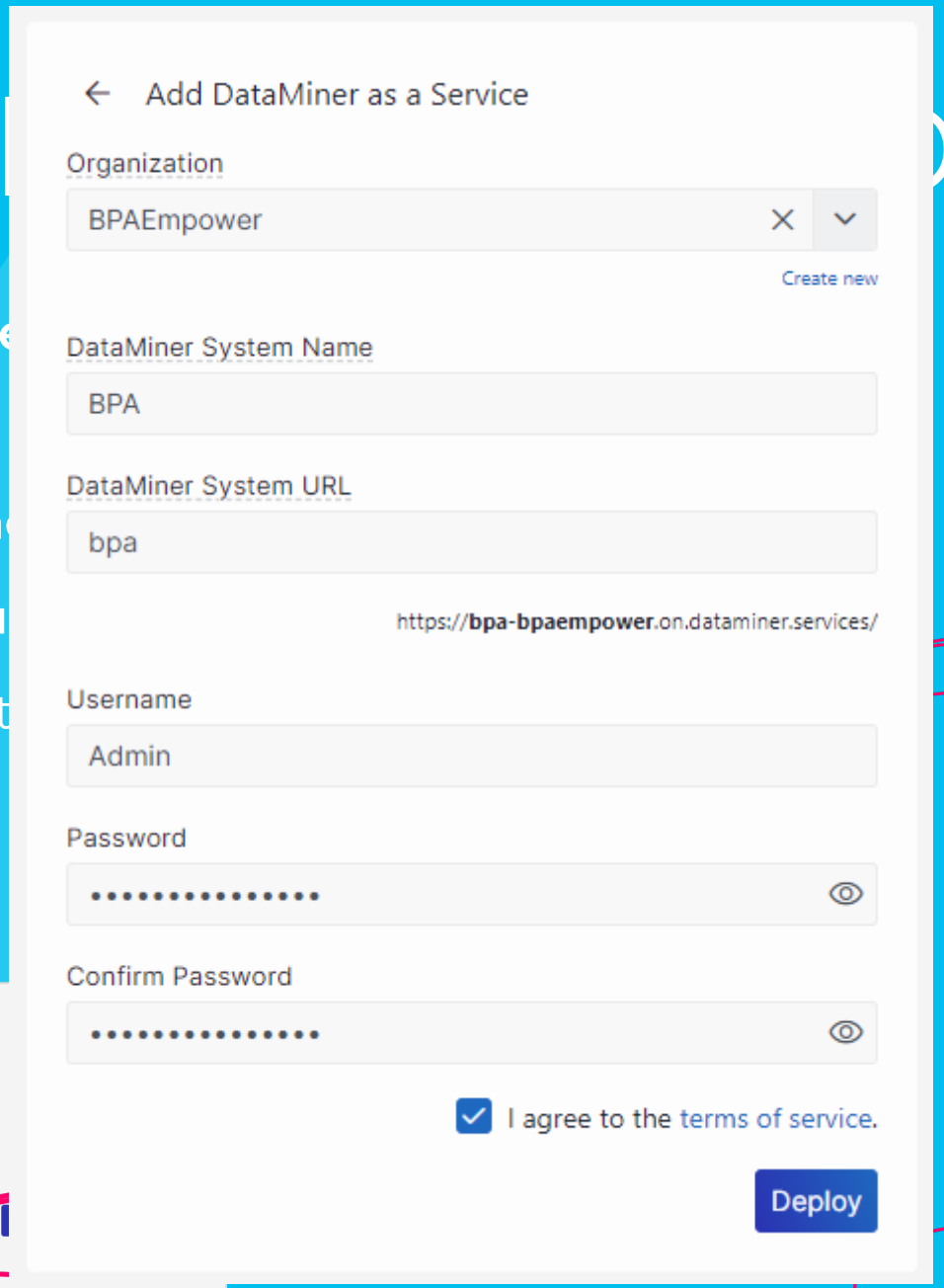
How does it work

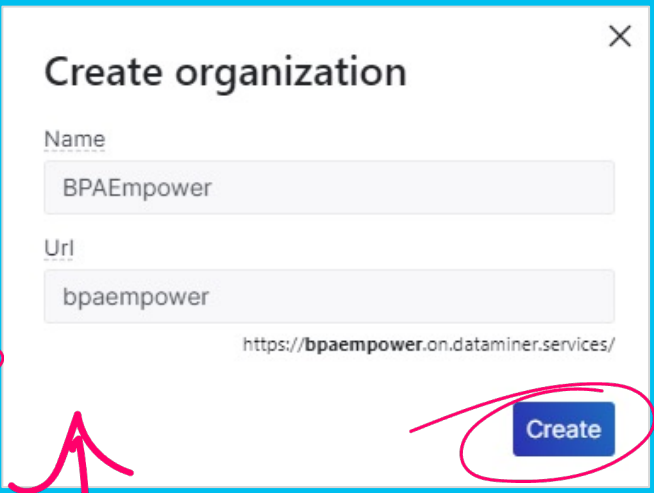


Depl…DaaS

1. Go to '**dataminer.service…**
2. Install Cube
3. Click on **'Add a DataMin…**
4. Choose **'DataMiner as a…**
5. Create a new organizat…
6. Fill in the form
7. Click **'Deploy'**

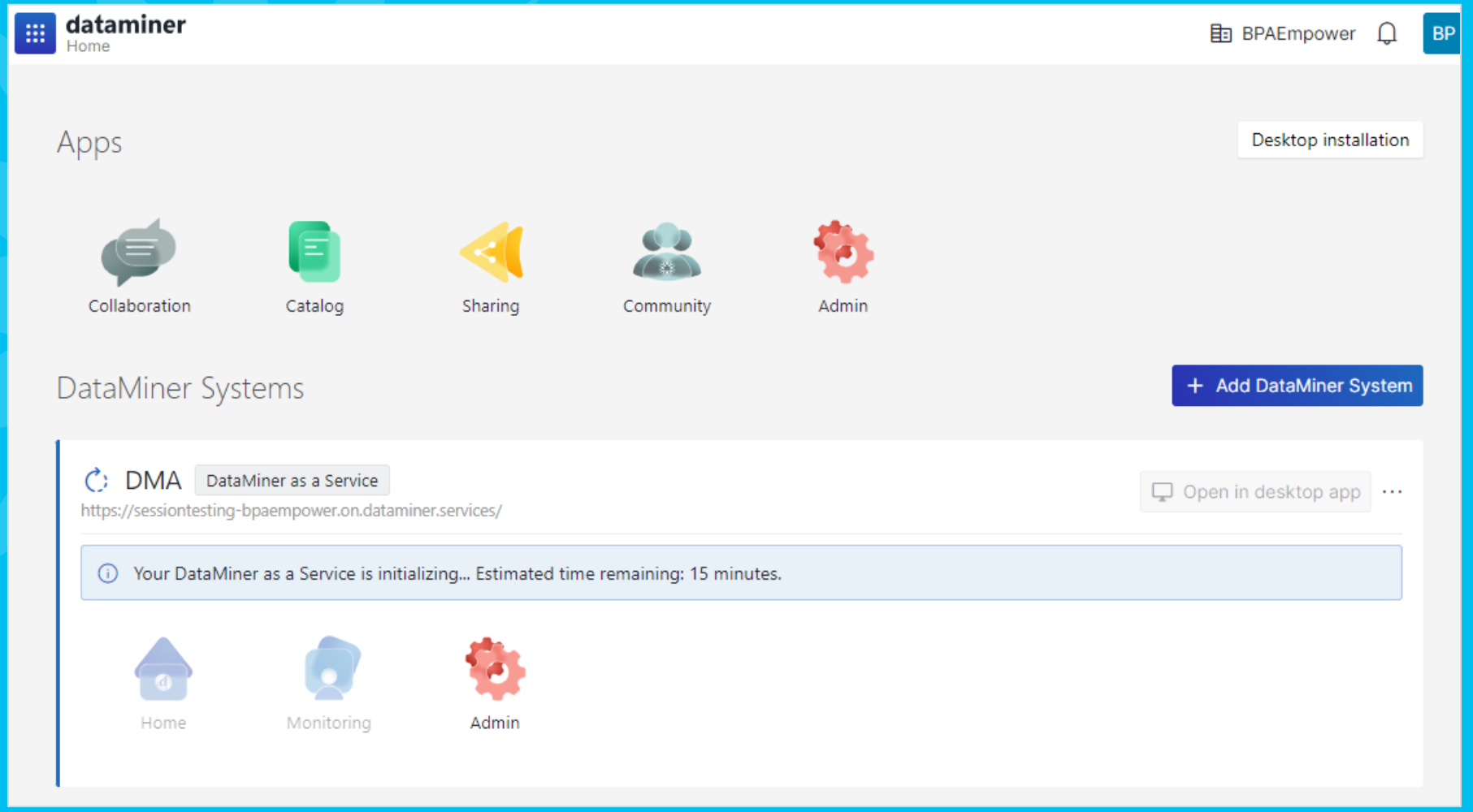






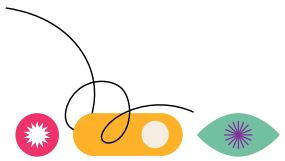
Spin up your DaaS

Deploy your own DaaS



Why dataminer.services?

The Cloud elevator pitch, going up!



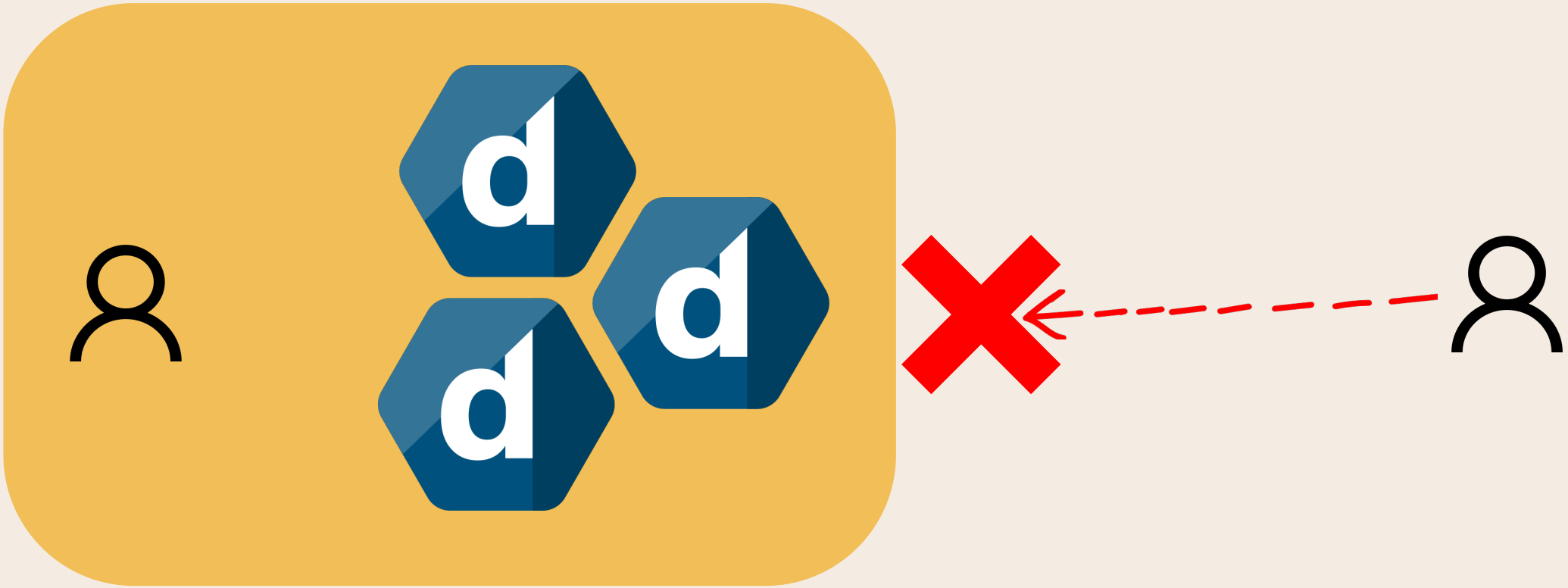
Why dataminer.services?

Access your system, from anywhere, at any time

On-prem system

Why dataminer.services?

Access your system, from anywhere, at any time



On-prem system

Why dataminer.services?

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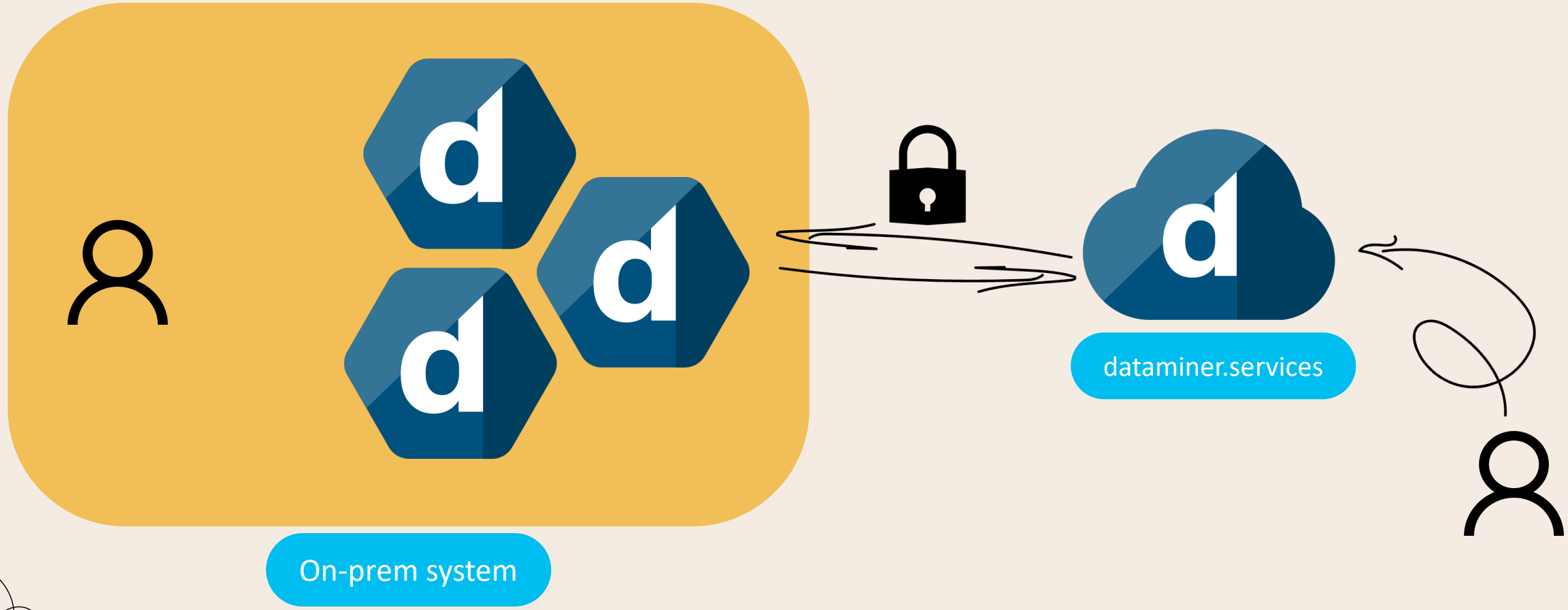
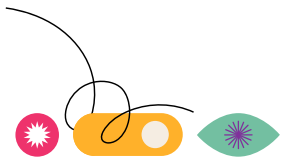


How does it work?

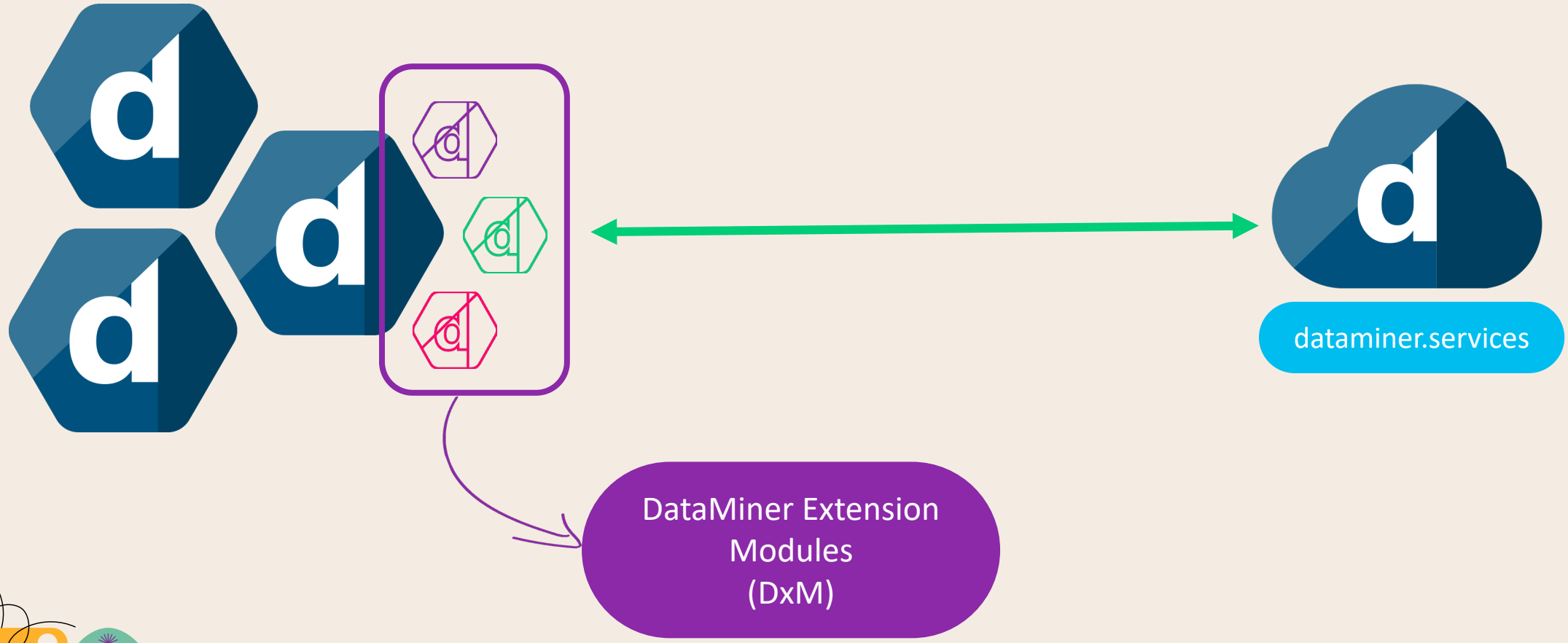
Behind the curtains, the cloud's secret sauce



How does it work

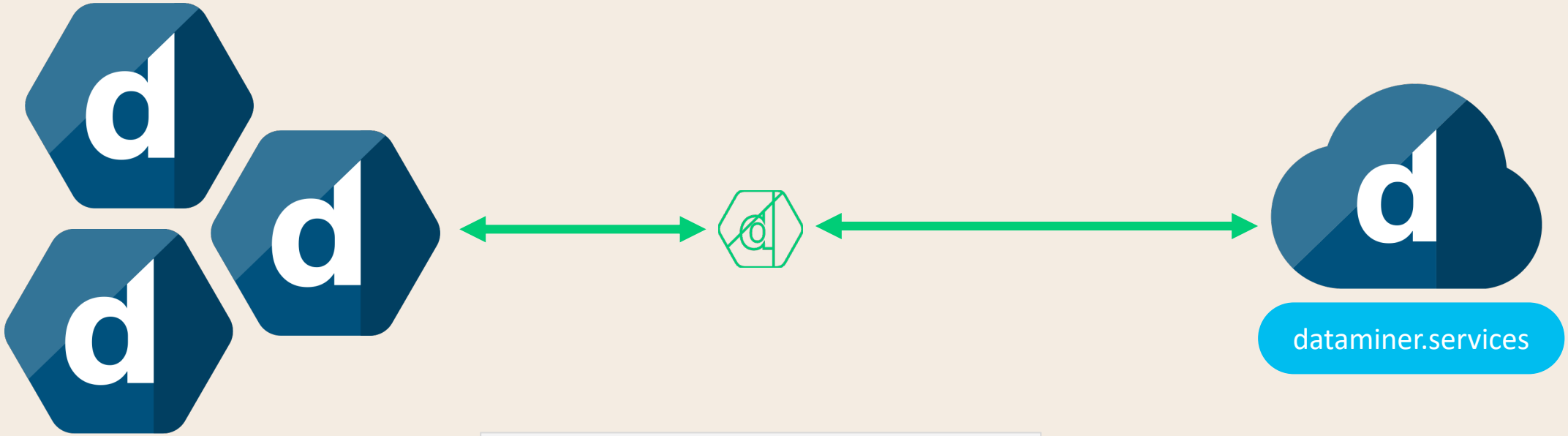
Setup the communication with dataminer.services

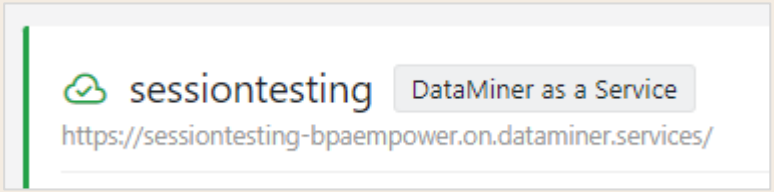
Understand the dataminer.services platform



How does it work

DataMiner connection states



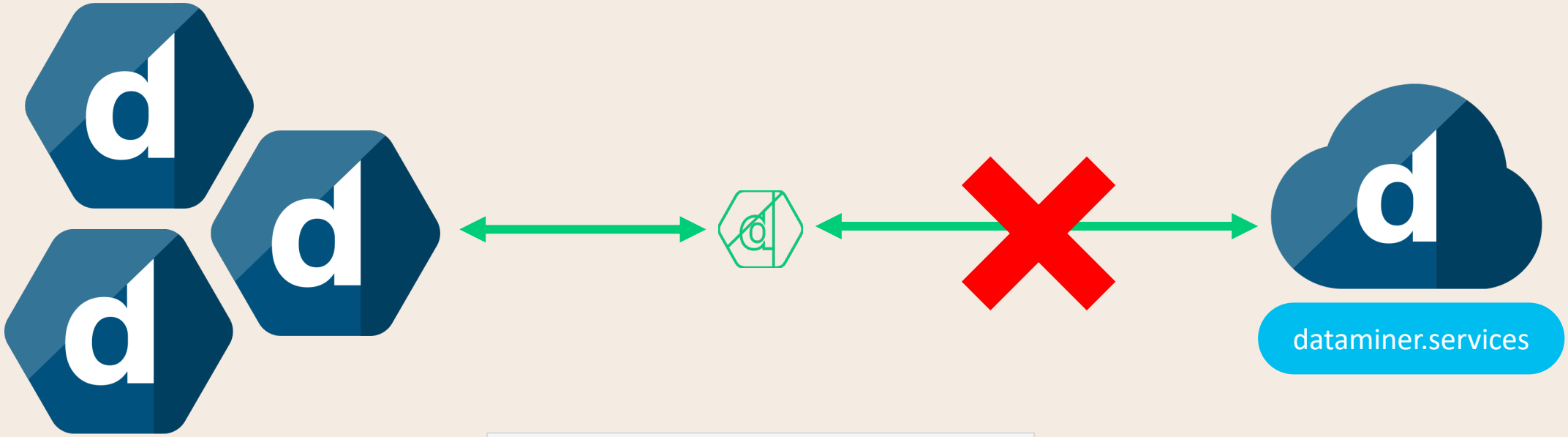


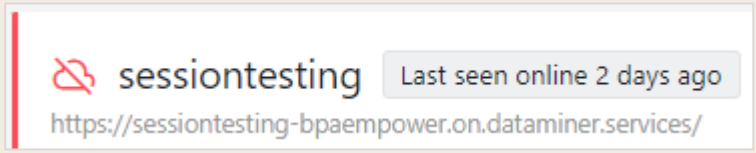
How does it work

DataMiner connection states

How does it work

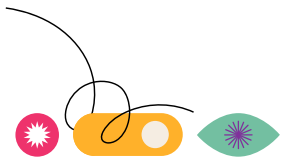
DataMiner connection states





Meet the features

Speed date with the Cloud, love at first byte



Meet the features

COLLABORATION

- DASHBOARD SHARING
- REMOTE ACCESS
- CHATOPS
- DOJO COMMUNITY

DEVOPS

- DIS & CI/CD
- CATALOG

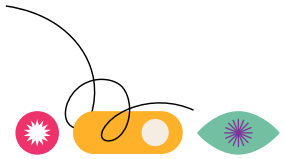
PLATFORM SERVICES

- HEALTH
- STaaS
- DaaS

Let's have a look

How to manage your systems?

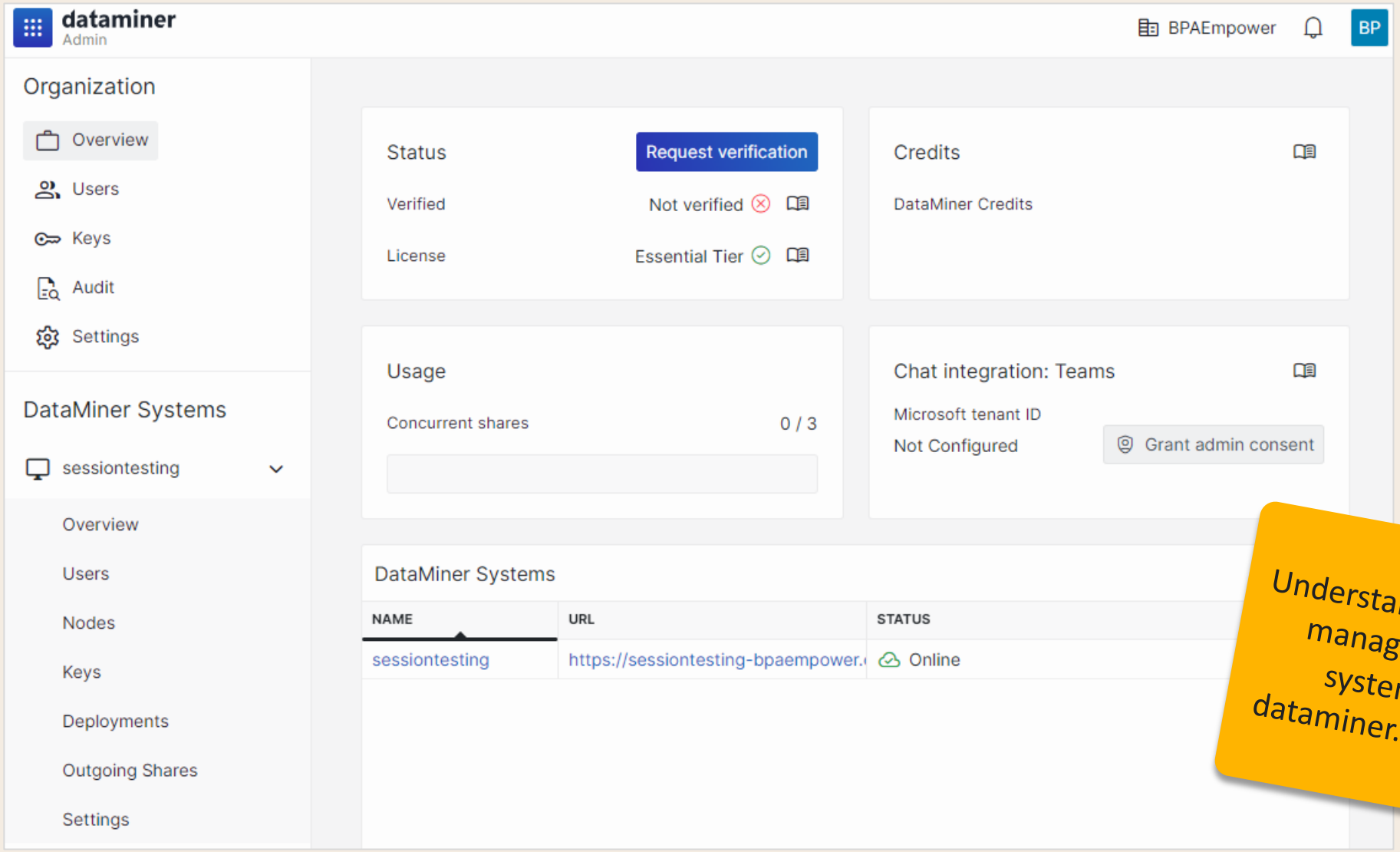
Cloud management 101



How to manage your systems?

The one UI to rule them all

admin.dataminer.services



Understand how to manage your system in dataminer.services

Let's have a look

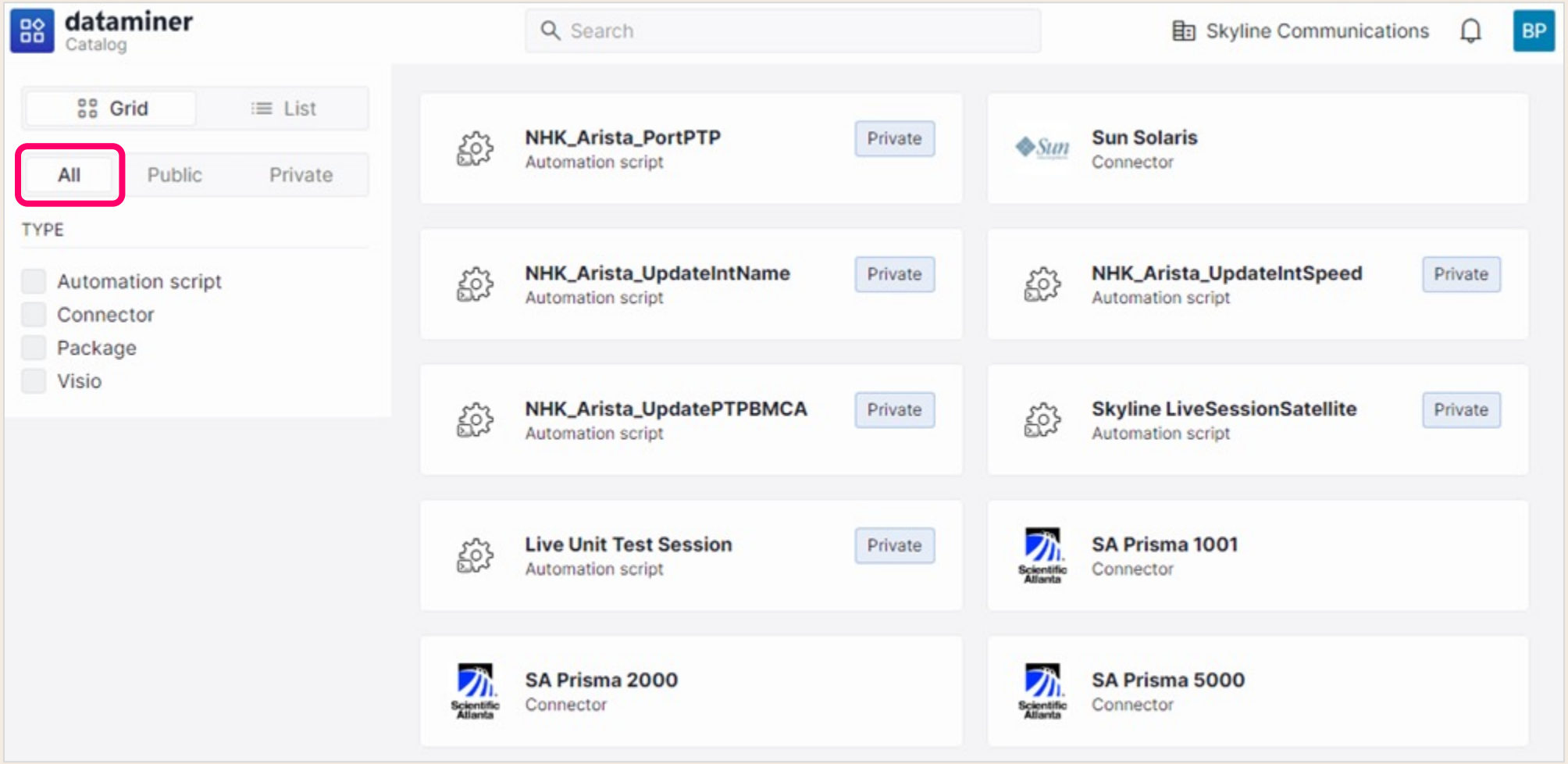
The Catalog module

Pick and click, easy deployments from the Catalog

The Catalog module

Public vs private items

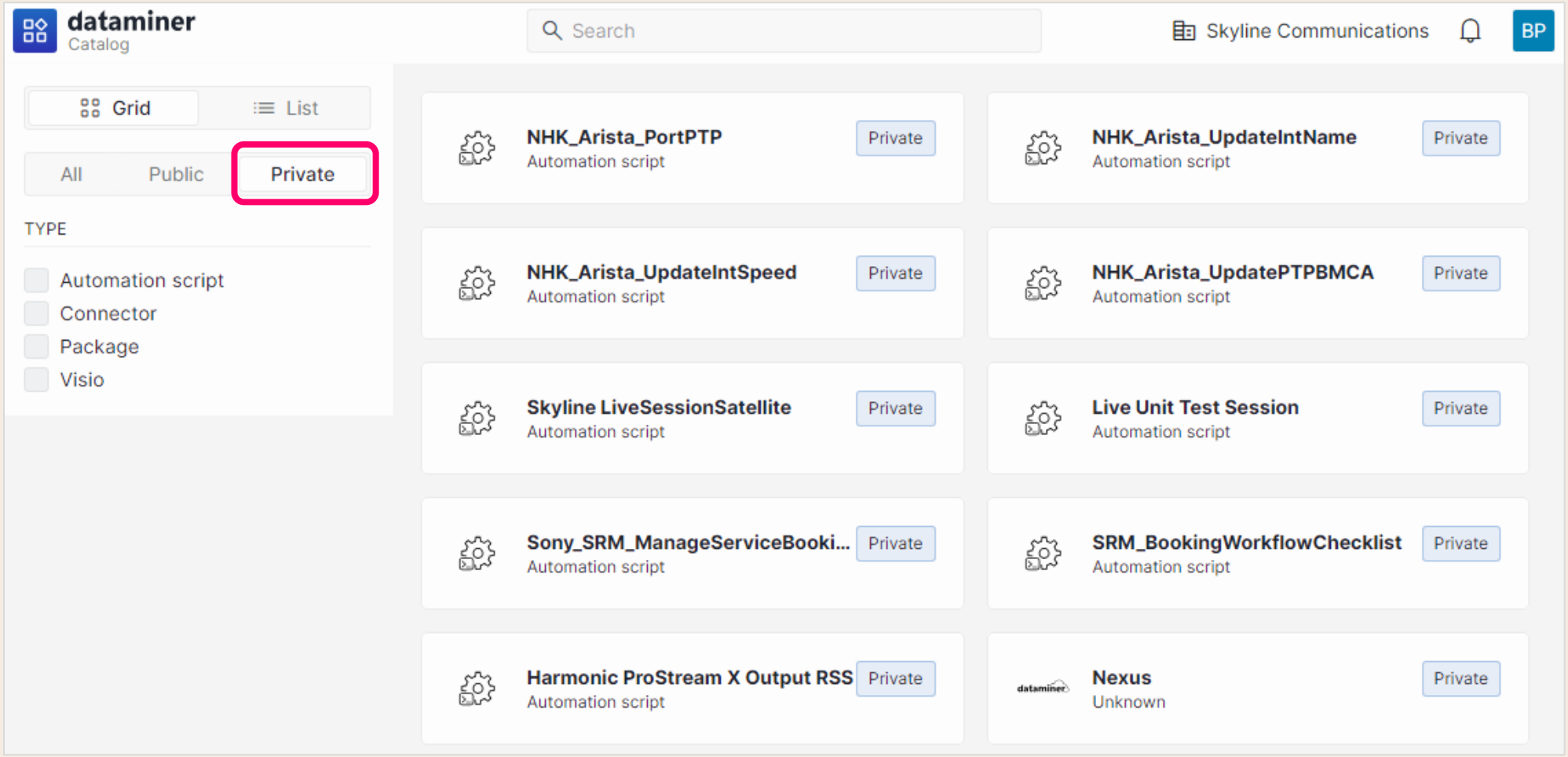
catalog.dataminer.services



The Catalog module

Public vs private items

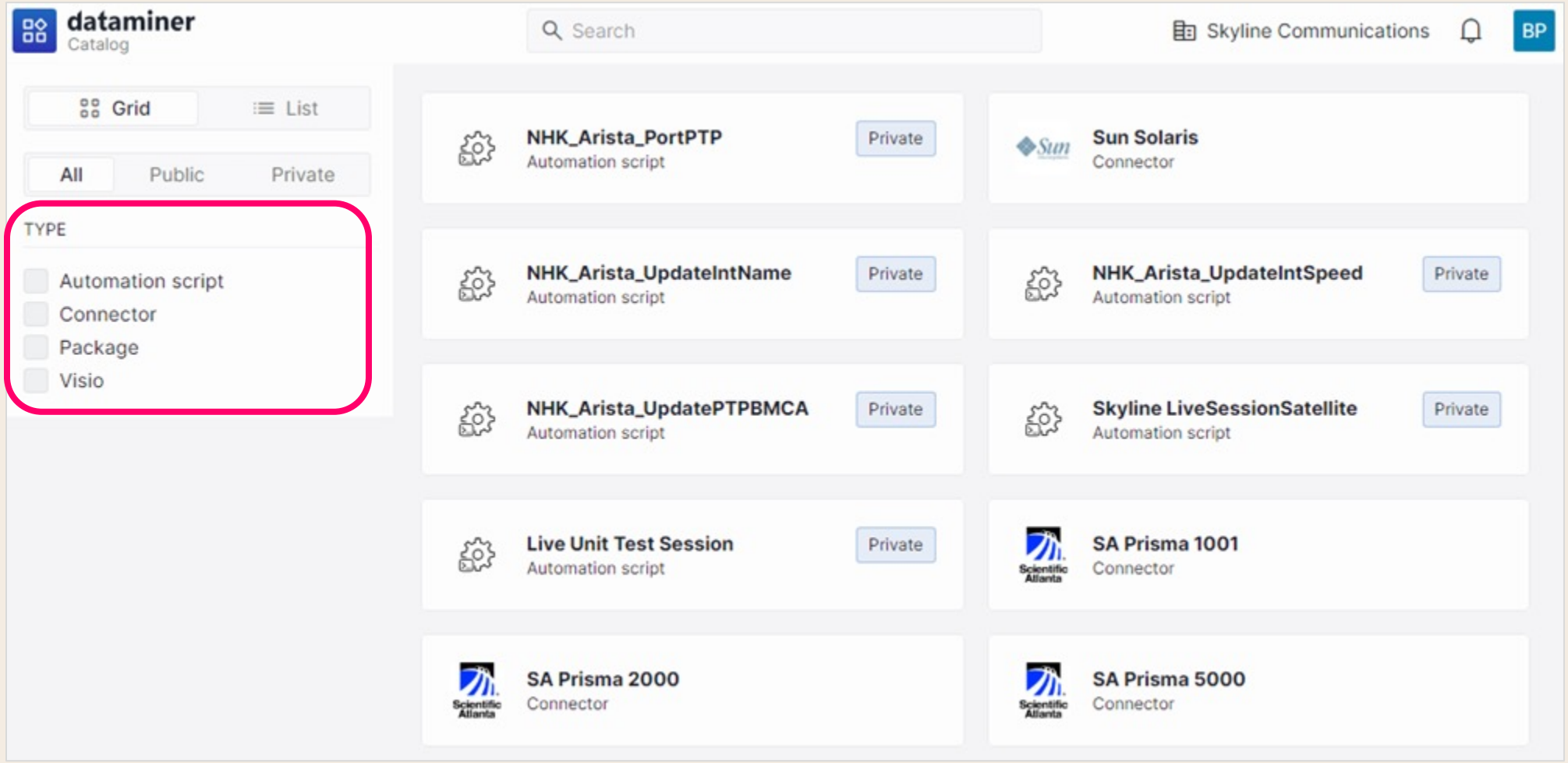
catalog.dataminer.services



The Catalog module

Filter by type

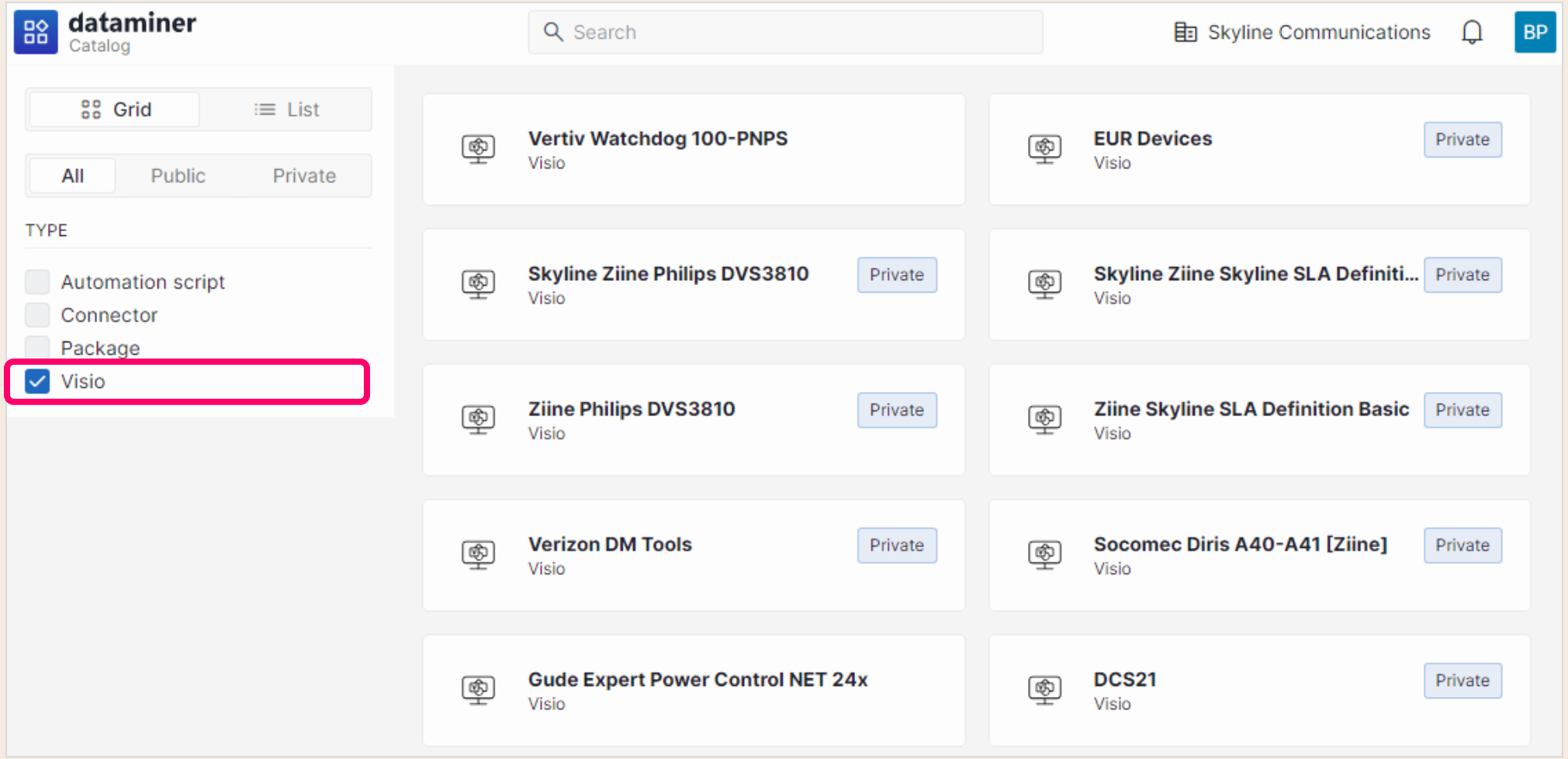
catalog.dataminer.services



The Catalog module

Filter by type

catalog.dataminer.services



Deploy the SRM package

Deploy an item from the Catalog

1. Go to '**catalog.dataminer.services**'
2. Search for '**SRM for MediaOps**'
3. Install the package

ASK AWAY

empower!

Data API and scripted connectors

Effortlessly integrate & ingest data

DATA API & SCRIPTED CONNECTORS

YOUR HOST

Jan-Klaas Kesteloot

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DATA API
IDP, PTP
Data Engine
CI/CD

YOUR HOST

Jeroen Neyt

EXPERT DEVOPS ENGINEER

JEROEN.NEYT@SKYLINE.BE

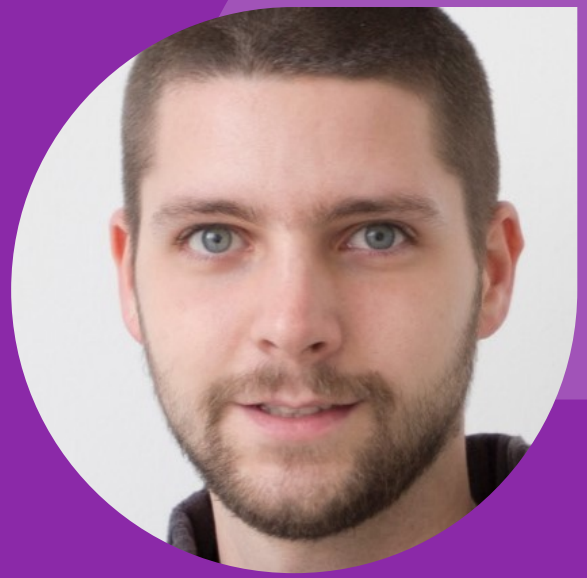
YOUR HOST

Pedro Debevere

PRINCIPAL DEVOPS ENGINEER

PEDRO.DEBEVERE@SKYLINE.BE

YOUR HOST



Simon Vandamme

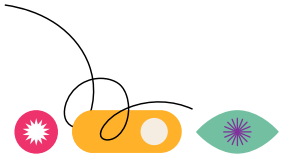
EXPERT HUB LEAD SCRIPTS & CONNECTORS

SIMON.VANDAMME@SKYLINE.BE

WHAT'S ON THE MENU

Agenda

1. Introduction
2. Data API
3. Scripted Connectors
4. Hands-on!
5. Limitations
6. Coming Up

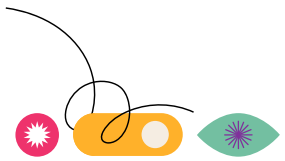


Goals

Understand the concept of Data API

Recognize the advantages of Data API

Create a Scripted Connector



Introduction

Because we need to start somewhere.. 

Preview Availability

Currently in preview with the T̰B̰ j ̰ ∞i t̰ soft-launch option enabled.

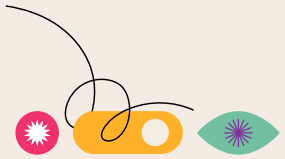
Introduction

What is it?

An easy way to script and deploy ad-hoc integrations with products and data-sources in your operation on the fly, without the need for a DataMiner connector

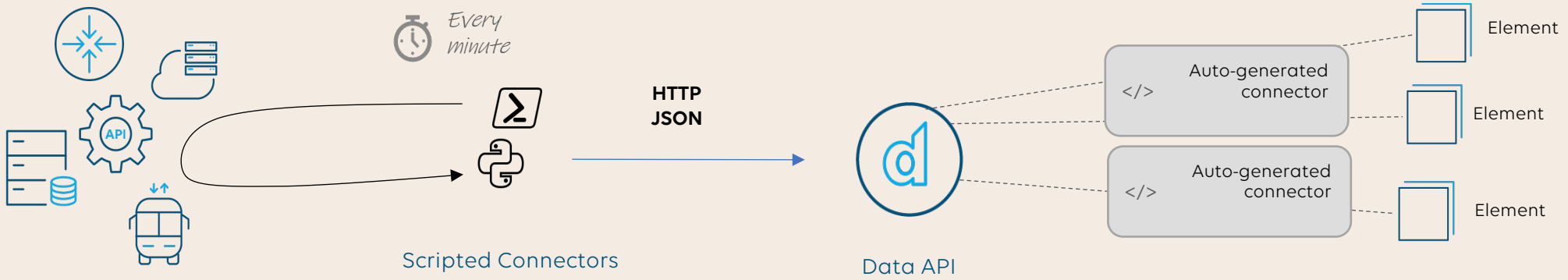
(or the knowledge to implement a connector)

- Data API: Ingest the requests, pushing values into parameters of dynamically created elements that rely on automatically generated connector.
- Scripted Connectors: Python or PowerShell scripts to integrate new data sources, transmitting JSON data to the Data API.



Introduction

What is it?



Understand the concept of Data API

dataminer

Introduction

JSON data handling

- Auto-generate elements with parameters and values
- Automatic updates to parameter values
- Trended by default
- No JSON schema

```
{
  "Server Name": "WebServer001",
  "CPU Utilization": 78.5
}
```

Introduction

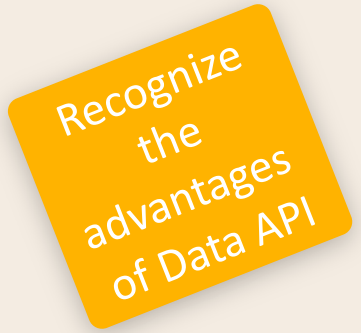
Why should you use it

DATA API & SCRIPTED CONNECTORS

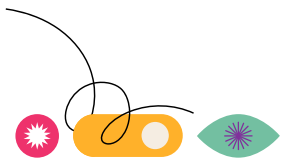
- No specific scheme or syntax (JSON response from an HTTP API can seamlessly be transmitted to Data API)
- Python & PowerShell - but Data API is basically open for any client language
- Easy to use

STANDARD CONNECTORS

- Adhere to DataMiner Connector Markup Language
- Additional logic in C#
- Support for DCF, SRM Functions



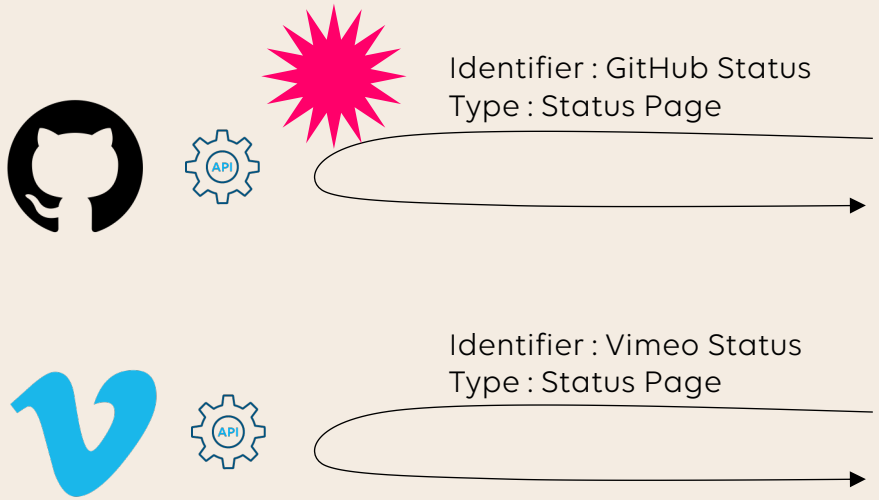
Data API

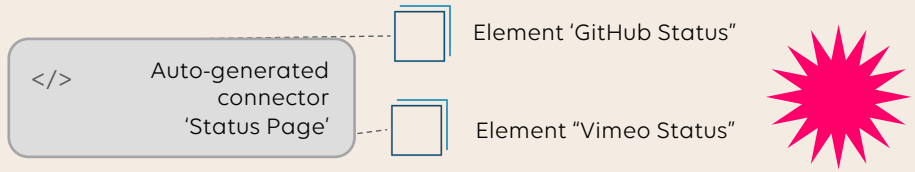


Data API

HTTP API

- HTTP endpoint *<host address>/api/data/parameters*
- HTTP Request should include the following HTTP header fields:
  - The **identifier**, is used to identify the source of the request. It must be unique within the DMS cluster. The identifier serves as the initial name of the element, which can be renamed later at any time.
  - The **type** is used to group identifiers of the same type together, making it easier to manage these elements. The type is used as the name of the auto-generated connector.





dataminer

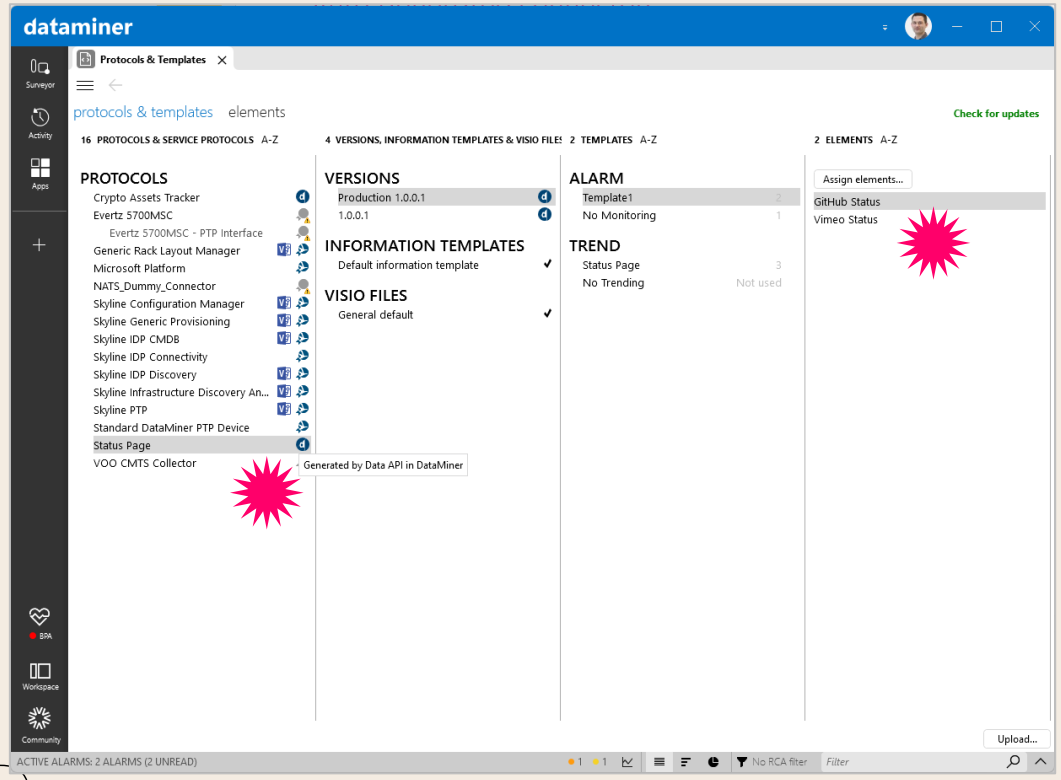
Let's have a look

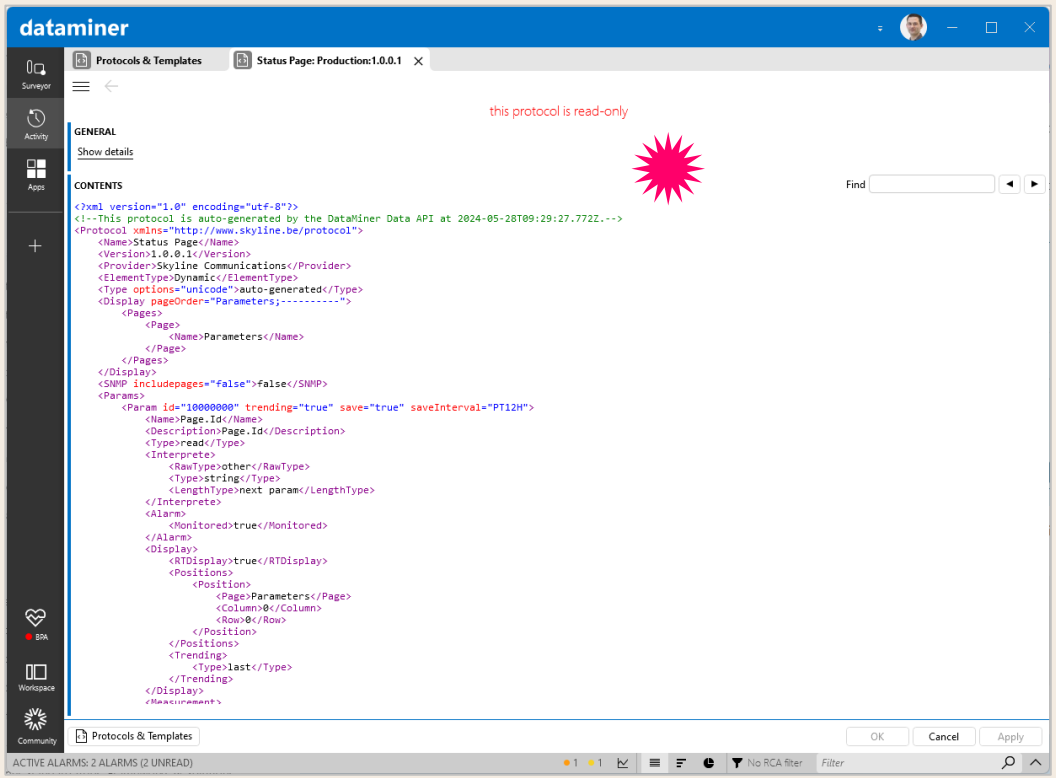
GET INSPIRED

Data API

Auto-generated connectors

- The Data API creates & maintains auto-generated connectors.
- It provisions elements based on the identifiers.

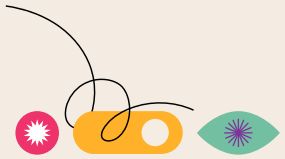




Data API

Support for tables

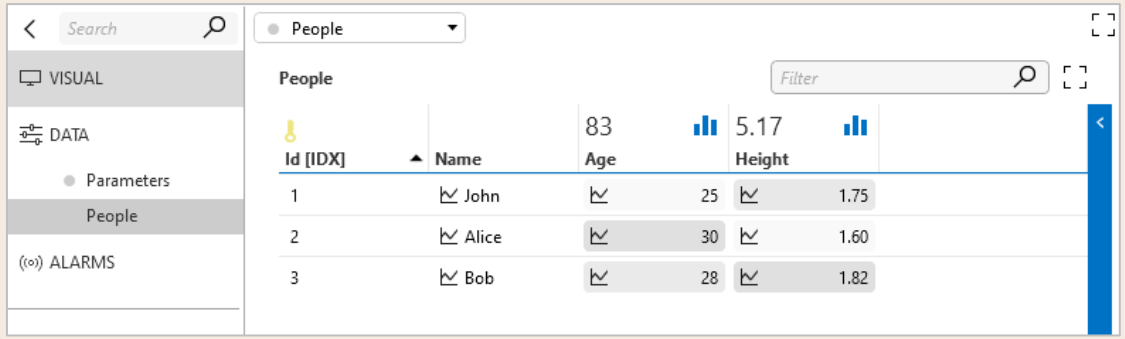
- Convert JSON arrays from HTTP body to table in the element.
- Transform nested arrays into multiple tables with foreign keys.



Data API

Support for tables

- This JSON array is transformed into a table called **People** with columns *ID, Name, Age, and Height*.
- The field *Id* always serves as the primary key for the table.

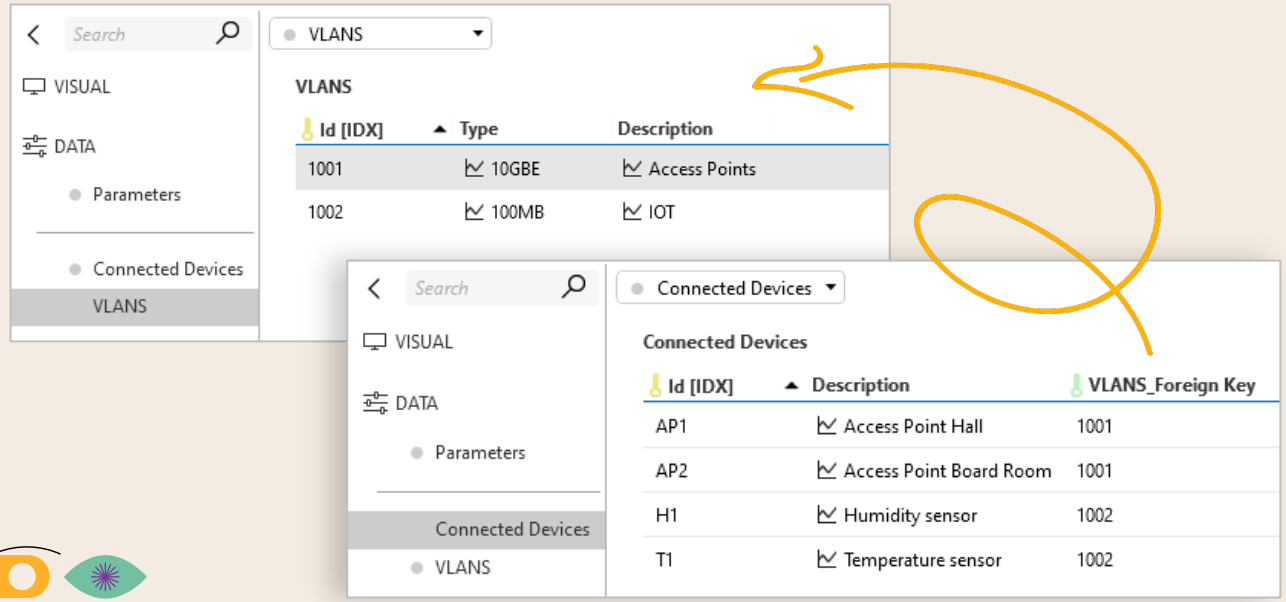



```
{
  "People": [
    {
      "Id": 1,
      "Name": "John",
      "Age": 25,
      "Height": 1.75
    },
    {
      "Id": 2,
      "Name": "Alice",
      "Age": 30,
      "Height": 1.60
    },
    {
      "Id": 3,
      "Name": "Bob",
      "Age": 28,
      "Height": 1.82
    }
  ]
}
```

Data API

Support for tables

- The information from the VLANS array is distributed into two tables:
  - The **VLANS** table
  - The **Connected Devices** table

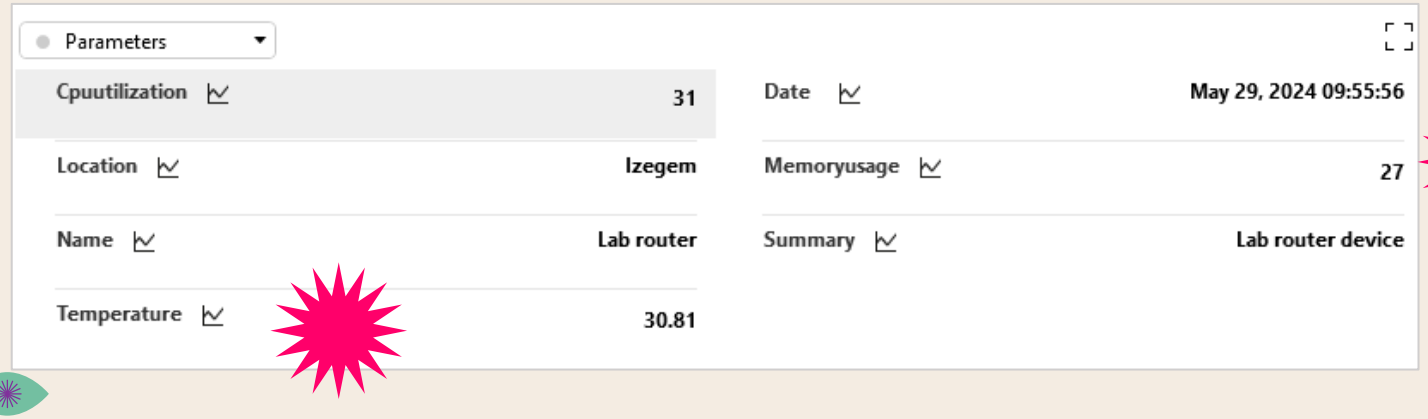



```
{
  "Device": "Backbone Switch",
  "Ping": 3,
  "IP": "10.10.10.10",
  "MAC Address": "08-58-F2-F9-36-94",
  "VLANS": [
    {
      "Id": 1001,
      "Type": "10GBE",
      "Description": "Access Points",
      "Connected devices": [
        {
          "Id": "AP1",
          "Description": "Access Point Hall"
        },
        {
          "Id": "AP2",
          "Description": "Access Point Board Room"
        }
      ]
    },
    {
      "Id": 1002,
      "Type": "100MB",
      "Description": "IOT",
      "Connected devices": [
        {
          "Id": "T1",
          "Description": "Temperature sensor"
        },
        {
          "Id": "H1",
          "Description": "Humidity sensor"
        }
      ]
    }
  ]
}
```

Data API

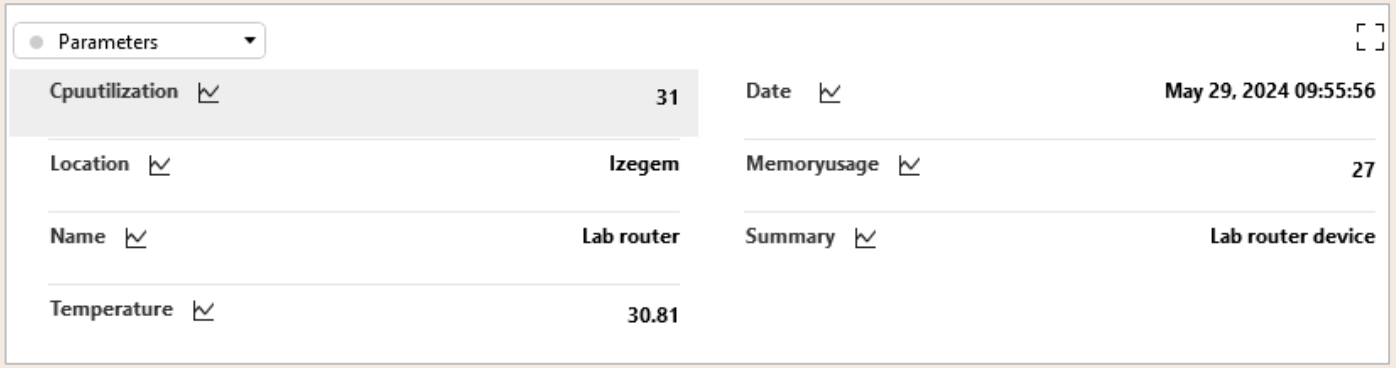
Units & decimal precision

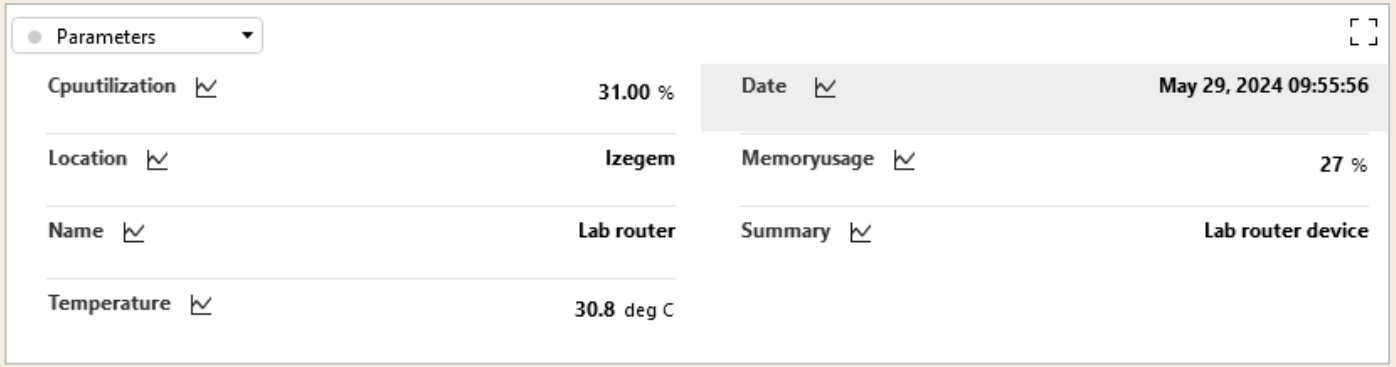
- Default behavior:
  - No units 😱
  - Decimal precision defined by first data
- Fear not!
  - Reconfigure it by using config endpoint *<host address>/api/config*
  - Use it after a first data request already has been made



Data API

Units & decimal precision

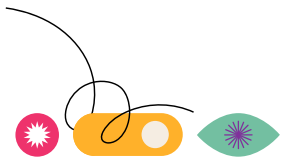





```
{
    "decimals": {
        "Cpuutilization": 2,
        "Temperature": 1
    },
    "units": {
        "Cpuutilization": "%",
        "Temperature": "deg C",
        "Memoryusage": "%"
    }
}
```

Scripted Connectors

Wait! What!? What's that? A connector? A script?

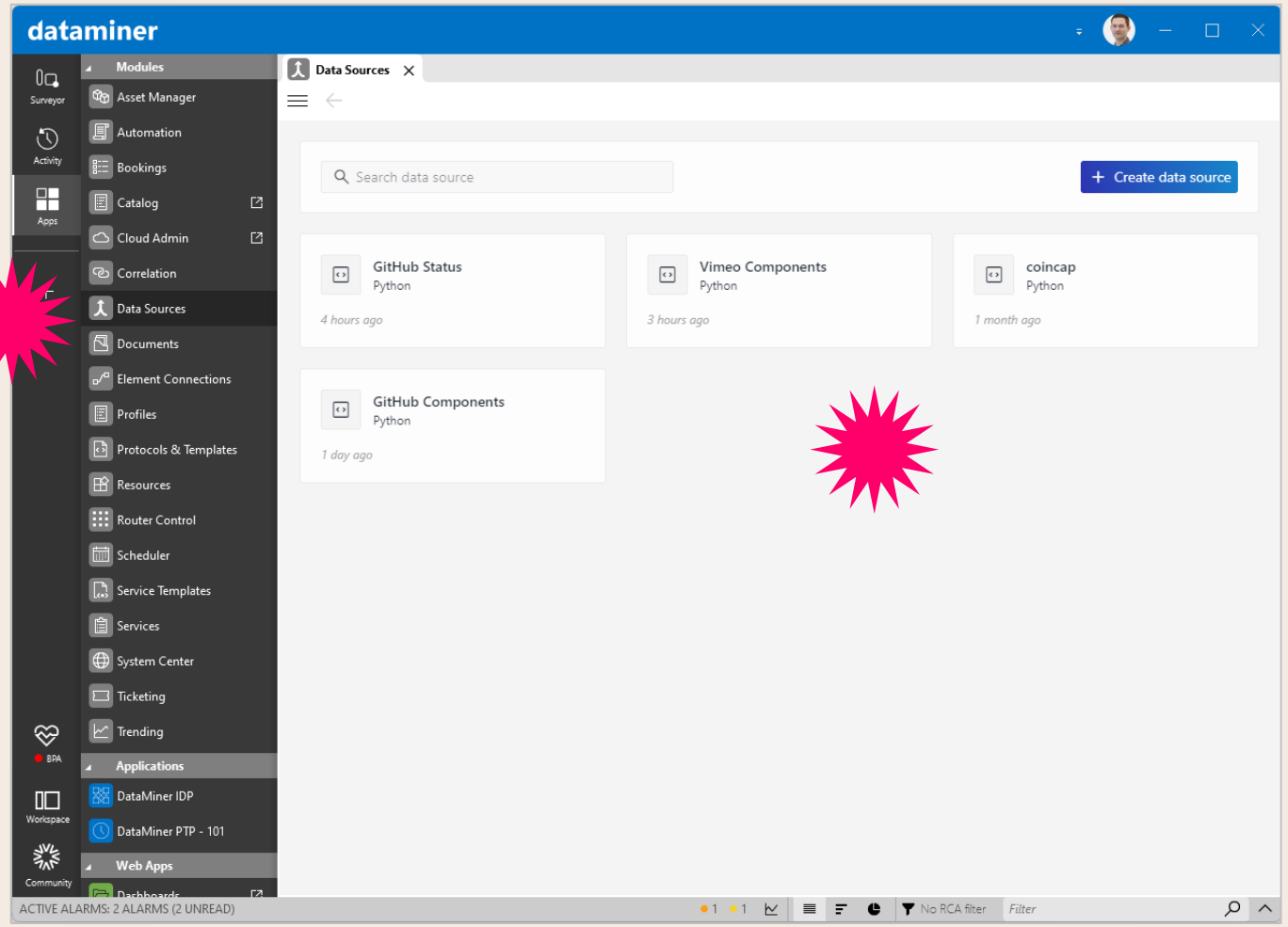


Let's have a look

GET INSPIRED

Scripted Connectors

- Python or PowerShell scripts
- Run on DataMiner system
- Available via module **Data Sources**
- Run every minute



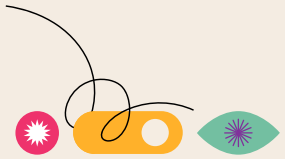
Let's have a look

GET INSPIRED

Hands-on!

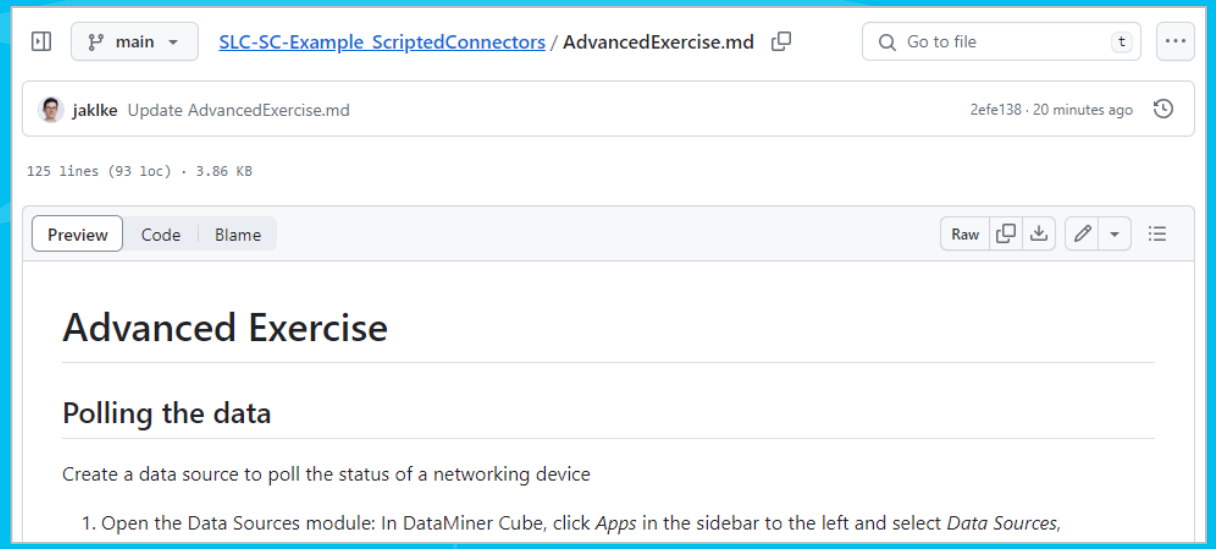
Steps of the classroom exercise

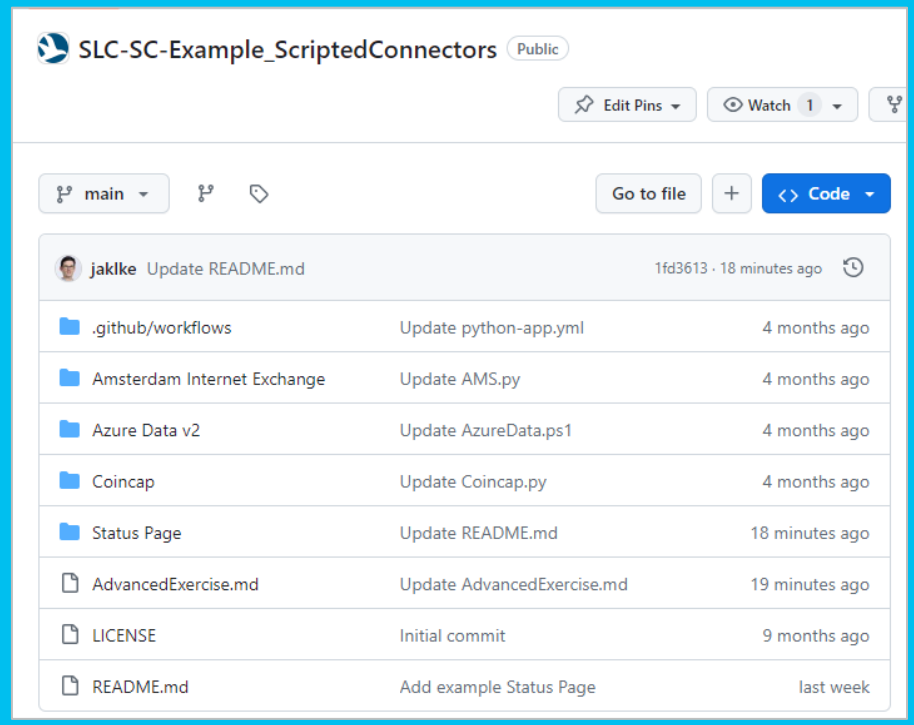
1. Find & understand the example Python script
2. Understanding expected outcome
3. Change the Python Script with GitHub .dev
4. Create a scripted connector
5. (tweak the trending, configure the alarm thresholds)



Advanced Exercise

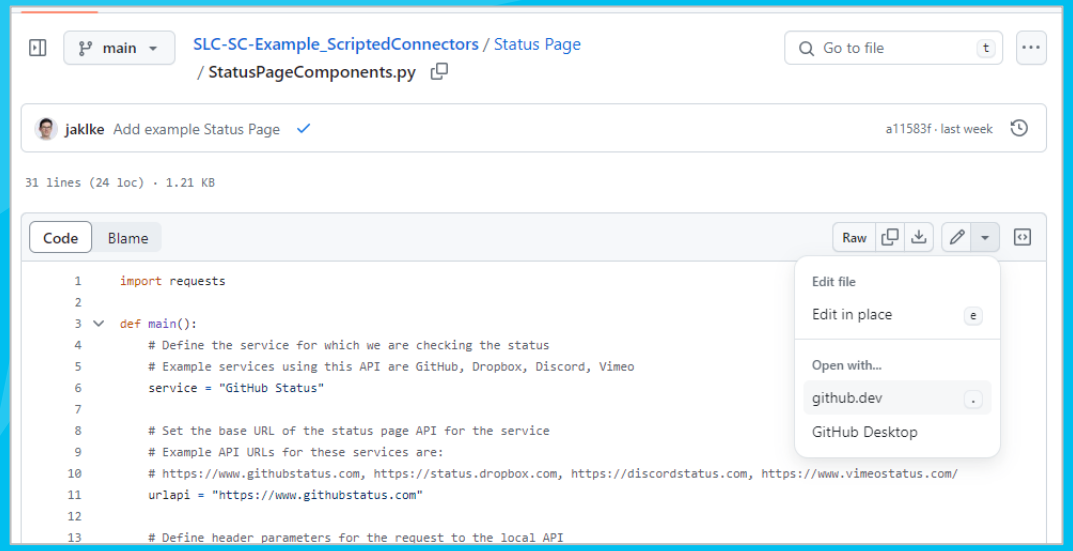
1. Go to 'aka.dataminer.services/2'
2. Navigate to **AdvancedExercise.md**

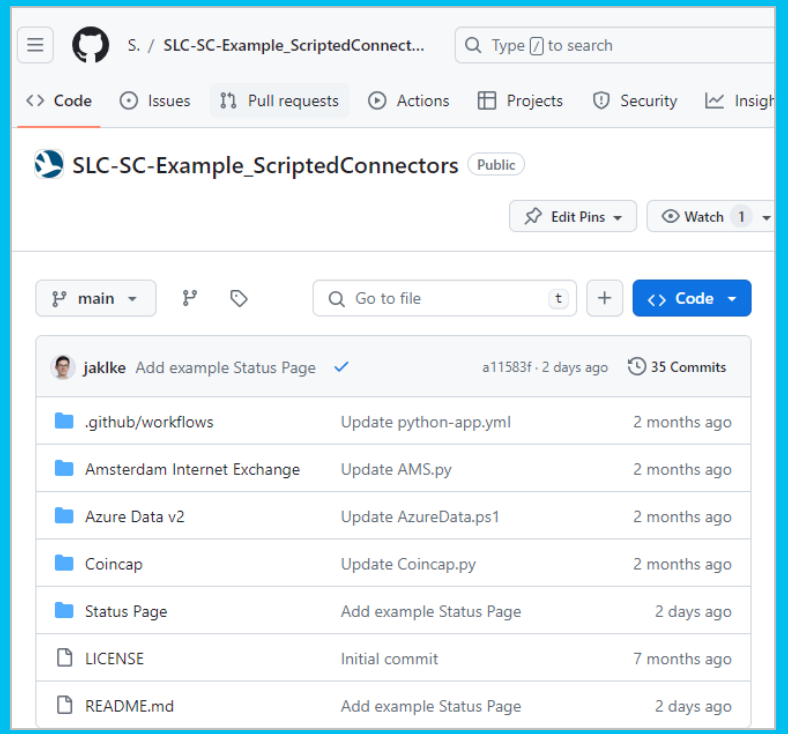




Classroom exercise

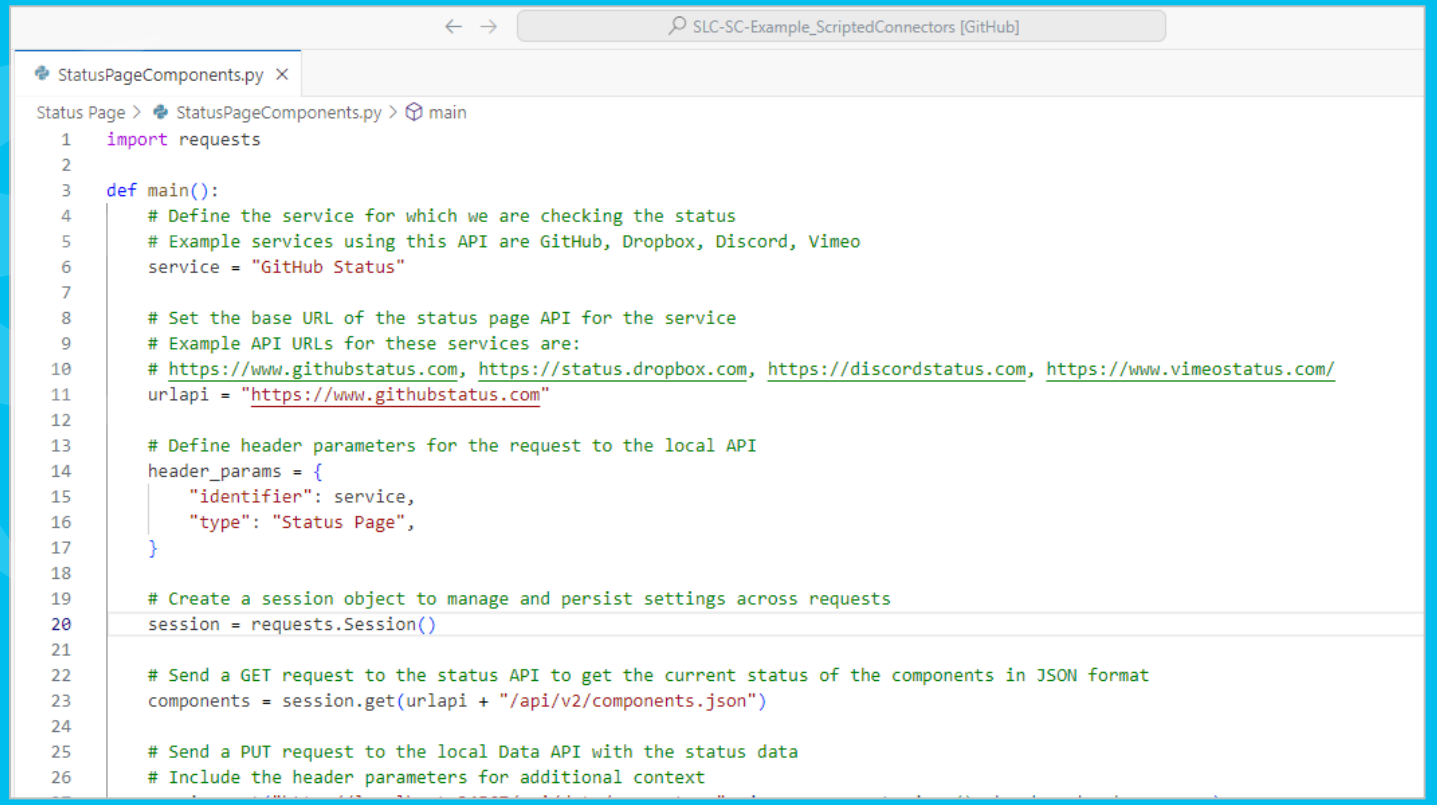
- Find & Understand
  1. Go to 'aka.dataminer.services/2'
  2. Go to **Status Page ->** StatusPageComponents.py
  3. Open in GitHub .dev





Classroom exercise

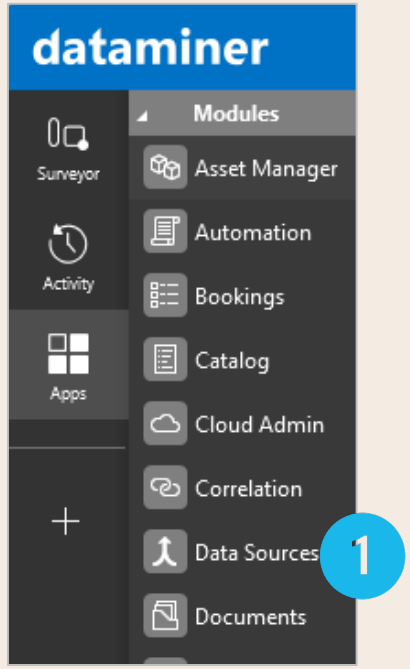
- Prepare Scripted Connector
  1. Change service name
  2. Copy script to clipboard

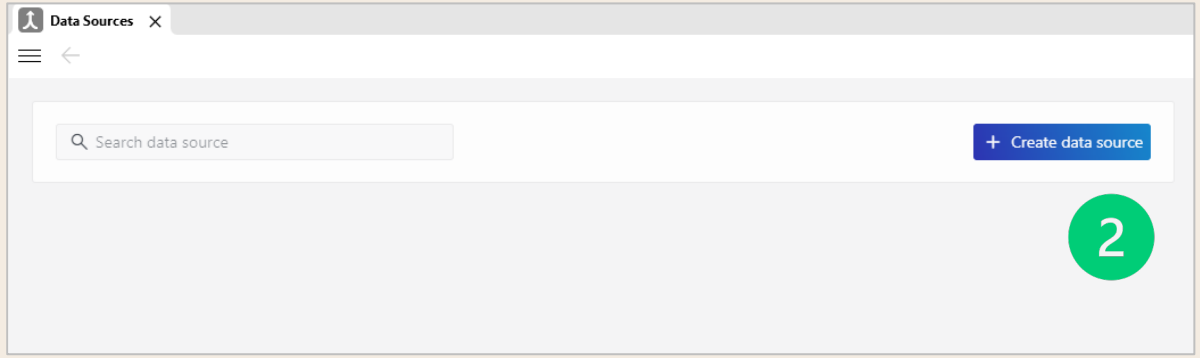


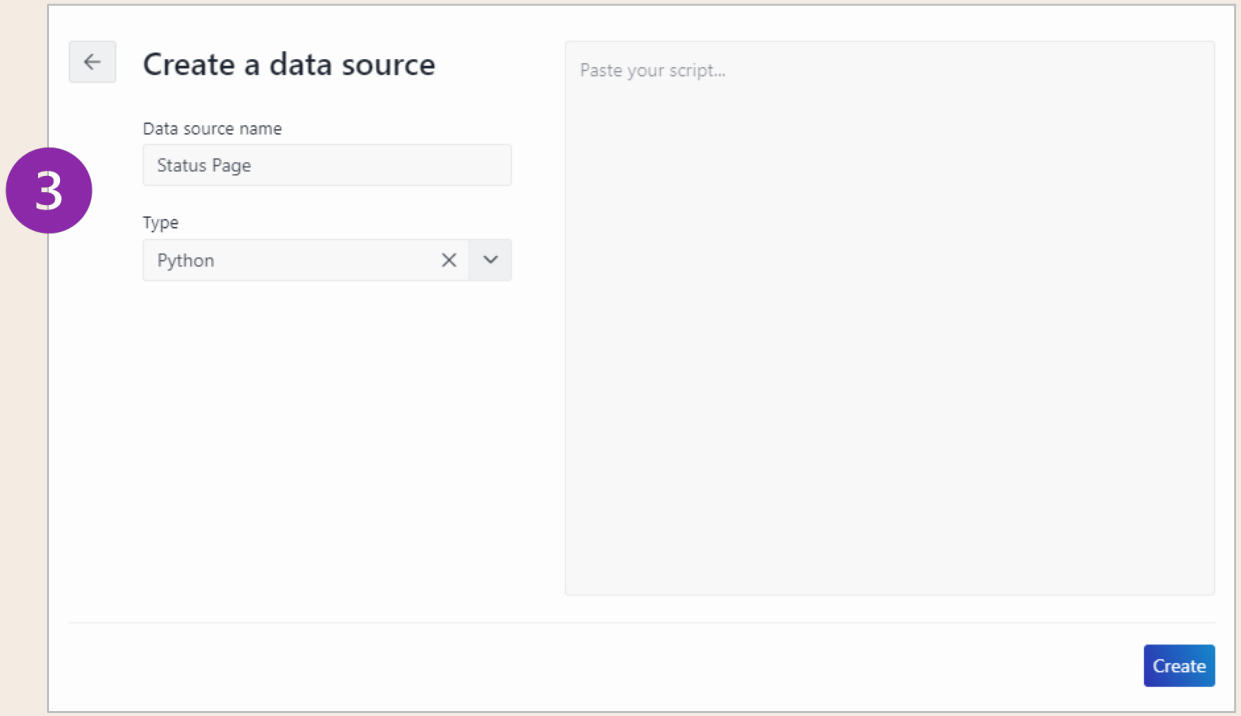
Create scripted connector

1, 2, 3

1. Open Data Sources
2. Create data source
3. Give in the details
   - Name : Status
   - Type : Python



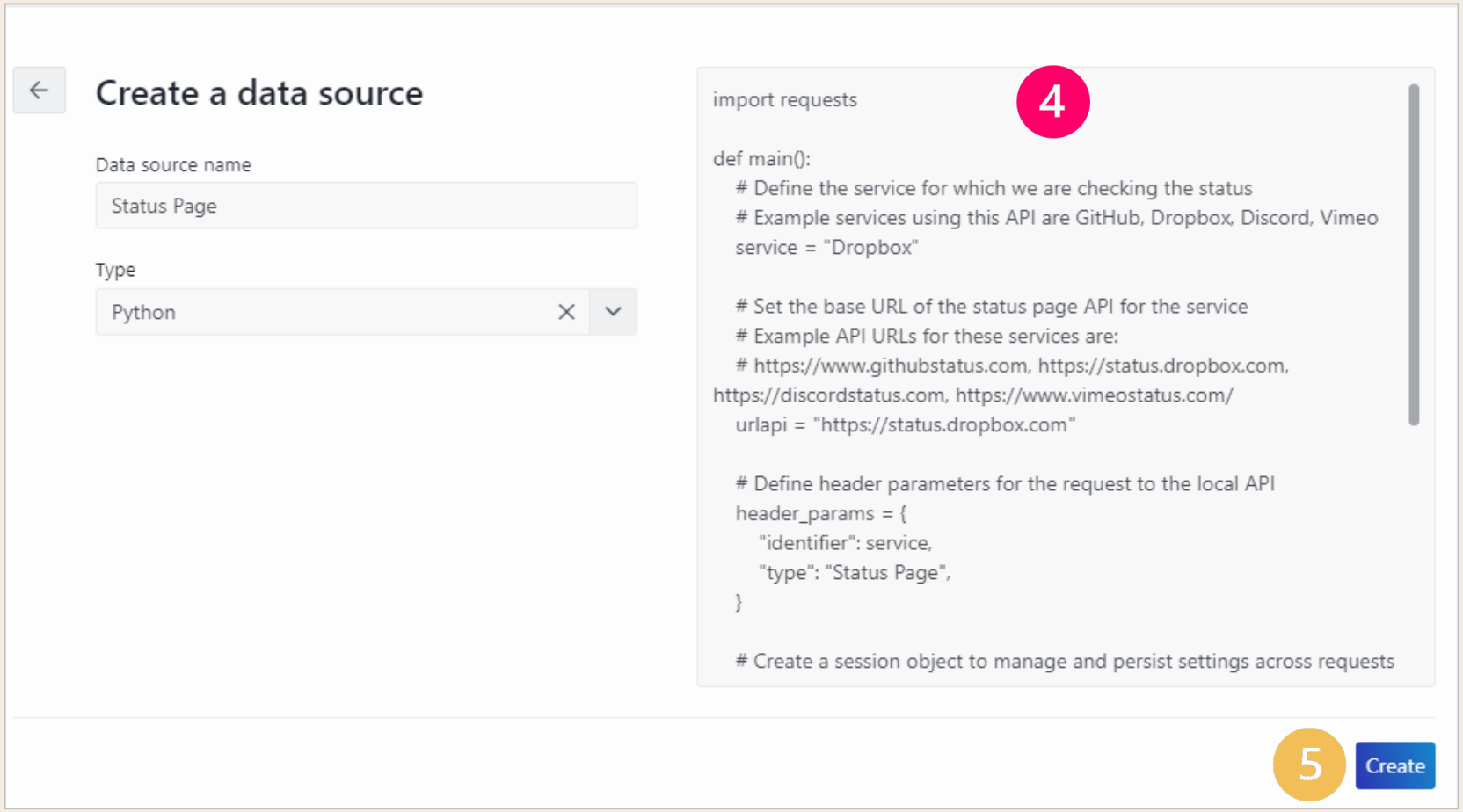


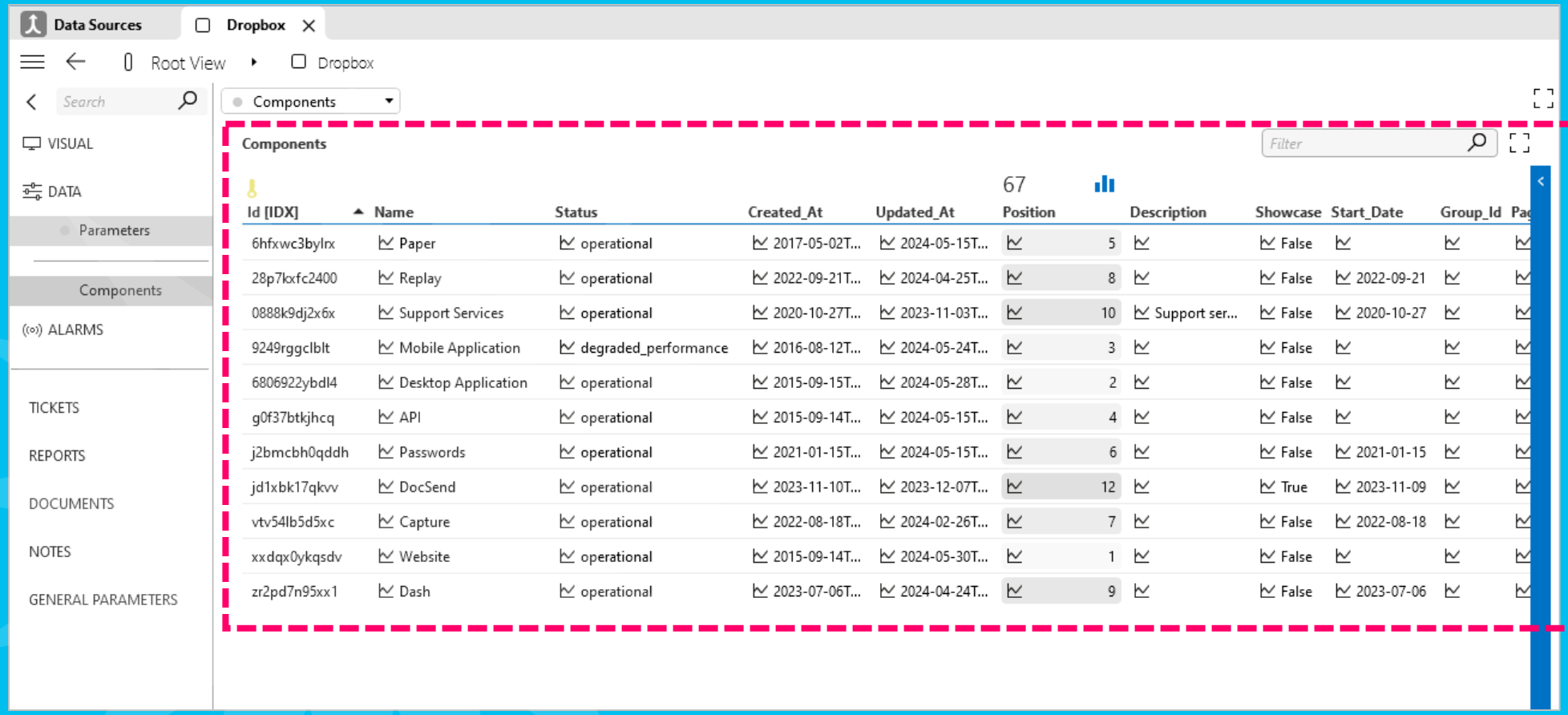


Create scripted connector

4, 5, 6

4. Paste Python script
5. Click ‘Create’





25

Earn 25 DevOps points by emailing screenshots of the **Parameters** page to support.data-acquisition@skyline.be.

Be sure to send them before Thursday, June 13th, 6 PM CEST.

Create a scripted connector

Limitations & coming up

Mind the fine print while looking at the future

Limitations

Data API

- Rejects payloads over 1 MB
- Local requests only
- Requires "Id" field in JSON arrays as primary key
- Nested arrays: child table links to one parent table

Parameters in auto-generated connectors

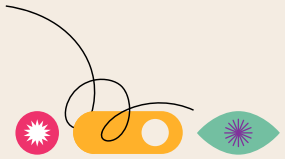
- Automatically assigned to pages in element layout, unmodifiable

Scripted connectors

- Cannot manage/control data sources
- Fixed frequency: one minute
- No support for arguments
- Stored locally on the server
- No synchronization in DMS cluster

Coming Up

- Manage/control data sources
- Accept requests from external systems



ASK AWAY

empower!

Mastering DataMiner Cube

Accessing AI-driven anomalies, relations & patterns

Mastering AI in DataMiner Cube

YOUR HOST

Tobe Deprez

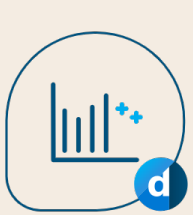
Senior DevOps Engineer DATA CORE

TOBE.DEPREZ@SKYLINE.BE

AUGMENTED OPERATIONS

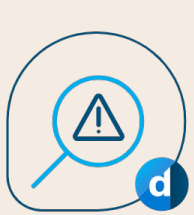
AI in DataMiner?

DataMiner Augmented Operations

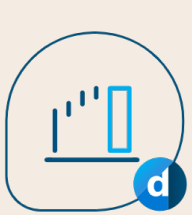


Trend Forecasting

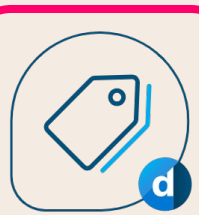
Anomaly Detection



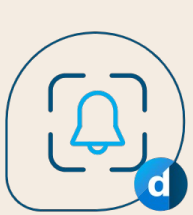
Incident Tracking



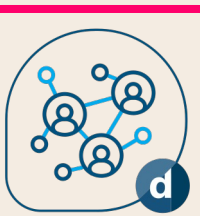
Proactive Cap Detection



Pattern Matching



Focus Alarms



Relationship Learning

- **7 features** leveraging state-of-the-art **big data** and **artificial intelligence** (AI)

→ **Assists** you in your daily operations

WHAT'S ON THE MENU

Agenda

- Detecting recurring patterns
  - Univariate patterns
  - Multivariate patterns
- Detecting anomalies with DataMiner
  - What?
  - Simple alarming on anomalies
  - Advanced alarming on anomalies
  - Giving feedback
- Investigating root causes with relationship learning

Goals

Use anomalies on trend graph

Use anomalies in alarm console

Configure ’smart’ anomalies in alarm templates

Configure anomalies manually in alarm template

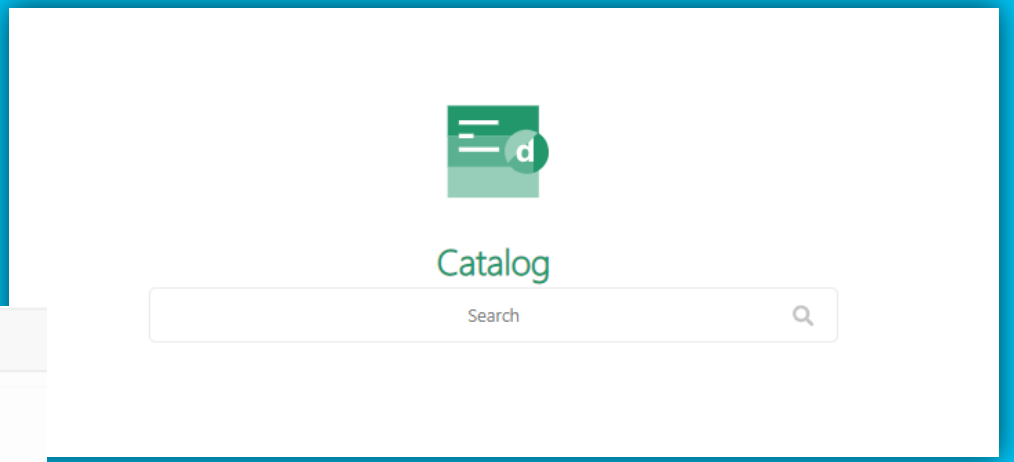
Use time-scoped relations in trend graph

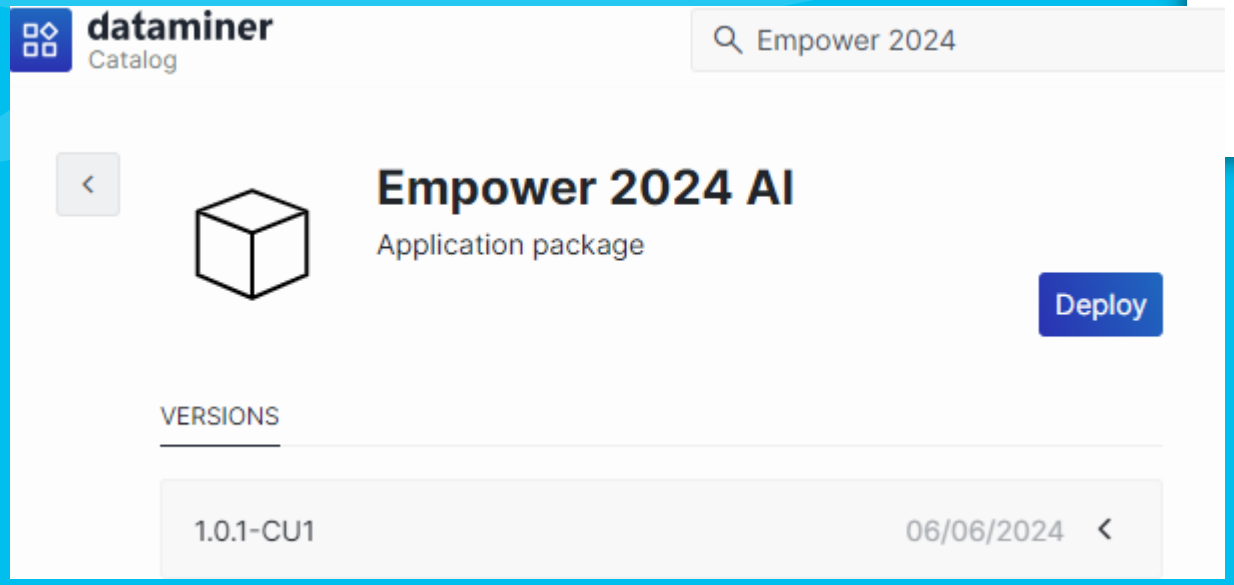
Create univariate patterns

Create multivariate patterns

Hands-on time!

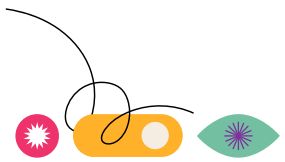
- Go to '**catalog.dataminer.services**'
- Search for '**Empower 2024 AI**'
- Install package 'Empower 2024 AI'





Detecting recurring patterns

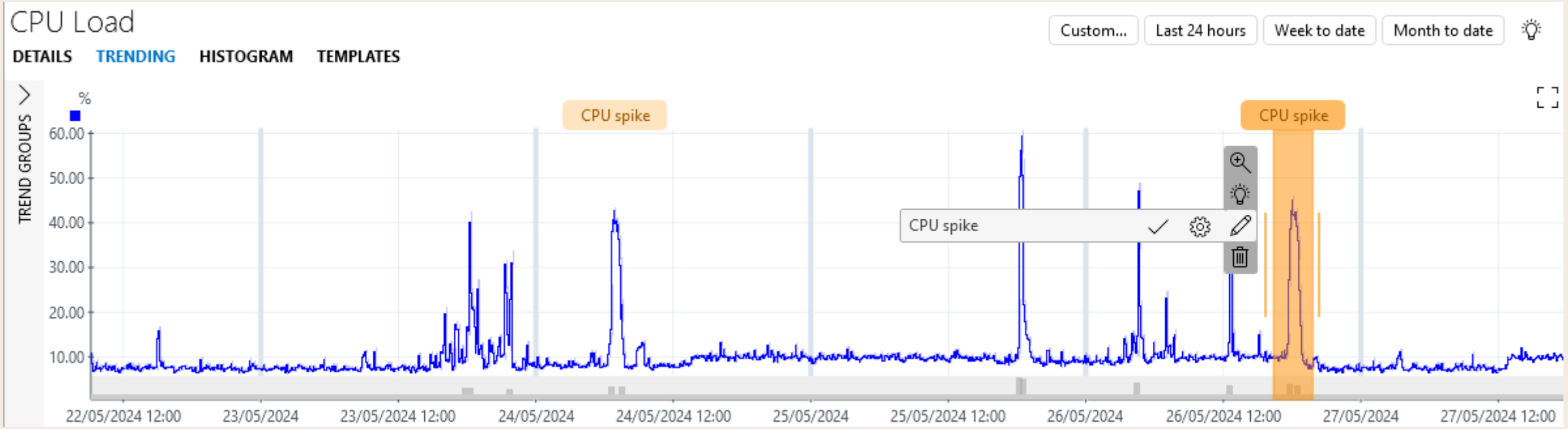
Finding your trend data's hits on repeat



Detecting recurring patterns

Univariate patterns

- Detect and label **recurring patterns** on trend data of **single parameter**



Let's have a look

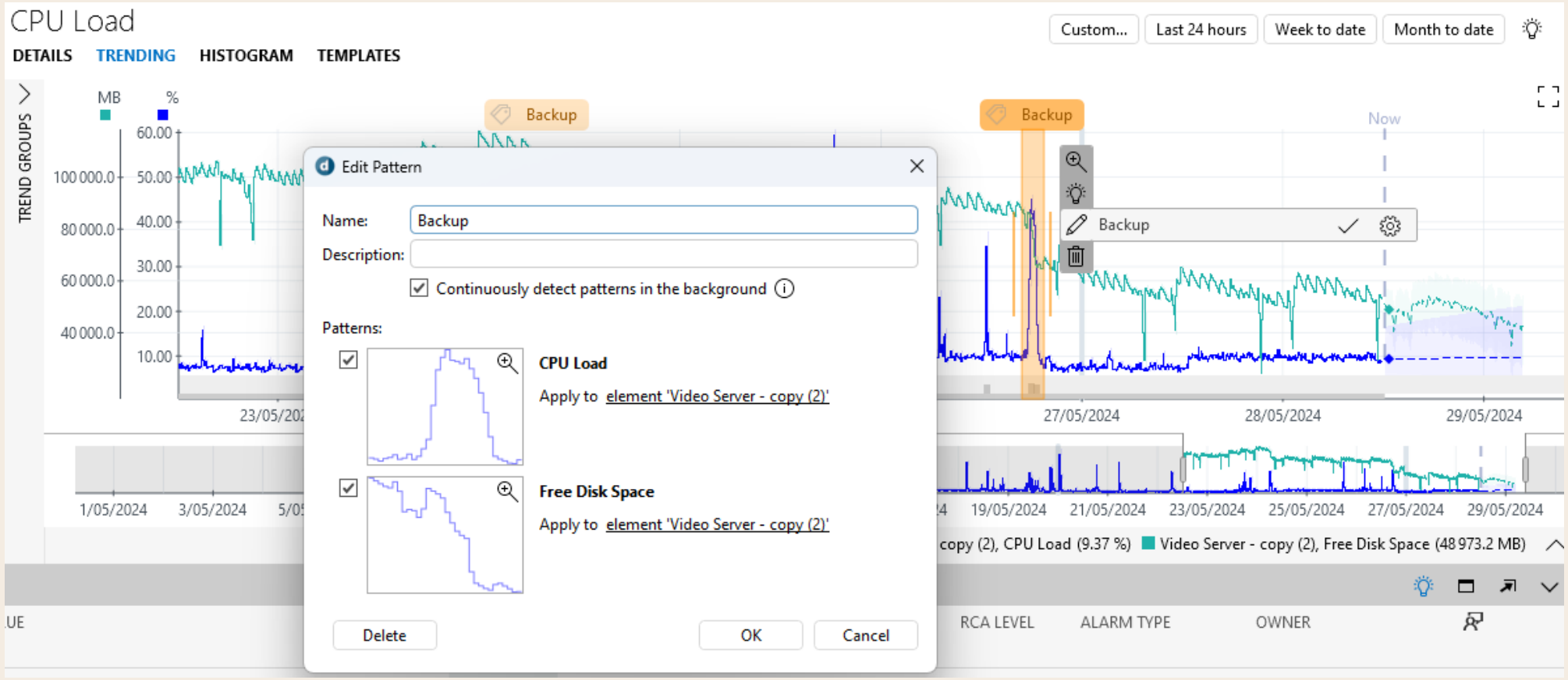
Create univariate patterns

GET INSPIRED

Detecting recurring patterns

Multivariate patterns

- Detect and label **recurring patterns** in trend data of **multiple parameters**



Let's have a look

Create multivariate patterns

GET INSPIRED

Let's get our hands dirty!

On 'Empower – Video Server':

Inspect other CPU spikes (not labelled 'Backup') with

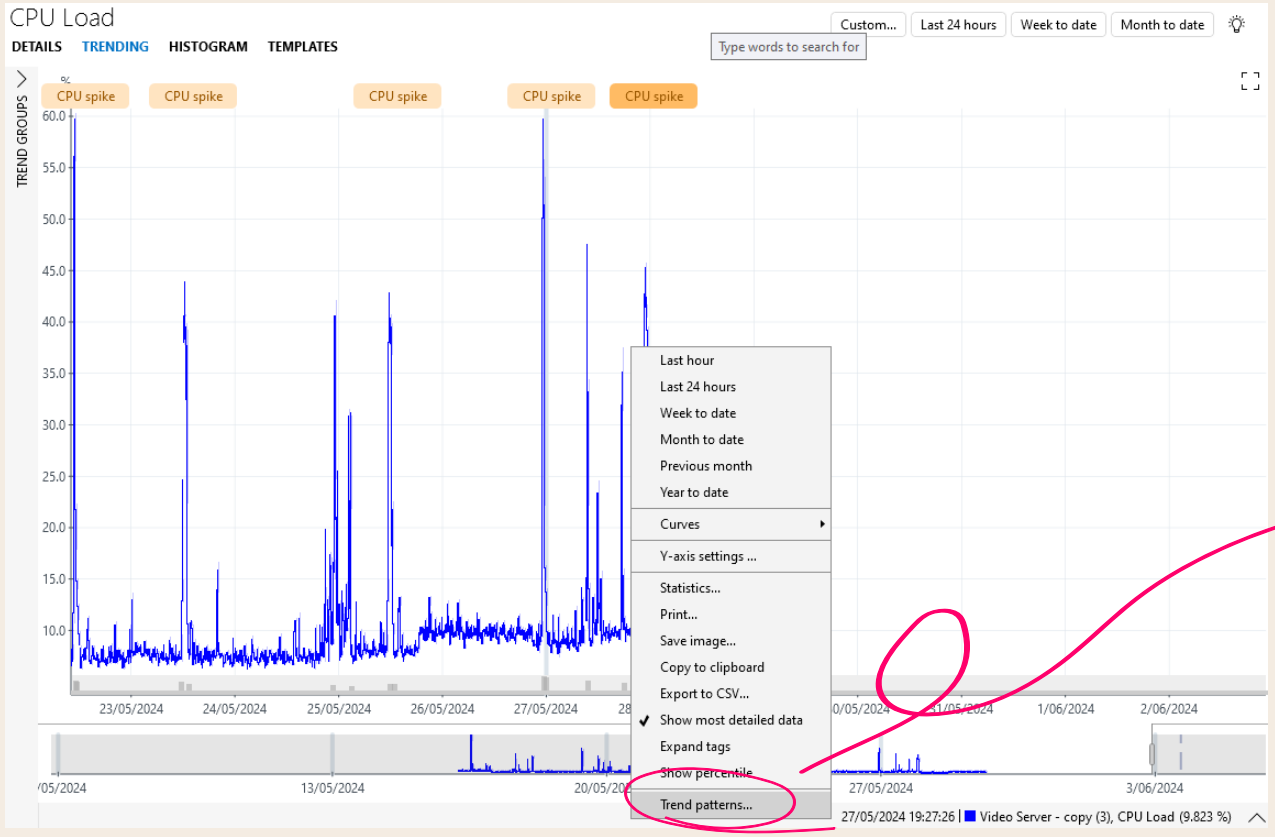
- Available Physical Memory
- Video Feed

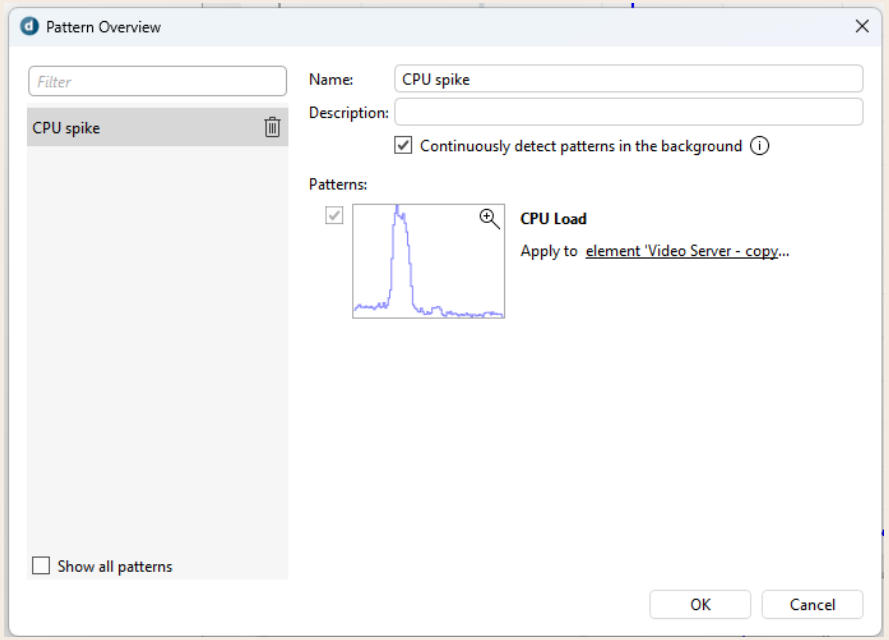
Make **(multivariate) pattern** that only detects those CPU spikes

Create multivariate patterns

Show all patterns

- Overview of all patterns (system-wide or per element)





Detecting anomalies with DataMiner

Catching your data red-handed

Tutorial on DataMiner Docs

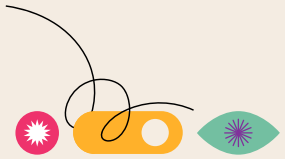
KATA 12

Detecting anomalies with DataMiner

What is 'behavioral anomaly detection'?

- **Detects** when parameter in DataMiner **behaves** in an **anomalous** way
  - Runs on every (numeric) trended parameter
    - From 10.4.8 / 10.5.0 onwards: configurable in trend template
  - Real-time

i.e. weird / unexpected



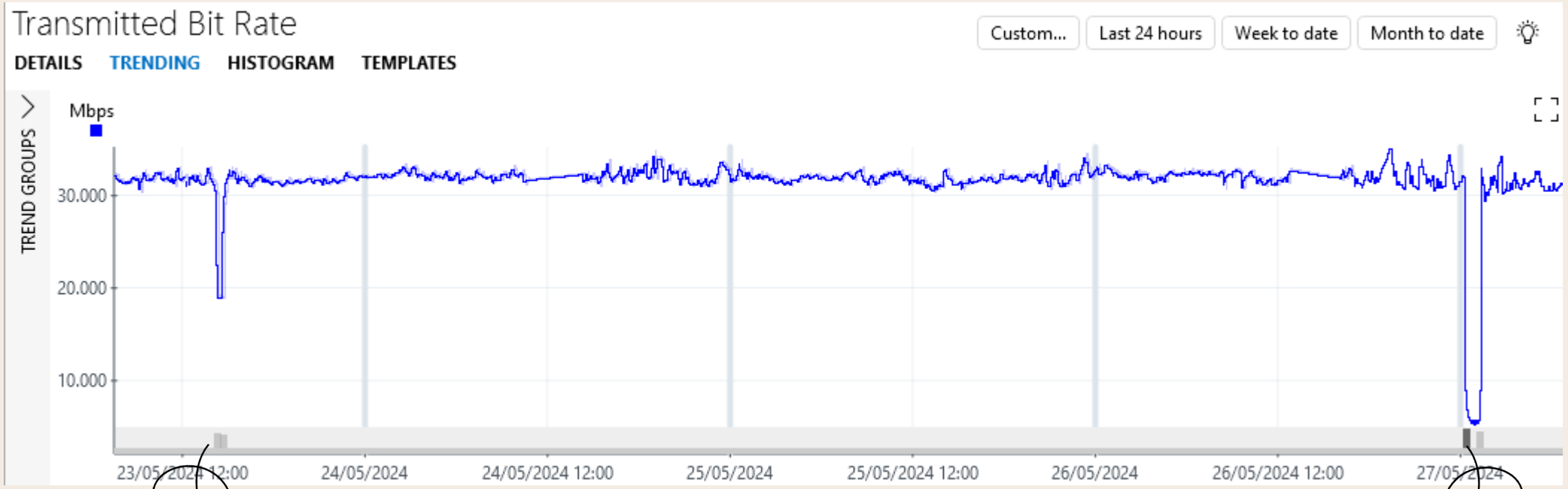
Let's have a look

- Use anomalies on trend graph
- Use anomalies in alarm console

GET INSPIRED

Detecting anomalies with DataMiner

Change points vs anomalies



Change point

Any change in behavior

Grey square under trend graph

No event

Anomaly

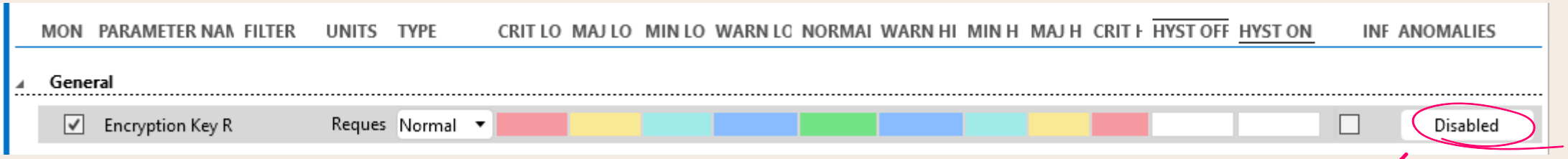
Only severe / unexpected changes

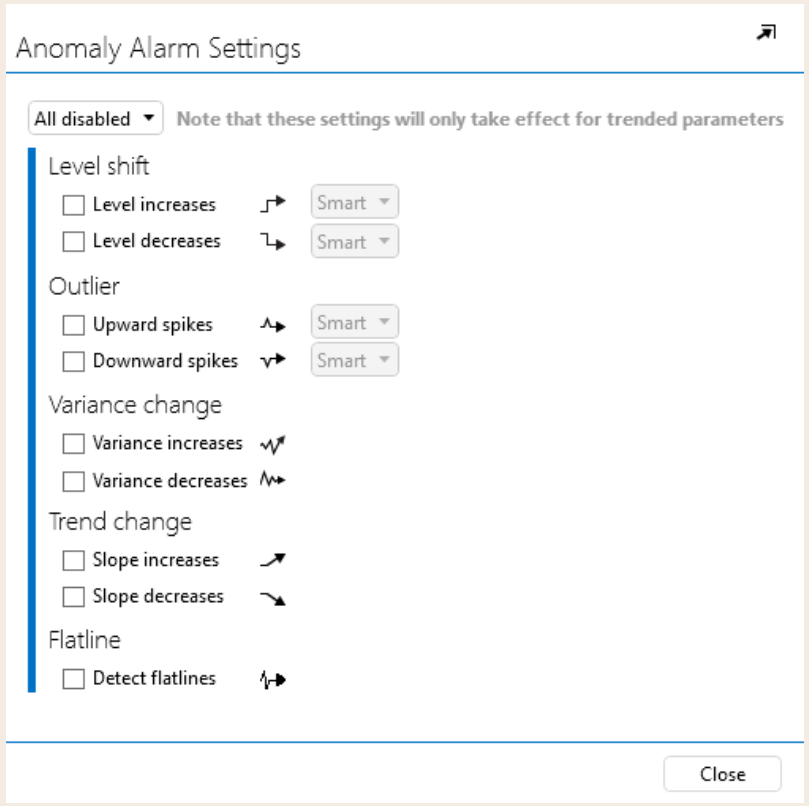
Black square under trend graph

Suggestion event (or alarm)

Detecting anomalies with DataMiner

Alarming on anomalies





Let's have a look

Configure 'smart' anomalies in alarm templates

GET INSPIRED

Let's get our hands dirty!

On 'Empower – Audio bit rate'

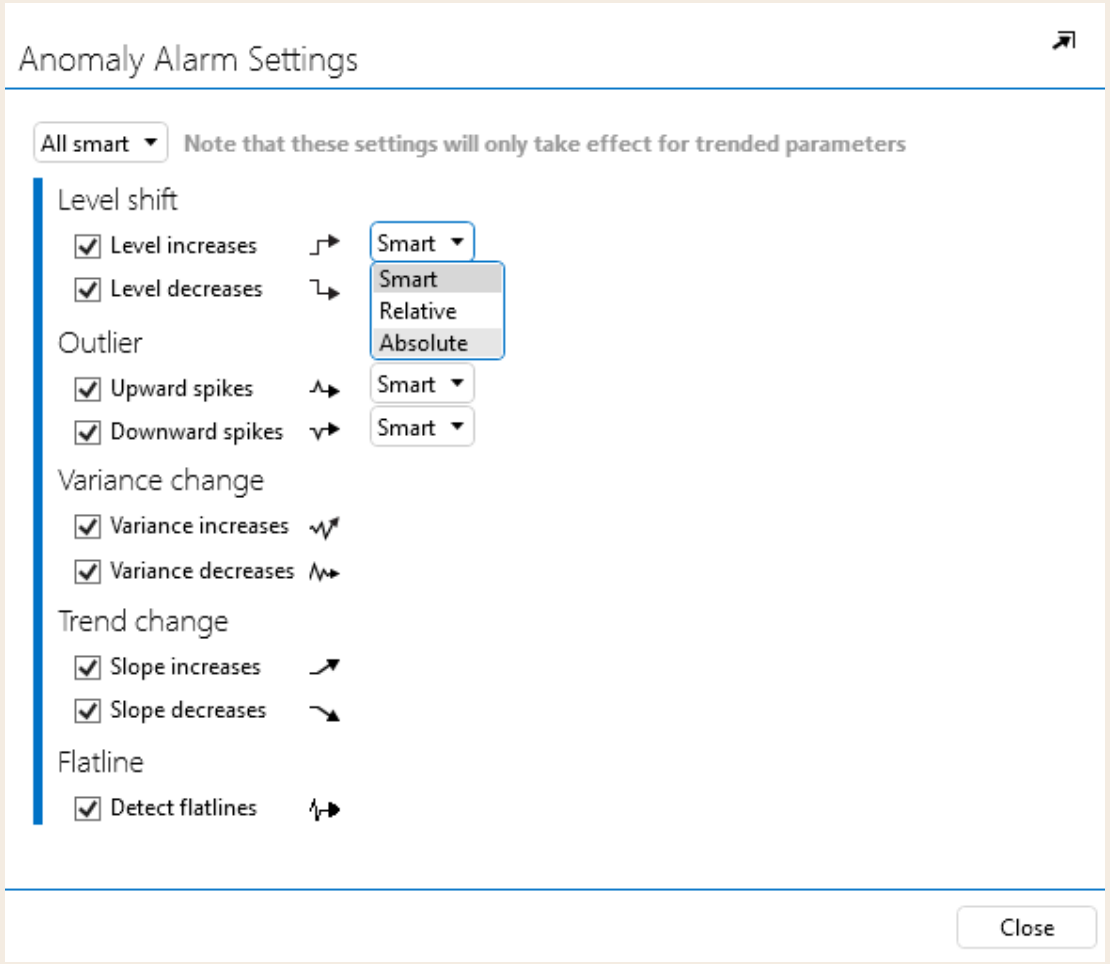
1. Change alarm template so that only the **variance change** is alarmed
2. Generate data again

Configure 'smart' anomalies in alarm templates

Detecting anomalies with DataMiner

Advanced alarming on anomalies

- For **level shifts** and **outliers**
  - **Smart:** DataMiner decides anomalies
  - **Absolute:** anomalies based on absolute thresholds
  - **Relative:** anomalies based on relative thresholds
- Other types: only **smart**



Let's have a look

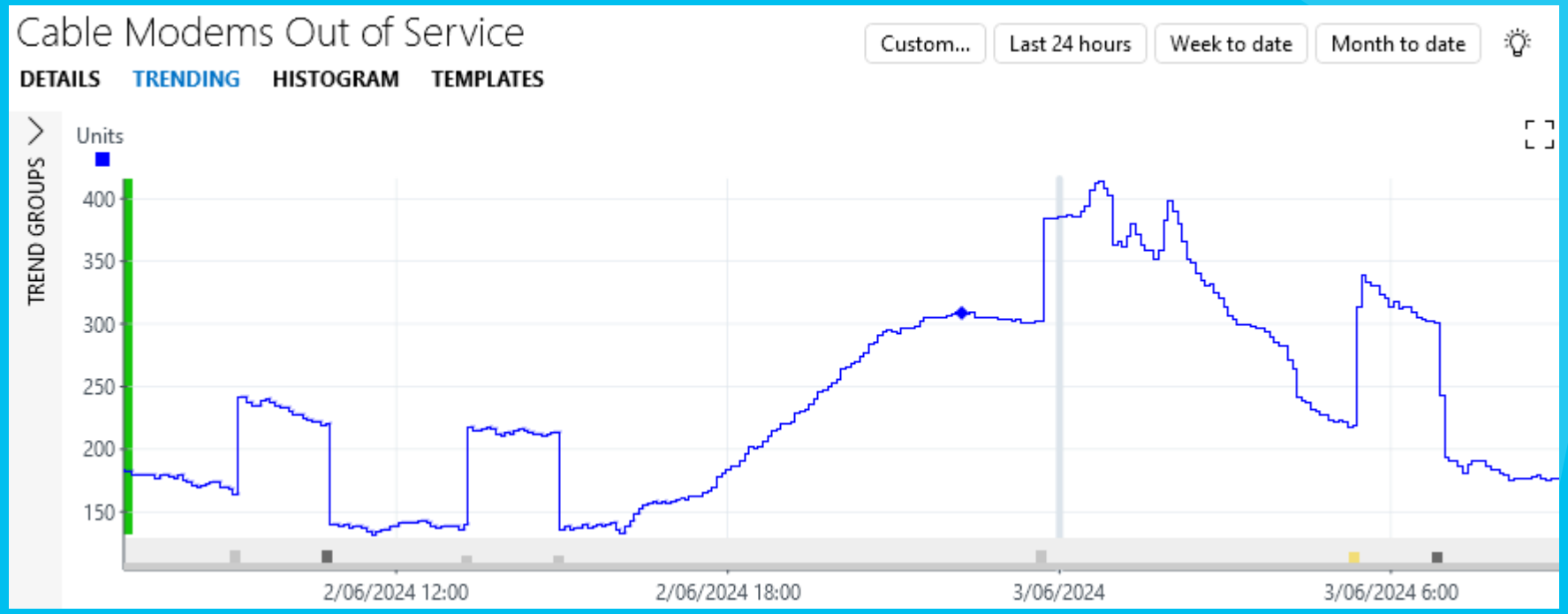
Configure anomalies manually in alarm template

GET INSPIRED

Let's get our hands dirty!

On 'Empower – AI – Cable Modems out of Service 3':

Make an alarm template such that only **last jump up** is alarmed.



Configure anomalies manually in alarm template

Exercise for at home

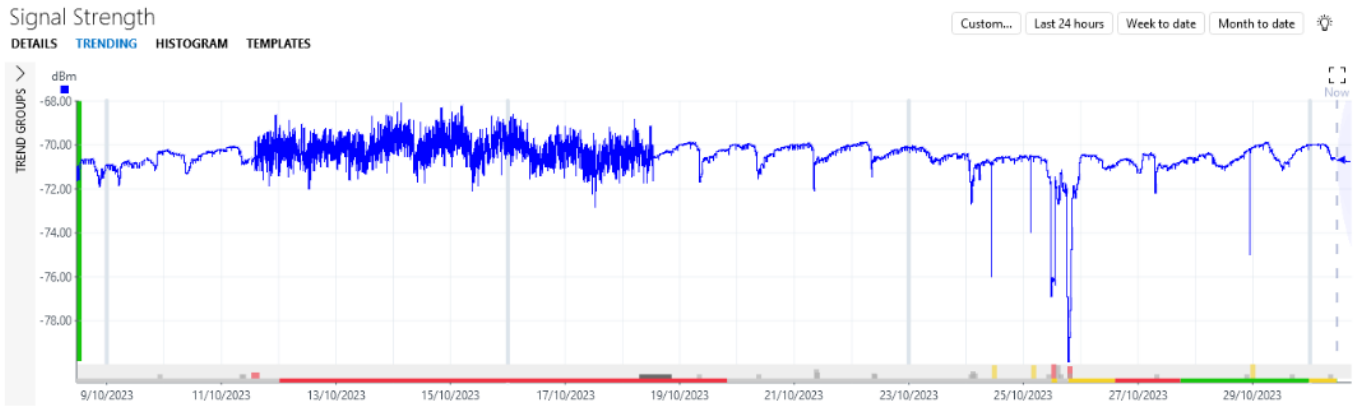
Detecting anomalies with DataMiner | DataMiner Tutorials

Step 7: Final exercise

In this final step, you will apply everything you have learned earlier in a practical exercise:

- Use the element *Anomaly Detection Tutorial - Signal Strength*. This element contains a parameter representing the strength of a signal received by a satellite dish.
- Configure an alarm template for this element so that alarms are generated when something goes wrong. You will need to make sure that not too many alarms get created.

Here is a screenshot of what the trend graph for the *Signal Strength* parameter should look like when everything has been configured correctly:



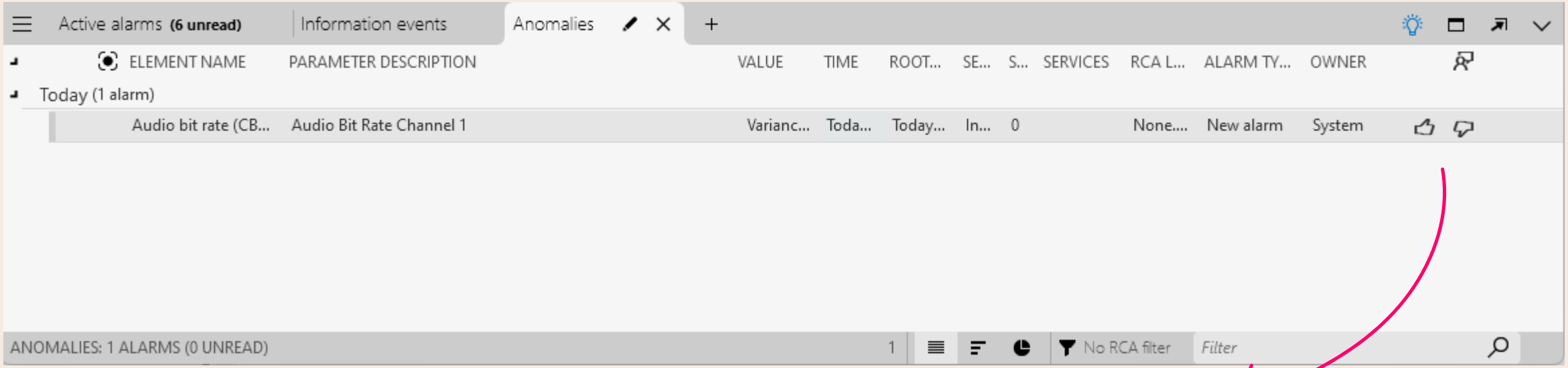
You can see the following notable things in the data illustrated above:

(see https://docs.dataminer.services/tutorials/Analytics_Tutorials.html)

Get
75 DevOps
points

Detecting anomalies with DataMiner

Improving detection through feedback



Give **feedback** on anomalies

➡ Gradually improve detection + assist in configuration

Let's have a look

GET INSPIRED

Investigating root causes using relationship learning

Uncovering issues like a detective

Tutorial on DataMiner Docs

KATA 28

Investigating root causes using relationship learning

What is 'relationship learning'?

- Parameters monitored by DataMiner **influence each other**

➡ learn **relations** between parameters

- Two flavours:
  - **'General' relations:** long term relations **(requires cloud)**
  - **Time-scoped relations**: within specific time range

Let's have a look

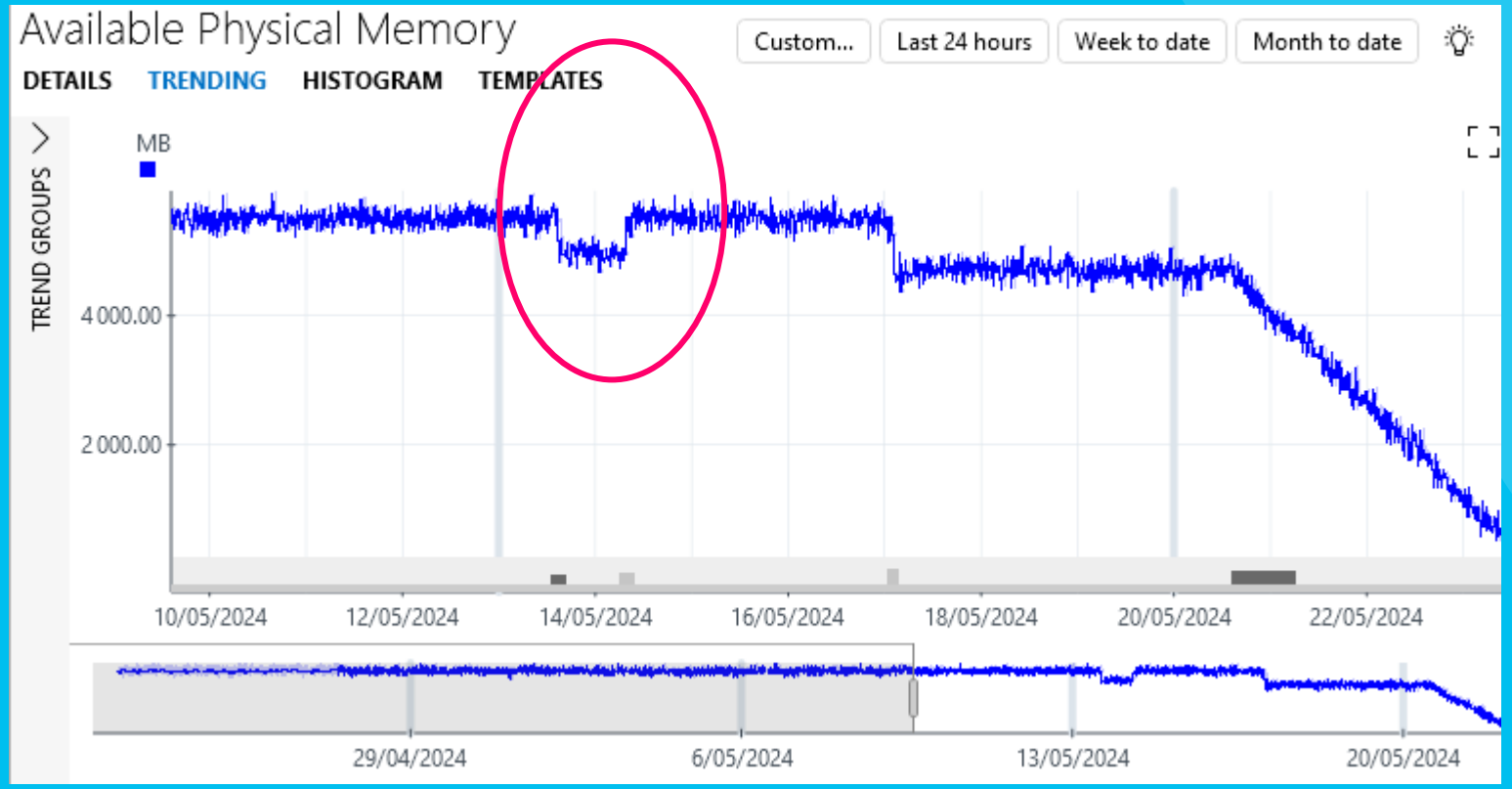
Use time-scoped relations in trend graph

GET INSPIRED

Let's get our hands dirty!

On 'Empower – Task Manager'

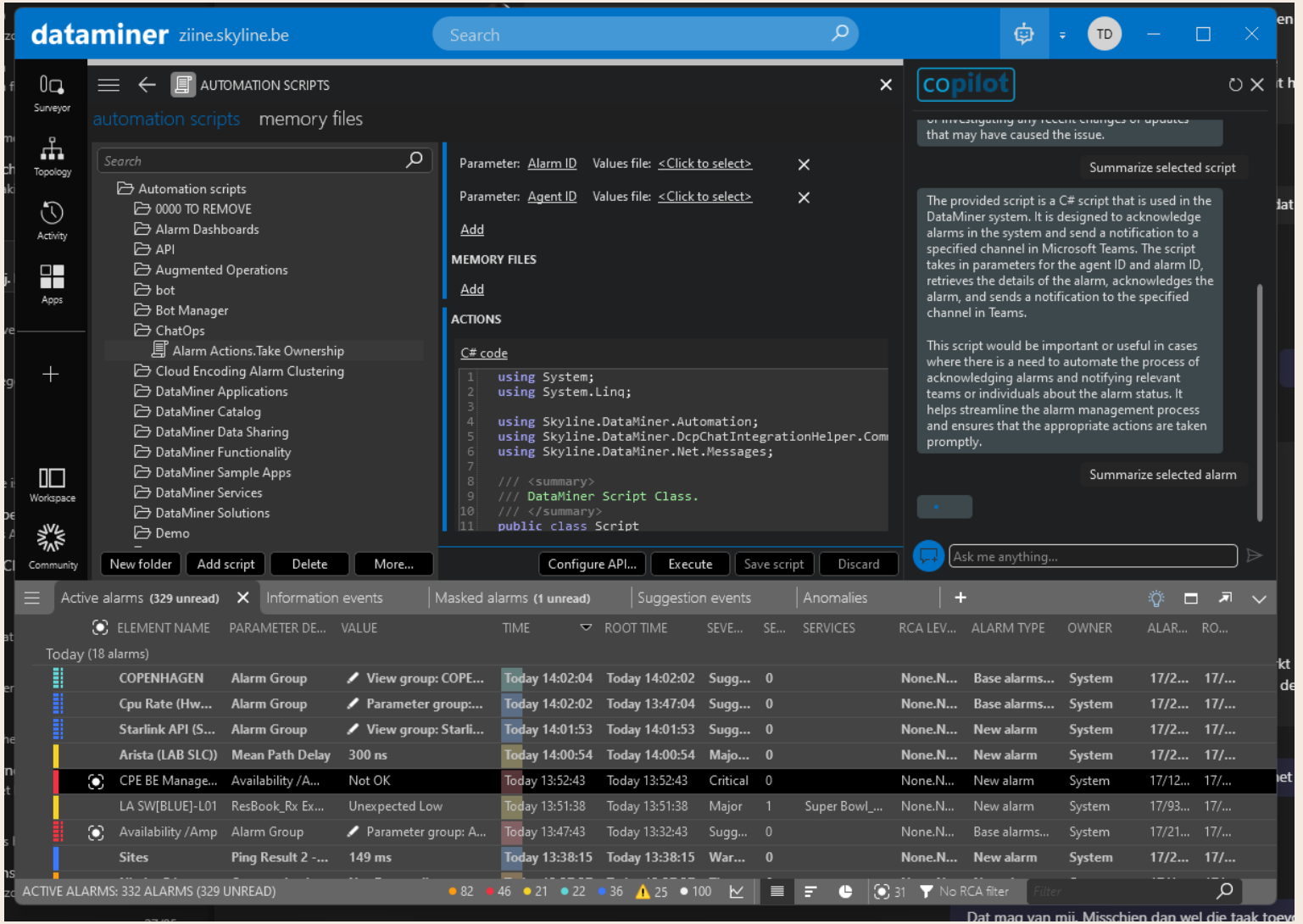
Find culprit for this drop



Use time-scoped relations in trend graph

One more thing

DataMiner CoPilot



ASK AWAY

empower!

References

documentation

[DataMiner Augmented Operations | DataMiner Overview]

[Analytics Tutorials | DataMiner Tutorials]

[DataMiner KATAs | Bringing the Thunder]

demo

[Empower 2024 AI | DataMiner Catalog]

[Ziine Demo System]

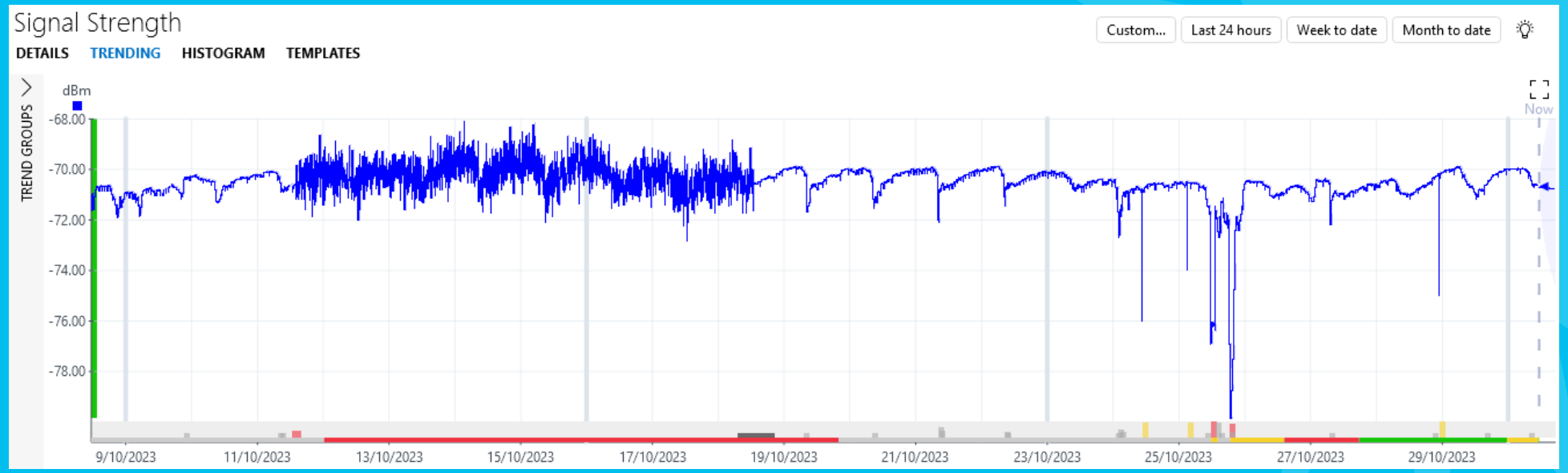
feedback

Reach out to us via [Questions | DataMiner Dojo], [Feature Suggestions | DataMiner Dojo], or by sending us an email at [ai@skyline.be]

Exercise for at home

(see also Final Exercise | Detecting anomalies with DataMiner)

On element '**Empower – Signal Strength**'
Configure alarm template with following alarms



- **Major alarm** for shorter drops
- **Critical alarm** for longer drops
- **Critical alarm** at start of period with higher fluctuations

Get
75 DevOps
points

Table templates

A revolution

In Customization &

Creativity

YOUR HOST

Sebastiaan Dumoulein

DASHBOARDS

LOW-CODE APPS

GQI

VISUAL OVERVIEW

PRODUCT OWNER DATA EXPLORATION

SEBASTIAAN.DUMOULEIN@SKYLINE.BE

Agenda

1. Why a new approach?
2. The template solution
3. Using templates
   - Presets
   - Must-knows
   - Editor
4. The future

Goals

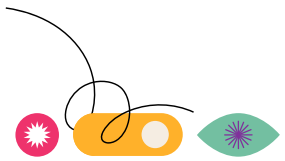
Use presets

Meet the template editor

Learn how to create amazing tables

Why?

What the table could not do



What users asked for

Row coloring?

Dynamic text?

Hyperlinks?

Conditional showing & hiding?

Icons?

Buttons?

Alignment?

Multiline rows?

Images?

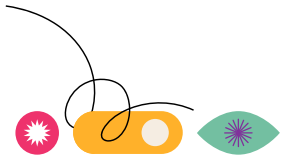
Movies

TITLE	DIRECTOR	VOTES	METASCORE	RATING
A Hologram for the King	Tom Tykwer	340k	61	6.1
Arrival	Denis Villeneuve	540k	81	8.0
Colossal	Nacho Vigalondo	83k	70	6.2
Deadpool	Tim Miller	915k	65	8.0
Doctor Strange	Scott Derrickson	674k	72	7.5
Fantastic Beasts and Where to Find Them	David Yates	456k	74	7.3
Finding Dory	Andrew Stanton	598k	77	7.3
Ghostbusters	Paul Feig	223k	60	6.7
Hacksaw Ridge	Mel Gibson	621k	71	8.1
Kubo and the Two Strings	Travis Knight	312k	84	7.8
La La Land	Damien Chazelle	54k	93	8.0
Lion	Garth Davis	67k	69	8.1
Moana	Ron Clements, John Musker	12k	81	7.8
Moonlight	Barry Jenkins	23k	99	7.4
Passengers	Morten Tyldum	34k	41	7.0
Rog	Gareth Edwards		84	

What we delivered

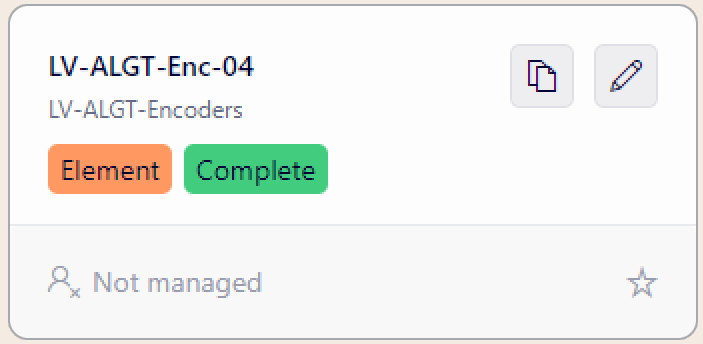
Our solution

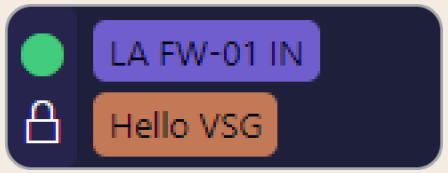
T-t-t-t-t-templates



What are templates?

- **Completely customizable visualizations**
- Mapped to a column
- Configured through the template editor
- Out-of-the-box presets
- Used in many different visualizations (grid, timeline, etc.)





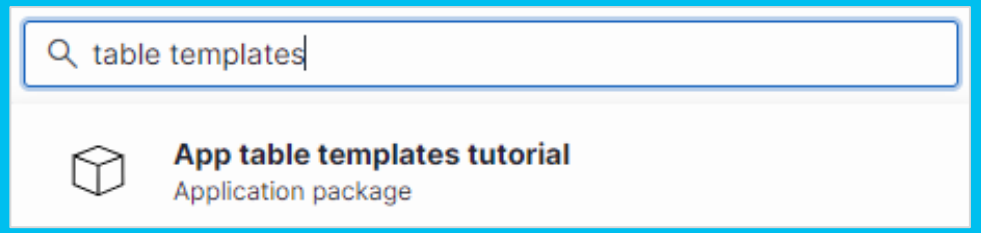
Let's have a look

Use or start from presets

GET INSPIRED

Deploy the exercise app

1. Go to '**Catalog.dataminer.services**'
2. Search for '**Table templates**'
3. Install '**App table templates tutorial**'



Let's get our hands dirty!

Movies

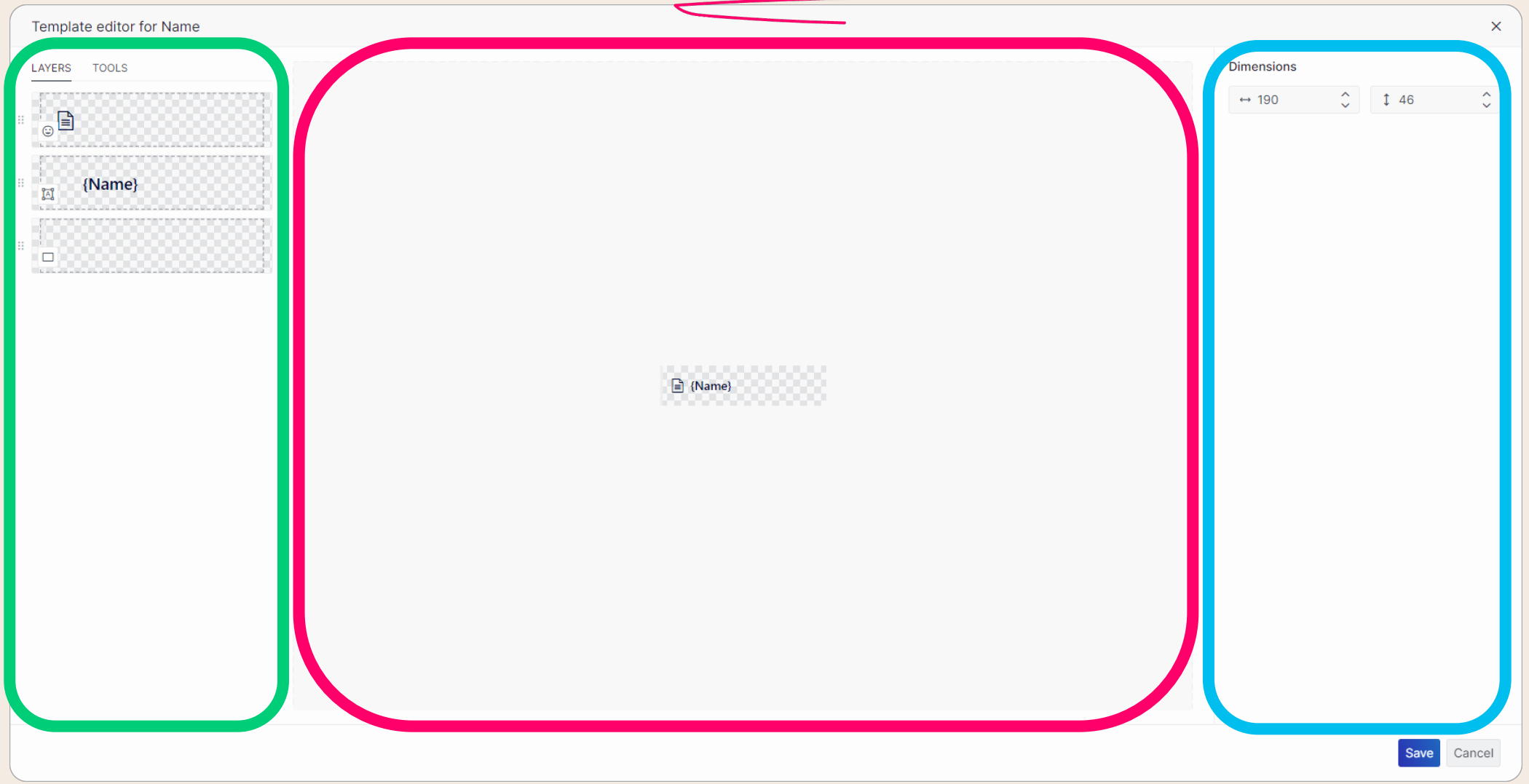
TITLE	DIRECTOR	VOTES	METASCORE	RATING
A Hologram for the King	Tom Tykwer	340k	61	★
Arrival	Denis Villeneuve	540k	81	★
Colossal	Nacho Vigalondo	83k	70	★
Deadpool	Tim Miller	915k	65	★
Doctor Strange	Scott Derrickson	674k	72	★
Fantastic Beasts and Where to Find Them	David Yates	456k	74	★
Finding Dory	Andrew Stanton	598k	77	★
Ghostbusters	Paul Feig	223k	60	★
Hacksaw Ridge	Mel Gibson	621k	71	★
Kubo and the Two Strings	Travis Knight	312k	84	★
La La Land	Damien Chazelle	54k	93	★
Lion	Garth Davis	67k	69	★
Moana	Ron Clements, John Musker	12k	81	★
Moonlight	Barry Jenkins	23k	99	★
Passengers	Morten Tyldum	34k	41	★
Rogue One: A Star Wars Story	Gareth Edwards	45k	84	★
Sing	Garth Jennings	56k	72	★
Sully	Clint Eastwood	67k	85	★

Use or start from presets

The template editor

The place to be for creativity!

The template editor



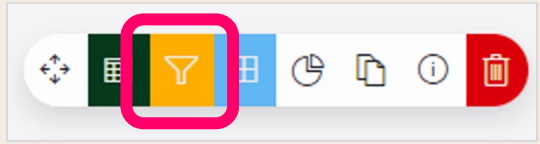
Let's have a look at some must-knows

GET INSPIRED

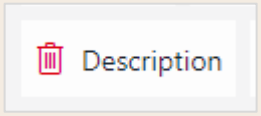
Must-knows

Add/remove column filters

- **To add a column filter:**
  - Open the **queries** dropdown in the right sidebar
  - Click on the arrow icon on the “Movies” query to see all available columns
  - Drag the column you want to add on the table.
- **To remove a column filter:**
  - Hover over the table and click



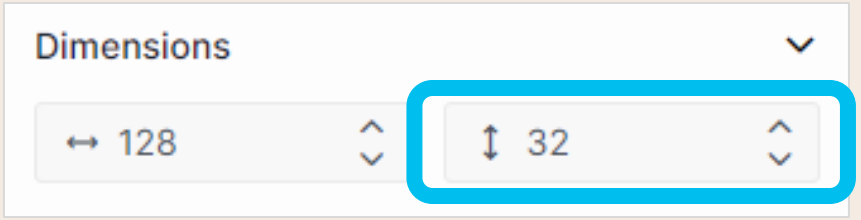
  - Then click the trash icon on the column you want to remove



Must-knows

Row height

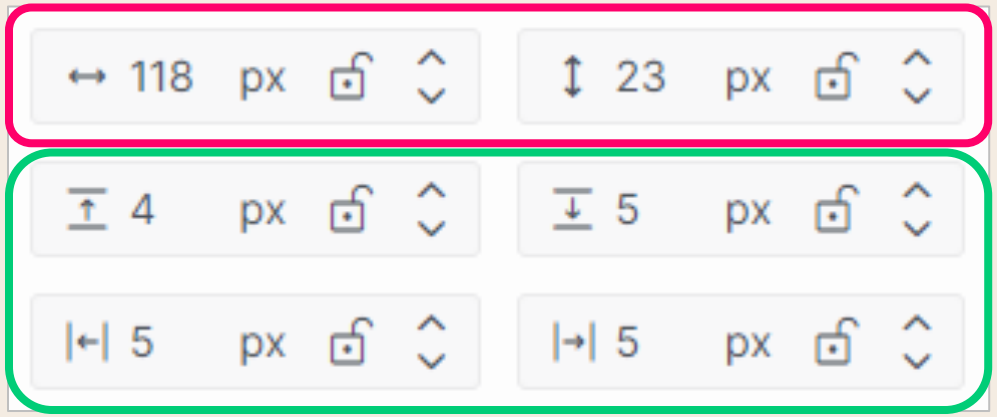
- **The row height is determined by the highest template inside of the table.**
  - To change the row height, open any template and change the dimension height:



Must-knows

Layer dimensions

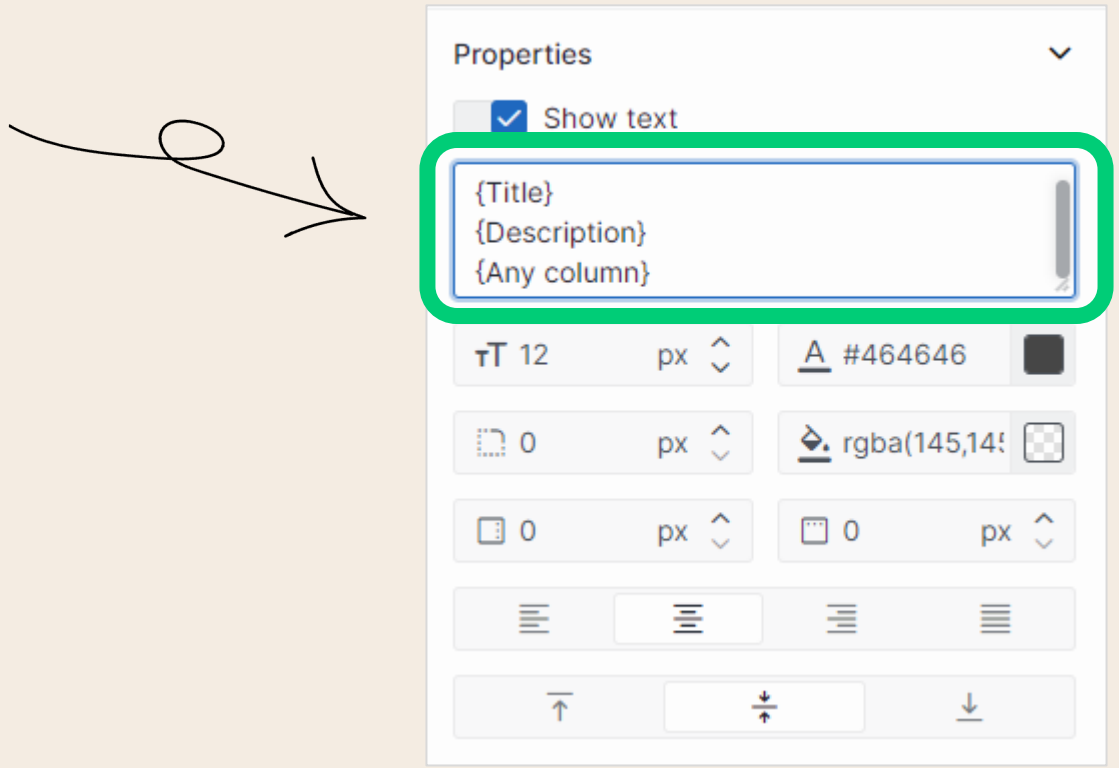
- **Width and height**
- **Paddings**
- **Pixels or percentages**
- **Locking**
  - Responsive
  - Maximum 4 dimensions



Must-knows

Row data access in all columns

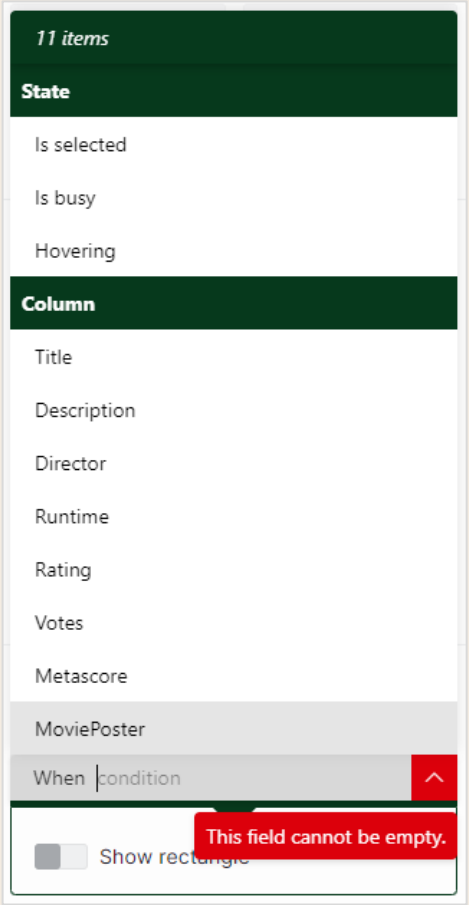
- **Using the template editor, you can use any value available in the row**
  - To do this use this notation "**{ColumnName}**" in the text value.

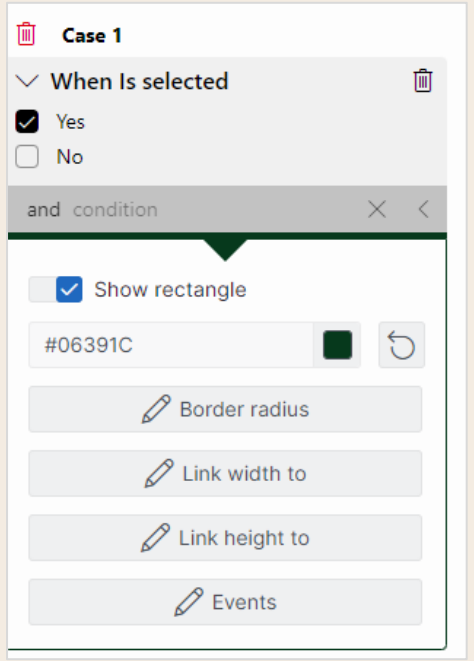


Must-knows

Conditions

- **You can conditionally override properties of layers**
  - Select the layer
  - On the left sidebar of the template editor press "**Add case**"
  - Configure when the condition should apply
  - Then select what values should be overridden

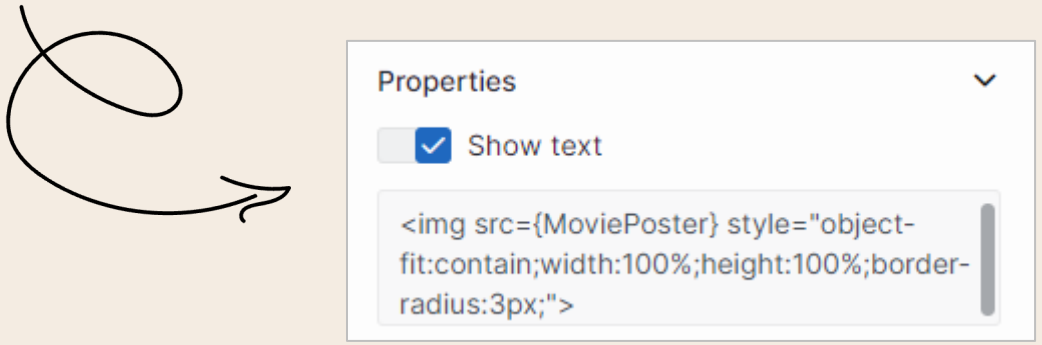




Must-knows

HTML support

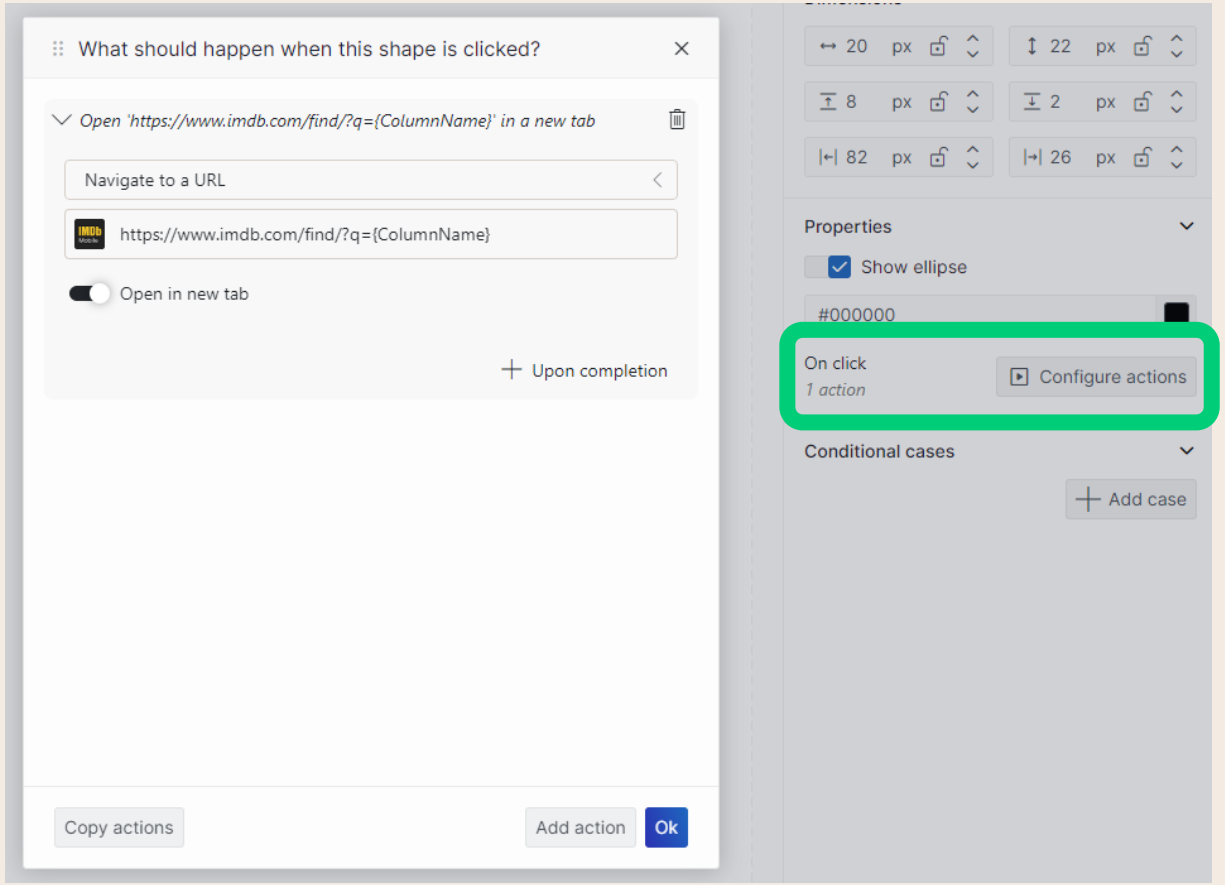
- **HTML support in a text layer!**
  - Add a textbox layer
  - Add the <img> tag as the text value:
    - **<img src={MoviePoster} style="object-fit:contain;width:100%;height:100%;border-radius:3px;">**



Must-knows

Actions

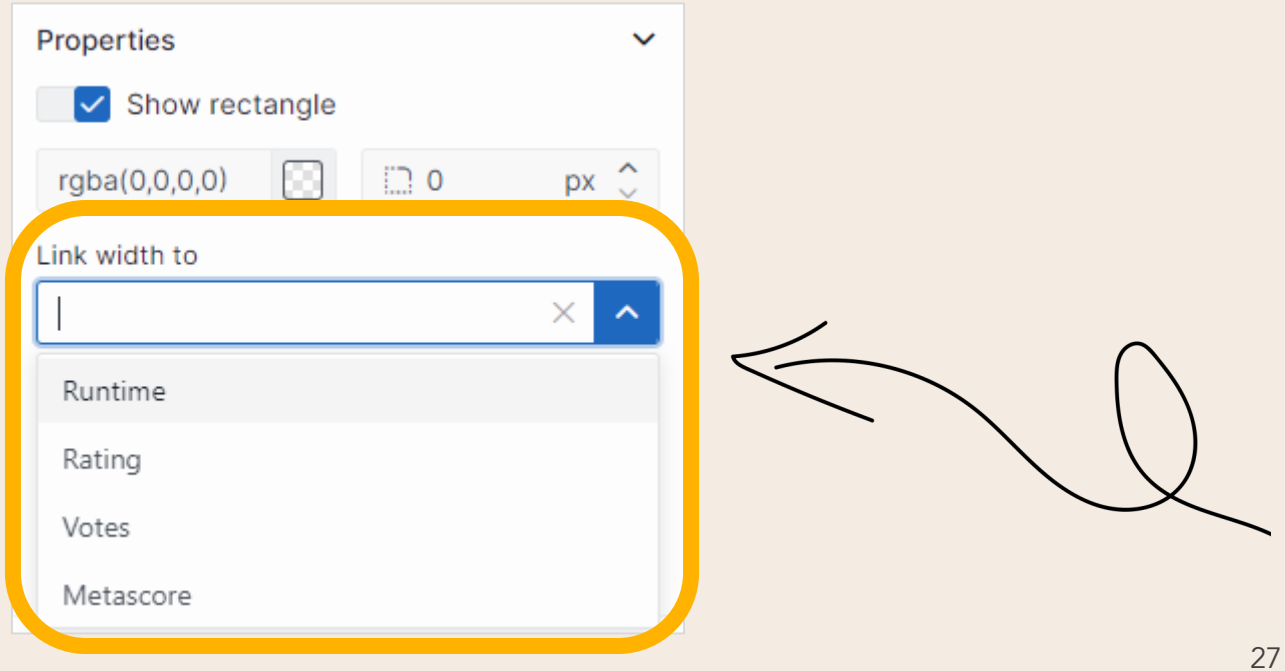
- **You can add actions to icons and shapes**
- More on actions in “Core concepts”



Must-knows

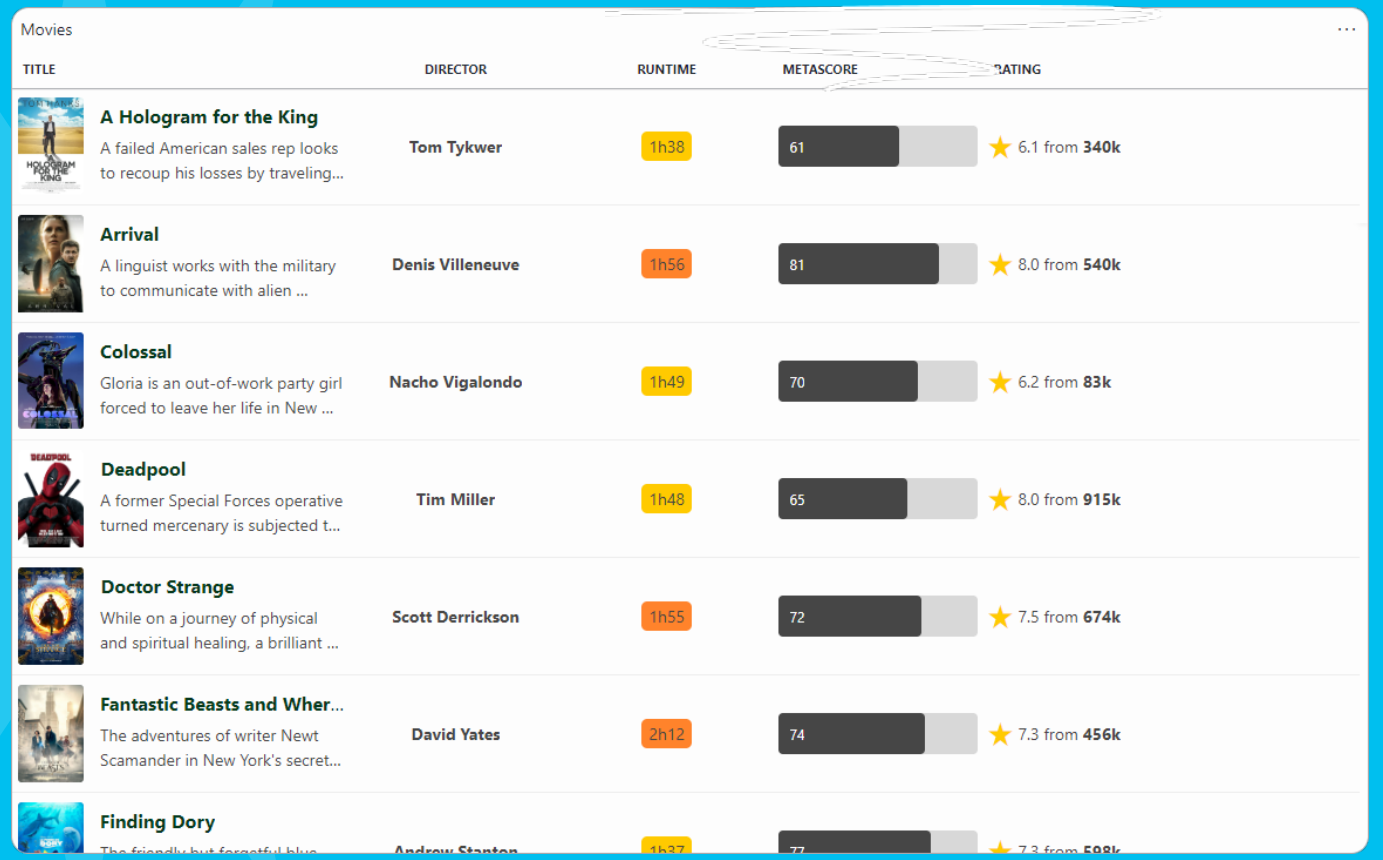
Link width to a column

- **You can link the width of rectangles to a row number value**
  - Select the layer
  - In the layer properties use the Link Width/Height to dropdown



Let's get your hands dirty!

100 px



≥ 95 : Yellow

≥ 115 : Orange

≥ 135 : Red

Meet the template editor yourself

Let's get your hands dirty!

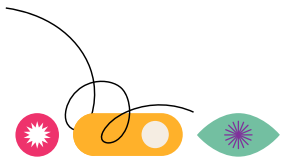
Tests

STATUS	MACHINE #	SPEC NAME	DURATION	TEST STATS	ACTIONS
Passed	9361	columnIdMigration.cy.ts	6s	1 1 0	
Passed	1082	page-panel.cy.ts	7s	1 1 0	
Passed	1082	queries.cy.ts	31s	6 6 0	
Passed	9361	DOMFields.cy.ts	1m 15s	8 6 0	
Passed	1051	DOMMultipleSections.cy.ts	11s	4 4 0	
Passed	8511	DOMReadOnlyFields.cy.ts	20s	2 2 0	
Passed	7246	DOMSoftDeleted.cy.ts	11s	4 4 0	
Passed	1082	DOMState.cy.ts	14s	4 4 0	
Passed	1051	DOM_IAS.cy.ts	6s	1 1 0	
Passed	7246	query-row-feed.cy.ts	44s	6 6 0	
Passed	8511	query-table-loading.cy.ts	12s	2 2 0	

Create user friendly tables

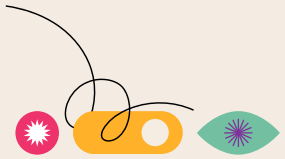
The future of templates

The future has a way of arriving unannounced.



The future of templates

- Re-use templates between components and visualizations
- Deploy templates from the catalog
- More template editor capabilities
  - Zooming
  - Duplicating layers



ASK AWAY

empower!

From node

To node

Visualize your connections

with node-edge

YOUR HOST

Sebastiaan Dumoulein

PRODUCT OWNER DATA EXPLORATION

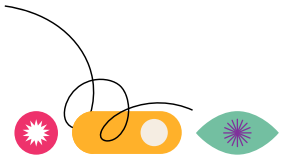
SEBASTIAAN.DUMOULEIN@SKYLINE.BE

VISUAL OVERVIEW
DASHBOARDS
LOW-CODE APPS
GQI

WHAT'S ON THE MENU

Agenda

1. What is a node-edge?
2. Using different node types
3. Interact with a node-edge
4. X-Y positioning
5. Efficient node-edge usage

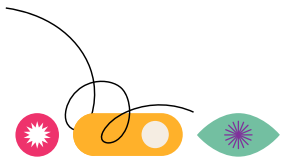


Goals

We can create a node-edge

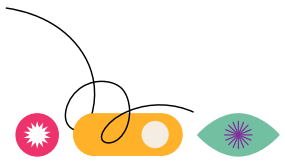
We can style, configure and position a node-edge

We can filter based on selected criteria



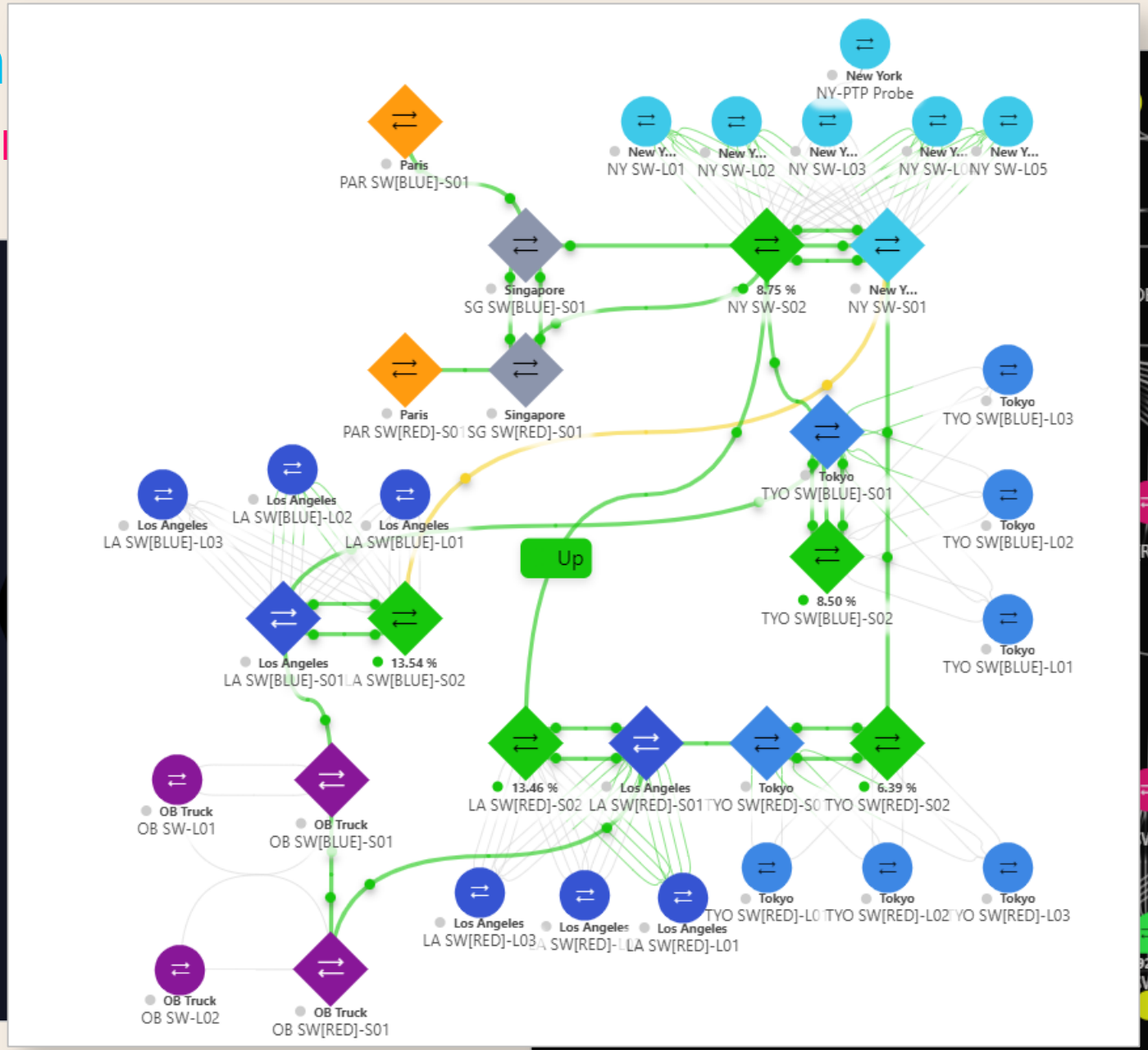
What is a node-edge?

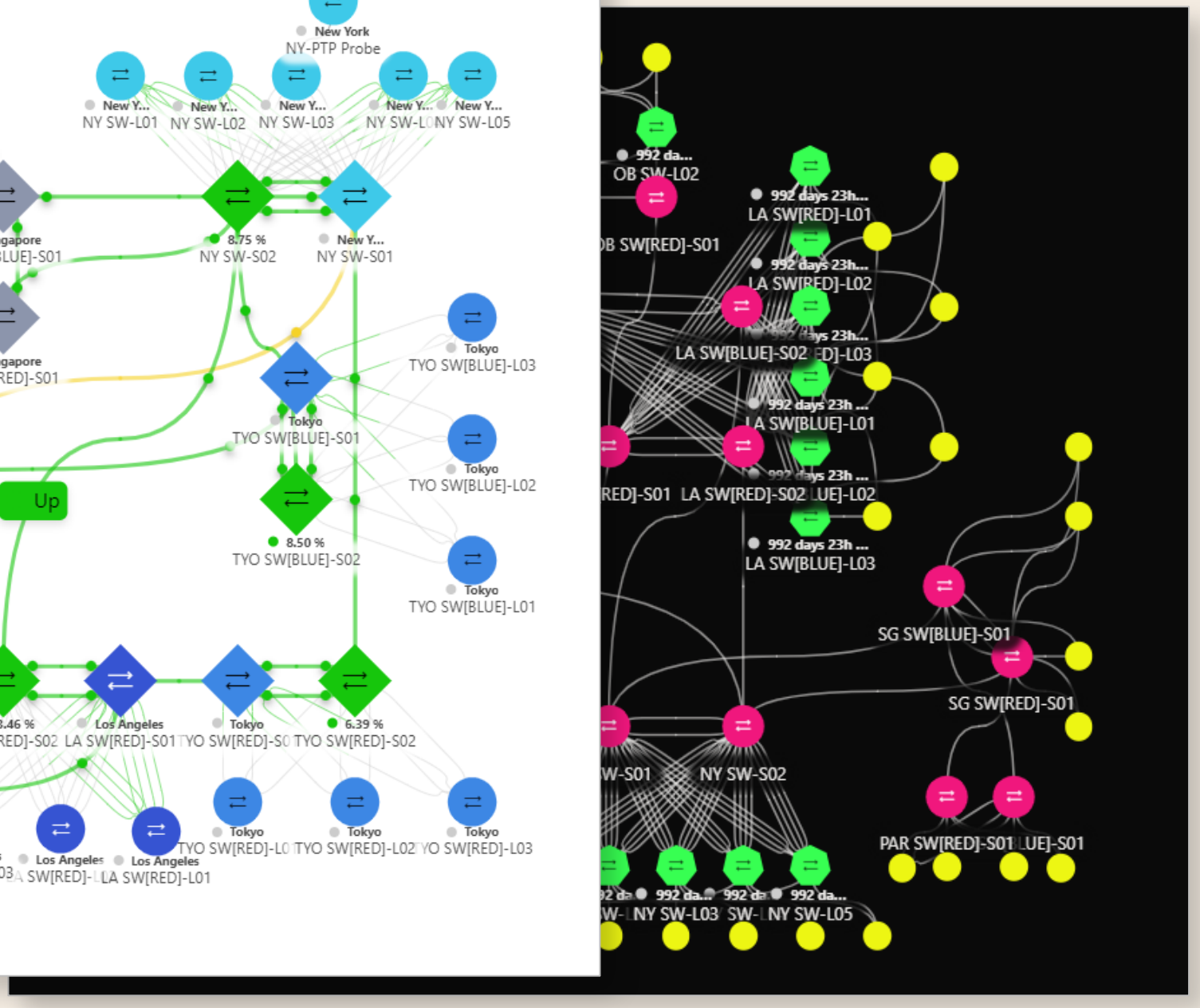
The proof that even data points need friends



Wh

Examp

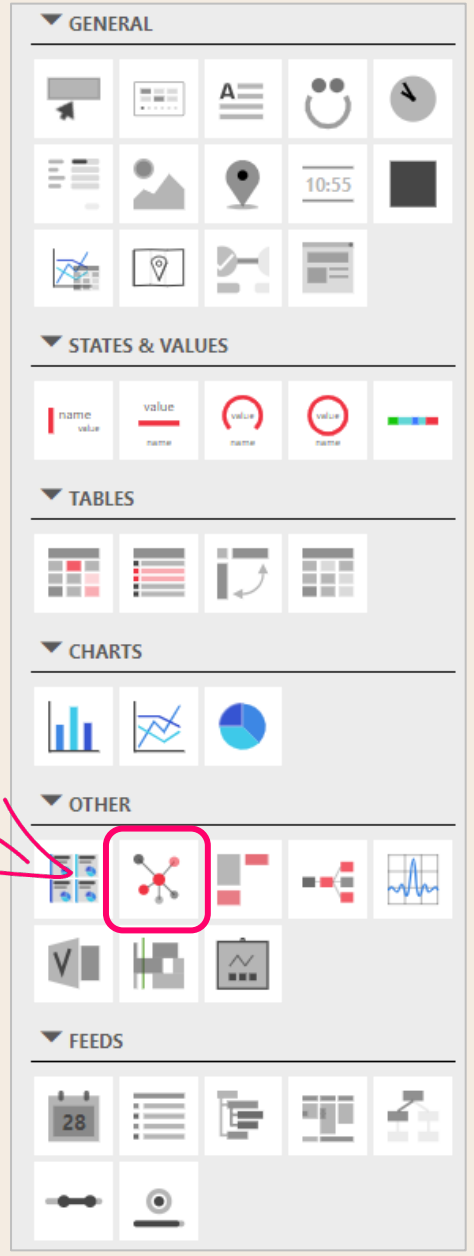

New York
NY-PTP Probe
New Y... NY SW-L01
New Y... NY SW-L02
New Y... NY SW-L03
New Y... NY SW-L04
New Y... NY SW-L05
Paris
PAR SW[BLUE]-S01
Singapore
SG SW[BLUE]-S01
8.75 %
NY SW-S02
New Y...
NY SW-S01
Paris
PAR SW[RED]-S01
Singapore
SG SW[RED]-S01
Tokyo
TYO SW[BLUE]-L03
Tokyo
TYO SW[BLUE]-S01
Tokyo
TYO SW[BLUE]-L02
Los Angeles
LA SW[BLUE]-L03
Los Angeles
LA SW[BLUE]-L02
Los Angeles
LA SW[BLUE]-L01
Up
8.50 %
TYO SW[BLUE]-S02
Tokyo
TYO SW[BLUE]-L01
Los Angeles
LA SW[BLUE]-S01
13.54 %
LA SW[BLUE]-S02
13.46 %
LA SW[RED]-S02
Los Angeles
LA SW[RED]-S01
Tokyo
TYO SW[RED]-S01
6.39 %
TYO SW[RED]-S02
OB Truck
OB SW-L01
OB Truck
OB SW[BLUE]-S01
Los Angeles
LA SW[RED]-L03
Los Angeles
LA SW[RED]-L02
Los Angeles
LA SW[RED]-L01
Tokyo
TYO SW[RED]-L01
Tokyo
TYO SW[RED]-L02
Tokyo
TYO SW[RED]-L03
OB Truck
OB SW-L02
OB Truck
OB SW[RED]-S01


992 da...
OB SW-L02
992 days 23h...
LA SW[RED]-L01
992 days 23h...
LA SW[RED]-L02
LA SW[BLUE]-S02
992 days 23h...
LA SW[BLUE]-L01
LA SW[RED]-S02
992 days 23h...
LA SW[BLUE]-L03
SG SW[BLUE]-S01
SG SW[RED]-S01
NY SW-S02
PAR SW[RED]-S01
992 da...
NY SW-L03
992 da...
NY SW-L05

What is a node-edge?

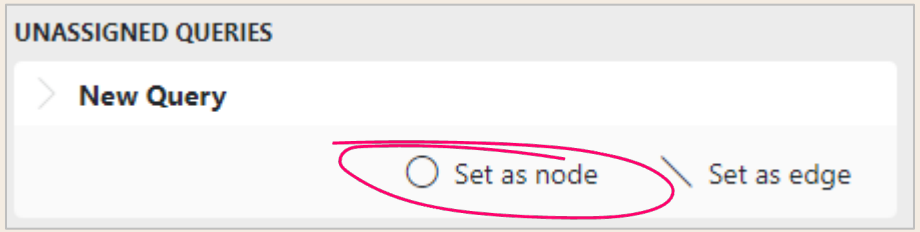
Dots and lines, so morse?

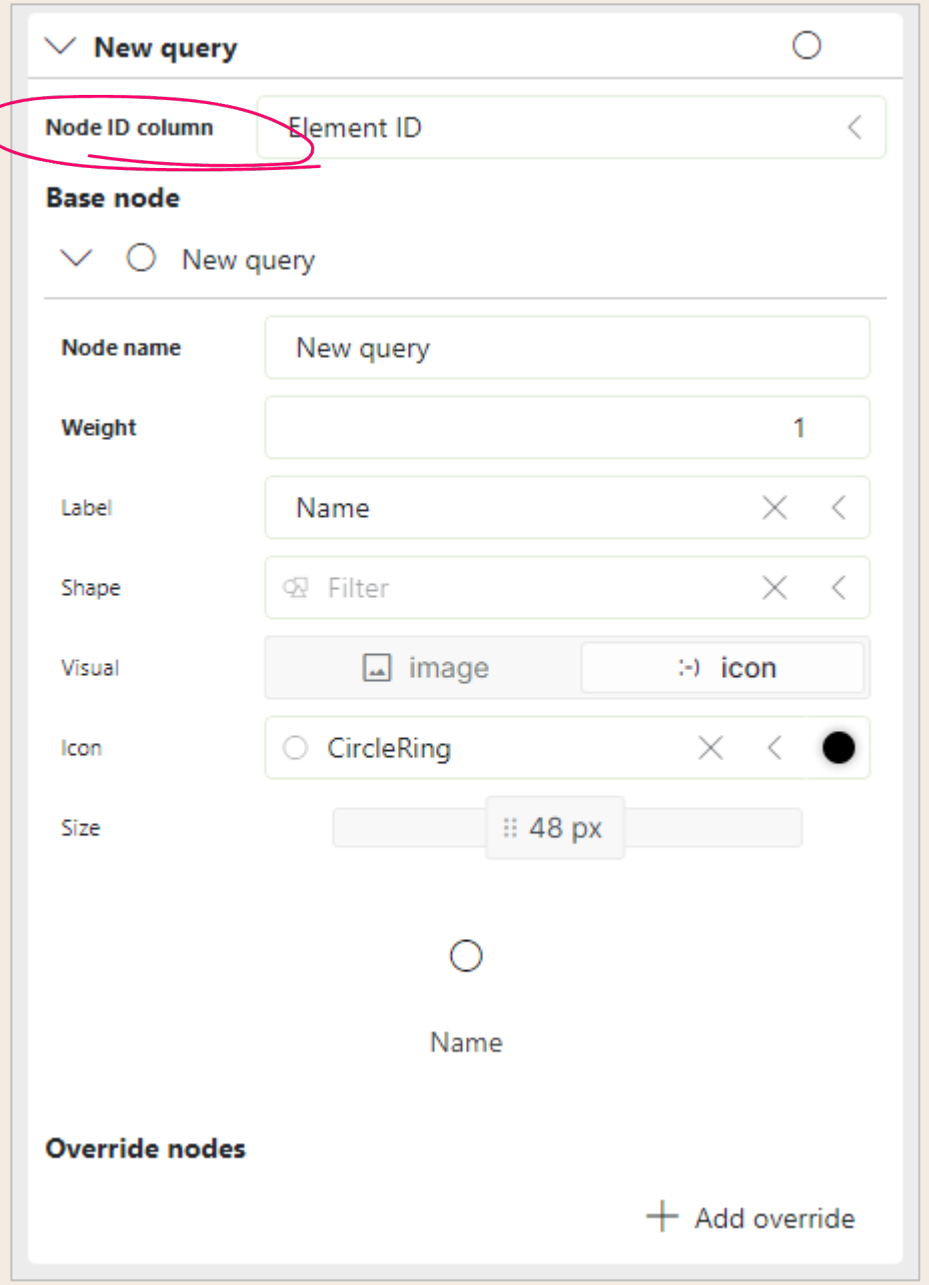
- Dashboards & Low-Code Apps component
- Interacts with GQI
  - Nodes and edges are query results
- Represents relations between nodes



What is a node-edge?

- Only nodes are required
- Identified by the node ID column

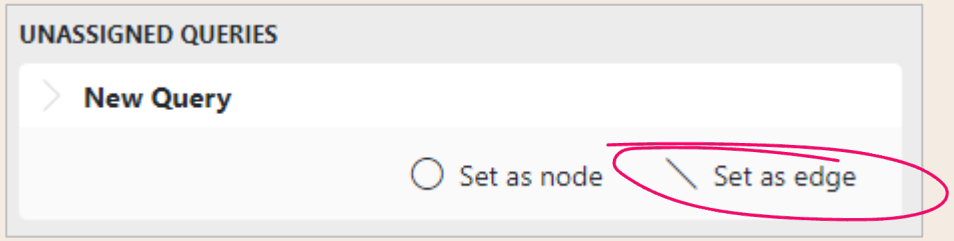


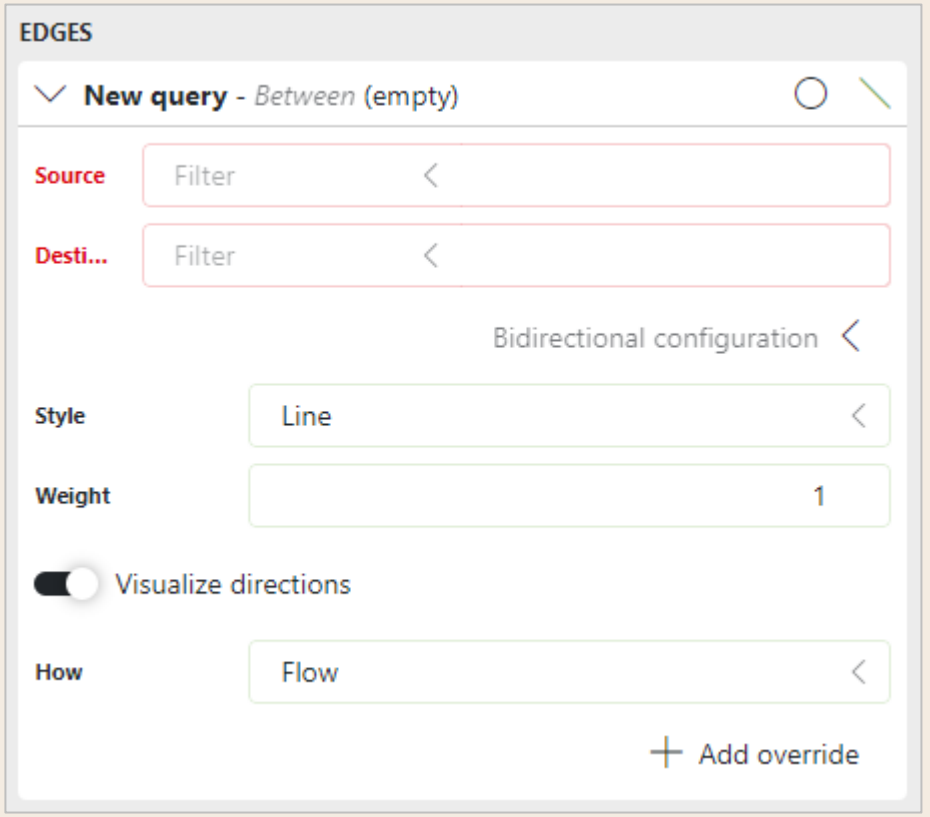


What is a node-edge?

Let's connect the dots!

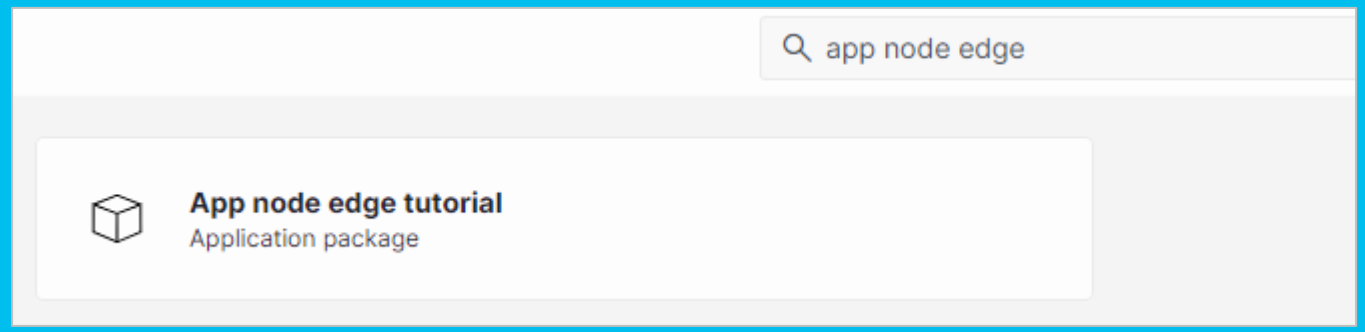
- Resembles the relations
- Source & destination nodes required
- Are optional





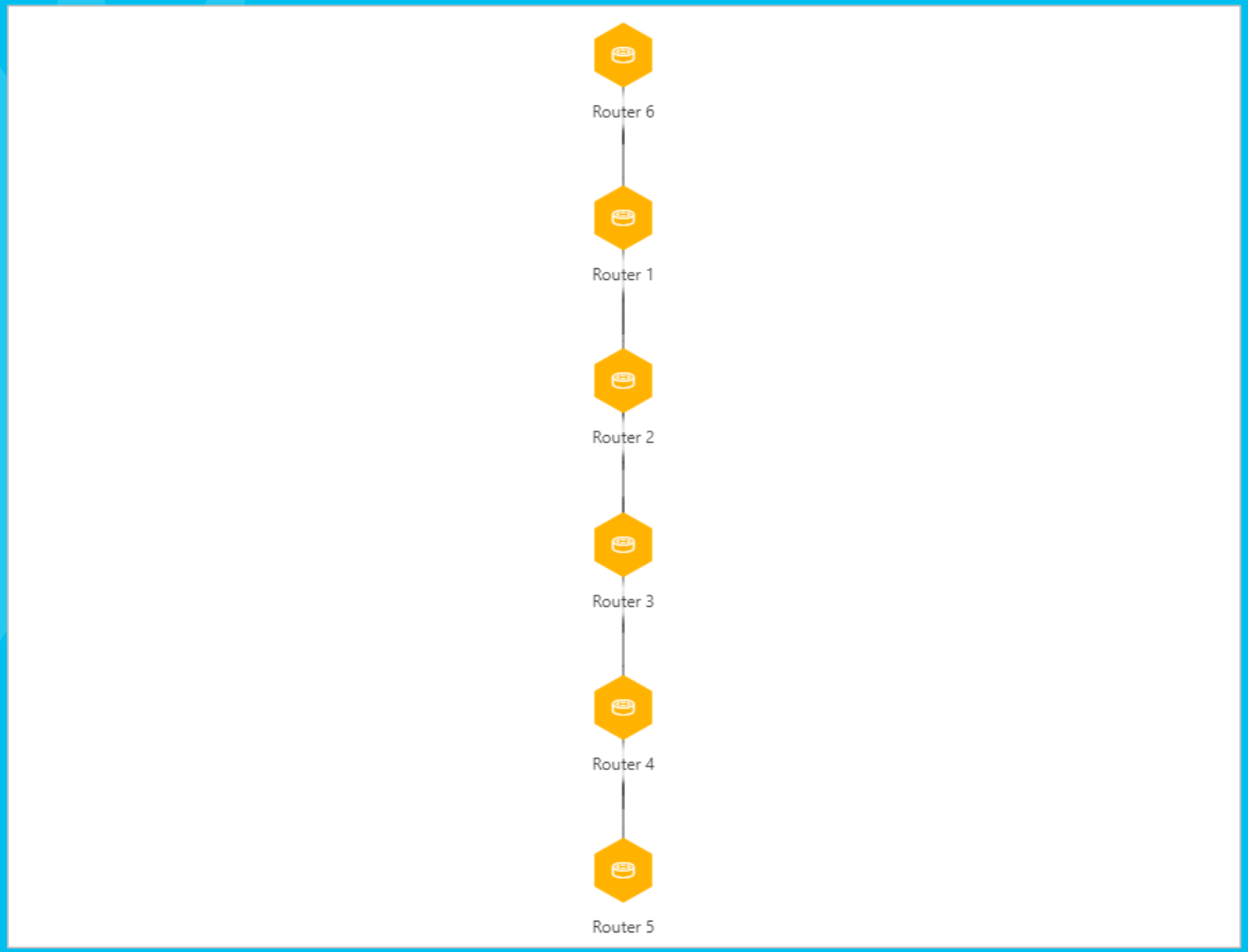
Deploy the exercise app

1. Go to '**Catalog.dataminer.services**'
2. Search for '**App node edge**'
3. Install '**App node edge tutorial**'



Let's get our hands dirty!

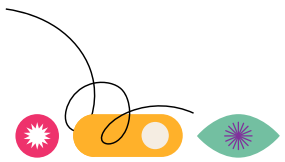
The basics, create our first node-edge

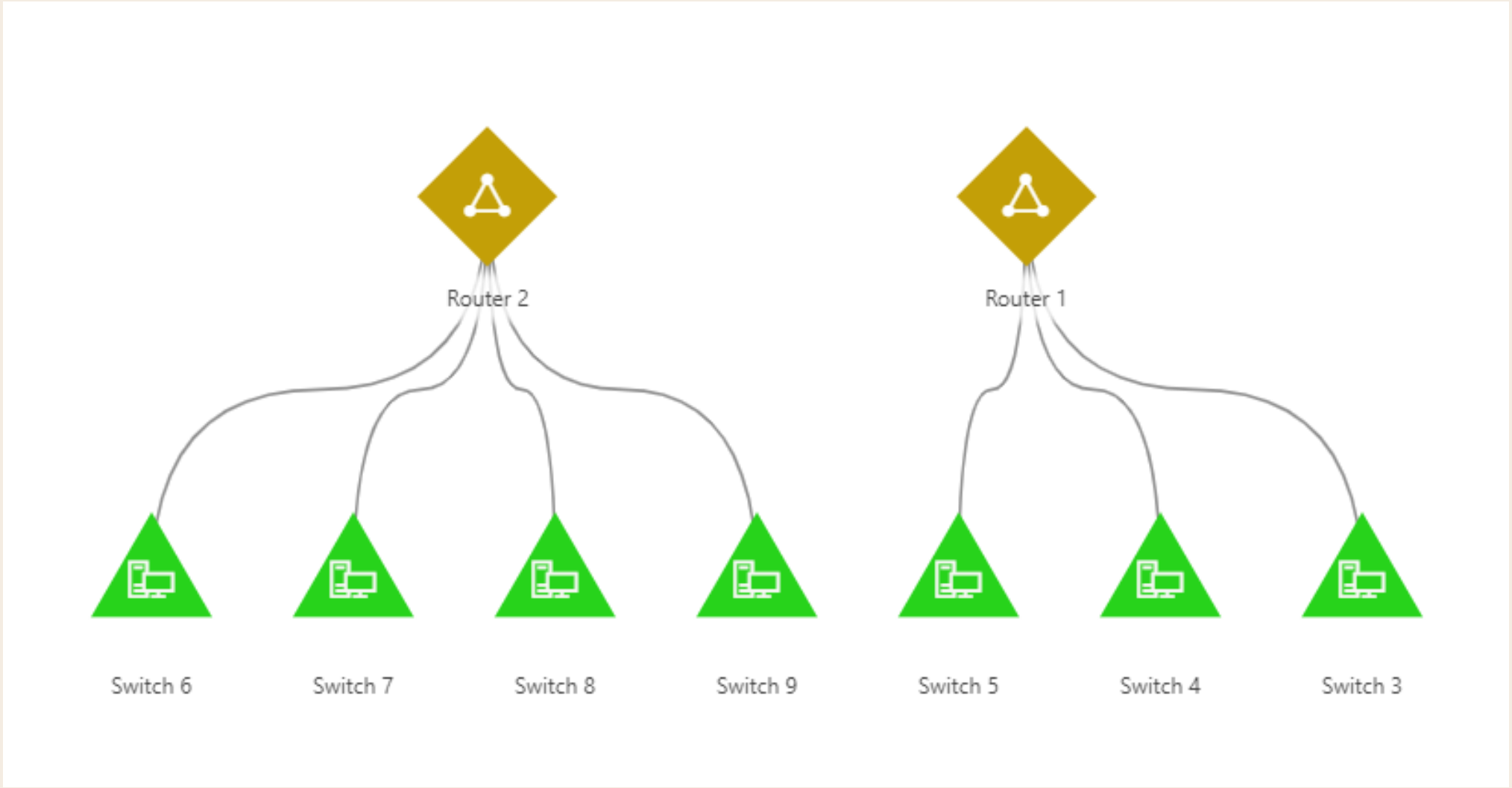


We can create a node-edge

Integrating Various Data Types

Create the node edge of your dreams!

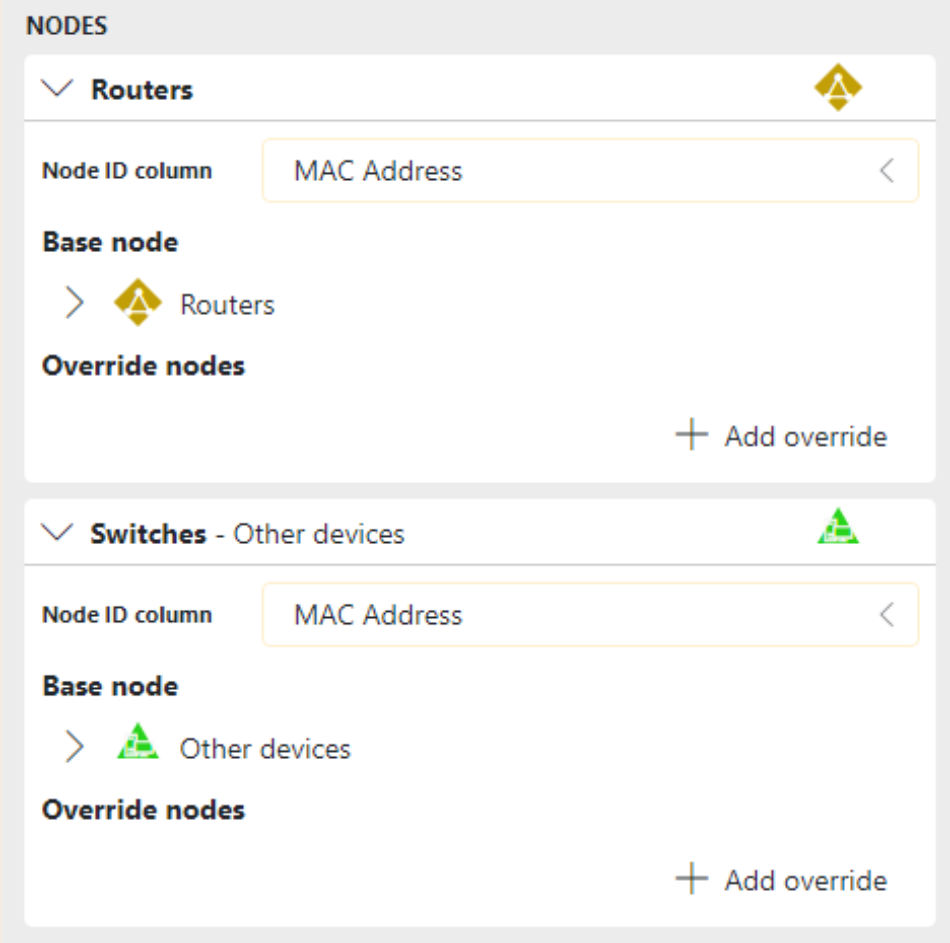



Router 2
Router 1
Switch 6
Switch 7
Switch 8
Switch 9
Switch 5
Switch 4
Switch 3

Integrating Various Data Types

Just add another query!

- Supports multiple queries for a single node and edge
- Each query needs to be configured individually
- **Beware**: ID column should not interfere



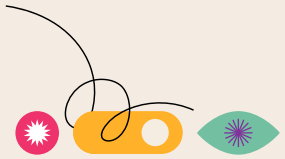
Integrating Various Data Types

My query contains everything!

Divide your table into subcollections

by specifying conditions

MAC ADDRESS	NAME	STATUS	TYPE
1E:27:0F:D3:B9:BF	Switch 29	Online	Switch
02:54:32:AF:67:01	Switch 7	Online	Switch
66:DD:D4:5D:27:57	Router 1	Online	Router
8E:04:E6:95:60:88	Router 3	Online	Router
B6:FD:DE:3D:7C:B5	Router 2	Online	Router



Integrating Various Data Types

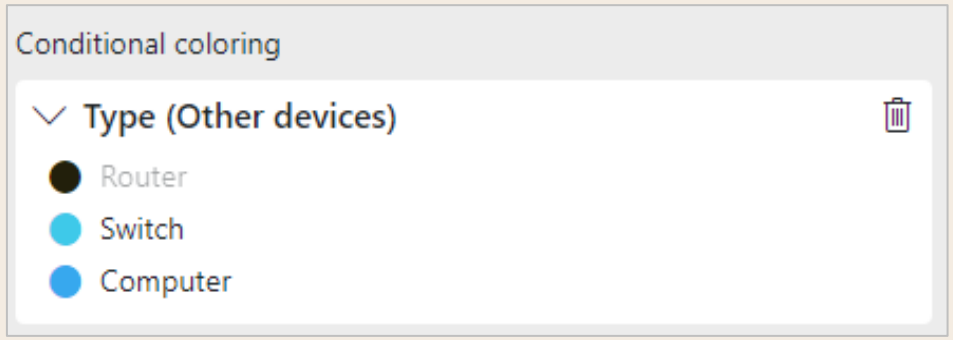
Just add a colour!

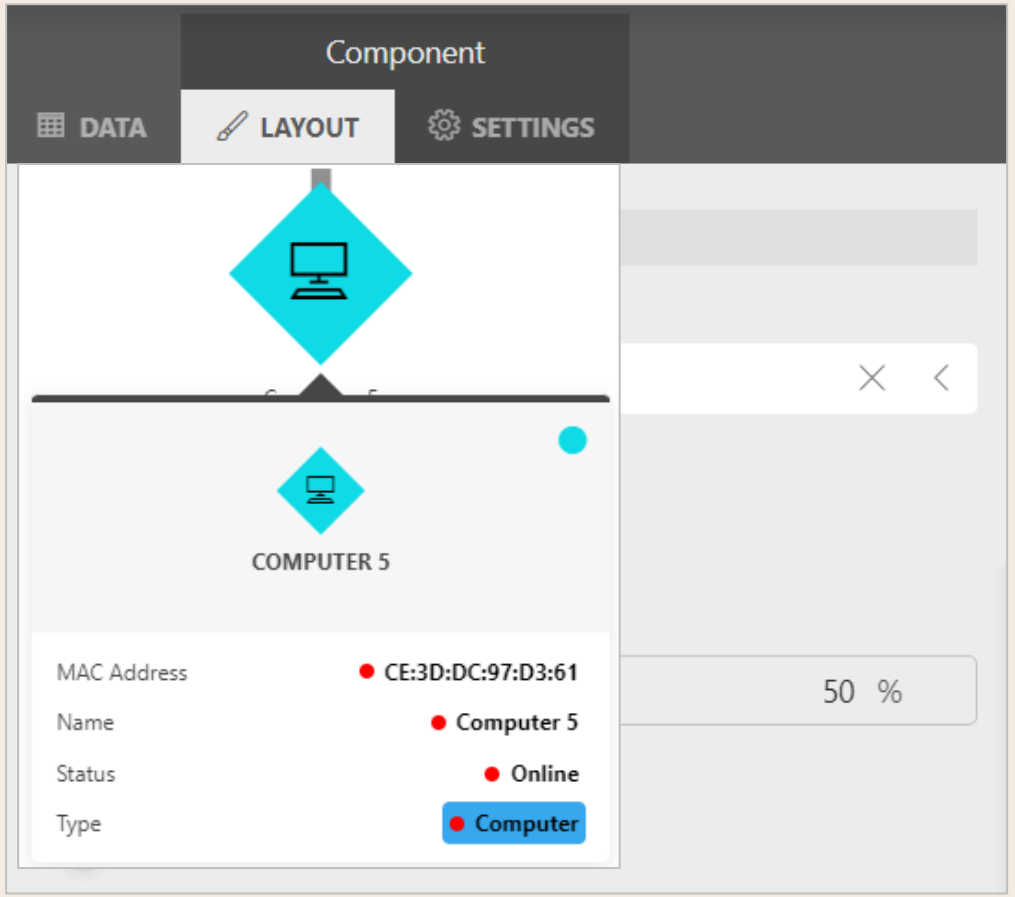
Highlight different characteristics

Or see a different color

~~20 overrides~~

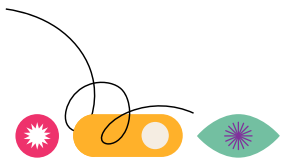
use conditional coloring





Interact with a node-edge

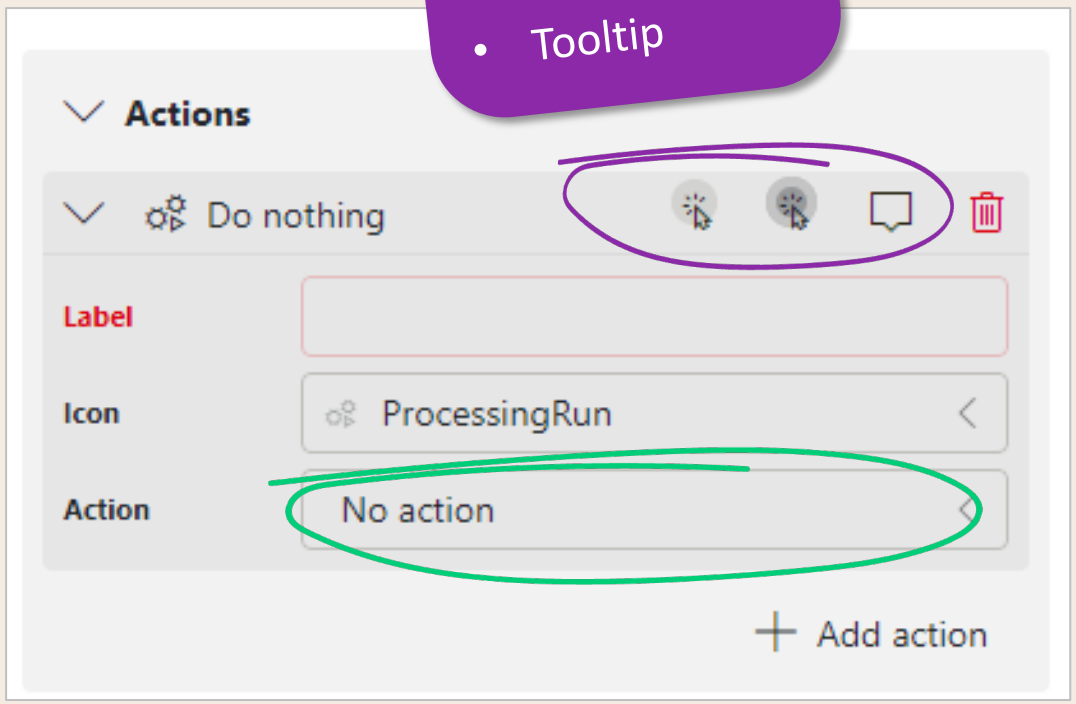
Put our nodes to work

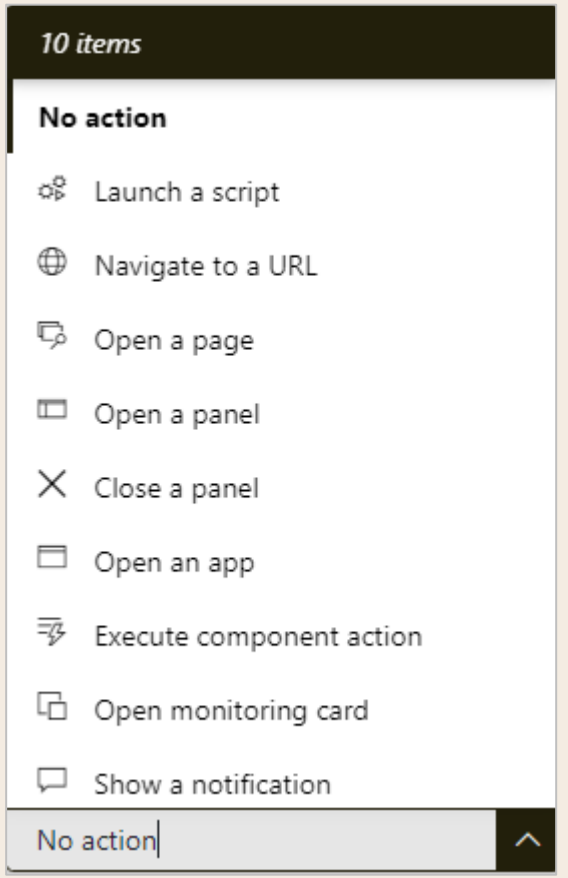


Interact with a node-edge

Put our nodes to work

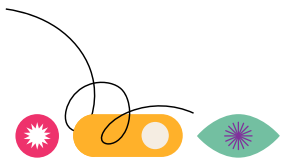
- Click
- Double click
- Tooltip





X-Y Positioning

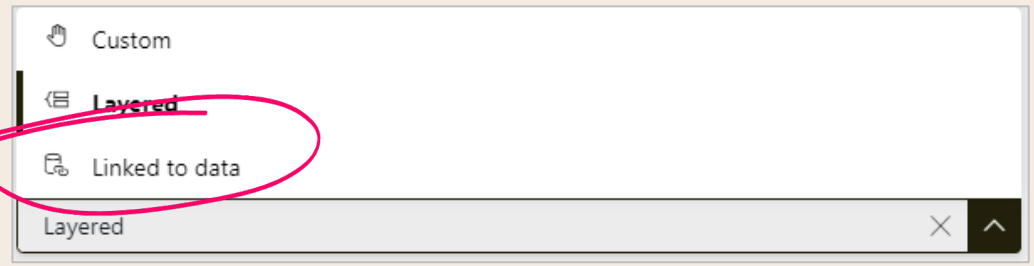
Find a new home for our nodes



X-Y Positioning

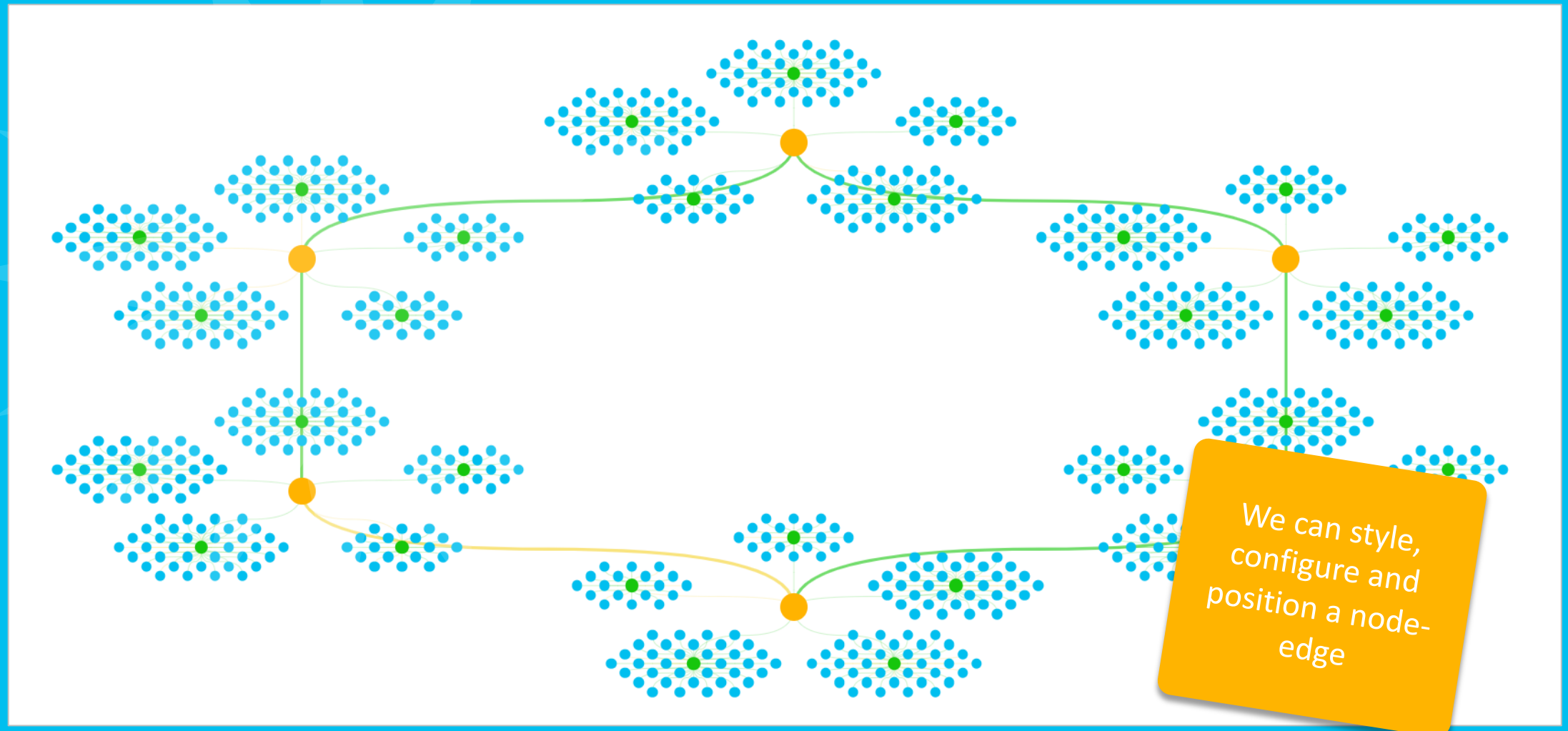
Find a new home for our nodes

- By default, nodes are positioned in layers
- Sometimes we know where nodes are located
- Looks for columns like: X, Y, Lat, Lon...
- Released: 10.4.6



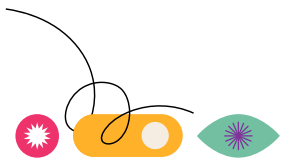
Let's get our hands dirty!

Time to extend, make our node-edge grow!

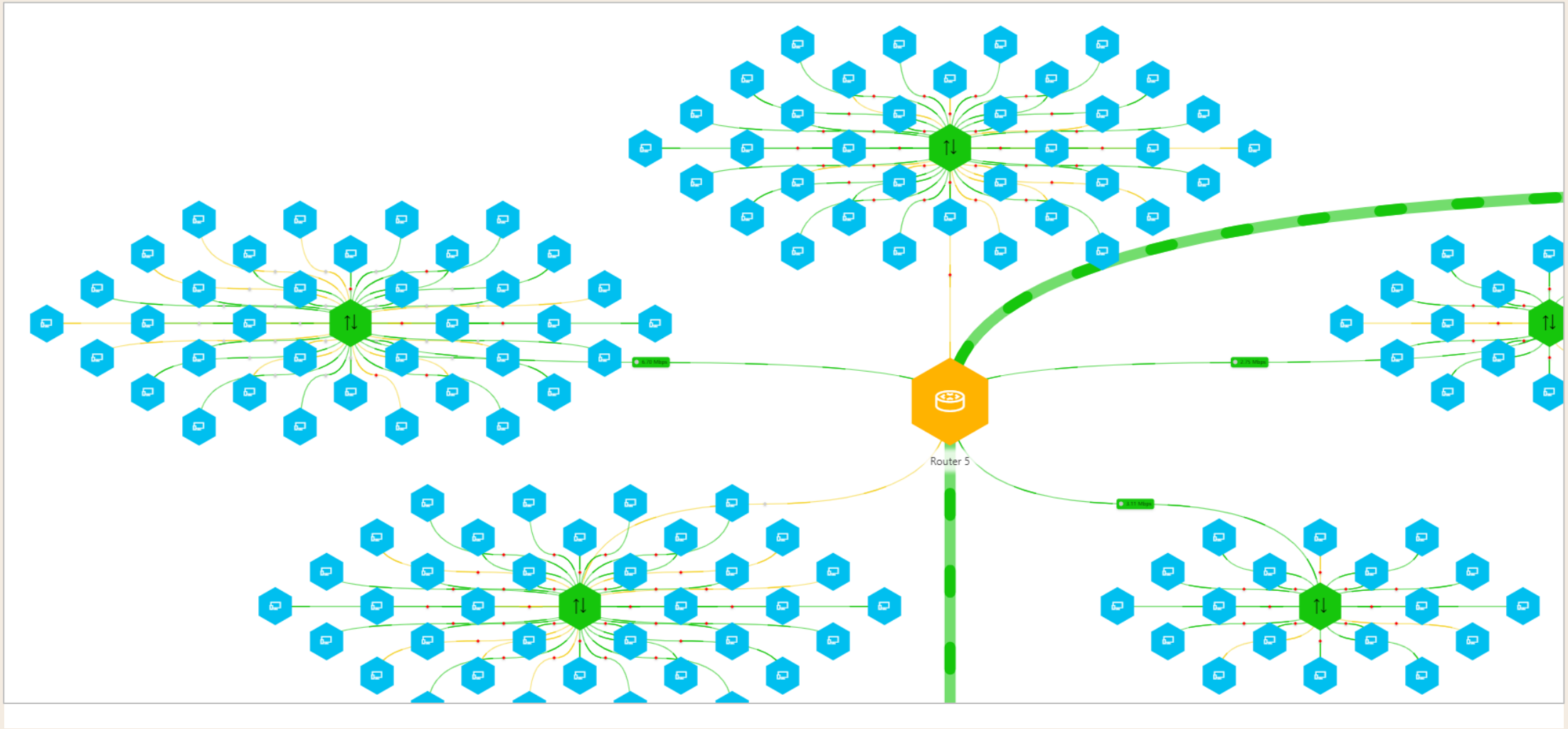


Efficient Node-Edge Usage

Another component?!



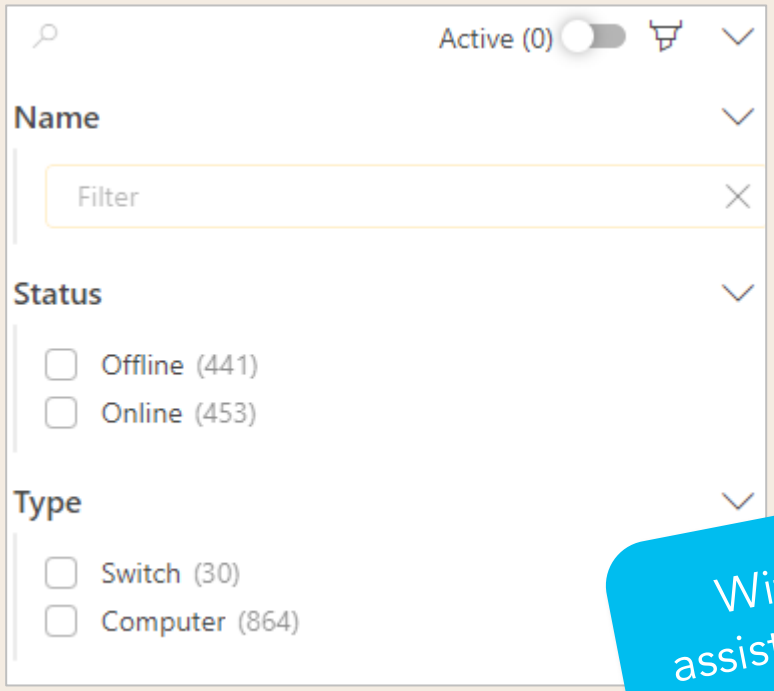
Efficient Node-Edge Usage



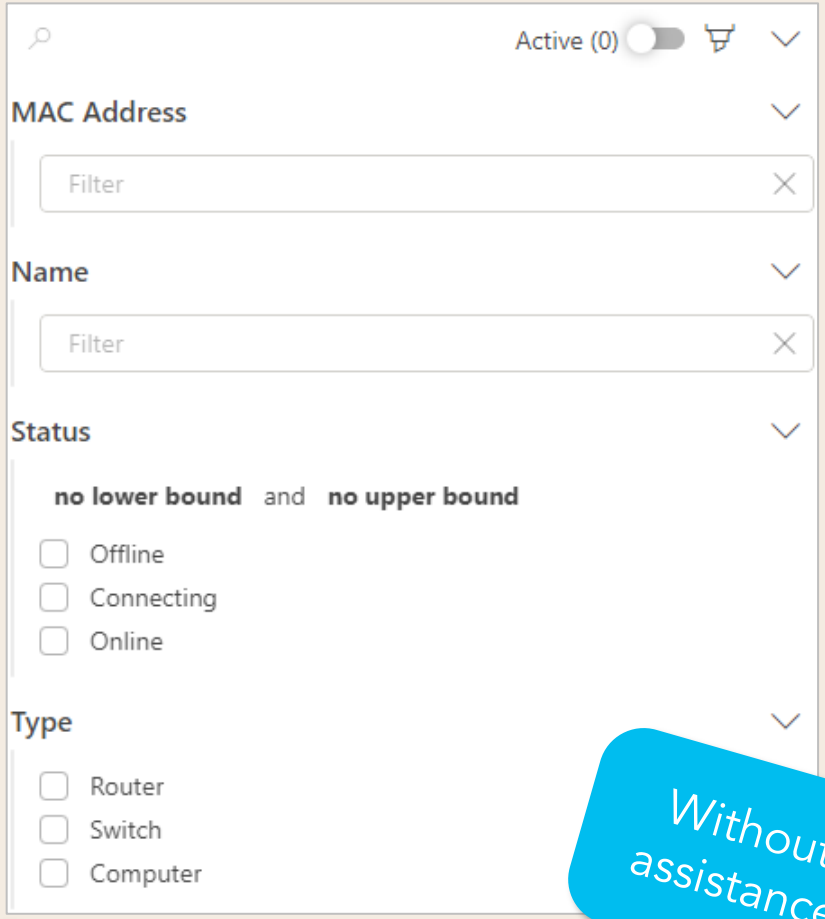
Efficient Node-Edge Usage

Just filter the queries, but how?

- Query filter:
  - Needs a query
  - Exposes a filtered query or a column filters
- Option for filter assistance !!!



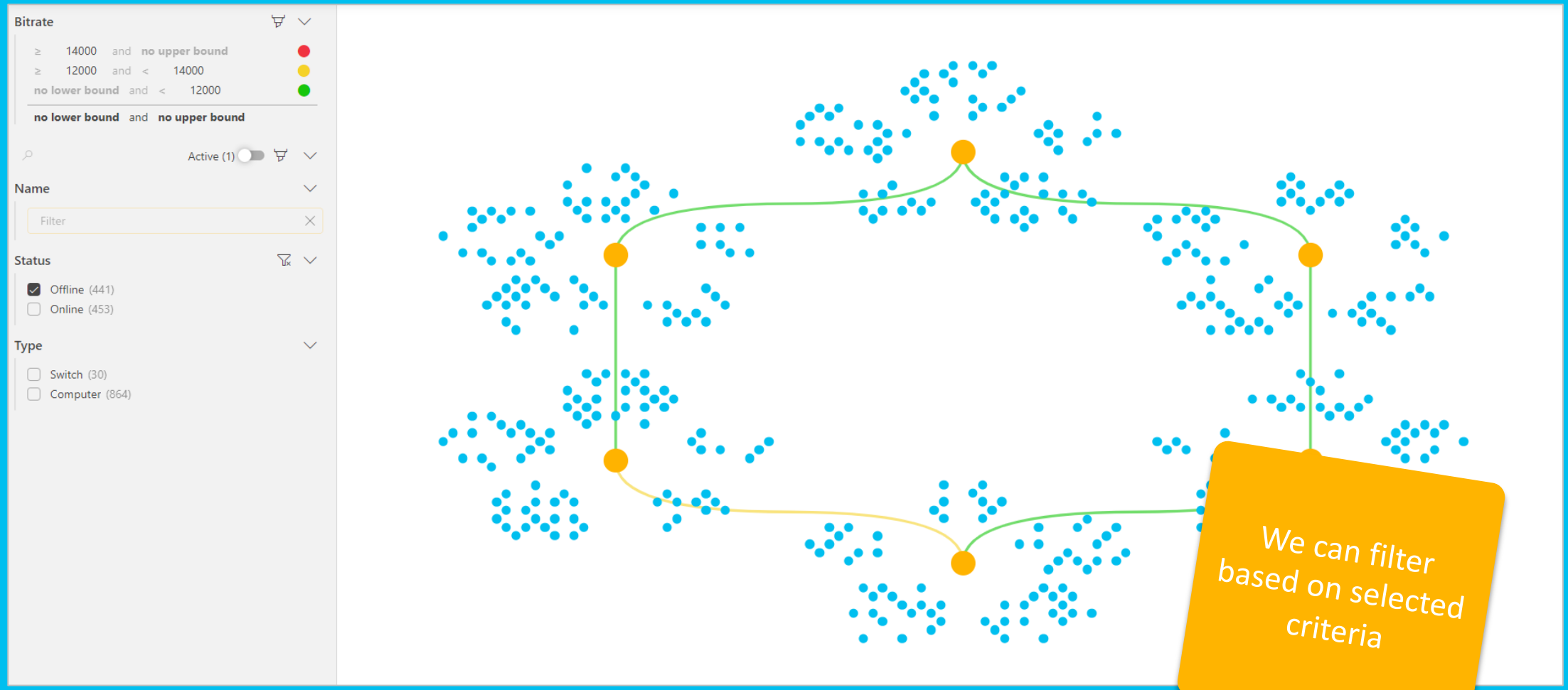
With assistance



Without assistance

Let's get our hands dirty!

Narrow down, gain back full control!



ASK AWAY

empower!

NEXT UP

CHOOSE YOUR TOPIC OF INTEREST

Dataminer.MediaOps - Plan

Join a hands-on session to deploy DataMiner MediaOps for resource and workflow scheduling. Participate in practical exercises to create and manage resource inventory, handle satellite transponder capacity, manage personnel and organizational resources, and develop cost analysis and billing records. Learn to create your first bookings, manage MCR operations tasks, and customize event management.

LOCATION

Training room T1 & Skylounge T2 +11

How to make a connector CI/CD pipeline

Learn to streamline your DataMiner connector development with a GitHub workflow for quality control and automatic deployment.

LOCATION

Creative hub T2 +9

EXPERT CLASS

Make a connector CI/CD pipeline

Streamline your DataMiner connector development with a GitHub workflow

for quality control & package creation

EXPERT CLASS

YOUR HOST

Michiel Oda

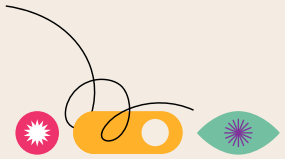
SENIOR DEVOPS ENGINEER DATA-ACQUISITION

MICHIEL.ODA@SKYLINE.BE

CI/CD
DIS

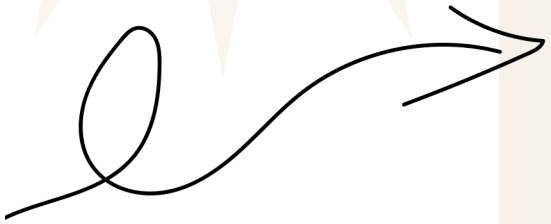
Prerequisites

- Visual Studio 2022
- DIS 3.0 (Visual Studio Marketplace)
- GitHub account

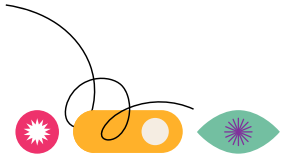


WHAT'S ON THE MENU

Agenda



1. What are .NET Tools
2. Create connector
3. Create GitHub workflow
4. Use Validator in workflow
5. Create connector package

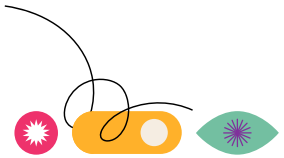


Goals

.NET Tools

CI workflow

Package creation

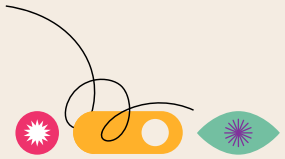


What are .NET tools?

- Special NuGet package with console application

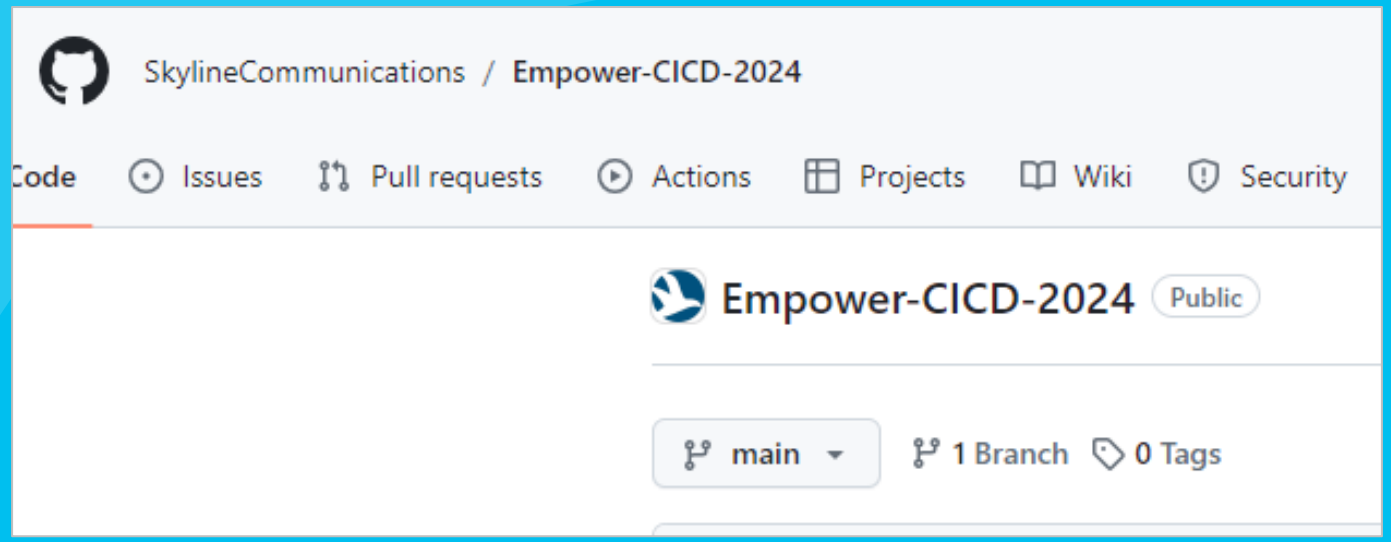
- Platform-independent CI/CD | DataMiner Docs

- dotnet tool list
- dotnet tool install
- dotnet tool run



Hands-on time!

1. Go to '**GitHub**'
2. Search for '**repo:skylinecommunications/empower-cicd-2024**'



ASK AWAY

empower!

MediaOps Plan

MEDIAOPS PLAN

YOUR HOST

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YOUR HOST

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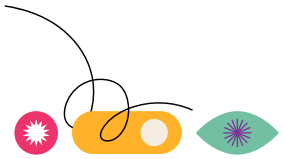
Let's get ready!

some practical arrangements

- Have a question? Just ask!
- This is a hands on exercise… you should have already deployed your own personal DaaS + SRM for MediaOps package
  - If not, ask one of the helpers.
  - You can just follow along, but you'll get more out of it if you do the exercises.
- We have A LOT to get through, but feel free to ask questions as we go!
- FOR THIS SESSION YOU WILL NEED:
  - Your computer
  - A DCP account
  - To be a member of the EMPOWER Organization
  - The DaaS you spun up previously



Agenda

(13h40 – 14h30)

- **ACTIVITY**: Deploy the MediaOps Package including the Demo Data
- Overview of the components of MediaOps PLAN
  - Scheduling
  - Resources
  - People and Org
  - Costs and Billing
  - Satellite Data & Capacity Planning
- Scheduling
  - Job DOM
  - Job Lifecycle
  - **ACTIVITY**: Create a job
  - **ACTIVITY**: Create a job via workflow
  - **ACTIVITY**: Assign resources and confirming your Job
- Event Manager

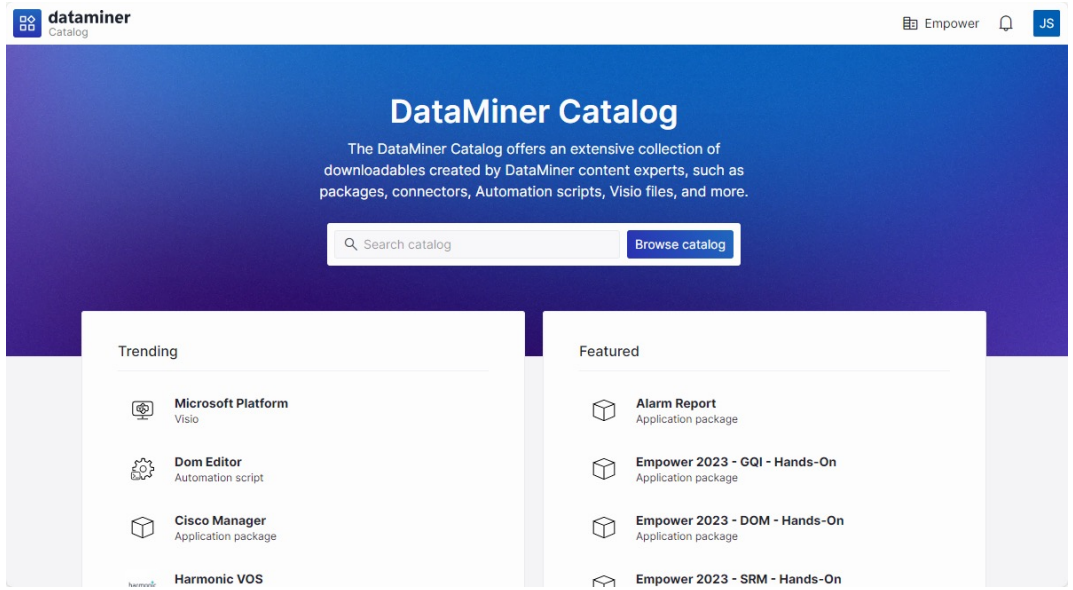
Deploy MediaOps

Use the dataminer.services Catalog to easily deploy the solution

The dataminer.services catalog

Your key to DevOps success

- The Catalog on **dataminer.services** is your *one stop shop* for connectors, scripts, visios and packages.
- It can **automatically** deploy items to your Cloud Connected and DaaS (DataMiner as a Service) systems with a **single click**

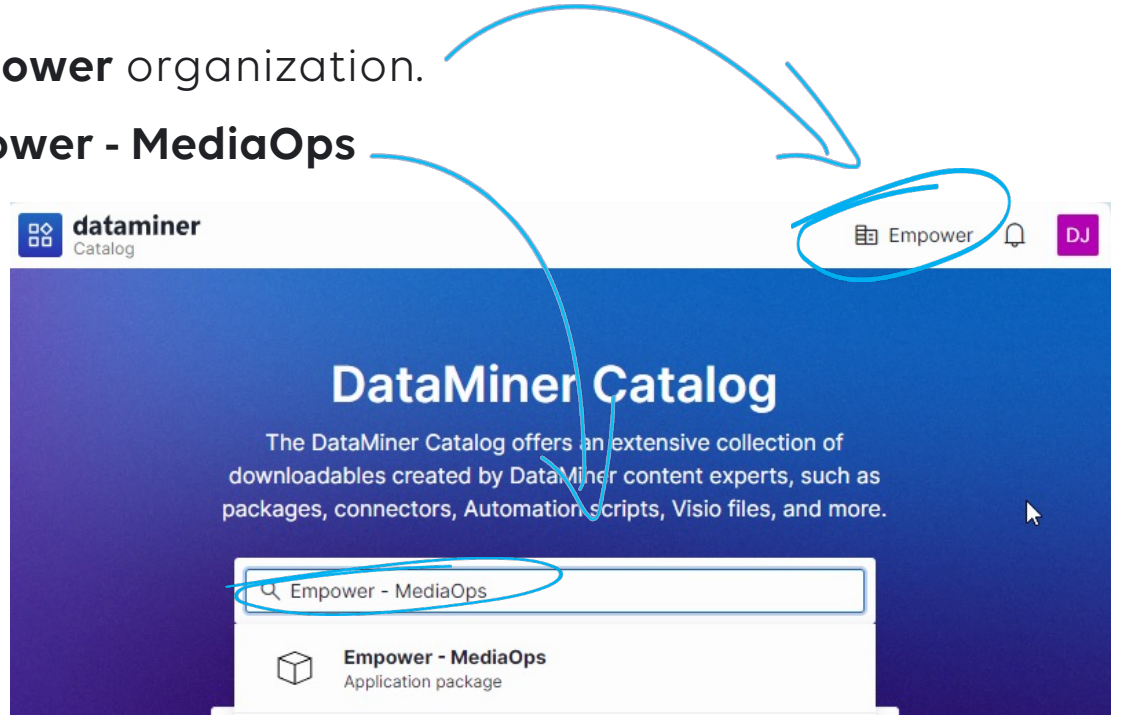


Deploying MediaOps

Exercise

exercise

1. Go to **catalog.dataminer.services**
2. Use your DCP account to log in.
3. In the upper right corner, verify you're in the **Empower** organization.
4. Search the catalog for the package called: **Empower - MediaOps**
5. Click on the package name to select it.
6. (Select the most current version of the package)
7. Click the **Deploy** button.
8. From the popup, select your DaaS system and click the **Deploy** button to start the deployment.
9. NOW WE WAIT!



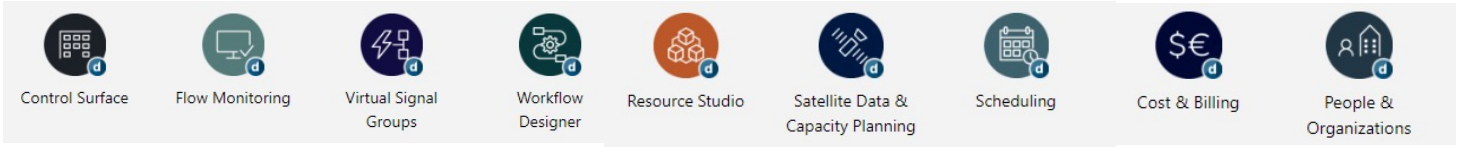
Deploying MediaOps

Exercise

exercise

- How to check if the deployment was successful ?
  - Check deployment status of the package via **admin.dataminer.services**
  - Under DataMiner Systems check **Deployments**
  - Look for package Empower - MediaOps
- ☑ Status of the package should eventually be Succeeded
- Go to dataminer.services
  - Go to the home page of your DMA by clicking the 

icon
- ☑ Check that all MediaOps applications are visible :



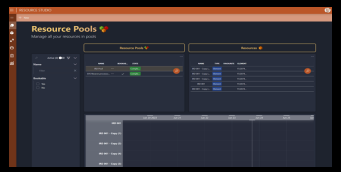
- ☑ Check that the demo data is installed
  - Open up **Resource Studio** app and check that there are resource pools and resources available

dataminer.MediaOps

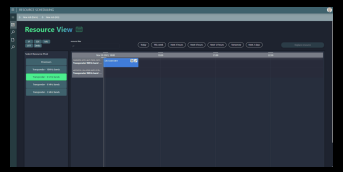
Digital operations : data driven, simplified and automated operations

BaM AWARDS 2024 WINNER NABSHOW Where Content Comes to Life

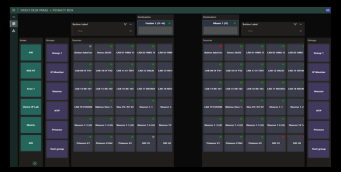
Example applications:



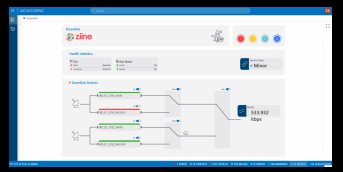
RESOURCE STUDIO



SCHEDULING



CONTROL SURFACE



MONITOR

COSTING & BILLING

API

INVENTOR — PLAN — RESERVE

MediaOps.PLAN

DEPLOY — CONFIGURE — CONNECT — CONTROL — MONITOR — QoS QoE

MediaOps.LIVE

FINISH — COST & BILL

MediaOps.PLAN

dataminer

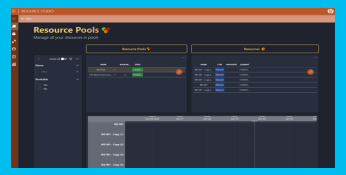
MediaOps PLAN

Break it down for me... what is it?

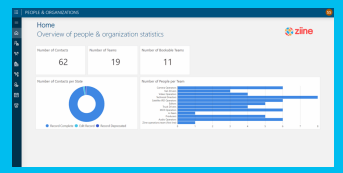
MediaOps PLAN

What is it?

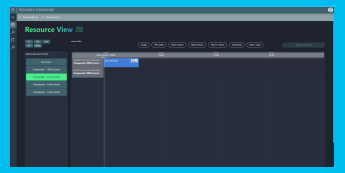
- PLAN is the part of MediaOps that enables different groups in an organization to plan, track, schedule and monetize the various resources used to provide services to customers (internal or external).
- Specifically, it's a collection of task focused apps that provide teams with the tools they need to manage the planning and scheduling for a facility.
- The Apps include:
  - **Resource Studio** - manage all your schedulable items including people, rooms, equipment and more.
  - **People & Orgs** - store information about the People, Teams and Organizations you work with.
  - **Scheduling** - create Jobs to schedule all your resources, prevent conflicts generate billing data and ensure you never run out of capacity.
  - **Cost & Billing –** manage the contracts and rate cards used to generate your cost and billing data.
  - **Satellite Data & Capacity Planning –** manage the satellite transponder band plans an generate bookable resources for it.



RESOURCE STUDIO



PEOPLE & ORGS



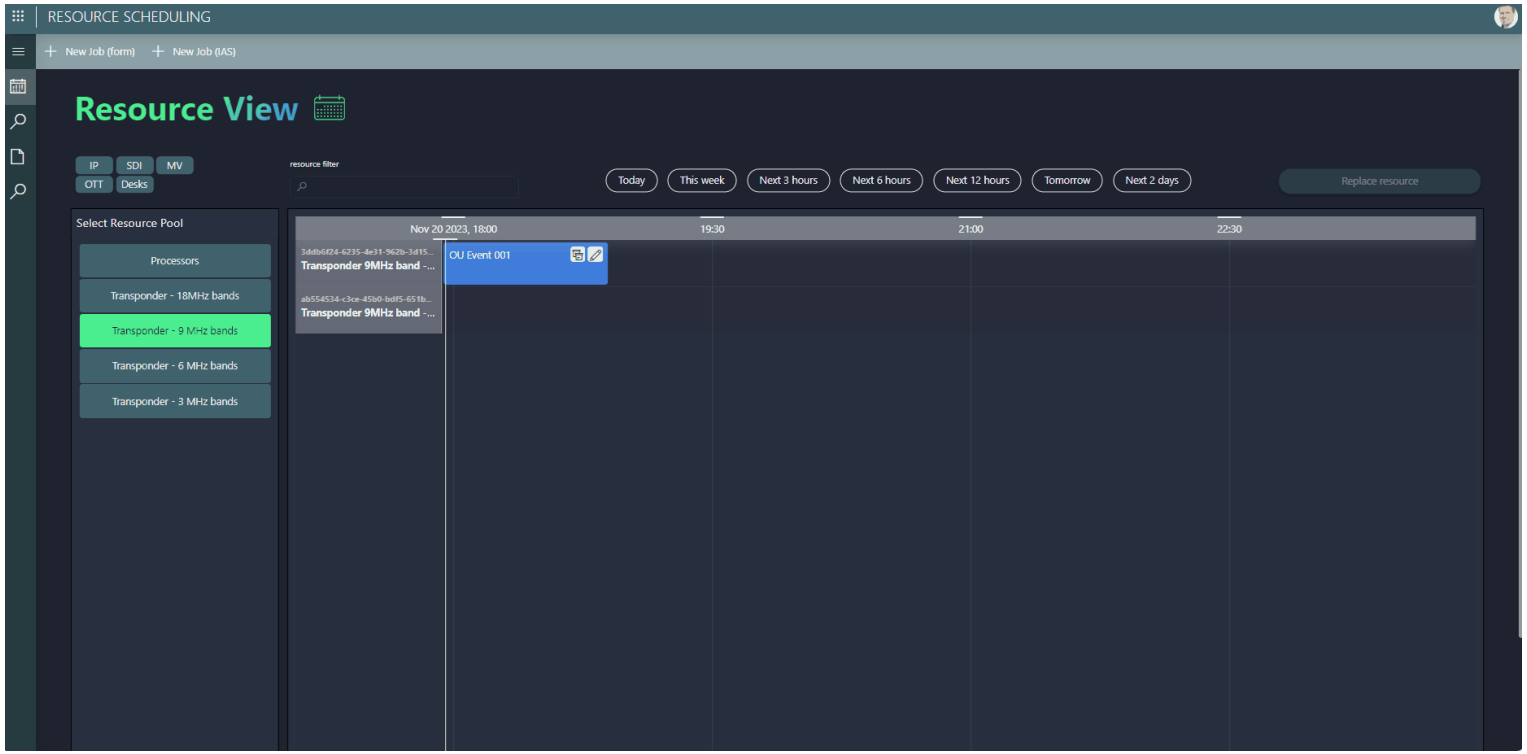
SCHEDULING

COSTING & BILLING

Scheduling

Schedule resource pools, resources and entire workflows

- Easy scheduling of **resources**, **resource pools, entire workflows** or a hybrid
- Tailored to
  - Booking teams
  - Operations teams
- **Error-free operation** following pre-defined job state - transition automation



Schedule job properties

Record holding all details of the job

ADMINISTRATION

JOB INFO

Unique ID
Name
Start, end and approx. out time
Schedule recurrence*
Priority*
Description
Notes

TECHNICAL WORKFLOW

LIST OF NODES & TOPOLOGY

Resources and resource **pools**

Input and output **signal descriptions** (vSG)

Connectivity (optional) between nodes : L-band, ASI, SDI levels, SMPTE ST 2022, SMPTE ST 2110 (including level selection)

NODE AUTOMATION BEHAVIOR

Selection of the operator **ad-hoc fast-control** script of each node (IAS)

Enable or disable **automatic node configuration** at job-start time with job-defined configuration parameters

Order of sequence for node and connectivity automated configuration

Operator indicator that **manual operator configuration is required**

Custom automation logic (only if default automation behavior needs customization)

NODE RESERVATION BEHAVIOR

Enable or disable reservation for each individual node : makes it easy to add **non-bookable assets** to the WO

SERVICE MONITORING

Select when to **start service monitoring** : create DataMiner service instantly or at job start

Select when to **stop service monitoring** : delete DataMiner services at the end of the job or not

Optionally select the service **visualization** by selecting a Visio Service Template*

COSTING & BILLING

CONTRACT & SUMMARY VALUES

Customer organization
Job owner and contact persons
Contract
Total calculated cost
Total calculated rate
Total calculated rate uplift
Total calculated discount rate

COSTING & BILLING DETAILS

Table of all job line items with **billing** and **costing** details for each node/resource

Units used * unit rate = total rate & total cost

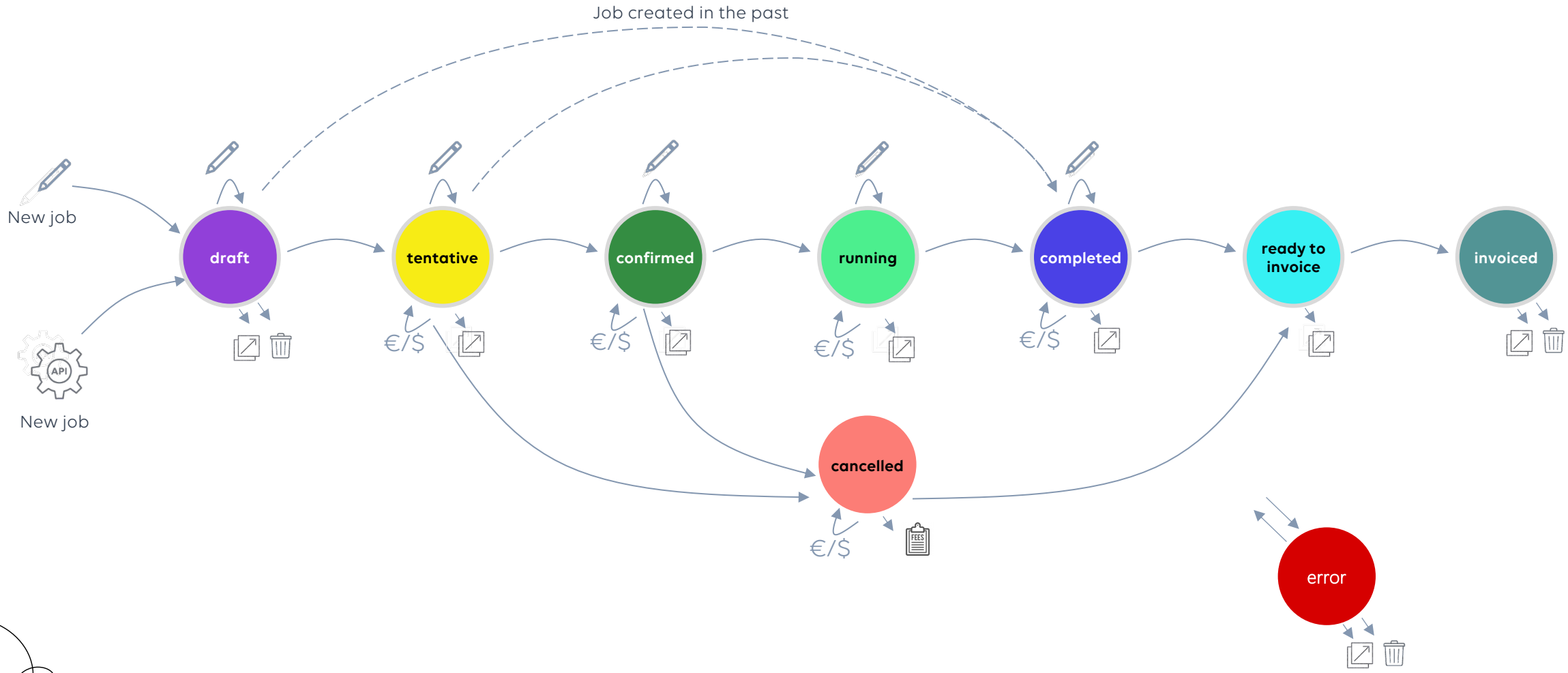
Override rate & cost

Speed order fees & **cancellation** fees

References to rate cards used

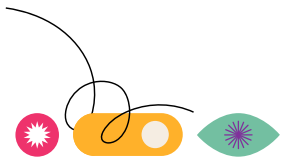
Schedule job life cycle

Job states & automation



MediaOps PLAN

How is it built?



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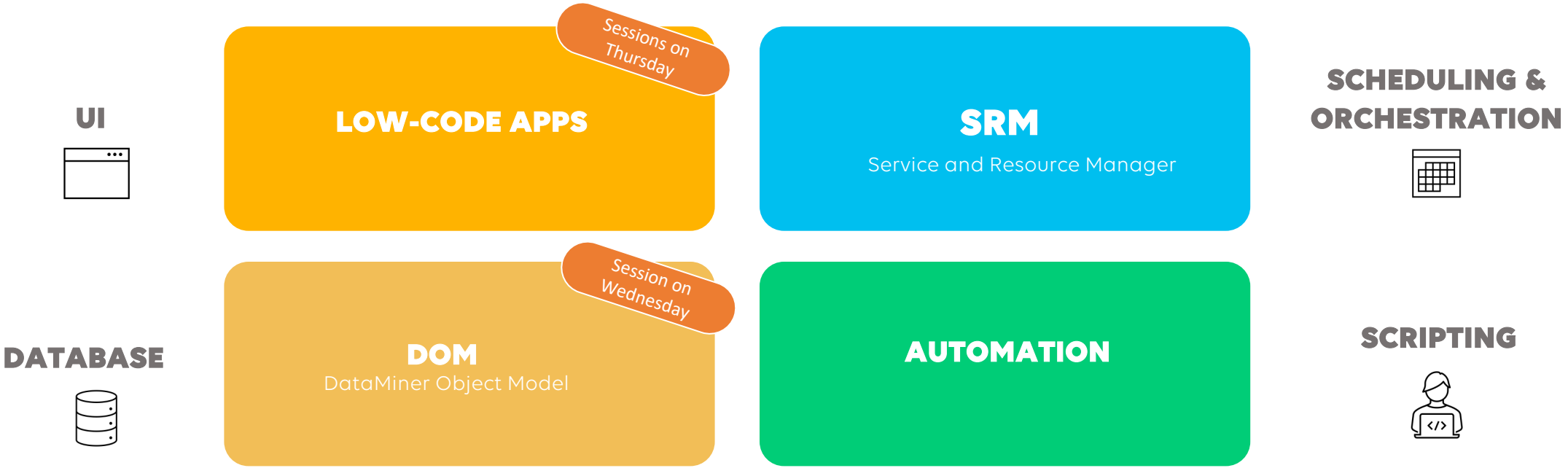
Stack

MediaOps is pre-canned solution based on an **existing DataMiner stack**

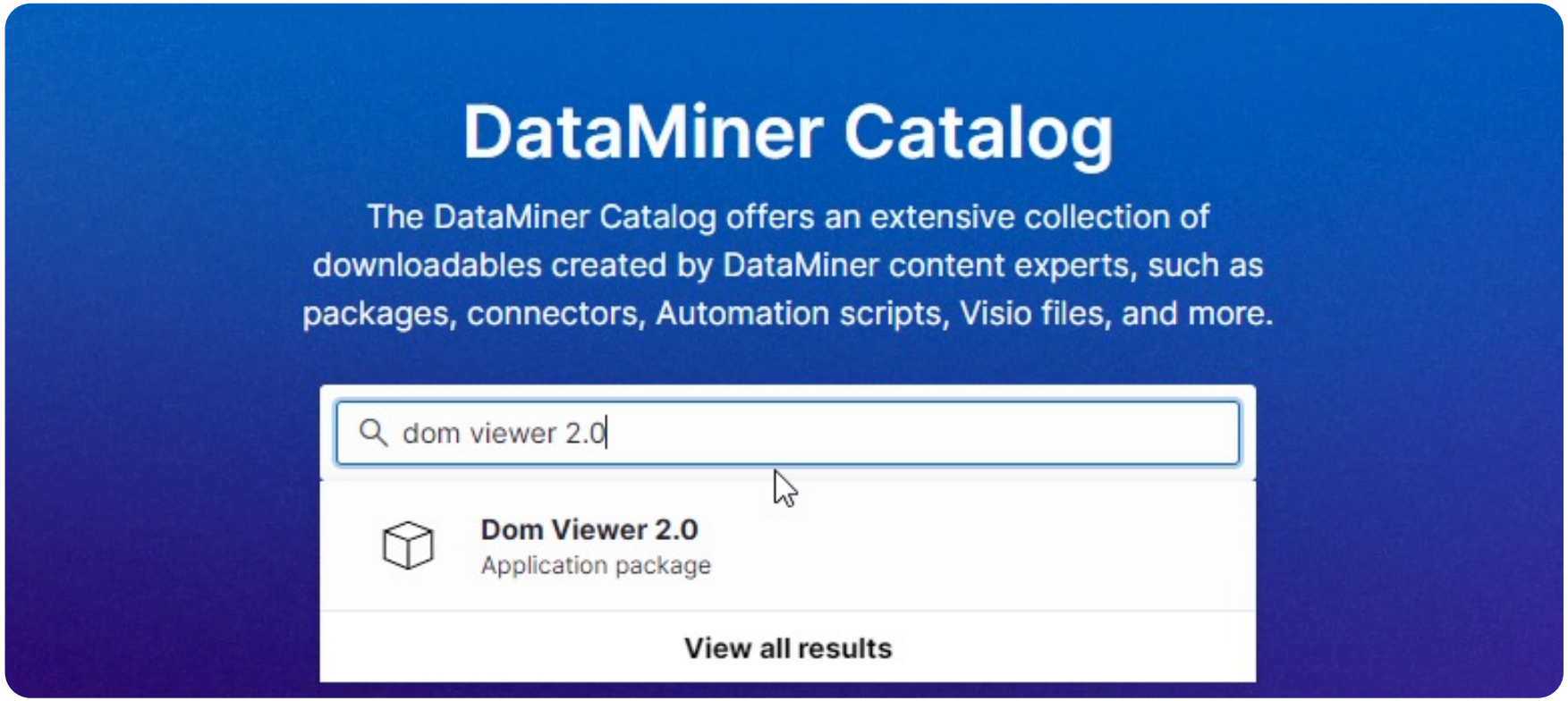


Job DOM

Install Dom Viewer

exercise

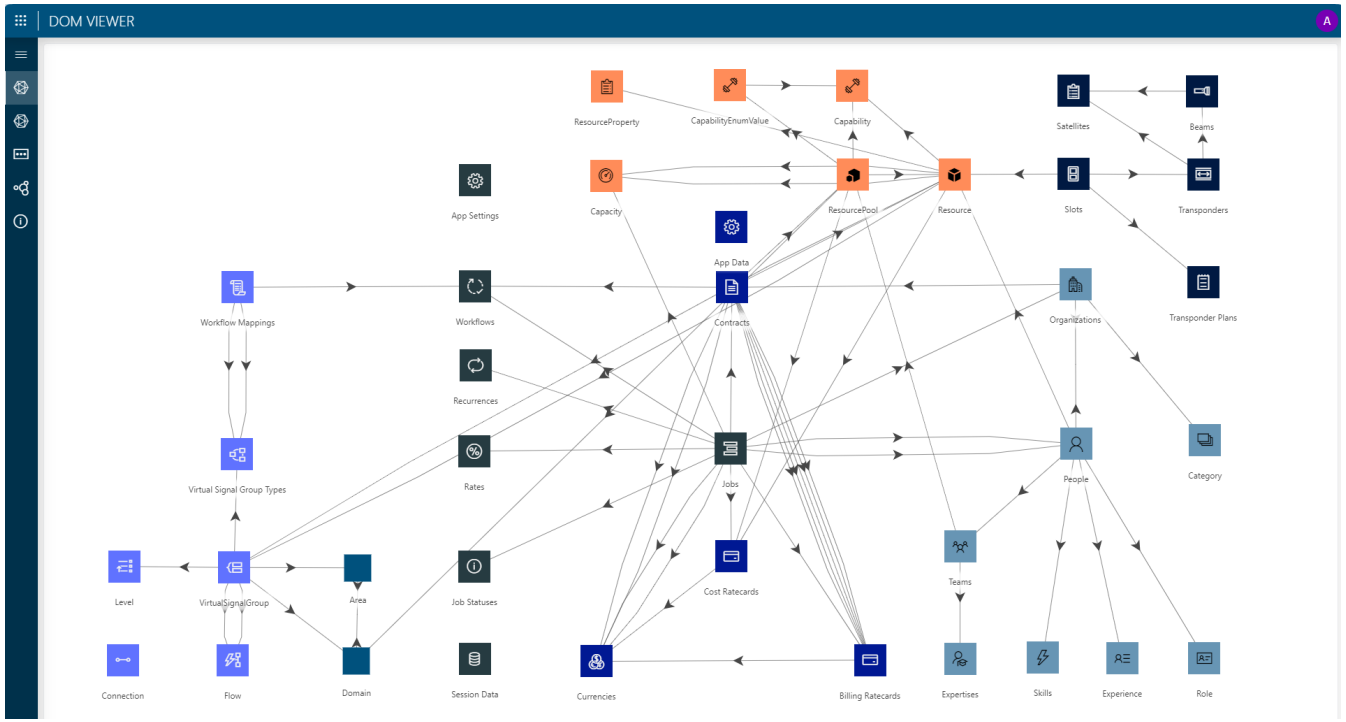
- Install package **Dom Viewer 2.0** from catalog to your DAAS system



Job DOM

Dom Viewer

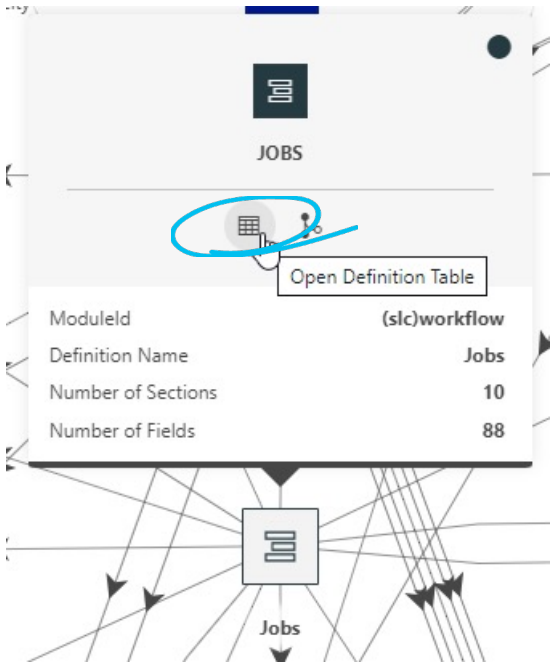
- Once deployed, you should have the low-code app installed called **DOM Viewer**
- Open the DOM Viewer app
  - The first page will show the **Common Data Model (CDM)** of the DataMiner standard solutions like MediaOps

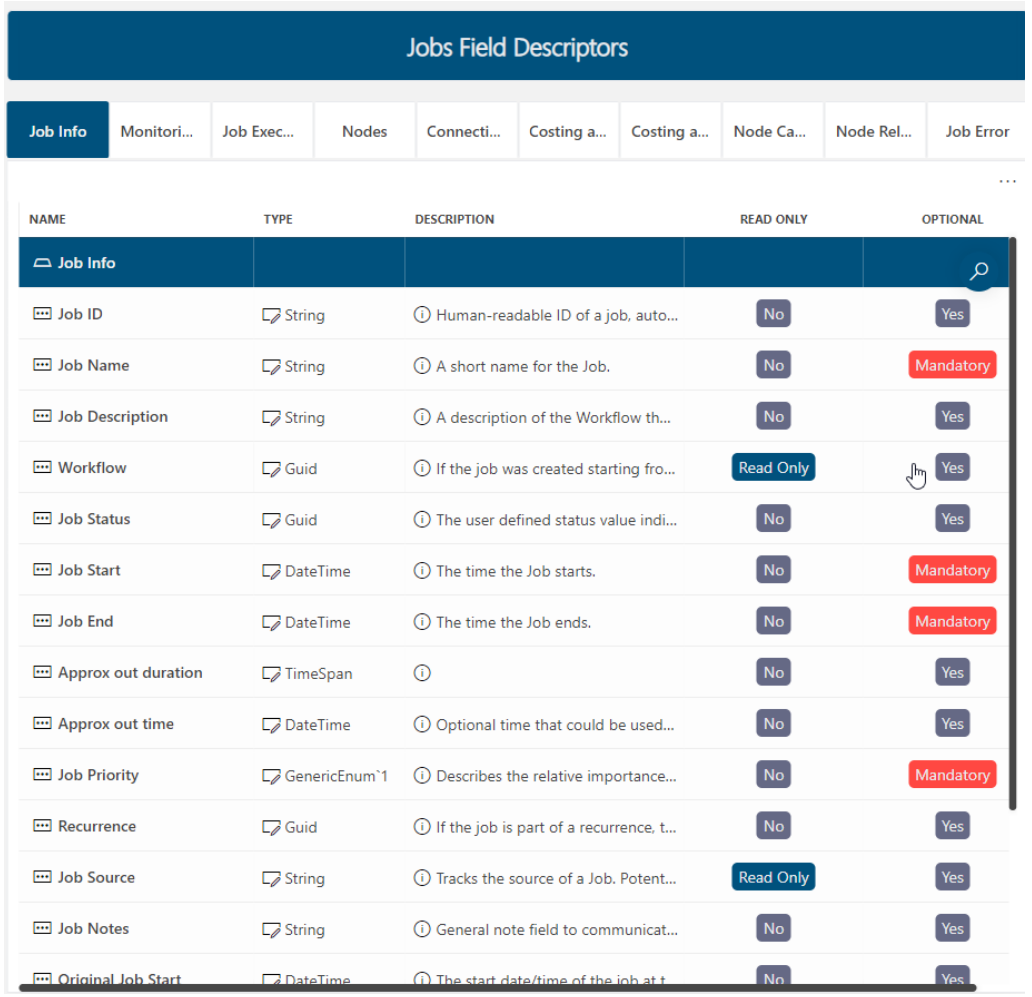


Job DOM

Dom Viewer

- Looking into the **Jobs** DOM definition
- Hovering over it will show tooltip
- Select the table icon to view the details of the Jobs DOM Definition

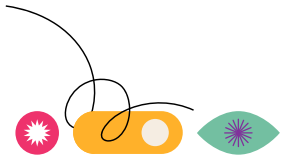




exercise

dataminer.MediaOps Plan

Getting hands-on with the apps



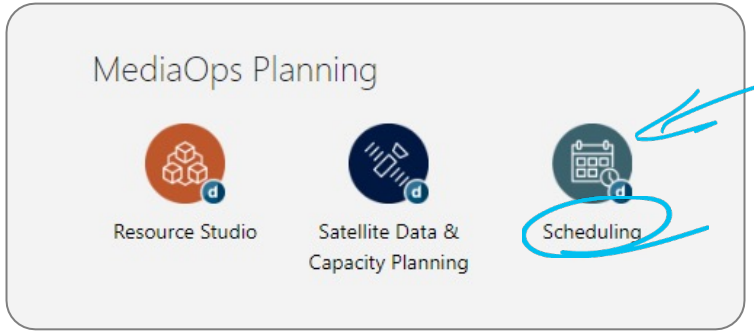
Scheduling

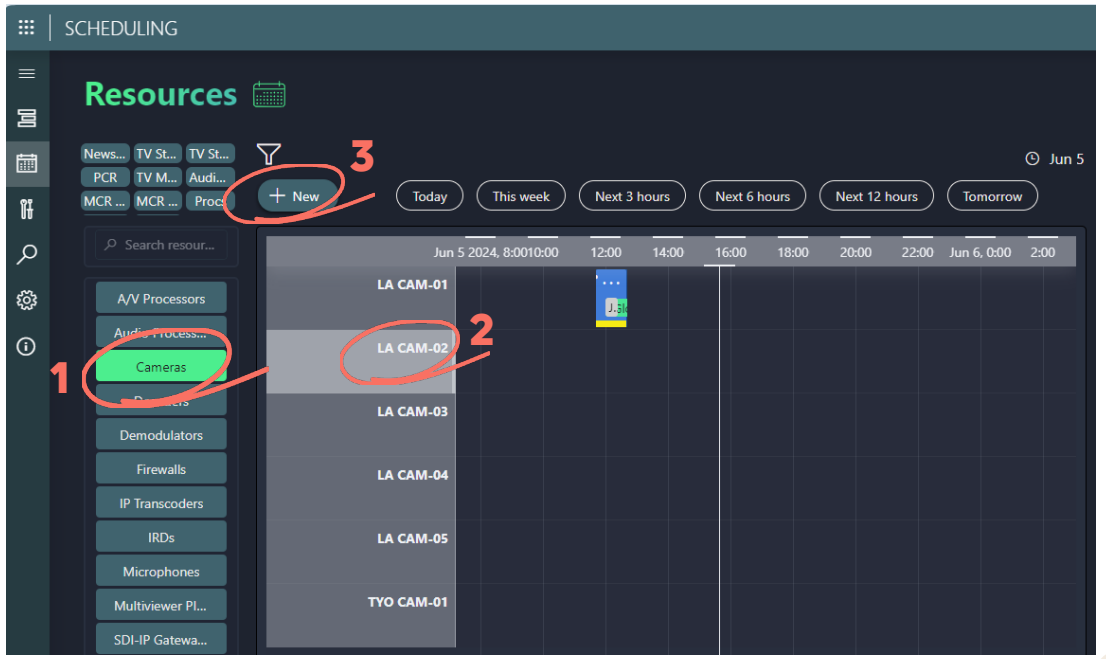
Schedule a job with single resource

exercise

- From the home page of your system, open the Scheduling app
- Open the Resources page:

1. Select a resource pool on the left most grid (e.g. Cameras)
2. Select a resource from the pool by select it on the left side of the schedule (e.g. LA CAM-02)
3. Click the + **New** button



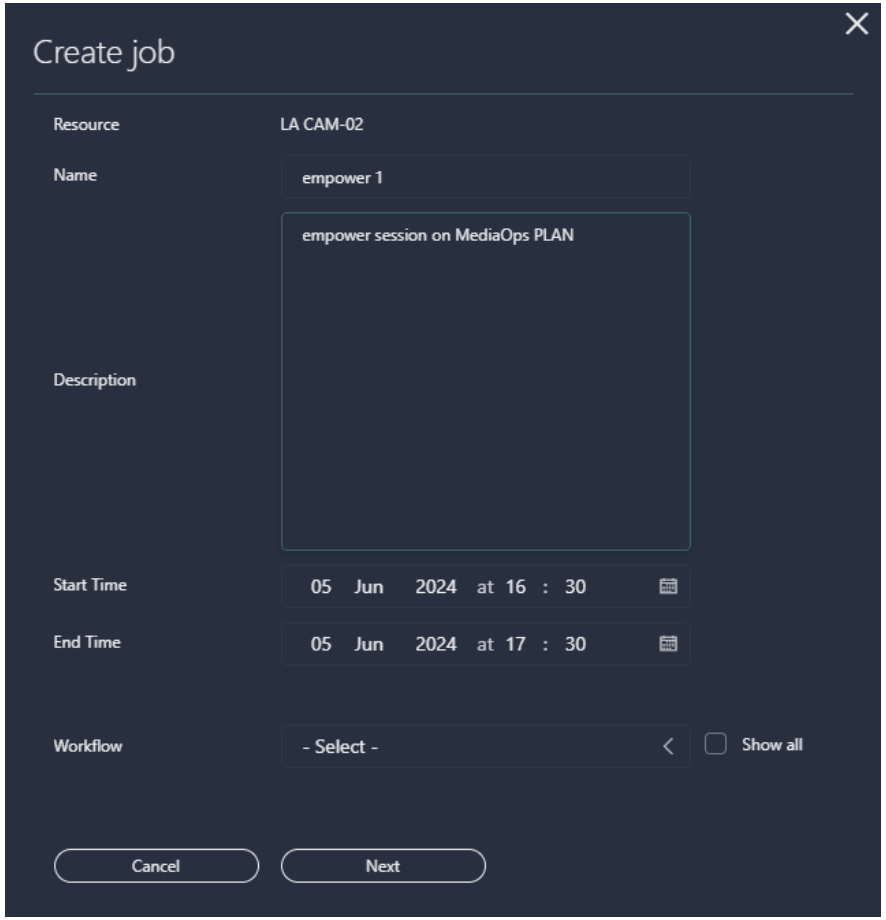


Scheduling

Schedule a job with single resource

exercise

- In the dialog **Create Job** enter:
  - Name : empower 1
  - Description : be creative ☺
  - Start and End time : some time range in the future
- Click **Next**

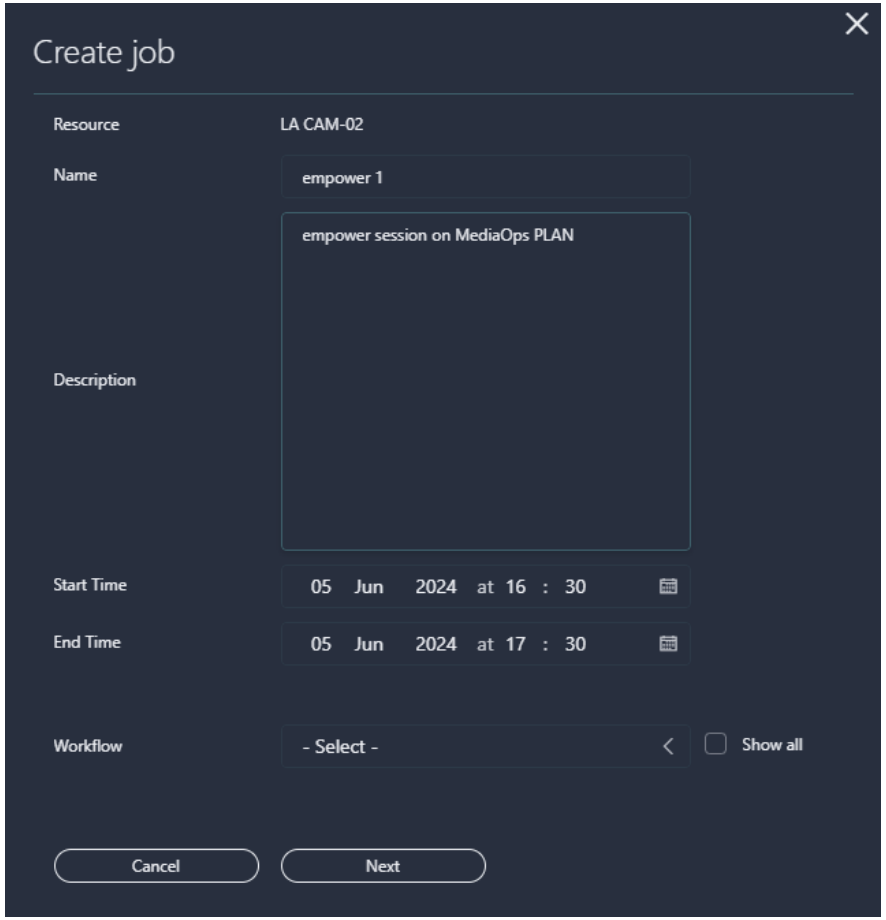


Scheduling

Schedule a job with single resource

exercise

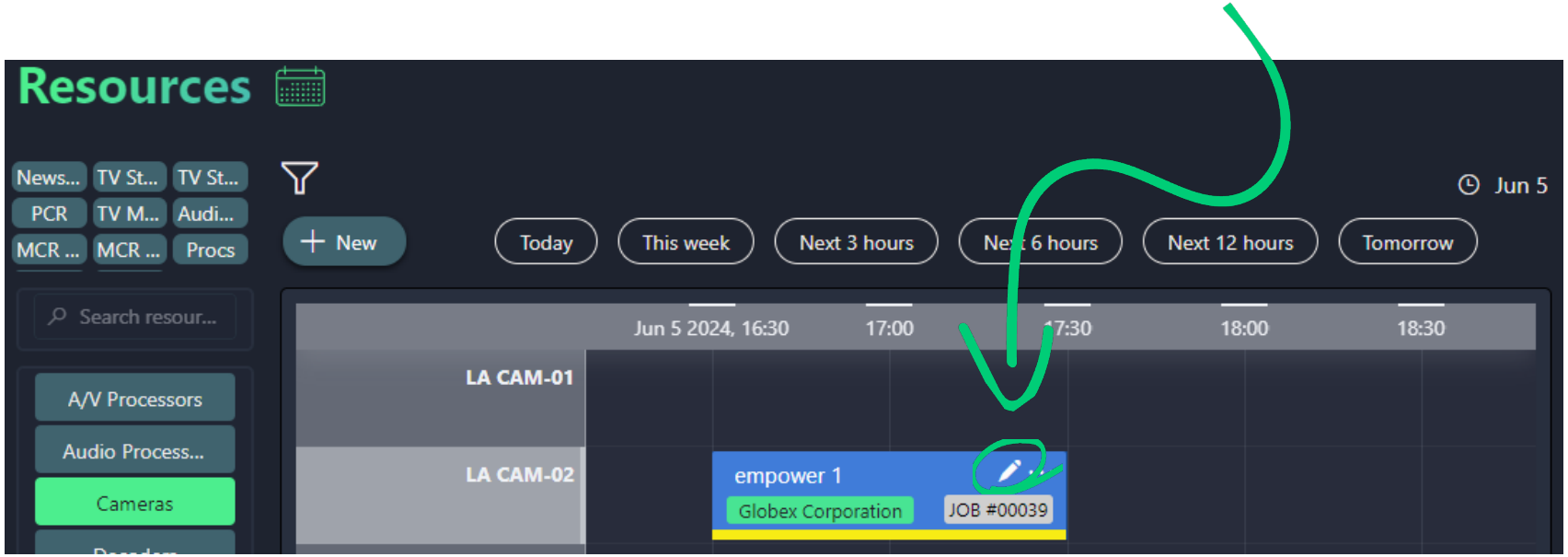
- On the next dialog enter the
  - **Organization:** the customer which has ordered the job.
  - **Job Owner:**
    - Indicates who is the main contact/responsible for this job
    - Only shows people within the selected organization
  - **Contract**
    - Determines the billing for the job
    - Only shows contracts linked to the select organization
- Click Save



Scheduling

Viewing/editing a Job

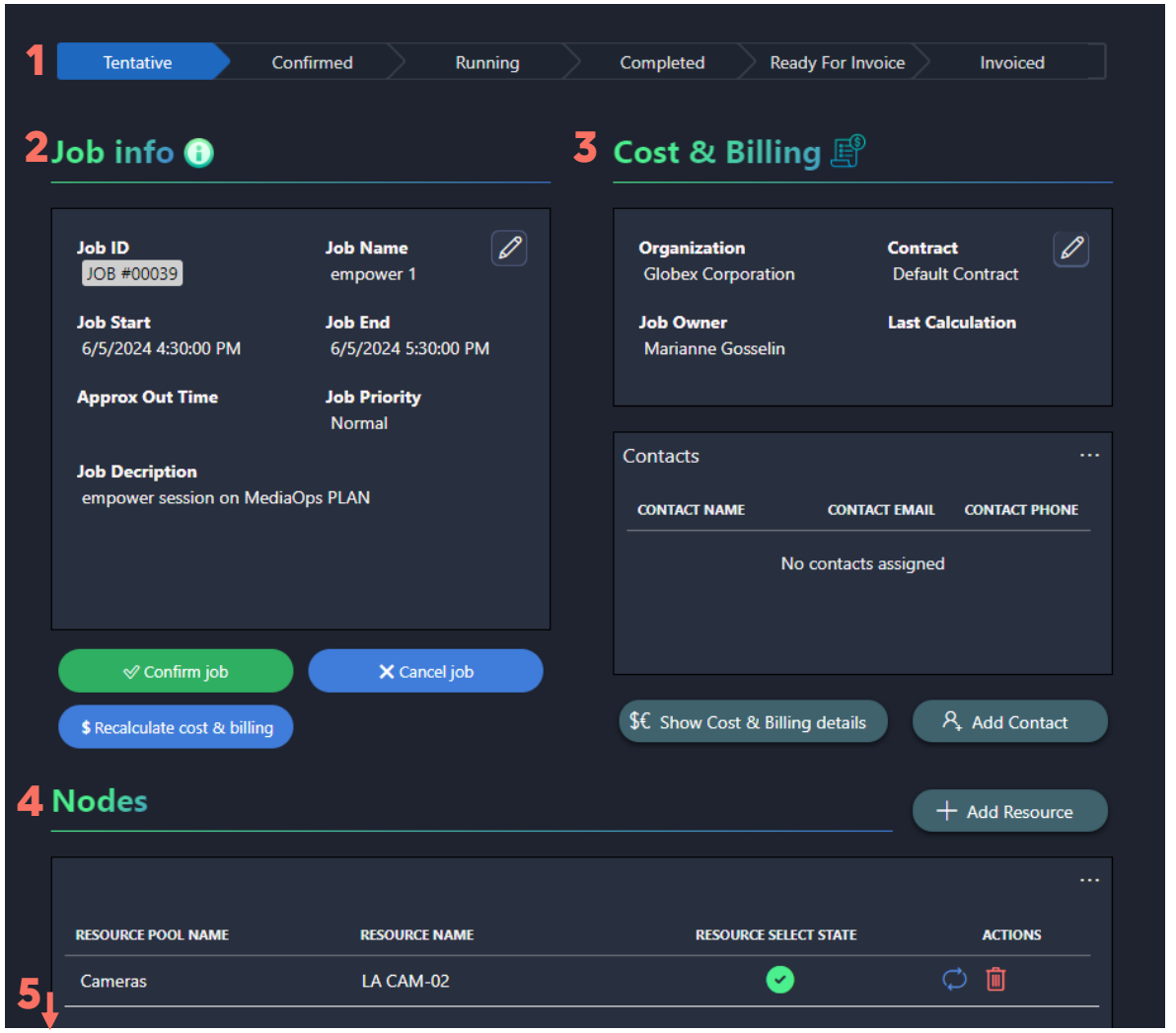
- On the Resource page: find the job called **empower 1** and click the **pencil icon** to view the details of job



Scheduling

Viewing/editing a Job

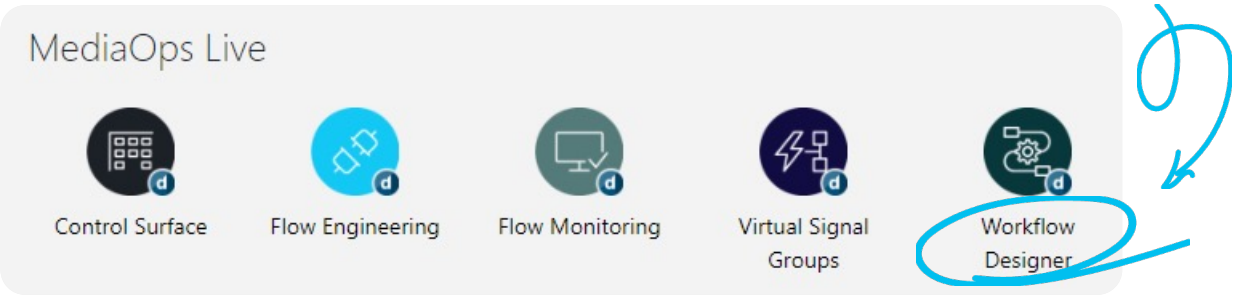
- This will show the **Job detail panel** where you can find all info related to the job:
  1. **Job state:** current state of the job
  2. **Job info**: job metadata
  3. **Cost & Billing:** Organization / Contract / job Owner
  4. **Nodes** : shows which resource(s) are booked by this job. In this case: LA CAM 02
  5. **Workflow** : workflow representation of all booked nodes



Scheduling

Building a workflow

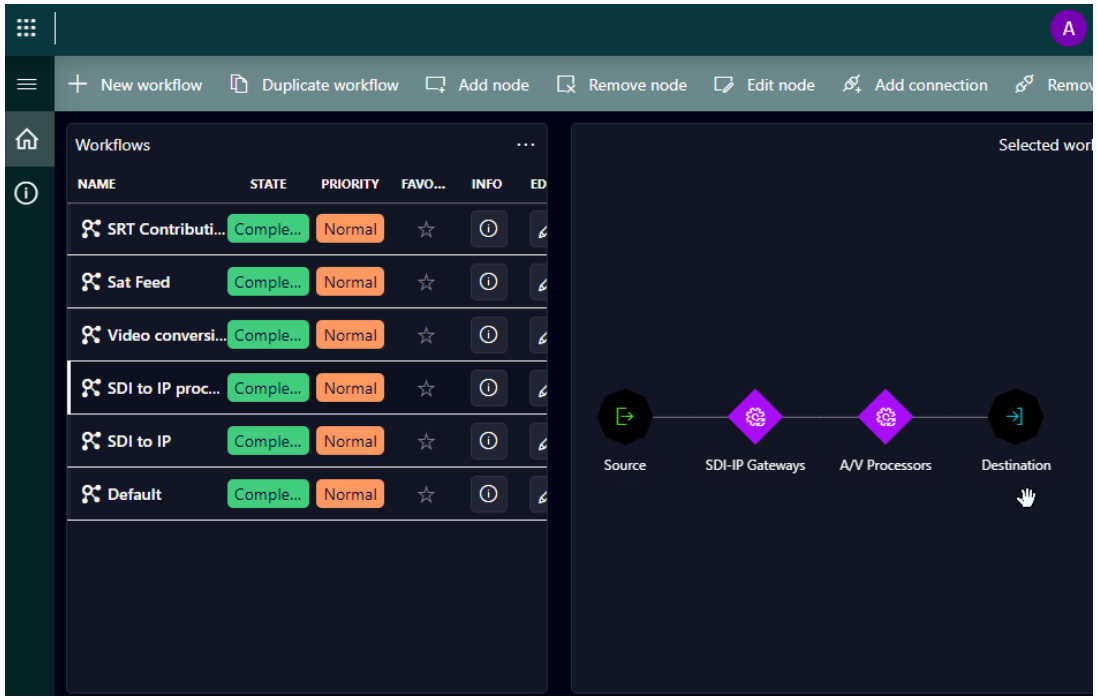
- Workflow Designer
  - Allows to design resource workflows to be used when scheduling a job
  - To open it go back to app overview and select the app called **Workflow Designer**



Scheduling

Building a workflow

- Workflow Designer:
  - Allows to define the **technical workflows**
  - Both **ad hoc** and **scheduled** operations.
  - Consists
    - Sources
    - Destinations
    - Resource pools
    - Resources
    - Connections

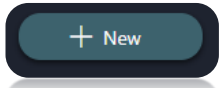


Note:
Workflow Designer will be covered during the MediaOps LIVE sessions on Wednesday

Scheduling

Creating a Job (from workflow)

exercise

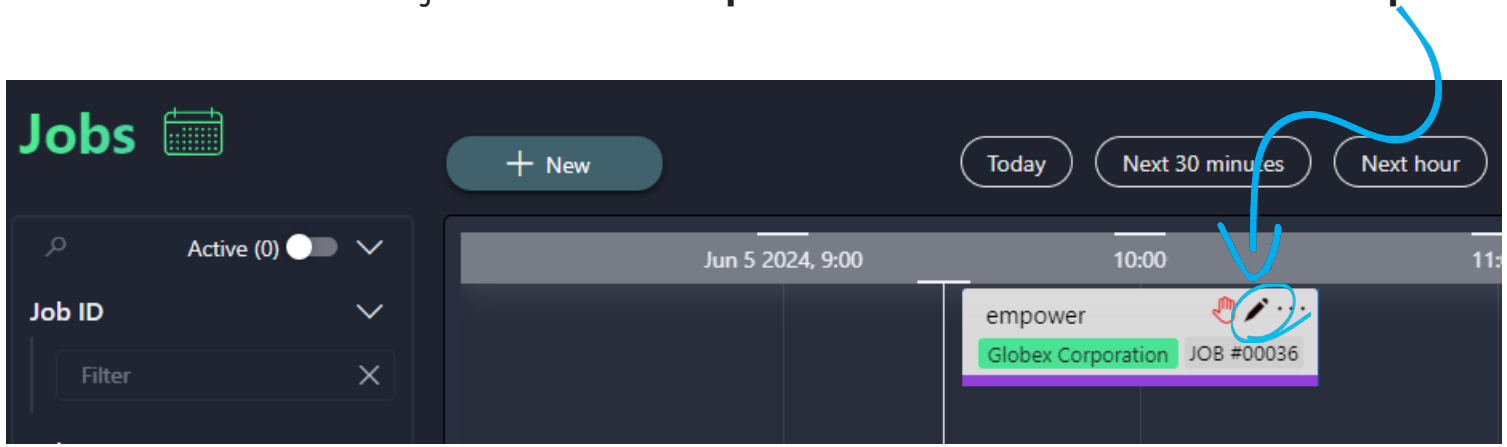
- Open the Scheduling app again
- On the Jobs page click the 

button
- In the dialog **Create Job** enter:
  - Name : empower workflow
  - Description : …
  - Start and End time : some time range in the future
  - Workflow: select from drop-down the workflow called "**SDI to IP processed"**
- Click **Next**

Scheduling

Viewing/editing a Job

- On the schedule find the job called **empower workflow** and click the **pencil icon** to view the details of job



Scheduling

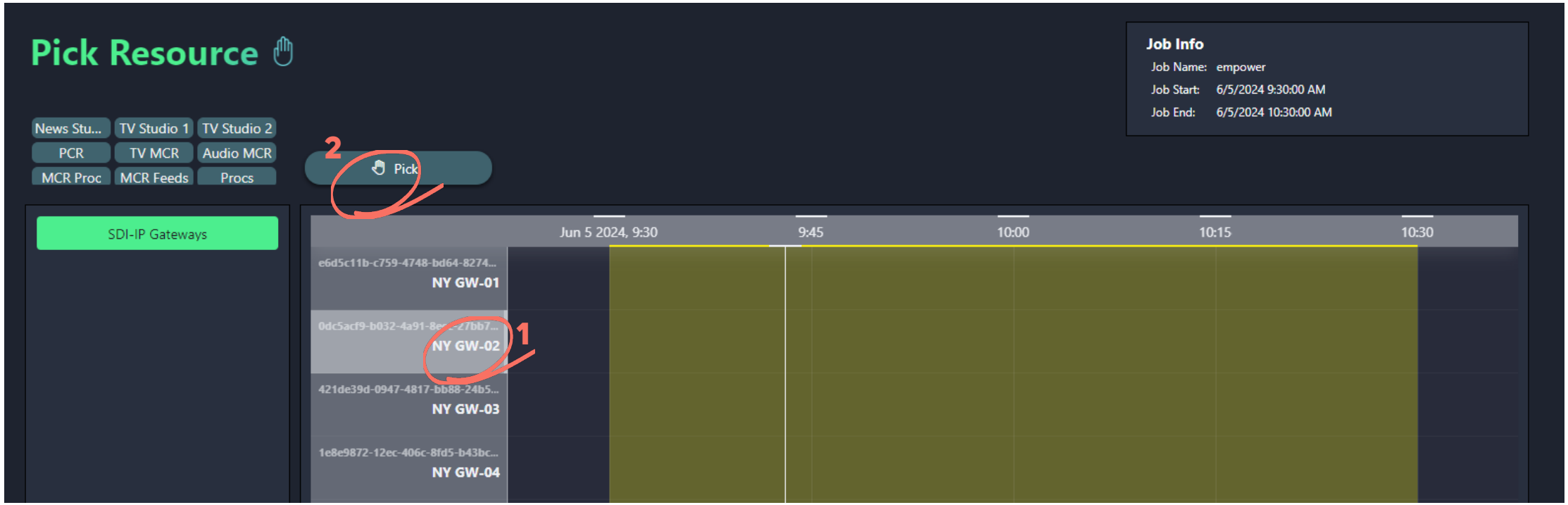
Assigning a resource from a pool

- In the **Nodes** list we can see which resources have already been assigned to the job
- The row with the  icon indicates that a resource pool has been assigned , but we did not pick an actual resource for it yet.
- Click the  icon to open the schedule view showing the availability of resources in that pool

Scheduling

Assigning a resource from a pool

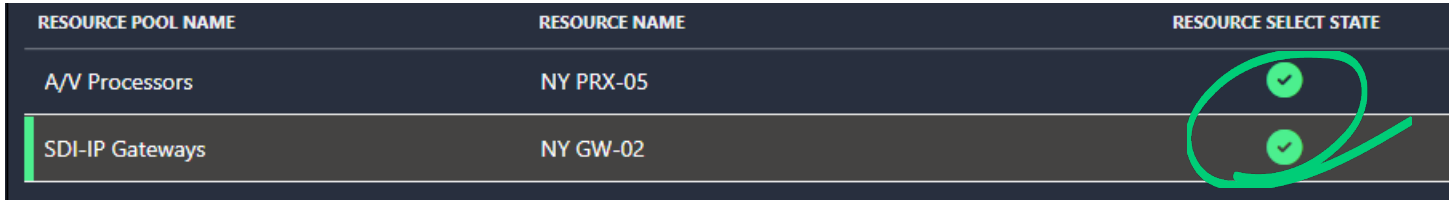
1. To pick a specific resource select it on the left side of the schedule view: e.g. NY GW-02
2. Next click the **Pick** button to confirm the selection



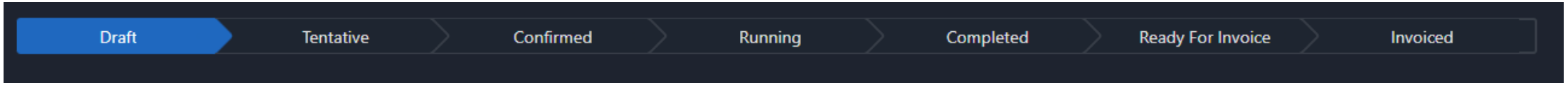
Scheduling

Moving a job to the next state

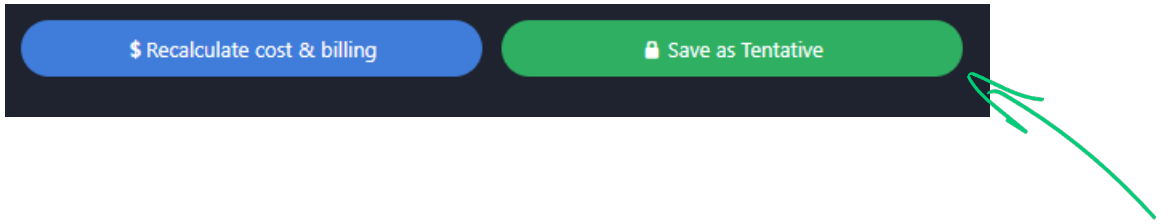
- Once we close the dialog , we can now see that all resources have been selected



- On the top of the job panel we can see the job is still in **Draft** state



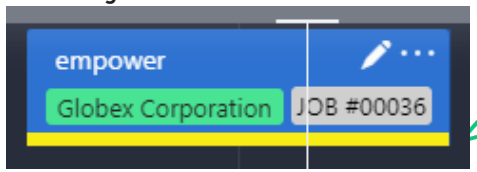
- To move the next state click the **Save as Tentative** button

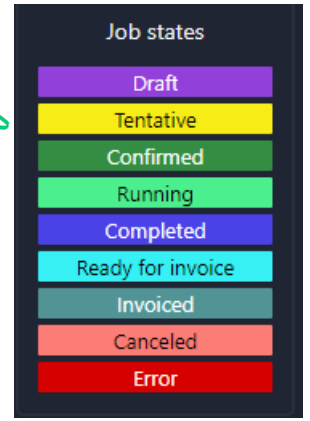


Scheduling

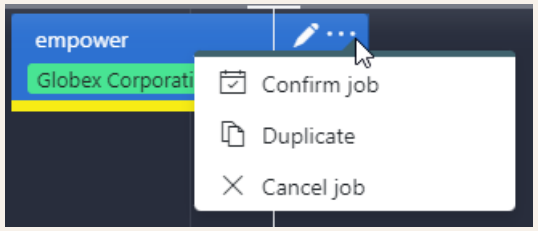
Moving a job to the next state

- Once we close the job panel , we can see that the job state has changed (yellow color)





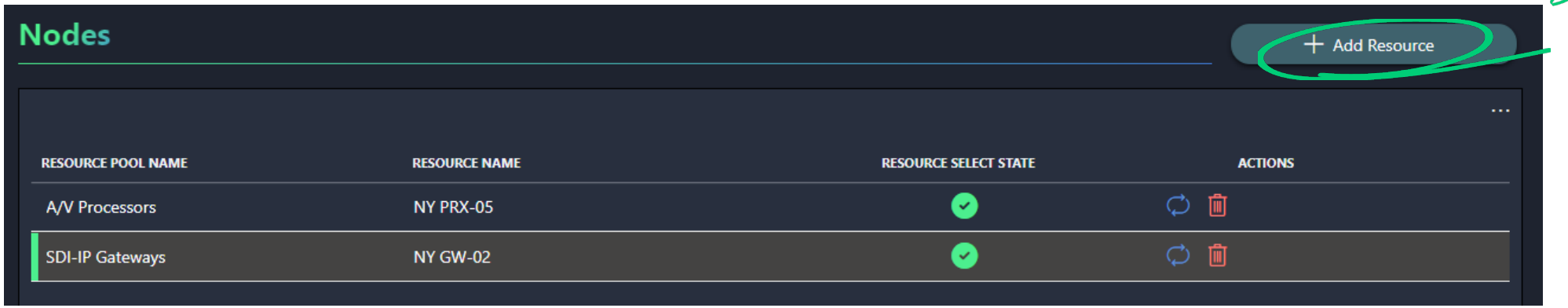
Note: you can also move between states from the schedule view directly (via context menu)



Scheduling

Adding additional resources to a job

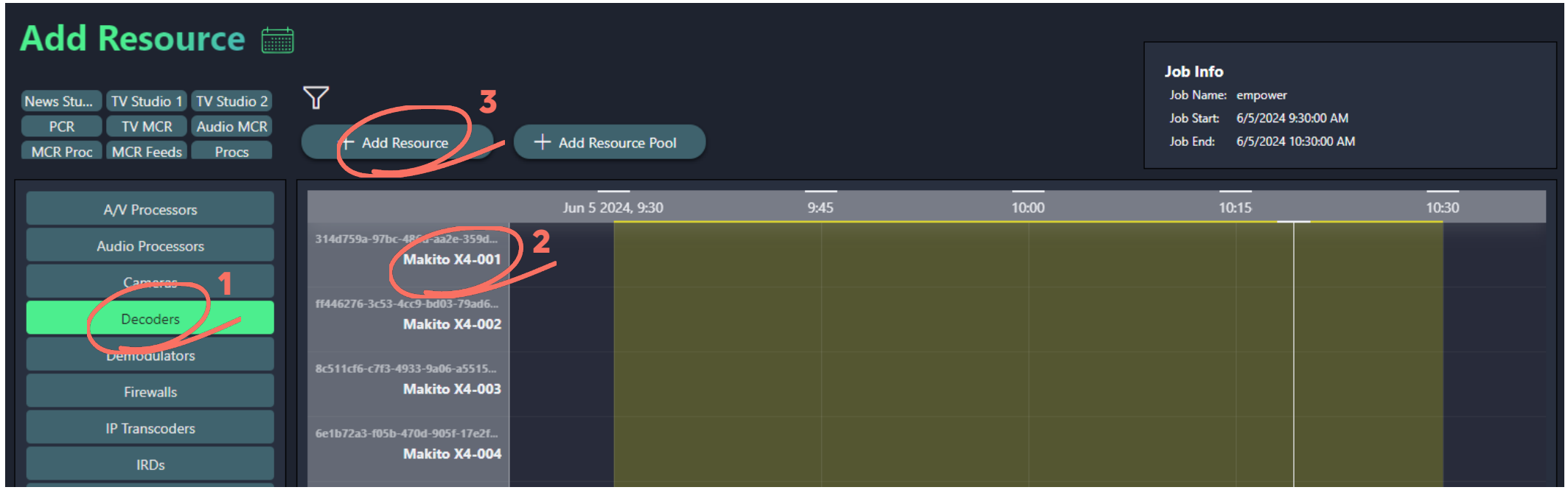
- Open the job again from the schedule (pencil icon)
- On the job details panel, click the **Add resource** button on top of the **Nodes** table



Scheduling

Adding additional resources to a job

1. Select a resource pool on the left most grid (e.g. Decoders)
2. Select a resource from the pool by select it on the left side of the schedule (e.g. Makito X4-001)
3. Click the **Add Resource** button

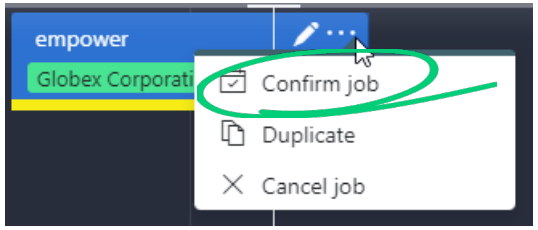


Additional exercise: try to swap out a resource with another one from the same pool

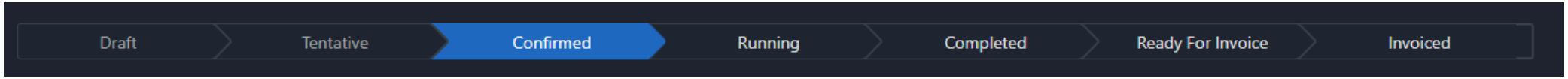
Scheduling

Moving a job to complete state

- Now we have all resources that we need , we can move the job to confirmed state
  - Can be done from the job details panel or from the schedule view

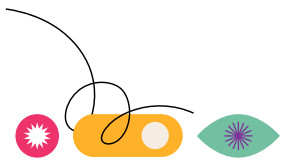


- Validate that the job has moved to **Confirmed** state by checking the stepper component



- Now our job is ready to start whenever the start time is reached, in which case it will move to the **Running state**

Event Manager

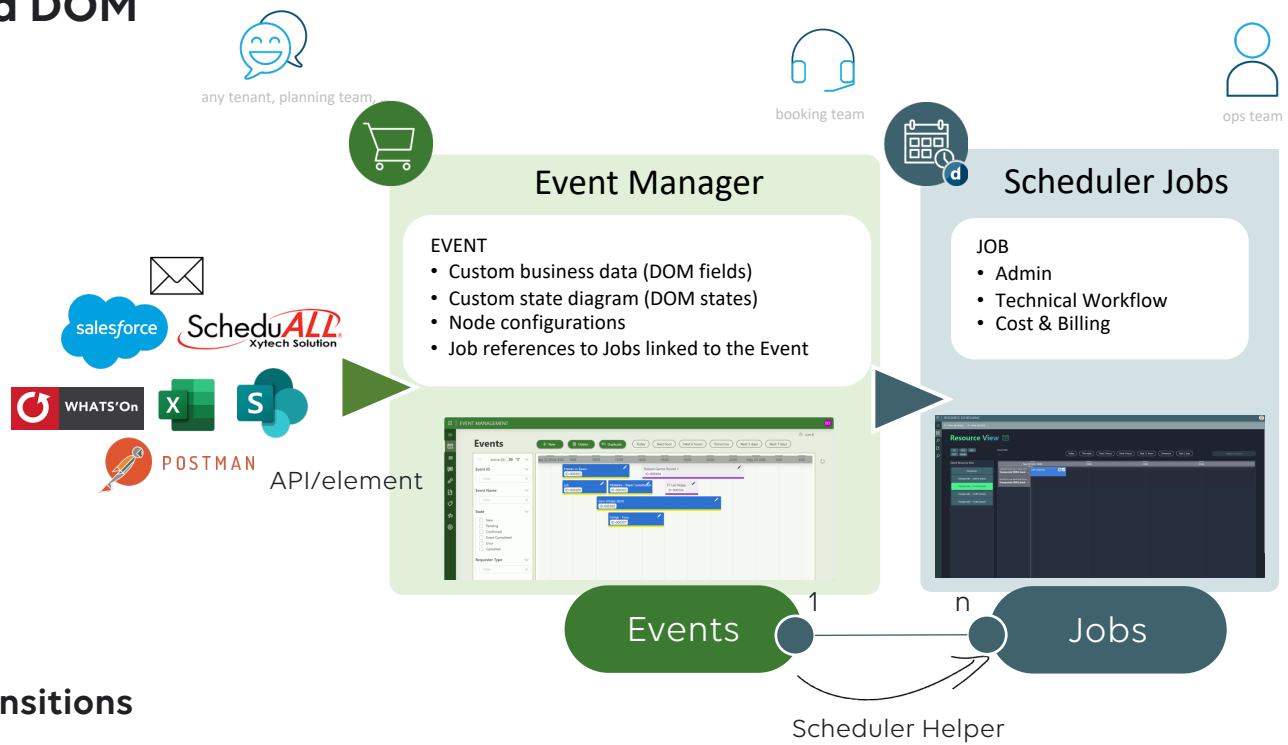


*Sample app (no DataMiner Standard Solution such as MediaOps)

Event Manager*

Customized layer with **unlimited flexibility and automation**

- **'Event' layer on top of Jobs** leveraging **LCA and DOM**
  - Custom **DOM model** in line with business data models
  - Custom Event **state diagram** in line with processes
  - **Tailored** to business logic & processes of the use-case
- **Variety of options to Generate Events**
  - **Manual creation** in the LCA using forms ('+ New' button)
  - **API** integrations (E.g., ScheduALL, Postman)
  - Processing unstructured text using **AI** (E.g., ChatGPT)
- **Automated management of Jobs in Scheduler**
  - Based on Event meta data → auto **create** Jobs for Event
  - Based on business processes → automate Job **states transitions**



Example

Football fixture planned in What's On (Bundesliga: Bayern – Dortmund)

WHATS'On

Event containing meta data
- Regions to distribute to (e.g., Belgium, Austria, ...)
- Audio and video configurations (e.g., Dutch commentary on CH1)

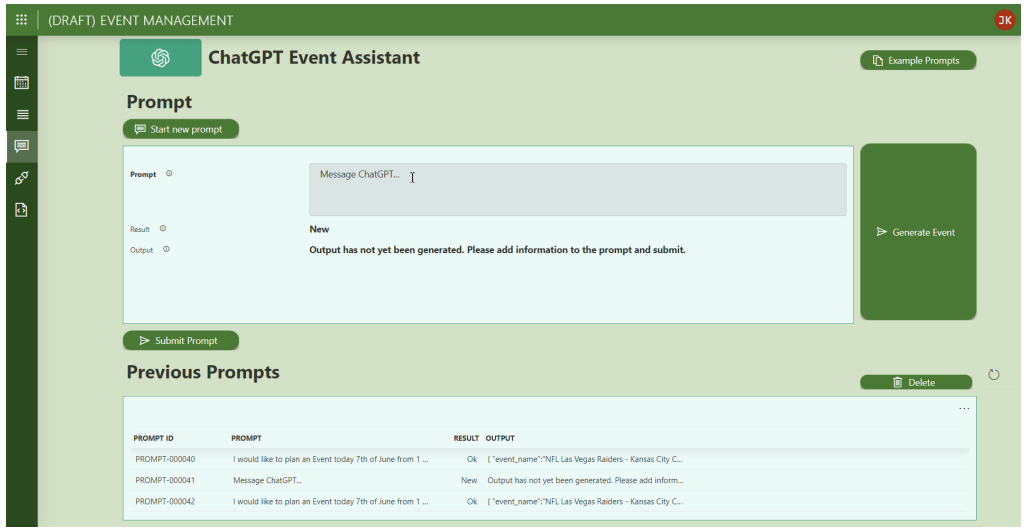
Distribution to Belgium

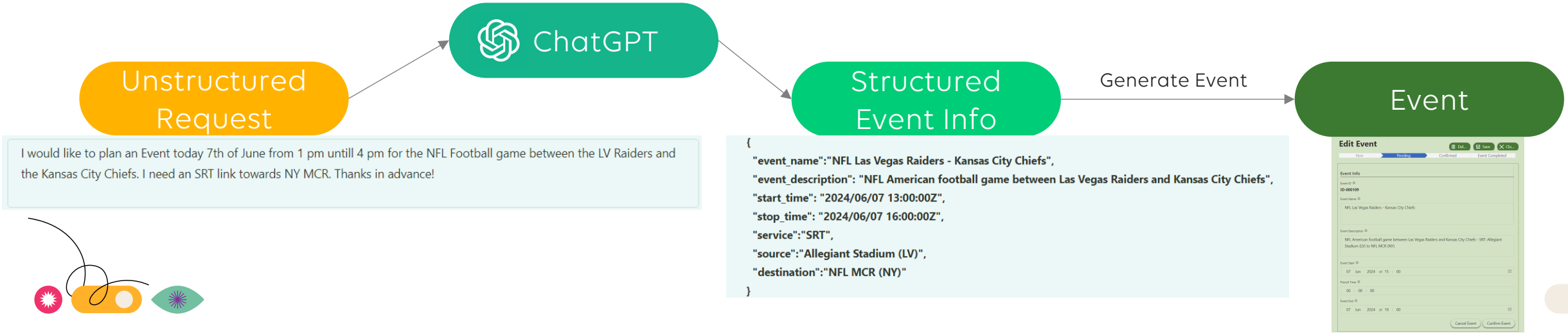
Distribution to Austria

Auto creation of Jobs

Event Generation using GPT models

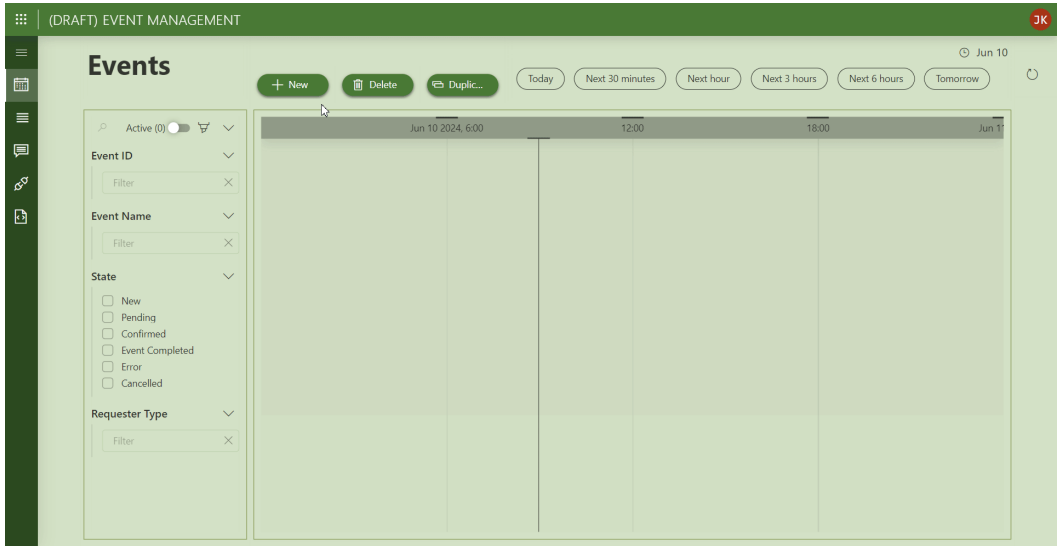
- Requests often come in with **unstructured format** (E.g., mails, pdf, …)
- **GPT models** allow to interpret this information and automatically **translate into an Event fields**
- **Minimizing manual intervention** by plan/booking teams

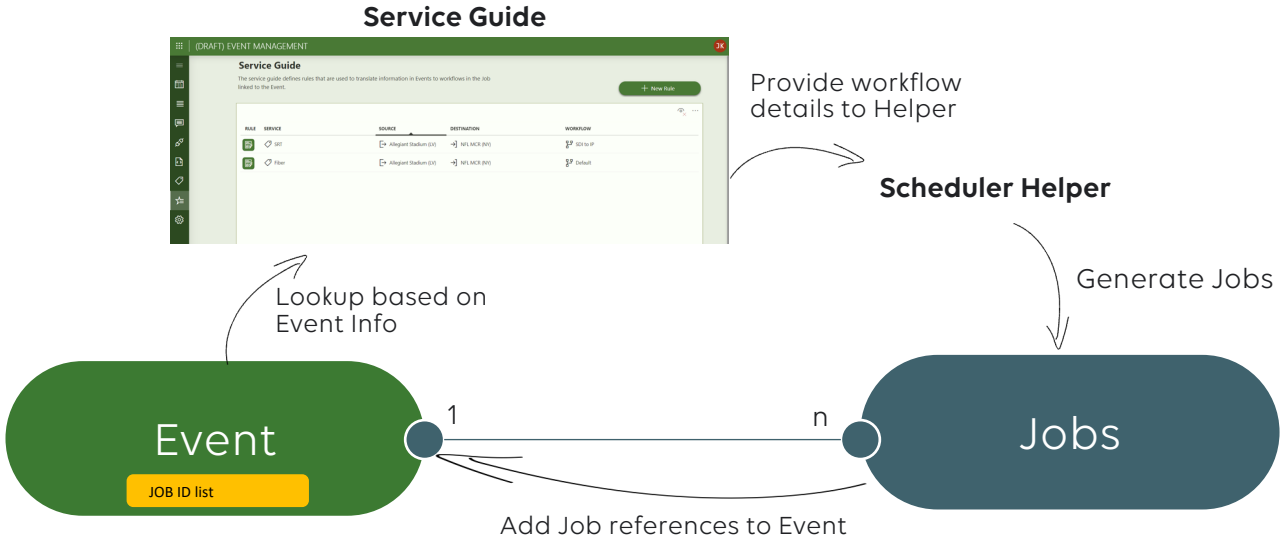




Automatic Creation of Jobs in Scheduler

- **Automatically Create Jobs** based on **business rules**
  - Defined in custom automation scripts
  - Or more generic scripts reading **'Service Guide' Table**
- Translate Event info into Job(s) with workflow(s)



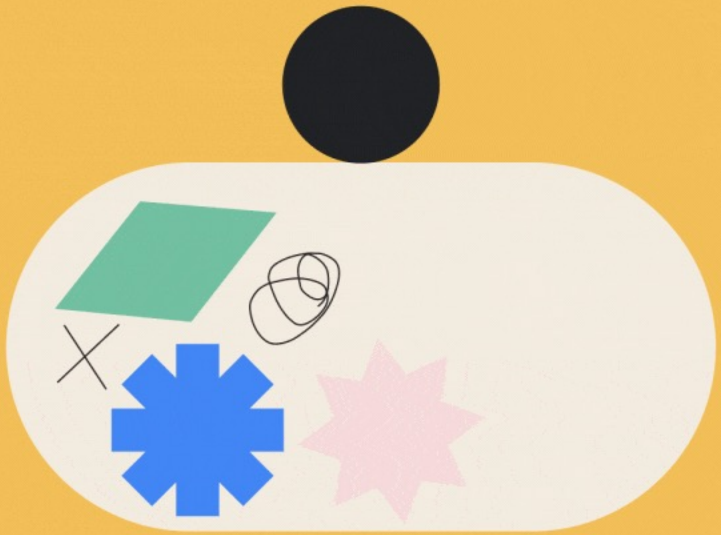


Later today (16h40 – 17h20)

dataminer.MediaOps PLAN part 2

Break

SEE YOU IN XX MINUTES



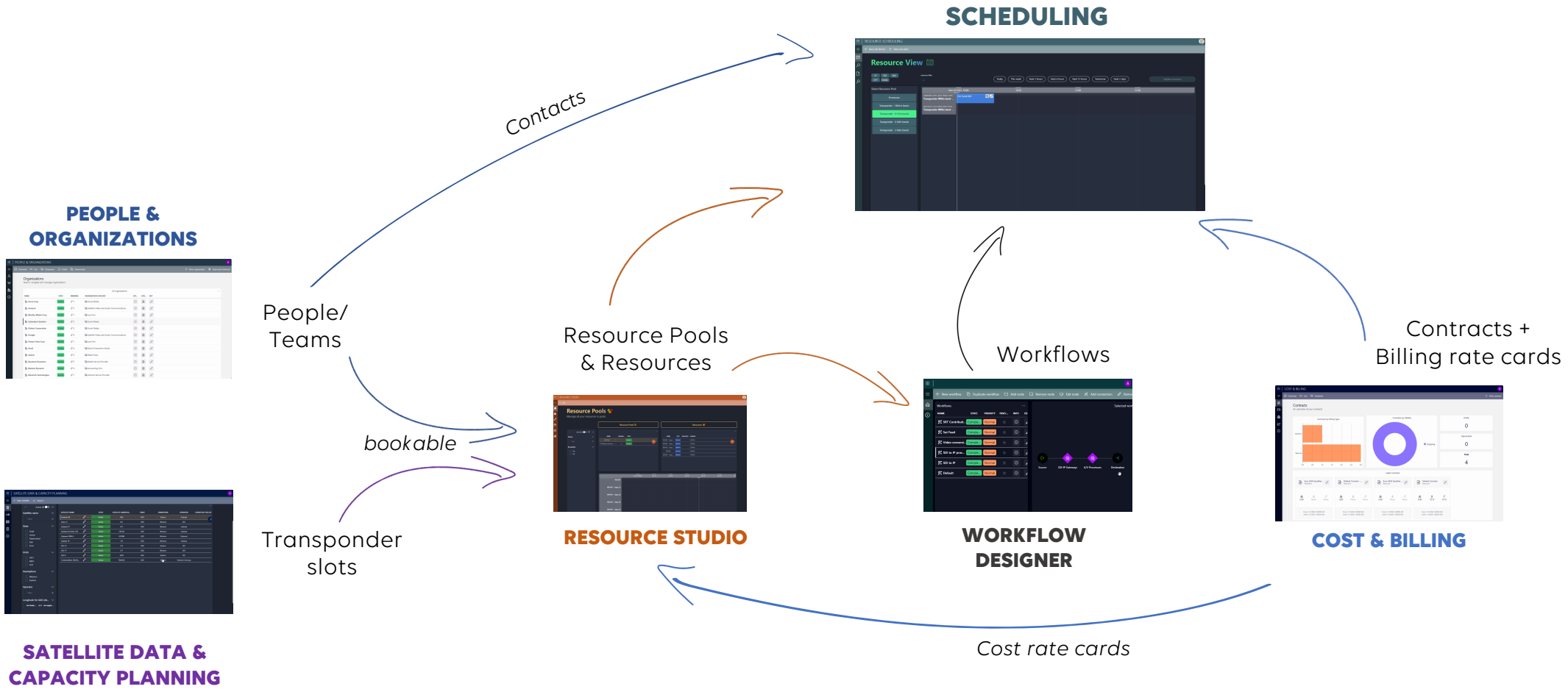
Agenda:

(16h40 – 17h20)

- Resource Studio
  - create your own resources, pools, capabilities and capacities
- People & organizations
  - Create your own organization, team and bookable staff
- Costing & billing
  - Create your own cost rate card, billing rate card, contract
- Transponder management
  - create your own transponder plan and book a slot
- Scheduling
  - Schedule a job using all the created objects above

dataminer.MediaOps PLAN

How do these apps relate to each other?

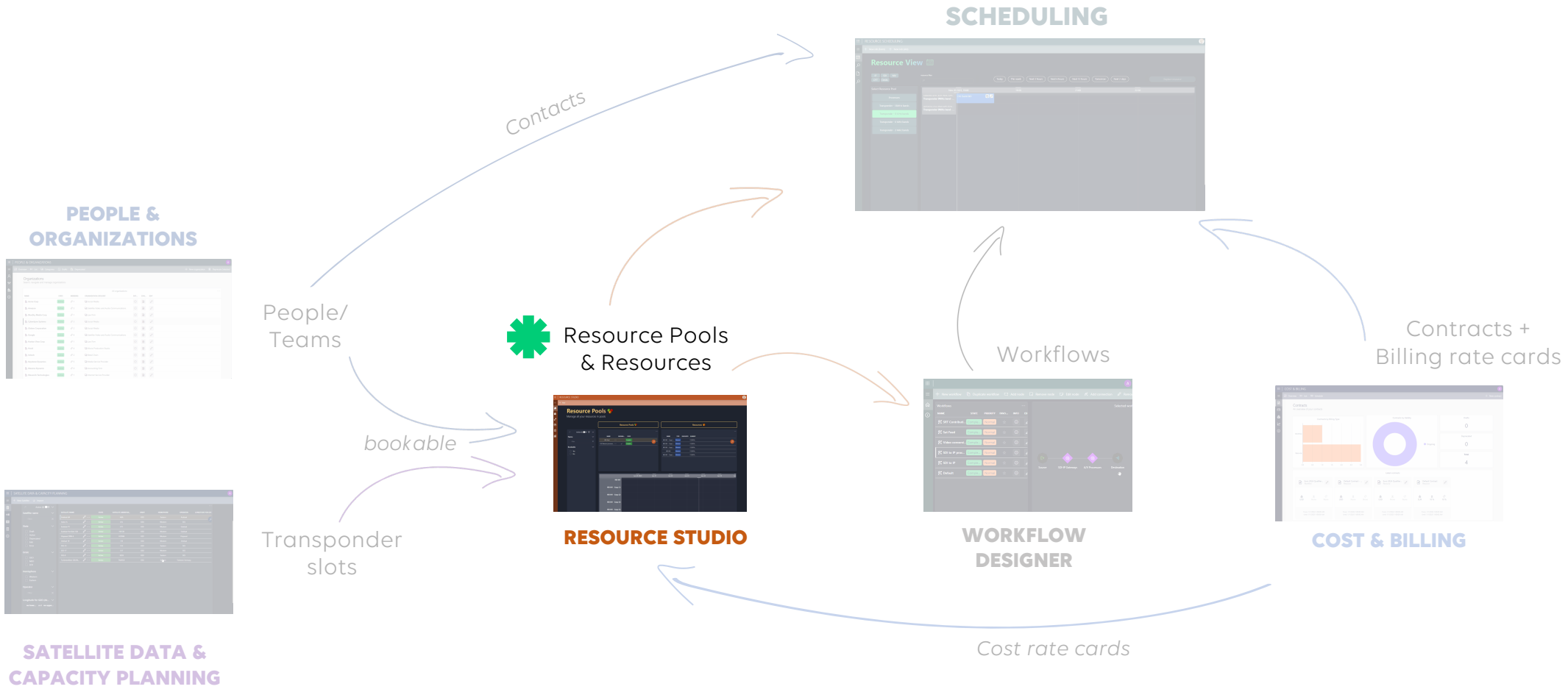


Resource Studio

All the things you need to schedule, managed in one place!

Resource studio

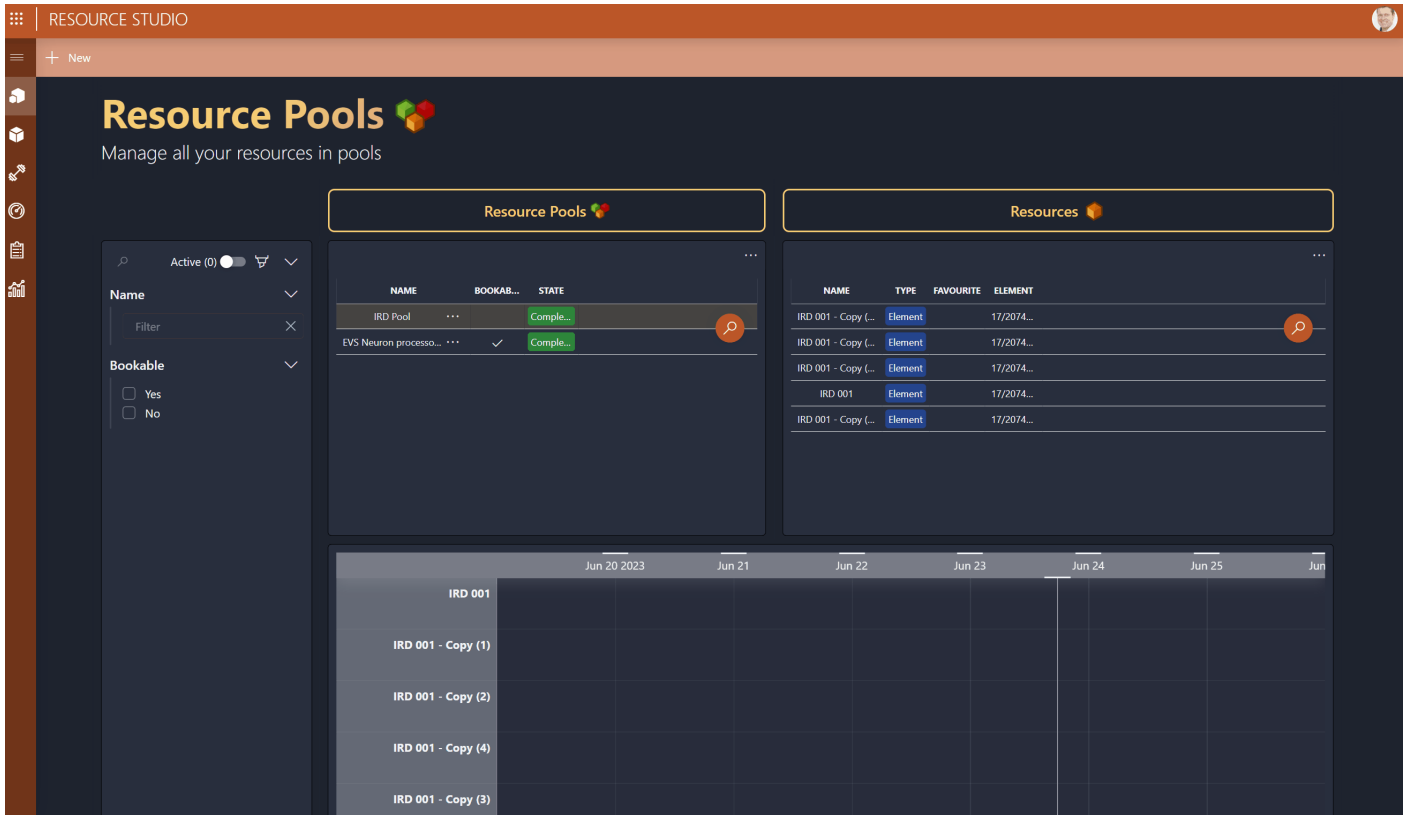
Management and optimization of your resource inventory



Resource studio

Management and optimization of your resource inventory

- **Centralized** management of all your resources.
- Both **managed** and **unmanaged resources**.
- Define what your resources are **capable** of, what **properties** and how much **capacity** they have.
- Organize large numbers of resources in **Resource Pools**.
- Gain **insight** on how your resources are being used.
- Set **costing** information to track how much your resources cost based on the schedule.

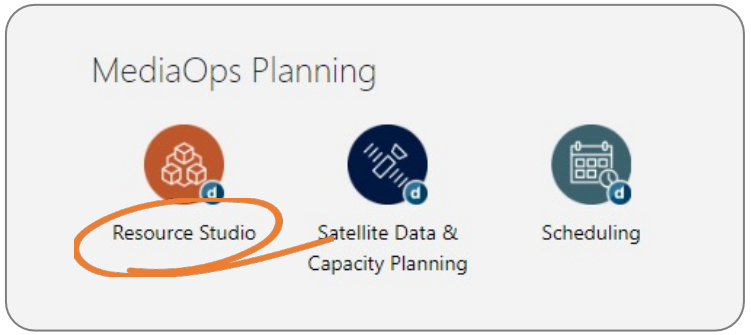


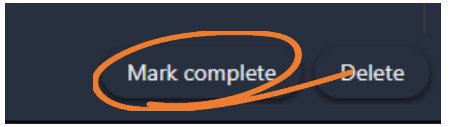
Resource studio

exercise

Create a new resource pool

- From the home page, open the Resource Studio app
- On the **Resource Pools** page, create a new pool by clicking the **New** button (top left)
- In the form enter
  - Name: **Antennas**
  - Cost ratecard : Default Resource Ratecard
- Click **Save**
- In resource pool table, click the pencil icon next to the newly created pool
- Click the **Mark Complete** button on the bottom right
- Now the resource pool moved from **draft** to **complete** state



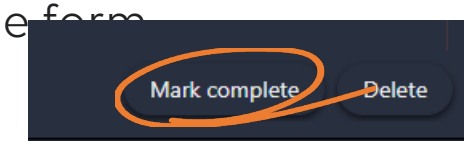


Resource studio

exercise

Create a new resource

- On the **Resources** page, create a new resource by clicking the **New** button (top left)
- In the form enter
  - Name: **Antenna 1**
  - Type: **Unmanaged**
- Click **Save**
- **Search** for the newly created resource by using the **query filter** on the left
- Click the **pencil icon** next to the Antenna 1 resource to open the form
- Click the **Mark Complete** button on the bottom right
- Now the resource moved from **draft** to **complete** state

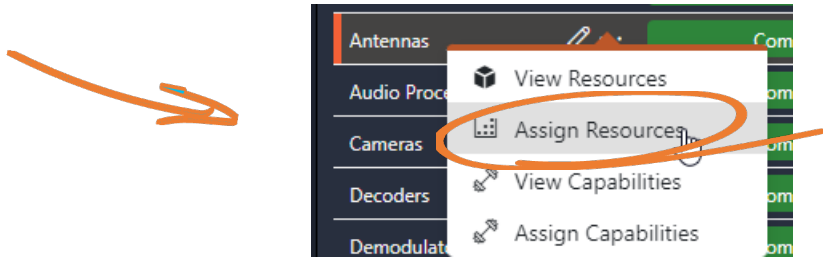


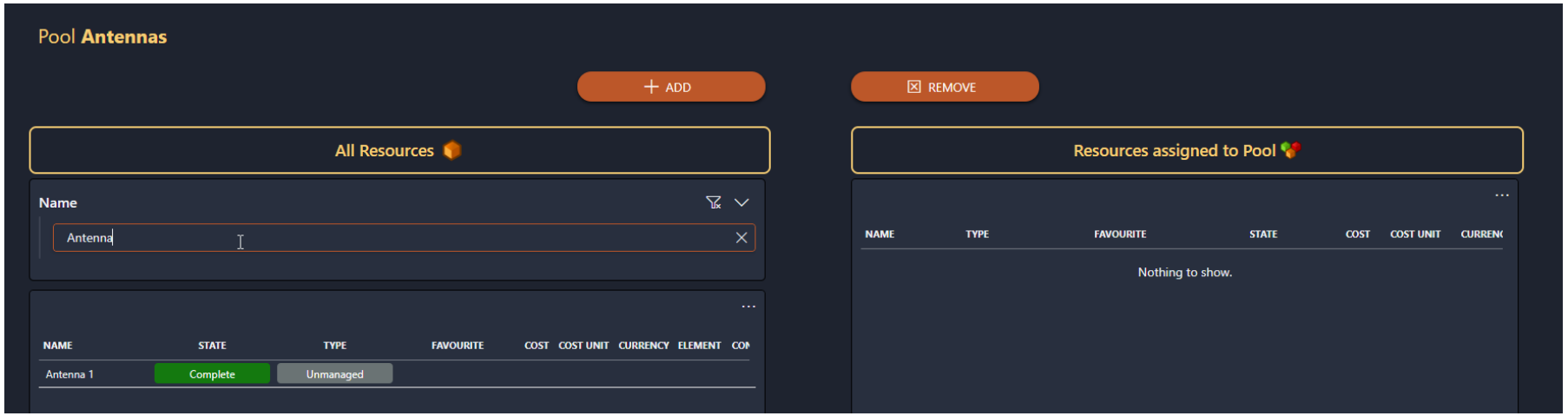
Resource studio

Adding the resource to the pool

exercise

- Go back to the **Resource pools** page
- Click the context menu next to the **Antennas Pool**
  - Select **Assign Resources**
- Filter on **Antenna** on the "All Resources" table
- Select **Antenna 1**
- Click the **Add button** to add it to the pool



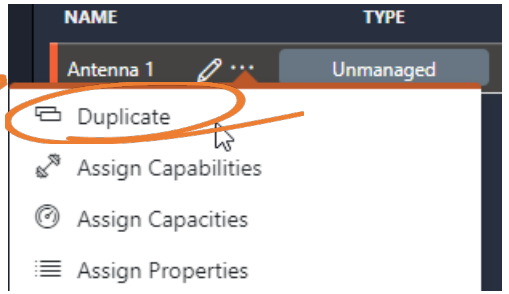


Resource studio

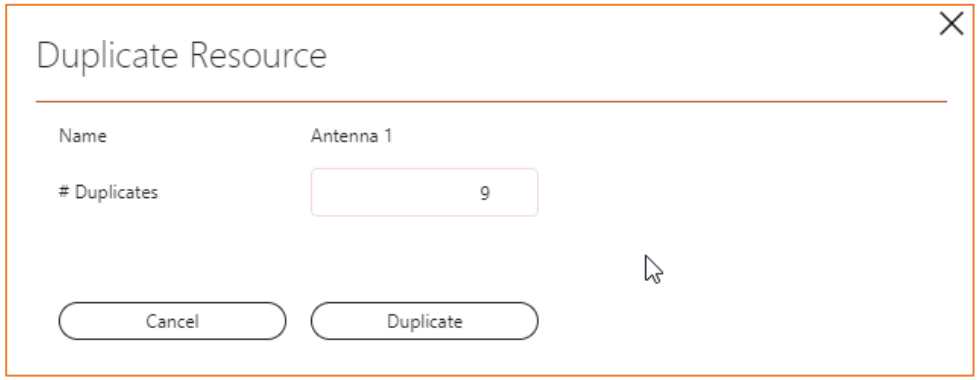
Duplicating resources in a pool

exercise

- Close the panel to go back to the **Resource pools** page
- Click the **Antennas** pool in left-hand table and confirm it contains 1 resource in the right-hand table.
- Click the context menu (...) next to the **Antenna 1** resource and select **Duplicate**



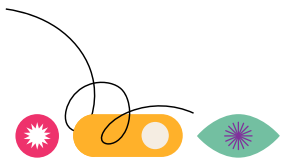
- In the dialog enter the number of duplicates you want to create: e.g. 9



- Confirm that the Antennas resource pool has 10 antenna resources now.

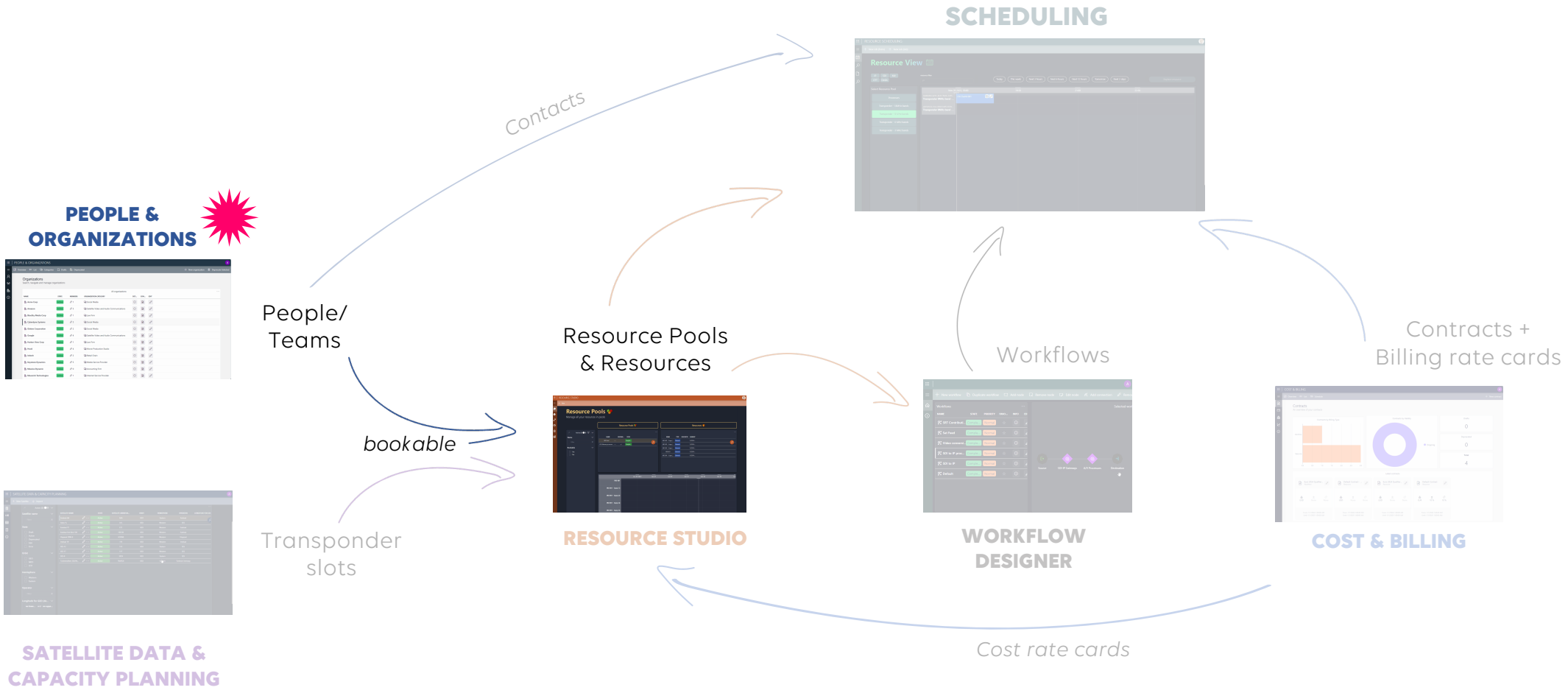
P&O - People & Organizations

Managing contacts and human resources across MediaOps



People & Organizations

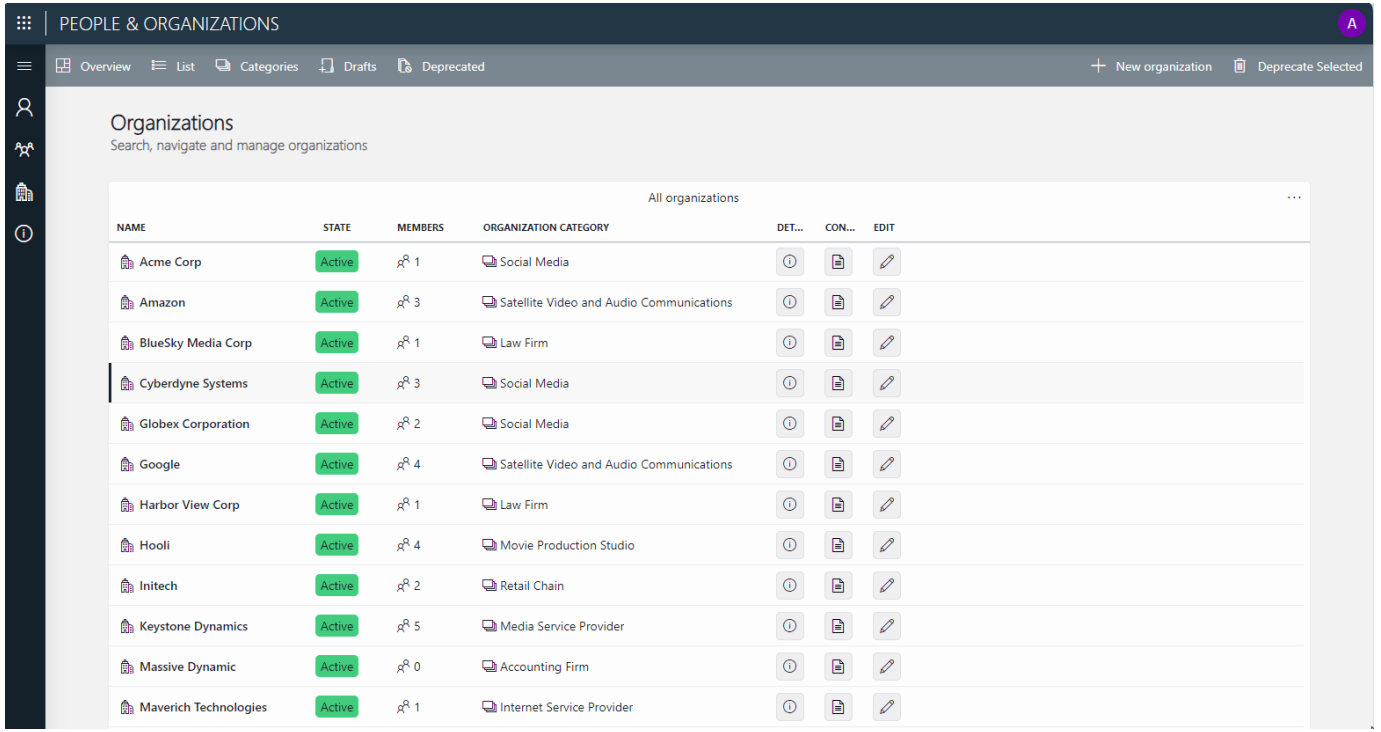
Manage organizations, teams and people



People & Organizations

Manage organizations, teams and people

- Manage **organizations**, **teams** and **people**
- Spans across the **supply chain** : your teams, contractors, suppliers, customers …
- Contacts can be used in any other application
- Turn people and teams into **bookable resources** and **resource pools**
- Assign **expertises** to teams, and **skills** to people, to facilitate **accurate booking**
- Integrate with **3rd party CRM systems** to exchange (import / export) people and team information (engineering)



People & Organizations

Exercise

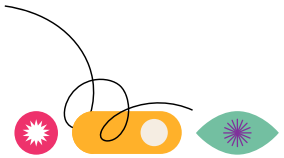
exercise

OBJECTIVE:

Create an organization with team and contact(s)

Steps

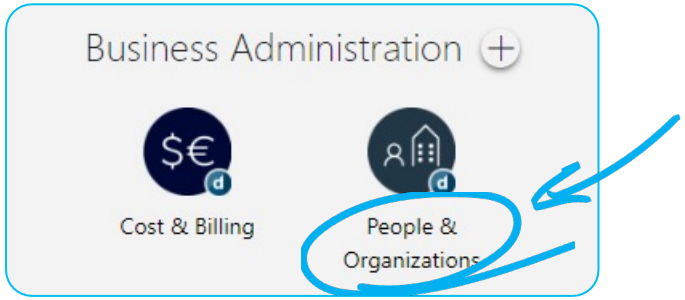
1. Create a new organization
2. Create a new contact
3. Create a team
4. Make a team bookable



People & Organizations

exercise

1. Create a new organization



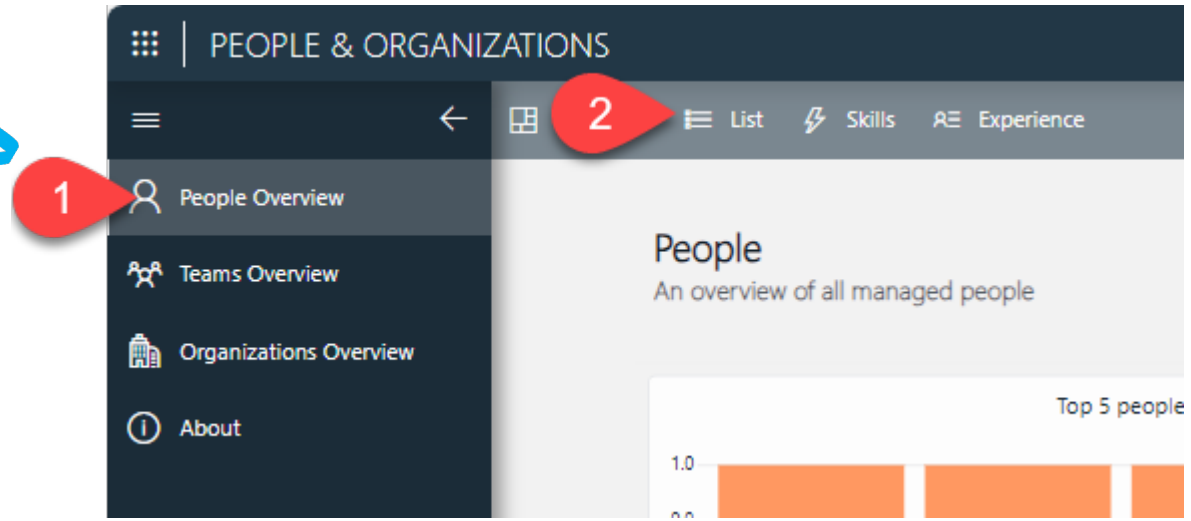
- From the home page, open the **People & Organizations** app
- Go to the **Organizations** page
- Click the **List** menu on top
- On the top right click **New Organization**
  - Enter the Organization name of your own company
  - Select a Category
  - Click Save
- Select the newly created organization in the list
- Click **Activate Selected**

People & Organizations

exercise

2. Create a new contact

- Open the **People Overview** page
- Click the **List** menu in the header bar
- Click the **New contact** button in the header bar
- Enter following data in the form,
  - Name: your name
  - Personal skills: select a value from the drop-down
  - Experience level : select a value from the drop-down
  - Fill in following mandatory fields :
    - Email
    - Phone
    - Street address
    - City
    - Zip
  - Organization: select the organization you created in step 1
- Click Save

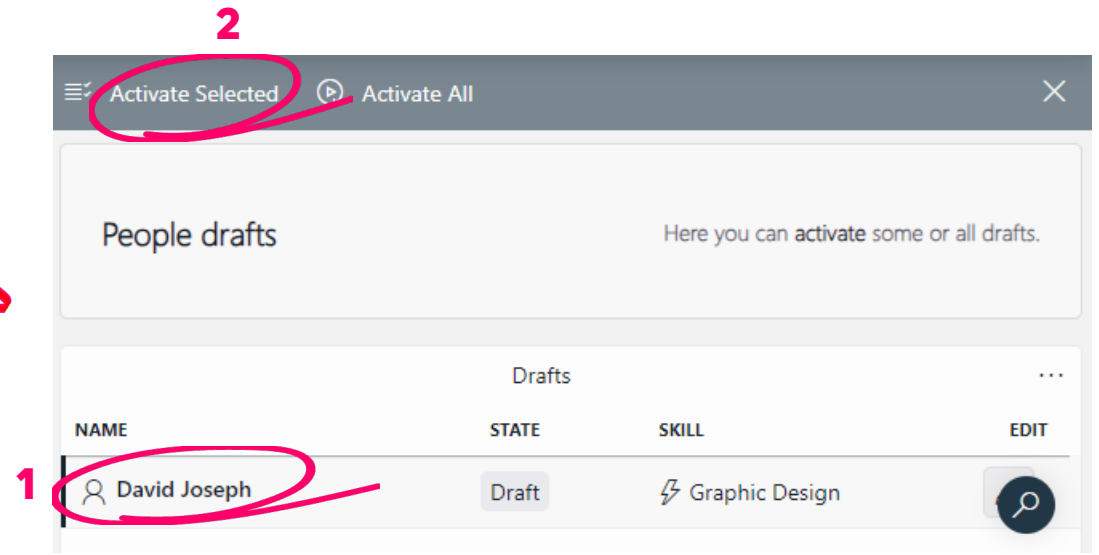


People & Organizations

2. Create a new contact

exercise

- The **People Drafts** panel will appear and should contain your newly created Person.
- In the **People Drafts** dialog:
  1. Selected the newly created contact
  2. Click **Activate Selected**

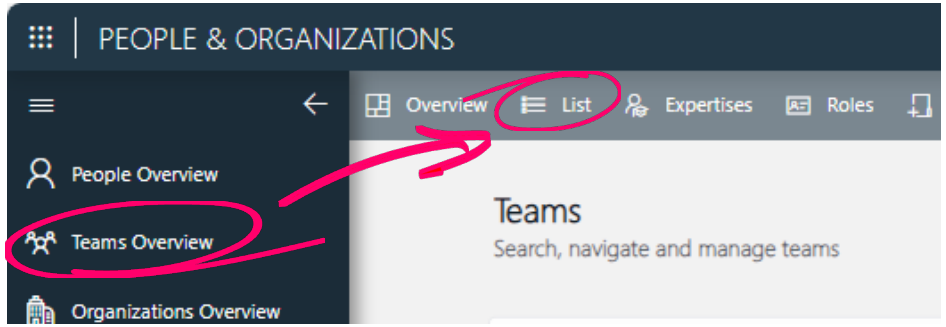


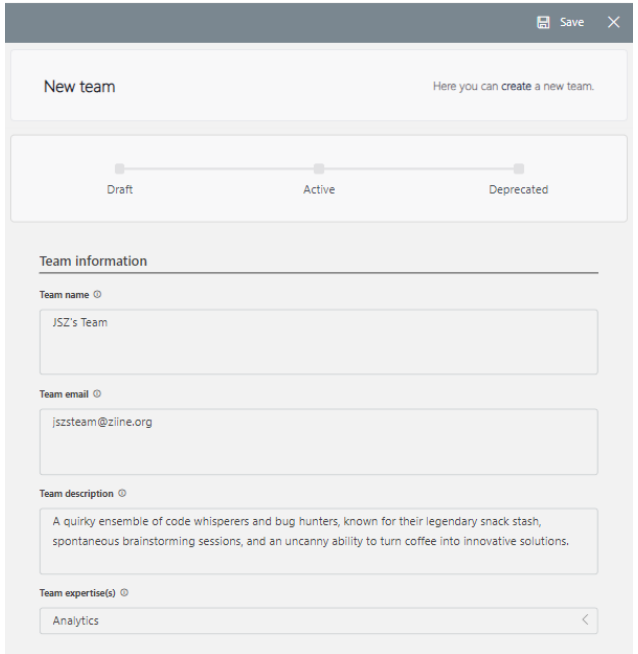
People & Organizations

3. Create a team

exercise

- Next, let's create a new Team. First, switch to the **Teams Overview** page and select the **List** view.
- In the upper right corner of the page, click the **New Team** button.
- The **New Team** panel will open. Fill out the required fields. *TIP: use your initials in the Team Name to make it unique to you. For ex., JSZ's Team.*
- When finished, click **Save**. The new team will show up in the **Team Drafts** panel.
- Select *your* team and then click **Activate Selected** to activate your team.
- Once the team is active, it will disappear from the panel and appear in the Teams table.



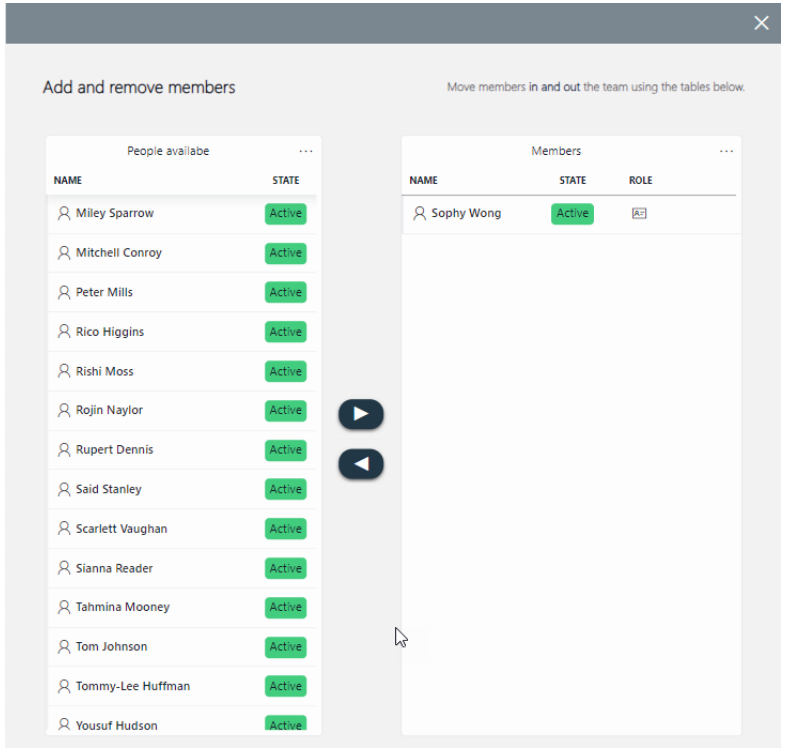


People & Organizations

4. Add people to the Team

exercise

- From the Teams table, find the team you just created.
- On the right side, are two icons, one to edit the team members and one to edit the team record. Click **Edit Team Members** icon.
- In the panel that opens, click the **Edit members** button in the upper left.
- The **Add and Remove members** panel appears. Find and select the person you previously created.
- Click the button with an arrow pointing to the right to move the person to the team.
- Close the Add and Remove panel.

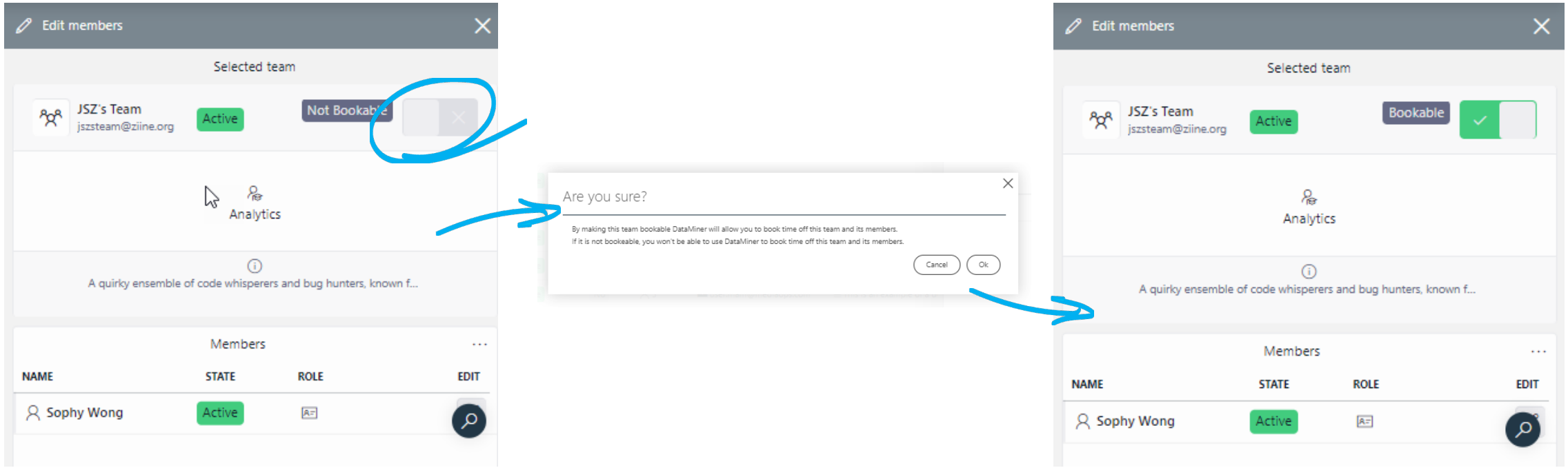


People & Organizations

exercise

5. Make your team bookable

- With your Team still selected, click the Bookable switch.
- Confirm you want to make it bookable.
- The team should now show as bookable.

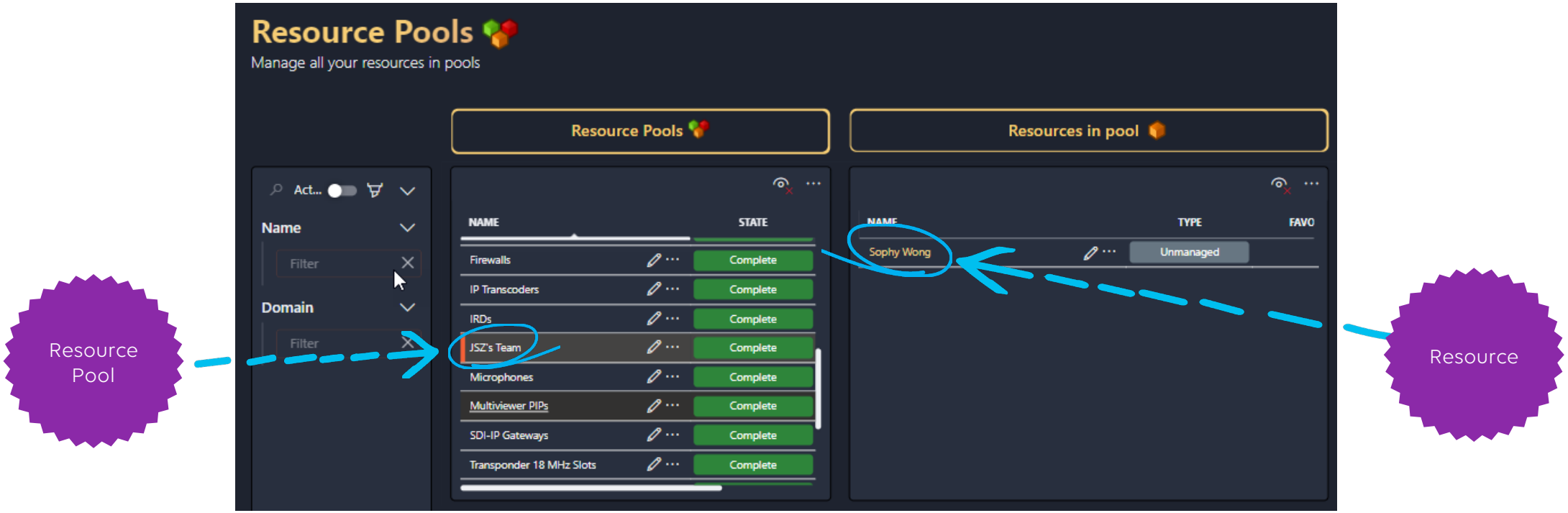


People & Organizations

exercise

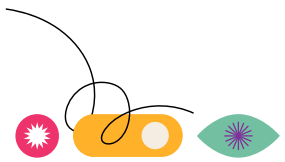
6. Confirm your resources have been created

- If you would like to confirm your resources have been created, you can:
  - Open **Resource Studio**
  - On the **Resource Pools** page, verify your team is a Pool and team member is a Resource.



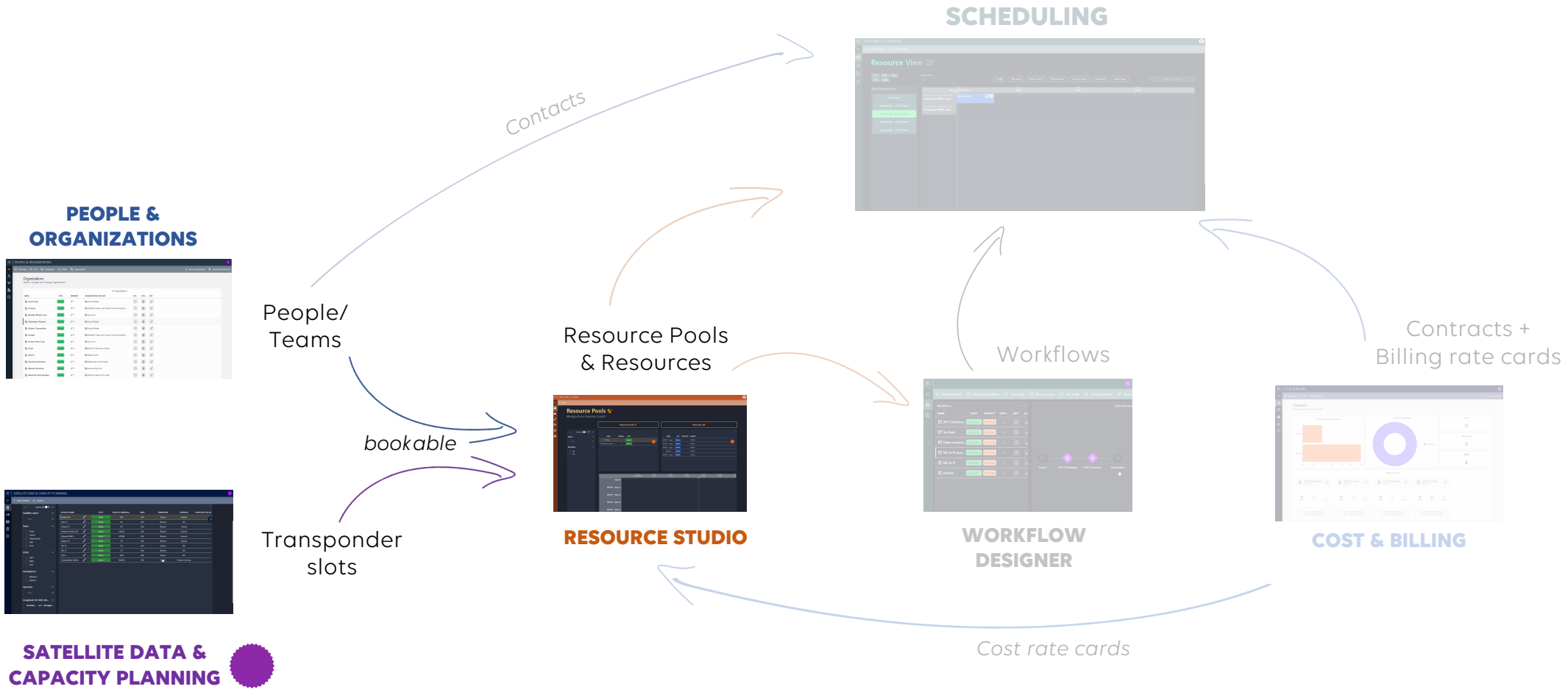
C&B – Cost and Billing

Show me the money!



Cost & Billing

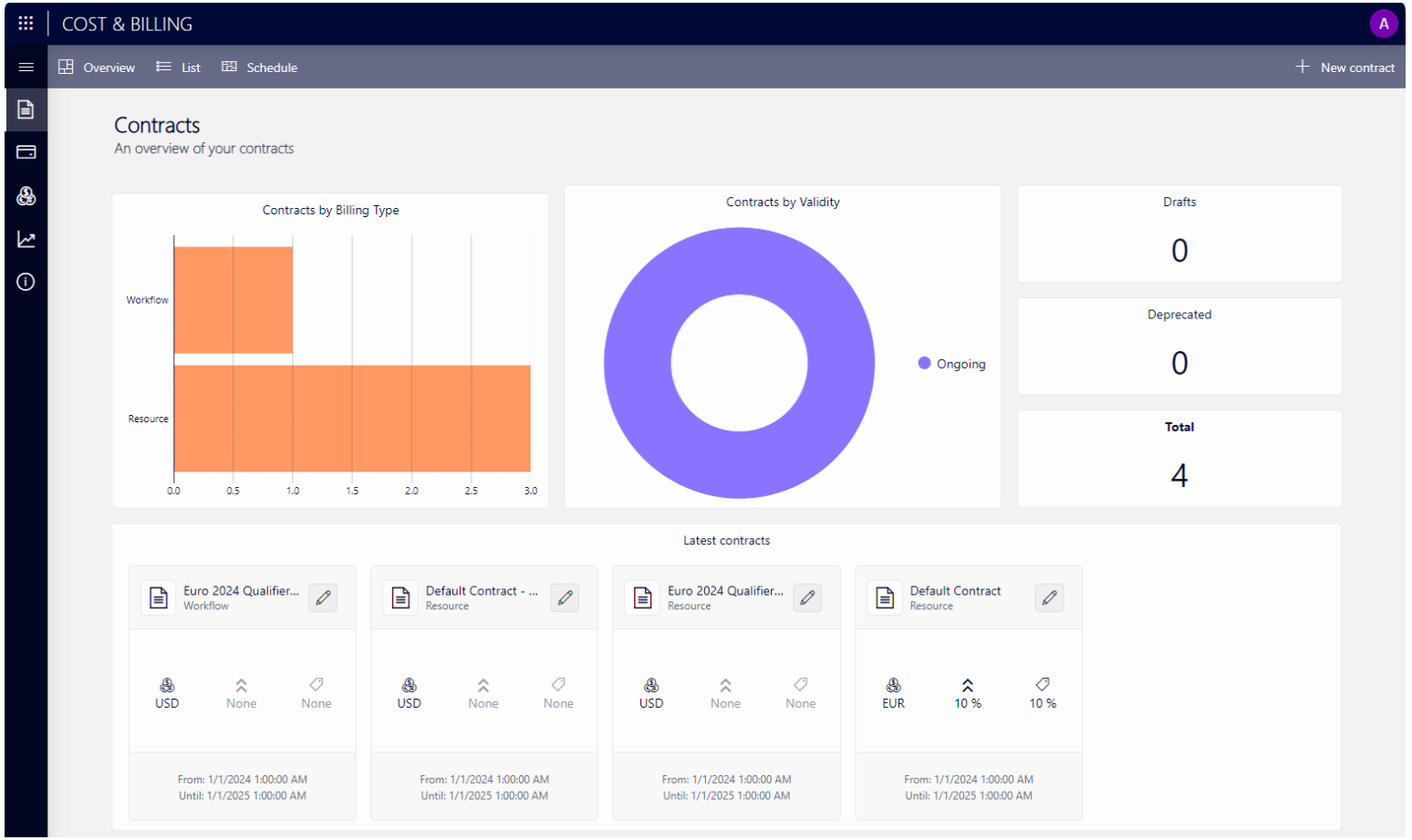
Measure, analyze, forecast and optimize cost & revenues



Cost & Billing

Measure, analyze, forecast and optimize cost & revenues

- Manage
  - **Contracts**
  - **Rate cards**
  - **Currencies**



Cost & Billing

Exercise

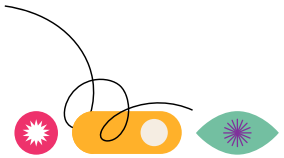
exercise

OBJECTIVE:

Create a contract with billing rate cards that can be used for invoice calculation when jobs are scheduled

Steps

1. Create a billing rate card
2. Create a contract
3. Assign the rate card to the contract for a specific resource pool
4. Link the contract to an organization



Cost & Billing

exercise

1. Create a new billing rate card

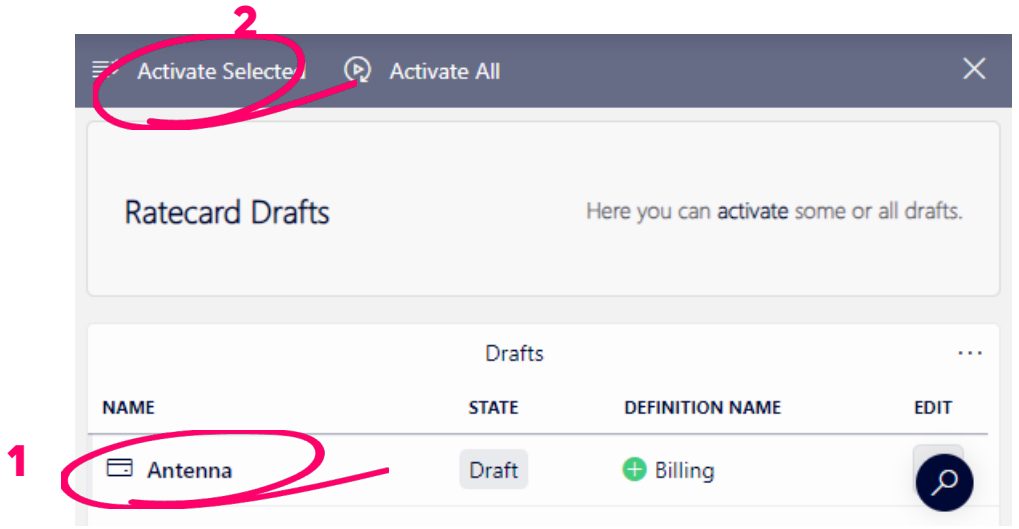
- From the home page, open the **Cost & Billing** app
- Open the **Ratecards** page
- Click the **List** menu in the header bar
- Click the **New billing ratecard** button in the header bar
- Enter following data in the form,
  - Name: **Antenna**
  - Ratecard currency: EUR
  - Minimal time interval: 1 | Minimal time interval unit : Hour(s)
  - Minimal time increment: 15 | Minimal time increment unit : Min(s)
  - Rate: 50
  - Unit: Hour(s)
- Click Save

Cost & Billing

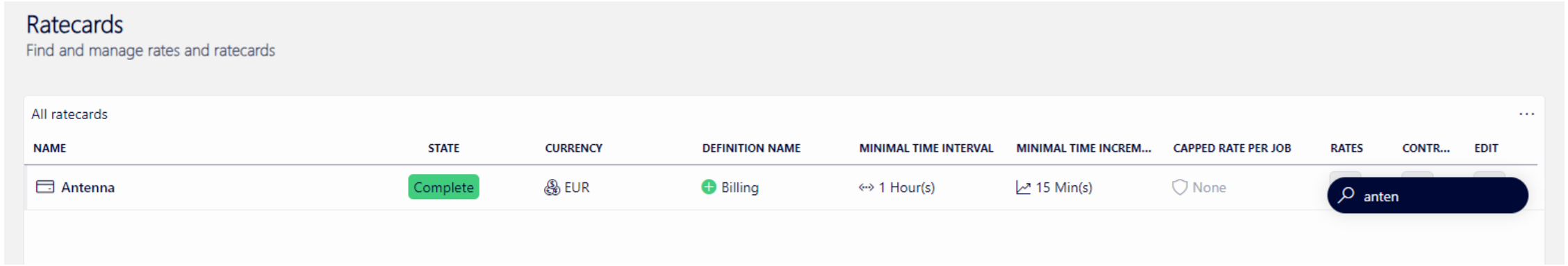
1. Create a new billing rate card

exercise

- In the **Ratecard Drafts** dialog:
  1. Selected the newly created ratecard
  2. Click **Activate Selected**
- Close the panel



- Search the newly created ratecard in the table



Cost & Billing

2. Create a new contract

exercise

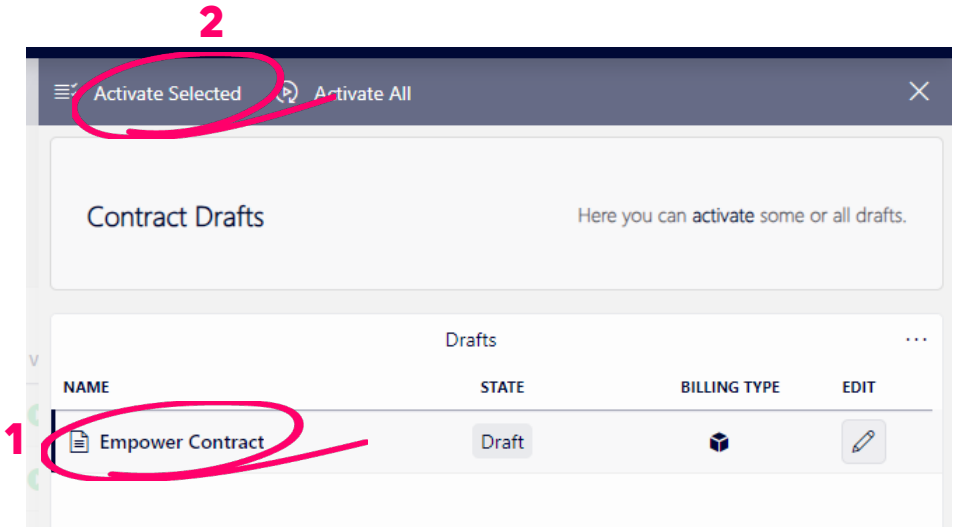
- Open the **Contracts** page
- Click the **List** menu in the header bar
- Click the **New contract** button in the header bar
- Enter following data in the form,
  - Name: **Empower contract**
  - Valid from : today
  - Value until : next year
  - Uplift : 0
  - Discount: 0
  - Currency: EUR
  - Billing type: Resource
- Click Save

Cost & Billing

2. Create a new contract

exercise

- In the **Contract Drafts** dialog:
  1. Selected the newly created contract
  2. Click **Activate Selected**

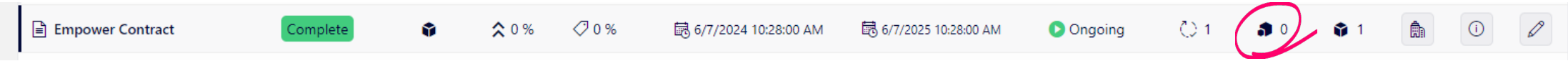


Cost & Billing

exercise

3. Assign the rate card to the contract for a specific resource pool

- On the **Contracts (List)** page find the row in the table with the newly created contract
- Click the icon on the contract row in the column called "**Pool RCS**"



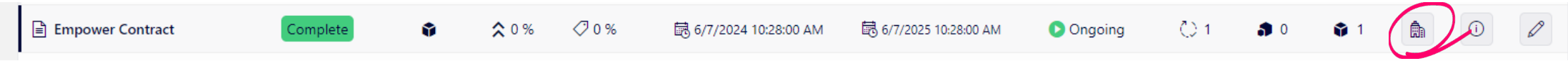
- On the panel that opens: click the **Assign** button
  - Select a resource pool in the left-hand table : e.g. Antennas (use table quick filter)
  - Select a ratecard in the right-hand table : e.g. Antenna
  - Click OK
- Now we have assigned the Antenna rate card to the Antenna pool in this contract

Cost & Billing

4. Link the contract to an organization

exercise

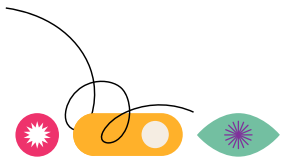
- On the **Contracts (List)** page find the row in the table with the newly created contract
- Click the icon on the contract row in the column called "**Organizations**"



- On the panel that opens: click the **Assign** button
  - Select the organization you created in the P&O app before
  - Click Assign
- Now we have assigned the contract to the organization, which will allow us to use it in the scheduling app when creating jobs for that organization

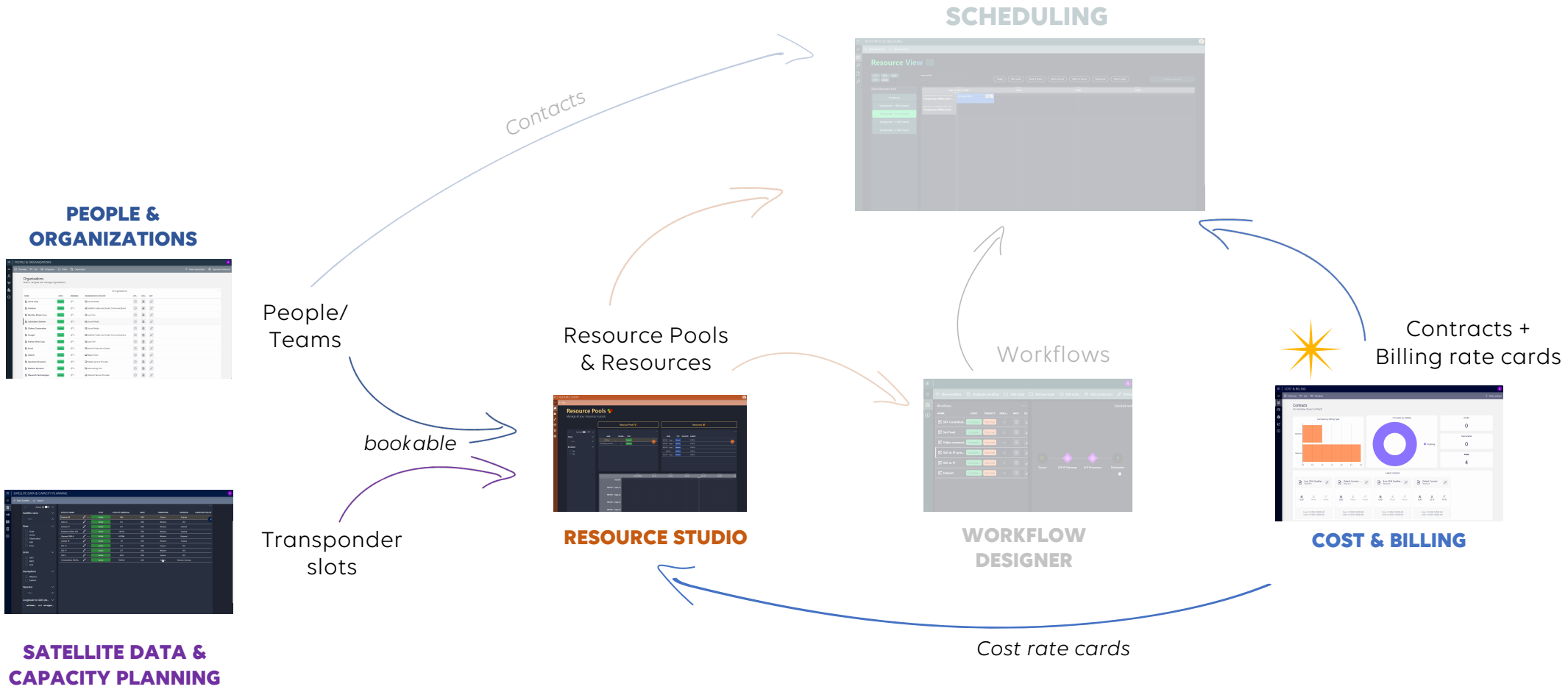
Satellite Data & Capacity Planning

Because juggling data from space is just another day at the office!



Cost & Billing

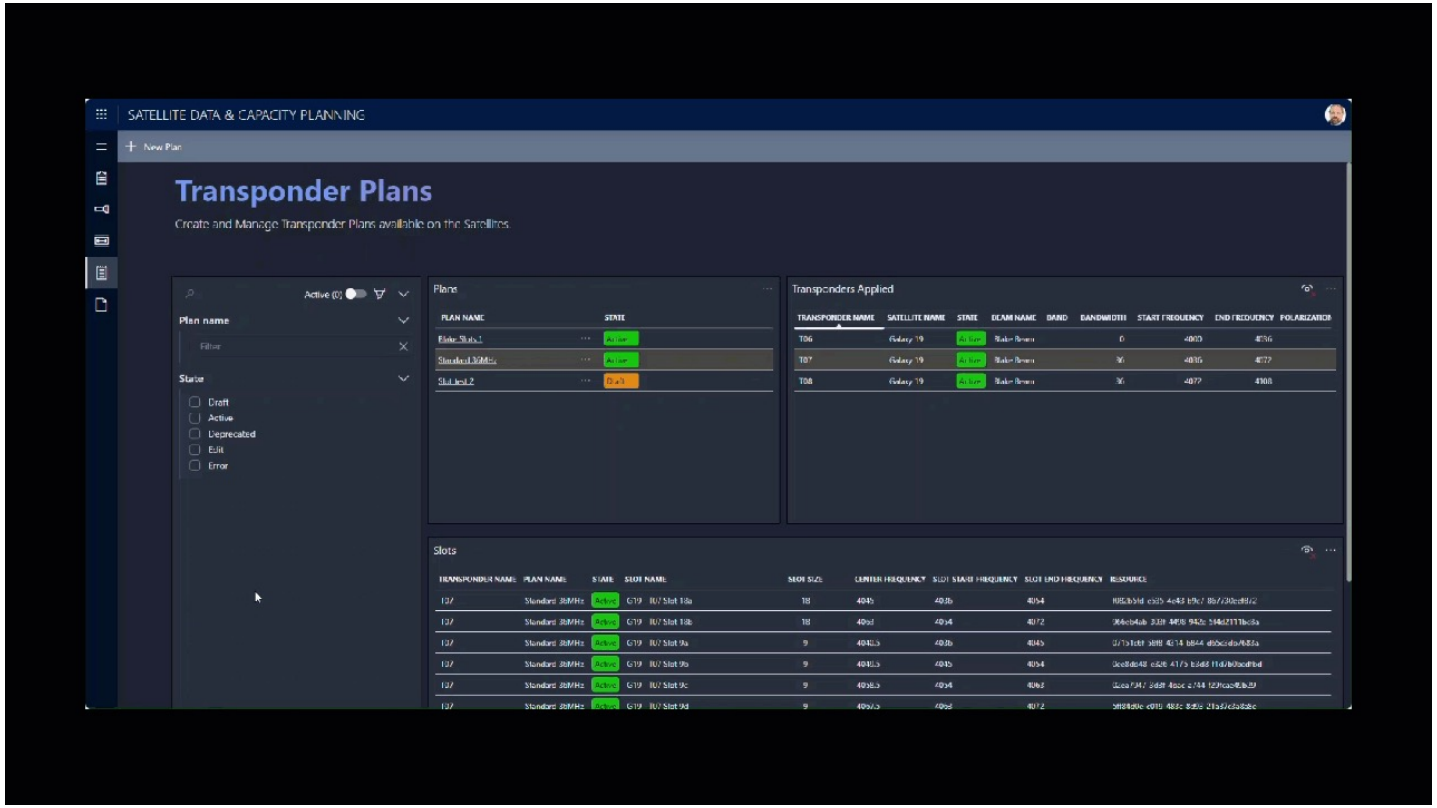
Measure, analyze, forecast and optimize cost & revenues



Satellite data and capacity planning

Transponder Planning and Booking

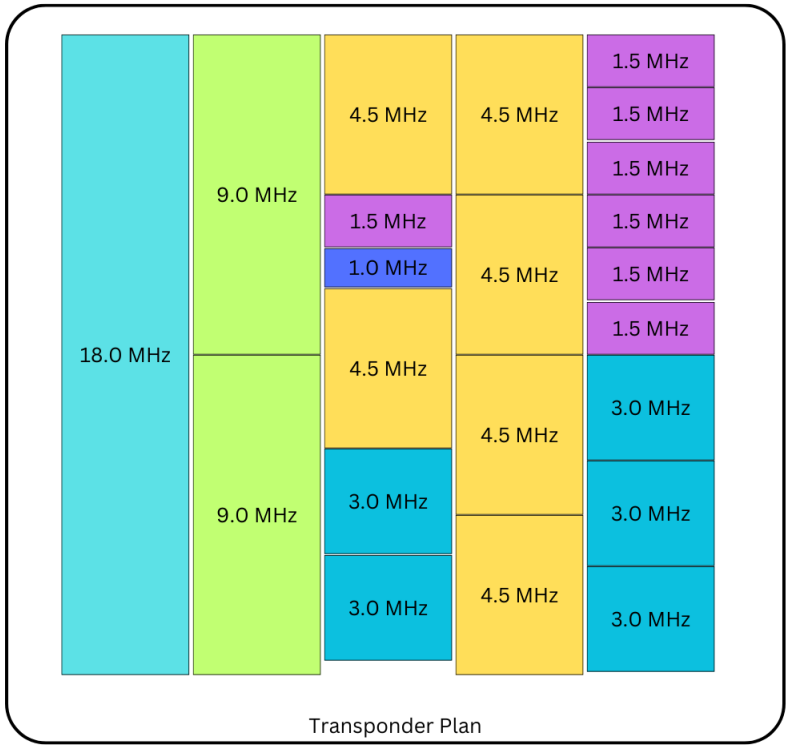
- **Create** and **Manage** information related to your Satellites including the:
  - **Satellite** info,
  - **Beam** info,
  - ...and **Transponders**.
- Create **Transponder Plans** to manage your transponder slot inventory.
- Automatically generate capacity aware **Slot** resources in the Resource Studio.



Transponder Plans

What's the big deal?

- Transponder Slots are a "capacity based" resource.
- Unlike other capacity resources, Transponder Slots *also* need to have awareness of



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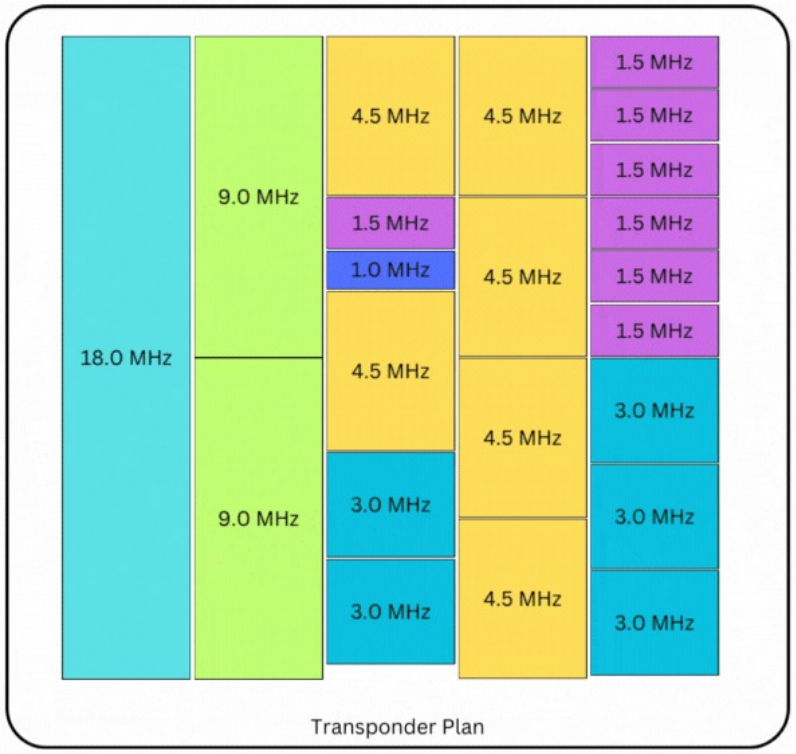
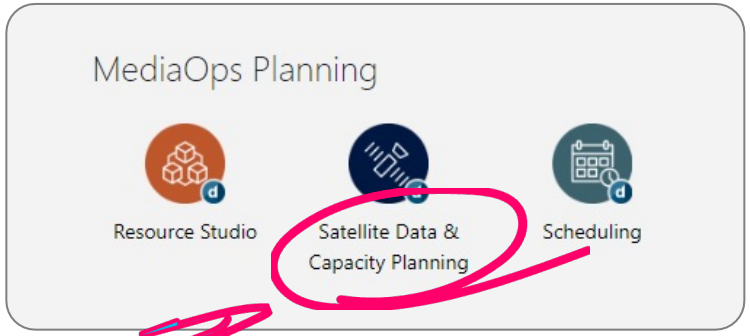


A TRANSPONDER PLAN CONTAINS MULTIPLE DIVISIONS OF THE SPACE KNOWN AS "SLOTS"

Create a Transponder

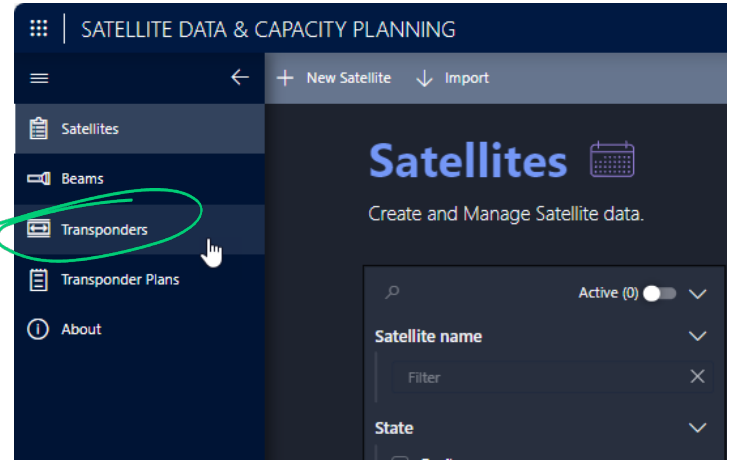
Exercise

exercise



OBJECTIVE: The following exercise will step you through the basic navigation in the Satellite app as well as creating a new transponder.

1. From the home page, open the **Satellite data and capacity planning** app.
2. From the **Satellites** page, explore one or more of the Satellite records to get a feel for what information is available.
3. Navigate to the **Transponders** page by clicking on the link in the side panel.

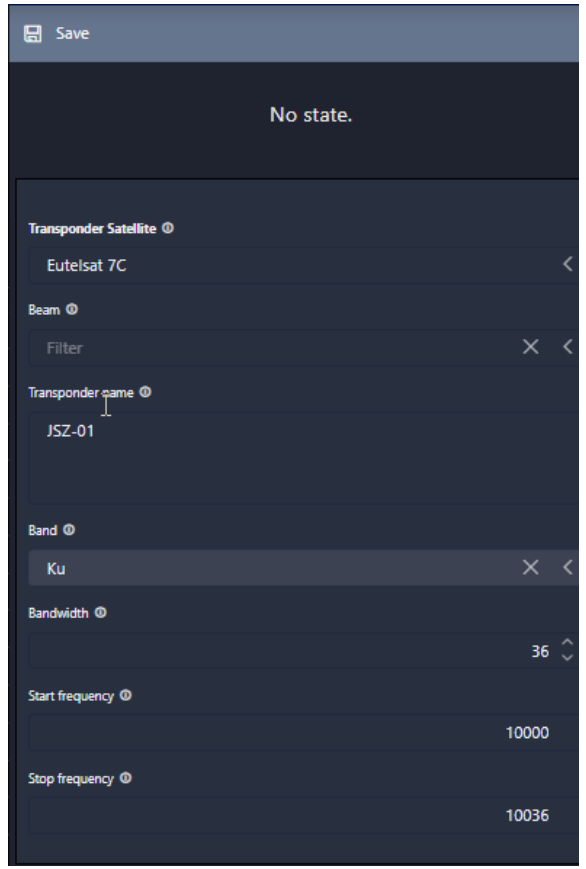


Create a Transponder

Exercise

exercise

4. From the Transponder page, click the **New Transponder** button to start to create a new transponder.
5. From the new transponder panel that appears, fill in the following information:
   - **Transponder Satellite** – *pick any satellite from the list.*
   - **Transponder Name** – enter a name for the transponder using your initials and an "-01". For example, `JSZ-01`
   - **Bandwidth** – set equal to 36
   - **Start Frequency** – enter a value of `10,000`
   - **End Frequency** – enter a value of `10,036`
   - (optional) you can provide values for the other fields too.
6. When finished, click **Save**.



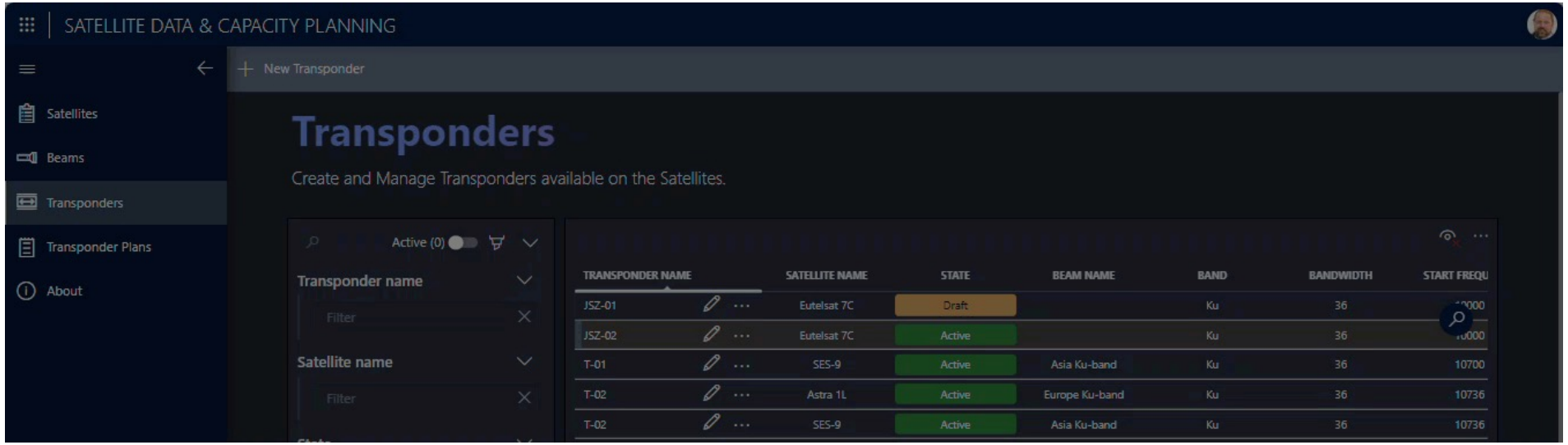
Create a Transponder

exercise

Exercise

- After you save the transponder, it will be in a Draft state. To activate the transponder and make it available for the rest of the app:
  - Find your newly crated transponder in the table From the Transponder page.
  - For your transponder, click on the context menu and select the *Activate Transponder* option.

PRO TIP:
You can use the search icon in the upper right corner of the table to quickly find record!

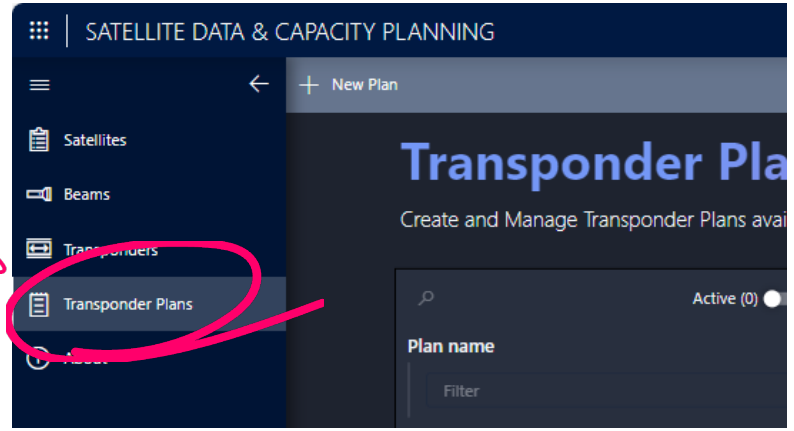


Create Slot Resources

Exercise

exercise

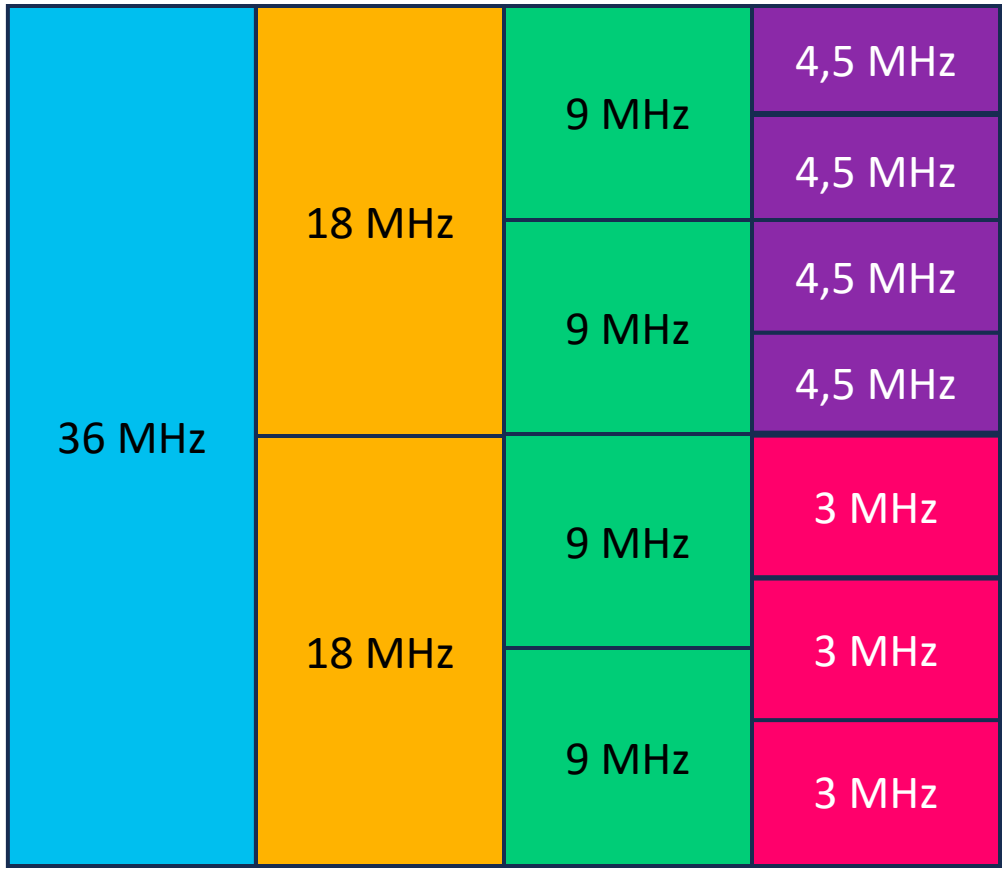
OBJECTIVE: Now that you have transponder, you can now create Slot Resources using a Transponder Plan.



1. From the side panel, select the **Transponder Plans** page.
2. Click the pencil button next to the plan *New Standard 36 MHz Plan* to view the details of that plan.
3. Click the **Cancel** button to close the plan when you have had a chance to review the plan.

Create Slot Resources

Exercise

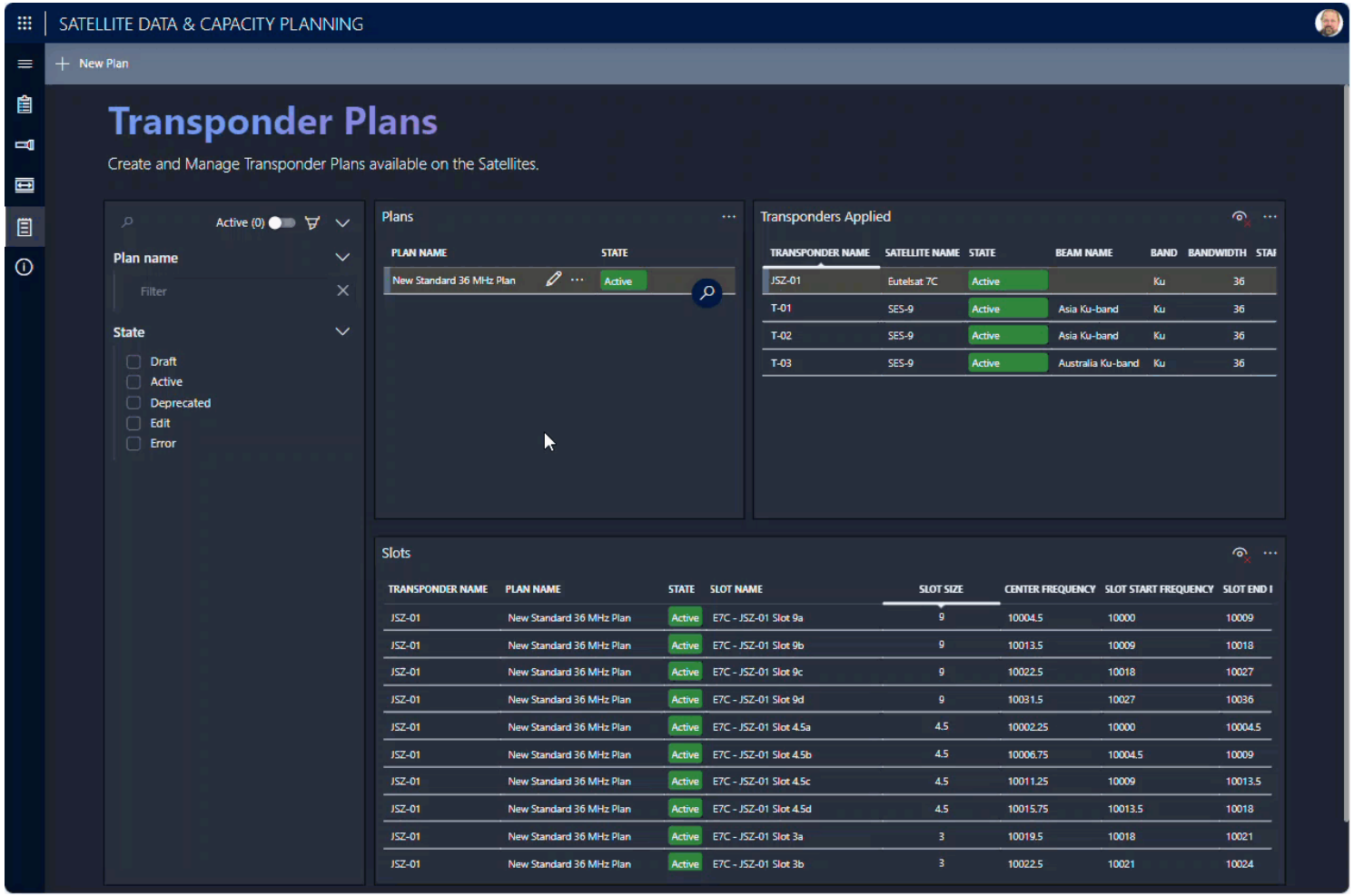


Create Slot Resources

Exercise

exercise

4. Using the context menu next to the *New Standard 36Mhz Plan* entry, select **Manage Applied Transponders**.
5. In the Available Transponders list, find and select the Transponder you just created (you can use the table filter to make it easy).
6. Click the **>> Add** button.
7. A message will appear informing you the action has started.

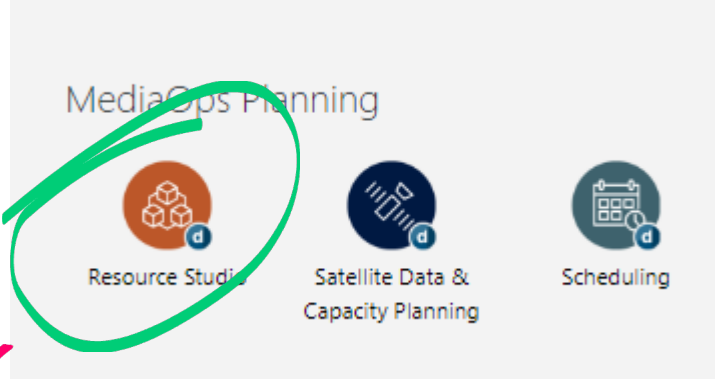


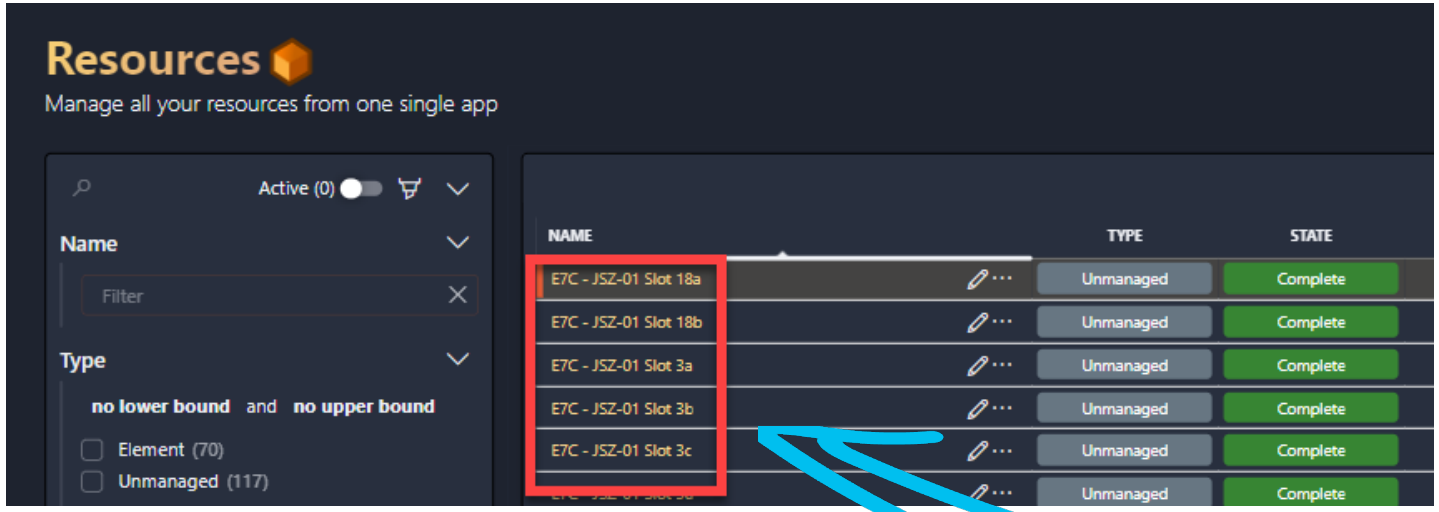
Create Slot Resources

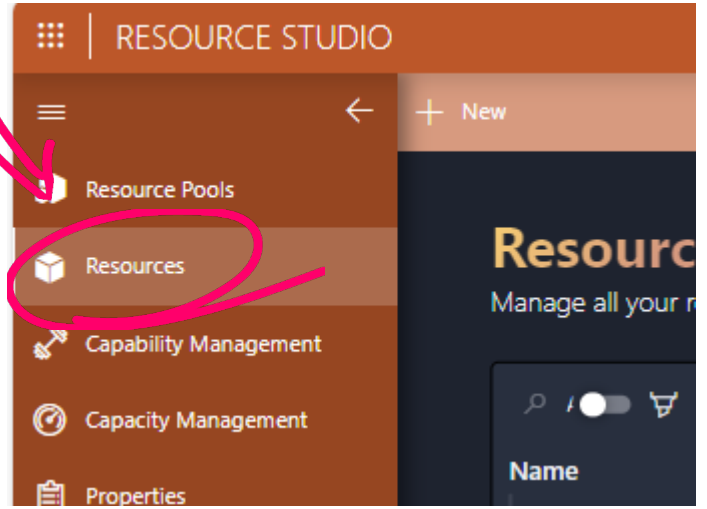
Exercise

exercise

8. Give it a minute or two, then verify your resources have been created. From the Root page select the **Resource Studio** app.
9. Then select the **Resources** page from the app.
10. Finally, enter your initials in the Resources table filter to find your newly created Slot resources.

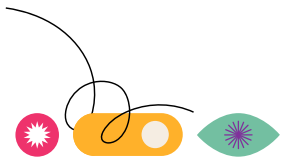




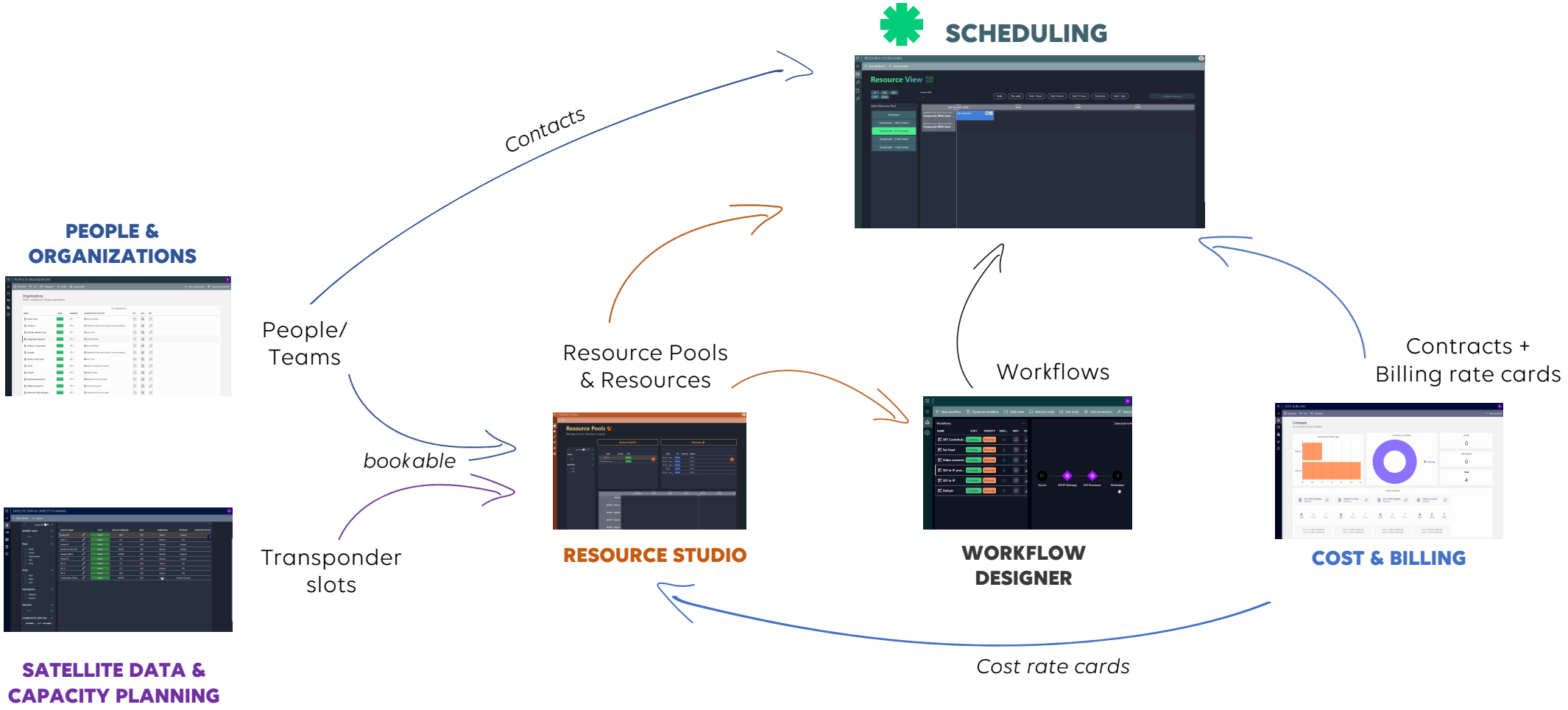


Scheduling

Bringing it all together



Scheduling


SCHEDULING
Contacts
PEOPLE &
ORGANIZATIONS
People/
Teams
Resource Pools
& Resources
Workflows
Contracts +
Billing rate cards
bookable
Transponder
slots
RESOURCE STUDIO
WORKFLOW
DESIGNER
COST & BILLING
SATELLITE DATA &
CAPACITY PLANNING
Cost rate cards

Scheduling

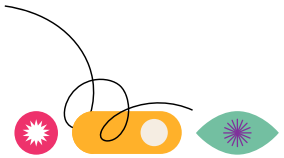
Exercise 1: schedule a job for an antenna and calculate invoice

exercise

OBJECTIVE:

Schedule a job for with the organization , job owner (contact) and contract and resource (Antenna) and pool (Antennas) which we created in previous exercises

Trigger the cost & billing calculation to see the total pricing and details per resource for the created job



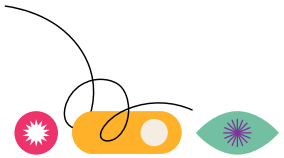
Scheduling

Exercise 2: schedule a job for a transponder slot

exercise

OBJECTIVE:

Schedule a job booking one of the created transponder slots



ASK AWAY

empower!