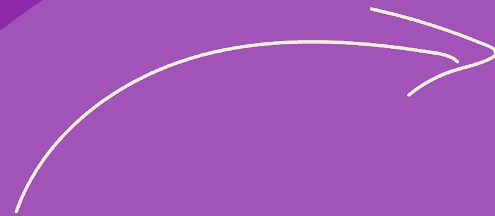


Welcome



dataminer.services —→
cloud native services
tailormade
 for your DataMiner

YOUR HOST



Baptiste Pattyn

PRODUCT OWNER CLOUD

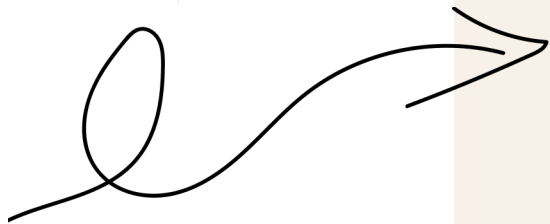
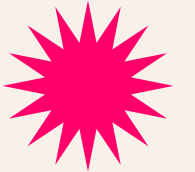
 BAPTISTE.PATTYN@SKYLINE.BE

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



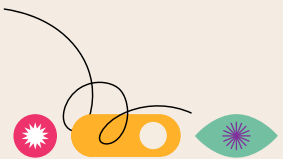
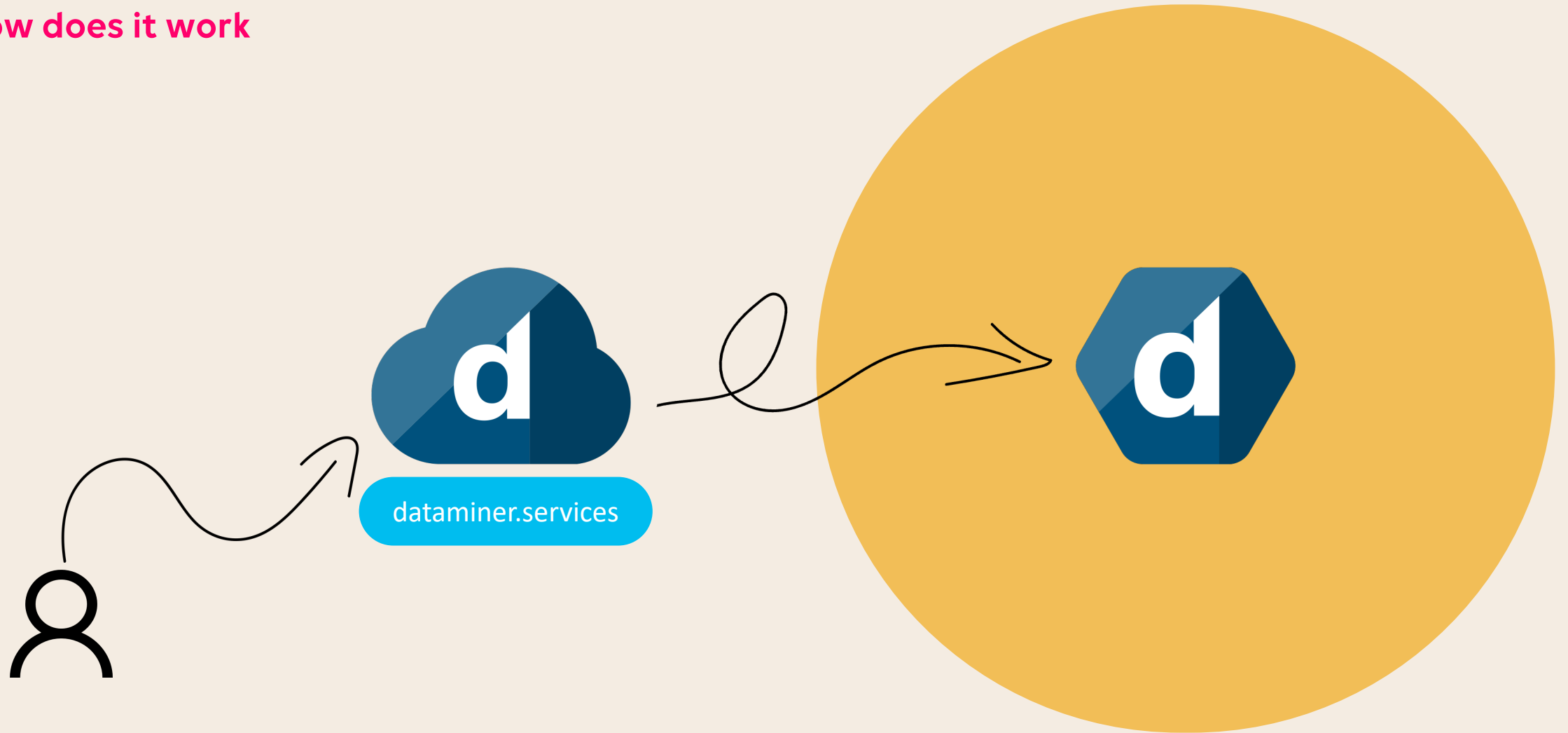
Activate your DaaS

DataMiner deployments made easy



Activate your DaaS

How does it work



Deployment

aaS

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

← Add DataMiner as a Service

Organization
BPAEmpower ✕ ▾
[Create new](#)

DataMiner System Name
BPA

DataMiner System URL
bpa
<https://bpa-bpaempower.on.dataminer.services/>

Username
Admin

Password
..... 👁

Confirm Password
..... 👁

I agree to the terms of service.

Deploy

✕

Create organization

Name
BPAEmpower

Url
bpaempower
<https://bpaempower.on.dataminer.services/>

Create

Apps



Collaboration



Catalog



Sharing



Community

DataMiner Systems

You are not part of an organization that is registered with the DataMiner Cloud Platform.

[Learn more about getting started with the DataMiner Cloud Platform.](#)

Spin up your DaaS

Deploy your own DaaS

The screenshot displays the DataMiner web interface. At the top left is the 'dataminer Home' logo. The top right shows the user 'BPAEmpower' with a notification bell and a 'BP' profile button. The main content area is divided into two sections: 'Apps' and 'DataMiner Systems'. The 'Apps' section features five icons: Collaboration (speech bubbles), Catalog (green document), Sharing (yellow arrow), Community (group of people), and Admin (red gear). A 'Desktop installation' button is located in the top right of this section. The 'DataMiner Systems' section has a '+ Add DataMiner System' button. Below this, a card for 'DMA DataMiner as a Service' is shown with a refresh icon, a URL, and an 'Open in desktop app' button. A status bar below the card indicates 'Your DataMiner as a Service is initializing... Estimated time remaining: 15 minutes.' At the bottom, there are three navigation icons: Home (house), Monitoring (person with gear), and Admin (red gear).

dataminer
Home

BPAEmpower BP

Apps

Desktop installation

Collaboration Catalog Sharing Community Admin

DataMiner Systems

+ Add DataMiner System

DMA DataMiner as a Service Open in desktop app ...

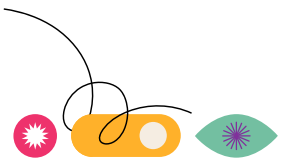
<https://sessiontesting-bpaempower.on.dataminer.services/>

Your DataMiner as a Service is initializing... Estimated time remaining: 15 minutes.

Home Monitoring Admin

Why dataminer.services?

The Cloud elevator pitch, going up!



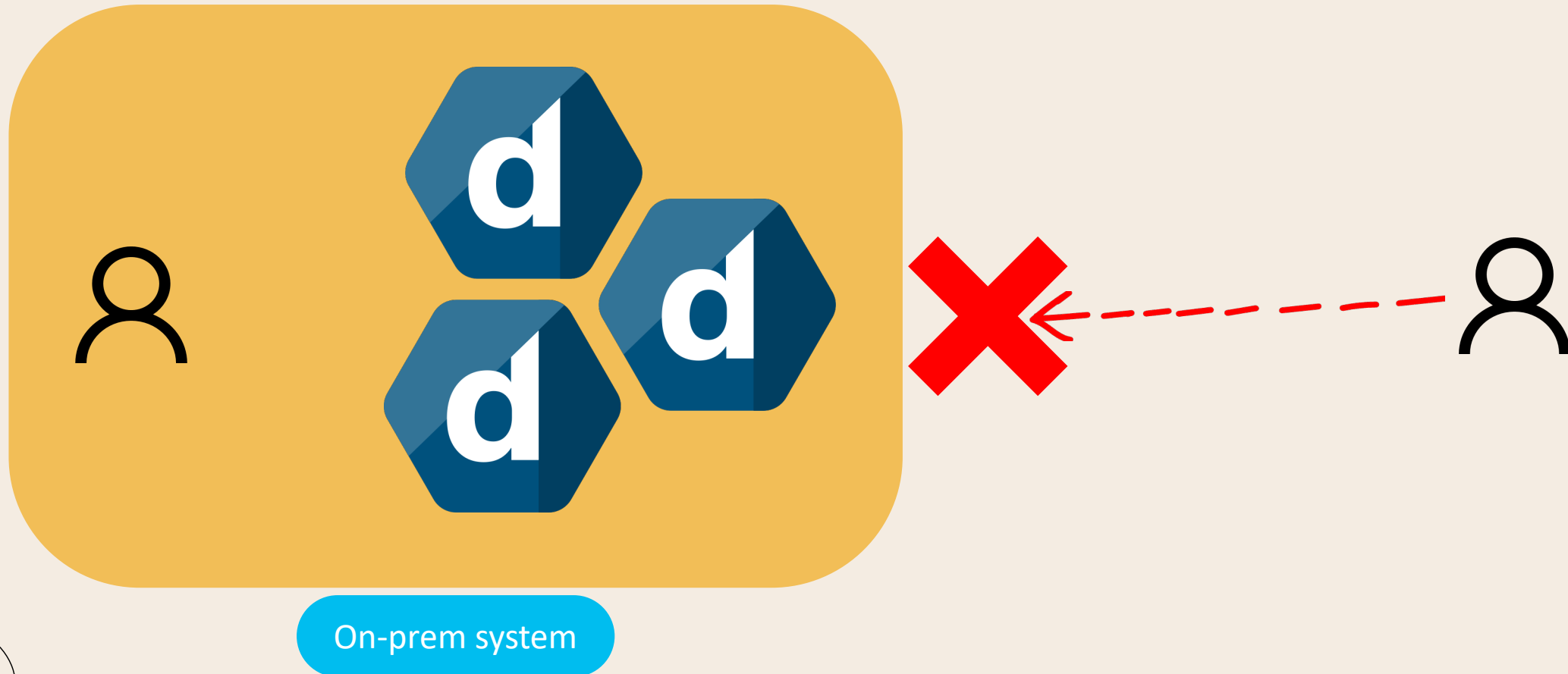
Why dataminer.services?

Access your system, from anywhere, at any time



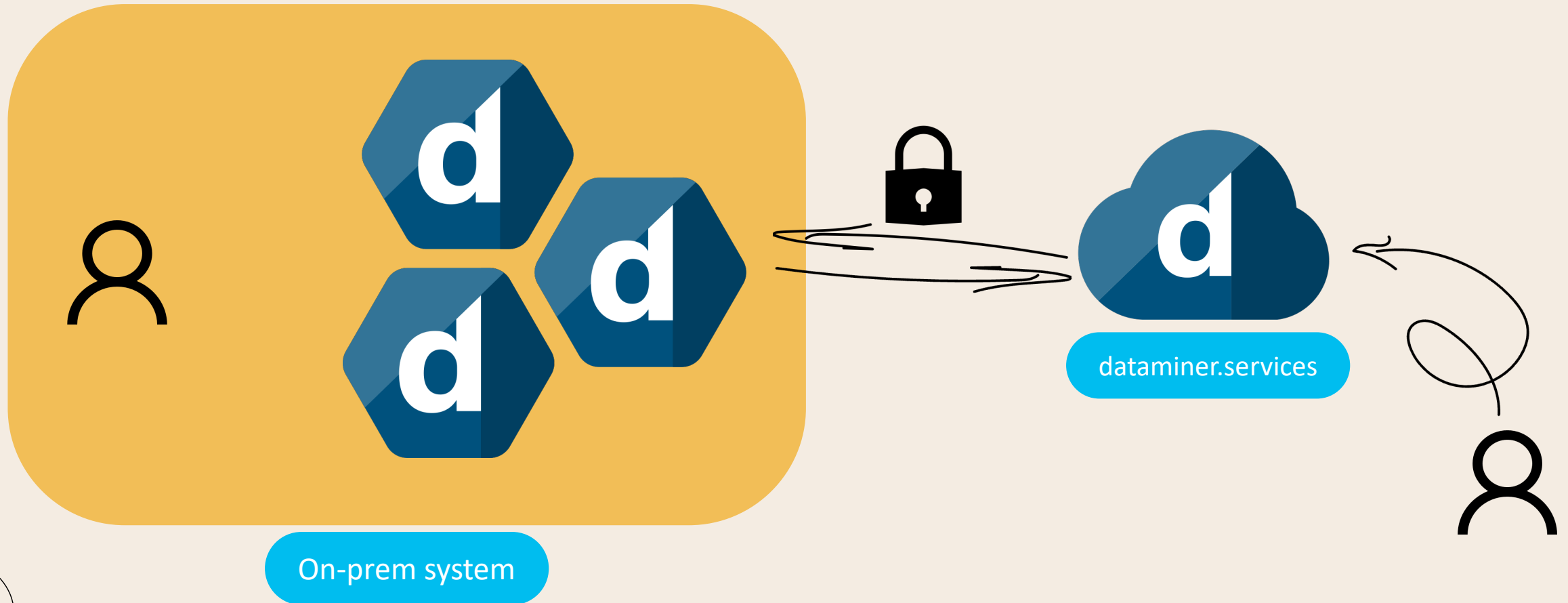
Why dataminer.services?

Access your system, from anywhere, at any time



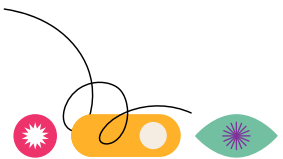
Why dataminer.services?

Access your system, from anywhere, at any time



How does it work?

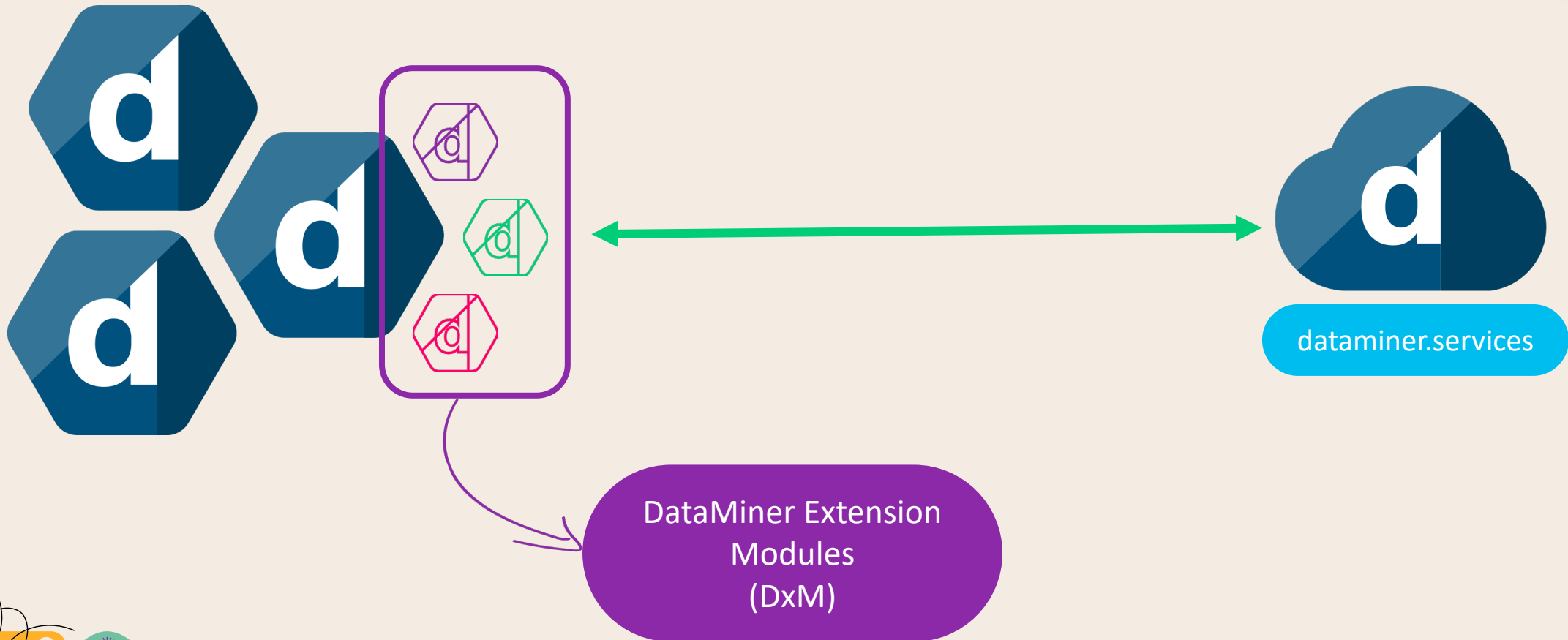
Behind the curtains, the cloud's secret sauce



How does it work

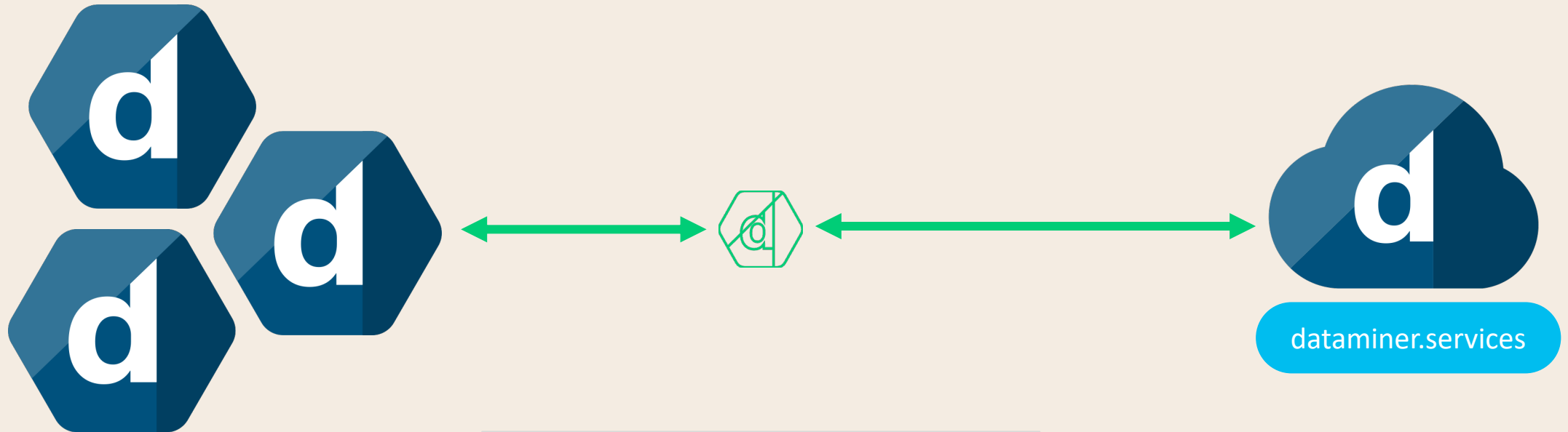
Setup the communication with `dataminer.services`

Understand the `dataminer.services` platform



How does it work

DataMiner connection states

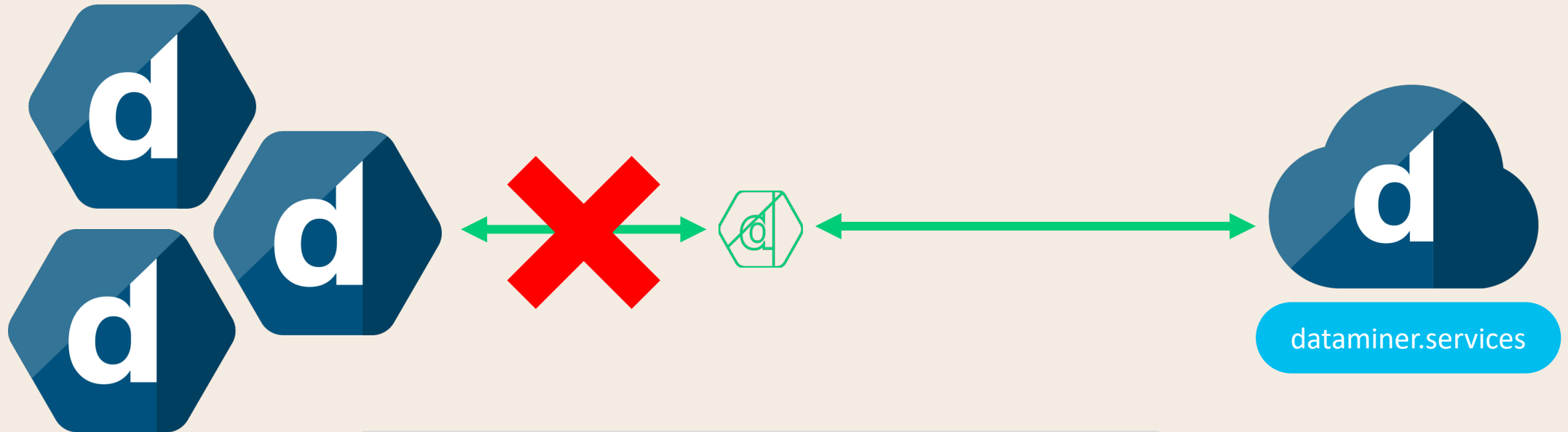


```
sessiontesting DataMiner as a Service  
https://sessiontesting-bpaempower.on.dataminer.services/
```

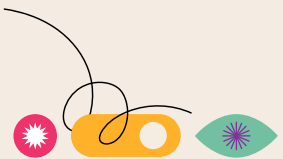


How does it work

DataMiner connection states

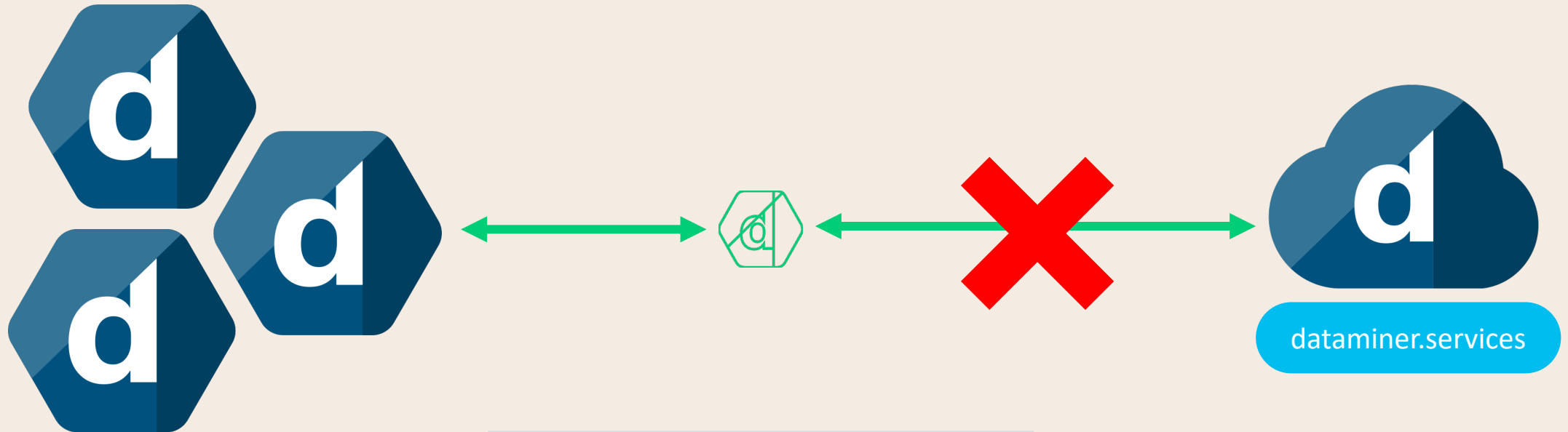



 sessiontesting DataMiner as a Service Last seen online 1 minute ago
<https://sessiontesting-bpaempower.on.dataminer.services/>



How does it work

DataMiner connection states

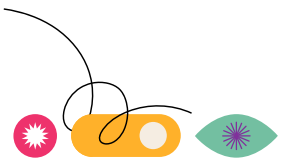


 sessiontesting Last seen online 2 days ago
<https://sessiontesting-bpaempower.on.dataminer.services/>



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



GET EMPOWERED



Let's have

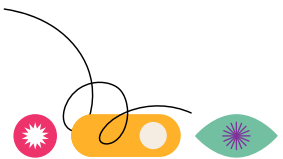
 a look



GET EMPOWERED

How to manage your systems?

Cloud management 101



How to manage your systems?

The one UI to rule them all

admin.dataminer.services

The screenshot displays the 'dataminer Admin' interface. The left sidebar contains navigation menus for 'Organization' (Overview, Users, Keys, Audit, Settings) and 'DataMiner Systems' (sessiontesting, Overview, Users, Nodes, Keys, Deployments, Outgoing Shares, Settings). The main content area is divided into several panels:

- Status:** Includes a 'Request verification' button, 'Verified' status, 'Not verified' (with a red X icon), and 'License' status 'Essential Tier' (with a green checkmark icon).
- Credits:** Shows 'DataMiner Credits'.
- Usage:** Shows 'Concurrent shares' as '0 / 3'.
- Chat integration: Teams:** Shows 'Microsoft tenant ID' as 'Not Configured' and a 'Grant admin consent' button.

At the bottom, a 'DataMiner Systems' table lists the following system:

| NAME | URL | STATUS |
|----------------|-------------------------------------|--------|
| sessiontesting | https://sessiontesting-bpaempower.c | Online |

Understand how to manage your system in dataminer.services



GET EMPOWERED



Let's have

 a look



GET EMPOWERED

The Catalog module

Pick and click, easy deployments from the Catalog



The Catalog module

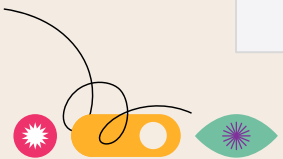
Public vs private items



catalog.dataminer.services

The screenshot shows the Dataminer Catalog interface. At the top left is the 'dataminer Catalog' logo. A search bar is located at the top center. On the top right, there are user information elements: 'Skyline Communications', a notification bell, and a 'BP' profile picture. Below the search bar, there are two tabs: 'Grid' (selected) and 'List'. A filter bar contains three buttons: 'All' (highlighted with a red box), 'Public', and 'Private'. Underneath, a 'TYPE' section lists four categories with checkboxes: 'Automation script', 'Connector', 'Package', and 'Visio'. The main area displays a grid of items, each with a gear icon, a name, a description, and a 'Private' status label. The items are:

| Name | Description | Status |
|------------------------------|-------------------|---------|
| NHK_Arista_PortPTP | Automation script | Private |
| NHK_Arista_UpdateIntName | Automation script | Private |
| NHK_Arista_UpdatePTPBMC | Automation script | Private |
| Live Unit Test Session | Automation script | Private |
| SA Prisma 2000 | Connector | |
| Sun Solaris | Connector | |
| NHK_Arista_UpdateIntSpeed | Automation script | Private |
| Skyline LiveSessionSatellite | Automation script | Private |
| SA Prisma 1001 | Connector | |
| SA Prisma 5000 | Connector | |



The Catalog module

Public vs private items

catalog.dataminer.services

The screenshot displays the Dataminer Catalog interface. At the top left, the 'dataminer Catalog' logo is visible. A search bar is located at the top center. On the top right, there are navigation elements including 'Skyline Communications', a notification bell, and a 'BP' button. On the left side, there are filters for 'Grid' and 'List' views, and tabs for 'All', 'Public', and 'Private'. The 'Private' tab is highlighted with a red border. Below the tabs, there is a 'TYPE' section with checkboxes for 'Automation script', 'Connector', 'Package', and 'Visio'. The main area shows a grid of items, each with a gear icon, a title, a description, and a 'Private' status label. The items listed are:

| Item Name | Type | Status |
|---------------------------------|-------------------|---------|
| NHK_Arista_PortPTP | Automation script | Private |
| NHK_Arista_UpdateIntName | Automation script | Private |
| NHK_Arista_UpdateIntSpeed | Automation script | Private |
| NHK_Arista_UpdatePTBMCA | Automation script | Private |
| Skyline LiveSessionSatellite | Automation script | Private |
| Live Unit Test Session | Automation script | Private |
| Sony_SRM_ManageServiceBooki... | Automation script | Private |
| SRM_BookingWorkflowChecklist | Automation script | Private |
| Harmonic ProStream X Output RSS | Automation script | Private |
| Nexus | Unknown | Private |



The Catalog module

Filter by type

catalog.dataminer.services

The screenshot displays the Dataminer Catalog interface. At the top left, the 'dataminer Catalog' logo is visible. A search bar is located at the top center. On the top right, there are user profile indicators for 'Skyline Communications' and 'BP'. Below the search bar, there are two rows of filters: the first row contains 'Grid' and 'List' view options, and the second row contains 'All', 'Public', and 'Private' status filters. A sidebar on the left, titled 'TYPE', is highlighted with a red rounded rectangle and contains four filter options: 'Automation script', 'Connector', 'Package', and 'Visio'. The main content area shows a grid of service cards. Each card includes a gear icon, a service name, a description, and a 'Private' status button. The services listed are:

- NHK_Arista_PortPTP (Automation script)
- NHK_Arista_UpdateIntName (Automation script)
- NHK_Arista_UpdatePTPBMC (Automation script)
- Live Unit Test Session (Automation script)
- SA Prisma 2000 (Connector)
- Sun Solaris (Connector)
- NHK_Arista_UpdateIntSpeed (Automation script)
- Skyline LiveSessionSatellite (Automation script)
- SA Prisma 1001 (Connector)
- SA Prisma 5000 (Connector)



The Catalog module

Filter by type

catalog.dataminer.services

The screenshot displays the Dataminer Catalog interface. At the top left is the 'dataminer Catalog' logo. A search bar is located at the top center. On the top right, there are navigation elements including 'Skyline Communications', a notification bell, and a 'BP' button. Below the search bar, there are two rows of filters: the first row contains 'Grid' and 'List' view options; the second row contains 'All', 'Public', and 'Private' status filters. A 'TYPE' section follows, listing 'Automation script', 'Connector', 'Package', and 'Visio'. The 'Visio' option is selected and highlighted with a red rectangle. The main area of the interface is a grid of service cards. Each card features a monitor icon, a title, the word 'Visio' below it, and a 'Private' status button in the top right corner. The services listed are: Vertiv Watchdog 100-PNPS, EUR Devices, Skyline Ziine Philips DVS3810, Skyline Ziine Skyline SLA Definiti..., Ziine Philips DVS3810, Ziine Skyline SLA Definition Basic, Verizon DM Tools, Socomec Diris A40-A41 [Ziine], and Gude Expert Power Control NET 24x, DCS21.

| Service Name | Type | Status |
|---------------------------------------|-------|---------|
| Vertiv Watchdog 100-PNPS | Visio | Private |
| EUR Devices | Visio | Private |
| Skyline Ziine Philips DVS3810 | Visio | Private |
| Skyline Ziine Skyline SLA Definiti... | Visio | Private |
| Ziine Philips DVS3810 | Visio | Private |
| Ziine Skyline SLA Definition Basic | Visio | Private |
| Verizon DM Tools | Visio | Private |
| Socomec Diris A40-A41 [Ziine] | Visio | Private |
| Gude Expert Power Control NET 24x | Visio | Private |
| DCS21 | Visio | Private |



Deploy the SRM package

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



SRM for MediaOps (Empower 2024)
Application package

Deploy an item
from the Catalog

ASK AWAY

Questions?



Data API and  scripted connectors

Effortlessly integrate &  ingest data

YOUR HOST

Jan-Klaas Kesteloot

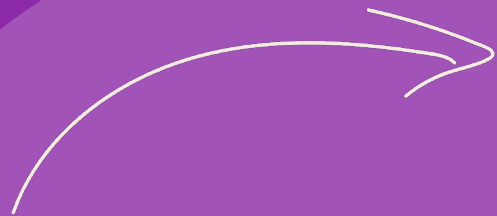


PRODUCT OWNER DATA ACQUISITION

JANKLAAS.KESTELOOT@SKYLINE.BE

DATA API
IDP, PTP
Data Engine
CI/CD

YOUR HOST



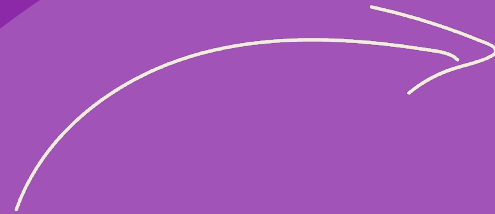
Jeroen
Neyt

EXPERT DEVOPS ENGINEER



JEROEN.NEYT@SKYLINE.BE

YOUR HOST



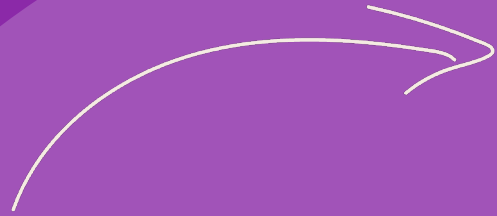
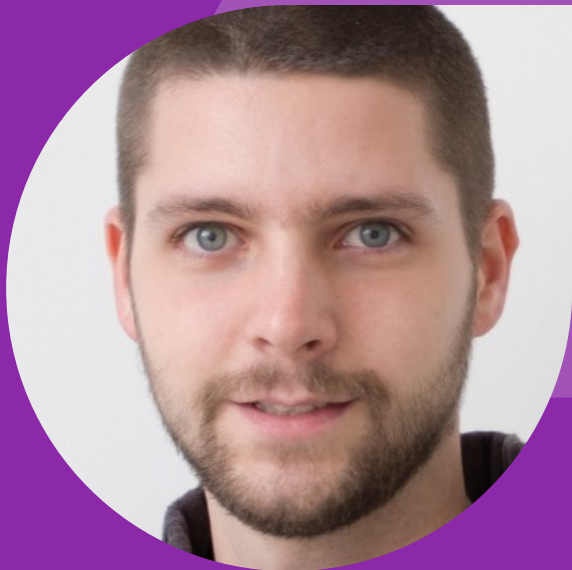
Pedro Debevere

PRINCIPAL DEVOPS ENGINEER



PEDRO.DEBEVERE@SKYLINE.BE

YOUR HOST



Simon Vandamme

EXPERT HUB LEAD SCRIPTS & CONNECTORS

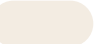
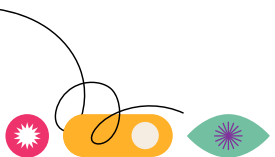


SIMON.VANDAMME@SKYLINE.BE

Agenda



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

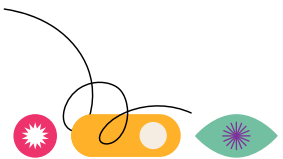


Goals

Understand
the concept of
Data API

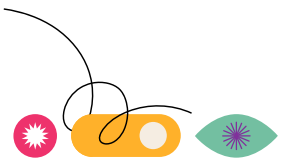
Recognize
the advantages of
Data API

Create a
Scripted
Connector



Introduction

Because we need to start somewhere.. 



Preview Availability



Currently in preview with the TB, j , ∞ t soft-launch option enabled.



Introduction

What is it?

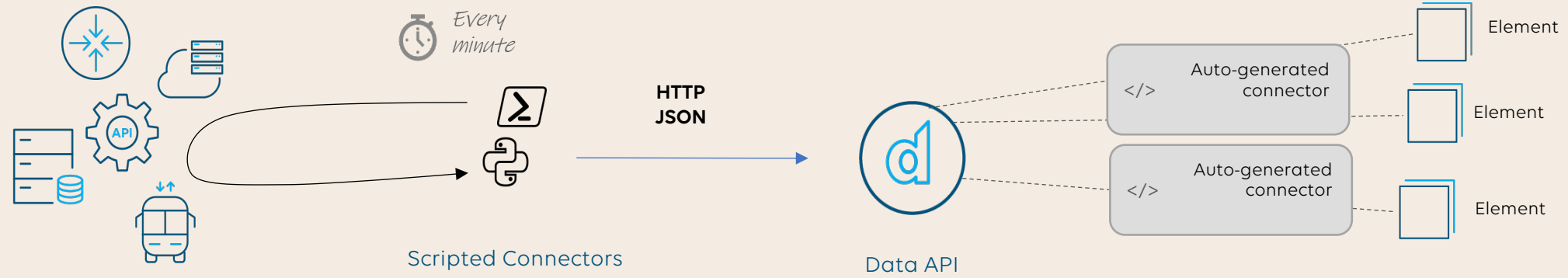
An easy way to script and deploy ad-hoc integrations with products and data-sources in your operation on the fly, without the need for a DataMiner connector
(or the knowledge to implement a connector)

- 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

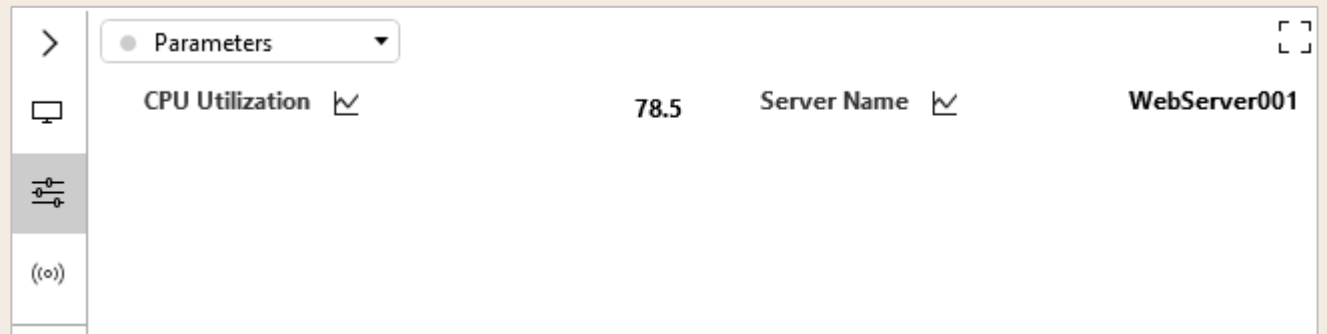


Introduction

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  
}
```



The screenshot shows a monitoring interface with a table of parameters. The table has a header row with 'CPU Utilization' and 'Server Name'. The data row shows '78.5' for CPU Utilization and 'WebServer001' for Server Name. The interface includes a sidebar with navigation icons and a dropdown menu set to 'Parameters'.

| Parameters | CPU Utilization | Server Name |
|------------|-----------------|--------------|
| | 78.5 | WebServer001 |



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

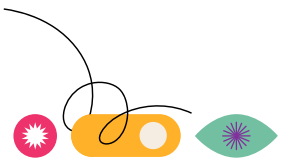
STANDARD CONNECTORS

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

Recognize
the
advantages
of Data API



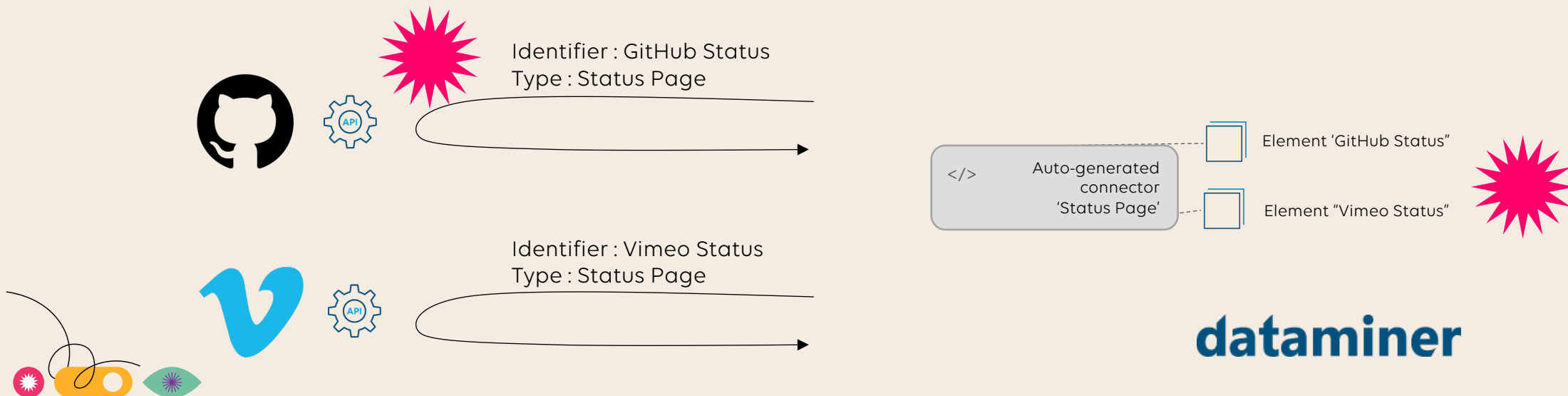
Data API



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

GET INSPIRED



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.

The screenshot shows the 'Protocols & Templates' interface in the Dataminer application. The left sidebar lists various protocols, including 'Status Page' which is highlighted with a red starburst icon. A tooltip below it reads 'Generated by Data API in DataMiner'. The main area is divided into three columns: 'VERSIONS', 'INFORMATION TEMPLATES', and 'VISIO FILES'. The 'ELEMENTS' column on the right shows 'Template1' and 'No Monitoring', with a red starburst icon next to the 'Vimeo Status' element.

The screenshot shows the 'Status Page: Production:1.0.0.1' configuration page. A red starburst icon is overlaid on the page with the text 'this protocol is read-only'. The main content area displays XML configuration for the status page, including parameters like 'trending', 'saveInterval', and 'RTDisplay'. The interface includes a search bar and navigation buttons at the bottom.

Data API

Support for tables

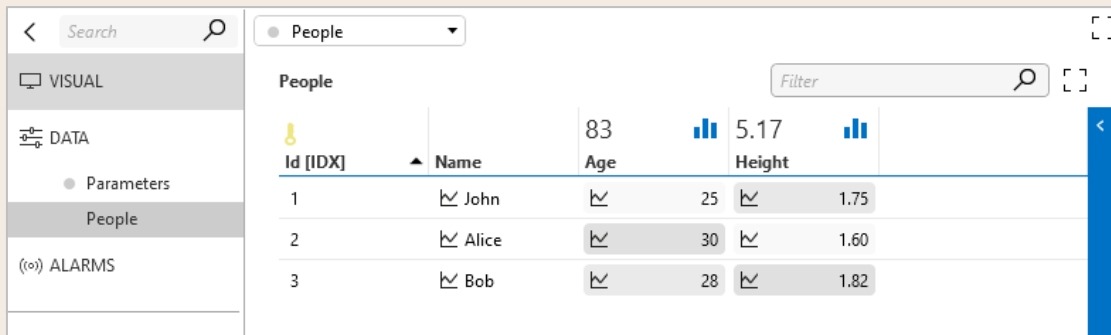
- Convert JSON arrays from HTTP body to table in the element.
- Transform nested arrays into multiple tables with foreign keys.



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.



The screenshot shows a mobile application interface with a search bar at the top. Below the search bar, there is a navigation menu with options: VISUAL, DATA, Parameters, People, and ALARMS. The 'People' option is selected, and a table is displayed. The table has columns for Id [IDX], Name, Age, and Height. The data rows are:

| Id [IDX] | Name | Age | Height |
|----------|-------|-----|--------|
| 1 | John | 25 | 1.75 |
| 2 | Alice | 30 | 1.60 |
| 3 | Bob | 28 | 1.82 |

```
{
  "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

Top Screenshot: VLANS table

| Id [IDX] | Type | Description |
|----------|-------|---------------|
| 1001 | 10GBE | Access Points |
| 1002 | 100MB | IOT |

Bottom Screenshot: Connected Devices table

| Id [IDX] | Description | VLANS_Foreign Key |
|----------|-------------------------|-------------------|
| AP1 | Access Point Hall | 1001 |
| AP2 | Access Point Board Room | 1001 |
| H1 | Humidity sensor | 1002 |
| T1 | Temperature sensor | 1002 |

```
{
  "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

| Parameters | | Date | |
|----------------|------------|-------------|-----------------------|
| Cpuutilization | 31 | Date | May 29, 2024 09:55:56 |
| Location | Izegem | Memoryusage | 27 |
| Name | Lab router | Summary | Lab router device |
| Temperature | 30.81 | | |



Data API

Units & decimal precision

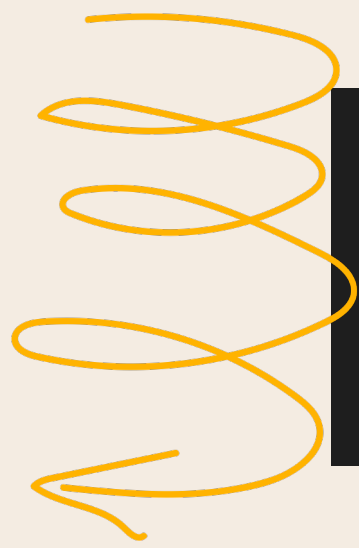
Parameters

| | | | |
|----------------|------------|-------------|-----------------------|
| Cpuutilization | 31 | Date | May 29, 2024 09:55:56 |
| Location | Izegem | Memoryusage | 27 |
| Name | Lab router | Summary | Lab router device |
| Temperature | 30.81 | | |

Parameters

| | | | |
|----------------|------------|-------------|-----------------------|
| Cpuutilization | 31.00 % | Date | May 29, 2024 09:55:56 |
| Location | Izegem | Memoryusage | 27 % |
| Name | Lab router | Summary | Lab router device |
| Temperature | 30.8 deg C | | |

```
1 {
2   "decimals": {
3     "Cpuutilization": 2,
4     "Temperature": 1
5   },
6   "units": {
7     "Cpuutilization": "%",
8     "Temperature": "deg C",
9     "Memoryusage": "%"
10  }
11 }
```



Scripted Connectors

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



GET INSPIRED



Let's have

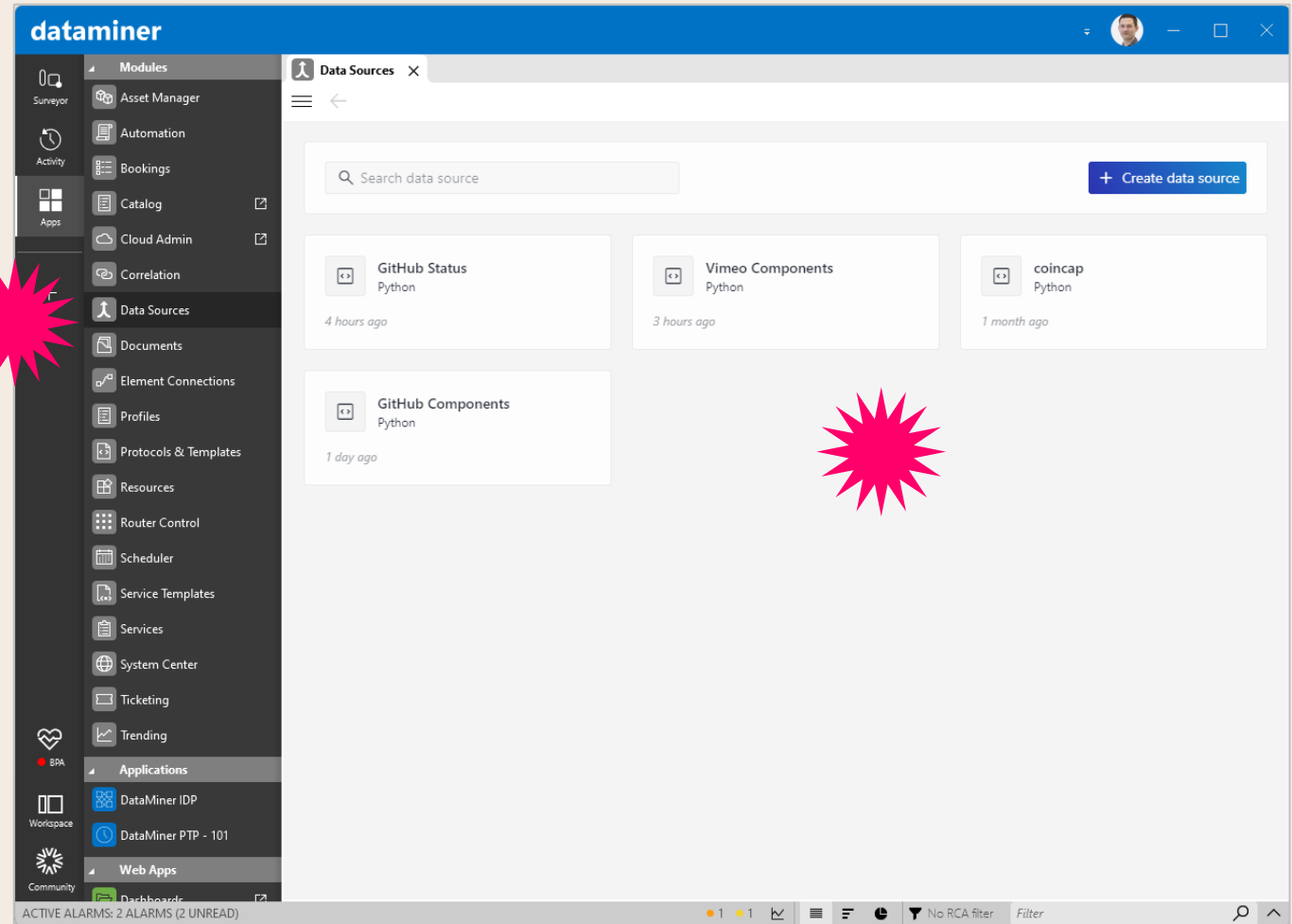
 a look



GET INSPIRED

Scripted Connectors

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



GET INSPIRED



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**

125 lines (93 loc) · 3.86 KB

Advanced Exercise

Polling the data

Create a data source to poll the status of a networking device

1. Open the Data Sources module: In DataMiner Cube, click *Apps* in the sidebar to the left and select *Data Sources*,

SLC-SC-Example_ScriptedConnectors Public

Edit Pins Watch 1

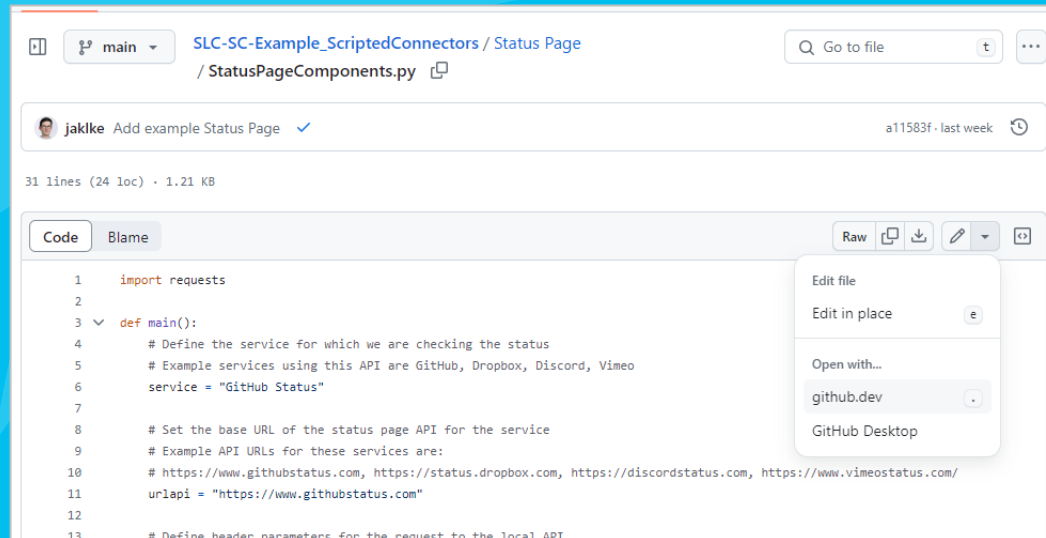
main Go to file Code

Update README.md 1fd3613 · 18 minutes ago

| | | |
|-----------------------------|----------------------------|----------------|
| .github/workflows | Update python-app.yml | 4 months ago |
| Amsterdam Internet Exchange | Update AMS.py | 4 months ago |
| Azure Data v2 | Update AzureData.ps1 | 4 months ago |
| Coincap | Update Coincap.py | 4 months ago |
| Status Page | Update README.md | 18 minutes ago |
| AdvancedExercise.md | Update AdvancedExercise.md | 19 minutes ago |
| LICENSE | Initial commit | 9 months ago |
| README.md | Add example Status Page | last week |

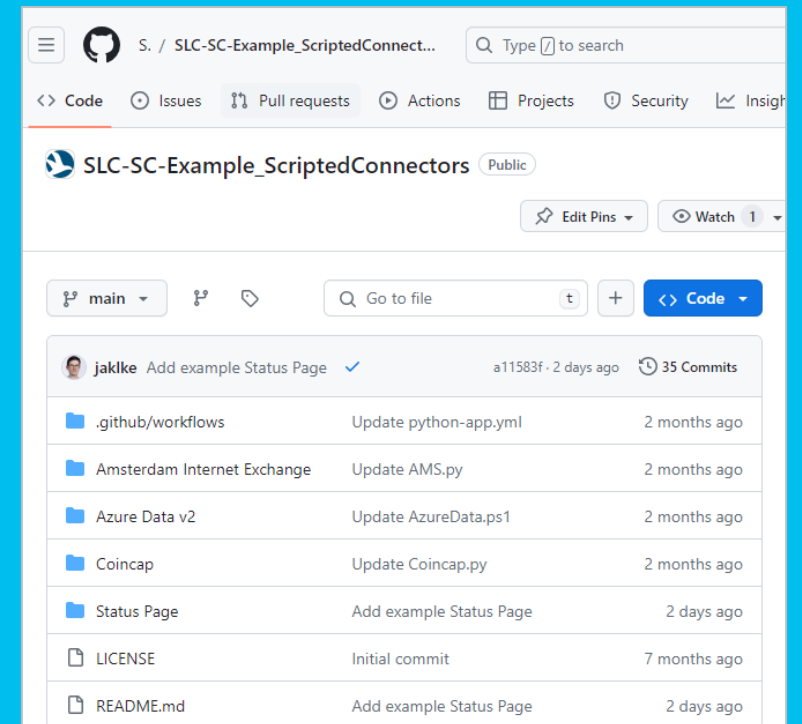
Classroom exercise

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



The screenshot shows a GitHub file viewer for the file `StatusPageComponents.py` in the repository `SLC-SC-Example_ScriptedConnectors`. The file is 31 lines long, 24 lines of code, and 1.21 KB in size. It was last updated by user `jaklke` (commit `a11583f`) last week. The code is displayed in a light blue theme. A context menu is open over the code, showing options: `Edit file`, `Edit in place`, `Open with...` (with `github.dev` selected), and `GitHub Desktop`.

```
1 import requests
2
3 def main():
4     # Define the service for which we are checking the status
5     # Example services using this API are GitHub, Dropbox, Discord, Vimeo
6     service = "GitHub Status"
7
8     # Set the base URL of the status page API for the service
9     # Example API URLs for these services are:
10    # https://www.githubstatus.com, https://status.dropbox.com, https://discordstatus.com, https://www.vimeostatus.com/
11    urlapi = "https://www.githubstatus.com"
12
13    # Define header parameters for the request to the local API
```



The screenshot shows the GitHub repository page for `SLC-SC-Example_ScriptedConnectors`. The repository is public and has 35 commits. The commit history is shown as a table with columns for the commit message, the user, and the time since the commit.

| Commit Message | User | Time |
|-------------------------|--------|--------------|
| Update python-app.yml | jaklke | 2 months ago |
| Update AMS.py | jaklke | 2 months ago |
| Update AzureData.ps1 | jaklke | 2 months ago |
| Update Coincap.py | jaklke | 2 months ago |
| Add example Status Page | jaklke | 2 days ago |
| Initial commit | jaklke | 7 months ago |
| Add example Status Page | jaklke | 2 days ago |

Classroom exercise

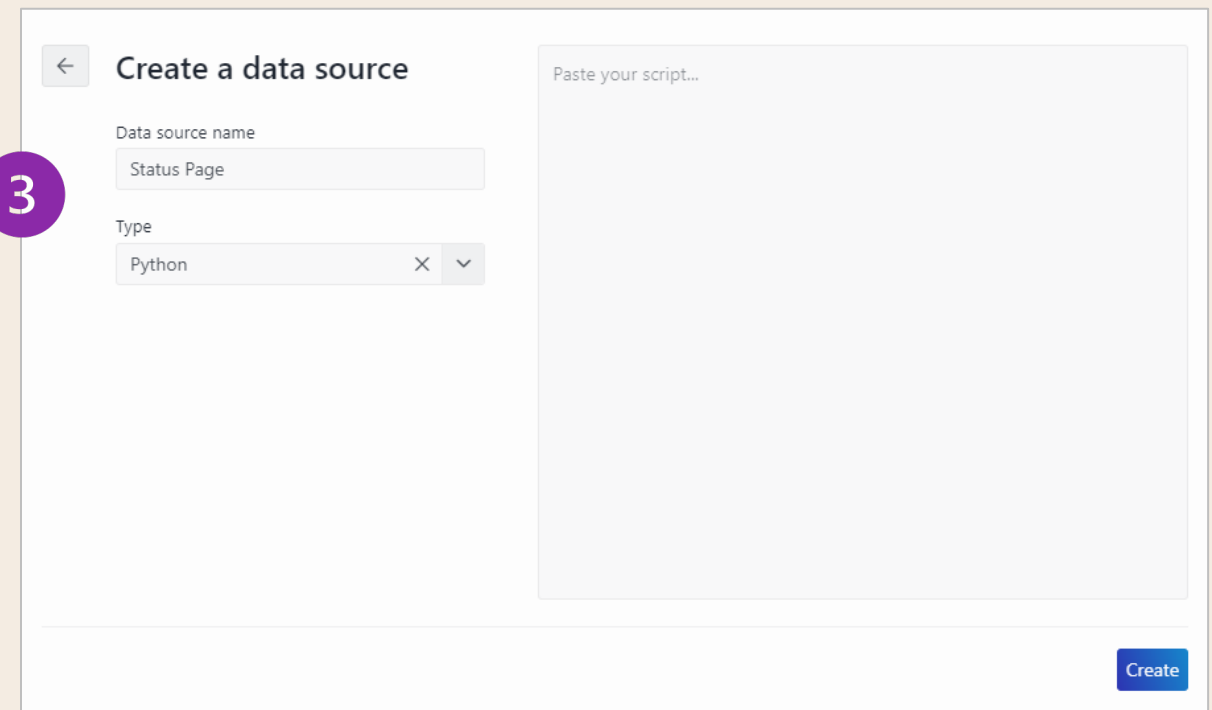
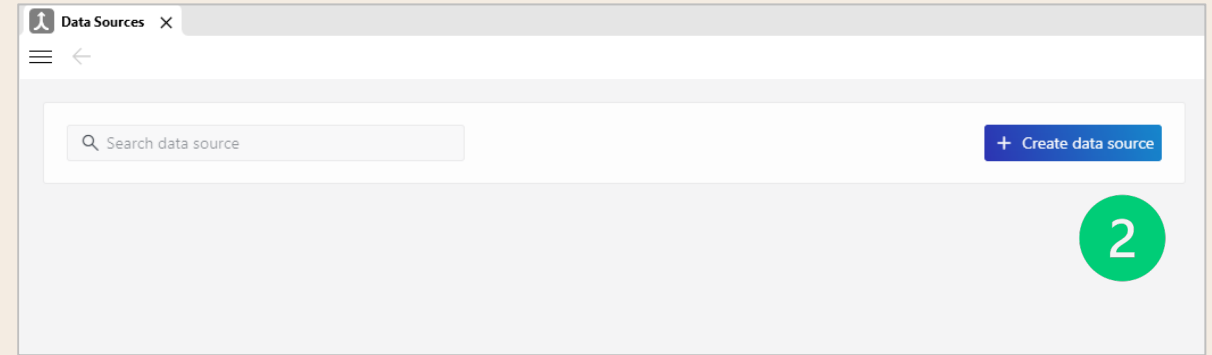
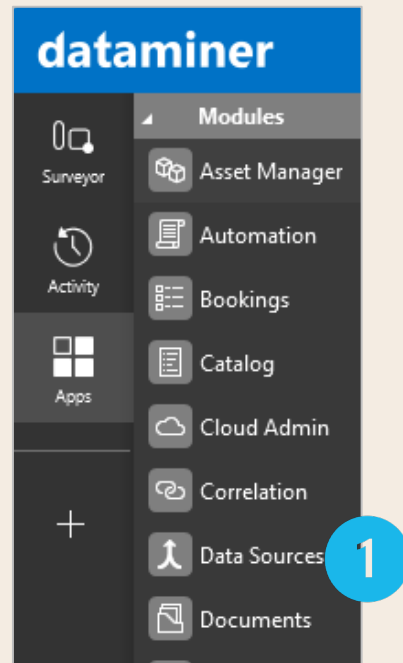
- Prepare Scripted Connector
 1. Change service name
 2. Copy script to clipboard

```
SLC-SC-Example_ScriptedConnectors [GitHub]
StatusPageComponents.py x
Status Page > StatusPageComponents.py > main
1 import requests
2
3 def main():
4     # Define the service for which we are checking the status
5     # Example services using this API are GitHub, Dropbox, Discord, Vimeo
6     service = "GitHub Status"
7
8     # Set the base URL of the status page API for the service
9     # Example API URLs for these services are:
10    # https://www.githubstatus.com, https://status.dropbox.com, https://discordstatus.com, https://www.vimeostatus.com/
11    urlapi = "https://www.githubstatus.com"
12
13    # Define header parameters for the request to the local API
14    header_params = {
15        "identifier": service,
16        "type": "Status Page",
17    }
18
19    # Create a session object to manage and persist settings across requests
20    session = requests.Session()
21
22    # Send a GET request to the status API to get the current status of the components in JSON format
23    components = session.get(urlapi + "/api/v2/components.json")
24
25    # Send a PUT request to the local Data API with the status data
26    # Include the header parameters for additional context
```

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'

← Create a data source

Data source name
Status Page

Type
Python

```
import requests

def main():
    # Define the service for which we are checking the status
    # Example services using this API are GitHub, Dropbox, Discord, Vimeo
    service = "Dropbox"

    # Set the base URL of the status page API for the service
    # Example API URLs for these services are:
    # https://www.githubstatus.com, https://status.dropbox.com,
    https://discordstatus.com, https://www.vimeostatus.com/
    urlapi = "https://status.dropbox.com"

    # Define header parameters for the request to the local API
    header_params = {
        "identifier": service,
        "type": "Status Page",
    }

    # Create a session object to manage and persist settings across requests
```

5 Create



Data Sources | Dropbox

Root View | Dropbox

Search

Components

Components

| Id [IDX] | Name | Status | Created_At | Updated_At | Position | Description | Showcase | Start_Date | Group_Id | Page |
|--------------|---------------------|----------------------|----------------|----------------|----------|----------------|----------|------------|----------|------|
| 6hfxwc3bylrx | Paper | operational | 2017-05-02T... | 2024-05-15T... | 5 | | False | | | |
| 28p7kxfc2400 | Replay | operational | 2022-09-21T... | 2024-04-25T... | 8 | | False | 2022-09-21 | | |
| 0888k9dj2x6x | Support Services | operational | 2020-10-27T... | 2023-11-03T... | 10 | Support ser... | False | 2020-10-27 | | |
| 9249rggclblt | Mobile Application | degraded_performance | 2016-08-12T... | 2024-05-24T... | 3 | | False | | | |
| 6806922ybdl4 | Desktop Application | operational | 2015-09-15T... | 2024-05-28T... | 2 | | False | | | |
| g0f37btjhcq | API | operational | 2015-09-14T... | 2024-05-15T... | 4 | | False | | | |
| j2bmcbh0qddh | Passwords | operational | 2021-01-15T... | 2024-05-15T... | 6 | | False | 2021-01-15 | | |
| jd1xbk17qkvv | DocSend | operational | 2023-11-10T... | 2023-12-07T... | 12 | | True | 2023-11-09 | | |
| vtv54lb5d5xc | Capture | operational | 2022-08-18T... | 2024-02-26T... | 7 | | False | 2022-08-18 | | |
| xxdqx0ykqsdv | Website | operational | 2015-09-14T... | 2024-05-30T... | 1 | | False | | | |
| zr2pd7n95xx1 | Dash | operational | 2023-07-06T... | 2024-04-24T... | 9 | | False | 2023-07-06 | | |

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

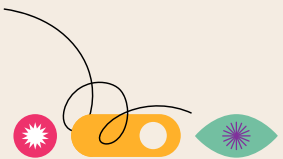
Scripted connectors

- 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

Questions?

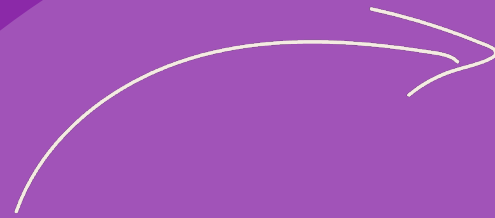


Mastering DataMiner Cube

Accessing AI-driven
anomalies, relations &
patterns



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



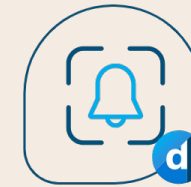
Incident
Tracking



Proactive Cap
Detection



Pattern
Matching




Focus
Alarms



Relationship
Learning

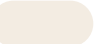
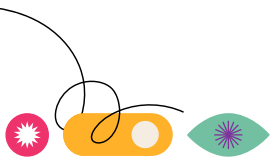
- **7 features** leveraging state-of-the-art **big data** and **artificial intelligence (AI)**

 **Assists** you in your daily operations



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

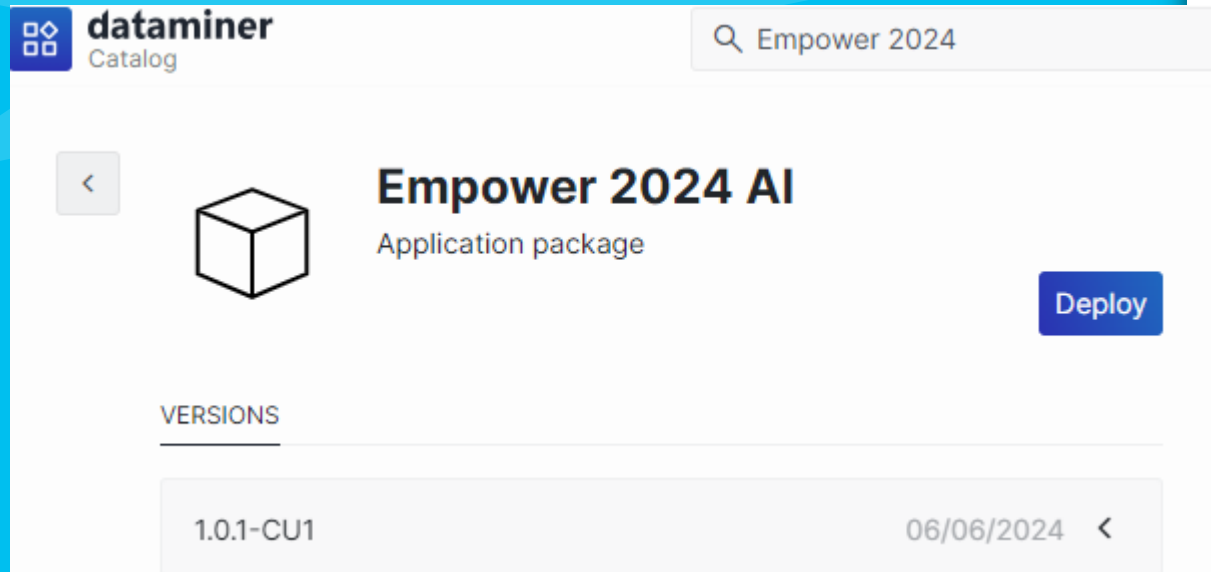
Create univariate patterns

Create multivariate patterns



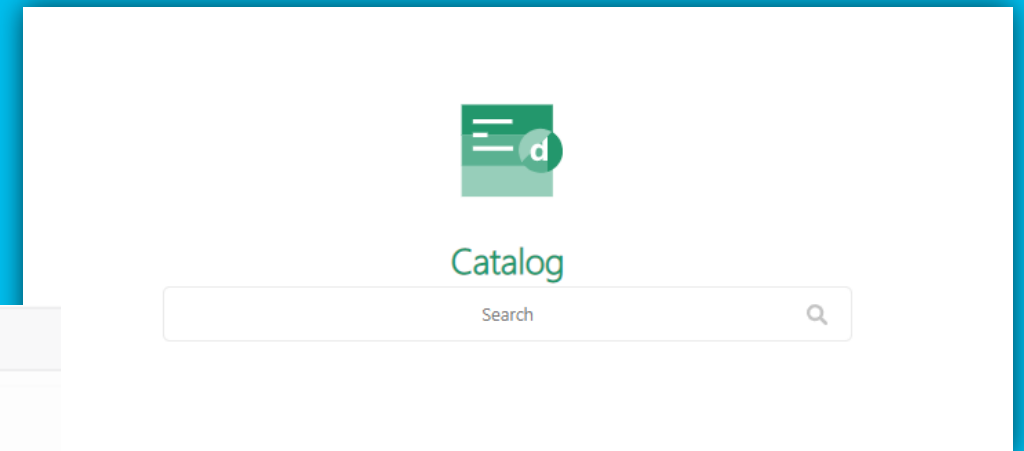
Hands-on time!

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



The screenshot shows the Dataminer Catalog interface. At the top left is the 'dataminer Catalog' logo. A search bar at the top right contains the text 'Empower 2024'. Below the search bar, the main content area displays the details for the 'Empower 2024 AI' application package. It features a cube icon, the title 'Empower 2024 AI', and the subtitle 'Application package'. A blue 'Deploy' button is visible on the right. Below this, a 'VERSIONS' section is shown with a table of available versions.

| VERSIONS | |
|-----------|--------------|
| 1.0.1-CU1 | 06/06/2024 < |



This screenshot shows the search interface of the Dataminer Catalog. It features a green square icon with a white 'd' and a search bar containing the text 'Search' and a magnifying glass icon.

Detecting recurring patterns

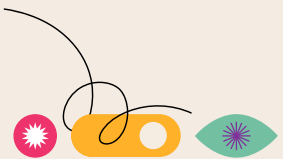
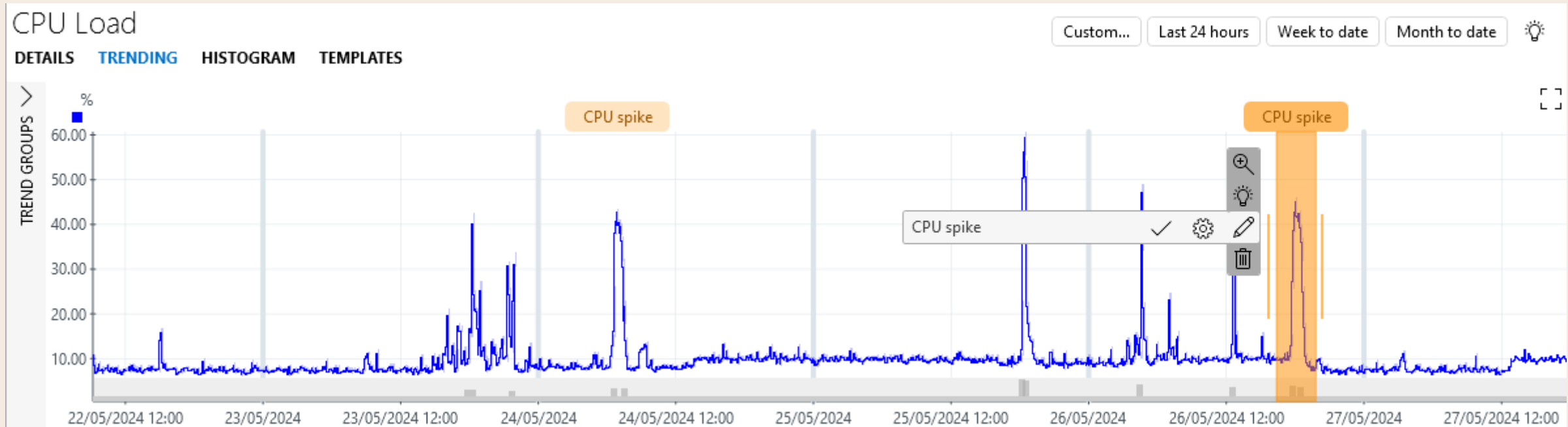
Finding your trend data's hits on repeat



Detecting recurring patterns

Univariate patterns

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



GET INSPIRED

Let's have

a look

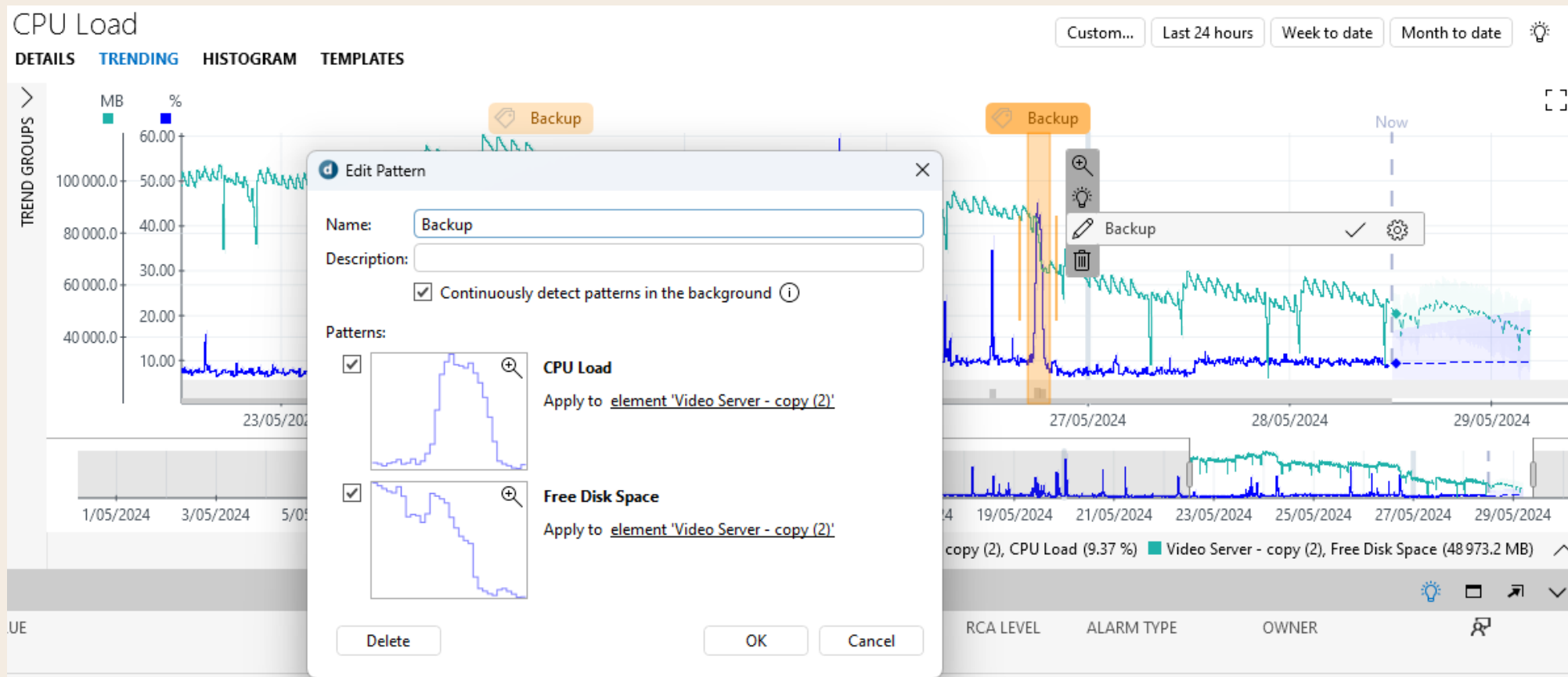
Create univariate
patterns

GET INSPIRED

Detecting recurring patterns

Multivariate patterns

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



GET INSPIRED

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

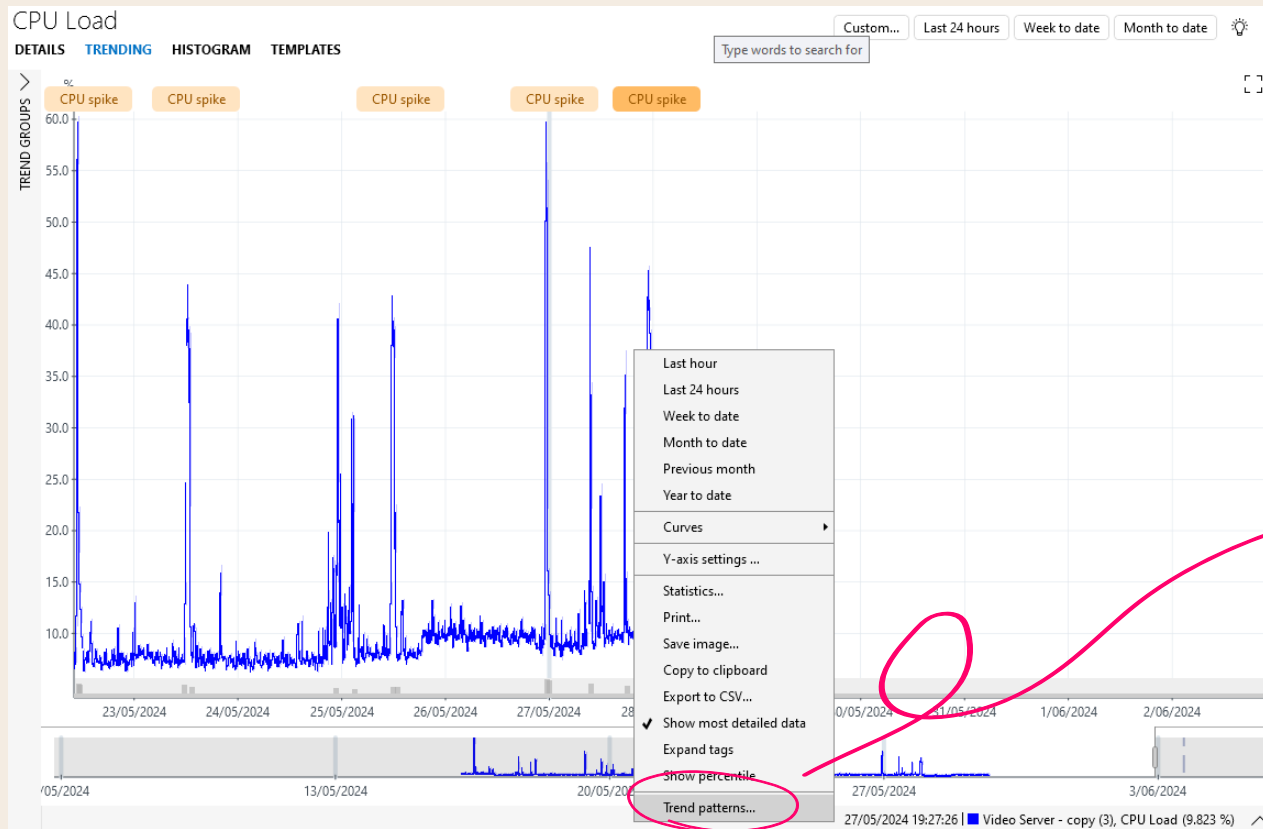
Make **(multivariate) pattern** that only detects those CPU spikes



Create
multivariate
patterns

Show all patterns

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



The 'Pattern Overview' dialog box is shown. It has a 'Filter' input field and a 'Name' field containing 'CPU spike'. Below the name field is a 'Description' field. There is a checkbox labeled 'Continuously detect patterns in the background' which is checked. Under the 'Patterns' section, there is a checkbox labeled 'CPU Load' which is checked, and a small thumbnail image of the CPU load graph. Below the thumbnail is the text 'CPU Load' and 'Apply to element 'Video Server - copy...'. At the bottom of the dialog, there is a checkbox labeled 'Show all patterns' which is checked. The 'OK' and 'Cancel' buttons are at the bottom right.



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  i.e. weird / unexpected
 - Runs on every (numeric) trended parameter
 - From 10.4.8 / 10.5.0 onwards: configurable in trend template
 - Real-time




GET INSPIRED



Let's have

~ a look



Use anomalies on
trend graph

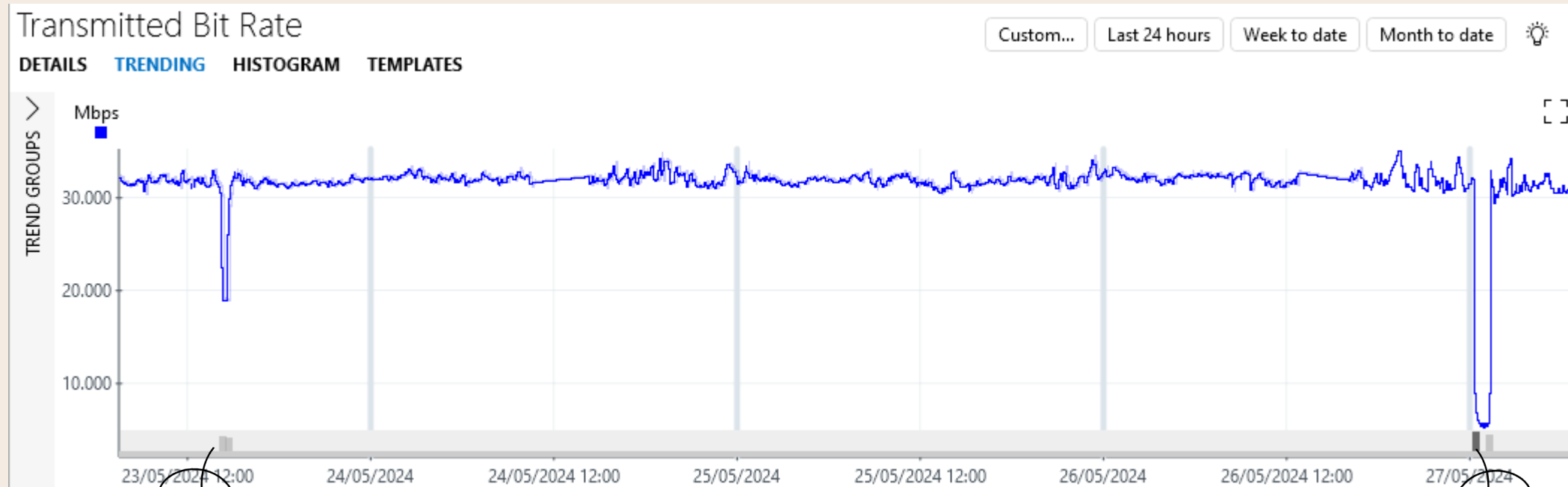


Use anomalies in
alarm console

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

| MON | PARAMETER NAM | FILTER | UNITS | TYPE | CRIT LO | MAJ LO | MIN LO | WARN LC | NORMAI | WARN HI | MIN H | MAJ H | CRIT H | HYST OFF | HYST ON | INF | ANOMALIES |
|-------------------------------------|------------------|--------|--------|------|---------|--------|--------|---------|--------|---------|-------|-------|--------|----------|---------|-----|-----------|
| General | | | | | | | | | | | | | | | | | |
| <input checked="" type="checkbox"/> | Encryption Key R | Reques | Normal | | | | | | | | | | | | | | Disabled |

Anomaly Alarm Settings

All disabled ▾ Note that these settings will only take effect for trended parameters

Level shift

- Level increases ↗ Smart ▾
- Level decreases ↘ Smart ▾

Outlier

- Upward spikes ^ Smart ▾
- Downward spikes v Smart ▾

Variance change

- Variance increases ↗ Smart ▾
- Variance decreases ↘ Smart ▾

Trend change

- Slope increases ↗ Smart ▾
- Slope decreases ↘ Smart ▾

Flatline

- Detect flatlines ↕ Smart ▾

Close




GET INSPIRED



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**

Anomaly Alarm Settings

All smart ▾ Note that these settings will only take effect for trended parameters

Level shift

- Level increases ↗ Smart ▾
- Level decreases ↘ Smart ▾

Outlier

- Upward spikes ↗ Smart ▾
- Downward spikes ↘ Smart ▾

Variance change

- Variance increases ↗
- Variance decreases ↘

Trend change

- Slope increases ↗
- Slope decreases ↘

Flatline

- Detect flatlines ↕

Close



GET INSPIRED

Let's have

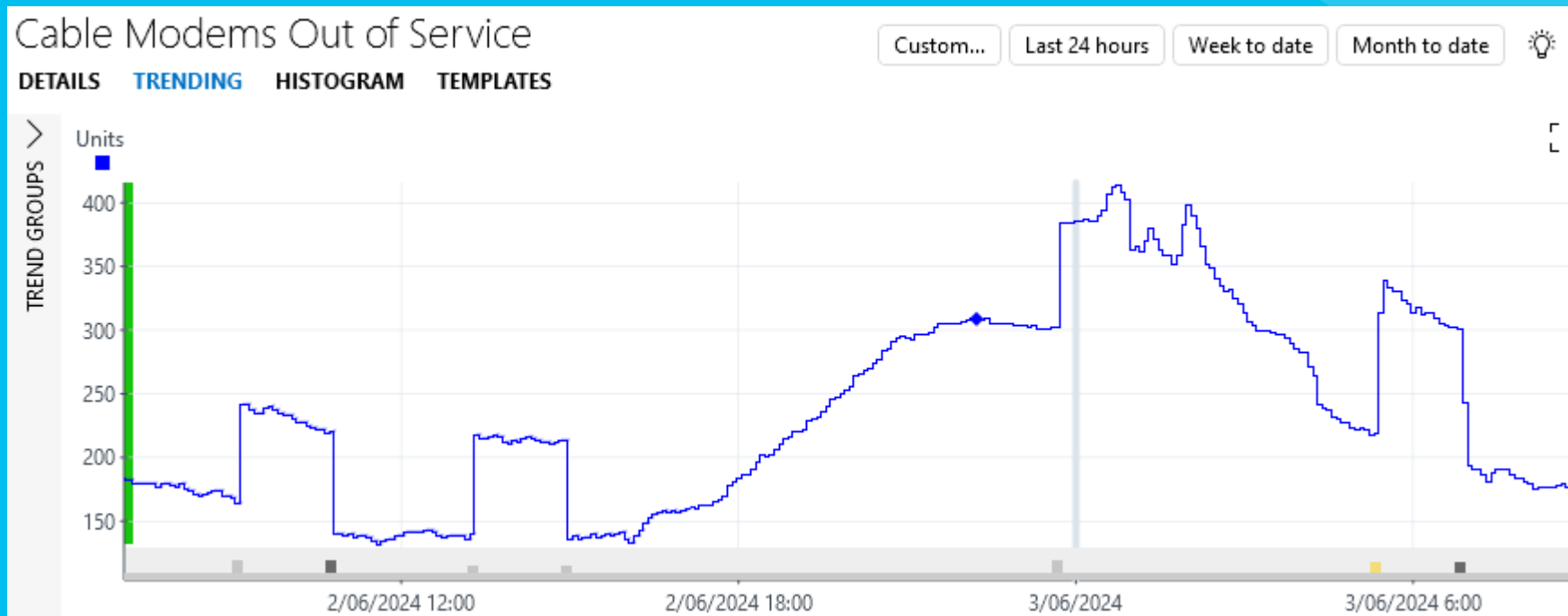
a look

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

| ELEMENT NAME | PARAMETER DESCRIPTION | VALUE | TIME | ROOT... | SE... | S... | SERVICES | RCA L... | ALARM TY... | OWNER |
|-----------------------|--------------------------|------------|---------|----------|-------|------|----------|----------|-------------|--------|
| Today (1 alarm) | | | | | | | | | | |
| Audio bit rate (CB... | Audio Bit Rate Channel 1 | Varianc... | Toda... | Today... | In... | 0 | | None... | New alarm | System |

Give **feedback** on anomalies

 Gradually improve detection + assist in configuration



GET INSPIRED



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



GET INSPIRED



Let's have

~ a look

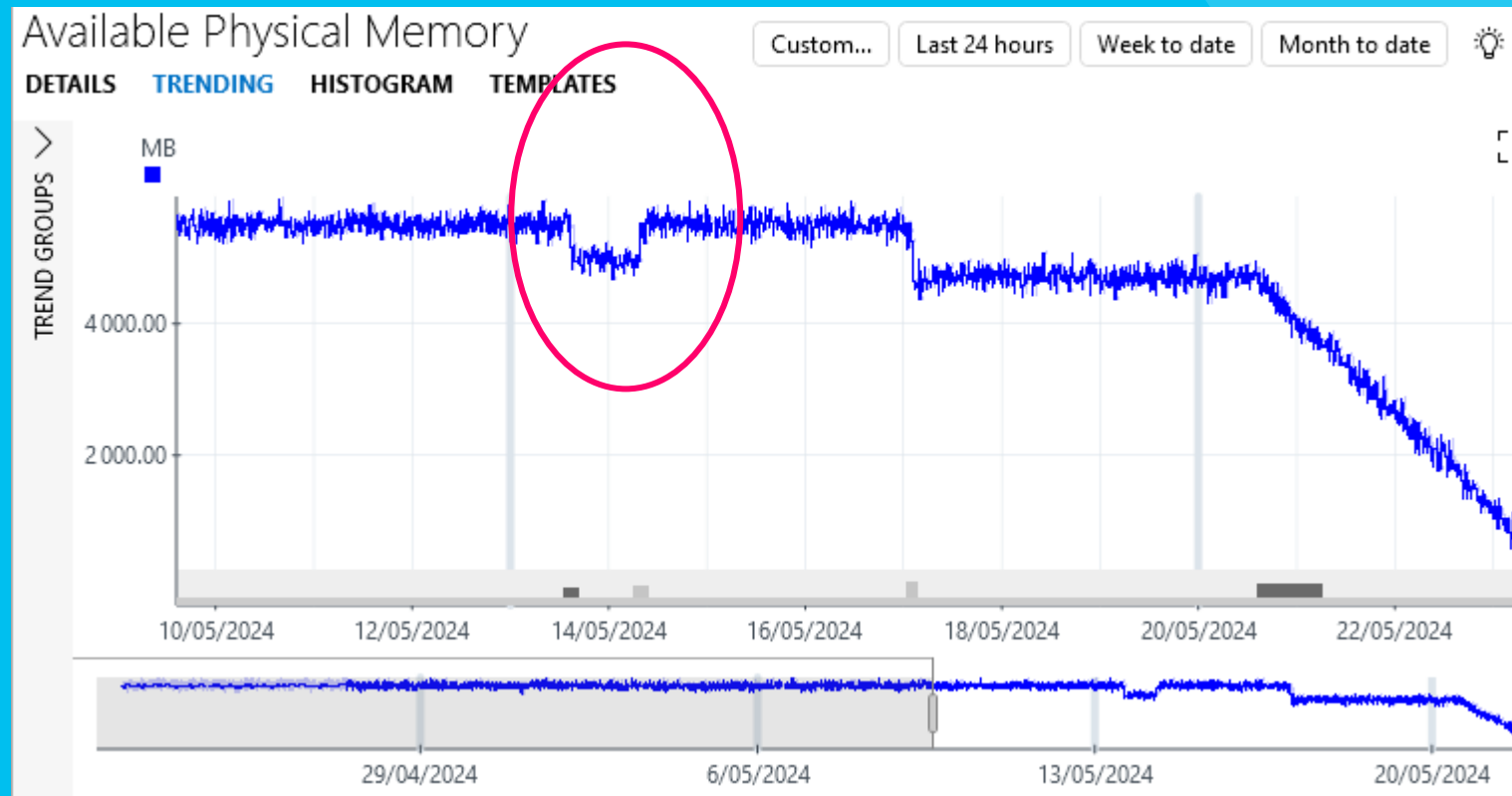


Use time-scoped
relations in trend
graph

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

The screenshot displays the DataMiner CoPilot interface. The top navigation bar includes the 'dataminer' logo and the URL 'ziine.skyline.be'. A search bar is located in the top right. The main interface is divided into several sections:

- Automation Scripts:** A list of folders and files including '0000 TO REMOVE', 'Alarm Dashboards', 'API', 'Augmented Operations', 'bot', 'Bot Manager', 'ChatOps', 'Alarm Actions.Take Ownership', 'Cloud Encoding Alarm Clustering', 'DataMiner Applications', 'DataMiner Catalog', 'DataMiner Data Sharing', 'DataMiner Functionality', 'DataMiner Sample Apps', 'DataMiner Services', 'DataMiner Solutions', and 'Demo'. Buttons for 'New folder', 'Add script', 'Delete', and 'More...' are visible.
- Memory Files:** A section for managing memory files with an 'Add' button.
- Actions:** A section for managing actions with an 'Add' button.
- C# Code:** A code editor showing a C# script for acknowledging alarms and sending notifications to Microsoft Teams. The code includes using statements for 'System', 'System.Linq', 'Skyline.DataMiner.Automation', 'Skyline.DataMiner.DcpChatIntegrationHelper.Com', and 'Skyline.DataMiner.Net.Messages'. It defines a 'DataMiner Script Class' with a 'public class Script'.
- CoPilot Chat:** A chat window on the right with a 'copilot' header. It contains a message about investigating recent changes or updates that may have caused an issue. Below the message are buttons for 'Summarize selected script' and 'Summarize selected alarm'. A search bar at the bottom of the chat says 'Ask me anything...'.
- Active Alarms:** A table at the bottom showing a list of active alarms. The table has columns for 'ELEMENT NAME', 'PARAMETER DE...', 'VALUE', 'TIME', 'ROOT TIME', 'SEVE...', 'SE...', 'SERVICES', 'RCA LEV...', 'ALARM TYPE', 'OWNER', 'ALAR...', and 'RO...'. The table shows 18 alarms for today, including 'COPENHAGEN', 'Cpu Rate (Hw...', 'Starlink API (S...', 'Arista (LAB SLC)', 'CPE BE Manage...', 'LA SW[BLUE]-L01', 'Availability /Amp', and 'Sites'.

At the bottom of the interface, there is a status bar showing 'ACTIVE ALARMS: 332 ALARMS (329 UNREAD)' and a series of colored dots representing different alarm categories. A filter bar at the bottom right shows 'No RCA filter' and a search icon.



ASK AWAY

Questions?



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

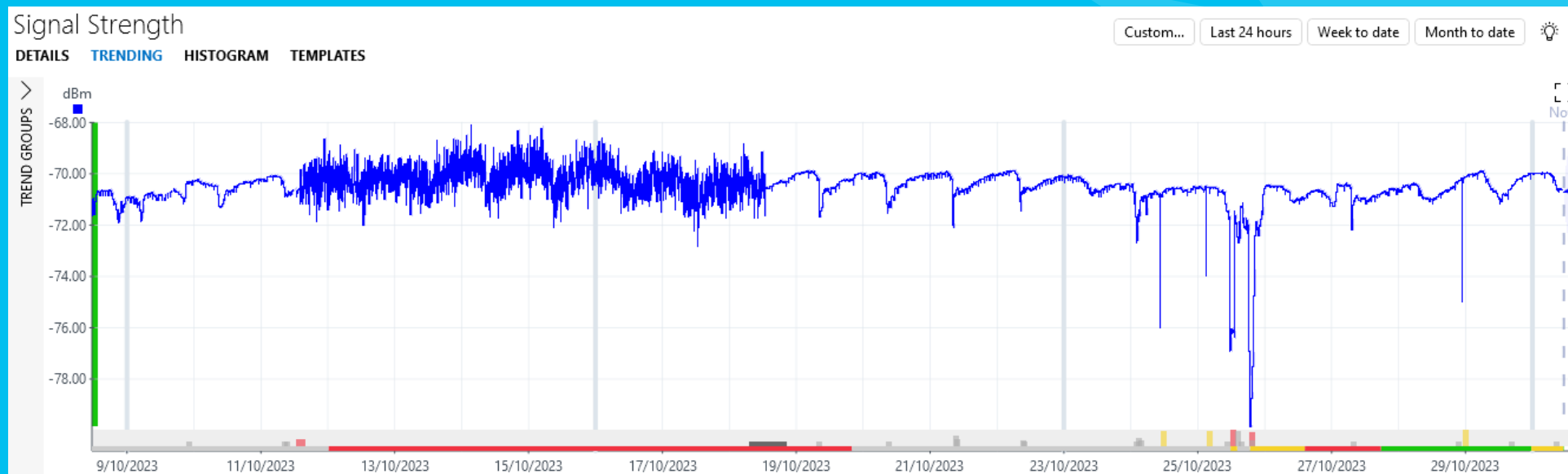


Exercise for at home

(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

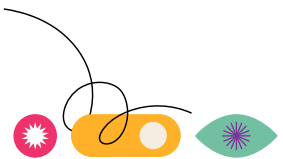


Goals

Use presets

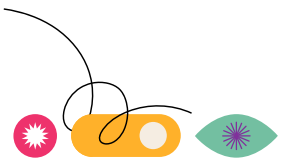
Meet the
template
editor

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?

| 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 |
| Ro... | Gareth Edwards | ... | 84 | ... |



What we delivered

The central 'Workflows' screen displays the following data:

| NAME | STATE | PRIORITY | FAVORITE | INFO | EDIT |
|--------------------------|----------|----------|----------|------|------|
| Default (1) | Draft | Normal | ☆ | i | ✎ |
| Test JKO | Complete | Normal | ☆ | i | ✎ |
| SDI to IP | Complete | Normal | ☆ | i | ✎ |
| Hello Workflow | Draft | Normal | ☆ | i | ✎ |
| TEST RDA | Complete | Normal | ★ | i | ✎ |
| Default | Complete | Normal | ★ | i | ✎ |
| Test | Draft | Normal | ☆ | i | ✎ |
| Test Tom | Complete | Normal | ☆ | i | ✎ |
| SRT: Allegiant Stadiu... | Complete | Normal | ☆ | i | ✎ |
| LV-ALGT-IPout to MC... | Complete | Normal | ☆ | i | ✎ |

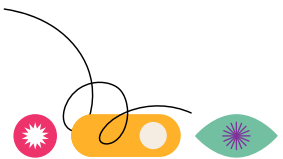
Other visible screens include:

- 'All contracts' table with columns NAME and ORDER ID.
- 'Movies' screen showing a movie titled 'A Hologr...'.
- 'UPDATED' log with entries for Today, Yesterday, and Oct 15, 2023.



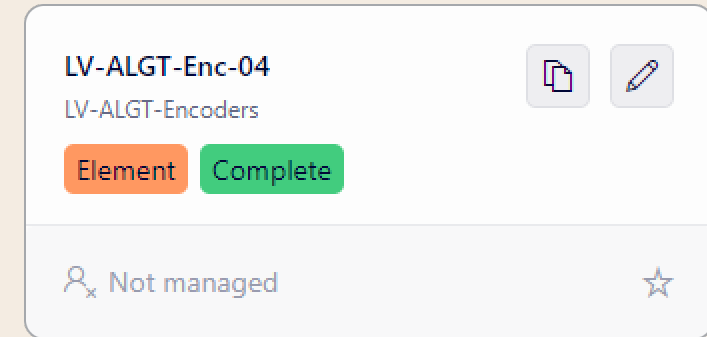
Our solution

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.)

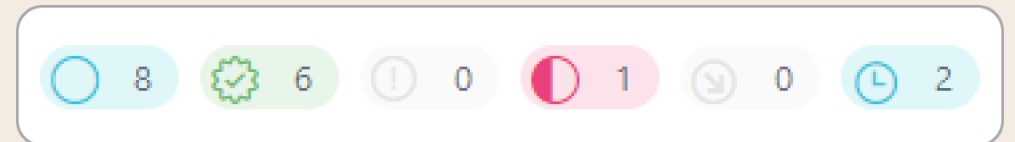


LV-ALGT-Enc-04
LV-ALGT-Encoders

Element Complete

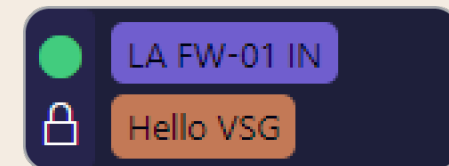
Not managed

This screenshot shows a template card with a title 'LV-ALGT-Enc-04' and subtitle 'LV-ALGT-Encoders'. It features two status buttons: 'Element' (orange) and 'Complete' (green). At the bottom, it says 'Not managed' and has a star icon.



8 6 0 1 0 2

This screenshot shows a horizontal bar with six colored buttons, each with an icon and a number: a light blue circle with '8', a green gear with '6', a grey exclamation mark with '0', a red circle with '1', a grey downward arrow with '0', and a light blue clock with '2'.



LA FW-01 IN

Hello VSG

This screenshot shows a dark-themed card with a green circle icon, a purple button labeled 'LA FW-01 IN', and an orange button labeled 'Hello VSG' with a lock icon.



GET INSPIRED

Let's have



a look

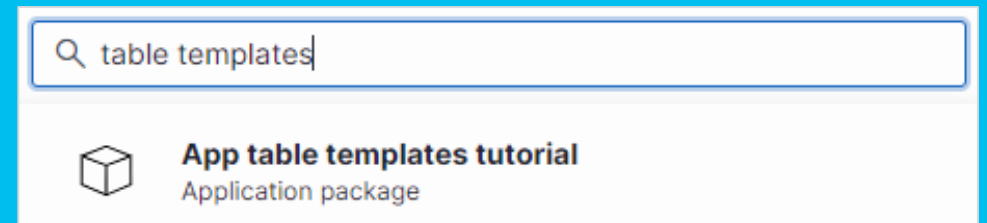


**Use or start from
presets**

GET INSPIRED

Deploy the exercise app

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



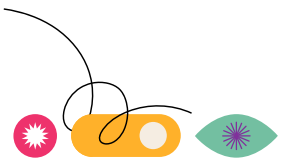
Let's get our hands dirty!

| 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 | ★ |

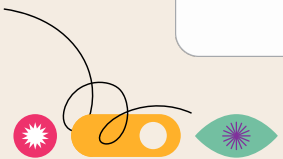
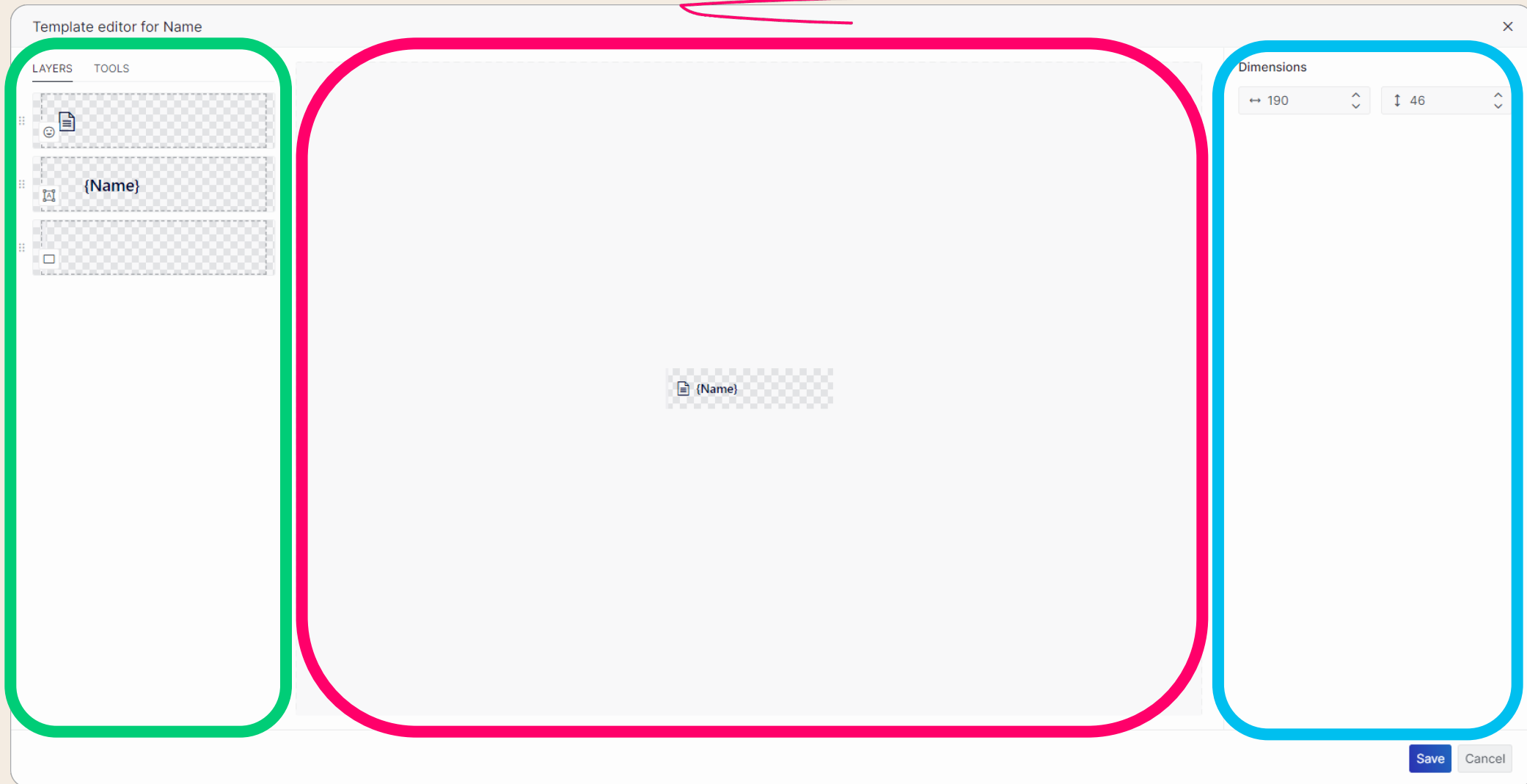
Use or start from
presets

The template editor

The place to be for creativity!



The template editor



GET INSPIRED

Let's have



a look at



some must-knows

GET INSPIRED

Must-knows

Add/remove column filters

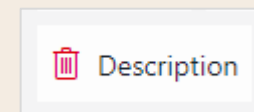
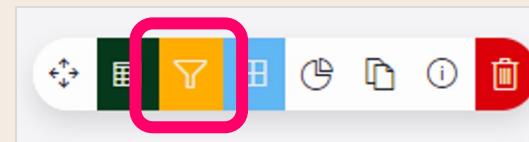
- **To add a column filter:**

- 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:**

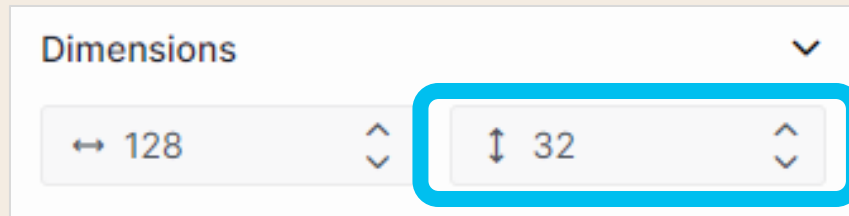
- Hover over the table and click
- Then click the trash icon on the column you want to remove



Must-knows

Row height

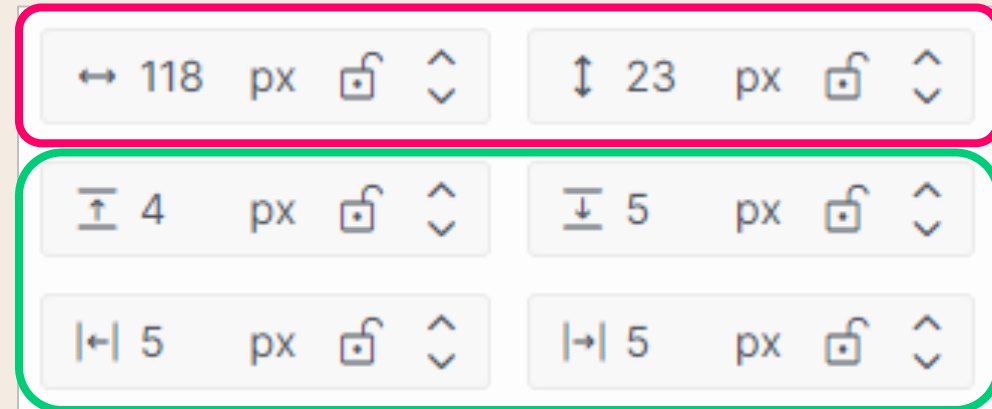
- **The row height is determined by the highest template inside of the table.**
- To change the row height, open any template and change the dimension height:



Must-knows

Layer dimensions

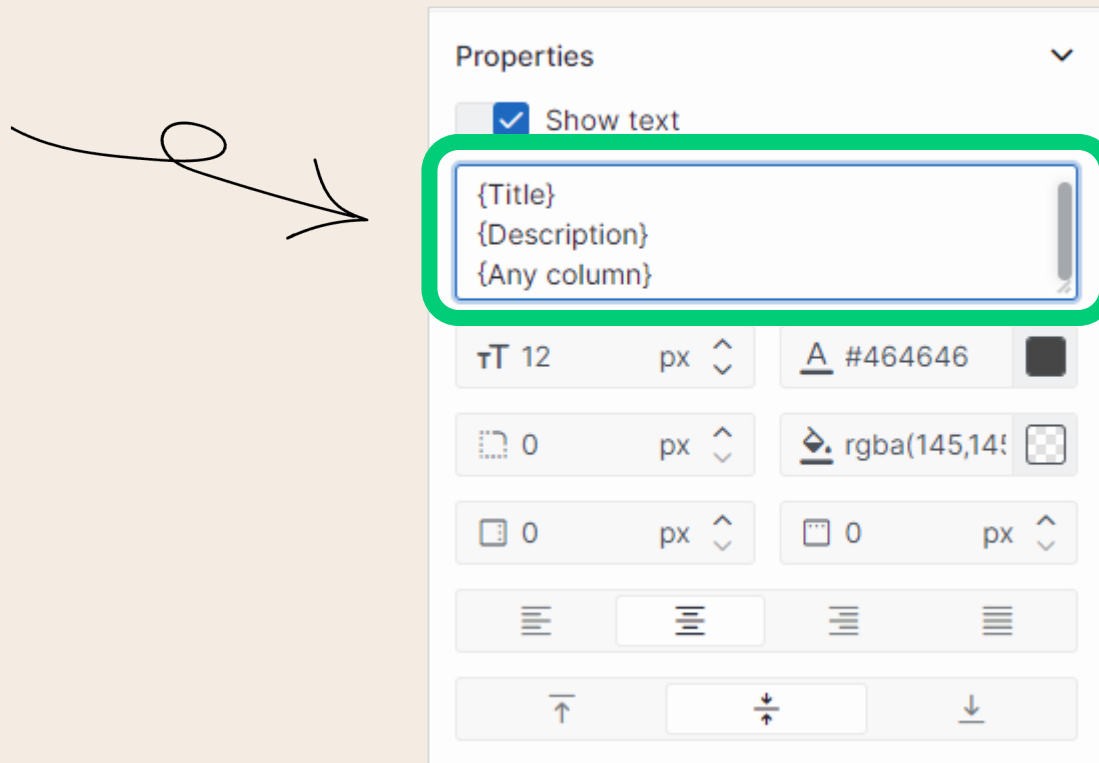
- **Width and height**
- **Padding**
- **Pixels or percentages**
- **Locking**
 - Responsive
 - Maximum 4 dimensions



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.

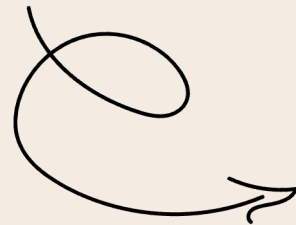


Must-knows

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



Case 1

When Is selected

Yes

No

and condition

Show rectangle

#06391C

Border radius

Link width to

Link height to

Events

11 items

State

Is selected

Is busy

Hovering

Column

Title

Description

Director

Runtime

Rating

Votes

Metascore

MoviePoster

When condition

Show rectangle

This field cannot be empty.



Must-knows

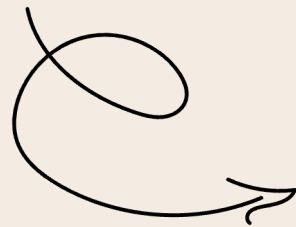
HTML support

- **HTML support in a text layer!**

- Add a textbox layer

- Add the `` tag as the text value:

- ``



Properties ∨

Show text

```
<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"

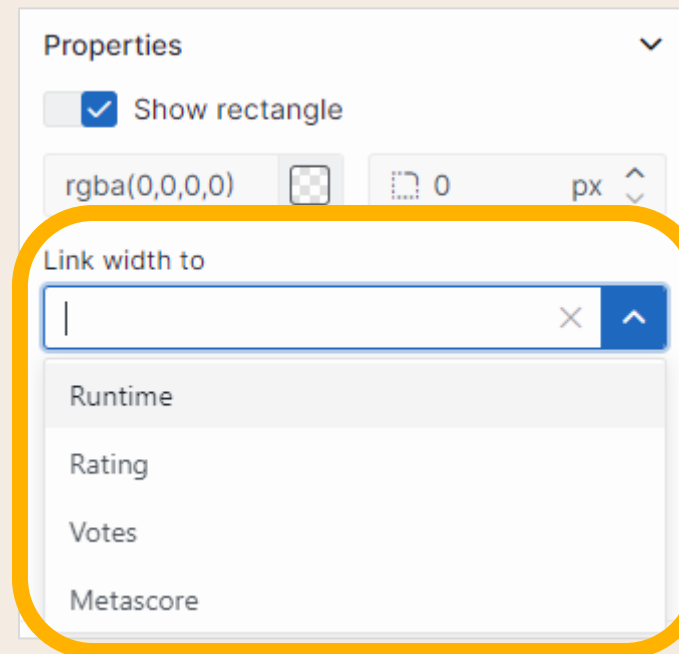
The screenshot displays two overlapping windows from a design tool. The foreground window is titled "What should happen when this shape is clicked?" and contains a configuration for an action: "Open 'https://www.imdb.com/find/?q={ColumnName}' in a new tab". The action is categorized as "Navigate to a URL" and includes a URL input field with the placeholder "https://www.imdb.com/find/?q={ColumnName}" and a toggle switch for "Open in new tab". A "+ Upon completion" button is visible at the bottom right of the dialog. The background window shows a properties panel with various settings, including dimensions (20 px, 22 px, 8 px, 2 px, 82 px, 26 px) and a "Properties" section with a checked "Show ellipse" option and a color code "#000000". A green box highlights the "On click" section of the properties panel, which shows "1 action" and a "Configure actions" button.



Must-knows





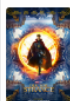


Link width to a column

- **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

| TITLE | DIRECTOR | RUNTIME | METASCORE | RATING |
|--|------------------|---------|-----------|-----------------|
|  A Hologram for the King A failed American sales rep looks to recoup his losses by traveling... | Tom Tykwer | 1h38 | 61 | ★ 6.1 from 340k |
|  Arrival A linguist works with the military to communicate with alien ... | Denis Villeneuve | 1h56 | 81 | ★ 8.0 from 540k |
|  Colossal Gloria is an out-of-work party girl forced to leave her life in New ... | Nacho Vigalondo | 1h49 | 70 | ★ 6.2 from 83k |
|  Deadpool A former Special Forces operative turned mercenary is subjected t... | Tim Miller | 1h48 | 65 | ★ 8.0 from 915k |
|  Doctor Strange While on a journey of physical and spiritual healing, a brilliant ... | Scott Derrickson | 1h55 | 72 | ★ 7.5 from 674k |
|  Fantastic Beasts and Where to Find Them The adventures of writer Newt Scamander in New York's secret... | David Yates | 2h12 | 74 | ★ 7.3 from 456k |
|  Finding Dory The friendly but forgetful blue tang fish goes missing from the reef... | Andrew Stanton | 1h37 | 77 | ★ 7.3 from 598k |

≥ 95 : Yellow

≥ 115 : Orange

≥ 135 : Red

Meet the
template editor
yourself

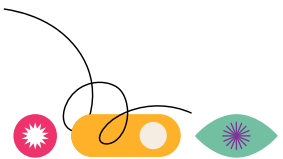
Let's get your hands dirty!

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

Questions?

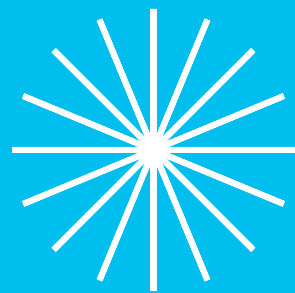


From node



To node

Visualize your connections



with node-edge

YOUR HOST

Sebastiaan Dumoulein



PRODUCT OWNER DATA EXPLORATION



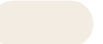
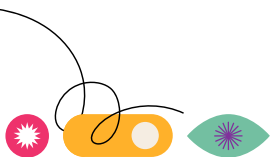
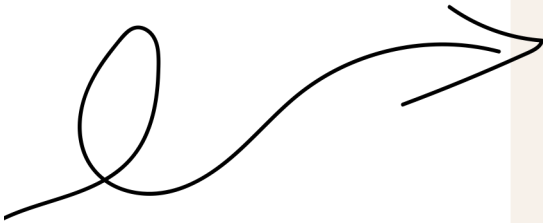
SEBASTIAAN.DUMOULEIN@SKYLINE.BE

VISUAL OVERVIEW
DASHBOARDS
LOW-CODE APPS
GQI

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

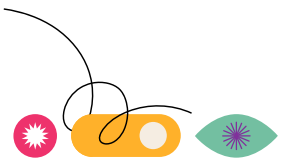
We can style, configure and position a node-edge

We can filter based on selected criteria



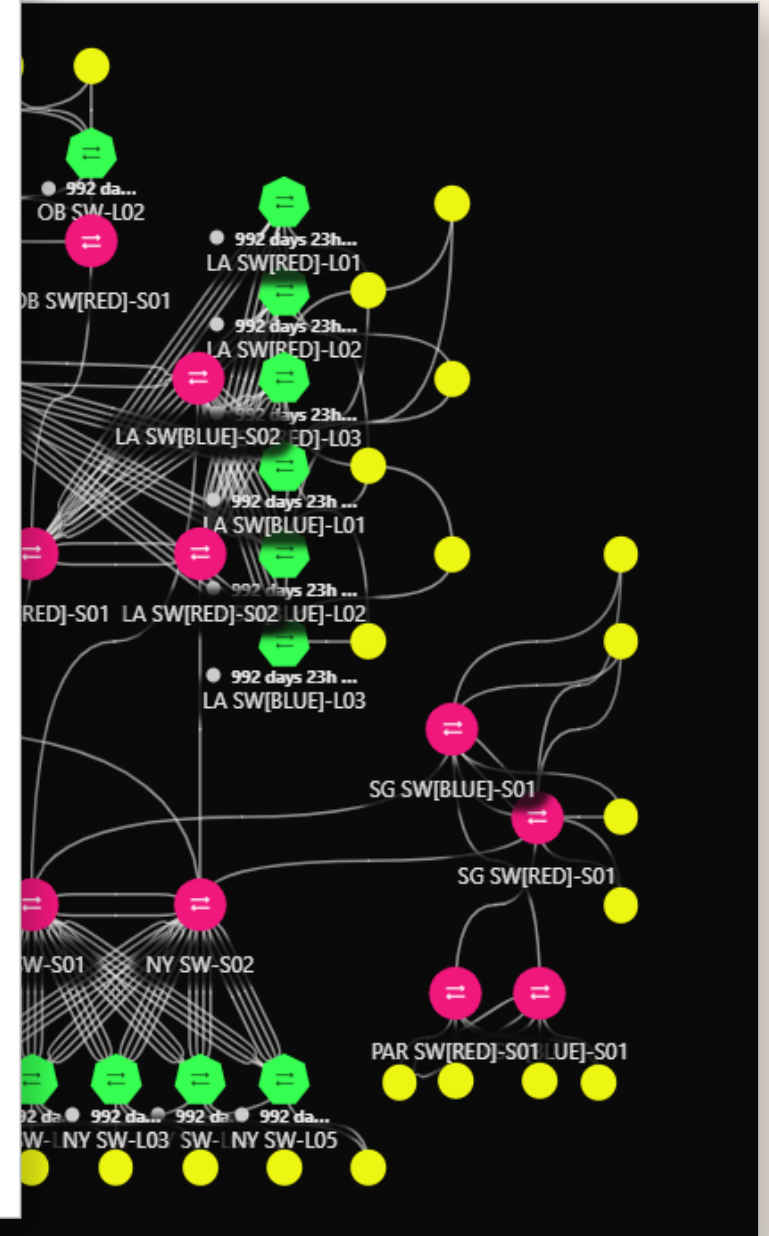
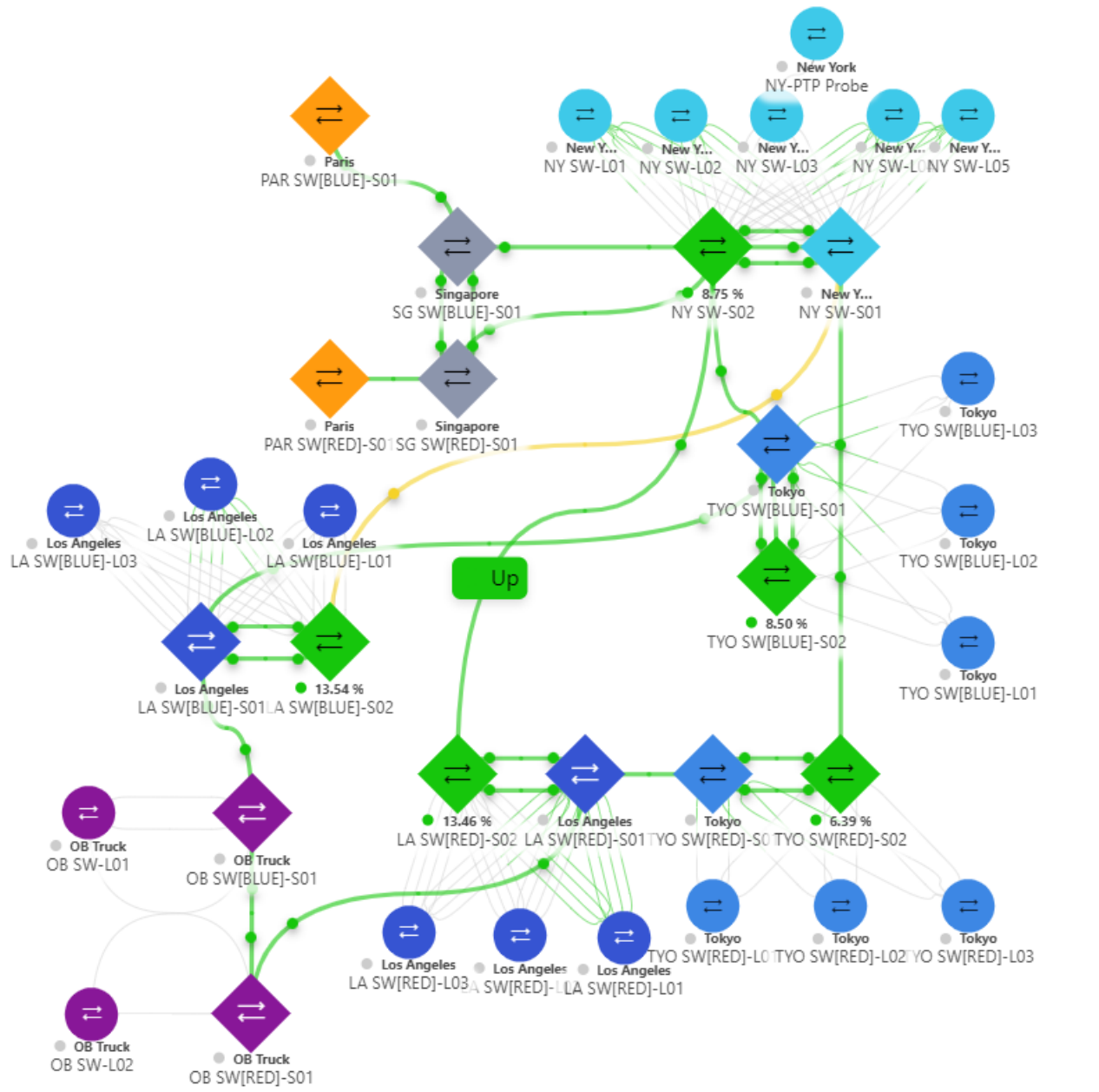
What is a node-edge?

The proof that even data points need friends



Wh

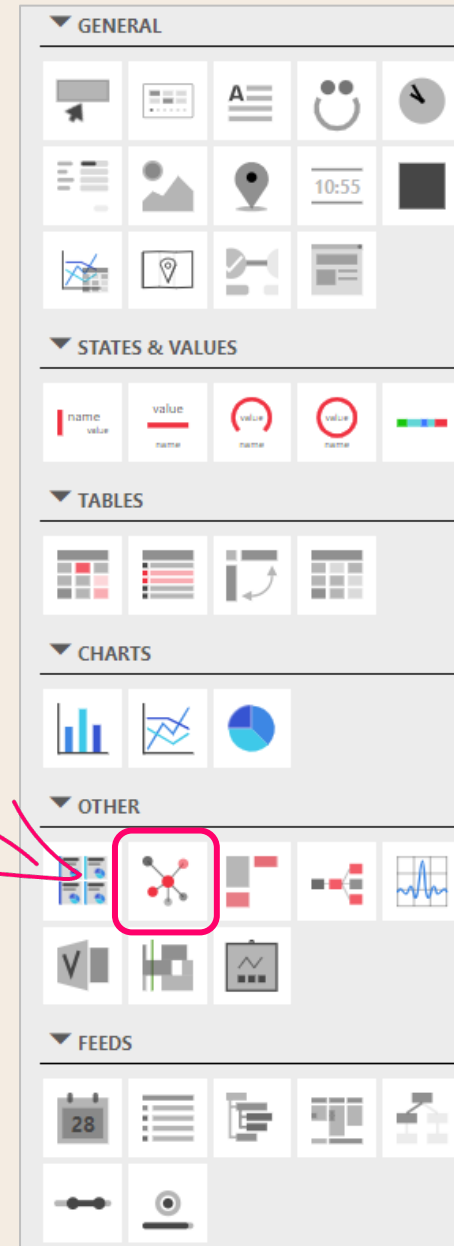
Exam



What is a node-edge?

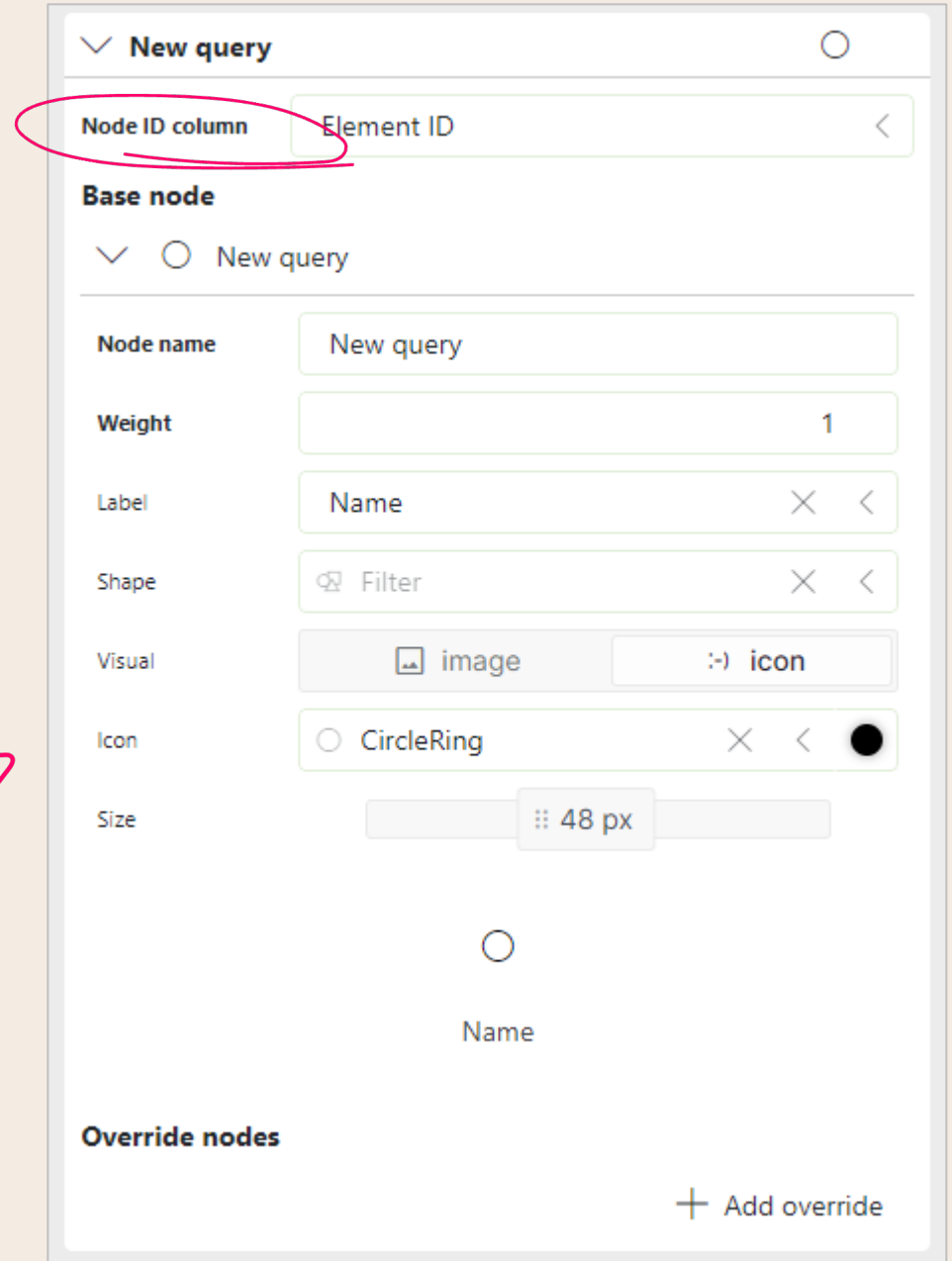
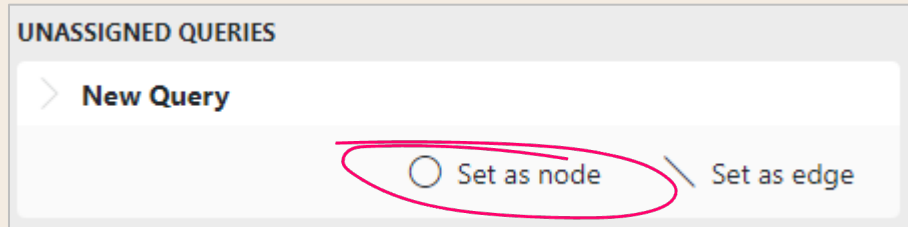
Dots and lines, so morse?

- Dashboards & Low-Code Apps component
- Interacts with GQL
 - 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

UNASSIGNED QUERIES

> New Query

Set as node Set as edge

EDGES

▼ New query - *Between (empty)*

Source Filter <

Desti... Filter <

Bidirectional configuration <

Style Line <

Weight 1

Visualize directions

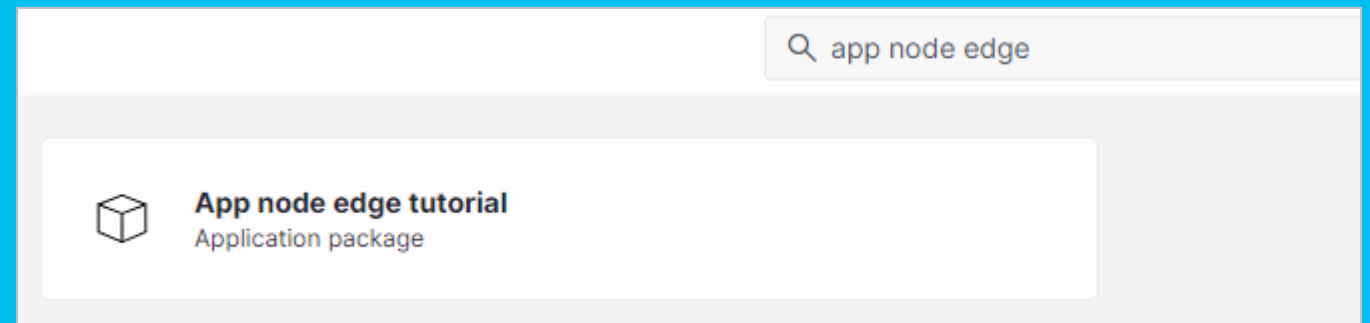
How Flow <

+ Add override



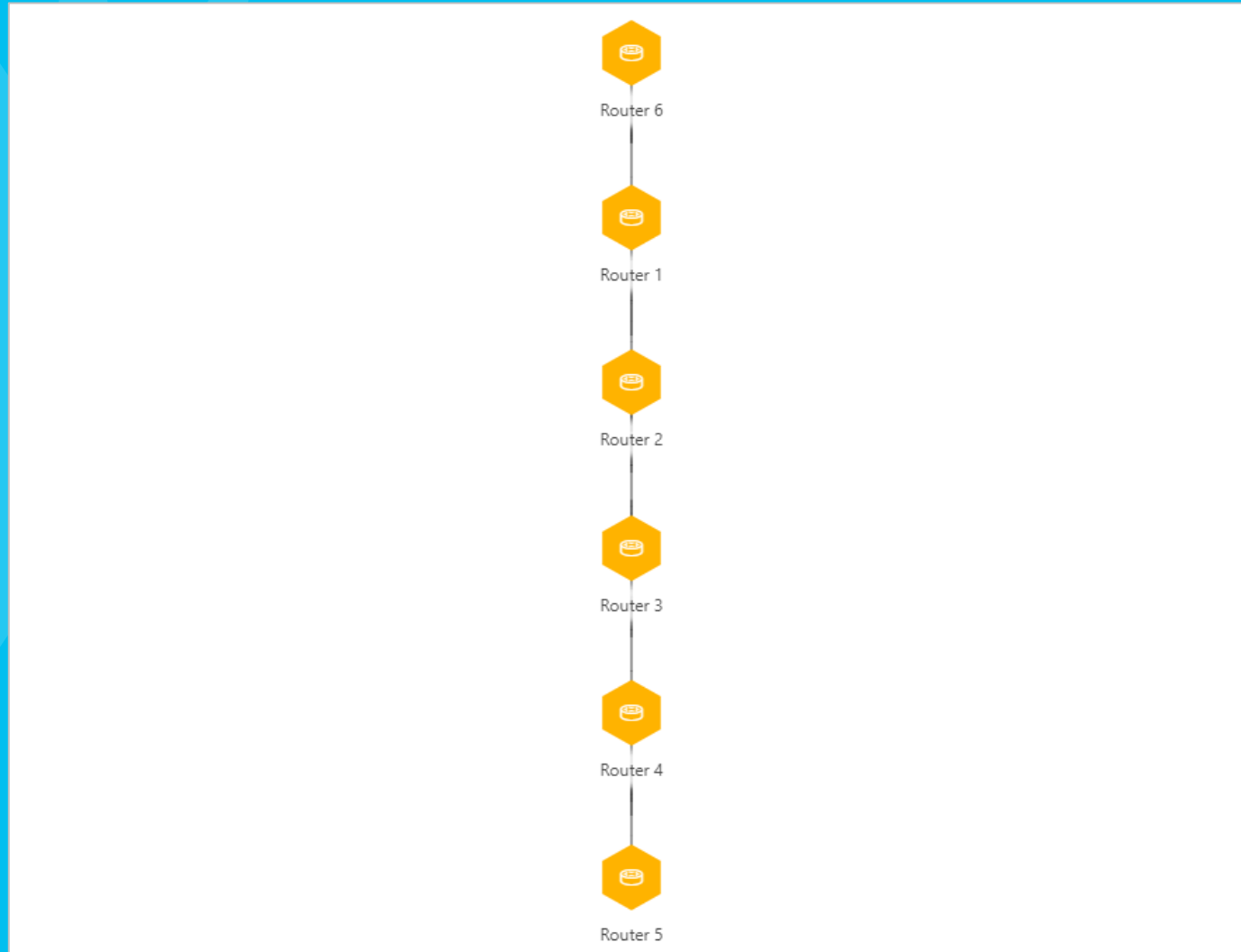
Deploy the exercise app

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

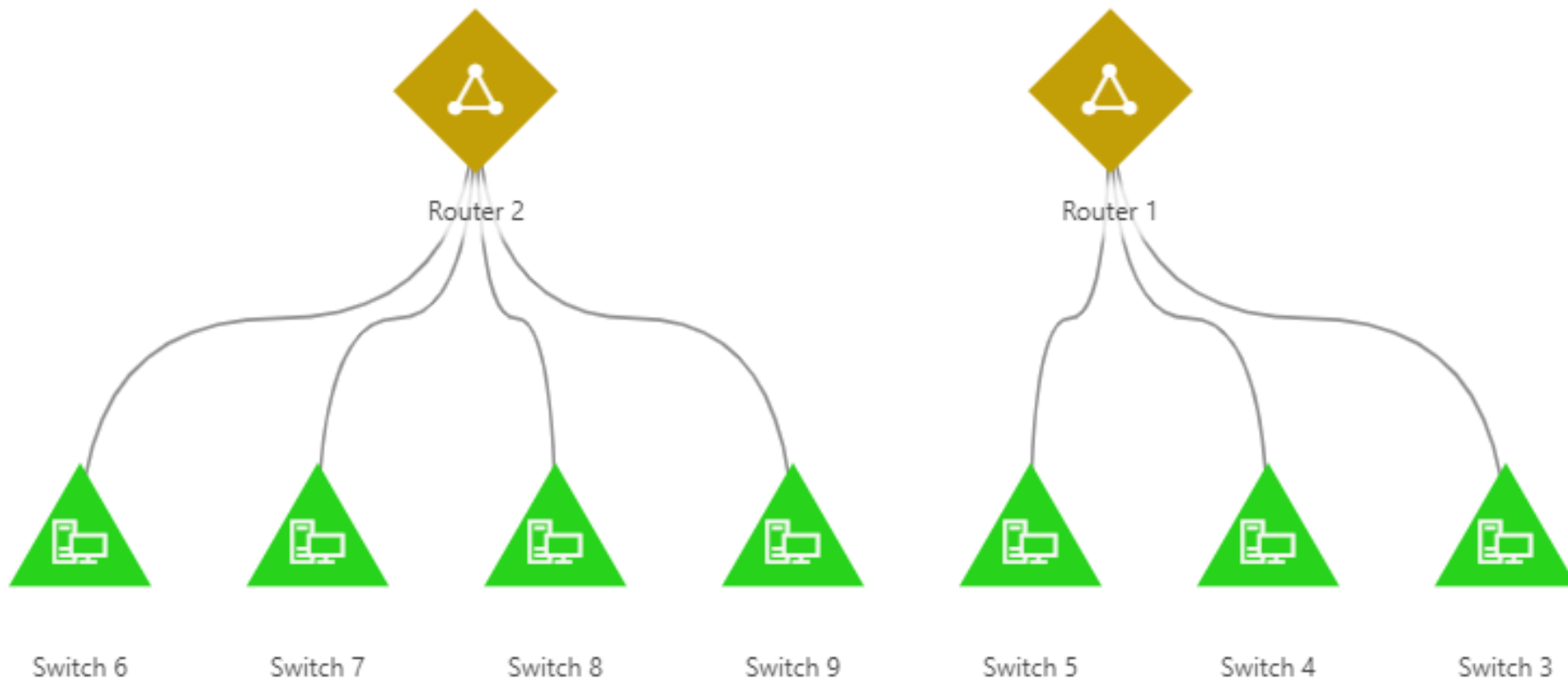


We can create a
node-edge

Integrating Various Data Types

Create the node edge of your dreams!






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

NODES

▼ **Routers** 


Node ID column <

Base node

>  Routers


Override nodes

+ Add override

▼ **Switches - Other devices** 

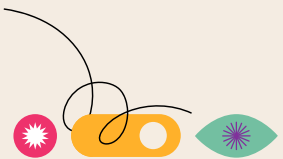
Node ID column <

Base node

>  Other devices

Override nodes

+ Add override



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


Conditional coloring

▼ Type (Other devices) 





-  Router
-  Switch
-  Computer

Component

DATA LAYOUT SETTINGS



COMPUTER 5

| | |
|-------------|---|
| MAC Address |  CE:3D:DC:97:D3:61 |
| Name |  Computer 5 |
| Status |  Online |
| Type |  Computer |

50 %



Interact with a node-edge

Put our nodes to work



Interact with a node-edge

Put our nodes to work

- Click
- Double click
- Tooltip

Actions

Do nothing

Label

Icon ProcessingRun

Action No action

+ Add action

10 items

No action

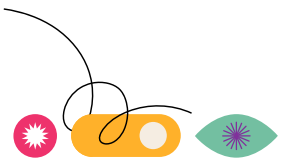
- Launch a script
- Navigate to a URL
- Open a page
- Open a panel
- Close a panel
- Open an app
- Execute component action
- Open monitoring card
- Show a notification

No action



X-Y Positioning

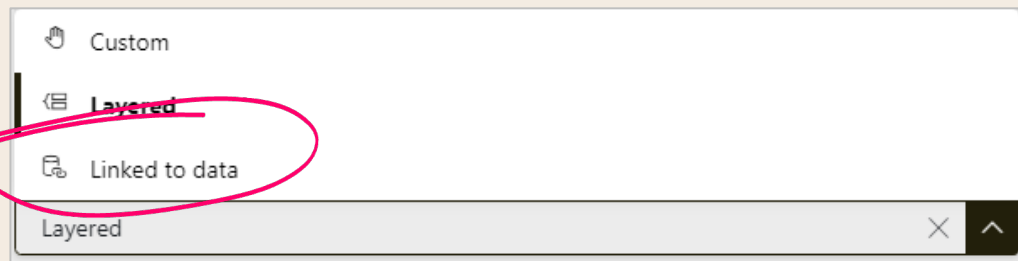
Find a new home for our nodes



X-Y Positioning

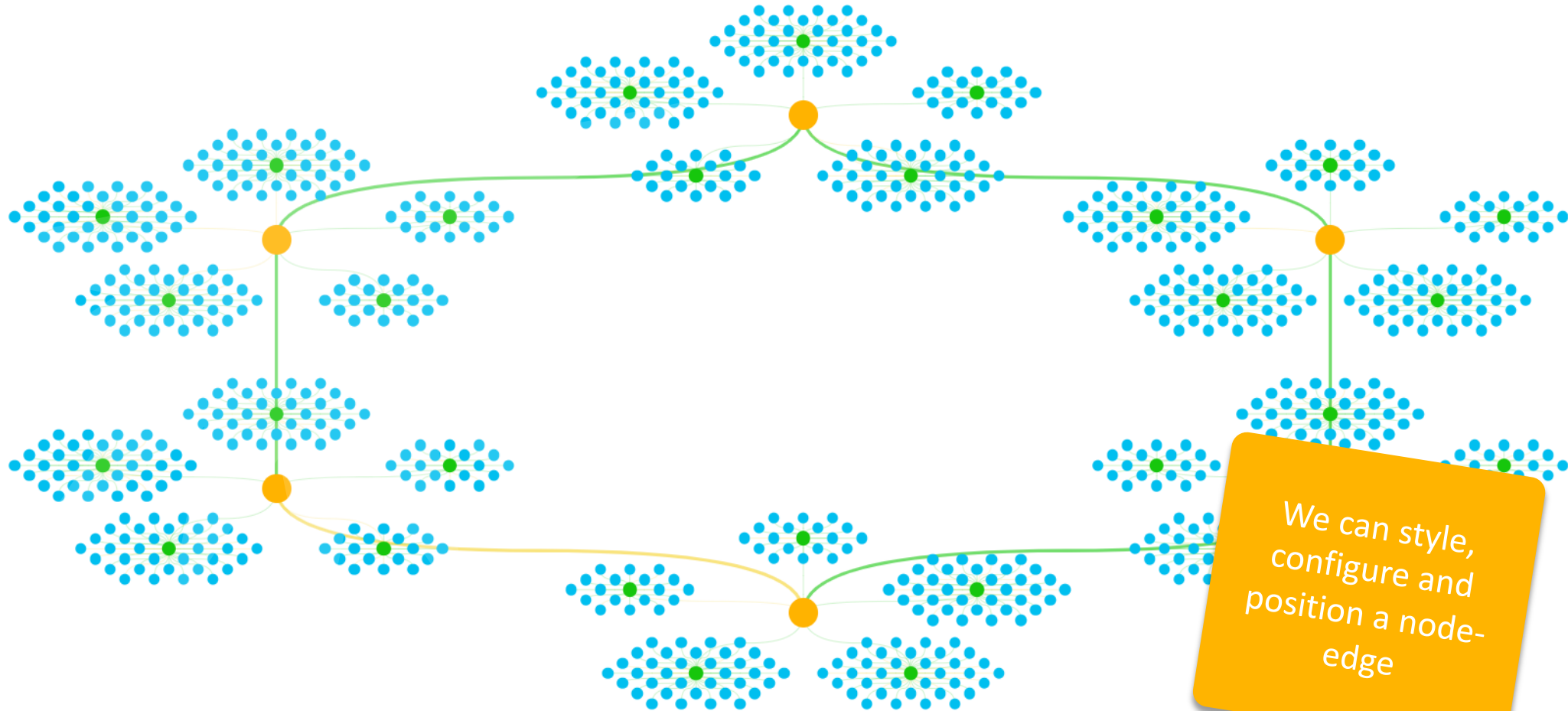
Find a new home for our nodes

- 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!

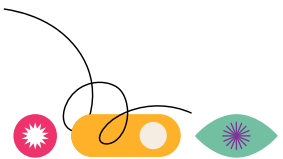
Time to extend, make our node-edge grow!



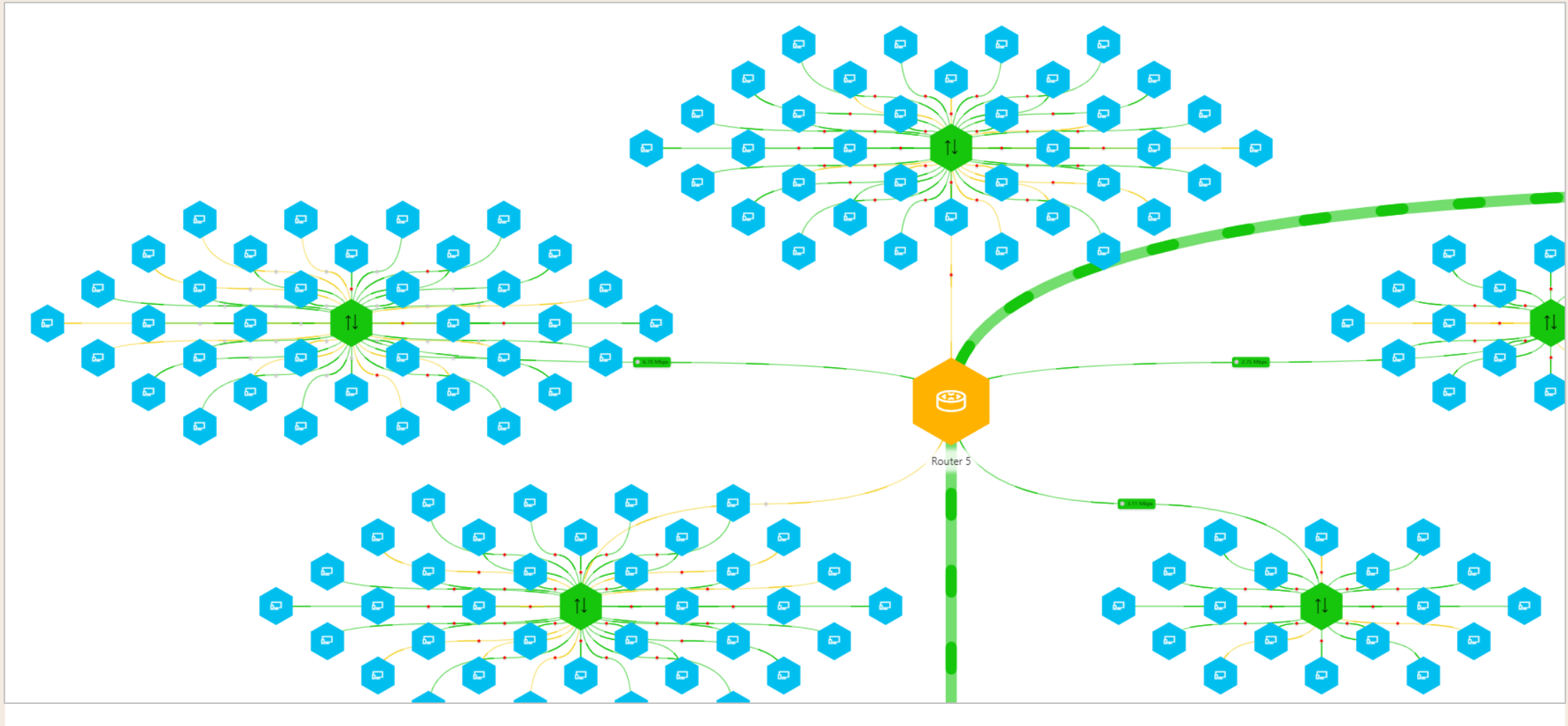
We can style,
configure and
position a node-
edge

Efficient Node-Edge Usage

Another component?!



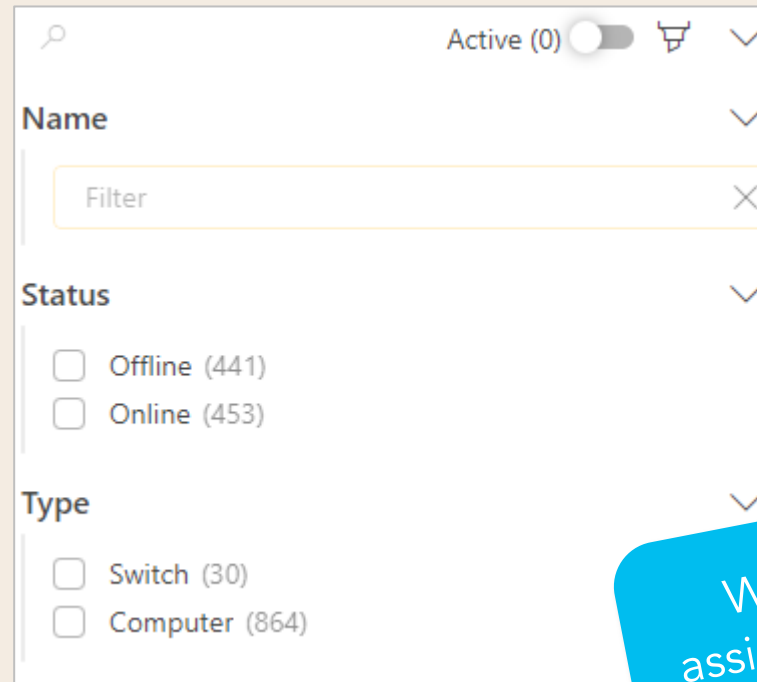
Efficient Node-Edge Usage



Efficient Node-Edge Usage

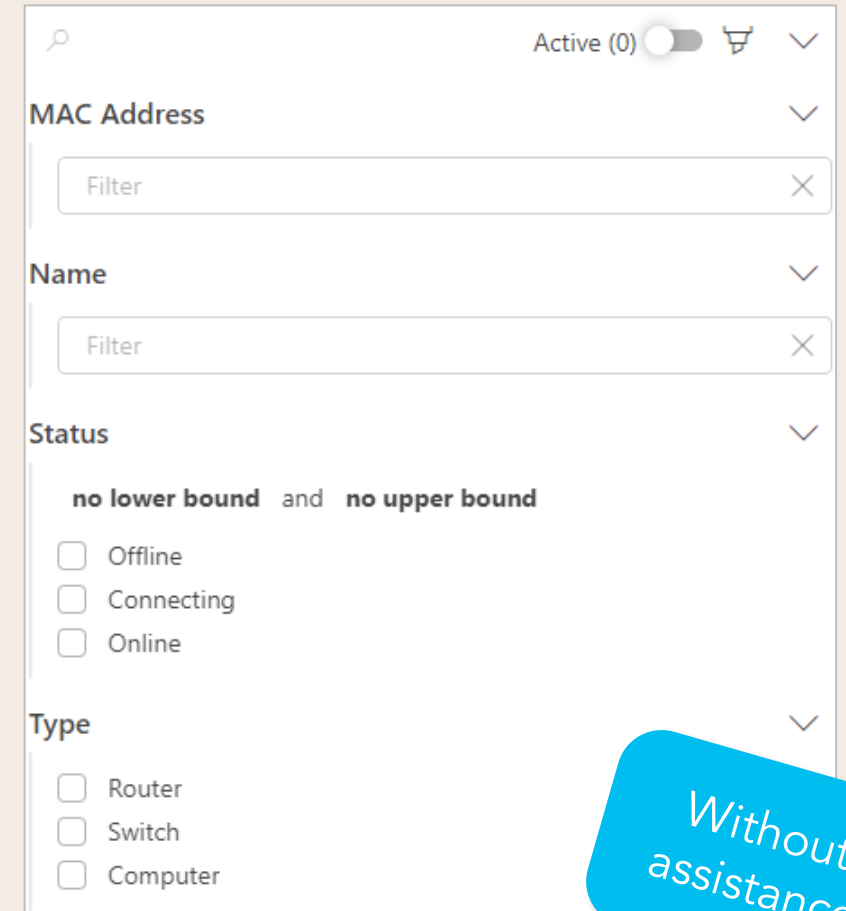
Just filter the queries, but how?

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



A screenshot of a network management interface. At the top right, there is a search icon, a toggle switch labeled "Active (0)", and a dropdown arrow. Below this, there are three filter sections: "Name", "Status", and "Type". Each section has a search input field with the word "Filter" and a close button (X). The "Status" section is expanded, showing two options: "Offline (441)" and "Online (453)". The "Type" section is also expanded, showing two options: "Switch (30)" and "Computer (864)".

With assistance



A screenshot of a network management interface, similar to the one on the left but without filter assistance. It shows the same top controls and filter sections for "MAC Address", "Name", "Status", and "Type". Each section has a search input field with the word "Filter" and a close button (X). The "Status" section is expanded, showing the text "no lower bound and no upper bound" and three radio button options: "Offline", "Connecting", and "Online". The "Type" section is also expanded, showing three radio button options: "Router", "Switch", and "Computer".

Without assistance



Let's get our hands dirty!

Narrow down, gain back full control!

The image shows a network management interface. On the left is a sidebar with filter options:

- Bitrate**
 - ≥ 14000 and no upper bound (Red dot)
 - ≥ 12000 and < 14000 (Yellow dot)
 - no lower bound and < 12000 (Green dot)
 - no lower bound and no upper bound
- Name**
 - Active (1)
 - Filter:
- Status**
 - Offline (441)
 - Online (453)
- Type**
 - Switch (30)
 - Computer (864)

The main area displays a network topology diagram with blue nodes and green/yellow links. A yellow callout box in the bottom right corner contains the text: "We can filter based on selected criteria".

ASK AWAY

Questions?



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.

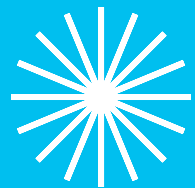
LOCATION

Creative hub T2 +9



Make a connector CI/CD pipeline

Streamline your DataMiner connector
development with a GitHub workflow 



for quality control & package creation


YOUR HOST



Michiel Oda



SENIOR DEVOPS ENGINEER DATA-ACQUISITION



MICHEL.ODA@SKYLINE.BE

CI/CD
DIS

Prerequisites

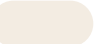
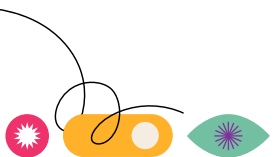
- Visual Studio 2022
- DIS 3.0 ([Visual Studio Marketplace](#))
- GitHub account



Agenda



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

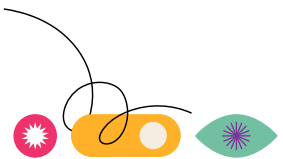


Goals

.NET Tools

CI workflow

Package creation



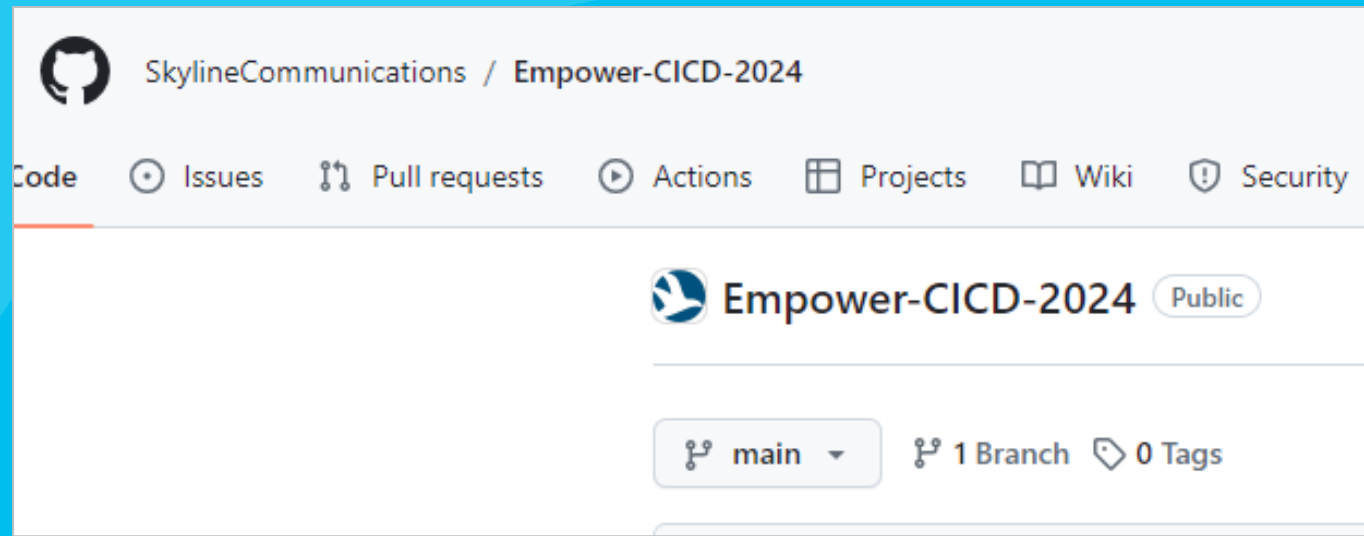
What are .NET tools?

- 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

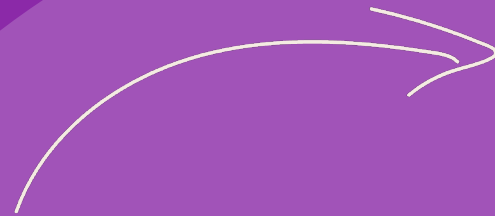
Questions?



MediaOps Plan



YOUR HOST



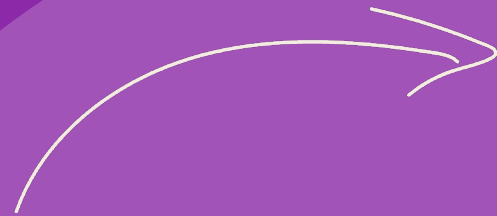
David
Joseph

CONSULTING SOLUTIONS ENGINEER



DAVID.JOSEPH@SKYLINE.BE

YOUR HOST



David
Joseph

PRODUCT MARKETING MANAGER

REINOUT.DAELS@SKYLINE.BE

Let's get ready!

some practical arrangements

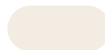
- Have a question? Just ask!
- This is a hands on exercise... you should have already deployed your own personal DaaS + SRM for MediaOps package
 - If not, ask one of the helpers.
 - You can just follow along, but you'll get more out of it if you do the exercises.
- We have A LOT to get through, but 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

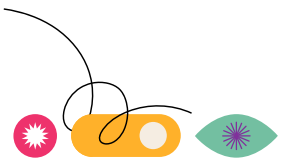
(13h40 – 14h30)

- **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

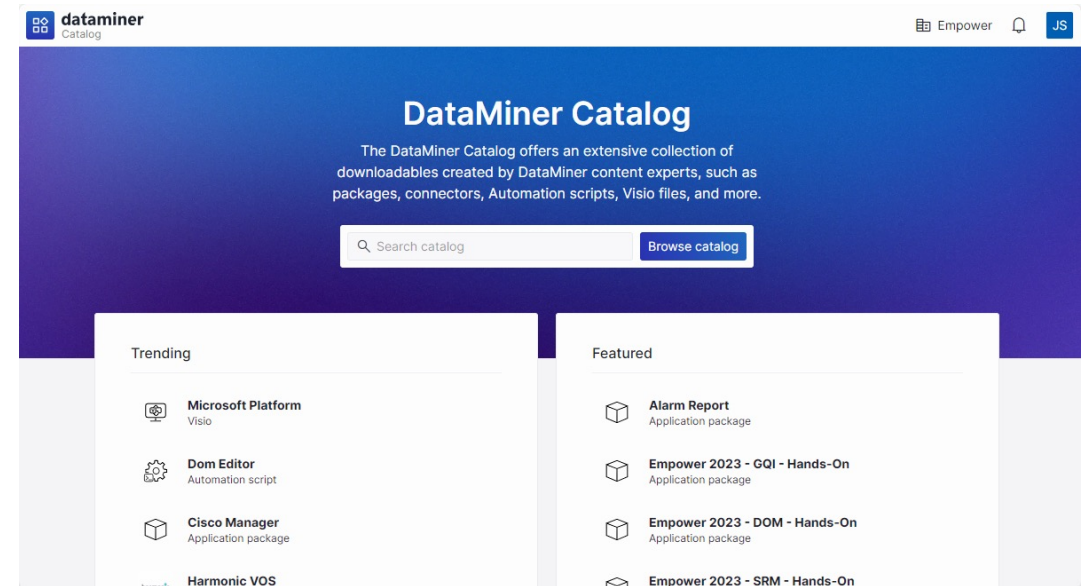
Use the `dataminer.services` Catalog to easily deploy the solution



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**

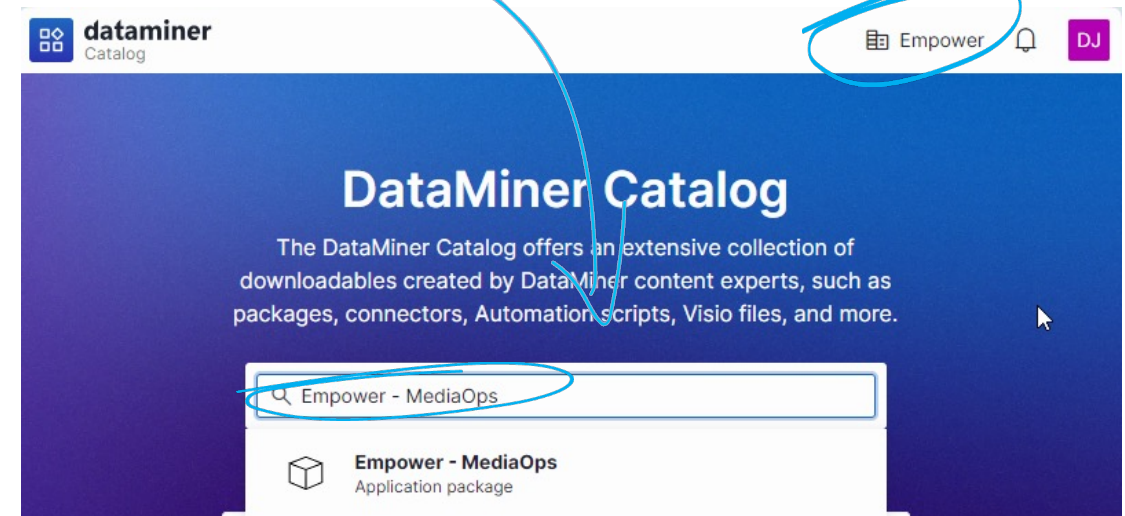


Deploying MediaOps

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

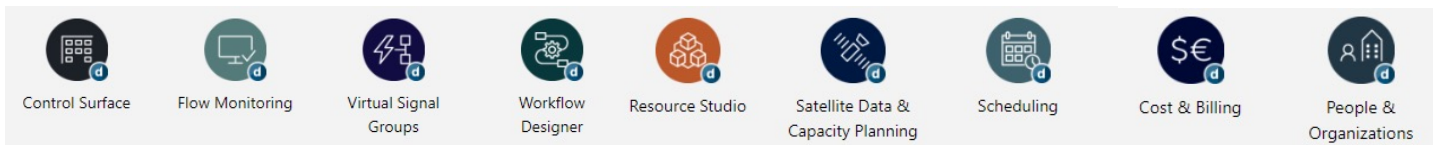
exercise

- 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

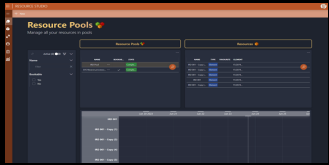


dataminer.MediaOps

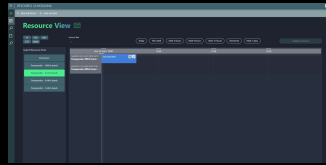
Digital operations : data driven, simplified and automated operations



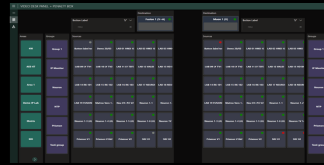
Example applications:



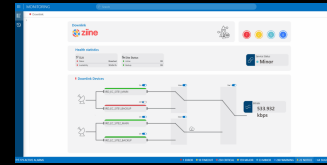
RESOURCE STUDIO



SCHEDULING



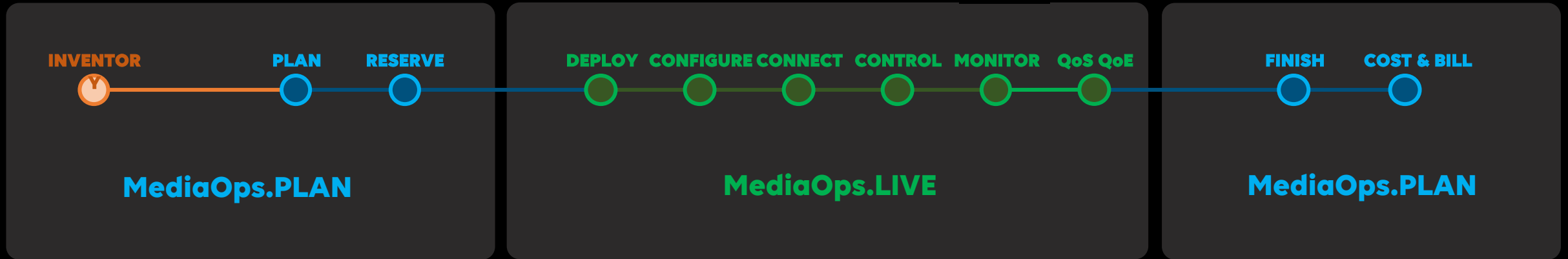
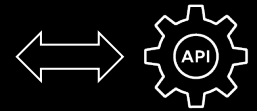
CONTROL SURFACE



MONITOR

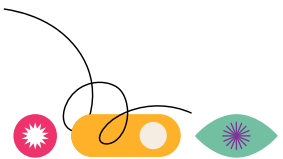


COSTING & BILLING



MediaOps PLAN

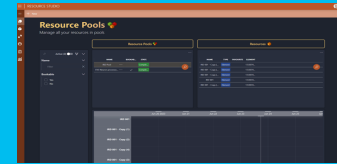
Break it down for me... what is it?



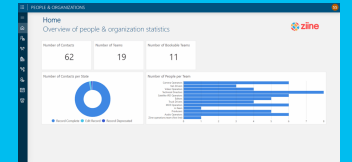
MediaOps PLAN

What is it?

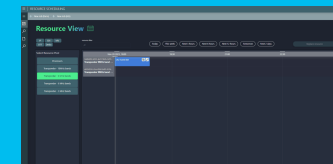
- PLAN is the part of MediaOps that enables different groups in an organization to plan, track, schedule and monetize the various resources used to provide services to customers (internal or external).
- Specifically, it's a collection of task focused apps that provide teams with the tools they need 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 and generate bookable resources for it.



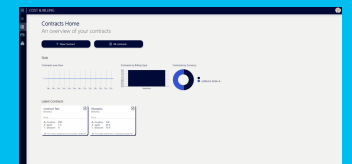
RESOURCE STUDIO



PEOPLE & ORGS



SCHEDULING



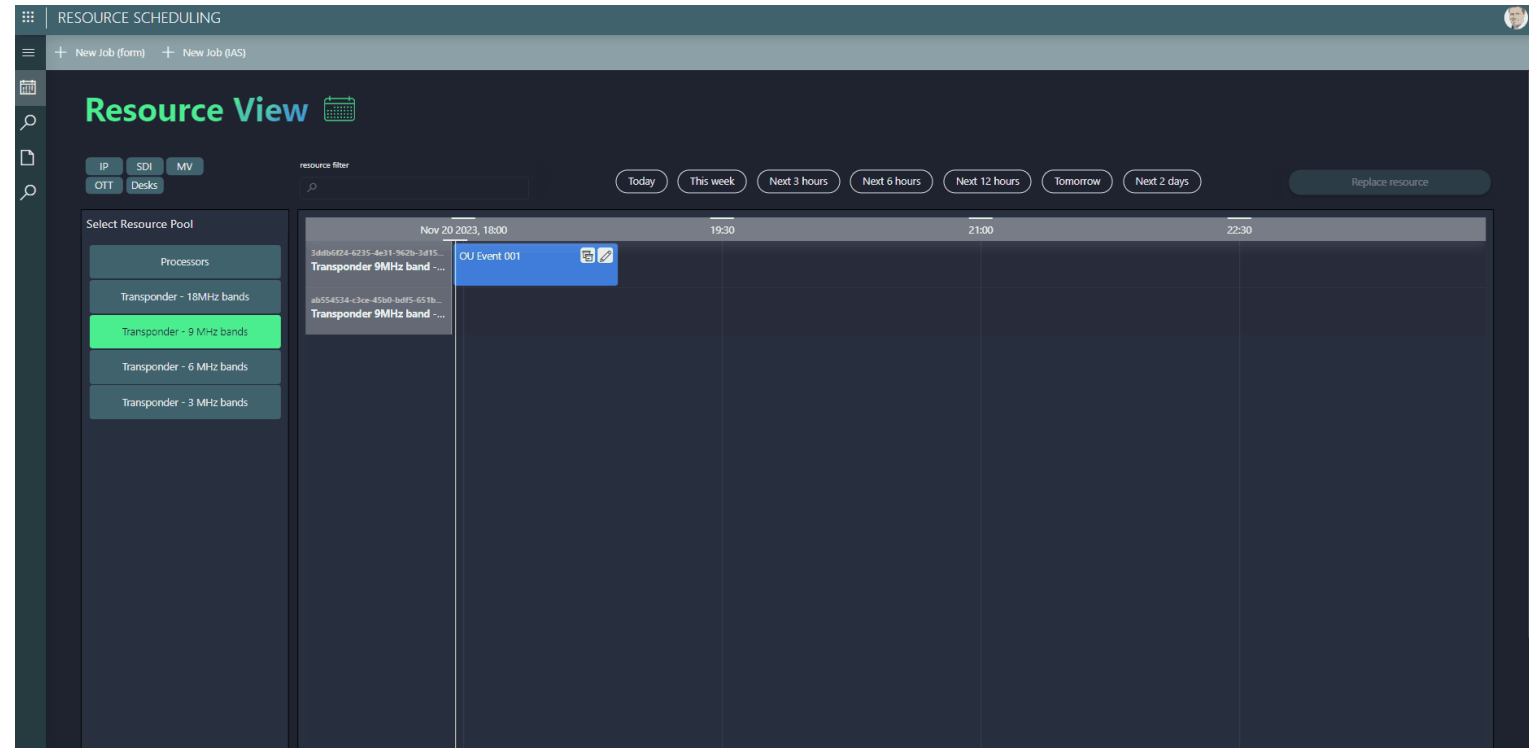
COSTING & BILLING



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 RESERVATION BEHAVIOR

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

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)

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

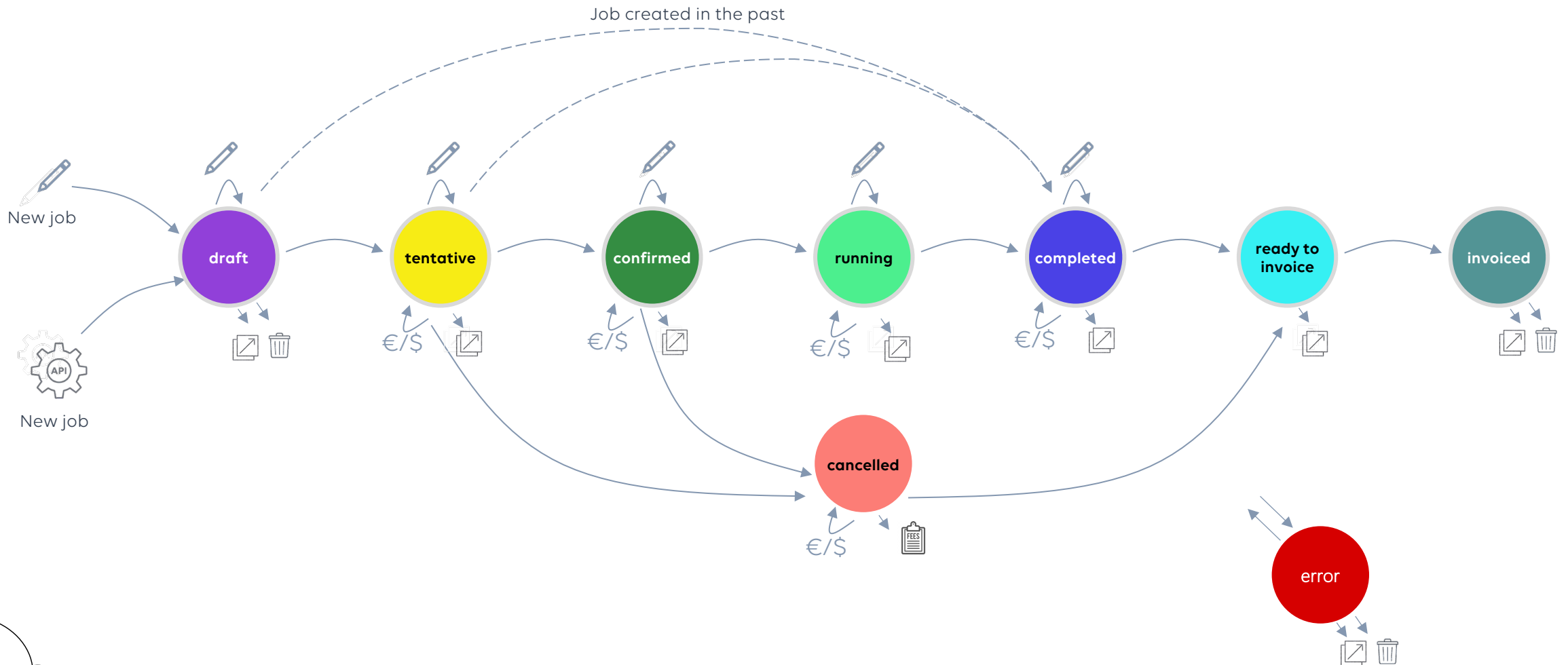
COSTING & BILLING DETAILS

Table of all job line items with **billing** and **costing** details for each node/resource
 $\text{Units used} * \text{unit rate} = \text{total rate} \ \& \ \text{total cost}$
Override rate & cost
Speed order fees & **cancellation** fees
References to rate cards used

Schedule job life cycle

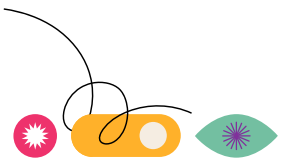
Job states & automation

-  Editing Allowed
-  Calculate C&B
-  Duplication allowed
-  Deletion allowed



MediaOps PLAN

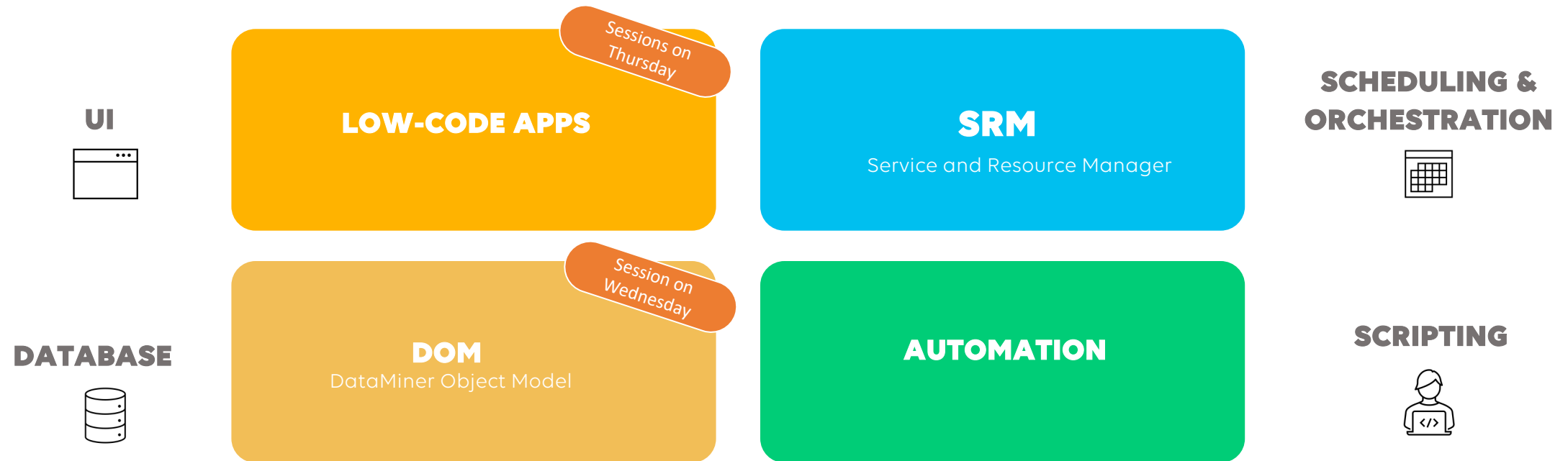
How is it built?



dataminer.MediaOps

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

DataMiner Catalog

The DataMiner Catalog offers an extensive collection of downloadables created by DataMiner content experts, such as packages, connectors, Automation scripts, Visio files, and more.



Dom Viewer 2.0
Application package

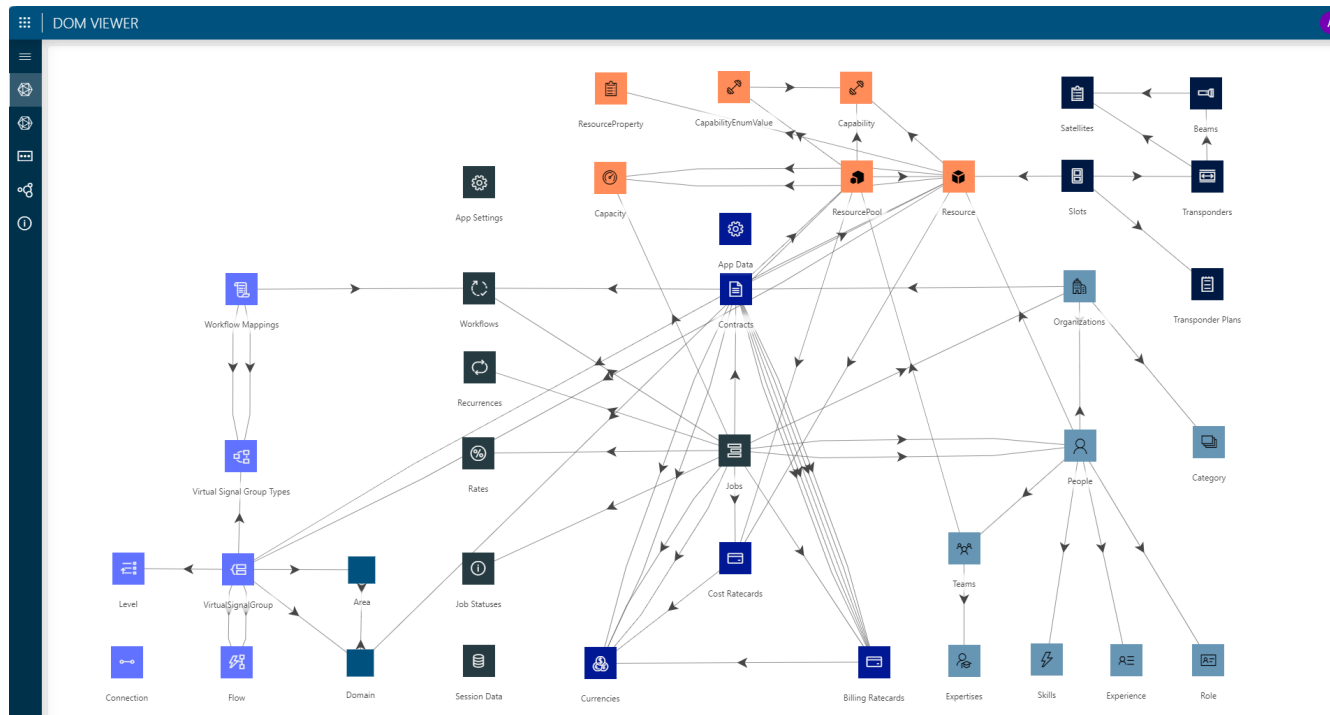
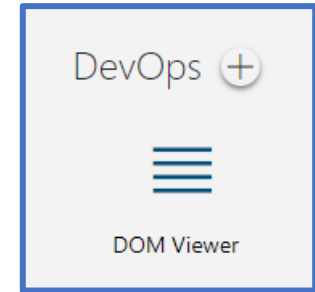
[View all results](#)



Job DOM

Dom Viewer

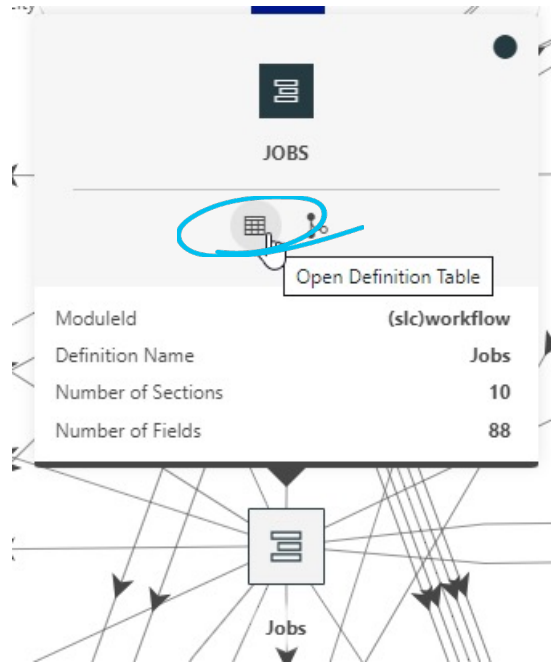
- Once deployed, you should have the low-code app installed called **DOM Viewer**
- Open the DOM Viewer app
- The first page will show the **Common Data Model (CDM)** of the DataMiner standard solutions like MediaOps



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

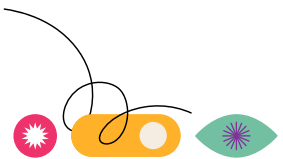


| Jobs Field Descriptors | | | | | | | | | |
|------------------------|---------------|--|-----------|-------------|--------------|--------------|------------|-------------|-----------|
| Job Info | Monitori... | Job Exec... | Nodes | Connecti... | Costing a... | Costing a... | Node Ca... | Node Rel... | Job Error |
| NAME | TYPE | DESCRIPTION | READ ONLY | OPTIONAL | | | | | |
| Job Info | | | | | | | | | |
| Job ID | String | Human-readable ID of a job, auto... | No | Yes | | | | | |
| Job Name | String | A short name for the Job. | No | Mandatory | | | | | |
| Job Description | String | A description of the Workflow th... | No | Yes | | | | | |
| Workflow | Guid | If the job was created starting fro... | Read Only | Yes | | | | | |
| Job Status | Guid | The user defined status value indi... | No | Yes | | | | | |
| Job Start | DateTime | The time the Job starts. | No | Mandatory | | | | | |
| Job End | DateTime | The time the Job ends. | No | Mandatory | | | | | |
| Approx out duration | TimeSpan | | No | Yes | | | | | |
| Approx out time | DateTime | Optional time that could be used... | No | Yes | | | | | |
| Job Priority | GenericEnum*1 | Describes the relative importance... | No | Mandatory | | | | | |
| Recurrence | Guid | If the job is part of a recurrence, t... | No | Yes | | | | | |
| Job Source | String | Tracks the source of a Job. Potent... | Read Only | Yes | | | | | |
| Job Notes | String | General note field to communicat... | No | Yes | | | | | |
| Original Job Start | DateTime | The start_date/time of the job at t... | No | Yes | | | | | |



dataminer.MediaOps Plan

Getting hands-on with the apps

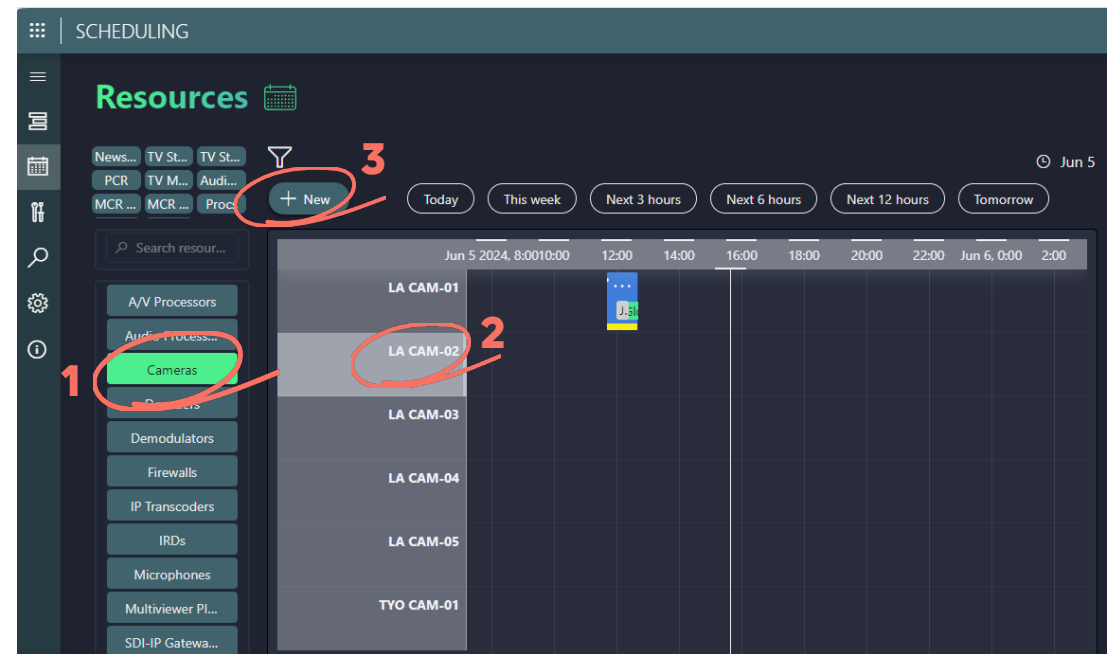
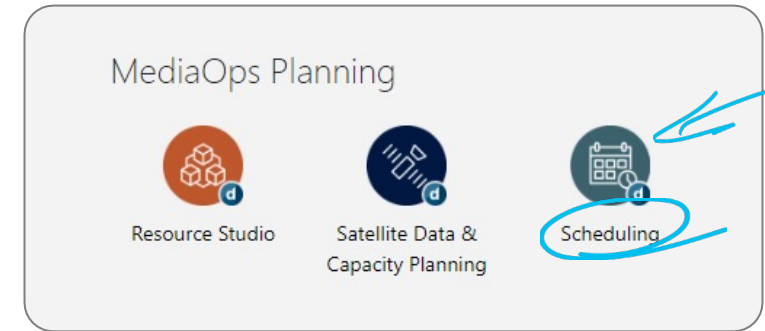


Scheduling

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**

Create job

Resource LA CAM-02

Name empower 1

Description empower session on MediaOps PLAN

Start Time 05 Jun 2024 at 16 : 30

End Time 05 Jun 2024 at 17 : 30

Workflow - Select - Show all

Cancel 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

Create job

Resource LA CAM-02

Name empower 1

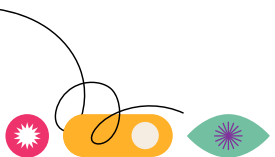
Description empower session on MediaOps PLAN

Start Time 05 Jun 2024 at 16 : 30

End Time 05 Jun 2024 at 17 : 30

Workflow - Select - Show all

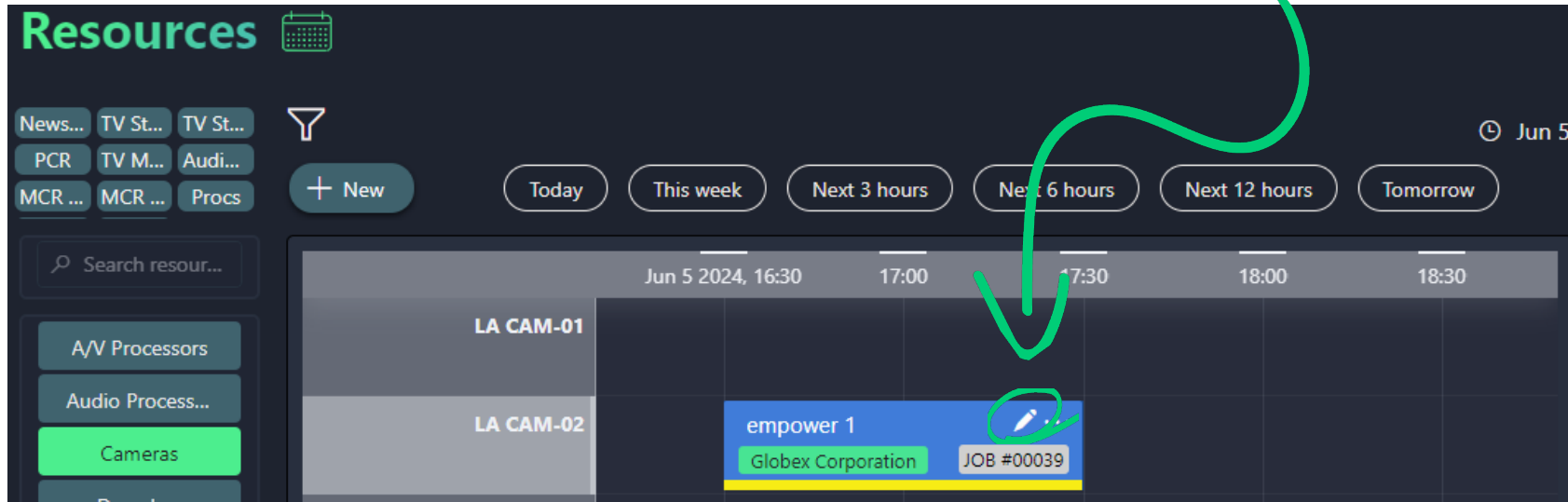
Cancel Next



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



The screenshot displays the 'Resources' page interface. At the top left, the word 'Resources' is written in green, followed by a calendar icon. Below this, there are several filter buttons: 'News...', 'TV St...', 'TV St...', 'PCR', 'TV M...', 'Audi...', 'MCR ...', 'MCR ...', and 'Procs'. A funnel icon is positioned to the right of these buttons. A '+ New' button is located below the filters. On the right side, there is a date selector showing 'Jun 5' and a series of time-based filters: 'Today', 'This week', 'Next 3 hours', 'Next 6 hours', 'Next 12 hours', and 'Tomorrow'. The main area is a scheduling grid for 'Jun 5 2024'. The columns represent time slots: 16:30, 17:00, 17:30, 18:00, and 18:30. The rows represent resources: 'LA CAM-01' and 'LA CAM-02'. A job named 'empower 1' is scheduled for 'LA CAM-02' at 17:00. The job details include 'Globex Corporation' and 'JOB #00039'. A green pencil icon is circled in green, and a green arrow points from it towards the top right of the image.



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

1 Tentative Confirmed Running Completed Ready For Invoice Invoiced

2 Job info ⓘ

3 Cost & Billing 📄

Job ID: JOB #00039 Job Name: empower 1

Job Start: 6/5/2024 4:30:00 PM Job End: 6/5/2024 5:30:00 PM

Approx Out Time Job Priority: Normal

Job Description: empower session on MediaOps PLAN

Organization: Globex Corporation Contract: Default Contract

Job Owner: Marianne Gosselin Last Calculation

Contacts: No contacts assigned

Confirm job Cancel job

Recalculate cost & billing Show Cost & Billing details Add Contact

4 Nodes + Add Resource

5

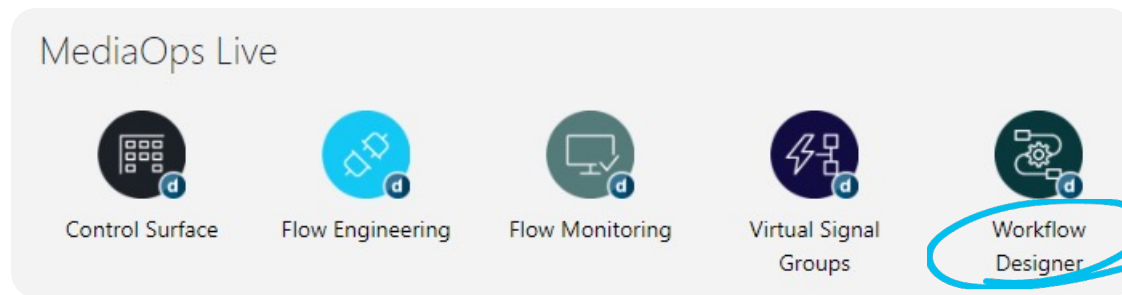
| RESOURCE POOL NAME | RESOURCE NAME | RESOURCE SELECT STATE | ACTIONS |
|--------------------|---------------|-----------------------|---------|
| Cameras | LA CAM-02 | ✓ | 🔄 🗑️ |



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**



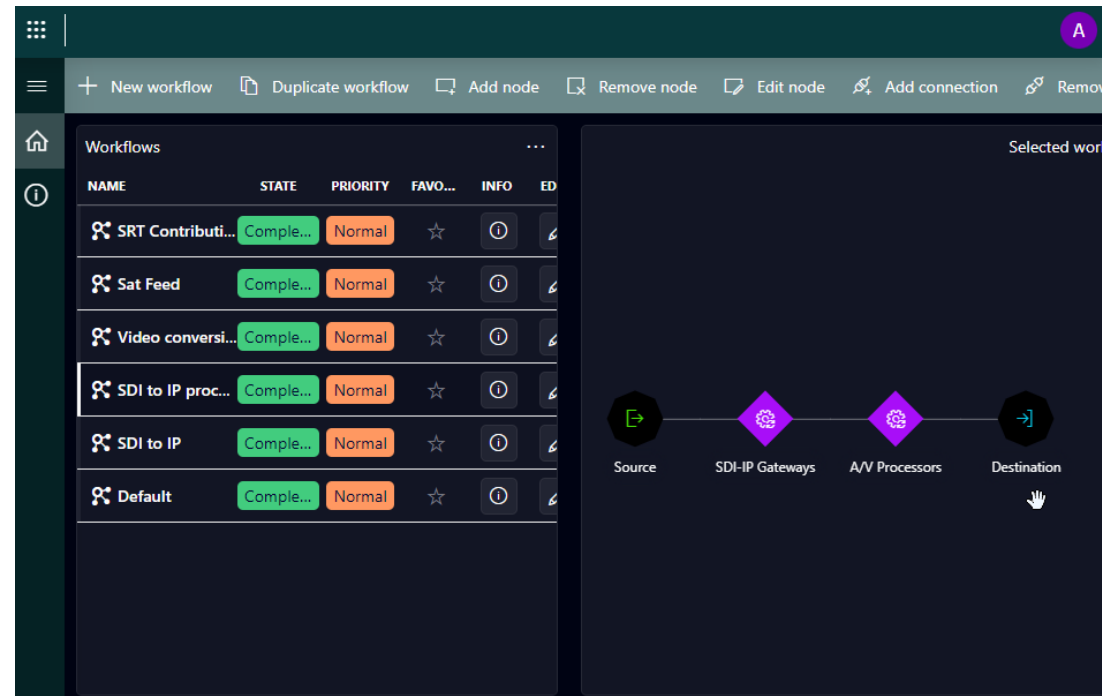
Scheduling

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:

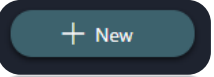
Workflow Designer will be covered during the MediaOps LIVE sessions on Wednesday

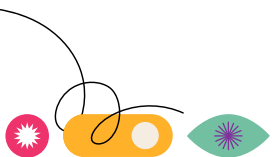


Scheduling

Creating a Job (from workflow)

exercise

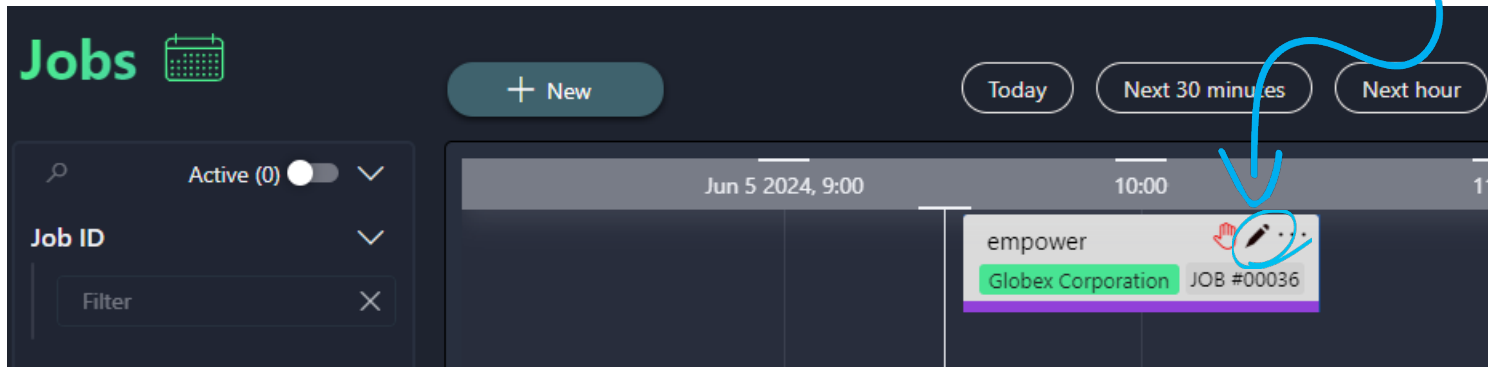
- Open the Scheduling app again
- On the Jobs page click the  button
- In the dialog **Create Job** enter:
 - Name : empower workflow
 - Description : ...
 - Start and End time : some time range in the future
 - Workflow: select from drop-down the workflow called "**SDI to IP processed**"
- Click **Next**



Scheduling

Viewing/editing a Job

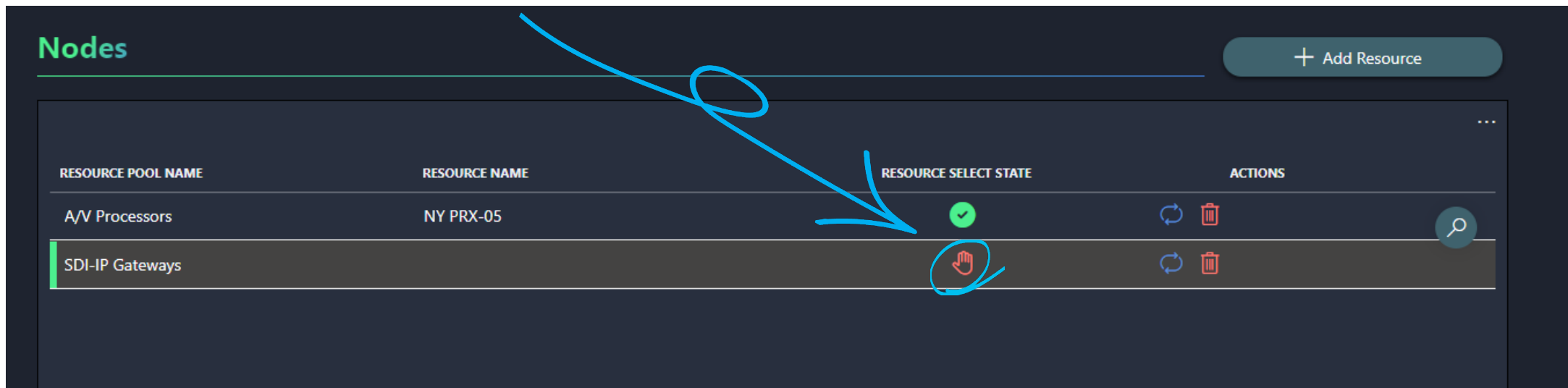
- On the schedule find the job called **empower workflow** and click the **pencil icon** to view the details of job



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




The screenshot shows a 'Nodes' interface with a table of resource pools. The table has four columns: 'RESOURCE POOL NAME', 'RESOURCE NAME', 'RESOURCE SELECT STATE', and 'ACTIONS'. There are two rows: 'A/V Processors' and 'SDI-IP Gateways'. The 'SDI-IP Gateways' row is highlighted in grey and has a hand icon in the 'RESOURCE SELECT STATE' column. A blue arrow points to this hand icon. There is also a blue circle around the hand icon. In the top right corner, there is a '+ Add Resource' button. In the bottom right corner, there is a search icon.

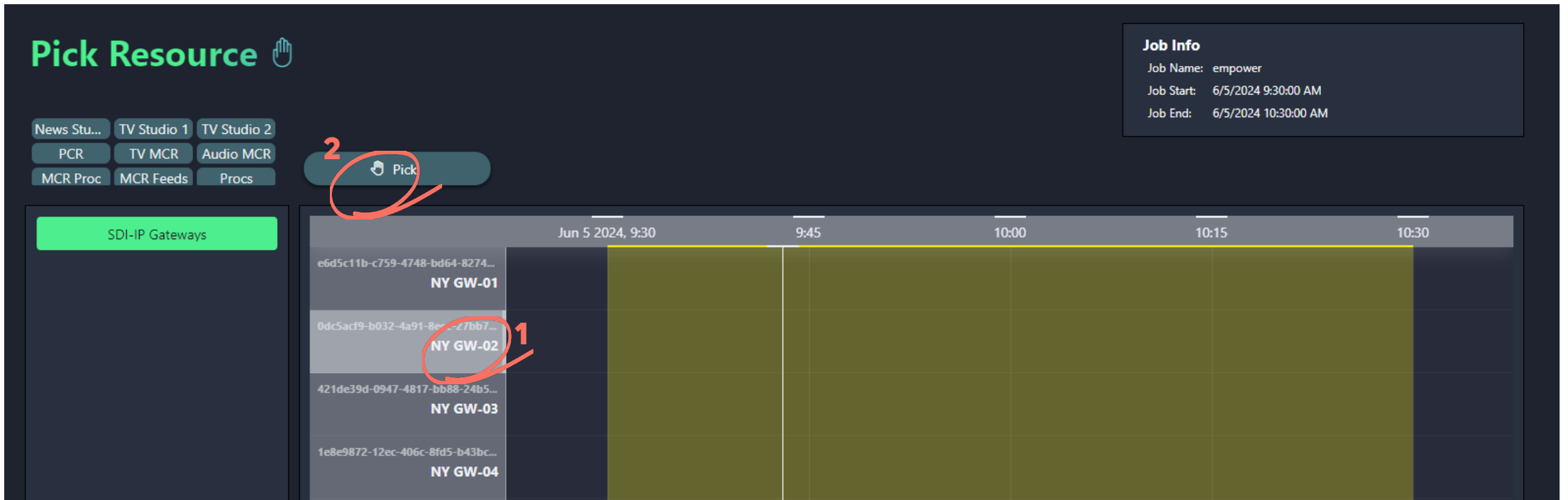
| RESOURCE POOL NAME | RESOURCE NAME | RESOURCE SELECT STATE | ACTIONS |
|--------------------|---------------|-----------------------|---------|
| A/V Processors | NY PRX-05 | ✓ | 🔄 🗑️ |
| SDI-IP Gateways | | 🖐️ | 🔄 🗑️ |



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



The screenshot displays a scheduling interface with a dark theme. On the left, there is a sidebar with a green header 'Pick Resource' and a hand icon. Below the header are several buttons: 'News Stu...', 'TV Studio 1', 'TV Studio 2', 'PCR', 'TV MCR', 'Audio MCR', 'MCR Proc', 'MCR Feeds', and 'Procs'. A green button labeled 'SDI-IP Gateways' is also visible. The main area shows a schedule grid for 'Jun 5 2024, 9:30' with columns for 9:45, 10:00, 10:15, and 10:30. The grid contains four rows of resources: 'NY GW-01', 'NY GW-02', 'NY GW-03', and 'NY GW-04'. The 'NY GW-02' row is highlighted in green, and a red circle with the number '1' is drawn around it. A red circle with the number '2' is drawn around the 'Pick' button, which has a hand icon next to it. In the top right corner, there is a 'Job Info' box with the following details: Job Name: empower, Job Start: 6/5/2024 9:30:00 AM, and Job End: 6/5/2024 10:30:00 AM.



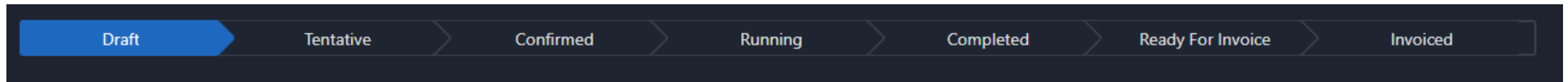
Scheduling

Moving a job to the next state

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

| RESOURCE POOL NAME | RESOURCE NAME | RESOURCE SELECT STATE |
|--------------------|---------------|-------------------------------------|
| A/V Processors | NY PRX-05 | <input checked="" type="checkbox"/> |
| SDI-IP Gateways | NY GW-02 | <input checked="" type="checkbox"/> |

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



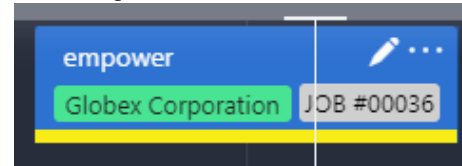
- To move the next state click the **Save as Tentative** button



Scheduling

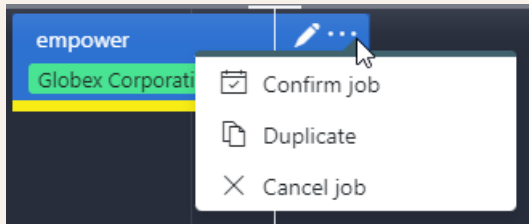
Moving a job to the next state

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



| Job states |
|-------------------|
| Draft |
| Tentative |
| Confirmed |
| Running |
| Completed |
| Ready for invoice |
| Invoiced |
| Canceled |
| Error |

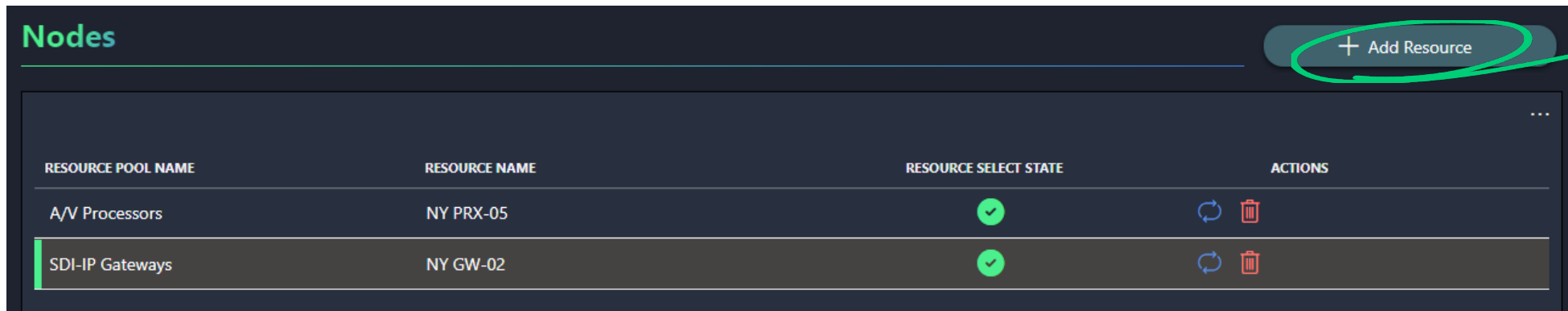
Note: you can also move between states from the schedule view directly (via context menu)



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



The screenshot shows a dark-themed interface with a table titled "Nodes". The table has four columns: "RESOURCE POOL NAME", "RESOURCE NAME", "RESOURCE SELECT STATE", and "ACTIONS". There are two rows of data. The first row has "A/V Processors" as the resource pool name, "NY PRX-05" as the resource name, a green checkmark as the select state, and refresh and delete icons as actions. The second row has "SDI-IP Gateways" as the resource pool name, "NY GW-02" as the resource name, a green checkmark as the select state, and refresh and delete icons as actions. A green circle highlights the "+ Add Resource" button in the top right corner of the table area, with a green arrow pointing to it from the right side of the image.

| RESOURCE POOL NAME | RESOURCE NAME | RESOURCE SELECT STATE | ACTIONS |
|--------------------|---------------|-----------------------|---------|
| A/V Processors | NY PRX-05 | ✓ | 🔄 🗑️ |
| SDI-IP Gateways | NY GW-02 | ✓ | 🔄 🗑️ |



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

Add Resource

News Stu... TV Studio 1 TV Studio 2
PCR TV MCR Audio MCR
MCR Proc MCR Feeds Procs

+ Add Resource + Add Resource Pool

Job Info
Job Name: empower
Job Start: 6/5/2024 9:30:00 AM
Job End: 6/5/2024 10:30:00 AM

A/V Processors
Audio Processors
Cameras
Decoders
Demodulators
Firewalls
IP Transcoders
IRDs

Jun 5 2024, 9:30 9:45 10:00 10:15 10:30

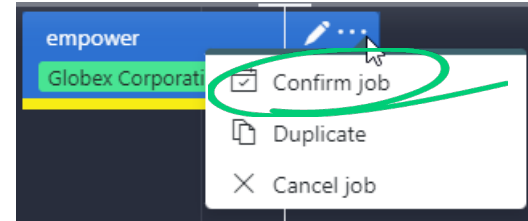
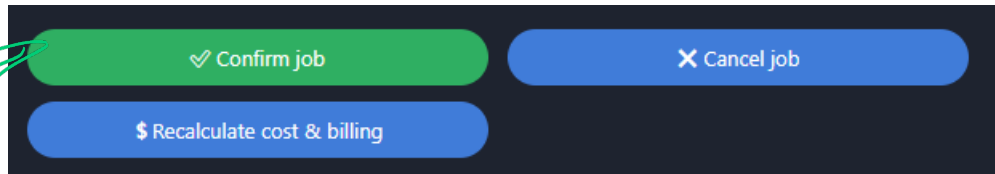
314d759a-97bc-486a-aa2e-359d...
Makito X4-001
ff446276-3c53-4cc9-bd03-79ad6...
Makito X4-002
8c511cf6-c7f3-4933-9a06-a5515...
Makito X4-003
6e1b72a3-f05b-470d-905f-17e2f...
Makito X4-004

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

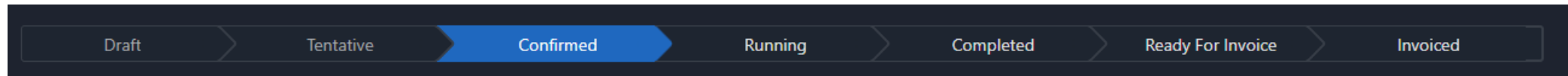
Scheduling

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



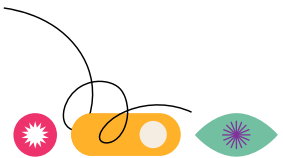
- Validate that the job has moved to **Confirmed** state by checking the stepper component



- 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



Event Manager*

Customized layer with unlimited flexibility and automation

• 'Event' layer on top of Jobs leveraging LCA and DOM

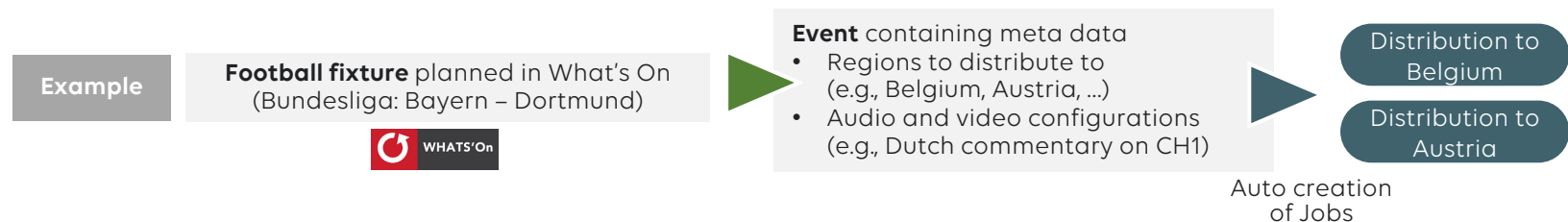
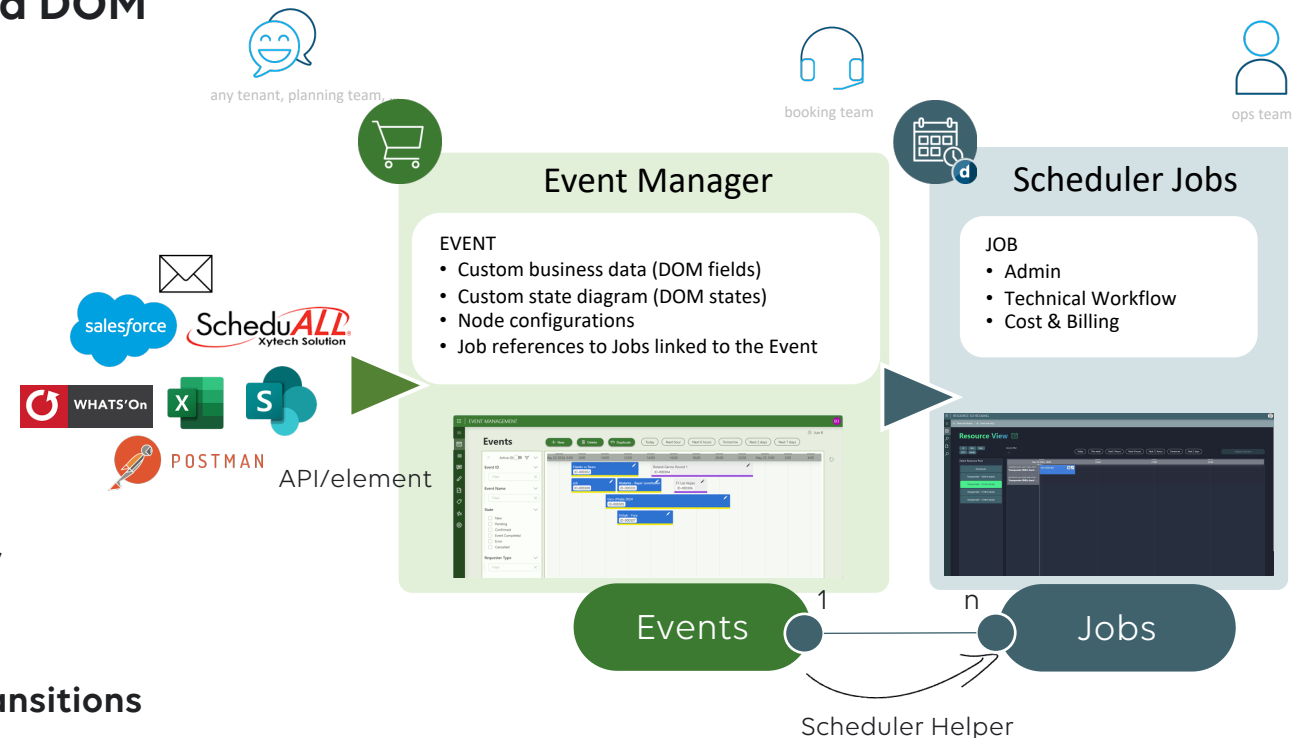
- Custom **DOM model** in line with business data models
- Custom Event **state diagram** in line with processes
- **Tailored** to business logic & processes of the use-case

• 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)

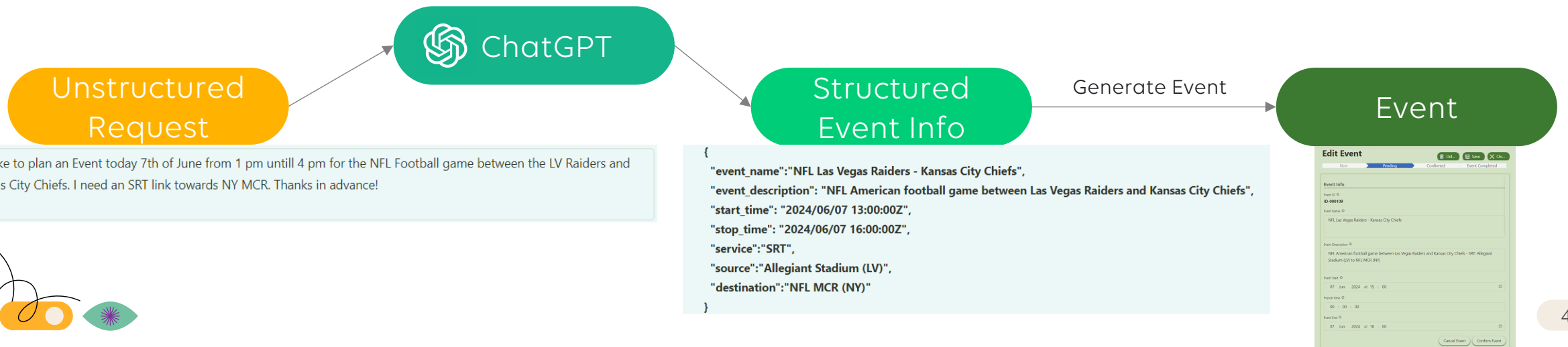
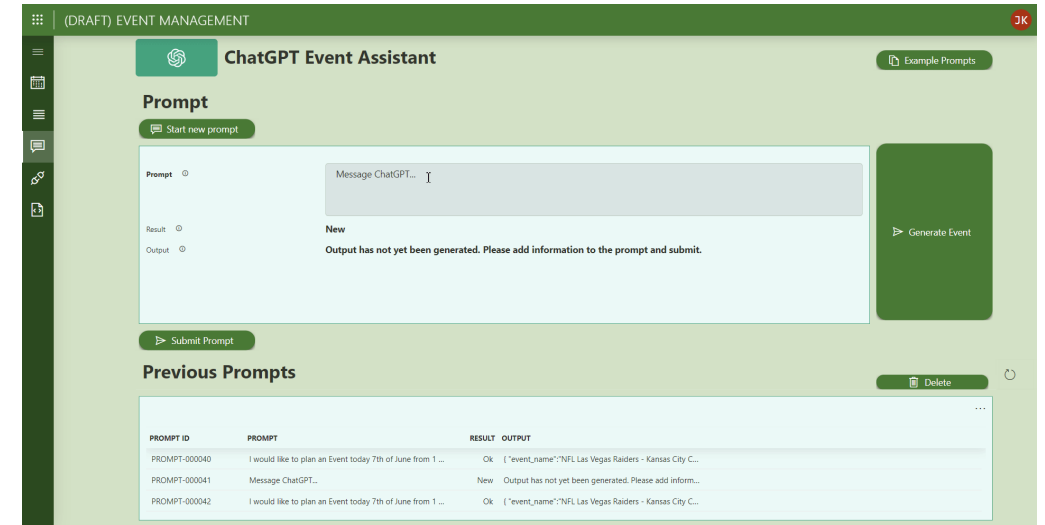
• Automated management of Jobs in Scheduler

- Based on Event meta data → auto **create** Jobs for Event
- Based on business processes → automate Job **states transitions**



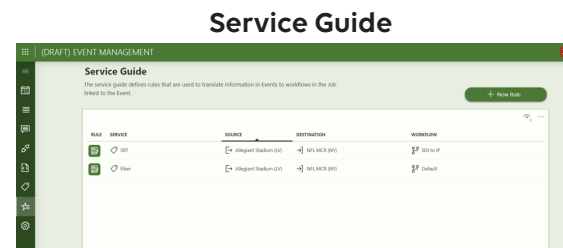
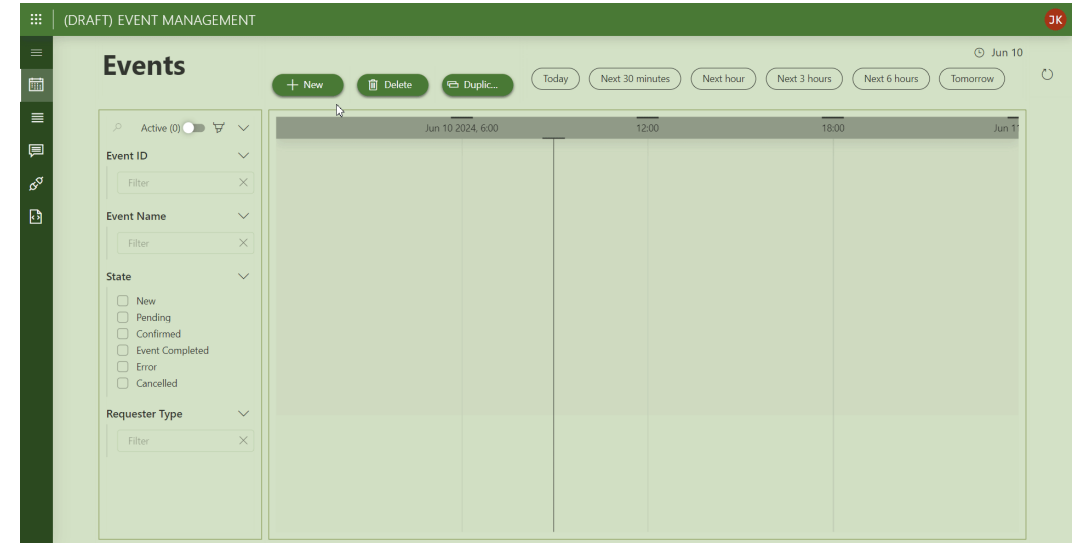
Event Generation using GPT models

- 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

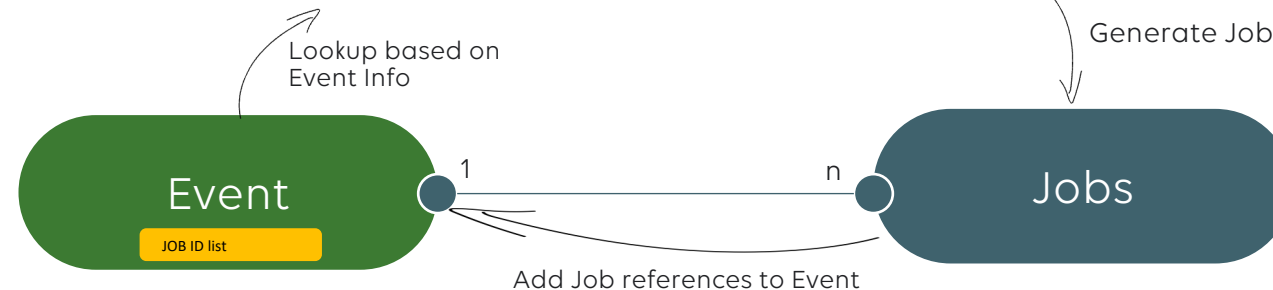
- **Automatically Create Jobs** based on **business rules**
 - Defined in custom automation scripts
 - Or more generic scripts reading '**Service Guide**' Table
- Translate Event info into Job(s) with workflow(s)



Provide workflow details to Helper

Scheduler Helper

Generate Jobs



Later today

(16h40 - 17h20)

dataminer.MediaOps PLAN **part 2**

MediaOps Planning



Resource Studio



Satellite Data &
Capacity Planning

Business Administration



Cost & Billing

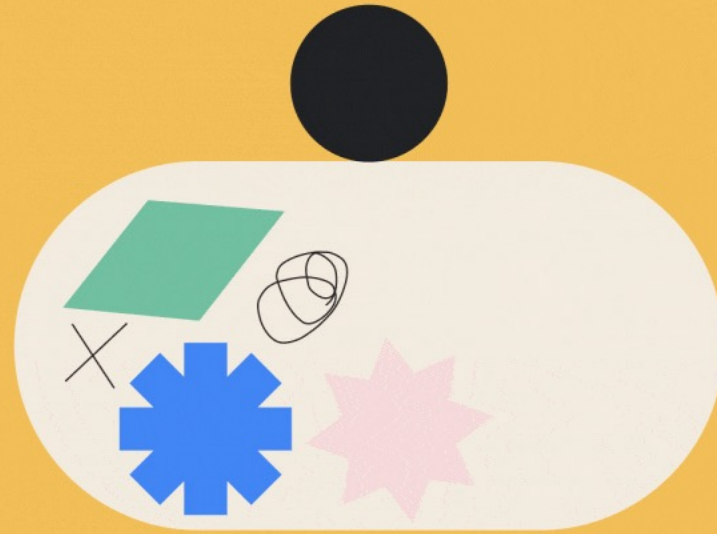


People &
Organizations



SEE YOU IN XX MINUTES

Break



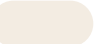
emp
wer !

Agenda:



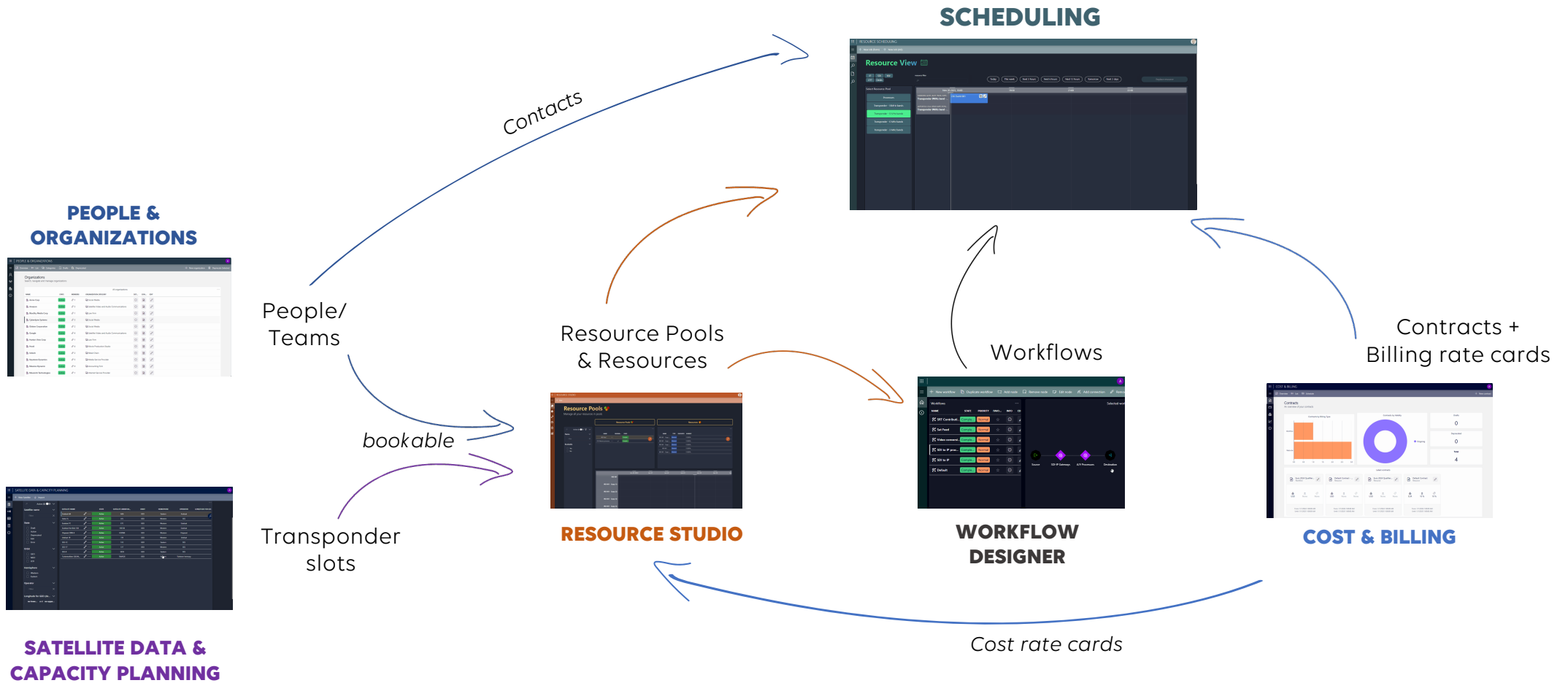
(16h40 – 17h20)

- 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?



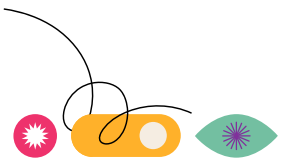
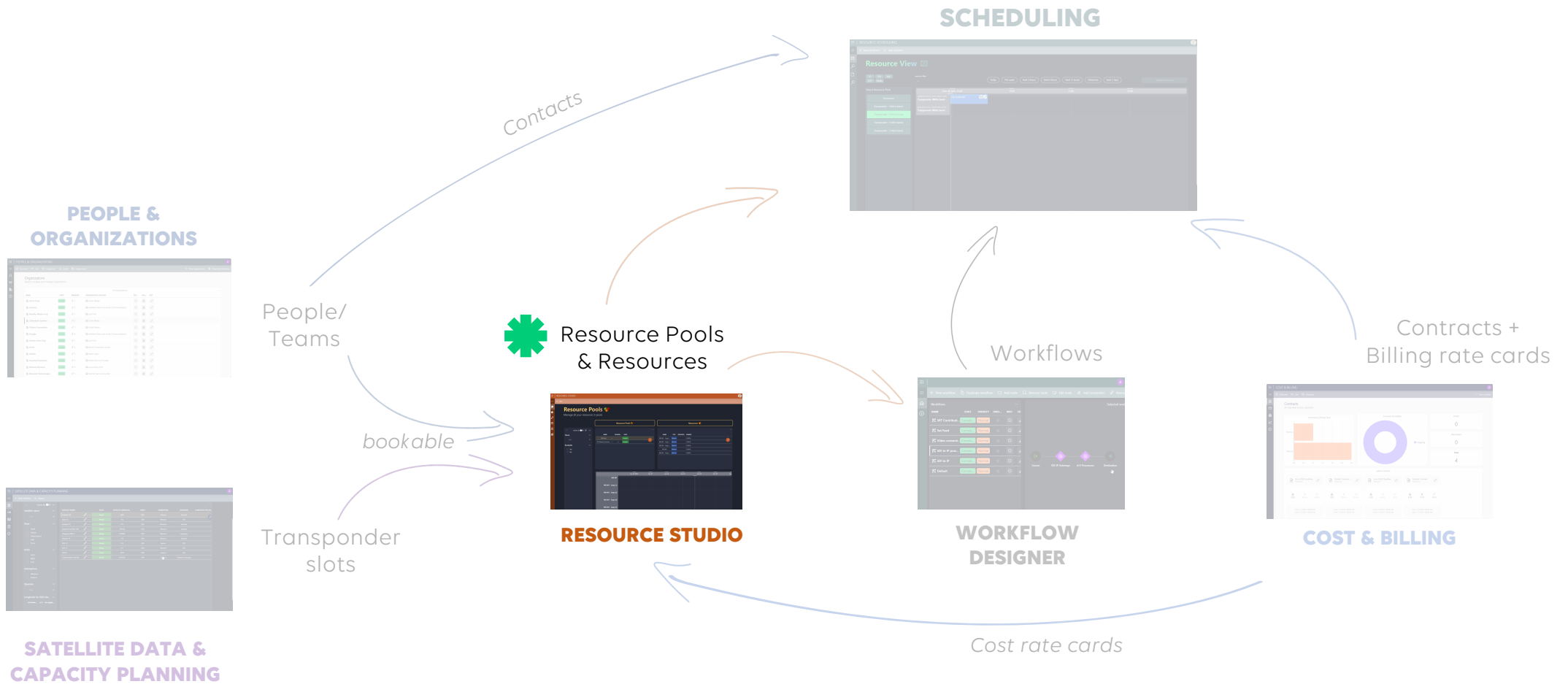
Resource Studio

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.

The screenshot displays the 'Resource Studio' interface. At the top, there's a header with 'RESOURCE STUDIO' and a '+ New' button. Below the header, the main area is titled 'Resource Pools' with the subtitle 'Manage all your resources in pools'. The interface is divided into several sections:

- Left Panel:** A sidebar with a search bar, a toggle for 'Active (0)', and filter options for 'Name' and 'Bookable' (Yes/No).
- Resource Pools Table:** A table with columns 'NAME', 'BOOKAB...', and 'STATE'. It lists 'IRD Pool' and 'EVS Neuron processo...'. Both have a 'Comple...' status.
- Resources Table:** A table with columns 'NAME', 'TYPE', 'FAVOURITE', and 'ELEMENT'. It lists several 'IRD 001 - Copy' entries, all of type 'Element'.
- Calendar View:** A grid at the bottom showing resource usage from June 20, 2023, to June 25, 2023. The rows are labeled 'IRD 001' and 'IRD 001 - Copy (1) through (3)'. The grid cells are currently empty.

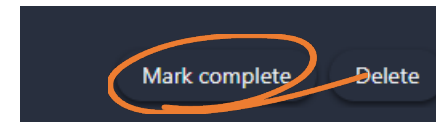
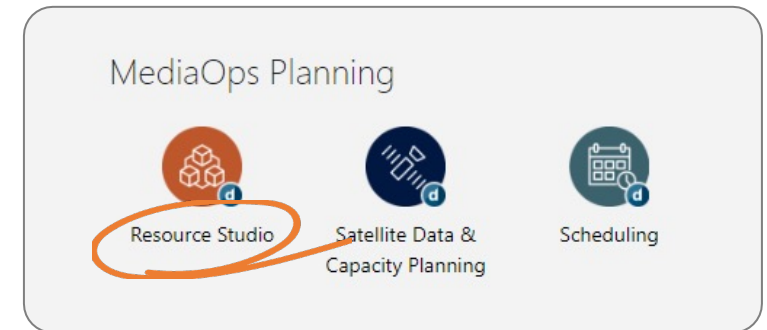


Resource studio

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

exercise

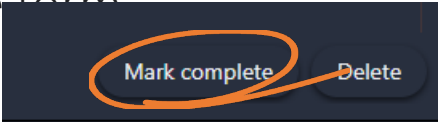


Resource studio

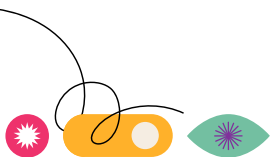
Create a new resource

exercise

- 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



Mark complete Delete

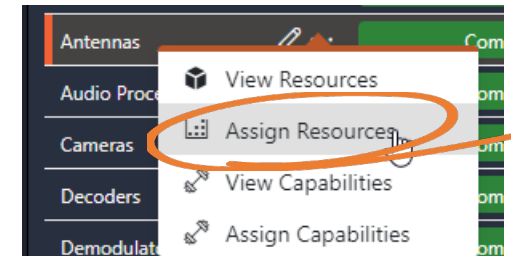


Resource studio

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



Pool **Antennas**

+ ADD ✕ REMOVE

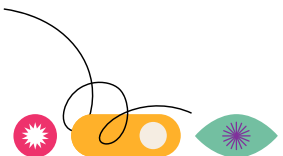
All Resources 🏠

Name

| NAME | STATE | TYPE | FAVOURITE | COST | COST UNIT | CURRENCY | ELEMENT | COP |
|-----------|----------|-----------|-----------|------|-----------|----------|---------|-----|
| Antenna 1 | Complete | Unmanaged | | | | | | |

Resources assigned to Pool 🍷

| NAME | TYPE | FAVOURITE | STATE | COST | COST UNIT | CURRENCY |
|------------------|------|-----------|-------|------|-----------|----------|
| Nothing to show. | | | | | | |

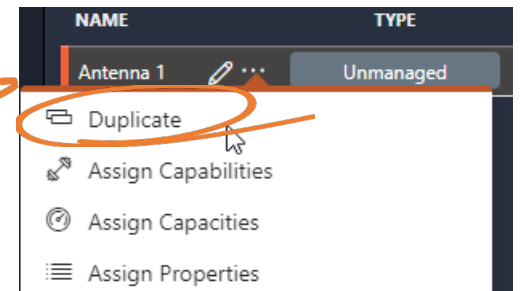


Resource studio

Duplicating resources in a pool

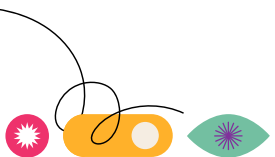
exercise

- 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



A screenshot of the 'Duplicate Resource' dialog box. The title bar says 'Duplicate Resource' with a close button (X) on the right. Below the title bar, there are two fields: 'Name' with the value 'Antenna 1' and '# Duplicates' with a text input field containing the number '9'. At the bottom of the dialog, there are two buttons: 'Cancel' and 'Duplicate'.

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



P&O - People & Organizations

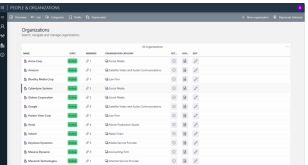
Managing contacts and human resources across MediaOps



People & Organizations

Manage organizations, teams and people

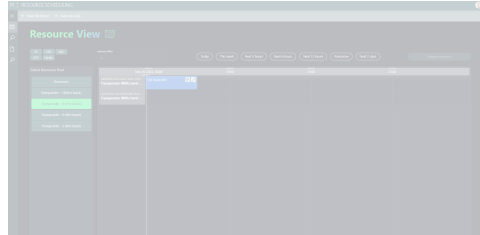
PEOPLE & ORGANIZATIONS



People/
Teams

Contacts

SCHEDULING



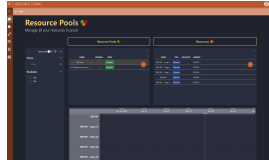
Resource Pools
& Resources

Workflows

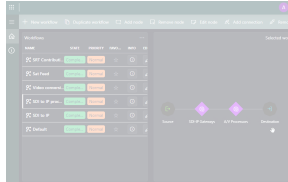
Contracts +
Billing rate cards

bookable

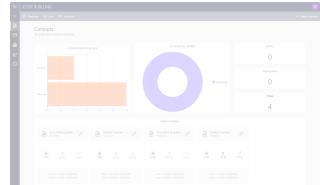
RESOURCE STUDIO



WORKFLOW DESIGNER

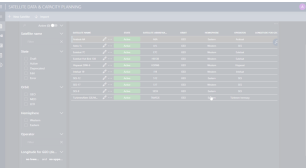


COST & BILLING



Transponder
slots

**SATELLITE DATA &
CAPACITY PLANNING**



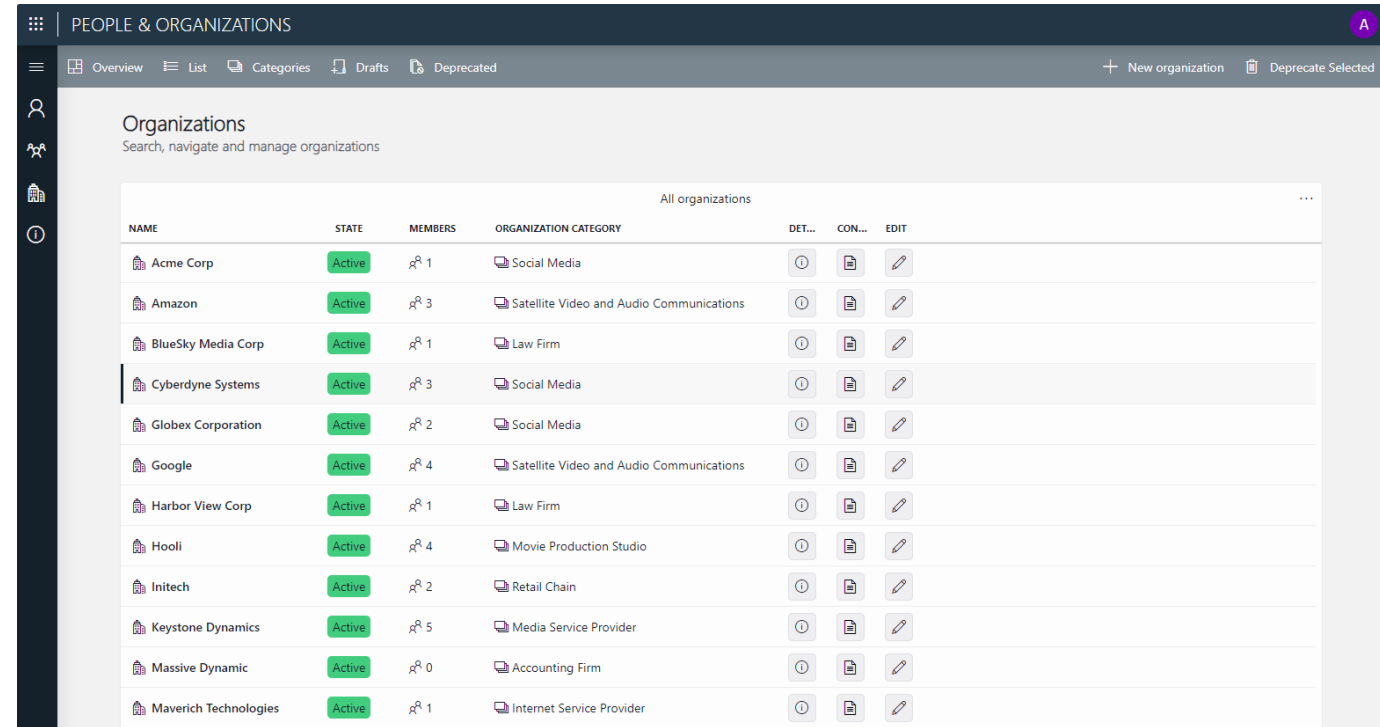
Cost rate cards



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)



The screenshot displays a web application interface for managing organizations. The header includes navigation options like Overview, List, Categories, Drafts, and Deprecated, along with buttons for 'New organization' and 'Deprecate Selected'. The main content area is titled 'Organizations' and contains a table of organization records.

| NAME | STATE | MEMBERS | ORGANIZATION CATEGORY | DET... | CON... | EDIT |
|-----------------------|--------|---------|--|--------|--------|------|
| Acme Corp | Active | 1 | Social Media | | | |
| Amazon | Active | 3 | Satellite Video and Audio Communications | | | |
| BlueSky Media Corp | Active | 1 | Law Firm | | | |
| Cyberdyne Systems | Active | 3 | Social Media | | | |
| Globex Corporation | Active | 2 | Social Media | | | |
| Google | Active | 4 | Satellite Video and Audio Communications | | | |
| Harbor View Corp | Active | 1 | Law Firm | | | |
| Hooli | Active | 4 | Movie Production Studio | | | |
| Initech | Active | 2 | Retail Chain | | | |
| Keystone Dynamics | Active | 5 | Media Service Provider | | | |
| Massive Dynamic | Active | 0 | Accounting Firm | | | |
| Maverich Technologies | Active | 1 | Internet Service Provider | | | |



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

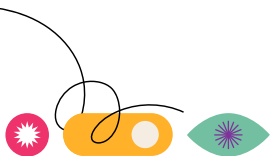
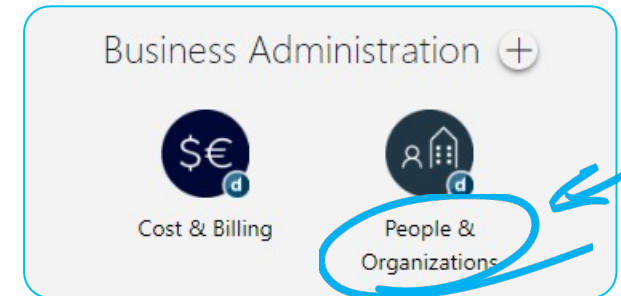


People & Organizations

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**

exercise

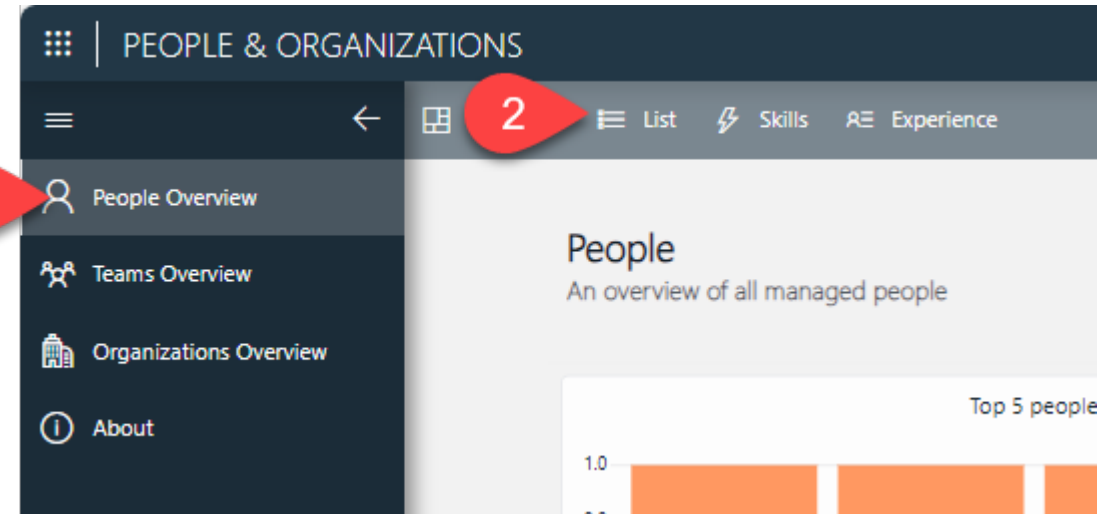


People & Organizations

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

exercise

2. Create a new contact

- 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**

2

Activate Selected Activate All

People drafts Here you can activate some or all drafts.

| NAME | STATE | SKILL | EDIT |
|--------------|-------|----------------|------|
| David Joseph | Draft | Graphic Design | |

1

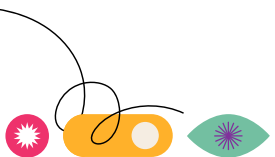
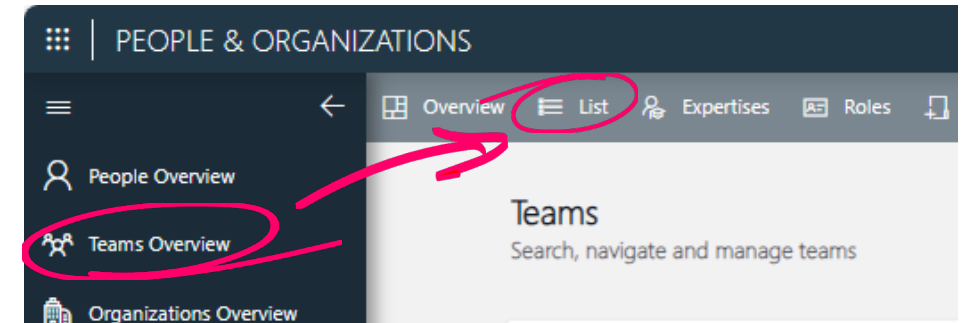


People & Organizations

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.

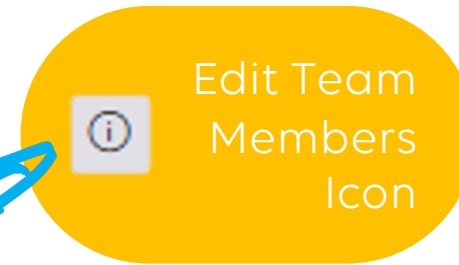


People & Organizations

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 available | |
|-------------------|--------|
| NAME | STATE |
| Miley Sparrow | Active |
| Mitchell Conroy | Active |
| Peter Mills | Active |
| Rico Higgins | Active |
| Rishi Moss | Active |
| Rojin Naylor | Active |
| Rupert Dennis | Active |
| Said Stanley | Active |
| Scarlett Vaughan | Active |
| Sianna Reader | Active |
| Tahmina Mooney | Active |
| Tom Johnson | Active |
| Tommy-Lee Huffman | Active |
| Yousuf Hudson | Active |

| Members | | |
|------------|--------|------|
| NAME | STATE | ROLE |
| Sophy Wong | Active | |



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.

The image shows a sequence of three screenshots from the 'Edit members' dialog in a software application. The first screenshot shows the 'Selected team' section for 'JSZ's Team' with a 'Not Bookable' switch. A blue circle highlights the switch, and a blue arrow points to a confirmation dialog box. The dialog box asks 'Are you sure?' and provides a warning: 'By making this team bookable DataMiner will allow you to book time off this team and its members. If it is not bookable, you won't be able to use DataMiner to book time off this team and its members.' The 'Ok' button is highlighted with a blue arrow. The second screenshot shows the 'Bookable' switch with a green checkmark. The third screenshot shows the 'Bookable' switch with a green checkmark, indicating the team is now bookable.

| NAME | STATE | ROLE | EDIT |
|------------|--------|------|------|
| Sophy Wong | Active | [A=] | [🔍] |



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.

The screenshot shows the 'Resource Pools' interface. On the left, there are filter sections for 'Name' and 'Domain'. The main area is divided into two panels: 'Resource Pools' and 'Resources in pool'. The 'Resource Pools' panel contains a table with columns 'NAME' and 'STATE'. The 'Resources in pool' panel contains a table with columns 'NAME', 'TYPE', and 'FAVO'.

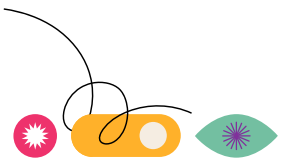
| NAME | STATE |
|--------------------------|----------|
| Firewalls | Complete |
| IP Transcoders | Complete |
| IRDs | Complete |
| JSZ's Team | Complete |
| Microphones | Complete |
| Multiviewer PIPs | Complete |
| SDI-IP Gateways | Complete |
| Transponder 18 MHz Slots | Complete |

| NAME | TYPE | FAVO |
|------------|-----------|------|
| Sophy Wong | Unmanaged | |



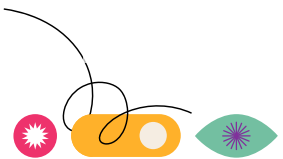
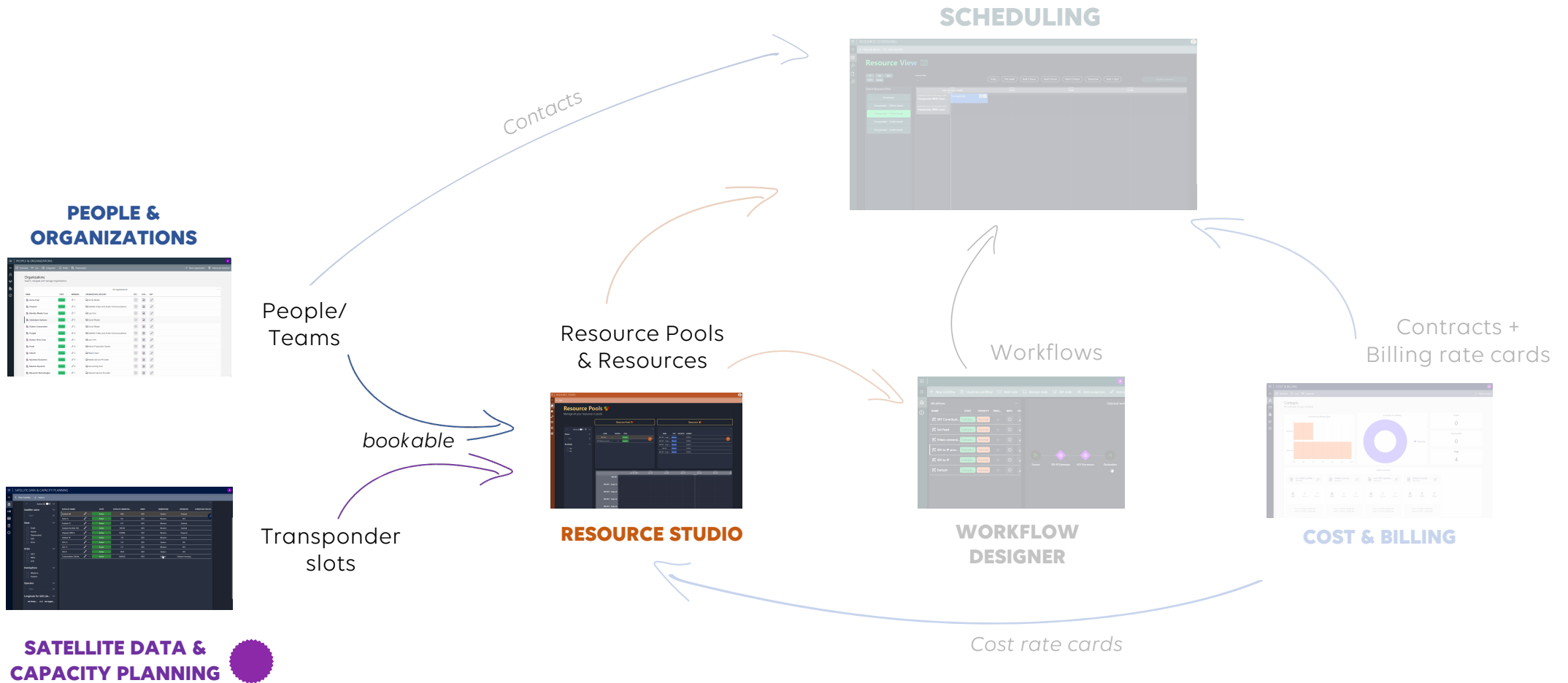
C&B – Cost and Billing

Show me the money!



Cost & Billing

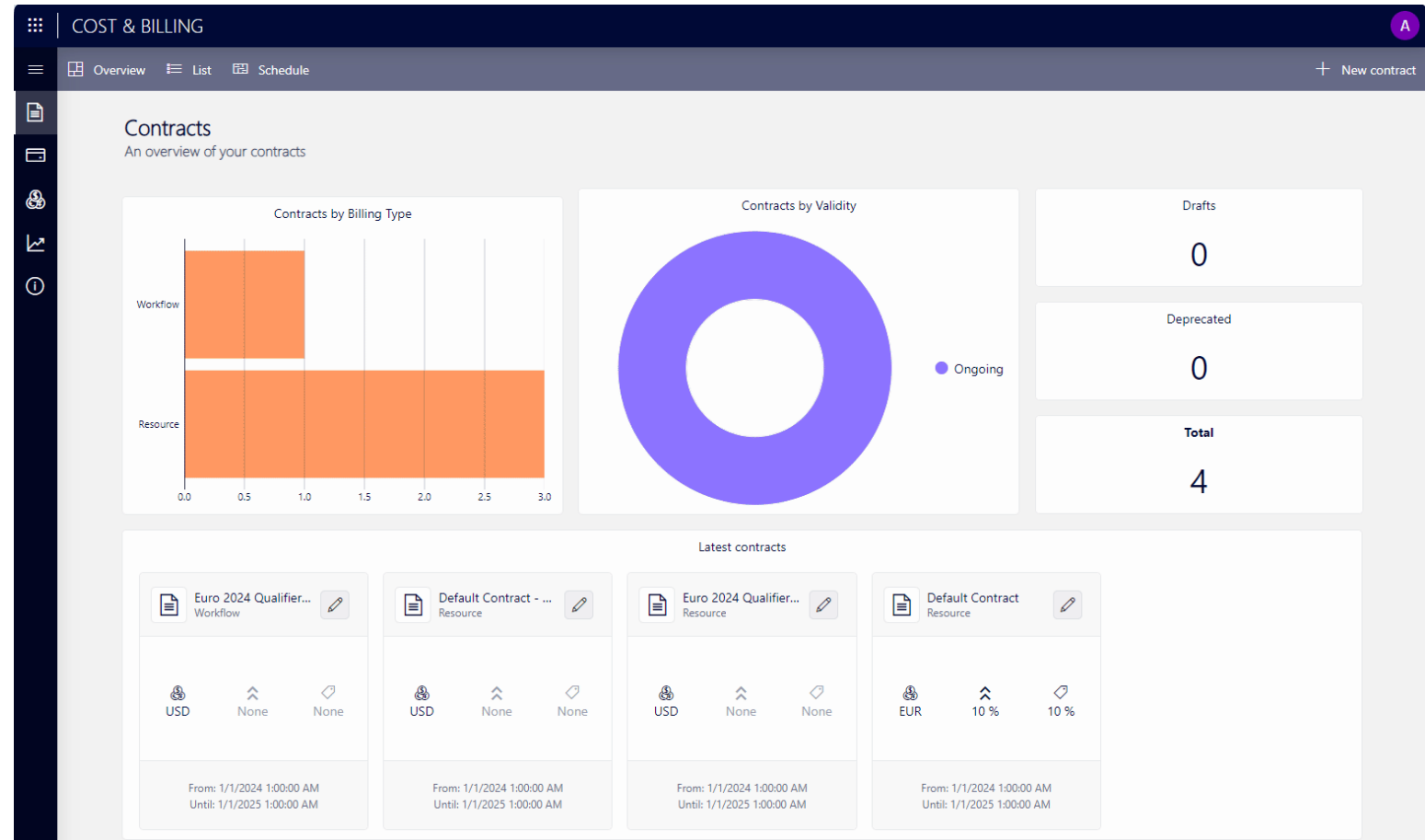
Measure, analyze, forecast and optimize cost & revenues



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

Ratecard Drafts Here you can activate some or all drafts.

| NAME | STATE | DEFINITION NAME | EDIT |
|---------|-------|-----------------|------|
| Antenna | Draft | + Billing | |

Ratecards Find and manage rates and ratecards

All ratecards

| NAME | STATE | CURRENCY | DEFINITION NAME | MINIMAL TIME INTERVAL | MINIMAL TIME INCREM... | CAPPED RATE PER JOB | RATES | CONTR... | EDIT |
|---------|----------|----------|-----------------|-----------------------|------------------------|---------------------|-------|----------|-------|
| Antenna | Complete | EUR | + Billing | ↔ 1 Hour(s) | ↗ 15 Min(s) | None | | | anten |



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

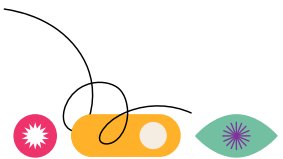
2. Create a new contract

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

exercise

The screenshot shows a dialog titled "Contract Drafts" with a close button (X) in the top right. Below the title is a subtitle: "Here you can activate some or all drafts." The main content is a table with the following columns: NAME, STATE, BILLING TYPE, and EDIT. The table contains one row: "Empower Contract", "Draft", a cube icon, and an edit icon. A red circle labeled "1" highlights the "Empower Contract" row. Above the table, there are two buttons: "Activate Selected" and "Activate All". A red circle labeled "2" highlights the "Activate Selected" button.


| NAME | STATE | BILLING TYPE | EDIT |
|------------------|-------|--------------|------|
| Empower Contract | Draft | | |

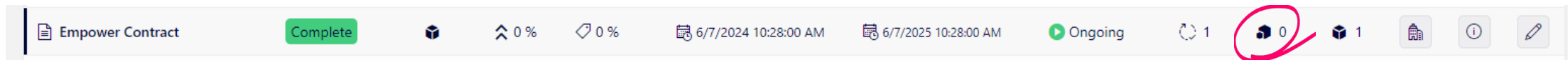


Cost & Billing

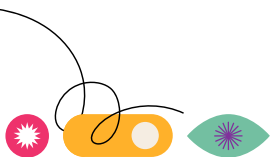
exercise

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

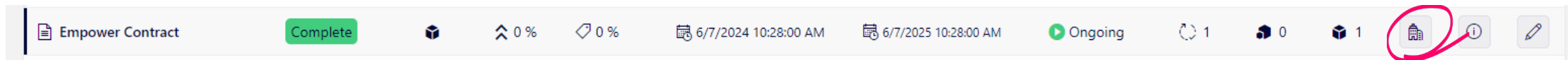


Cost & Billing

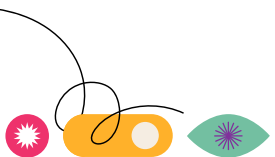
exercise

4. Link the contract to an organization

- 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



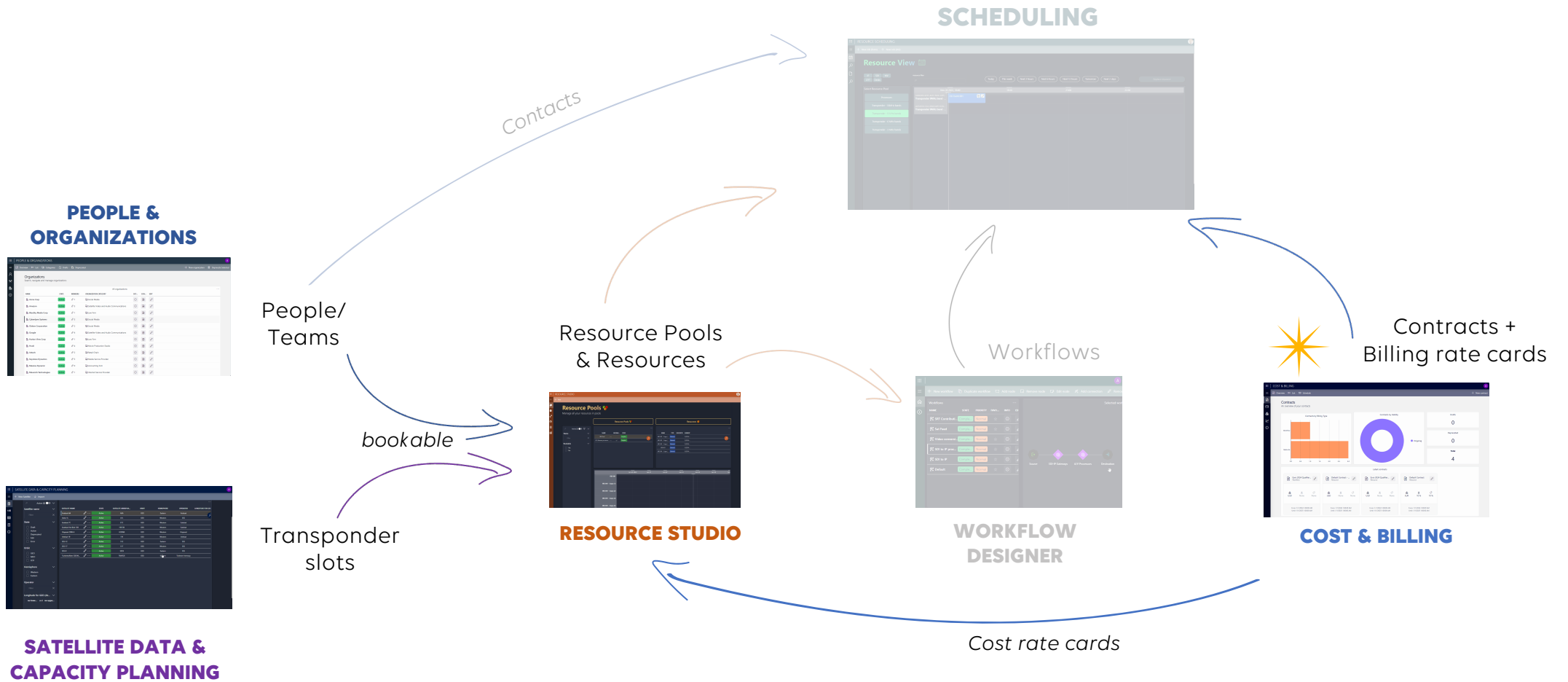
Satellite Data & Capacity Planning

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.

The screenshot displays the 'Satellite Data & Capacity Planning' interface. The main section is titled 'Transponder Plans' and includes a sub-header 'Create and Manage Transponder Plans available on the Satellites'. On the left, there is a sidebar with 'Plan name' and 'Status' filters. The 'Status' filter is set to 'Active (0)'. The main content area is divided into three sections: 'Plans', 'Transponders Applied', and 'Slots'.

Plans

| PLAN NAME | STATE |
|----------------|--------|
| Elde-Sub-1 | Active |
| Standard-30MHz | Active |
| Standard-2 | Error |

Transponders Applied

| TRANSPONDER NAME | SATELLITE NAME | STATE | BEAM NAME | BRAND | BANDWIDTH | START FREQUENCY | END FREQUENCY | POLARIZATION |
|------------------|----------------|--------|-----------|-------|-----------|-----------------|---------------|--------------|
| T06 | Galaxy 19 | Active | Wide-Beam | | 0 | 4000 | 4006 | |
| T07 | Galaxy 19 | Active | Wide-Beam | | 30 | 4005 | 4017 | |
| T08 | Galaxy 19 | Active | Wide-Beam | | 30 | 4007 | 4008 | |

Slots

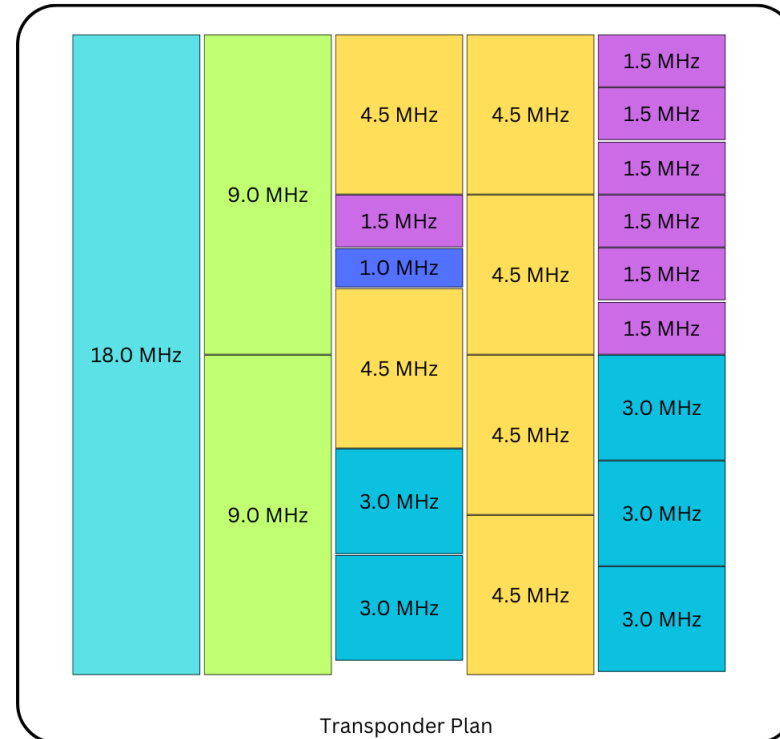
| TRANSPONDER NAME | PLAN NAME | STATE | SLOT NAME | MEQ SIZE | CENTER FREQUENCY | SLOT START FREQUENCY | SLOT END FREQUENCY | RESOURCE |
|------------------|----------------|--------|-------------|----------|------------------|----------------------|--------------------|-------------------------------------|
| 127 | Standard-30MHz | Active | RU-Slot-10a | 18 | 4000 | 4000 | 4004 | RRR05M-c305-4485-19c7-8b7720cc8f12 |
| 127 | Standard-30MHz | Active | RU-Slot-10b | 18 | 4000 | 4004 | 4008 | RRR05M-c305-4485-19c7-8b7720cc8f12 |
| 127 | Standard-30MHz | Active | RU-Slot-9a | 9 | 4000.5 | 4000 | 4005 | U773101-30M-4018-3064-4b0cc0da4082a |
| 127 | Standard-30MHz | Active | RU-Slot-9b | 9 | 4000.5 | 4005 | 4004 | RRR05M-c305-4485-19c7-8b7720cc8f12 |
| 127 | Standard-30MHz | Active | RU-Slot-9c | 9 | 4000.5 | 4004 | 4008 | U773101-30M-4018-3064-4b0cc0da4082a |
| 127 | Standard-30MHz | Active | RU-Slot-9d | 9 | 4000.5 | 4008 | 4007 | RRR05M-c305-4485-19c7-8b7720cc8f12 |



Transponder Plans

What's the big deal?

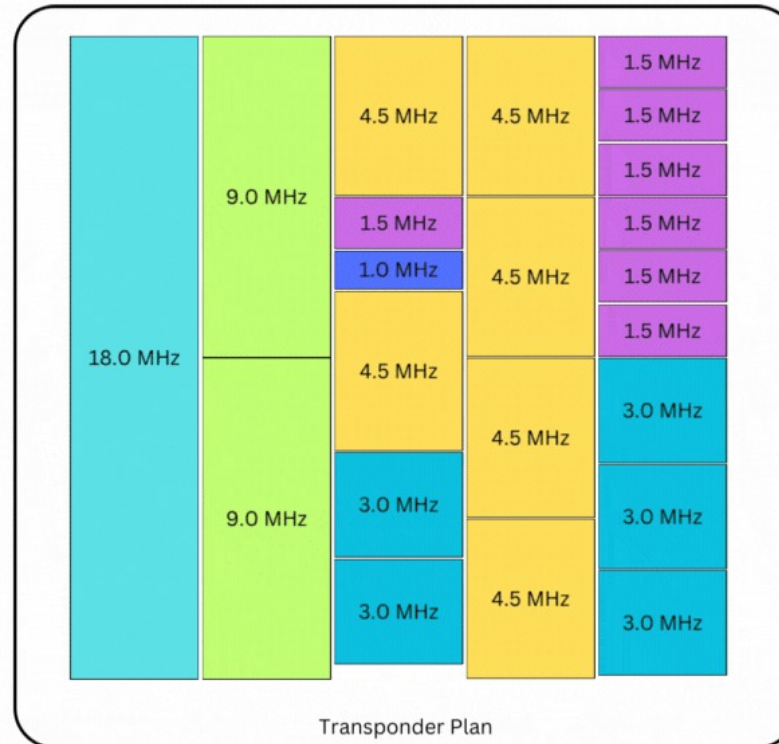
- Transponder Slots are a “capacity based” resource.
- Unlike other capacity resources, Transponder Slots *also* need to have awareness of



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



**A TRANSPONDER PLAN
CONTAINS MULTIPLE
DIVISIONS OF THE SPACE
KNOWN AS “SLOTS”**

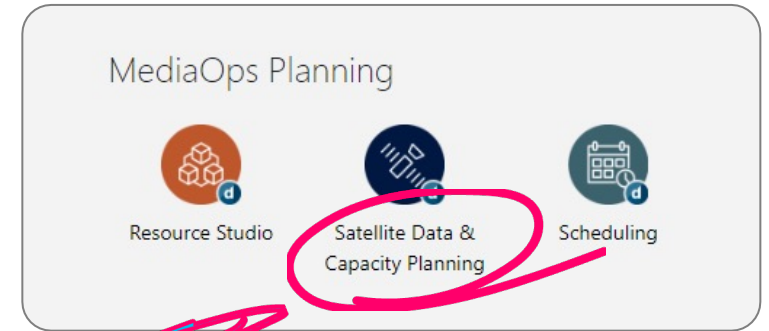


Create a Transponder

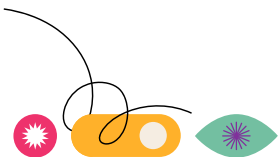
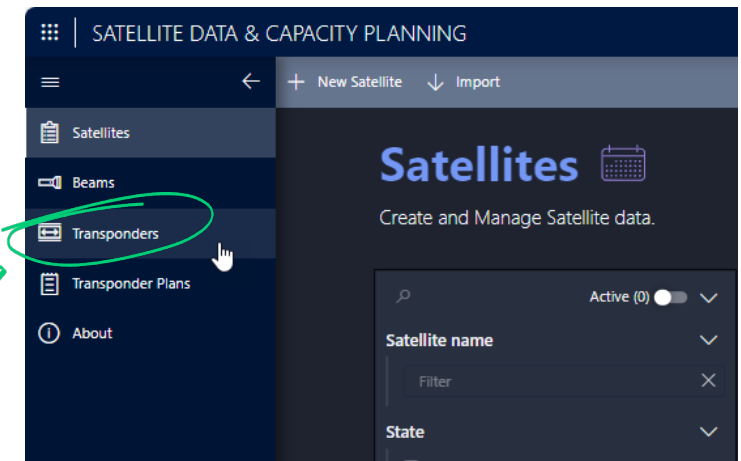
Exercise

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.

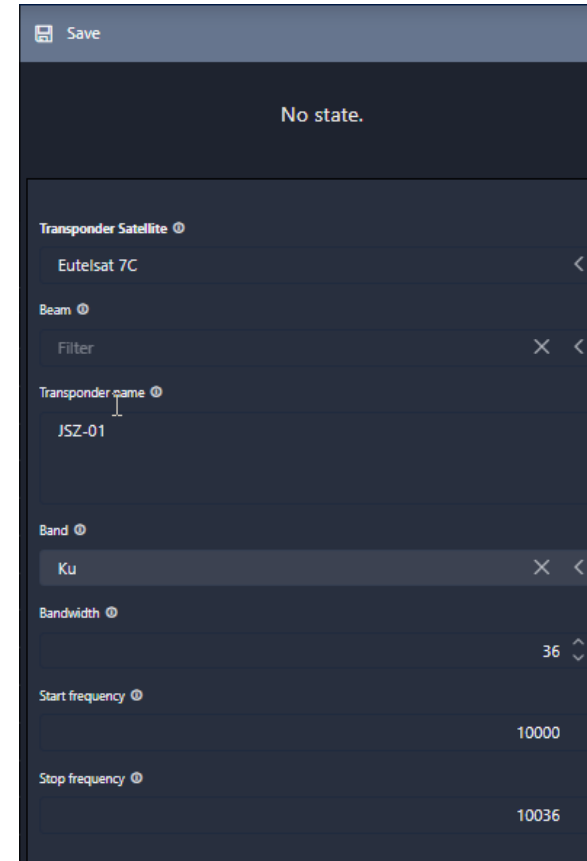


Create a Transponder

Exercise

exercise

- From the Transponder page, click the **New Transponder** button to start to create a new transponder.
- 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.
- When finished, click **Save**.



The screenshot shows a 'Save' dialog box with a dark background. At the top, it says 'Save' and 'No state.' Below this, there are several fields for configuring a transponder:

- Transponder Satellite**: A dropdown menu showing 'Eutelsat 7C'.
- Beam**: A dropdown menu with a 'Filter' button and a close button.
- Transponder name**: A text input field containing 'JSZ-01'.
- Band**: A dropdown menu showing 'Ku'.
- Bandwidth**: A dropdown menu showing '36'.
- Start frequency**: A text input field showing '10000'.
- Stop frequency**: A text input field showing '10036'.



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 created 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!

The screenshot displays the 'Transponders' management page. The table contains the following data:

| TRANSPONDER NAME | SATELLITE NAME | STATE | BEAM NAME | BAND | BANDWIDTH | START FREQU |
|------------------|----------------|--------|----------------|------|-----------|-------------|
| JSZ-01 | Eutelsat 7C | Draft | | Ku | 36 | 10700 |
| JSZ-02 | Eutelsat 7C | Active | | Ku | 36 | 10700 |
| T-01 | SES-9 | Active | Asia Ku-band | Ku | 36 | 10700 |
| T-02 | Astra 1L | Active | Europe Ku-band | Ku | 36 | 10736 |
| T-02 | SES-9 | Active | Asia Ku-band | Ku | 36 | 10736 |



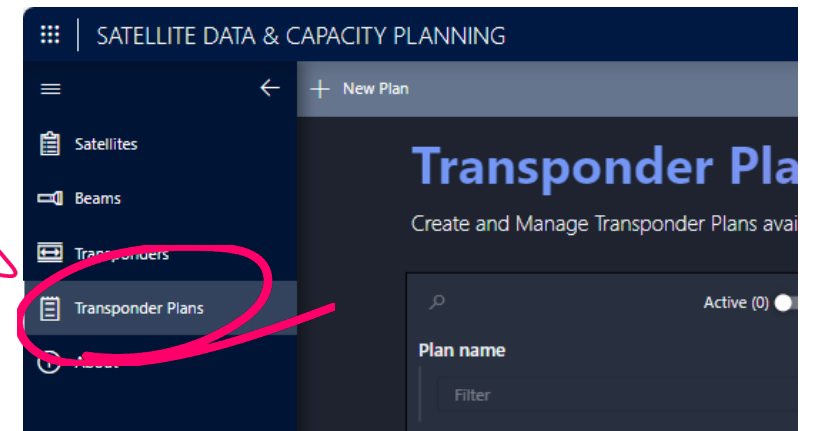
Create Slot Resources

Exercise

exercise

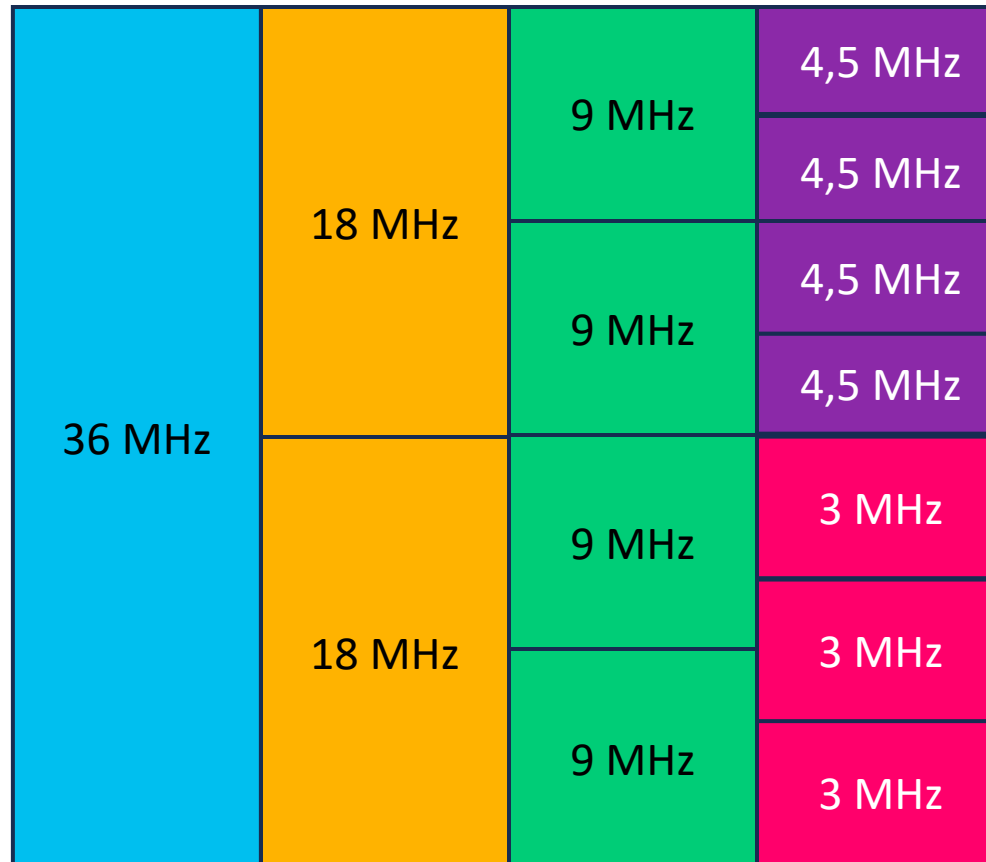
OBJECTIVE: Now that you have transponder, you can now create Slot Resources using a Transponder Plan.

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

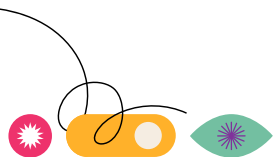
exercise

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

The screenshot displays the 'SATELLITE DATA & CAPACITY PLANNING' interface. The main section is titled 'Transponder Plans' with the subtitle 'Create and Manage Transponder Plans available on the Satellites'. On the left, there is a sidebar with filters for 'Plan name' and 'State'. The 'State' filter is set to 'Active'. The main area shows a table of 'Plans' with one entry: 'New Standard 36 MHz Plan' in an 'Active' state. To the right, there is a 'Transponders Applied' table with three entries: 'JSZ-01' (Eutelsat 7C), 'T-01' (SES-9), and 'T-02' (SES-9). Below these, there is a 'Slots' table with 12 entries, each showing a transponder name, plan name, state, slot name, slot size, center frequency, slot start frequency, and slot end frequency.

| TRANSponder NAME | SATELLITE NAME | STATE | BEAM NAME | BAND | BANDWIDTH | STAI |
|------------------|----------------|--------|-------------------|------|-----------|------|
| JSZ-01 | Eutelsat 7C | Active | | Ku | 36 | |
| T-01 | SES-9 | Active | Asia Ku-band | Ku | 36 | |
| T-02 | SES-9 | Active | Asia Ku-band | Ku | 36 | |
| T-03 | SES-9 | Active | Australia Ku-band | Ku | 36 | |

| TRANSponder NAME | PLAN NAME | STATE | SLOT NAME | SLOT SIZE | CENTER FREQUENCY | SLOT START FREQUENCY | SLOT END I |
|------------------|--------------------------|--------|------------------------|-----------|------------------|----------------------|------------|
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 9a | 9 | 10004.5 | 10000 | 10009 |
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 9b | 9 | 10013.5 | 10009 | 10018 |
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 9c | 9 | 10022.5 | 10018 | 10027 |
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 9d | 9 | 10031.5 | 10027 | 10036 |
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 4.5a | 4.5 | 10002.25 | 10000 | 10004.5 |
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 4.5b | 4.5 | 10006.75 | 10004.5 | 10009 |
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 4.5c | 4.5 | 10011.25 | 10009 | 10013.5 |
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 4.5d | 4.5 | 10015.75 | 10013.5 | 10018 |
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 3a | 3 | 10019.5 | 10018 | 10021 |
| JSZ-01 | New Standard 36 MHz Plan | Active | E7C - JSZ-01 Slot 3b | 3 | 10022.5 | 10021 | 10024 |

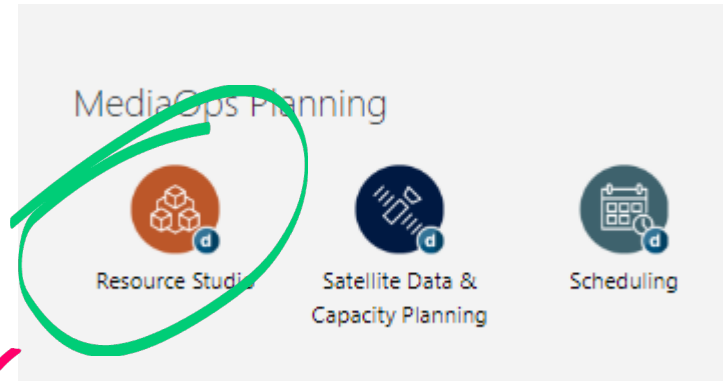


Create Slot Resources

Exercise

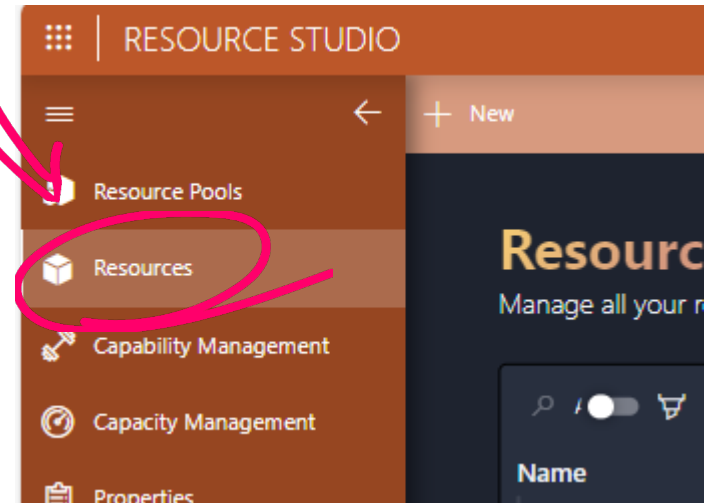
exercise

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.



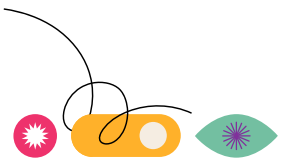
The Resources app interface shows a table of resources. The table has columns for NAME, TYPE, and STATE. The first five rows are highlighted with a red box, indicating the newly created slot resources.

| NAME | TYPE | STATE |
|-----------------------|-----------|----------|
| E7C - JSZ-01 Slot 18a | Unmanaged | Complete |
| E7C - JSZ-01 Slot 18b | Unmanaged | Complete |
| E7C - JSZ-01 Slot 3a | Unmanaged | Complete |
| E7C - JSZ-01 Slot 3b | Unmanaged | Complete |
| E7C - JSZ-01 Slot 3c | Unmanaged | Complete |

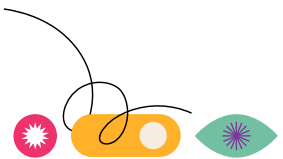
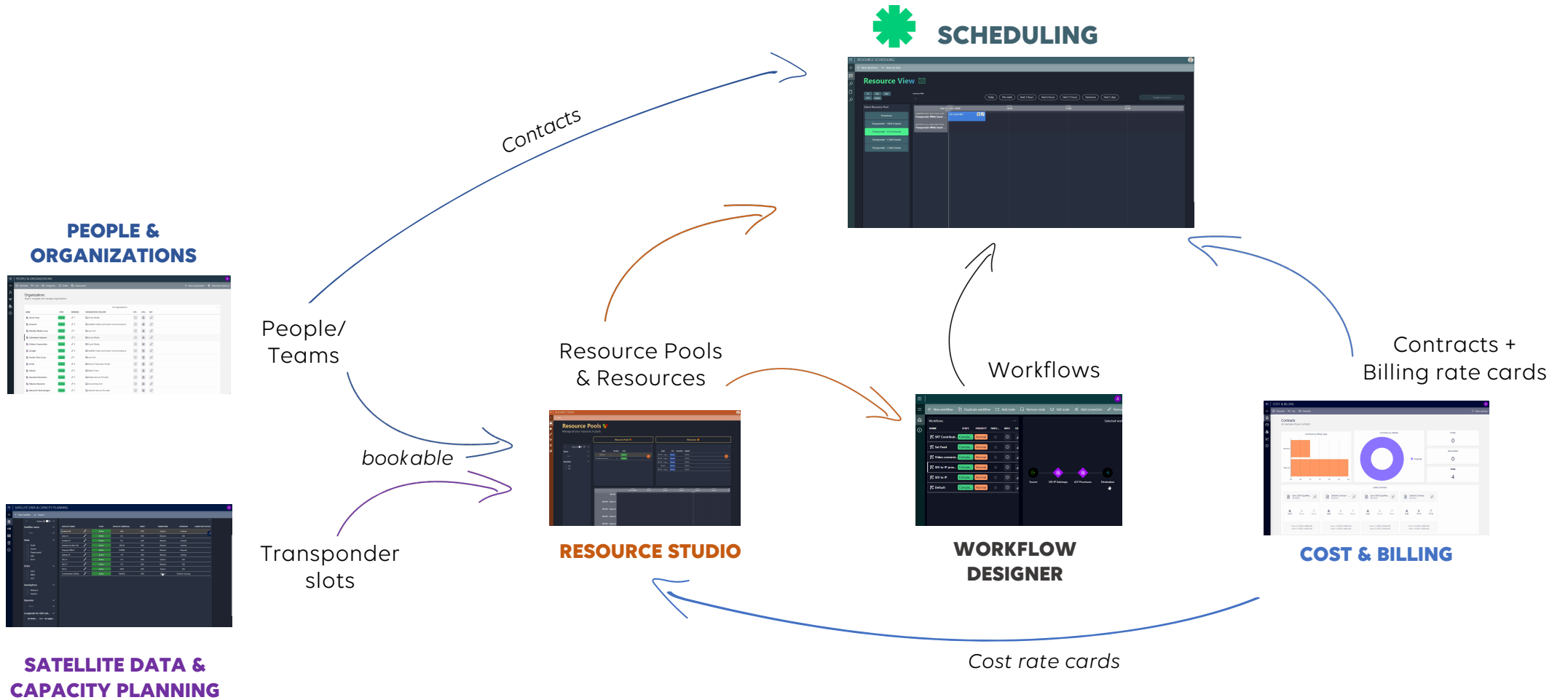


Scheduling

Bringing it all together



Scheduling



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



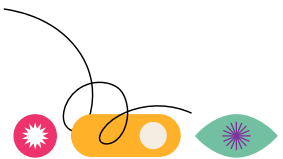
Scheduling

Exercise 2: schedule a job for a transponder slot

exercise

OBJECTIVE:

Schedule a job booking one of the created transponder slots



ASK AWAY

Questions?

