Extending Jamf School with the API

JAMF NATION LIVE

Anthony Darlow

Consulting Engineer, Education EMEIA

Jamf

Agenda

1 | What is an API?

If you've never heard of API lets build a foundation and find out why its useful

2 | API Endpoints

Now you know about an API, lets think about the things you need to talk to one

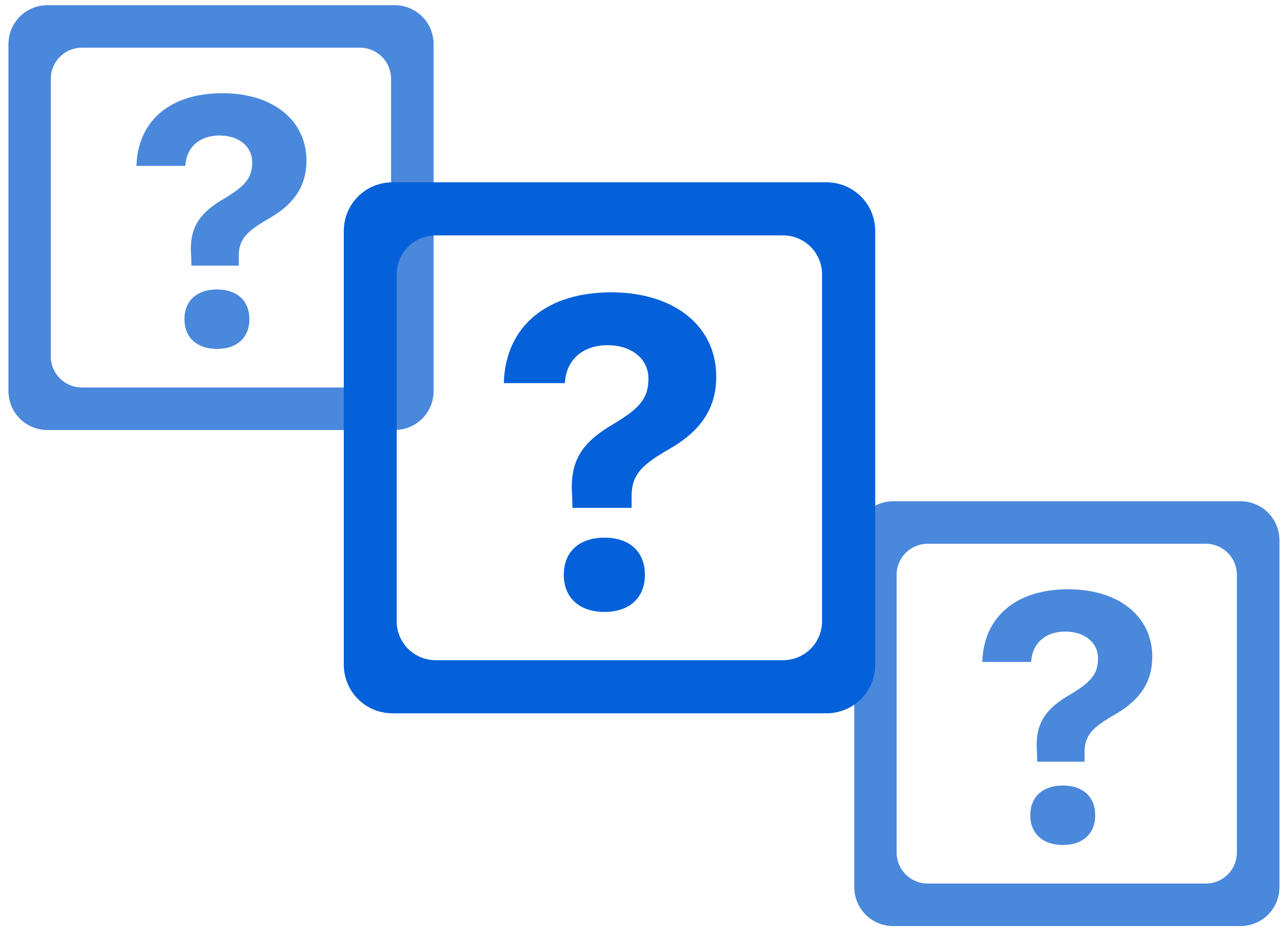
3 | Interacting with the Jamf School API

How to get started with the Jamf School API and make your first API call

4 | Extend the Power of Jamf School

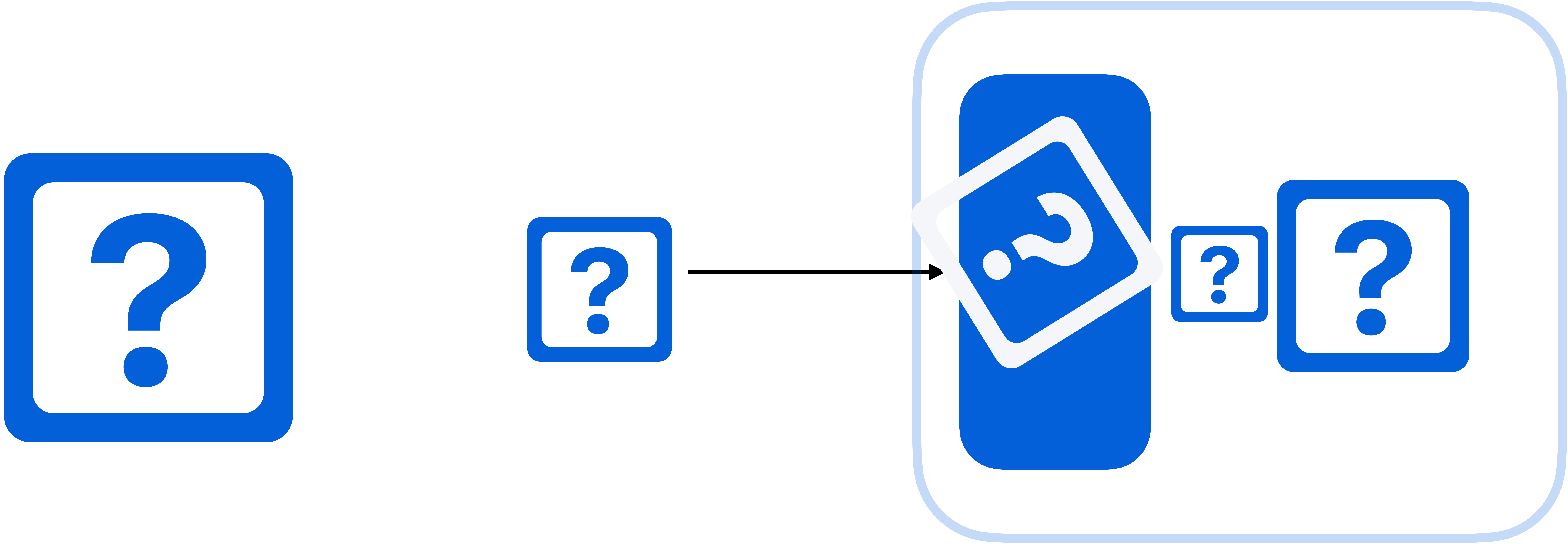
We'll finish up with resources, tools and by thinking about real world situations where the API could power up your workflow

What is an **API**?

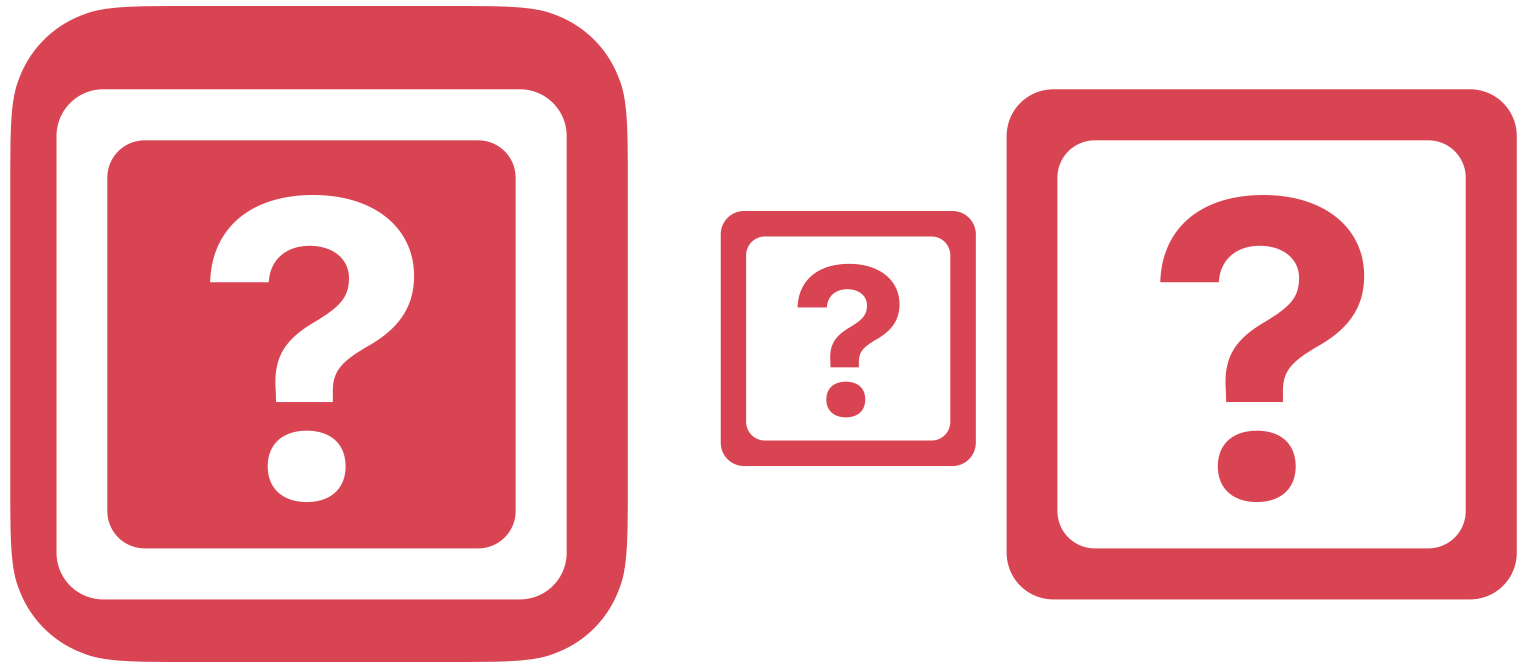


> *An API is a set of routines, protocols, and tools for building software applications.*

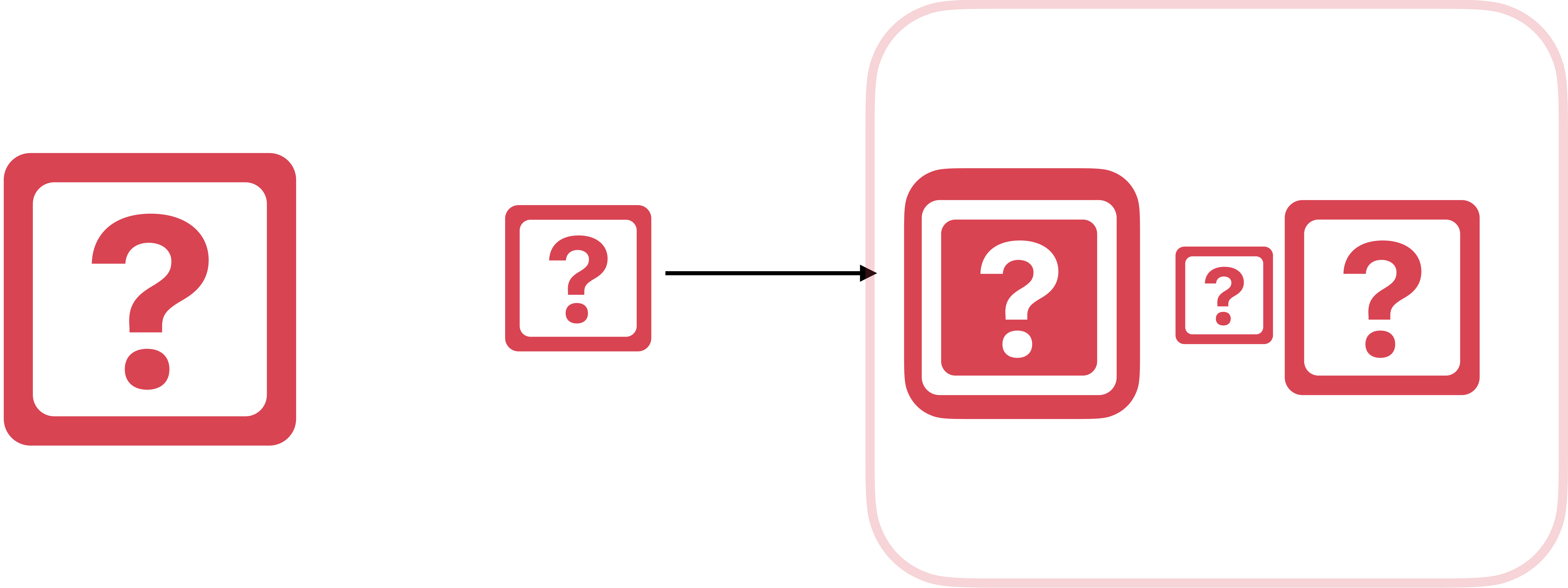
Application Programming Interface



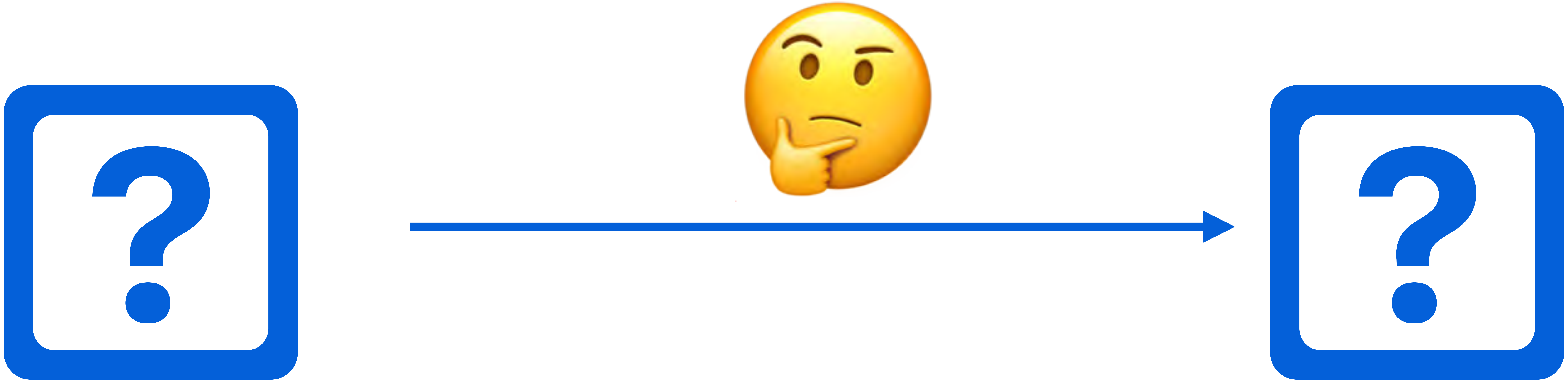
Application Programming Interface



Application Programming Interface



Application Programming Interface



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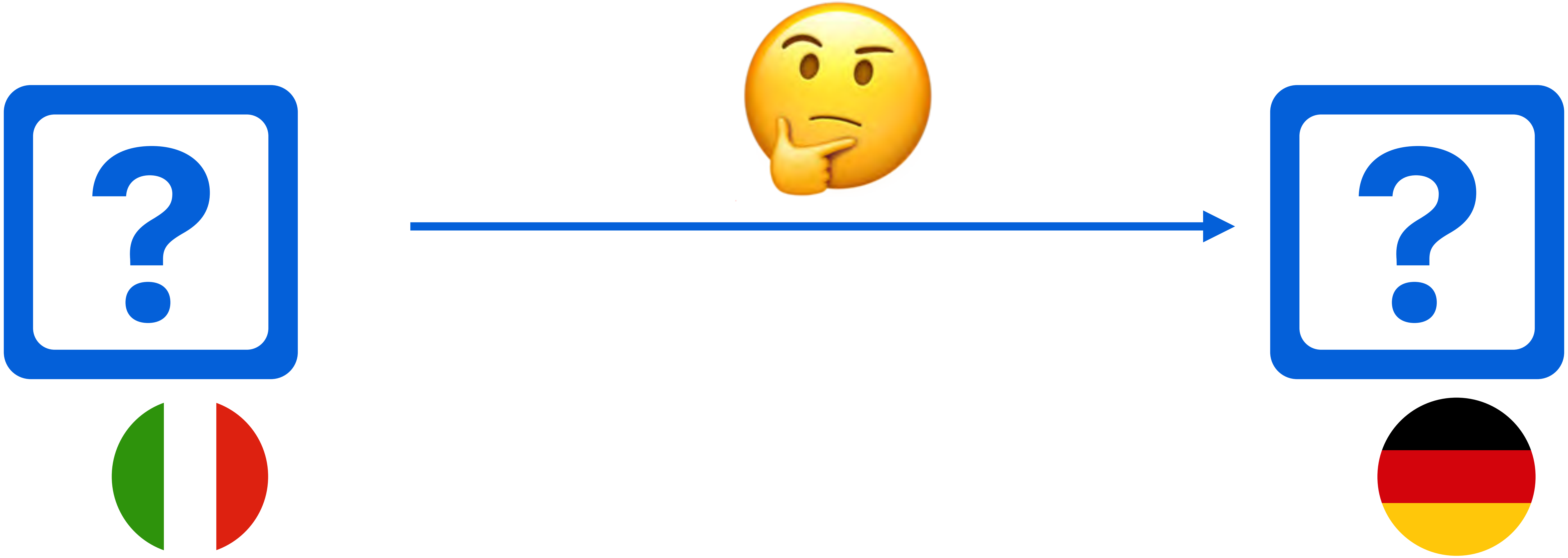

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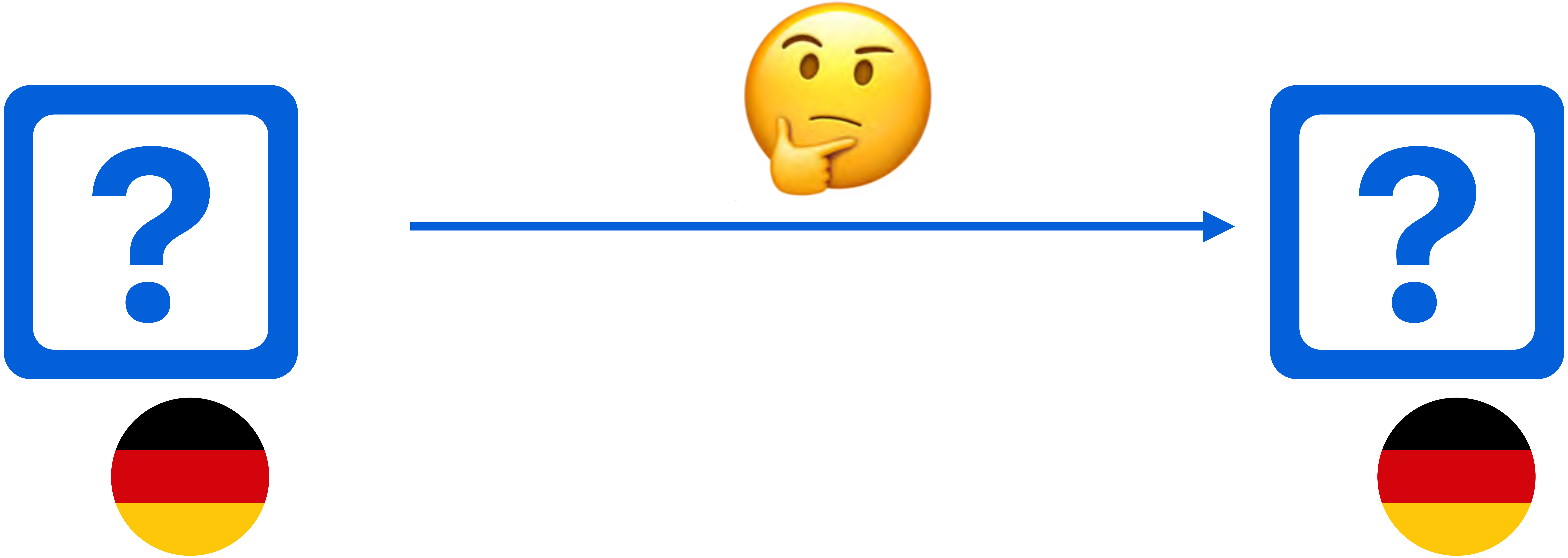

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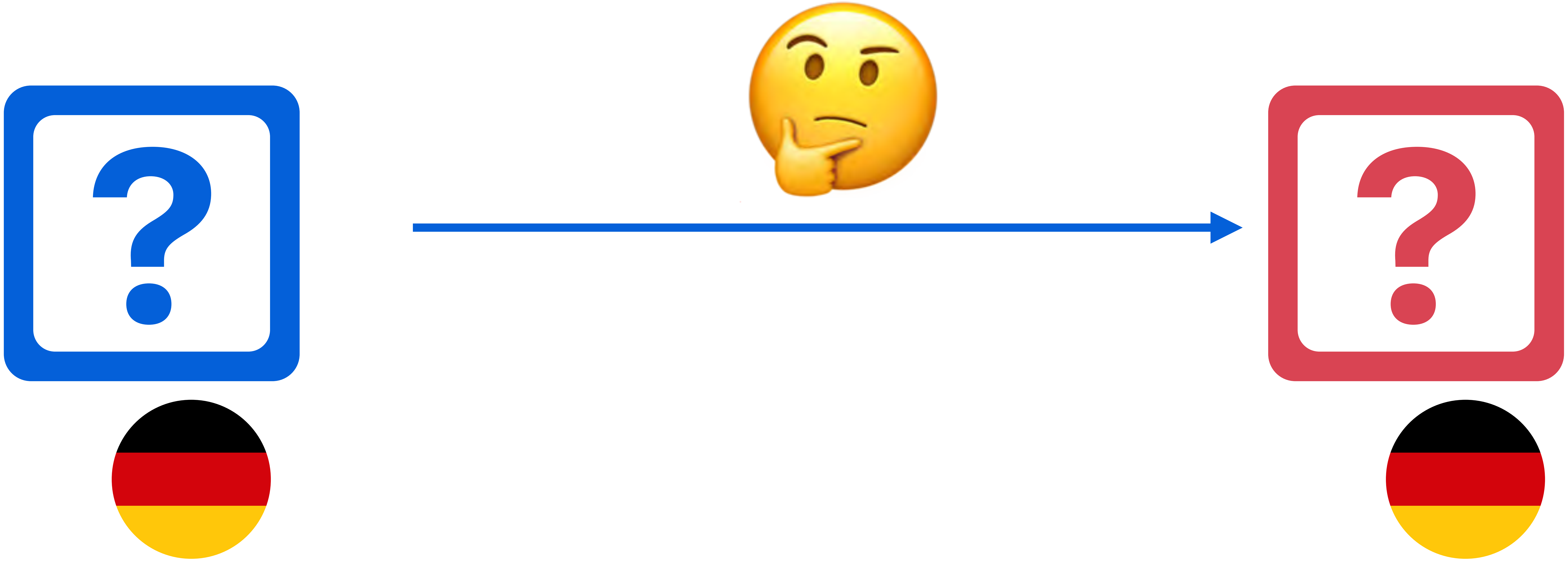
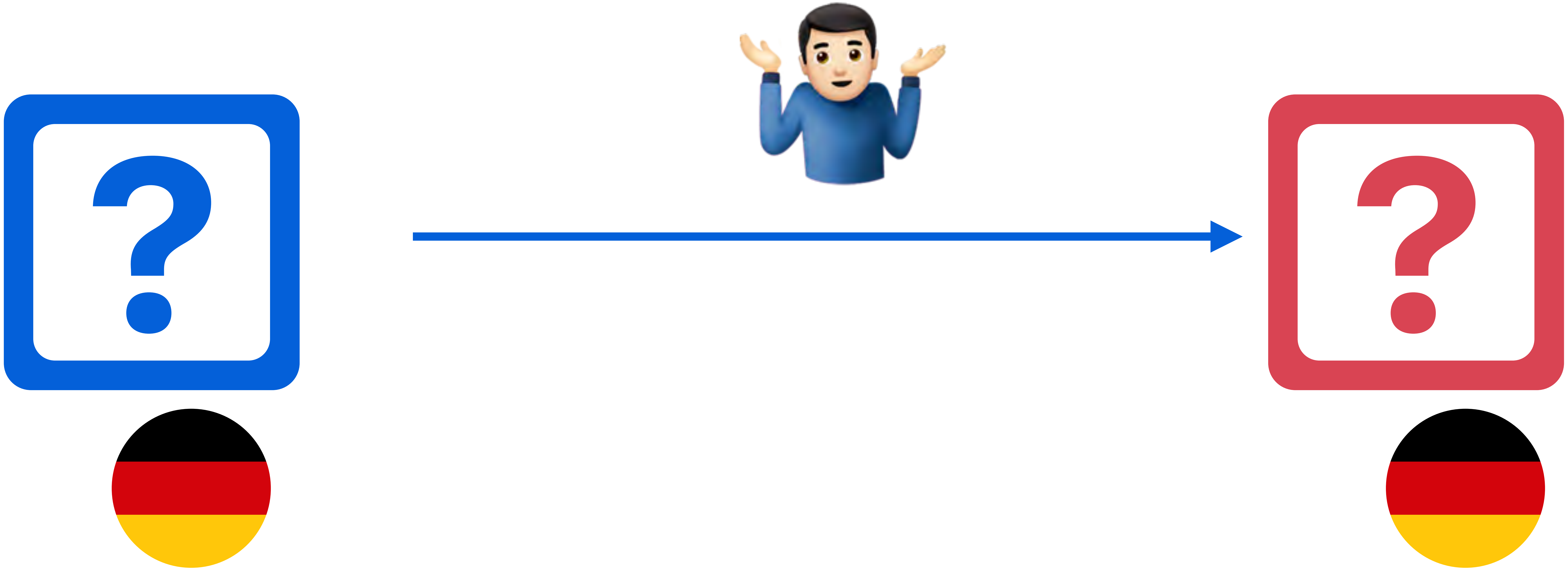


Application Programming Interface



Application Programming Interface

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Application Programming Interface

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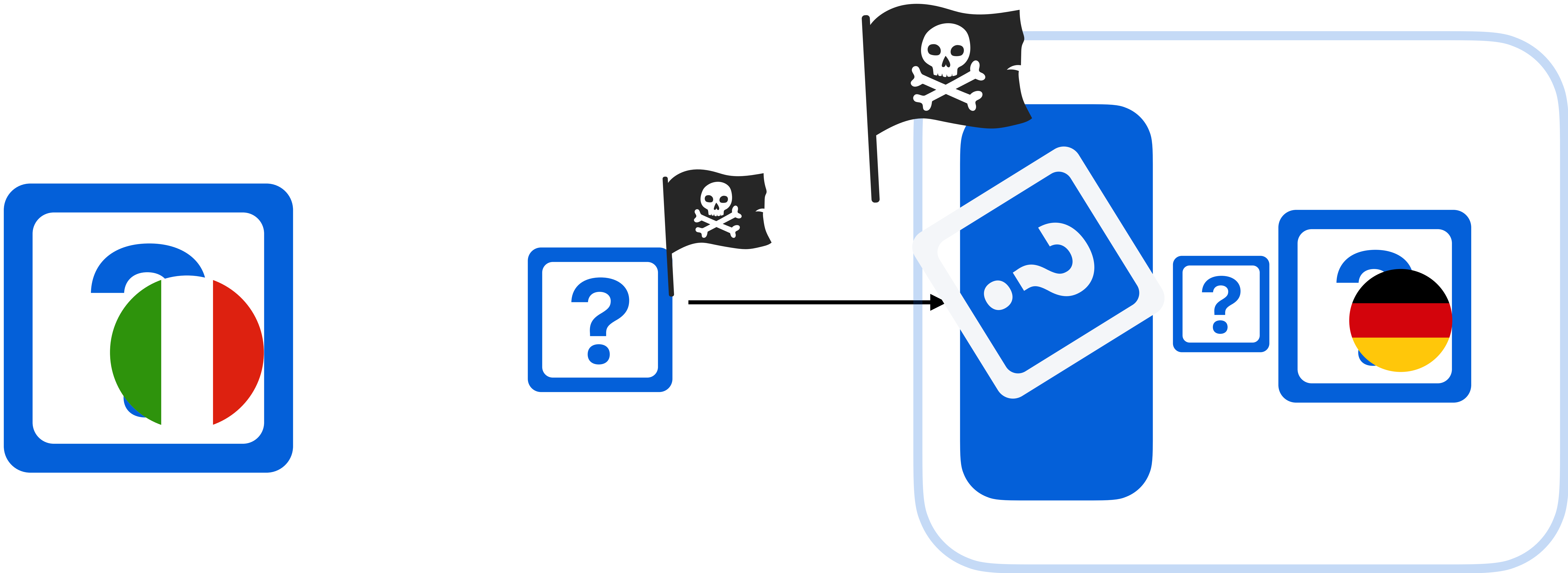

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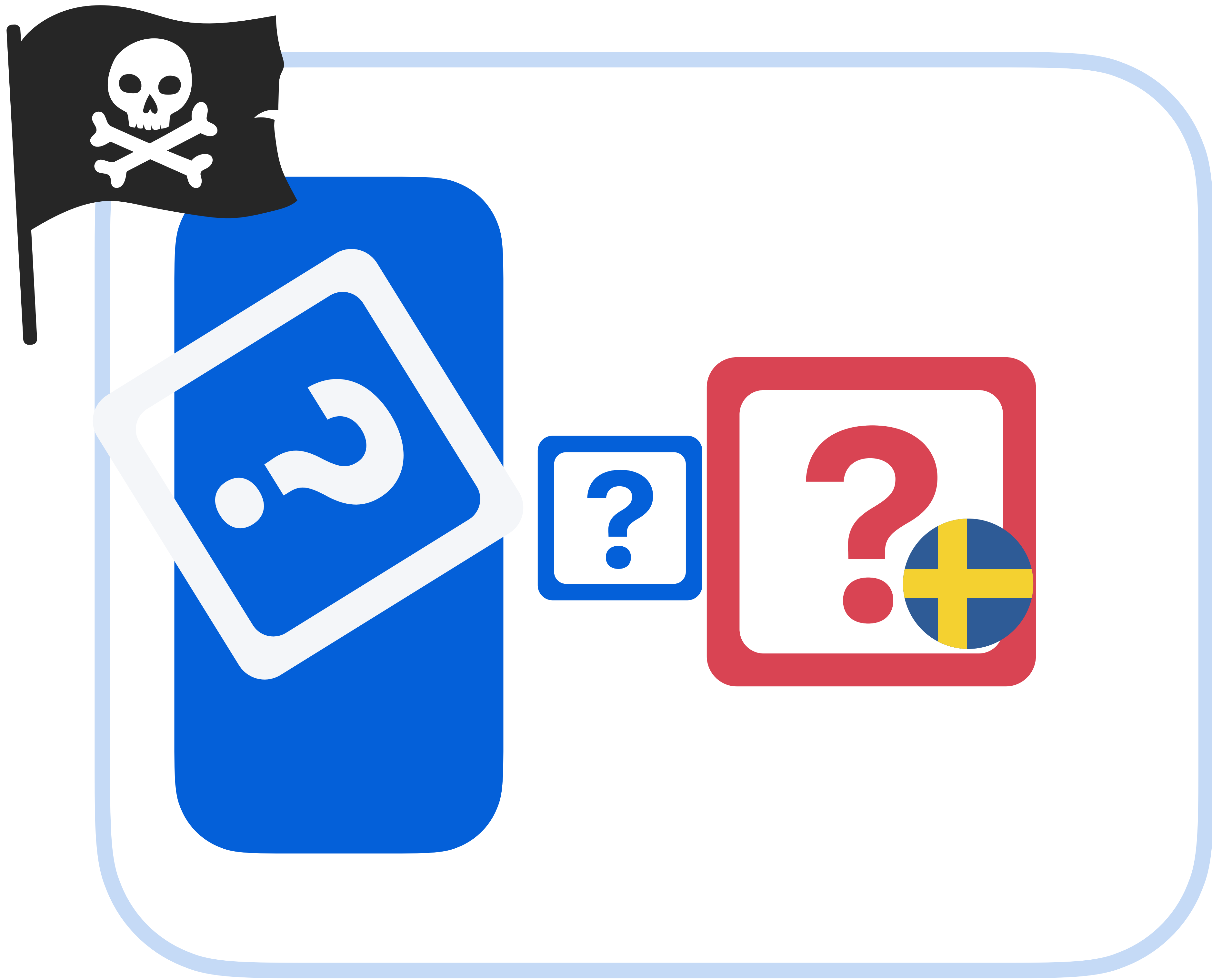

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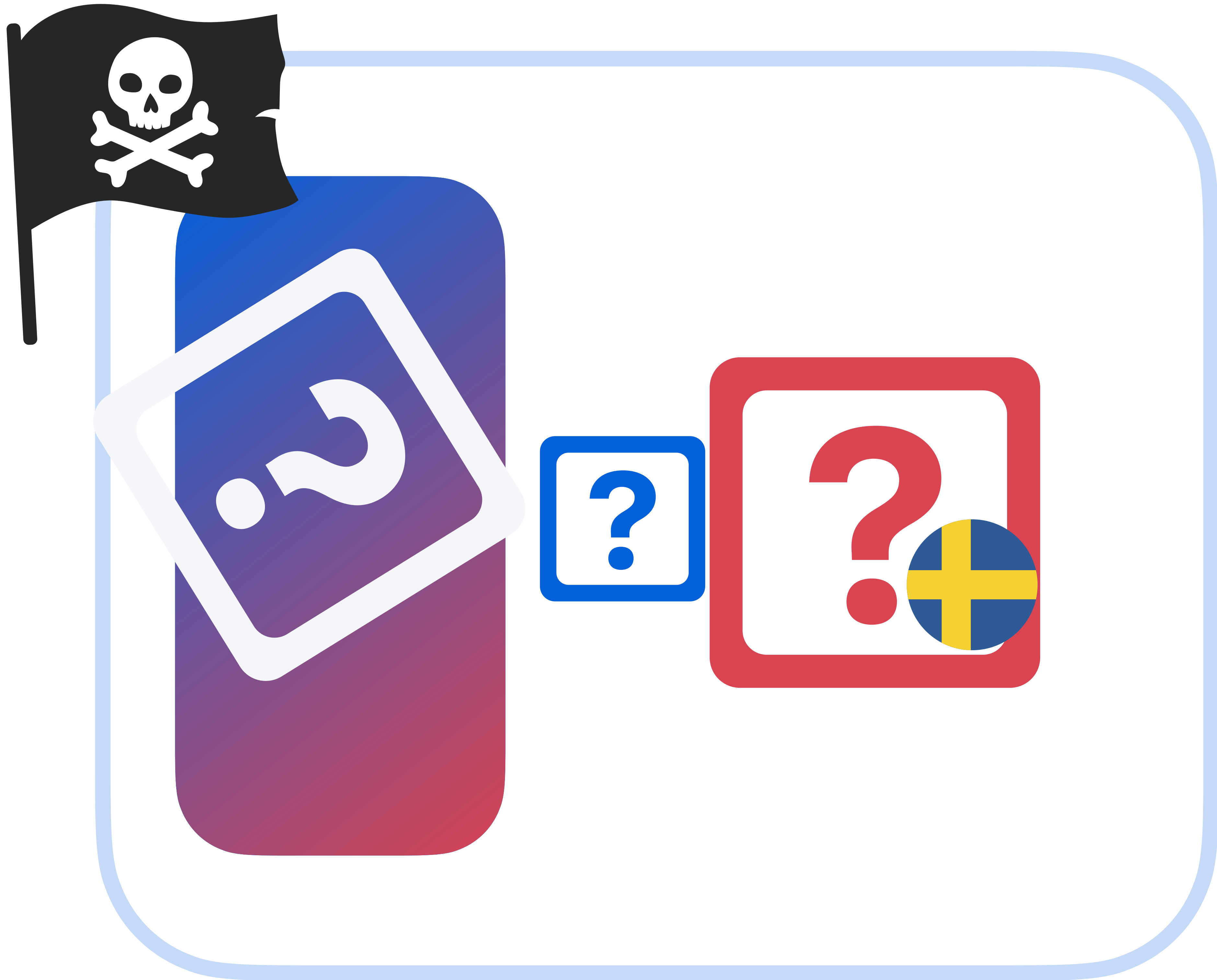

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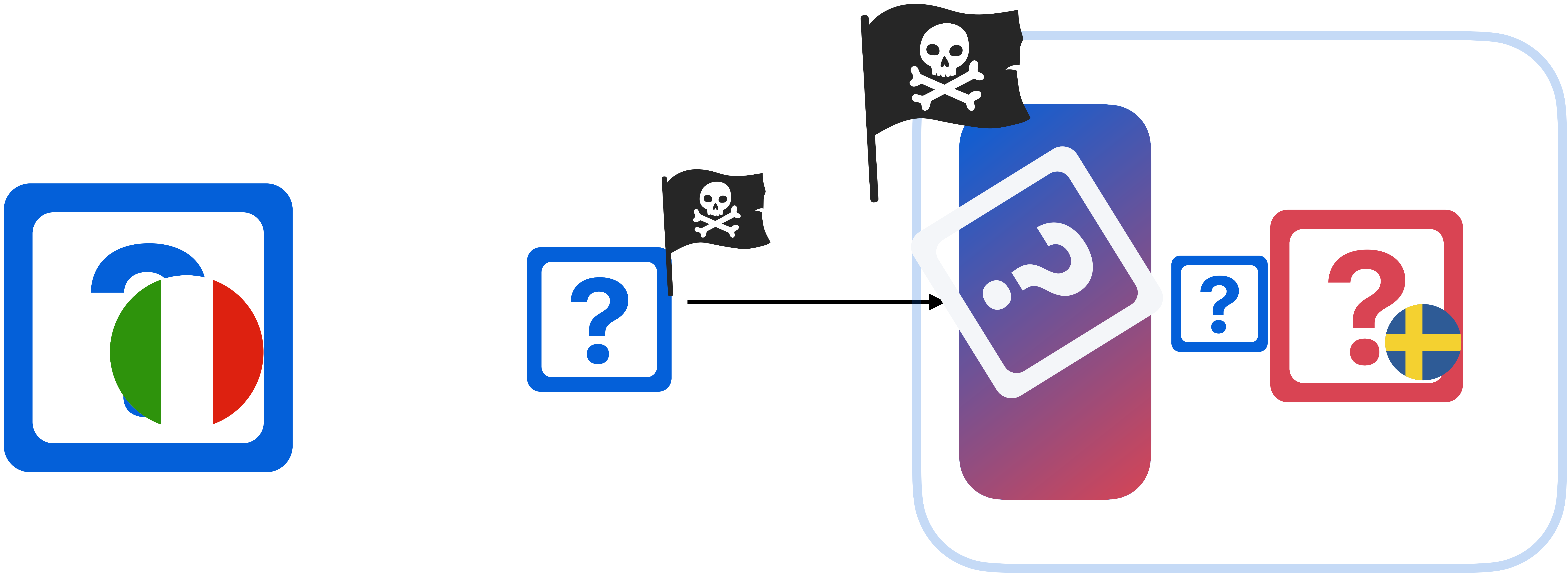

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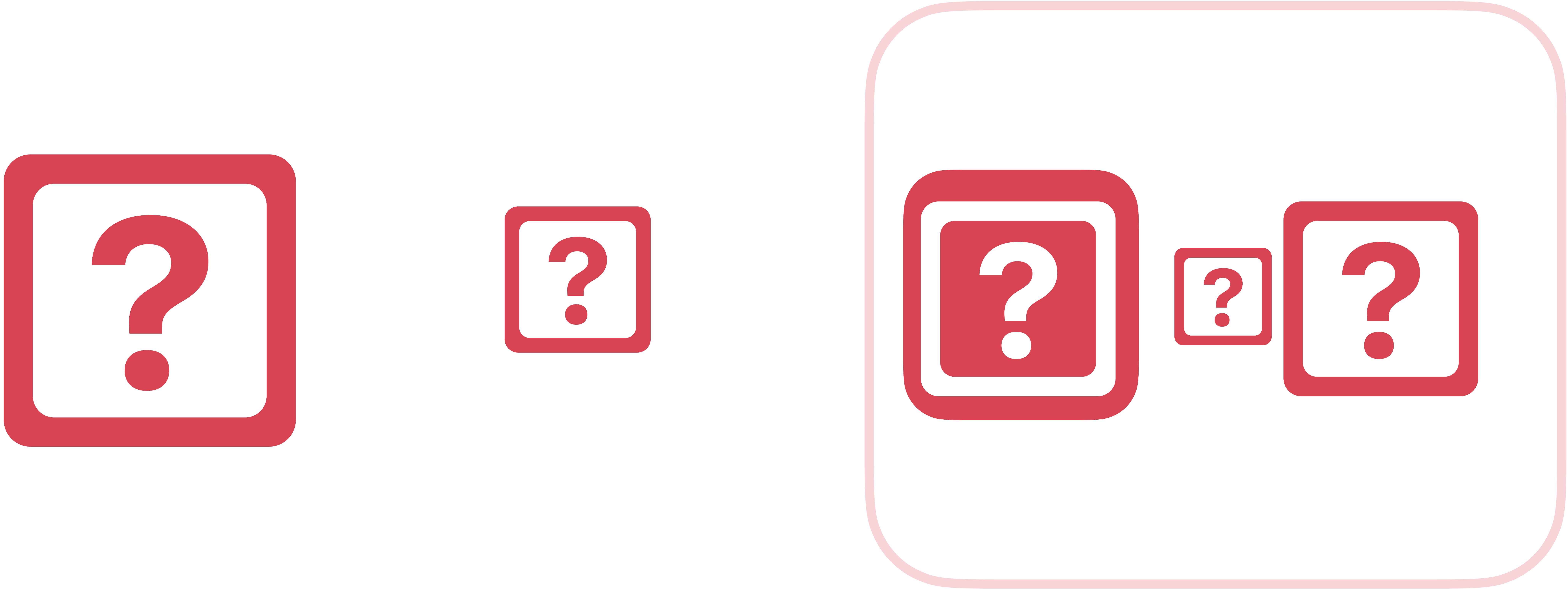

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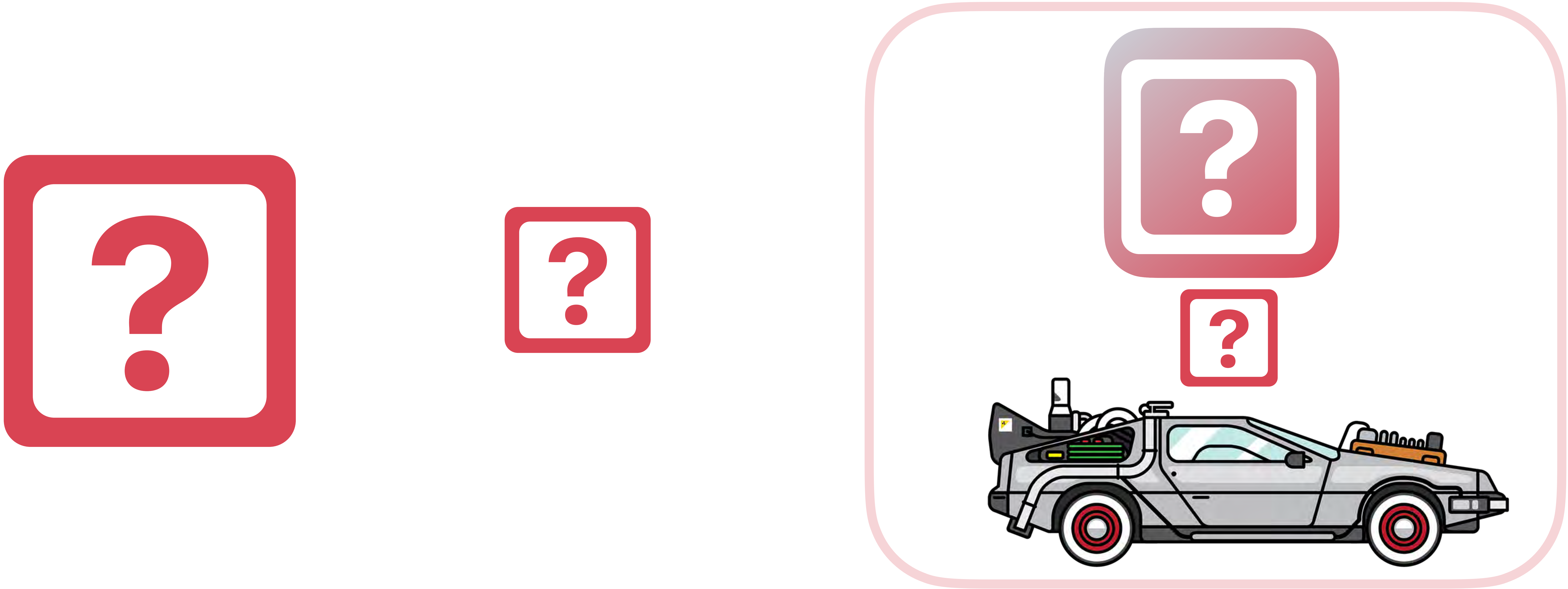
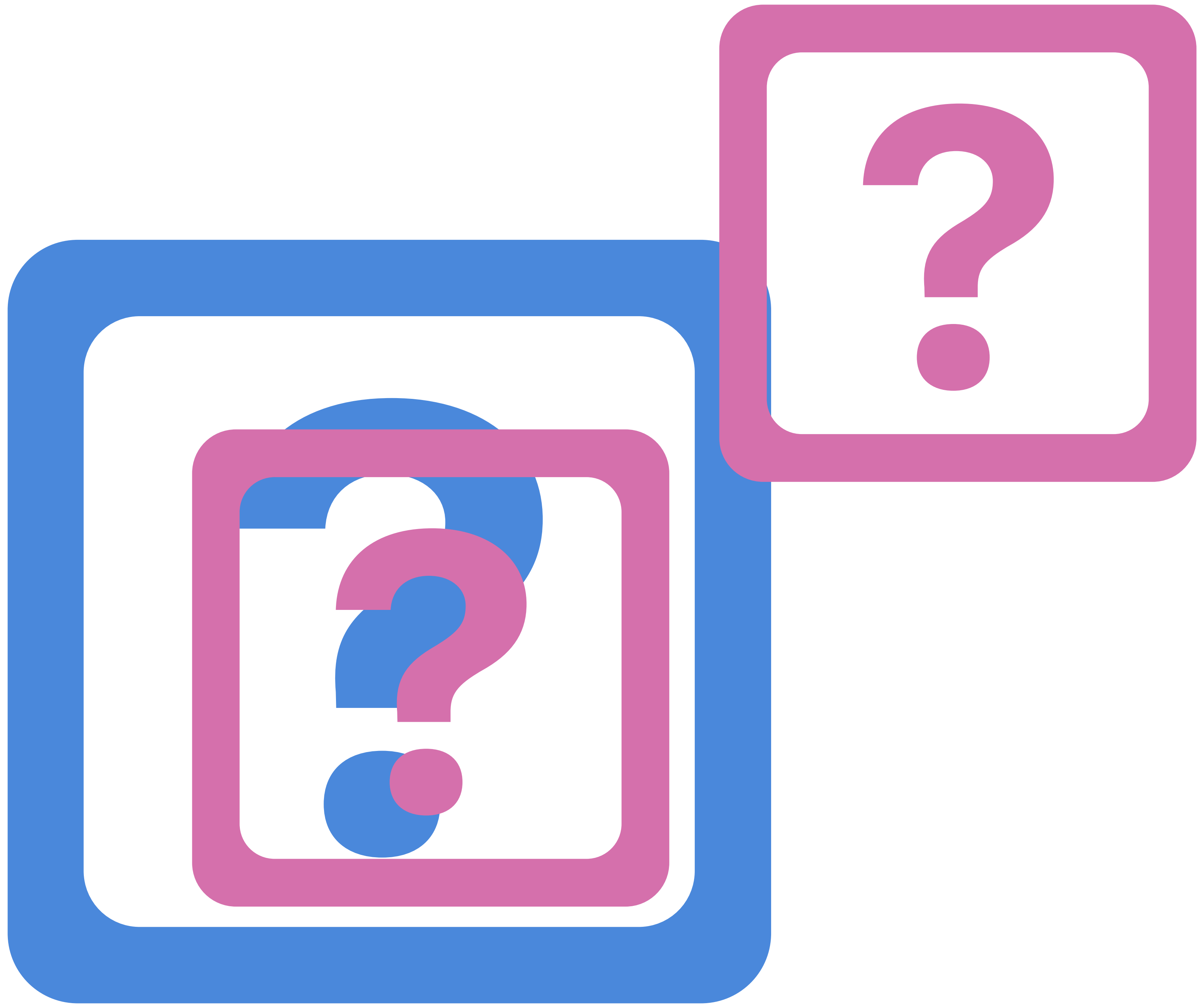
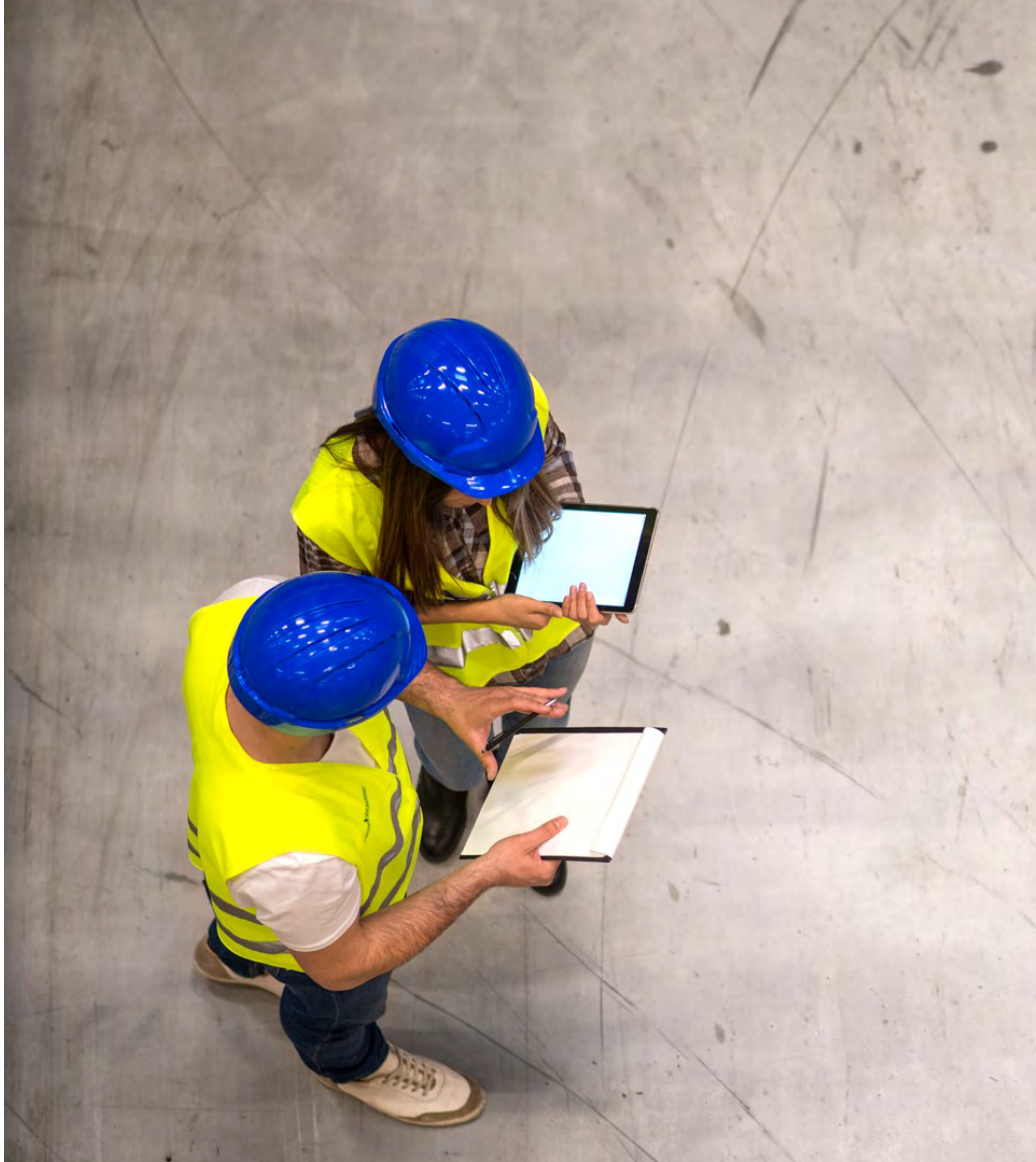


DESTINATION TIME
PRESENT TIME
LAST TIME DEPARTED
PRIMARY
PERCENT POWER
PLUTONIUM CHAMB

API **Endpoints**





API **Endpoints**

https://your.app.com/api/apps

GET

Retrieve or Read Data

DELETE

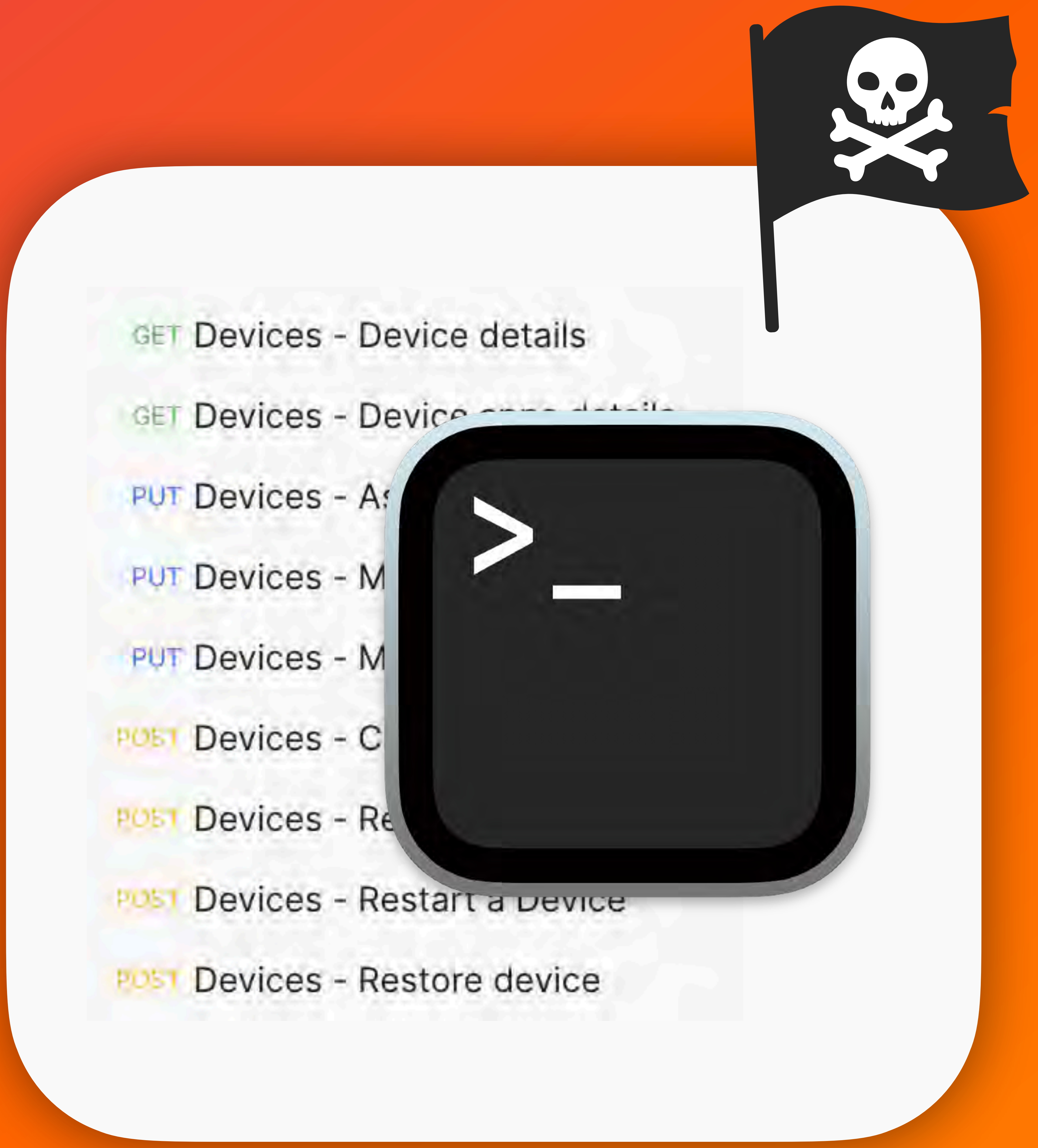
Delete existing Data

PUT

Update existing Data

POST

Create Data



GET Devices - Device details

GET Devices - Devic

PUT Devices - A

PUT Devices - M

PUT Devices - M

POST Devices - C

POST Devices - Re

POST Devices - Restart a Device

POST Devices - Restore device

API Data

GET

```
https://darlowsch.jamfcloud.com/api/devices/00008020-001129AE3A2A402E
```

Console Data

API Data

Console Data

GET

https://darlowsch.jamfcloud.com/
api/devices/
00008020-001129AE3A2A402E

API Data

GET

https://darlowsch.jamfcloud.com/api/devices/00008020-001129AE3A2A402E

Console Data

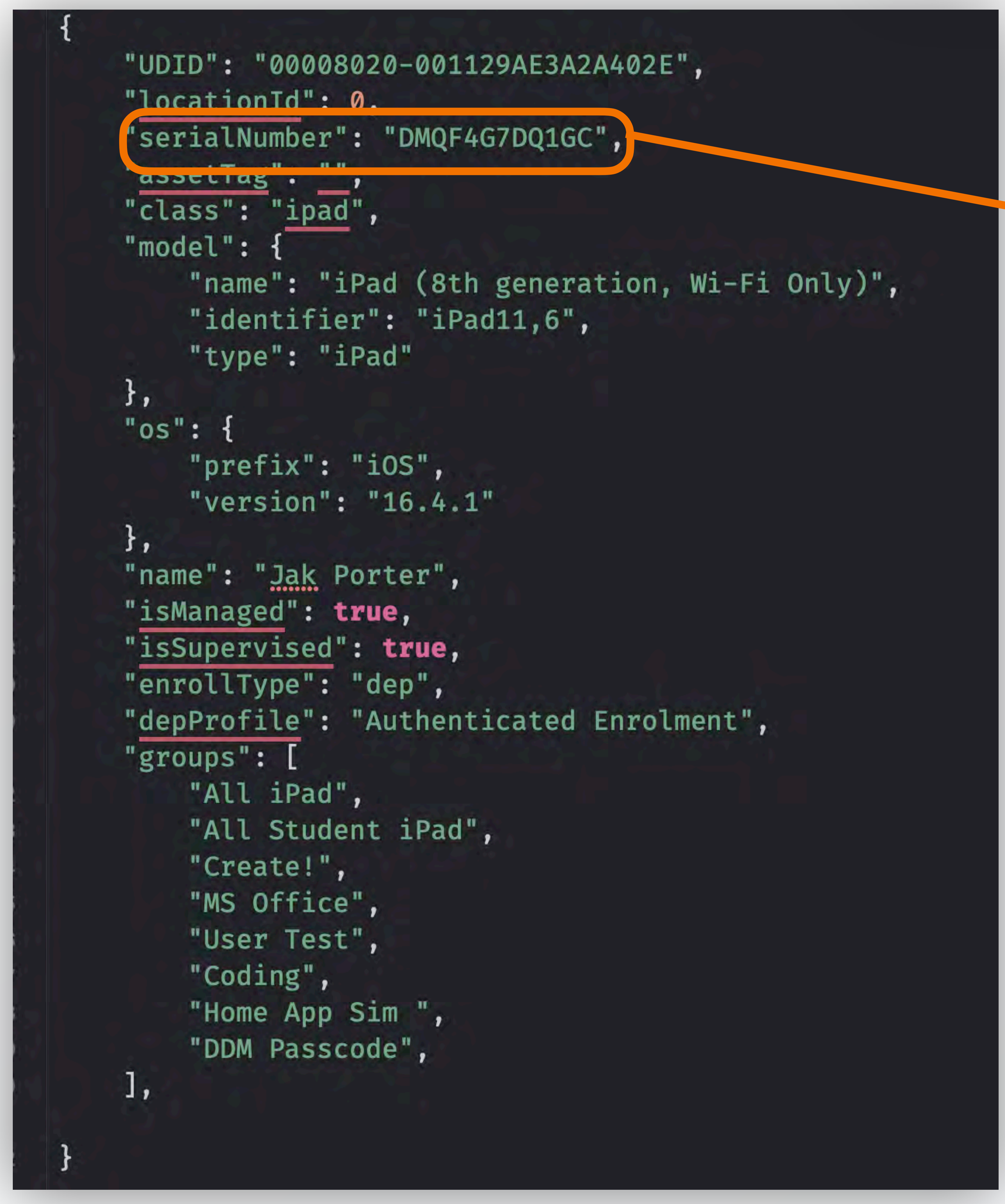
?

https://darlowsch.jamfcloud.com/devices/details/00008020-001129AE3A2A402E

API Data

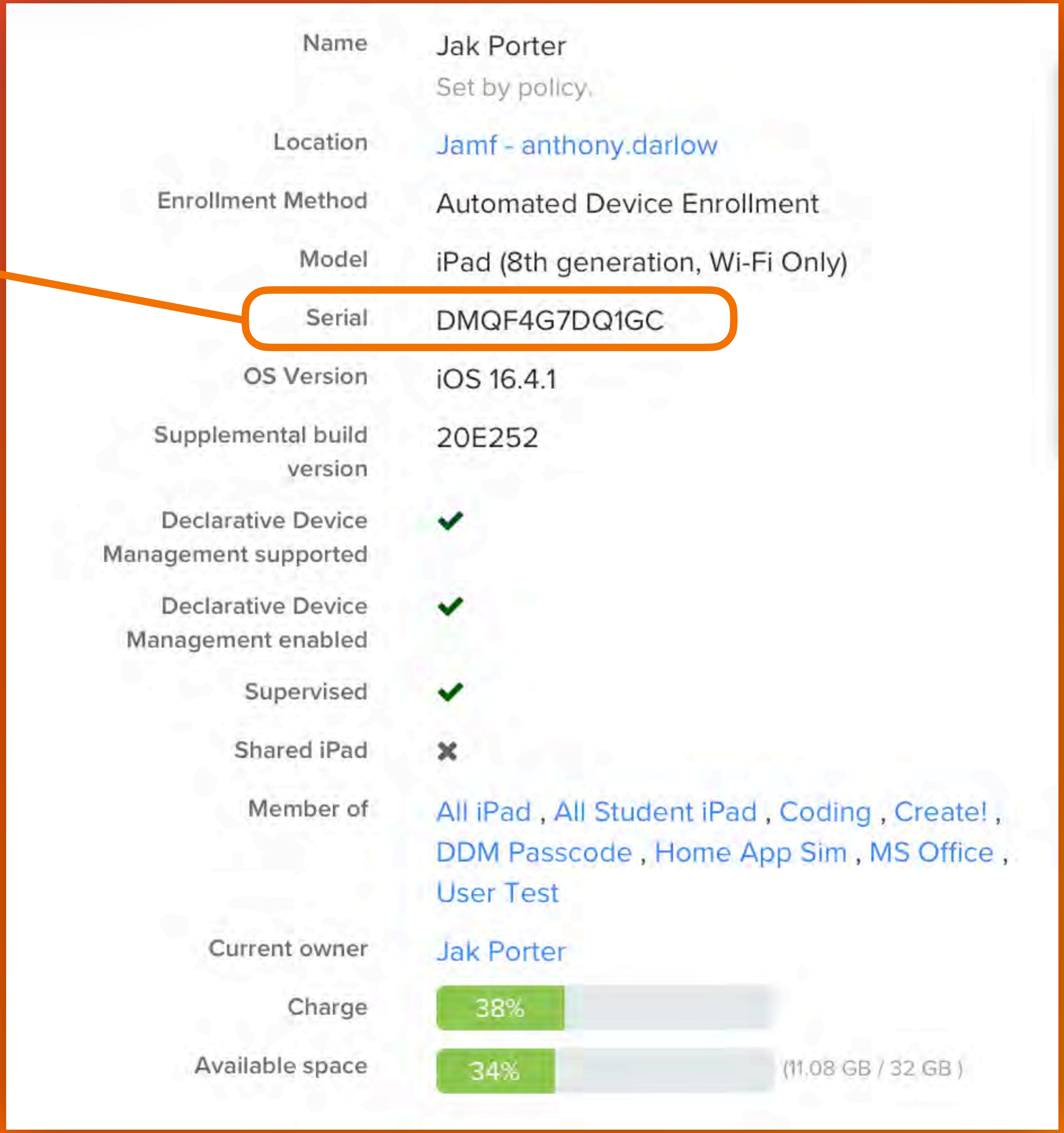
Serial Number

Console Data



```
{
    "UDID": "00008020-001129AE3A2A402E",
    "locationId": 0,
    "serialNumber": "DMQF4G7DQ1GC",
    "assetTag": "",
    "class": "ipad",
    "model": {
        "name": "iPad (8th generation, Wi-Fi Only)",
        "identifier": "iPad11,6",
        "type": "iPad"
    },
    "os": {
        "prefix": "iOS",
        "version": "16.4.1"
    },
    "name": "Jak Porter",
    "isManaged": true,
    "isSupervised": true,
    "enrollType": "dep",
    "depProfile": "Authenticated Enrolment",
    "groups": [
        "All iPad",
        "All Student iPad",
        "Create!",
        "MS Office",
        "User Test",
        "Coding",
        "Home App Sim ",
        "DDM Passcode",
    ],

}
```

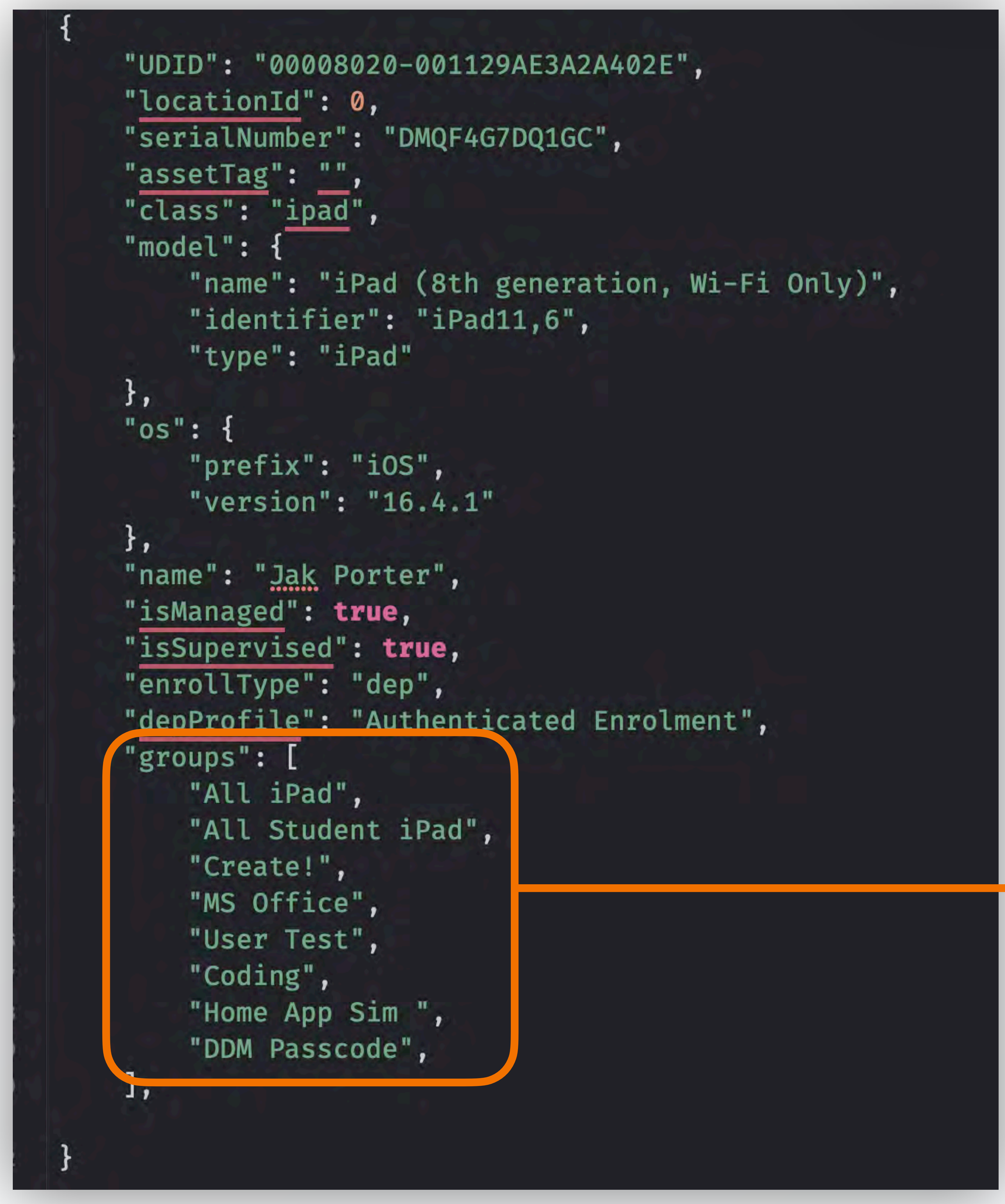


Name	Jak Porter Set by policy.
Location	Jamf - anthony.darlow
Enrollment Method	Automated Device Enrollment
Model	iPad (8th generation, Wi-Fi Only)
Serial	DMQF4G7DQ1GC
OS Version	iOS 16.4.1
Supplemental build version	20E252
Declarative Device Management supported	✓
Declarative Device Management enabled	✓
Supervised	✓
Shared iPad	✖
Member of	All iPad , All Student iPad , Coding , Create! , DDM Passcode , Home App Sim , MS Office , User Test
Current owner	Jak Porter
Charge	38%
Available space	34% (11.08 GB / 32 GB)

API Data

Groups

Console Data



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        "prefix": "iOS",
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    },
    "name": "Jak Porter",
    "isManaged": true,
    "isSupervised": true,
    "enrollType": "dep",
    "depProfile": "Authenticated Enrolment",
    "groups": [
        "All iPad",
        "All Student iPad",
        "Create!",
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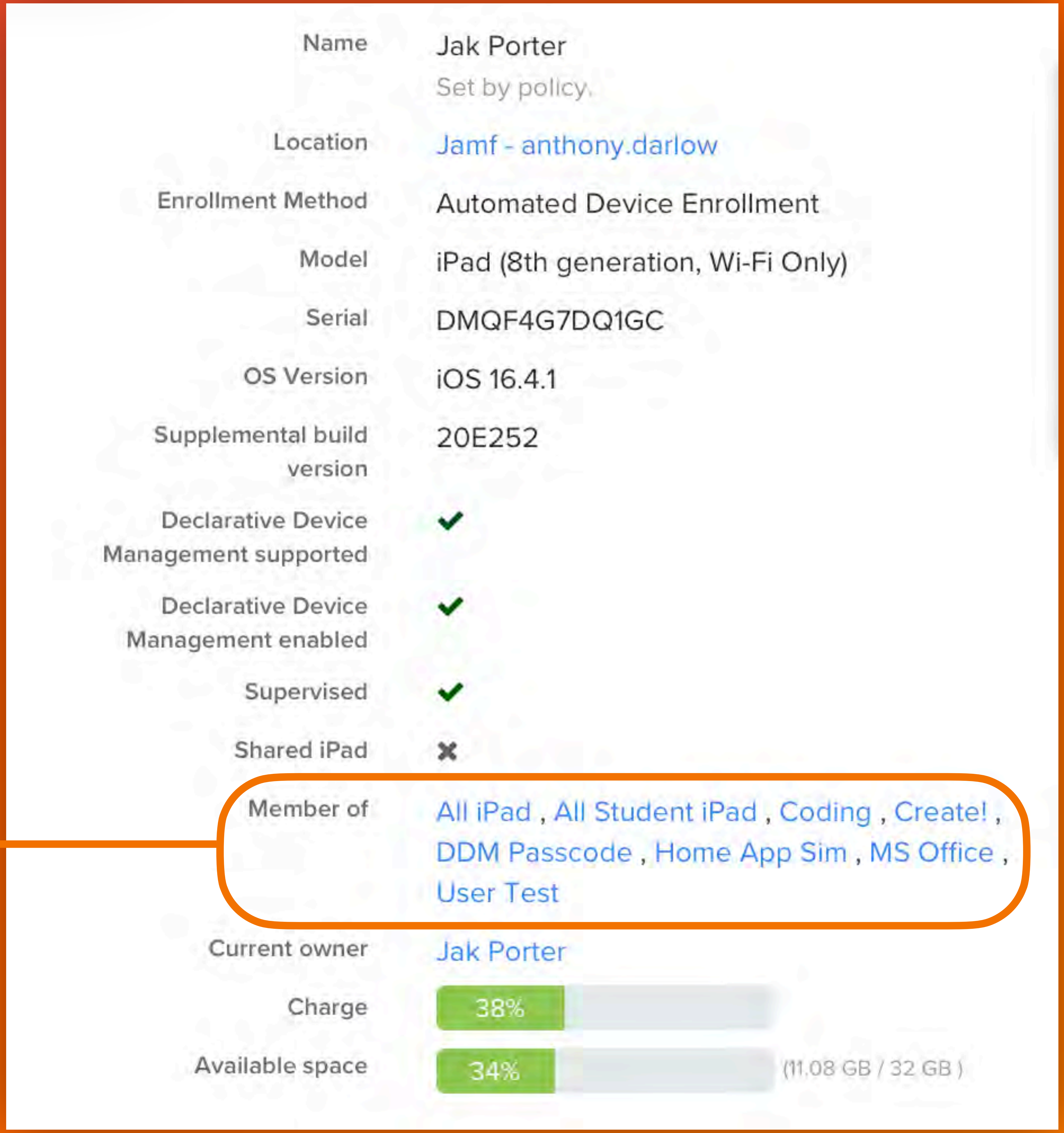
        "User Test",
        "Coding",
        "Home App Sim ",
        "DDM Passcode",
    ],

}
```



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Supervised	✓
Shared iPad	✖
Member of	All iPad , All Student iPad , Coding , Create! , DDM Passcode , Home App Sim , MS Office , User Test
Current owner	Jak Porter
Charge	38%
Available space	34% (11.08 GB / 32 GB)

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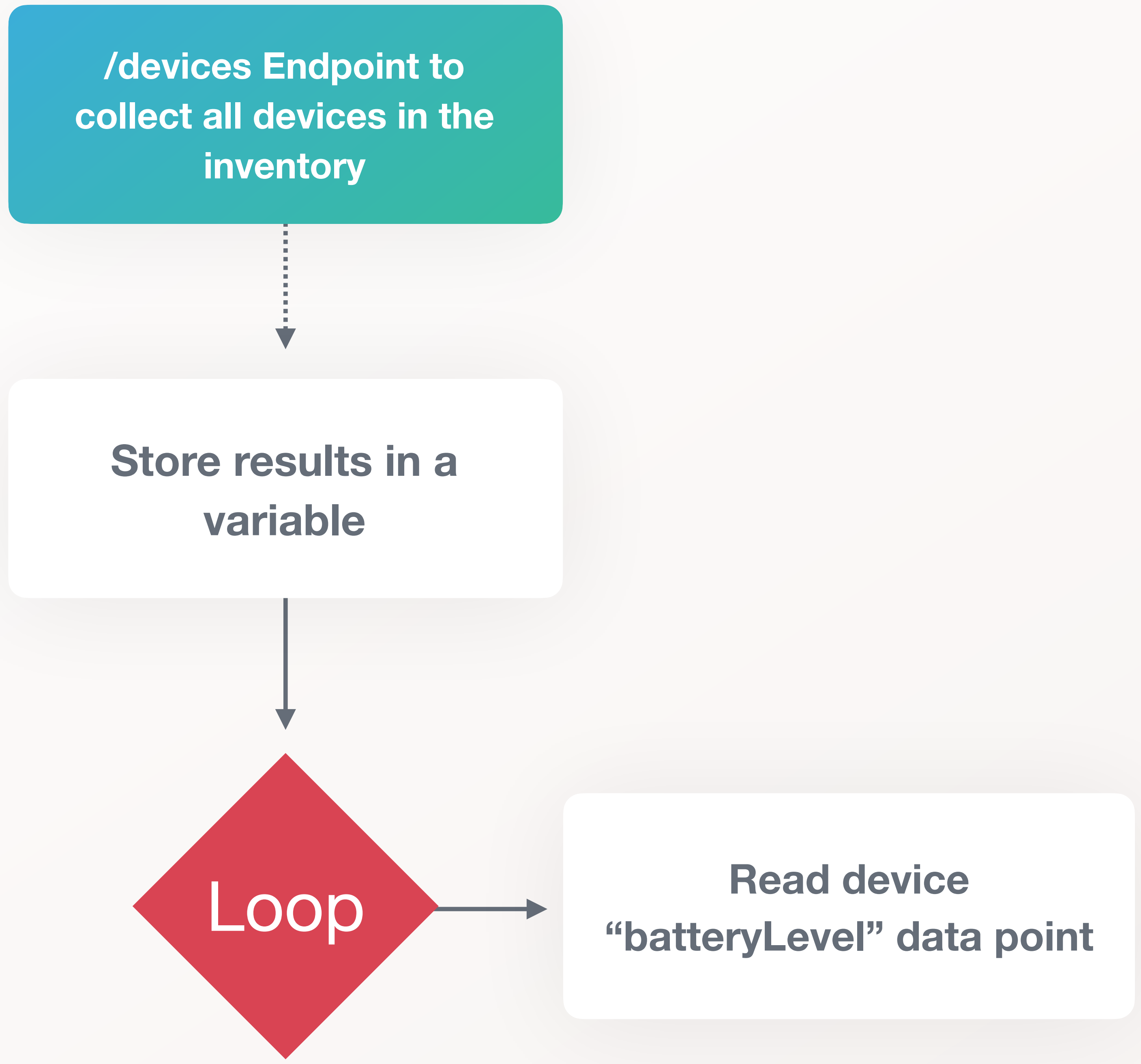
> “I need a report at the start of each day with students who’s iPad isn’t at least 80% charged”

Battery Check **Script Logic Example**



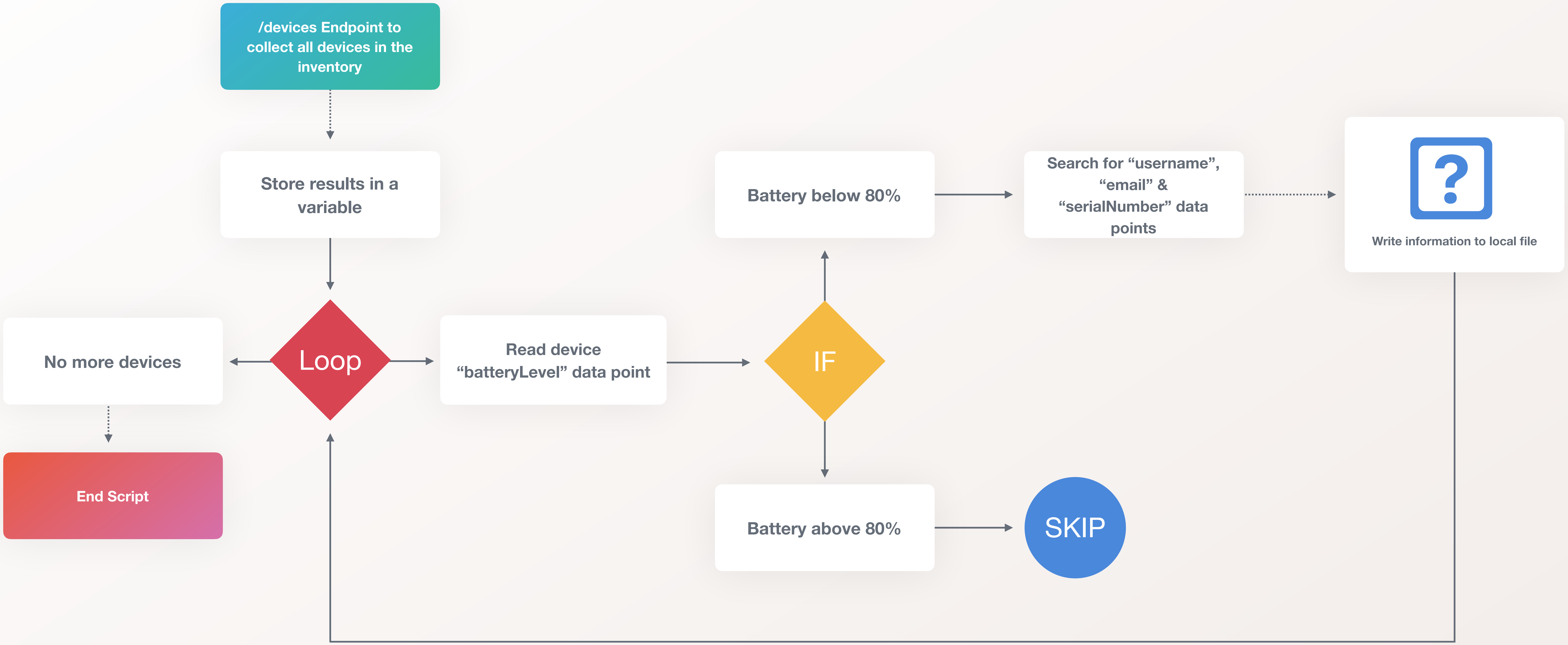
/devices Endpoint to collect all devices in the inventory

Store results in a variable

Loop

Read device “batteryLevel” data point

Battery Check **Script Logic Example**



/devices Endpoint to collect all devices in the inventory

Store results in a variable

Loop

No more devices

End Script

Read device “batteryLevel” data point

IF

Battery below 80%

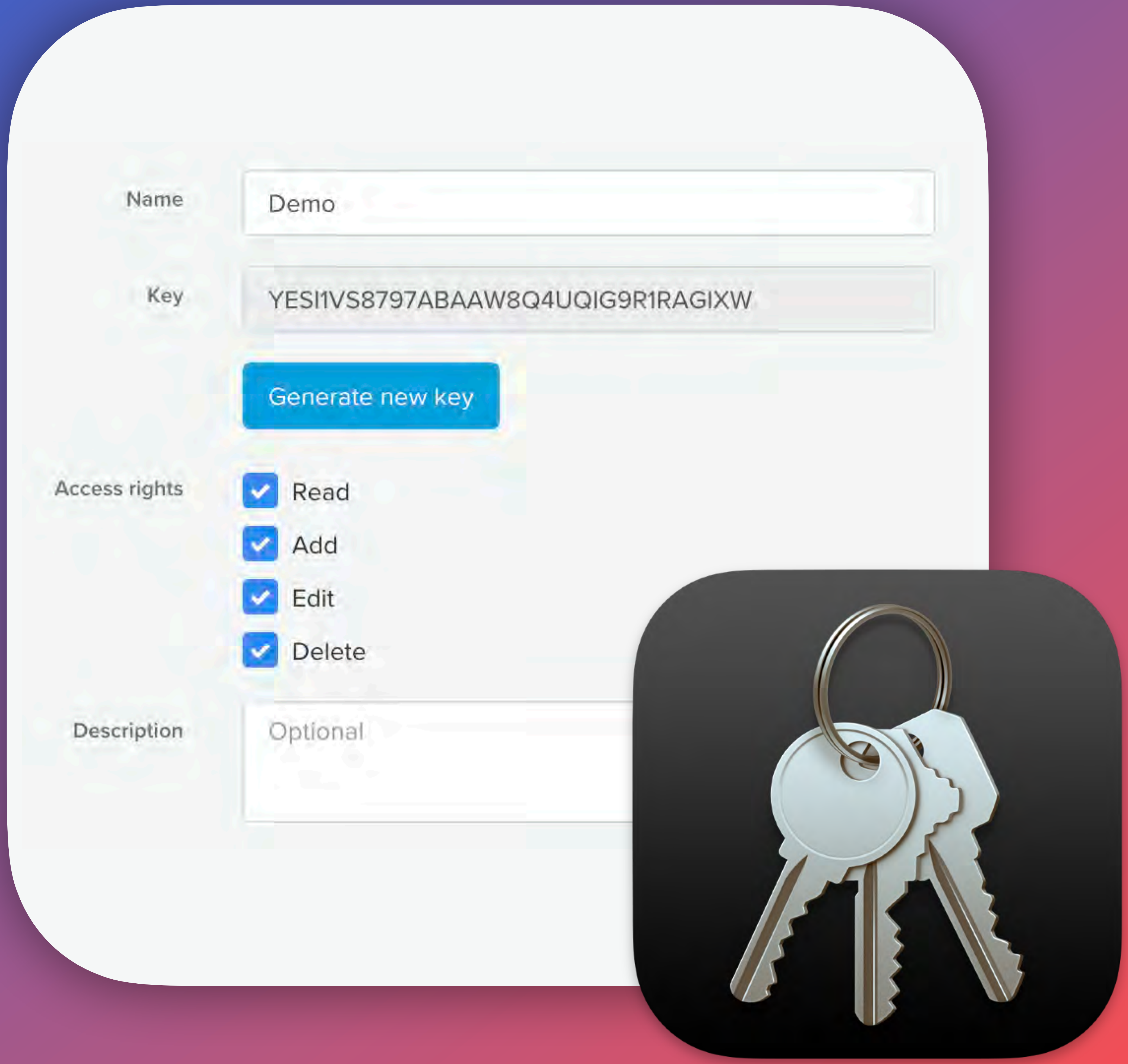
Search for “username”, “email” & “serialNumber” data points

Write information to local file

Battery above 80%

SKIP

API Authentication



Name: Demo

Key: YESI1VS8797ABAAW8Q4UQIG9R1RAGIXW

Generate new key

Access rights:
- ☑ Read
- ☑ Add
- ☑ Edit
- ☑ Delete

Description: Optional

? USERNAME = Network ID

Network ID: Devices ➡️ Enroll Device(s)

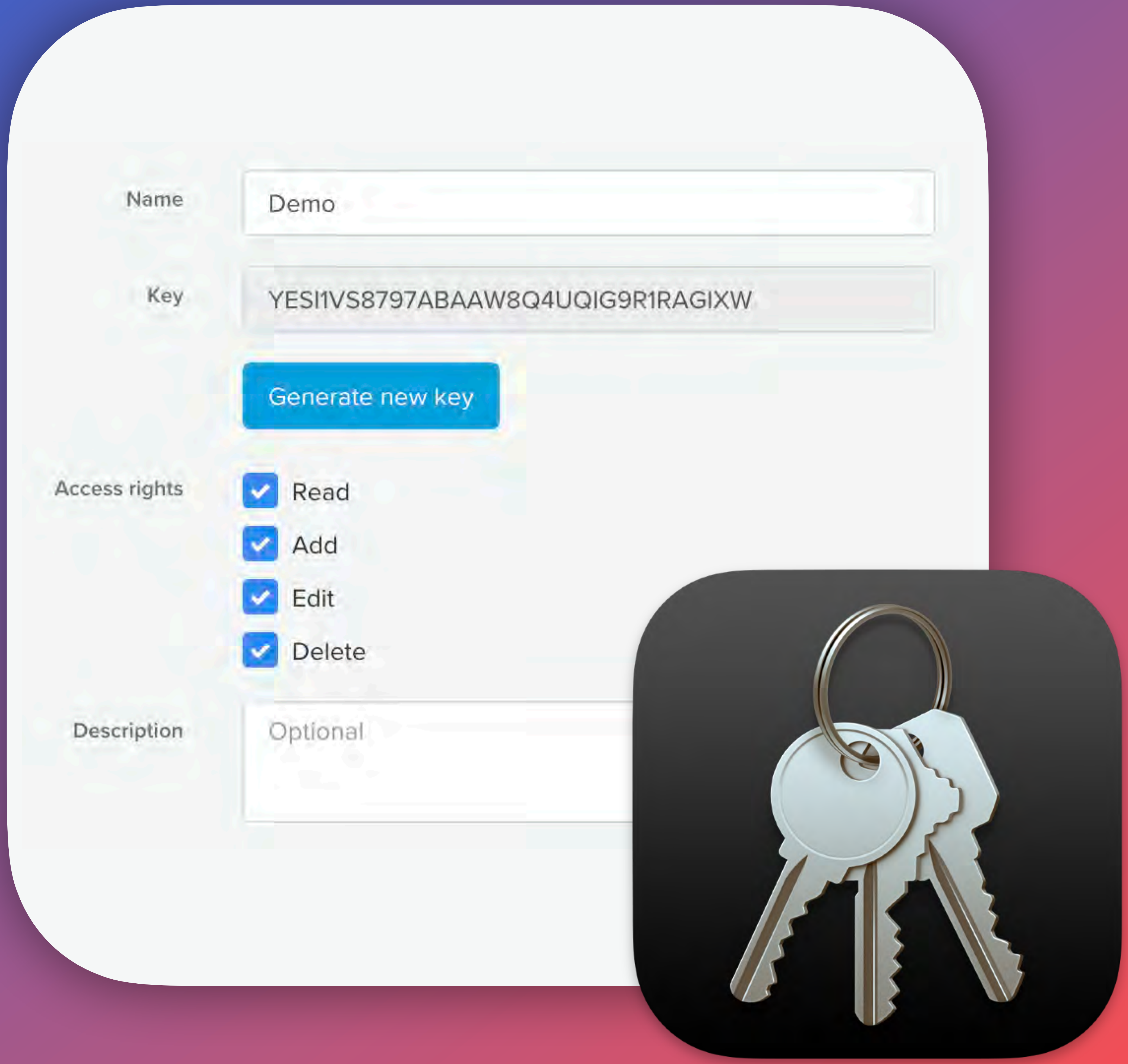
? PASSWORD = API Key

API Key: Organisation ➡️ Settings ➡️ API

? USERNAME:PASSWORD

Base 64 Encoded

API **Authentication**



Name: Demo

Key: YESI1VS8797ABAAW8Q4UQIG9R1RAGIXW

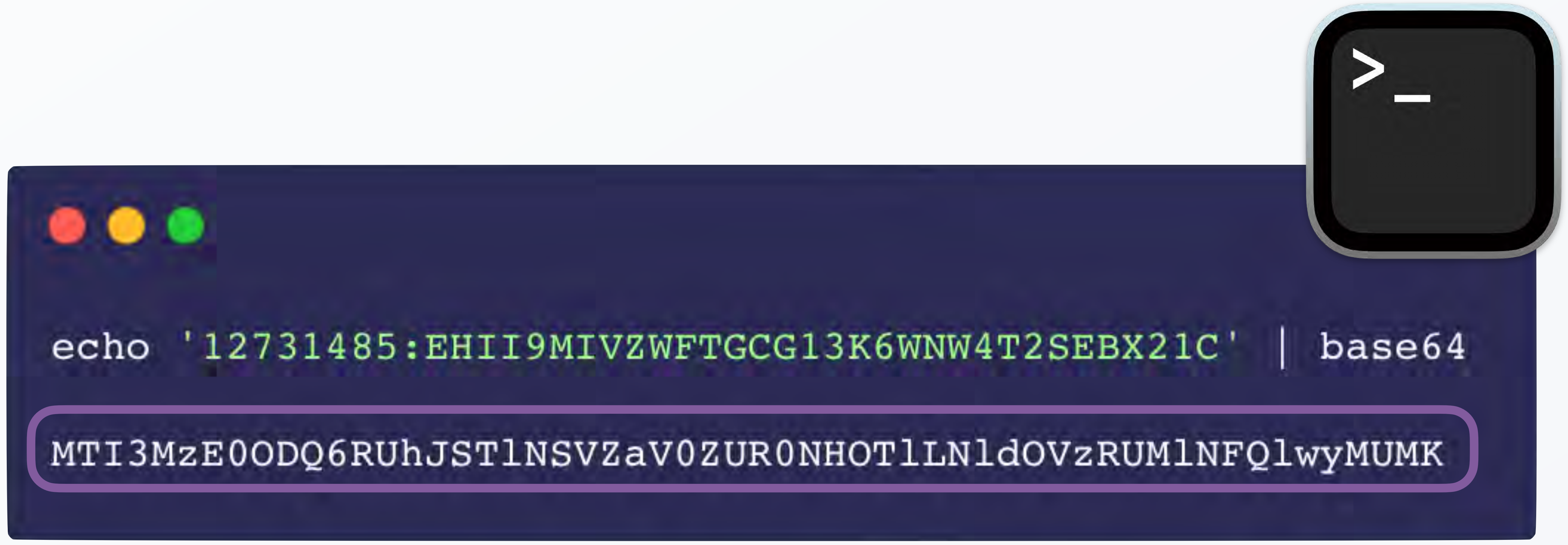
Access rights: ☑ Read ☑ Add ☑ Edit ☑ Delete

Description: Optional

?

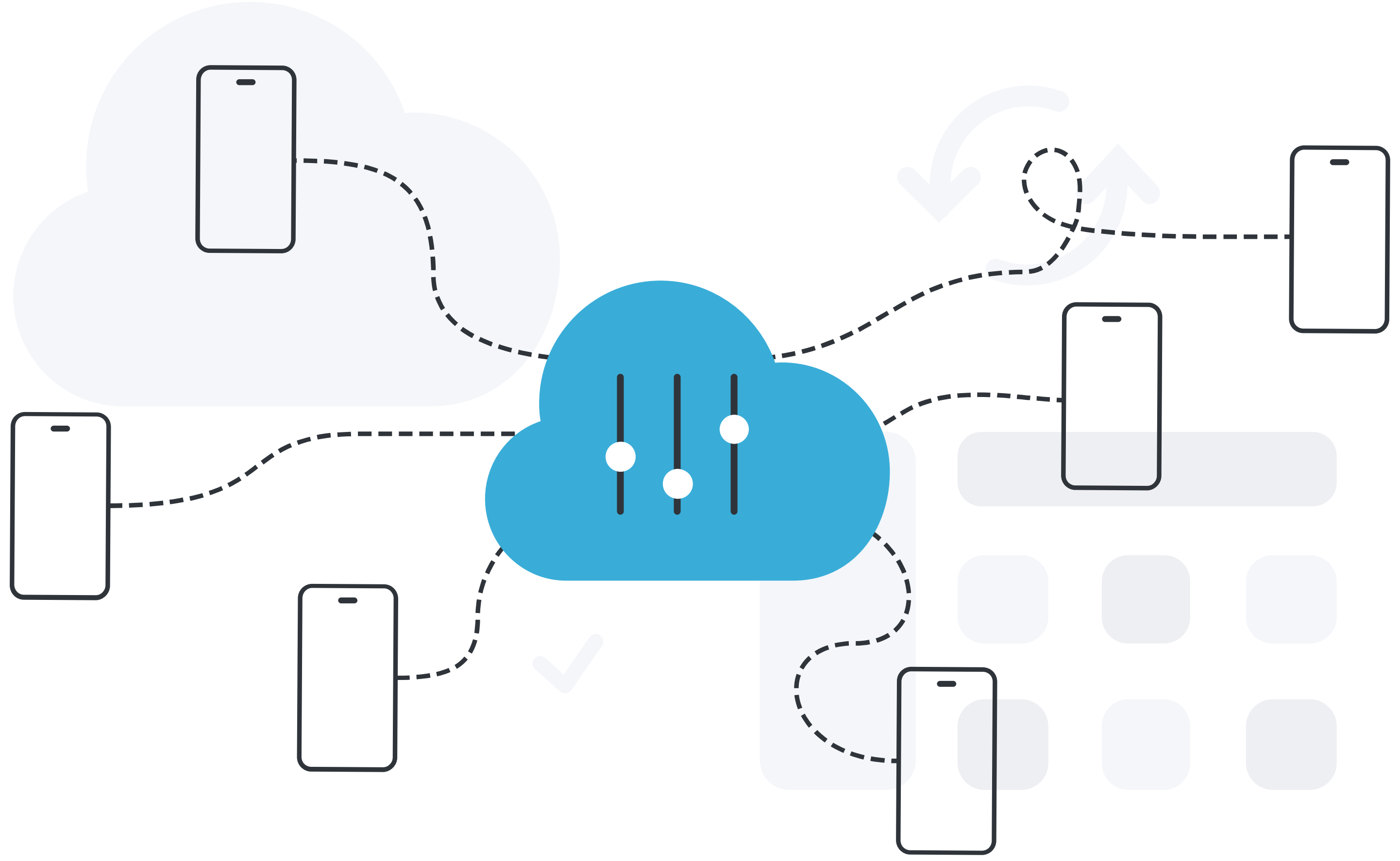
USERNAME:PASSWORD

Base 64 Encoded



```
echo '12731485:EHII9MIVZWFTGCG13K6WNW4T2SEBX21C' | base64
MTI3MzE0ODQ6RUhJSTlNSVZaV0ZUR0NHOTlLNldOVzRUMlNFQlwyMUMK
```

Making an **API Call**



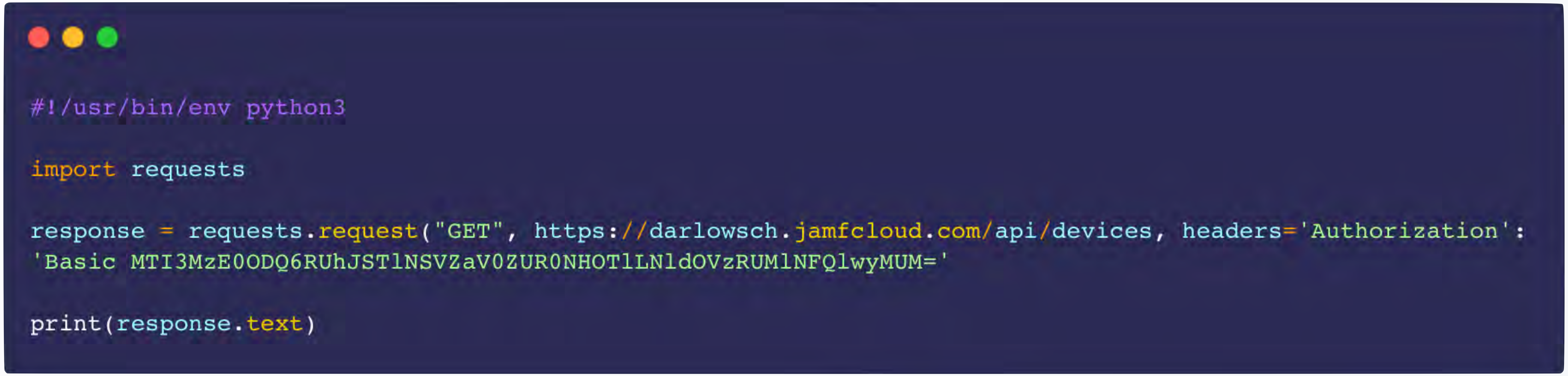
- ? Command
- ? Endpoint
- ? Authorisation

Making an **API Call**

? Command

? Endpoint

? Authorisation



```
#!/usr/bin/env python3

import requests

response = requests.request("GET", https://darlowsch.jamfcloud.com/api/devices, headers='Authorization':
'Basic MTI3MzE0ODQ6RUhJSTlNSVZaV0ZUR0NHOTlLNldOVzRUMlNFQlwyMUM='

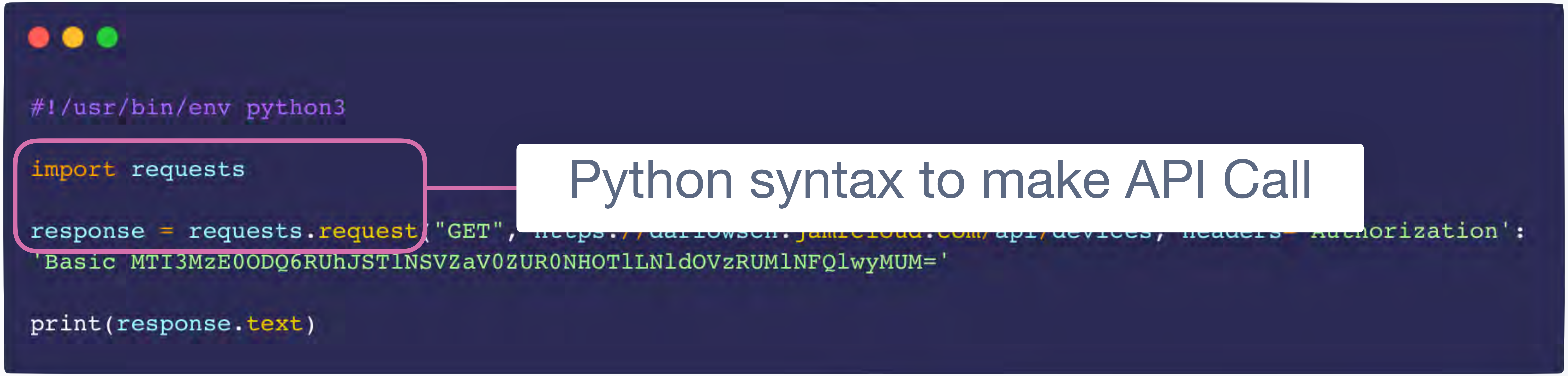
print(response.text)
```

Making an **API Call**

? Command

? Endpoint

? Authorisation



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print(response.text)
```

Python syntax to make API Call

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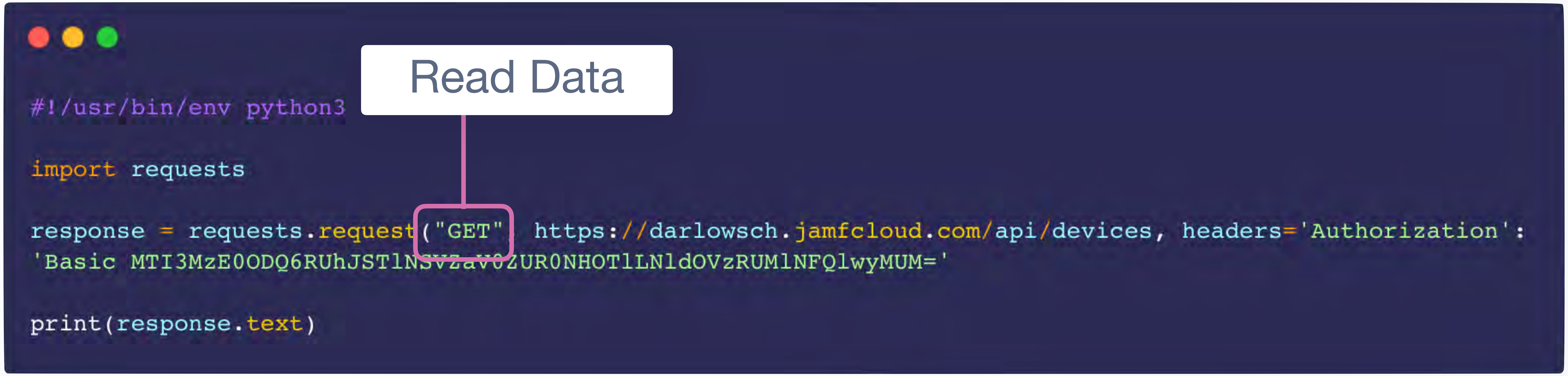
Making an **API Call**

? Command

? Endpoint

? Authorisation



Read Data

```
#!/usr/bin/env python3

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'Basic MTI3MzE0ODQ6RUhJSTlNSVZaV0ZUR0NHOTlLNldOVzRUM1NFQlwyMUM='

print(response.text)
```
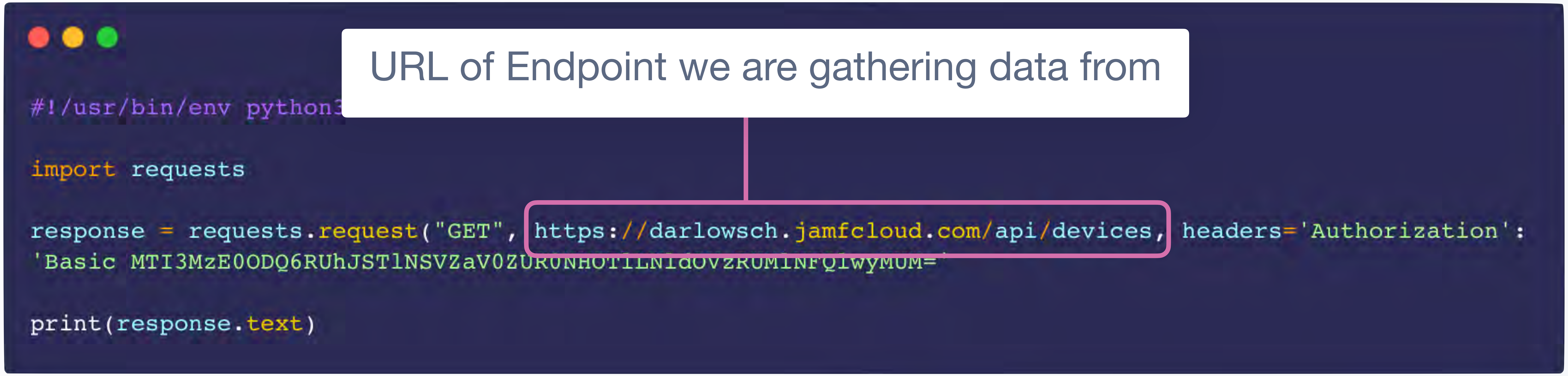

Making an **API Call**

? Command

? Endpoint

? Authorisation



URL of Endpoint we are gathering data from

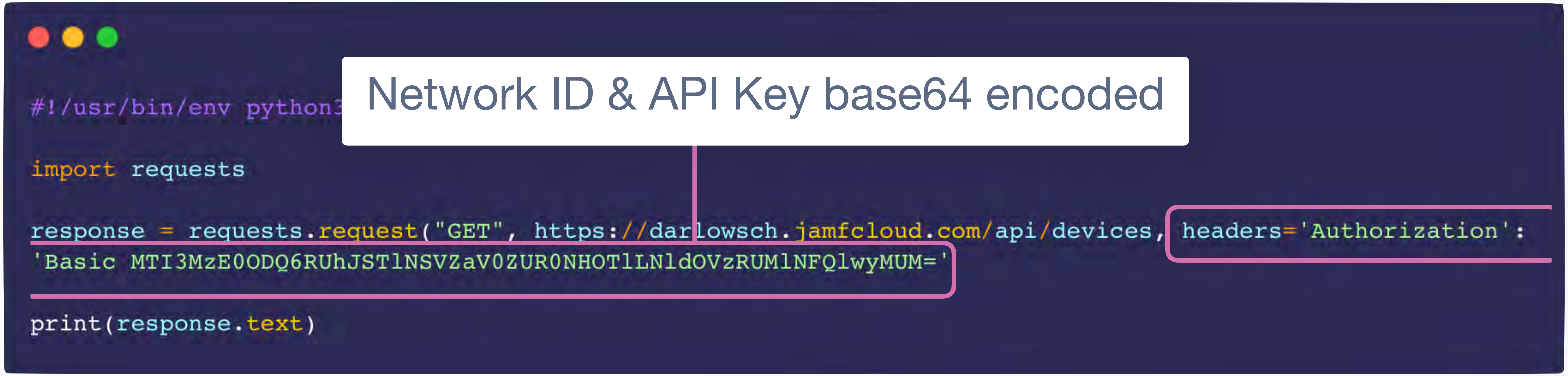
```
#!/usr/bin/env python3

import requests

response = requests.request("GET", https://darlowsch.jamfcloud.com/api/devices, headers='Authorization':
'Basic MTI3MzE0ODQ6RUhJSTlNSVZaV0ZURUNHOTlLNldOVzRUMlNFQlwyMUM='

print(response.text)
```

Making an **API Call**

? Command

? Endpoint

? Authorisation



Network ID & API Key base64 encoded

```
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import requests

response = requests.request("GET", https://darlowsch.jamfcloud.com/api/devices, headers='Authorization':
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Making an **API Call**

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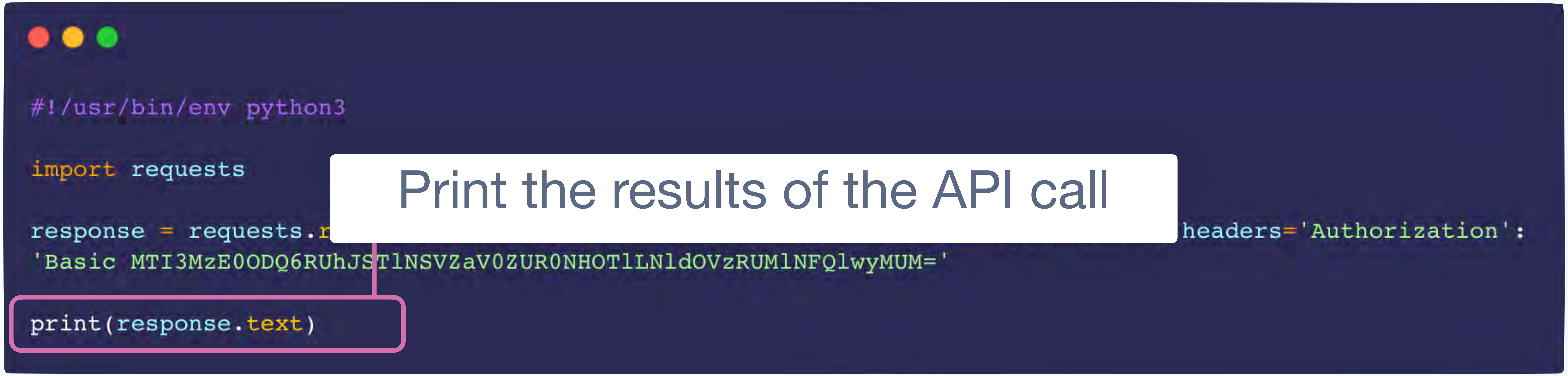

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print(response.text)
```

Print the results of the API call

Jamf School API — What can I do?

What can be done with **the Jamf School API?**

GET	Device or Student/Teacher Information, …
PUT	Assign Devices to a new owner, …
DELETE	Move old Devices to the Trash, …
POST	Create Classes, Wipe Devices, …

Extend Jamf School with the API

WORK SMARTER, NOT HARDER

1 **Check in** devices at crucial times of the day with **/devices/:udid/refresh**

2 **Clear Teacher restrictions** at the end of lesson slots with **/teacher/lessons/stop**

3 **Unassign Users** from devices en masse and make a record of **who owned** them with **/devices/:udid/owner & /devices/:udid/details**

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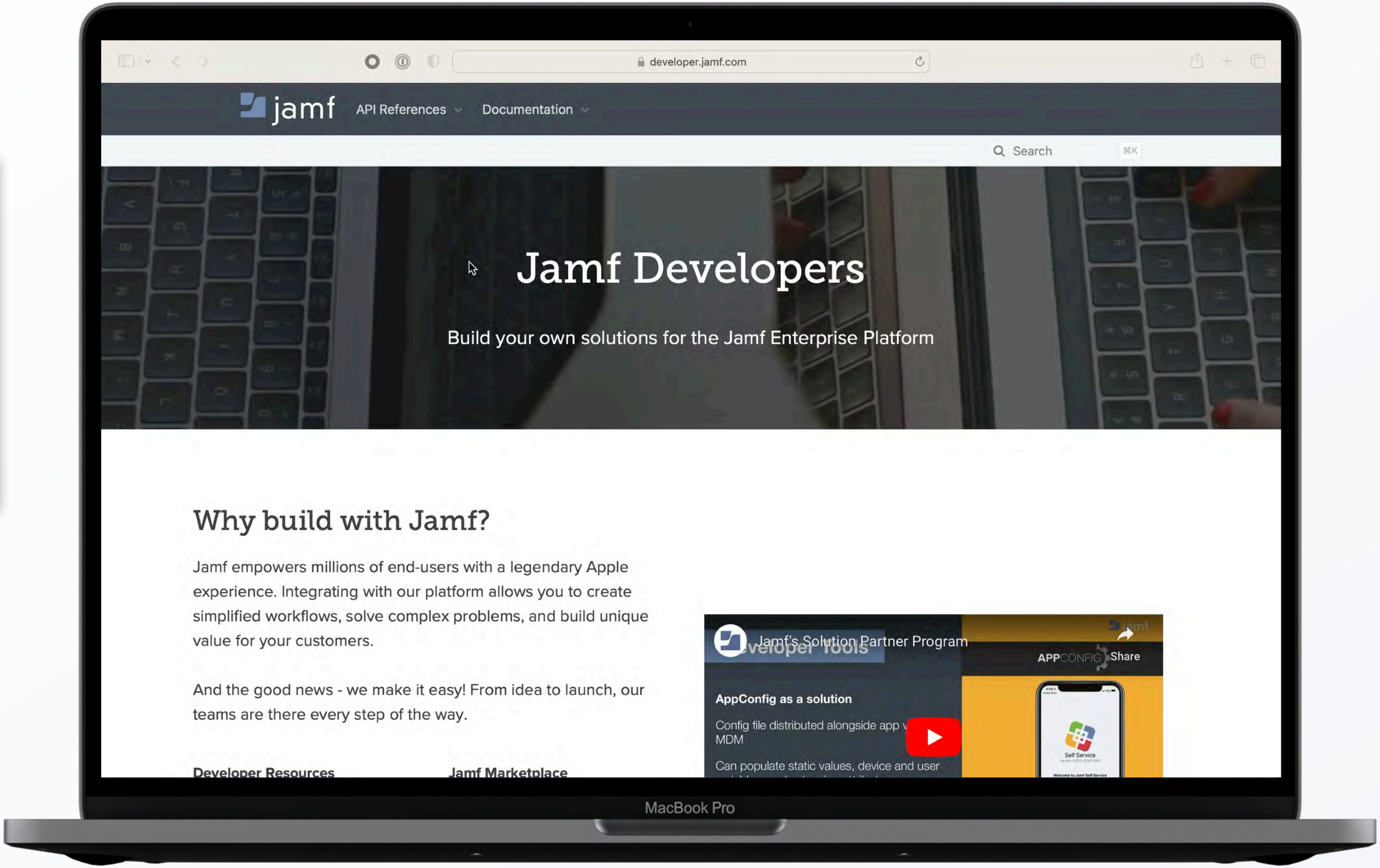
Jamf School API

What can I do?

developer.jamf.com



Jamf Developers

Build your own solutions for the Jamf Enterprise Platform

Why build with Jamf?

Jamf empowers millions of end-users with a legendary Apple experience. Integrating with our platform allows you to create simplified workflows, solve complex problems, and build unique value for your customers.

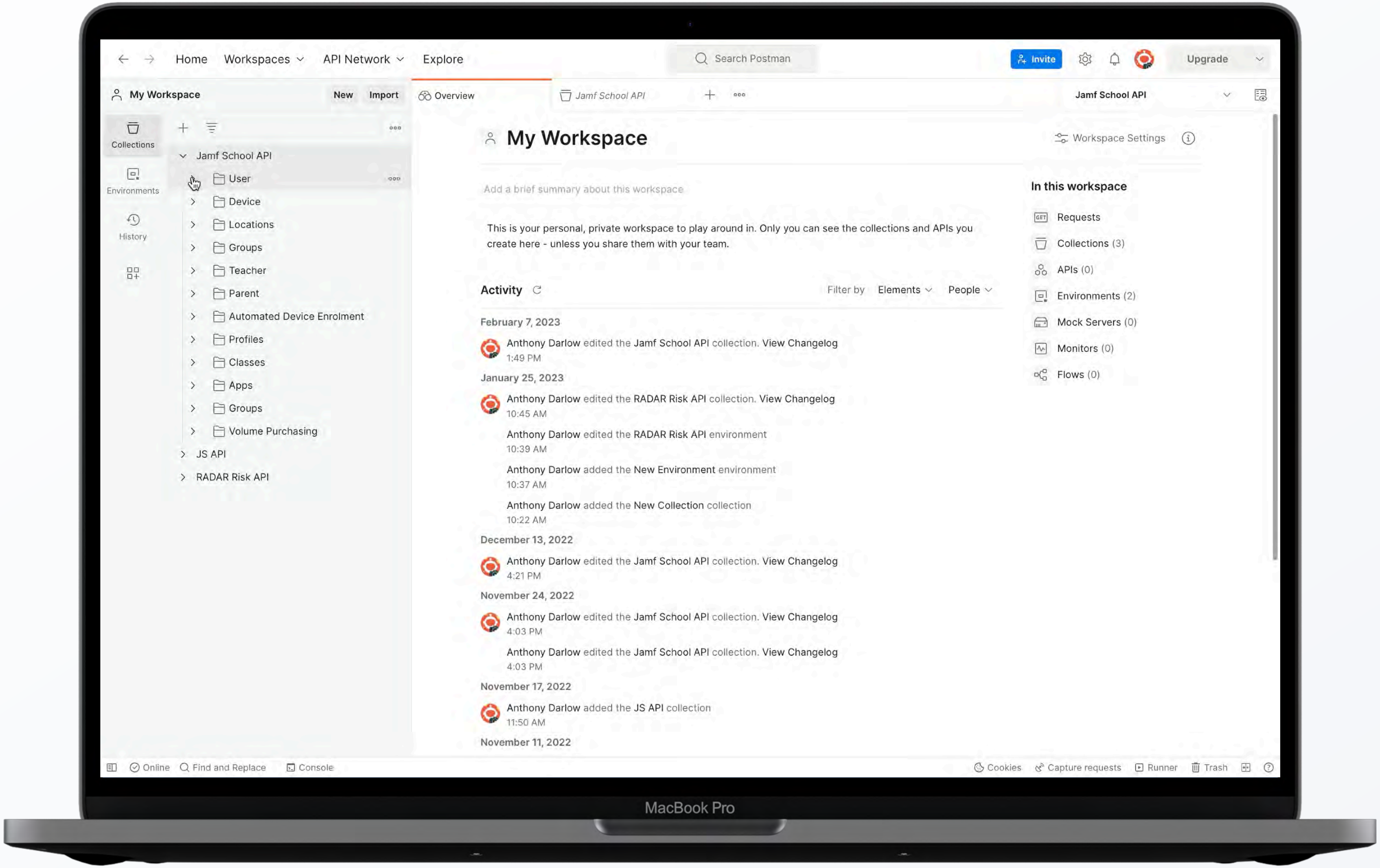
And the good news - we make it easy! From idea to launch, our teams are there every step of the way.

Developer Resources

Jamf Marketplace

Postman App

API interaction



My Workspace

Add a brief summary about this workspace

This is your personal, private workspace to play around in. Only you can see the collections and APIs you create here - unless you share them with your team.

Activity

February 7, 2023

Anthony Darlow edited the Jamf School API collection. View Changelog
1:49 PM

January 25, 2023

Anthony Darlow edited the RADAR Risk API collection. View Changelog
10:45 AM

Anthony Darlow edited the RADAR Risk API environment
10:39 AM

Anthony Darlow added the New Environment environment
10:37 AM

Anthony Darlow added the New Collection collection
10:22 AM

December 13, 2022

Anthony Darlow edited the Jamf School API collection. View Changelog
4:21 PM

November 24, 2022

Anthony Darlow edited the Jamf School API collection. View Changelog
4:03 PM

Anthony Darlow edited the Jamf School API collection. View Changelog
4:03 PM

November 17, 2022

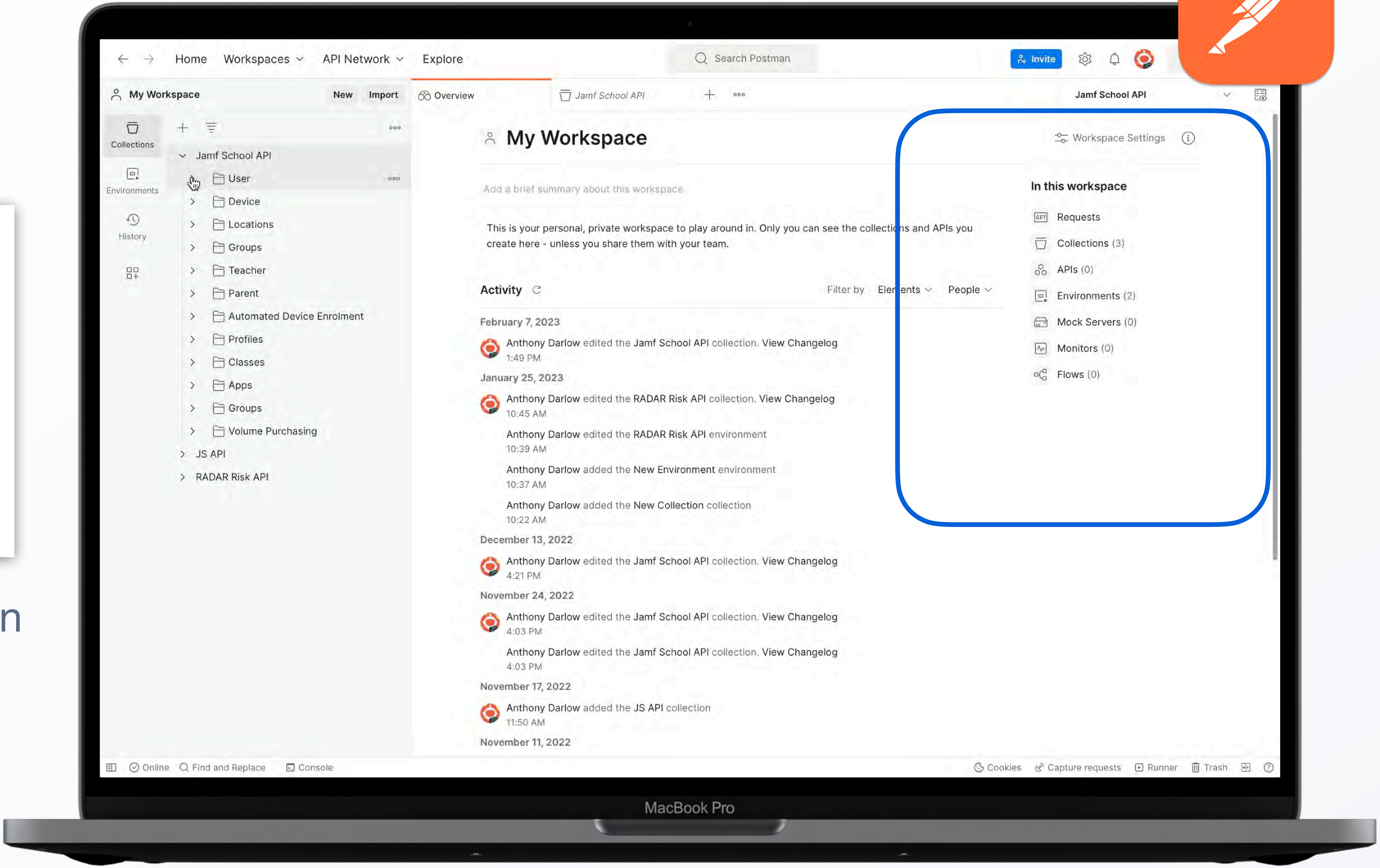
Anthony Darlow added the JS API collection
11:50 AM

November 11, 2022

Postman App

API interaction

Postman Collection



- Jamf School API
  - User
  - Device
  - Locations
  - Groups
  - Teacher
  - Parent
  - Automated Device Enrolment
  - Profiles
  - Classes
  - Apps
  - Groups
  - Volume Purchasing
- JS API
- RADAR Risk API

My Workspace

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This is your personal, private workspace to play around in. Only you can see the collections and APIs you create here - unless you share them with your team.

In this workspace

- Requests
- Collections (3)
- APIs (0)
- Environments (2)
- Mock Servers (0)
- Monitors (0)
- Flows (0)

Activity

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November 17, 2022

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11:50 AM

November 11, 2022

Power Up Jamf School

1 | **What is an API?**

A useful tool when working with web applications

2 | **API Endpoints**

Communicate with specific parts of a web application

3 | **Interacting with the Jamf School API**

Making API calls to Jamf School requires the command, endpoint and username & password

4 | **Extend the Power of Jamf School**

We'll finish up by thinking about real world situations where the API could power up your workflow

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Thank You!

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