



ANALYTICS AND DATA  
**TechCasts**

# Automating Oracle Analytics Cloud Administration with REST APIs

Joel Acha

Independent Consultant

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Mar 6th

Automating Oracle Analytics Cloud Administration with REST APIs

Presented by [Joel Acha](#)



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Exploring Relationships in Your Data With Oracle Analytic Cloud (OAC)

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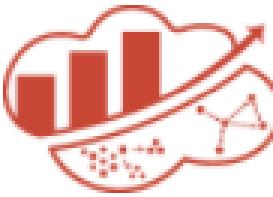
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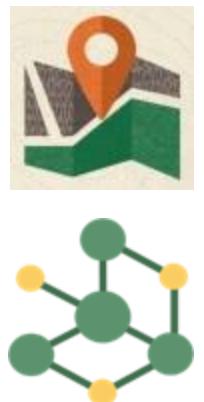
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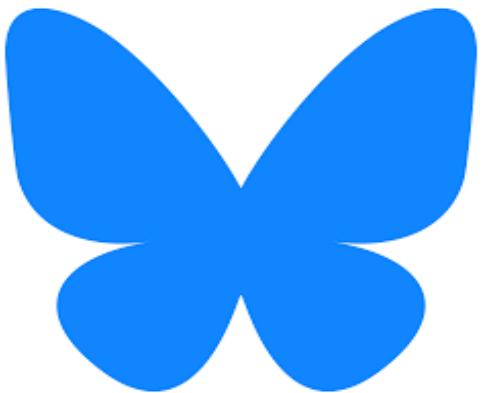
<https://www.linkedin.com/company/analytics-and-data-oracle-user-community>



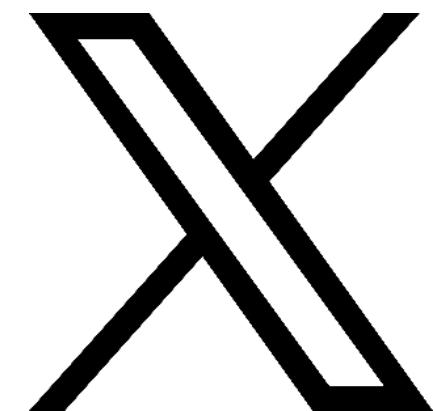
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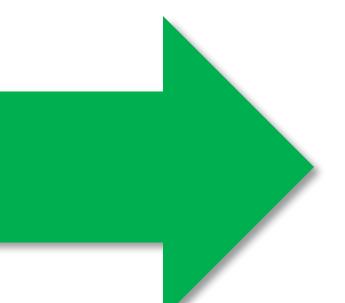
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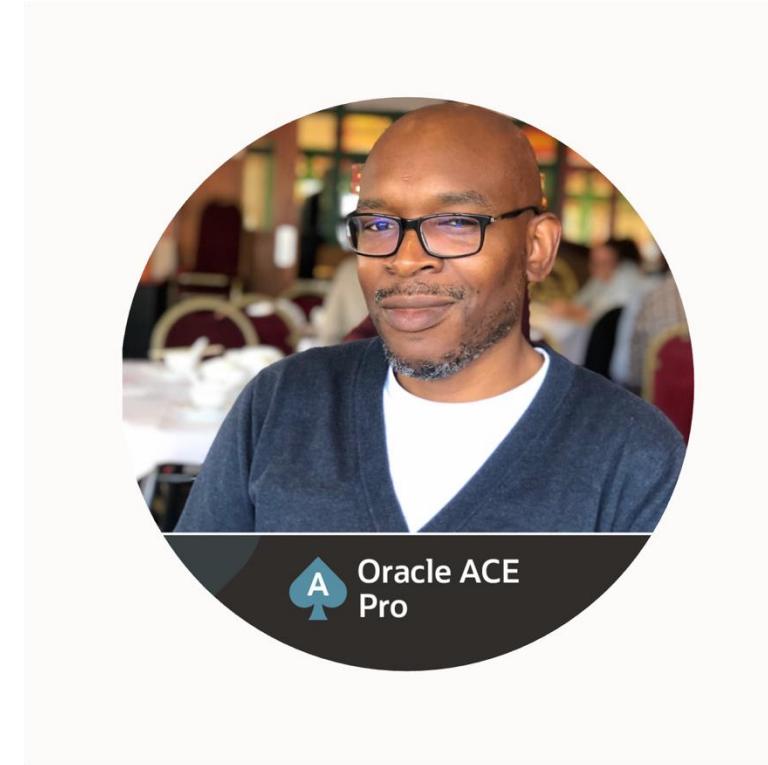
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<https://andouc.org/andsummit2025/>

Use codes **BLAST150** and **DAY50** for **full** and  
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# Introduction



**Joel Acha**



[elffar.co.uk/blog](http://elffar.co.uk/blog)



[linkedin.com/in/joelacha](https://linkedin.com/in/joelacha)



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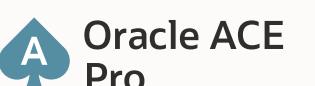
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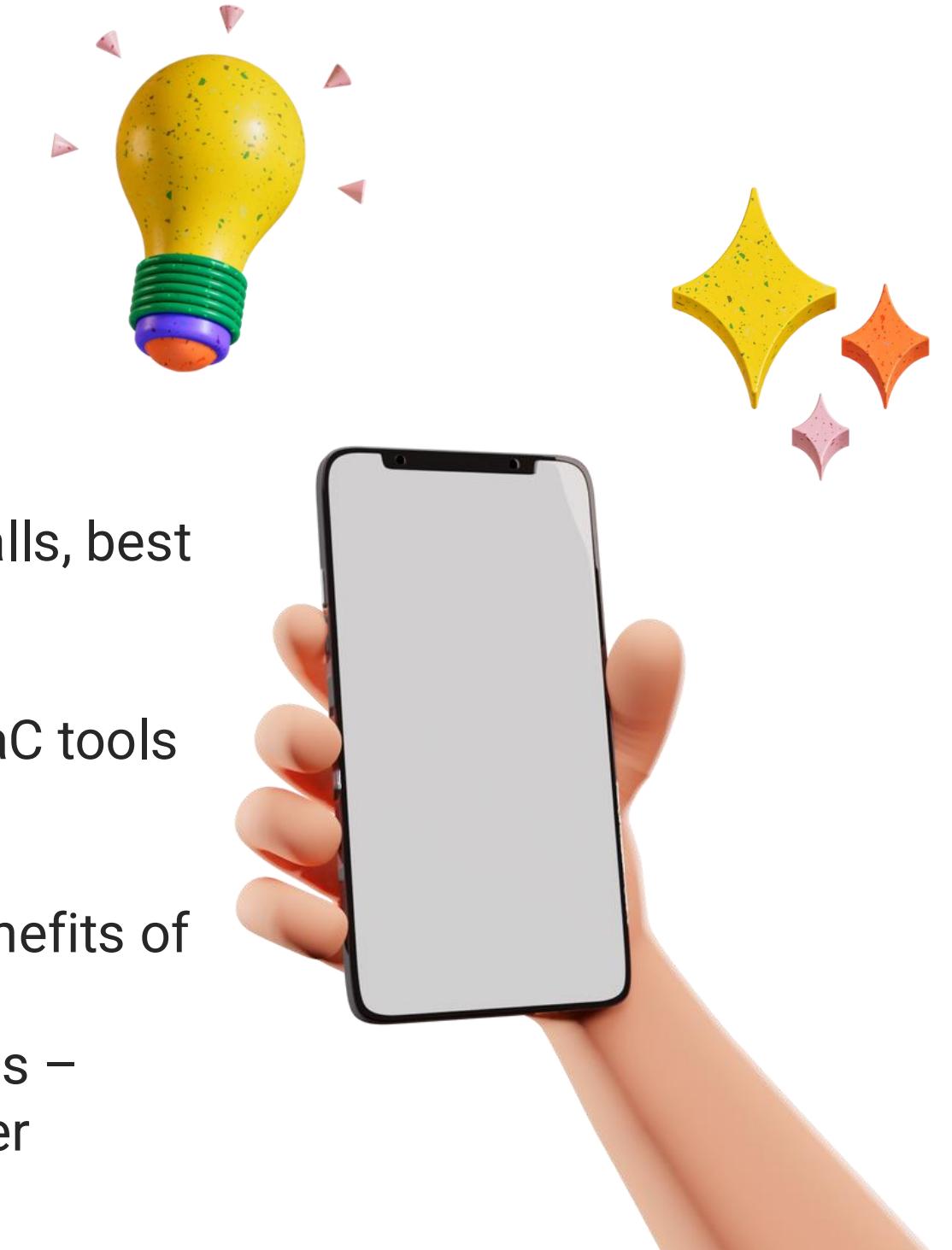
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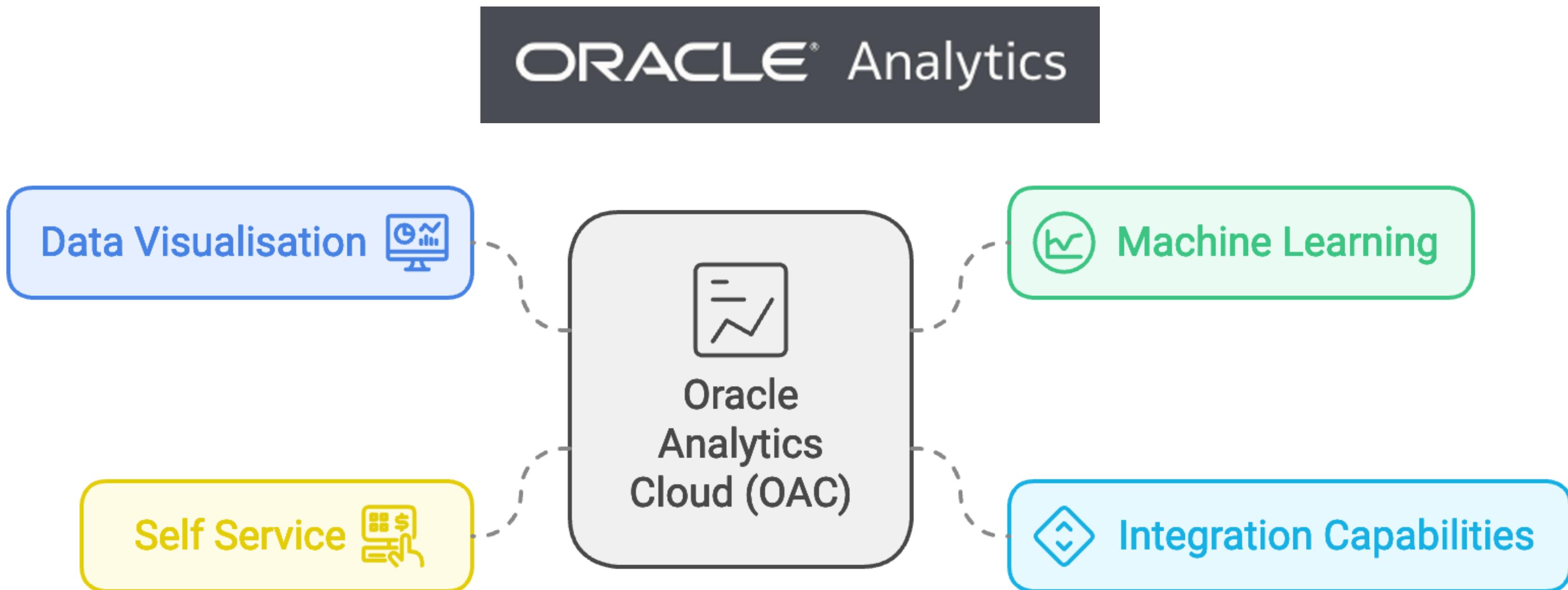


# Agenda

- Introduction – OAC, REST APIs, and benefits of automation
- Automation Use Cases – Content deployment, User Management, Disaster Recovery
- REST API Fundamentals – Key concepts and request structure
- Practical Examples – API calls, best practices, error handling
- Infrastructure-as-Code – Integrating OAC APIs with IaC tools
- Case Study – Real-world benefits of API automation
- Key Takeaways & Resources – Essential insights and further learning



# Overview of Oracle Analytics Cloud (OAC)



# REST APIs in OAC – Introduction

## ▼ OAC REST APIs

**GET** Get System Settings

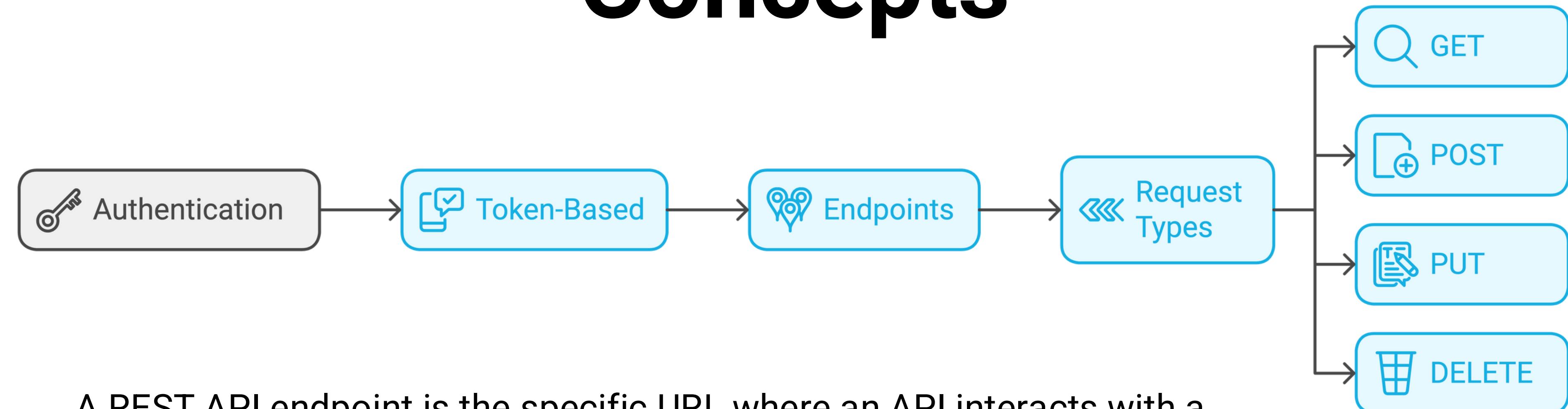
**POST** Stop Analytics Instance

**GET** Get System Settings 2

**POST** Get Refresh Token - Step 3

- > **GET** Get details of an Analytics inst...
- > **GET** List Datasets
- > **GET** List Catalog Object Types
- > **GET** List Workbook Catalog Objects
- > **GET** List Workbook info using ID
- > **GET** List Workbook ACL

# Key REST API Concepts



A REST API endpoint is the specific URL where an API interacts with a server to access a resource or perform an action.

[https://<OAC\\_hostname>.analytics.ocp.oraclecloud.com/api/20210901/system](https://<OAC_hostname>.analytics.ocp.oraclecloud.com/api/20210901/system)

[Using Auth Code to get a token in Postman](#)

# Calling REST API Endpoints

## Using cURL (Command Line)

- Enter a command with

```
curl -X <METHOD>
```

to specify the request type (e.g., GET, POST).

- Add headers with

```
-H (e.g., -H "Authorization: Bearer <token>") .
```

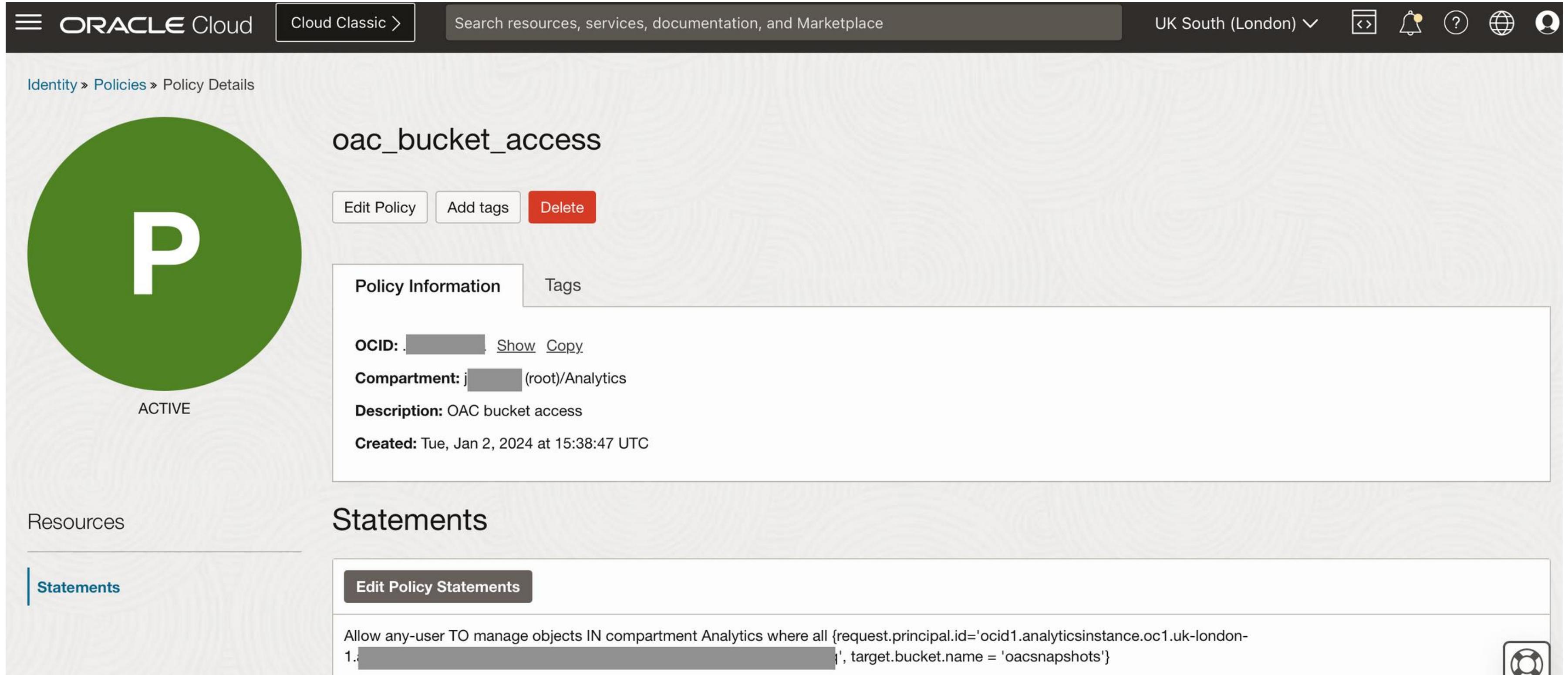
- Include payload data for POST/PUT requests using

```
-d (e.g., -d '{"key": "value"}') .
```

## Using Postman

- Select the HTTP method and enter the endpoint URL.
- Go to Authorization to add the token (if needed).
- Under Body, enter payload data in JSON format for POST/PUT requests.

# Prerequisites



The screenshot shows the Oracle Cloud Identity Policies page. At the top, there is a navigation bar with the Oracle Cloud logo, a search bar, and account information for UK South (London). Below the navigation bar, the URL indicates the user is in the Identity section under Policies.

**Policy Details:**

- Name:** oac\_bucket\_access
- Status:** ACTIVE
- Actions:** Edit Policy, Add tags, Delete

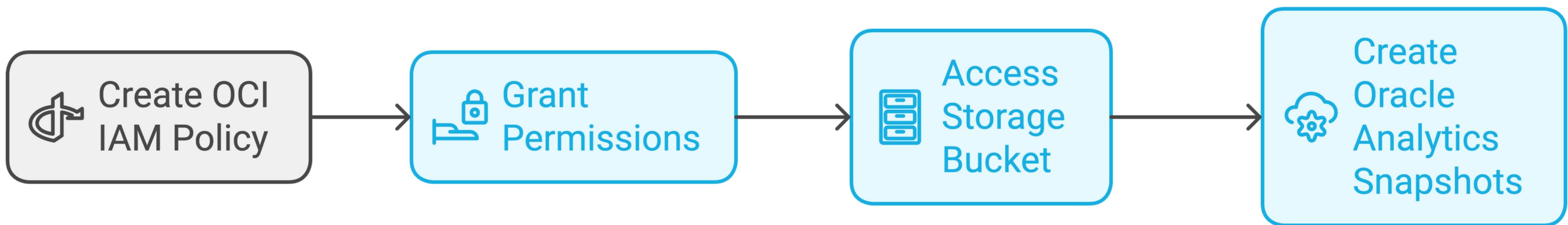
**Policy Information:**

- OCID:** [REDACTED] [Show](#) [Copy](#)
- Compartment:** j [REDACTED] (root)/Analytics
- Description:** OAC bucket access
- Created:** Tue, Jan 2, 2024 at 15:38:47 UTC

**Statements:**

- Edit Policy Statements**
- Allow any-user TO manage objects IN compartment Analytics where all {request.principal.id='ocid1.analyticsinstance.oc1.uk-london-1.[REDACTED]', target.bucket.name = 'oacsnapshots'}

# OCI IAM Policy Required for Snapshots



Create an OCI IAM policy that grants your Oracle Analytics Cloud instance access to a storage bucket using resource principal authentication.

Allow any-user TO manage objects IN compartment Analytics where all  
{request.principal.id='ocid1.analyticsinstance.oc1.uk-london-

1. [REDACTED], target.bucket.name =  
'oacsnapshots'}

# Prerequisites - “Optional”

## Create Storage Bucket Logs

Object Storage > Bucket Details > Objects

**B**

You can use **10 GiB** of Object Storage and **10 GiB** of Archive Storage for free in your home region. You are using approximately **5.73 MiB** of combined Object Storage and Archive Storage. If you use more than **20 GiB** and have not upgraded when your Free Trial ends, your data is deleted. [Show details](#).

**oacsnapshots**

Edit Visibility Move Resource Re-encrypt Add tags Delete

Bucket Information Tags

**General**

Namespace: [REDACTED]  
Compartment: [Analytics](#)  
Created: Thu, Jan 11, 2024 at 15:20:20 UTC  
ETag: [REDACTED]  
OCID: [REDACTED] [Show](#) [Copy](#)

**Features**

Default Storage Tier: Standard  
Visibility: Private  
Encryption Key: Oracle managed key [Assign](#)  
Auto-Tiering:  Disabled [Edit](#) ⓘ  
Emit Object Events:  Disabled [Edit](#) ⓘ  
Object Versioning:  Disabled [Edit](#) ⓘ

**Usage**

Approximate Object Count: 2 objects ⓘ  
Approximate Size: 2.92 KIB ⓘ  
Uncommitted Multipart Uploads Approximate Count: 0 uploads ⓘ  
Uncommitted Multipart Uploads Approximate Size: 0 bytes ⓘ

Resources Logs

Category	Status	Log Name	Log Group	Enable Log
Read Access Events	● Active	<a href="#">oacsnapshots_read</a>	<a href="#">OAC_Log_Group</a>	<input checked="" type="checkbox"/> Enabled
Write Access Events	● Active	<a href="#">oacsnapshots_write</a>	<a href="#">OAC_Log_Group</a>	<input checked="" type="checkbox"/> Enabled

Showing 2 items

Logs

13

# Executing an API call in Postman

## Triggering an OAC snapshot via the *snapshots* endpoint

The screenshot shows the Postman interface with the following details:

- Request Method:** POST
- Request URL:** {{baseURL}} /api/20210901/snapshots
- Body Content (JSON):**

```
1 {
2   "type": "CREATE",
3   "name": "demosnapshot",
4   "storage": {
5     "type": "OCI_NATIVE",
6     "bucket": "oacsnapshots",
7     "auth": {
8       "type": "OCI_RESOURCE_PRINCIPAL"
9     }
10 },
11   "bar": {
12     "uri": "file:///demo/demosnapshotI.bar",
13     "password": "AnDOUC2025!"
14 }
```

- Response Status:** 202 Accepted
- Response Body (Pretty):**

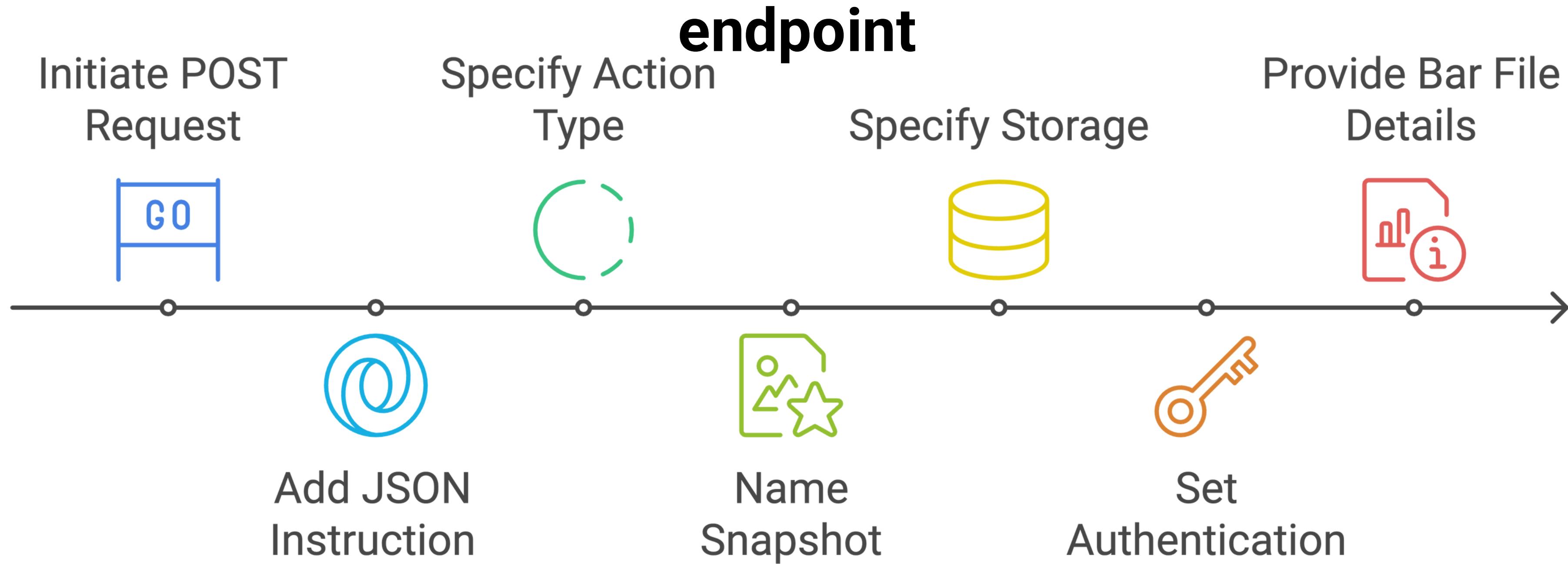
```
1 {
2   "workRequestId": "lfc-c0:51-c1:10381"
3 }
```

- POST method used
- Add JSON format instruction to the Body of the API

```
"type": "CREATE",
"name": "demosnapshot",
"storage": {
  "type": "OCI_NATIVE",
  "bucket": "oacsnapshots",
  "auth": {
    "type": "OCI_RESOURCE_PRINCIPAL"
  }
},
"bar": {
  "uri": "file:///demo/demosnapshotII.bar",
  "password": "AnDOUC2025!"
}
```

# Executing an API call in Postman

Triggering an OAC snapshot via the *snapshots*



# Executing an API call in Postman

## Triggering an OAC snapshot via the *snapshots* endpoint

The screenshot shows the Postman interface with the following details:

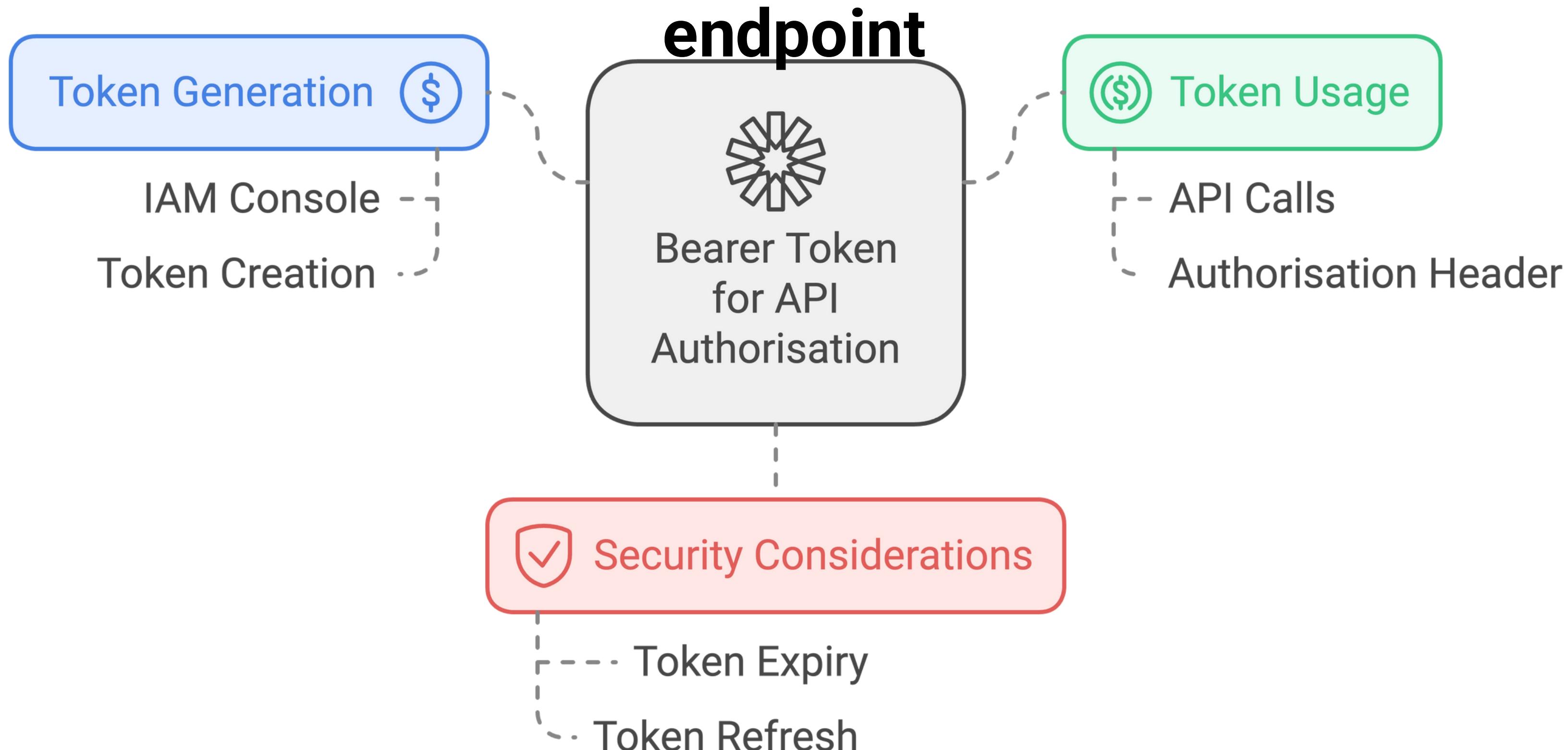
- Request Method:** POST
- Request URL:** {{baseURL}} /api/20210901/snapshots
- Auth Type:** Bearer Token
- Token:** eyJ4NXQjUzl1Nii6ljN3NW1xUC03QzB4TENmTzJ ZU0ZSU0U3ZH... (A long string of characters)
- Response Status:** 202 Accepted
- Response Body:**

```
1 {  
2 |   "workRequestId": "lfc-c0:51-c1:10381"  
3 }
```

- Bearer Token used for Authorisation
- Use token generated in the IAM console to execute the API

# Executing an API call in Postman

## Triggering an OAC snapshot via the *snapshots*



# Snapshot Files

ORACLE Cloud | Cloud Classic > Search resources, services, documentation, and Marketplace | UK South (London) | ☰ 🔔 ⓘ ⌂

Object Storage > Bucket Details

**oacsnapshots**

Edit Visibility | Move Resource | Re-encrypt | Add tags | Delete

Bucket Information | Tags

**General**

Namespace: lrnwfk03qqh  
Compartment: Analytics  
Created: Thu, Jan 11, 2024 at 15:20:20 UTC  
ETag: [REDACTED]  
OCID: [REDACTED] Show Copy.

**Usage**

Approximate Object Count: 3 objects ⓘ  
Approximate Size: 4.87 MiB ⓘ  
Uncommitted Multipart Uploads Approximate Count: 0 uploads ⓘ  
Uncommitted Multipart Uploads Approximate Size: 0 bytes ⓘ

**Features**

Default Storage Tier: Standard  
Visibility: Private  
Encryption Key: Oracle managed key Assign  
Auto-Tiering: Disabled Edit ⓘ  
Emit Object Events: Disabled Edit ⓘ  
Object Versioning: Disabled Edit ⓘ

**Resources**

**Objects**

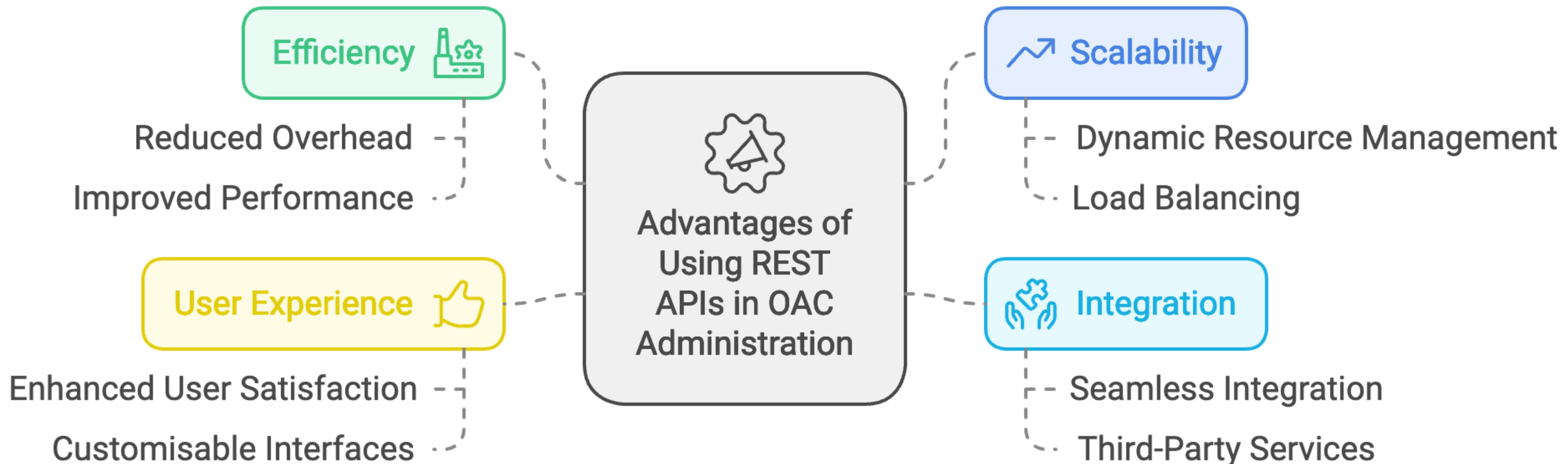
Location: demo

Upload | More Actions | Search by prefix

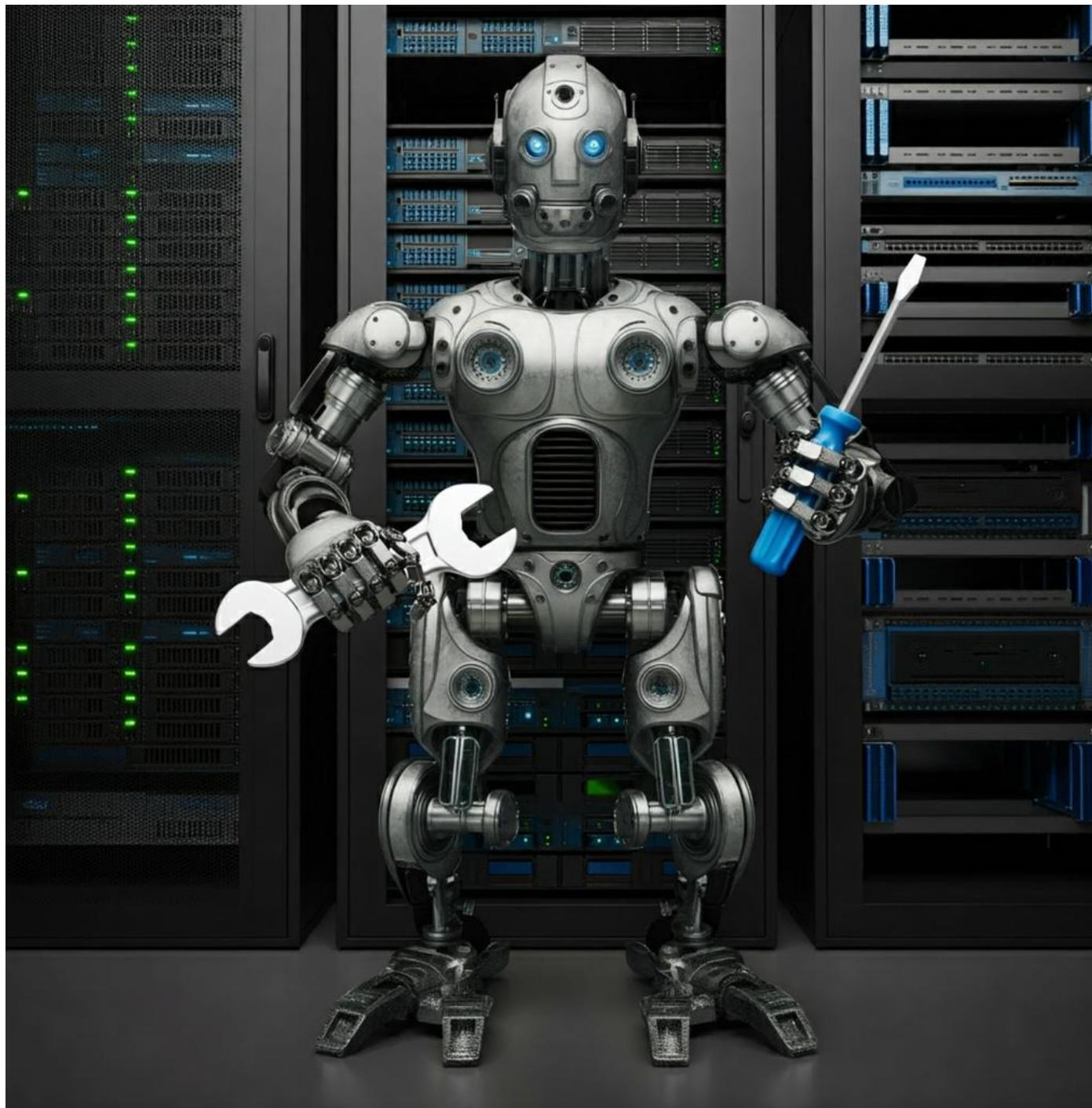
<input type="checkbox"/>	Name	Last Modified	Size	Storage Tier
<input type="checkbox"/>	demosnapshot1.bar	Sat, Nov 23, 2024 at 21:44:14 UTC	4.87 MiB	Standard
<input type="checkbox"/>	demosnapshot11.bar	Sat, Nov 23, 2024 at 22:12:14 UTC	4.86 MiB	Standard

Objects Metrics Pre-Authenticated Requests Work Requests Lifecycle Policy Rules Replication Policy Retention Rules Uncommitted Multipart Uploads Logs

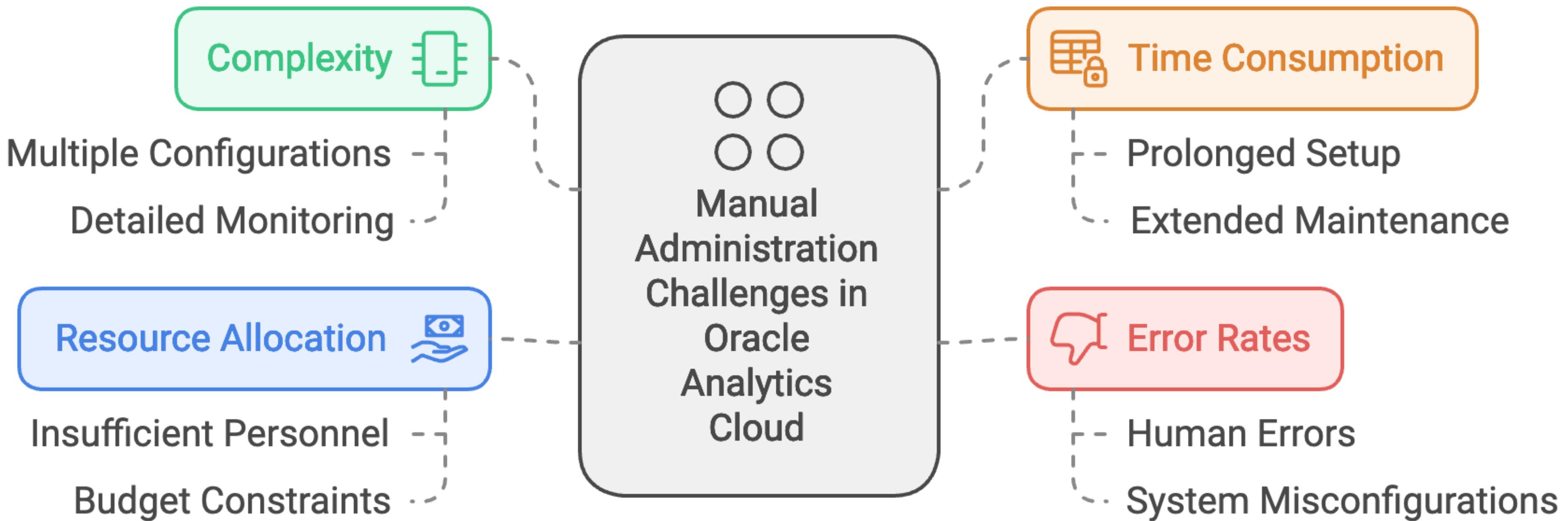
# Advantages of Using REST APIs in OAC Administration



# Why Automate OAC Administration?



# Manual Administration Challenges in Oracle Analytics Cloud



# Benefits of Automation in OAC



Speed



Scalability



Reliability

# Overview of Administration Tasks

## Suited for Automation in OAC

Automating Administration in Oracle Analytics Cloud



# Automating Content Deployment with REST APIs



# Supported Artifacts

## include



Folders



Workbooks



Subject Areas



Analyses



Dashboards



Dashboard



Pages



Reports



Connections



Datasets



Data Flows



Sequences



Scripts



Semantic  
Models

# Automating Content Deployment with REST APIs

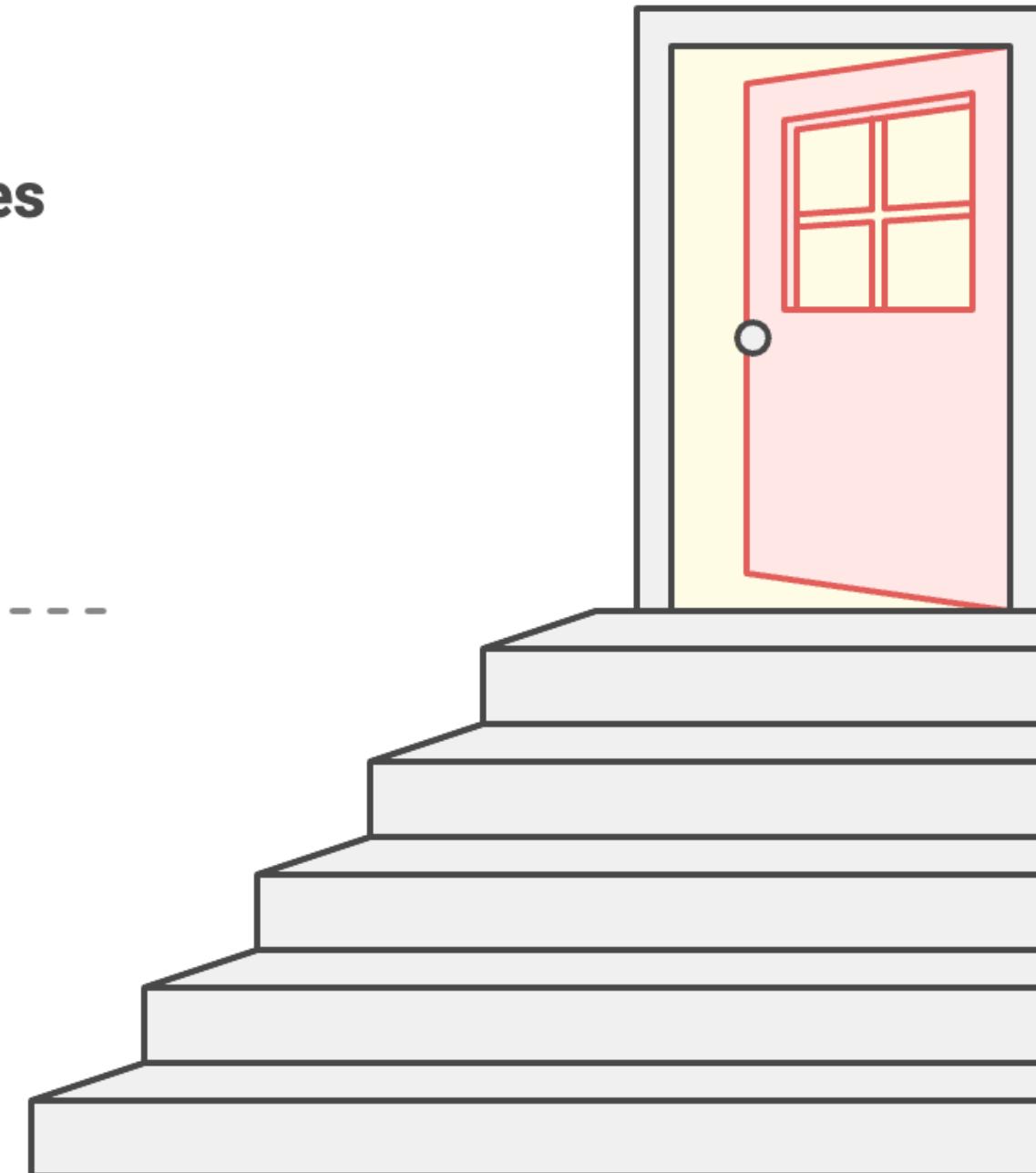
Streamline analytics deployment through automation for enhanced efficiency.

## Manual deployment processes

Time-consuming and error-prone.

## Automated deployment systems

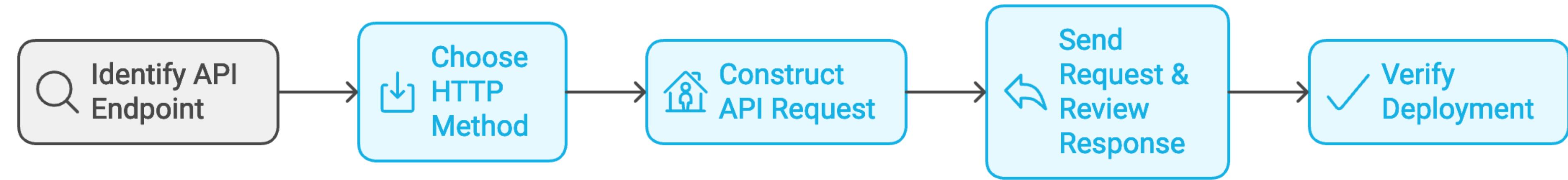
Consistent and reliable analytics delivery.



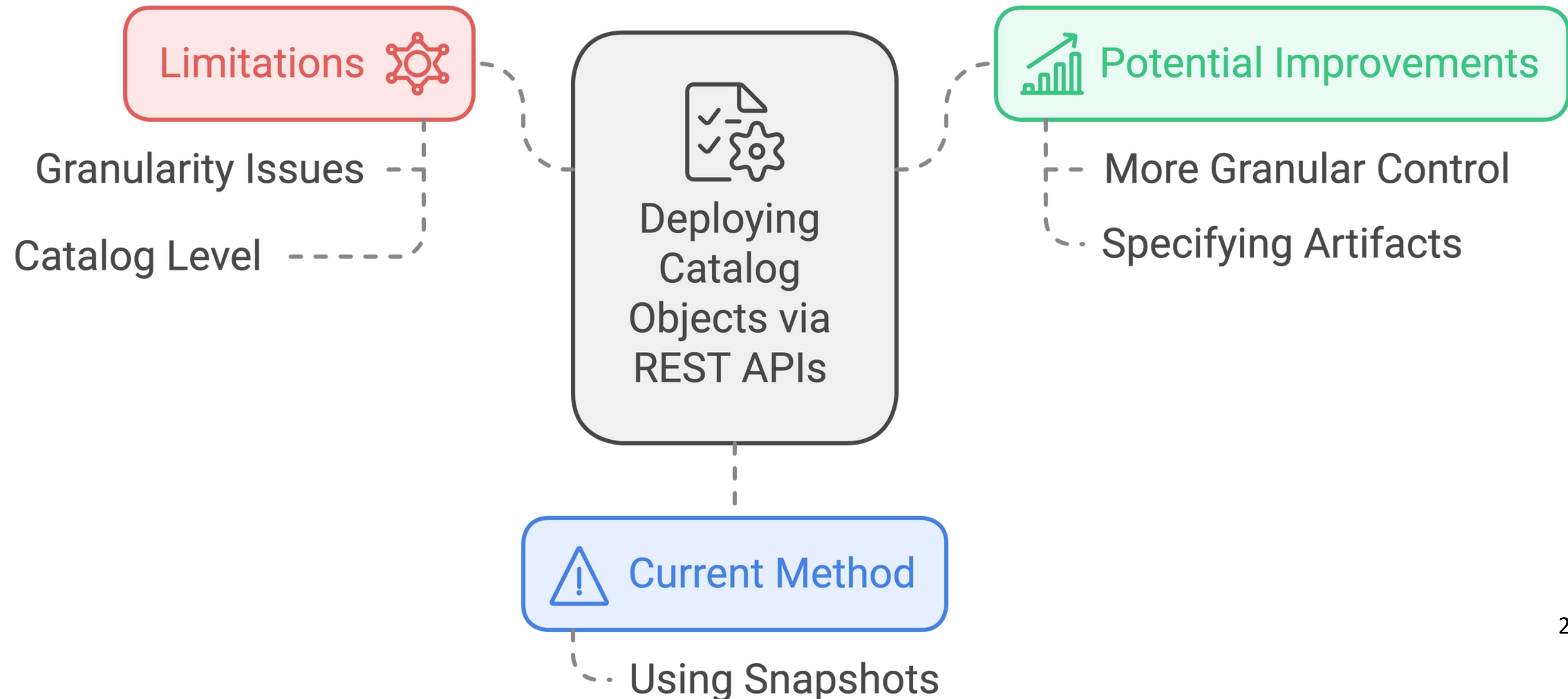
# Step-by-Step Deployment API

## Process

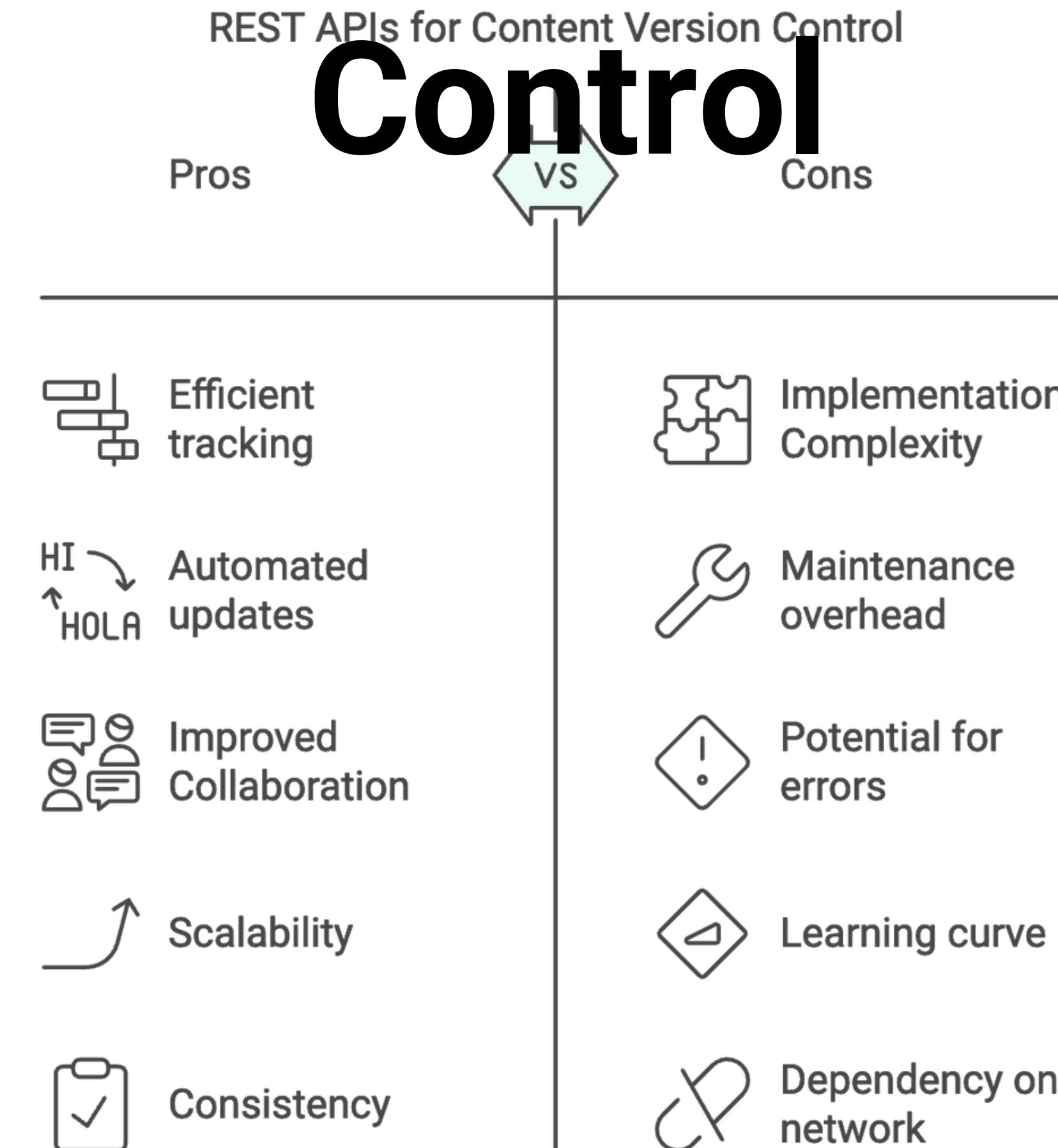
### Overview of calls and responses



# Use of REST APIs for Deploying Catalog Objects



# Content Version



# Backups & Disaster Recovery



# Importance of Disaster Recovery Planning in OAC

## Disaster Recovery Planning



# Key Outcomes



Efficiency  
Gains

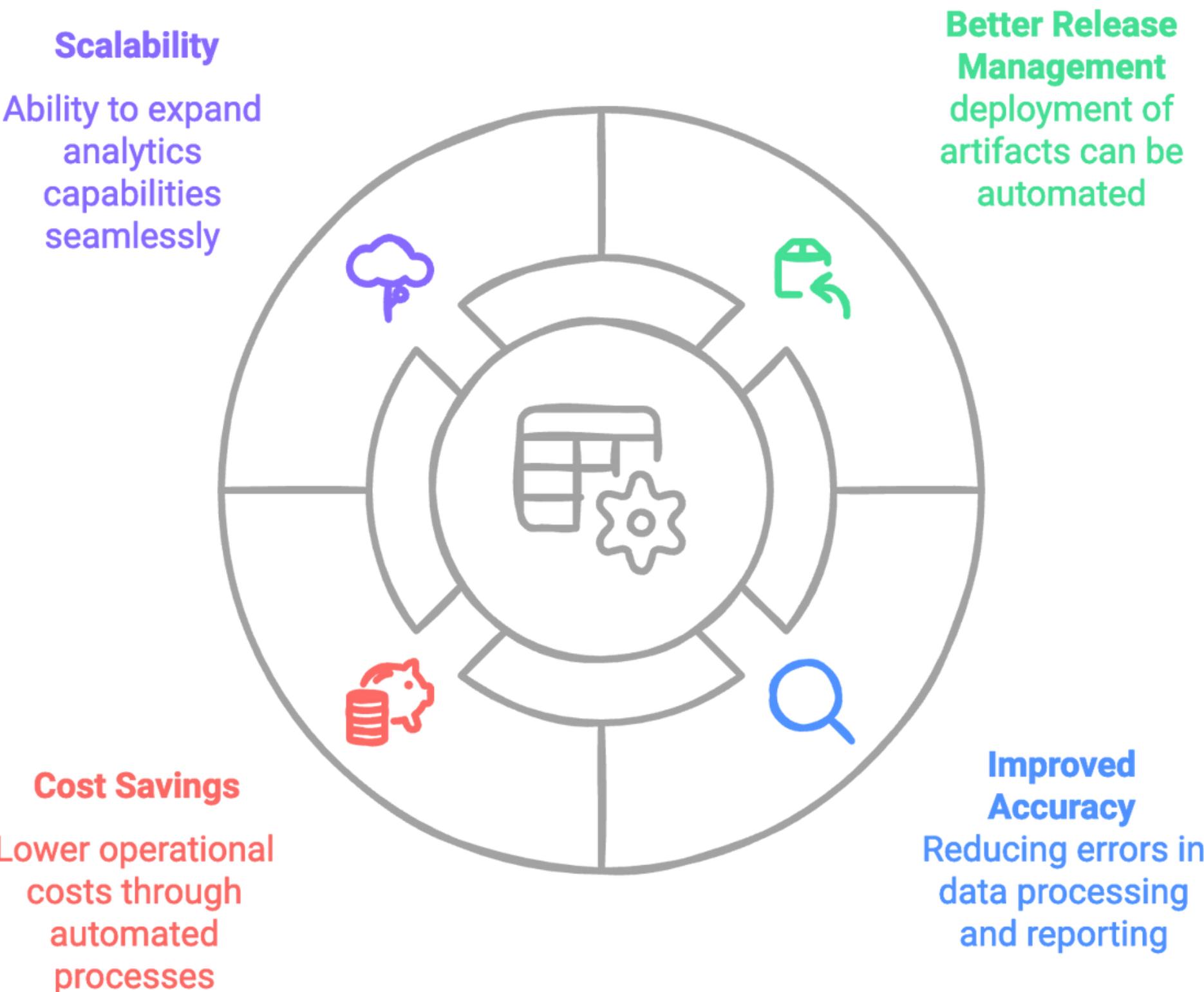


Cost Savings

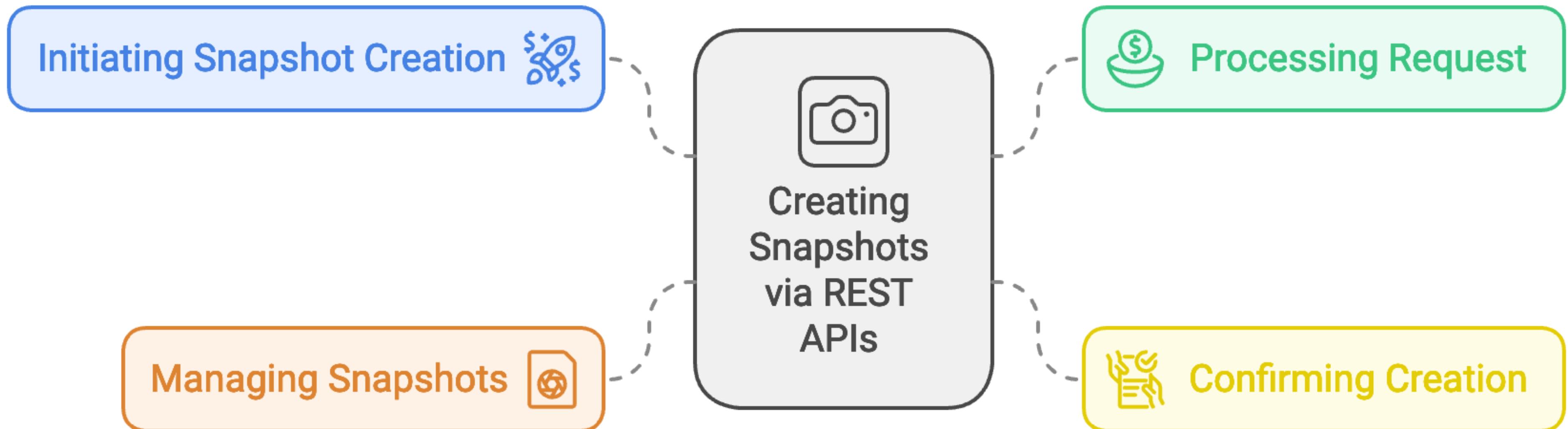


Reduced  
Errors

# Benefits of Automation in Scalable OAC Environments



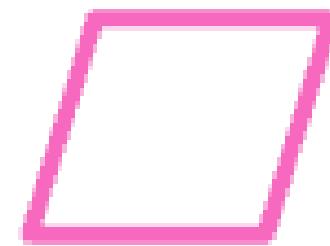
# Creating Snapshots with REST APIs – Process overview



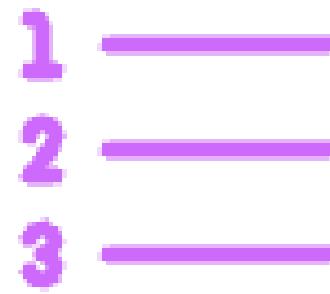
# Integration



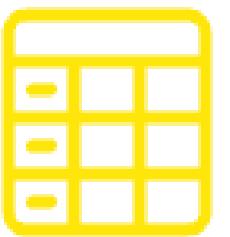
# Data Flows & Sequences



Data Flows



Sequences



Run Dataflow

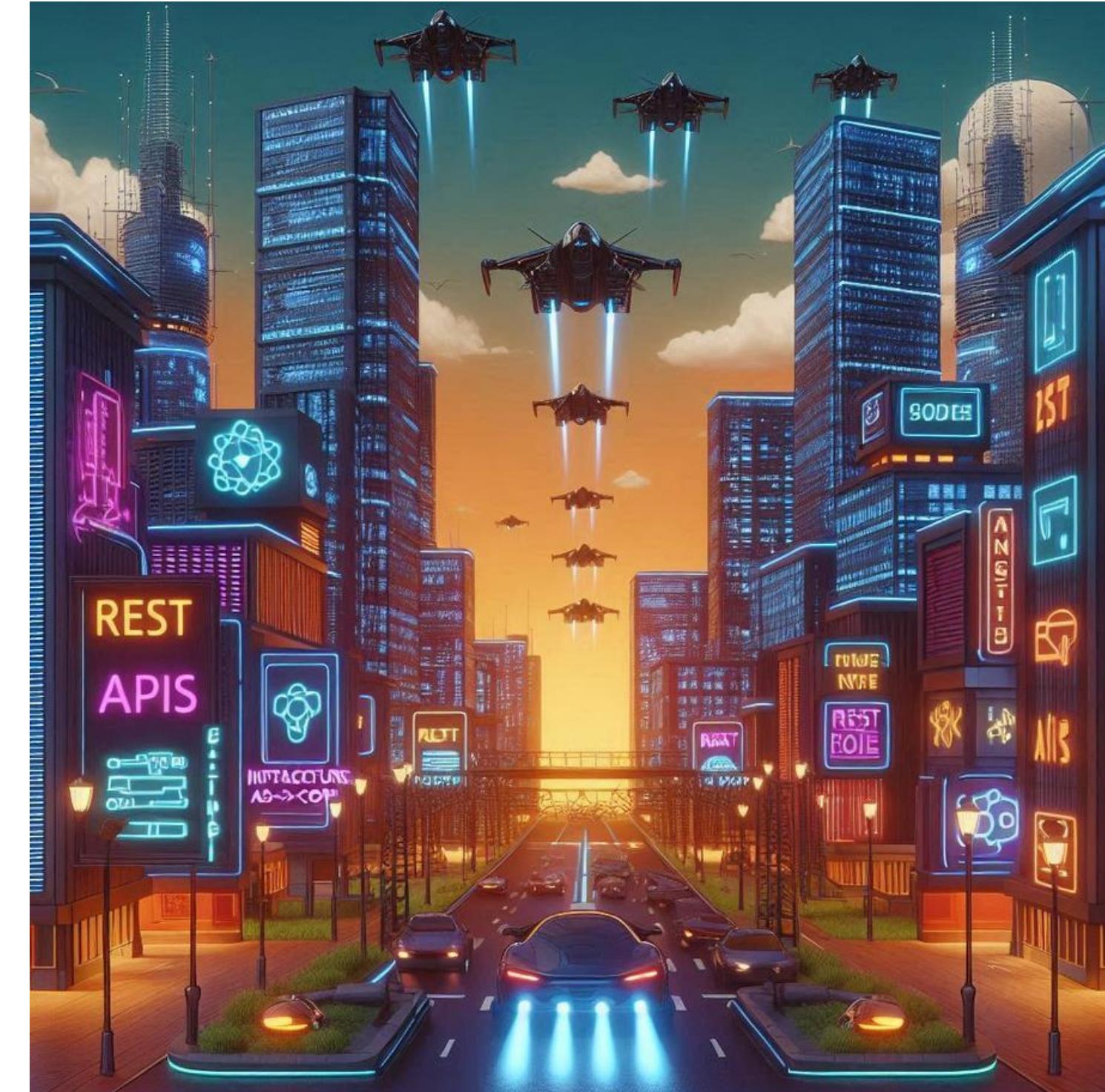


Reload Data



Run Sequence

# APIs and Infrastructure-as-Code (IaC)



# What is Infrastructure-as-Code?

## Infrastructure-as-Code

### Version Control

Managing changes to infrastructure code over time, ensuring consistency and traceability.

### Consistency

Ensuring uniformity and reliability across different environments and deployments.

### Automation

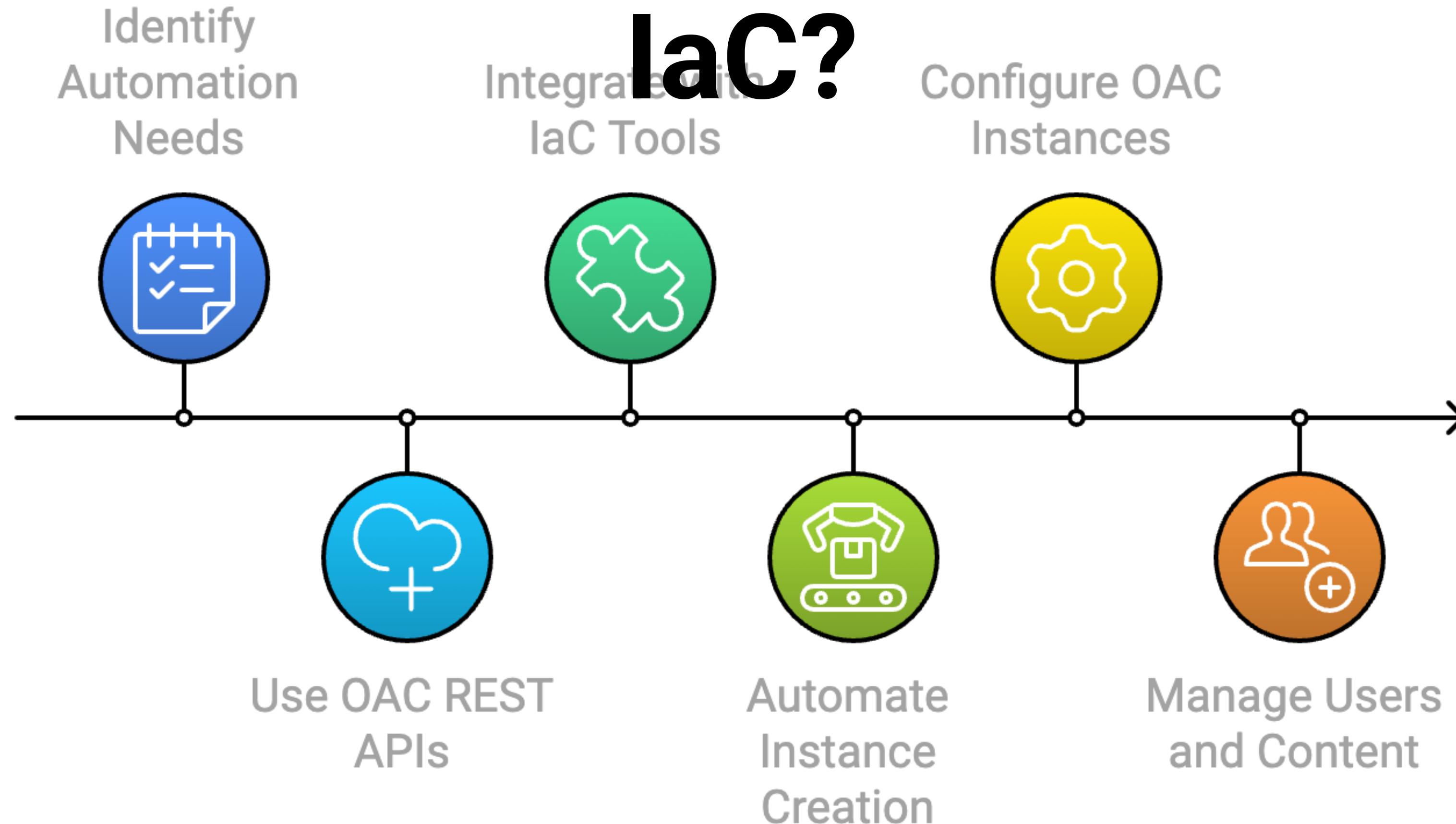
The use of scripts and tools to automate infrastructure management tasks.



### Scalability

The ability to easily adjust infrastructure resources to meet changing demands.

# Why Use OAC REST APIs with IaC?



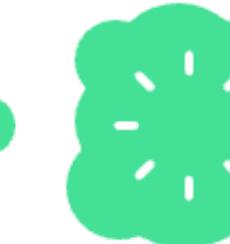
# Use Cases for OAC + IaC

## Integration

How to utilise OAC + IaC integration?

### Spin up OAC instance

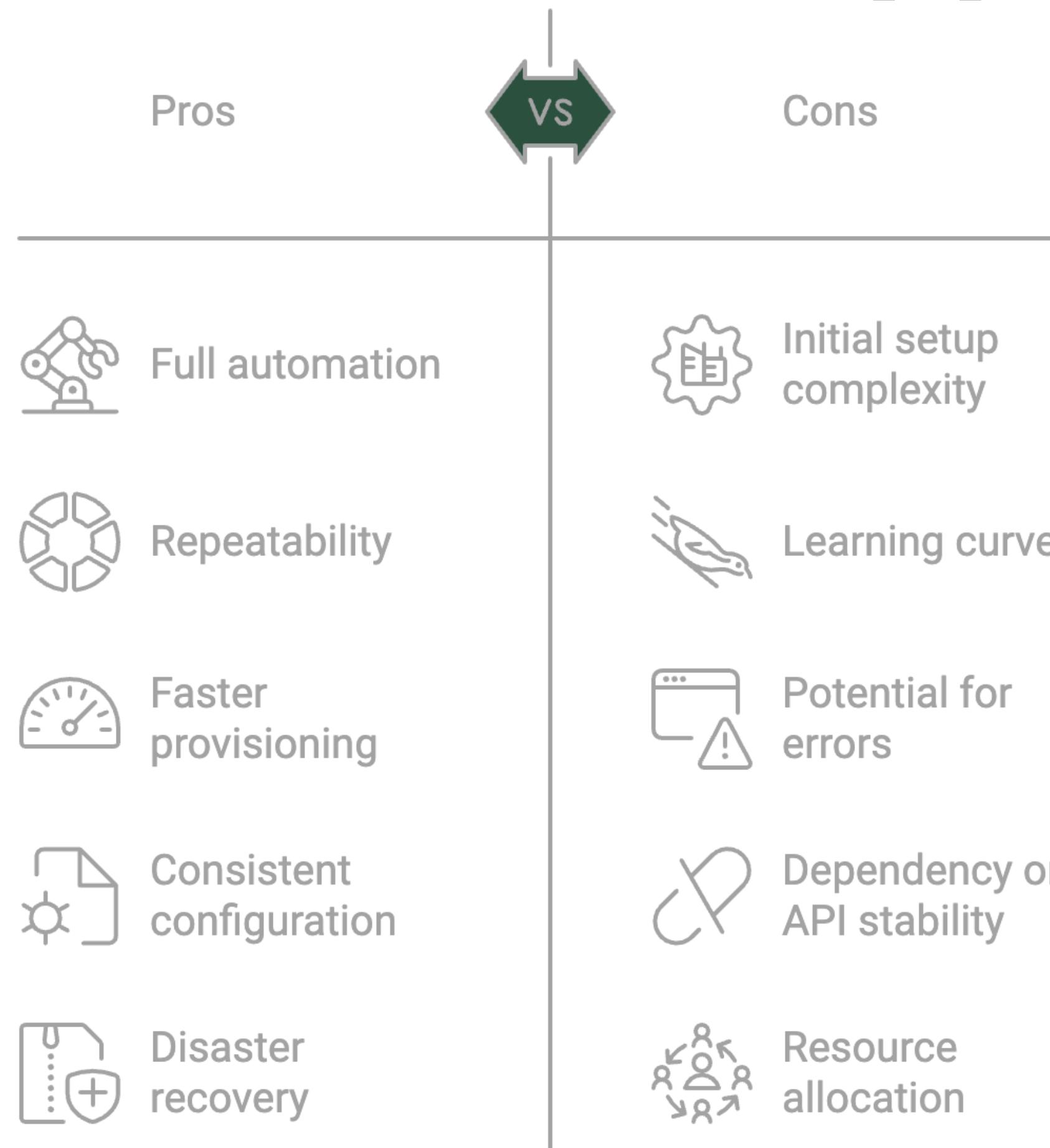
Automate the setup of OAC instances for efficiency and consistency



### Snapshot Loading

Replicate environments and apply consistent settings or permissions

# Benefits of this approach

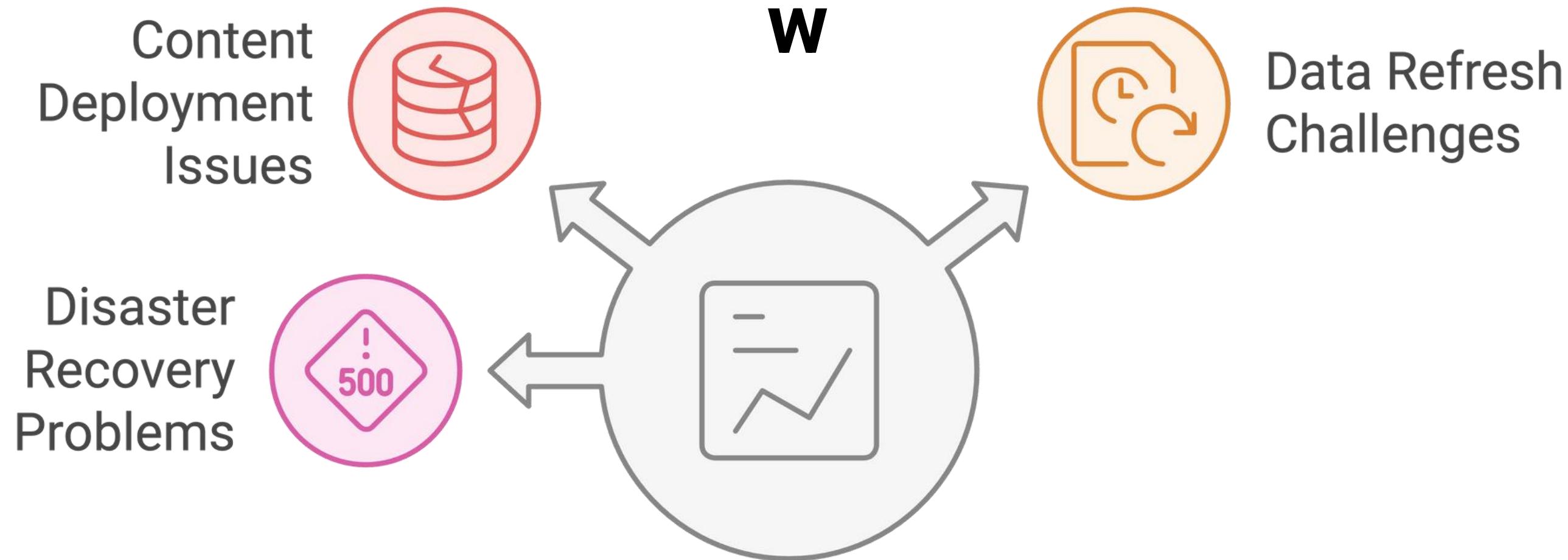


# Case Study



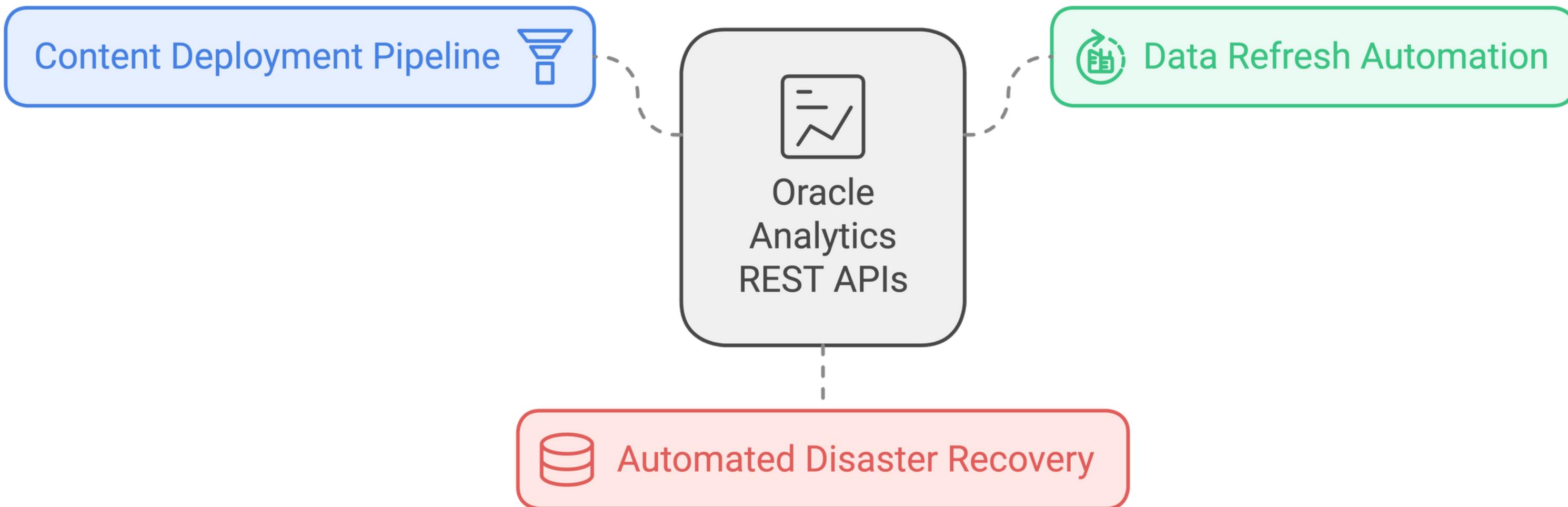
# Automating OAC Administration for a Global Retailer

## Overview

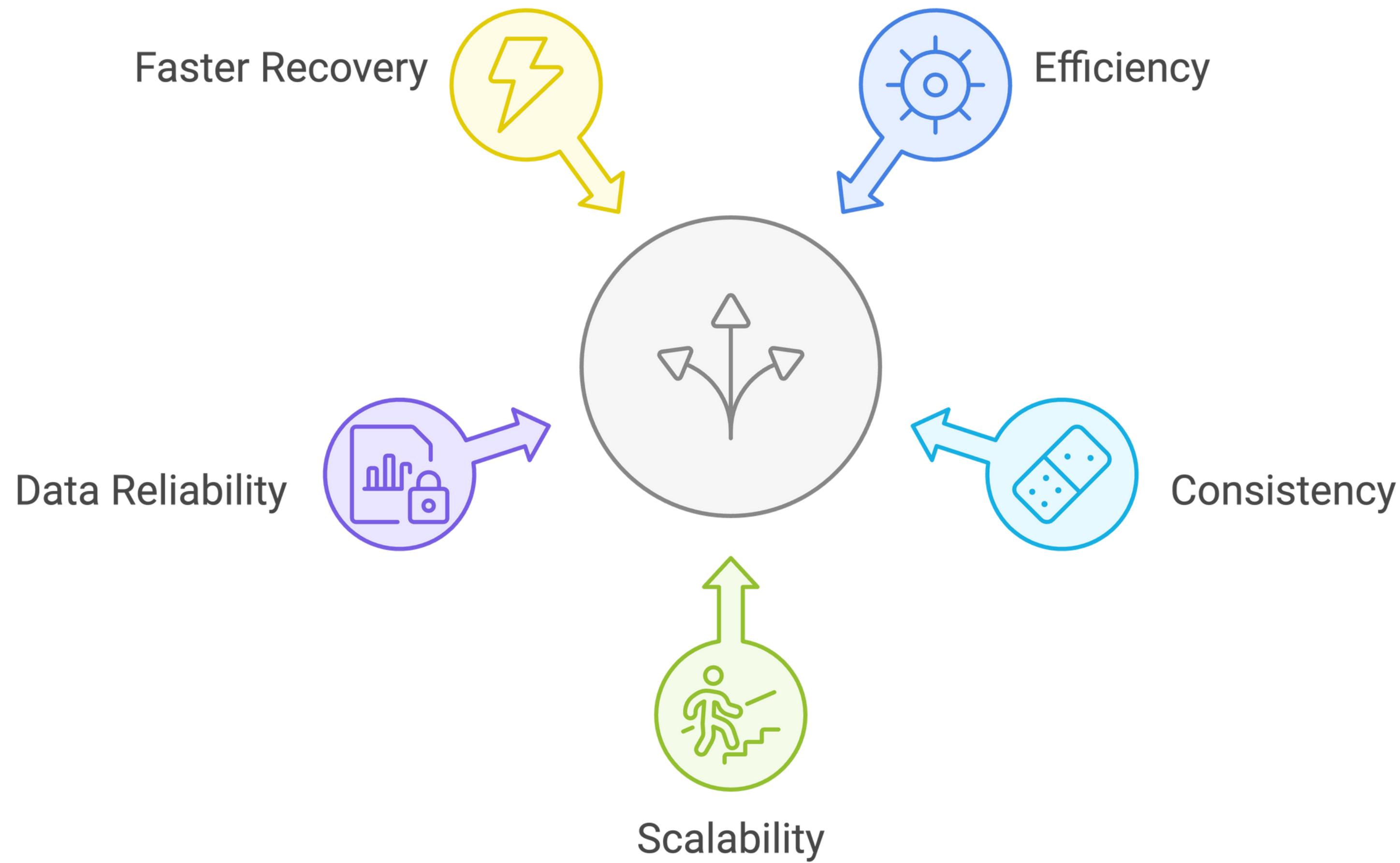


# Automating OAC Administration for a Global Retailer

## Solution



# Benefits of REST API Automation



...

# Q&A Session

Please raise your hand and provide your question.



# Resources



[Generate OAC Snapshots](#)

[Postman](#)

[Configuration  
REST API Overview](#)

[Using the Data Flow and Sequence APIs](#)

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<https://bit.ly/OACSept24Features>

## **OAC NEW FEATURES DOCUMENTATION BY ORACLE:**

<https://docs.oracle.com/en/cloud/paas/analytics-cloud/acswn/index.html#GUID-CFF90F44-BCEB-49EE-B40B-8D040F02D476>

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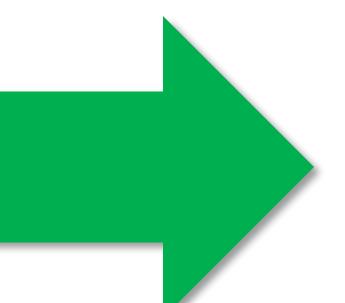
2020

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Jan 23	Leveraging Vector Search for RAG in Generative AI	Kai Yu	<a href="#">Video</a>	<a href="#">Slides</a>
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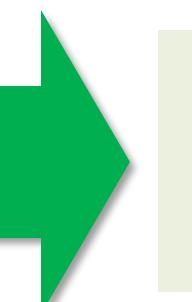


*Register now!!*

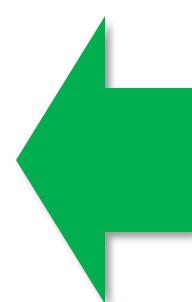


<https://andouc.org/andsummit2025/>

OR



Use codes **BLAST150** and **DAY50** for  
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...

# End of Presentation



Thank you for listening!



DATE

**March 2025**

PRESENTER

**Joel Acha**