Automating Oracle Analytics Cloud Administration with REST APIs

Joel Acha

Independent Consultant

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Mar 6th

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

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Joel Acha

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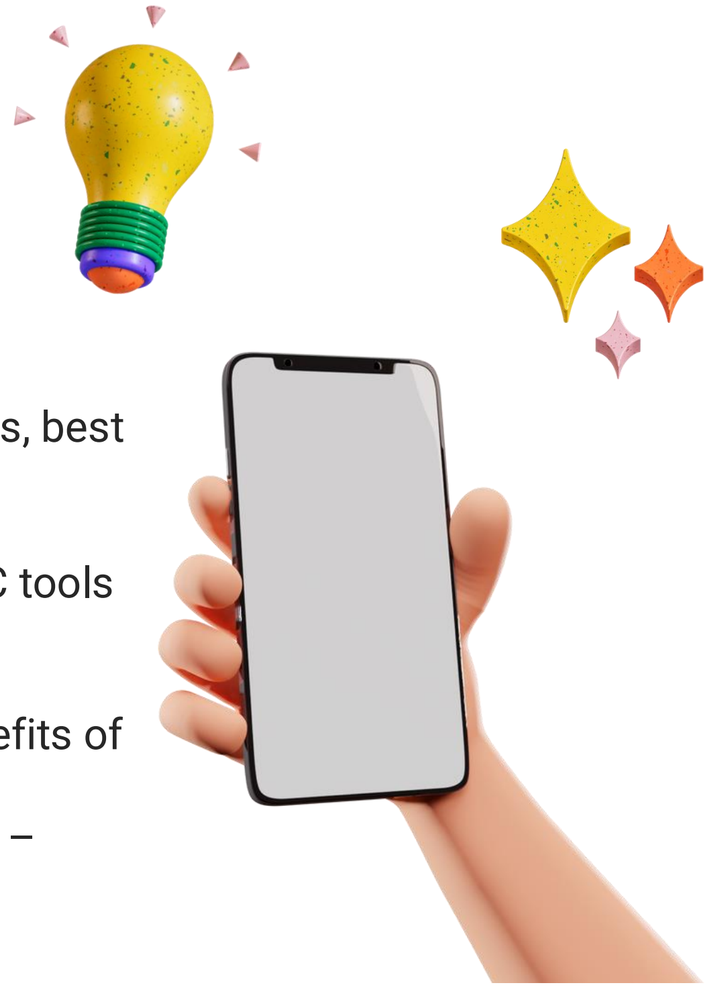
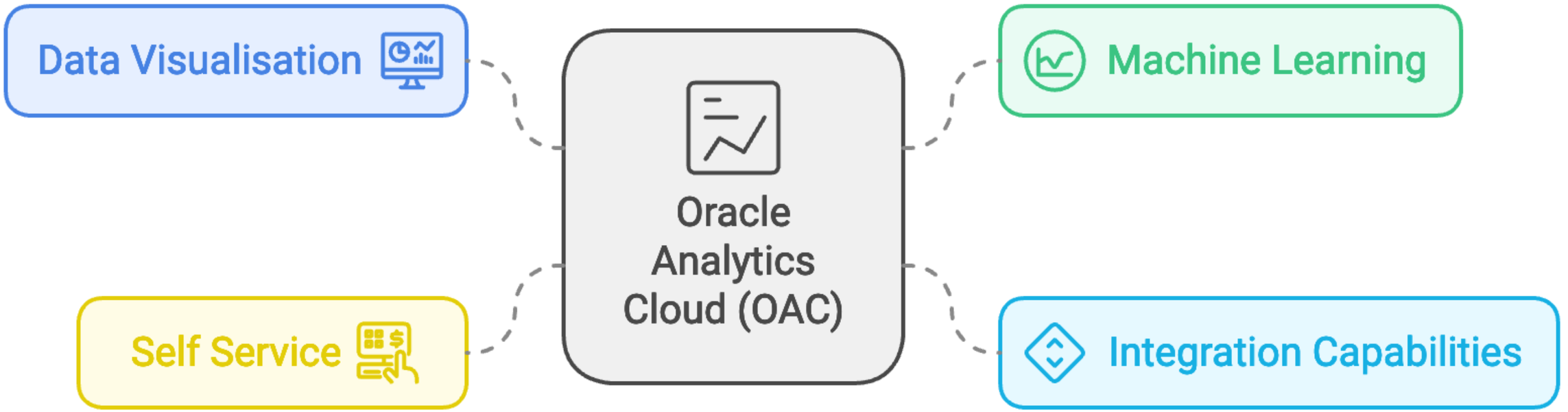
Agenda



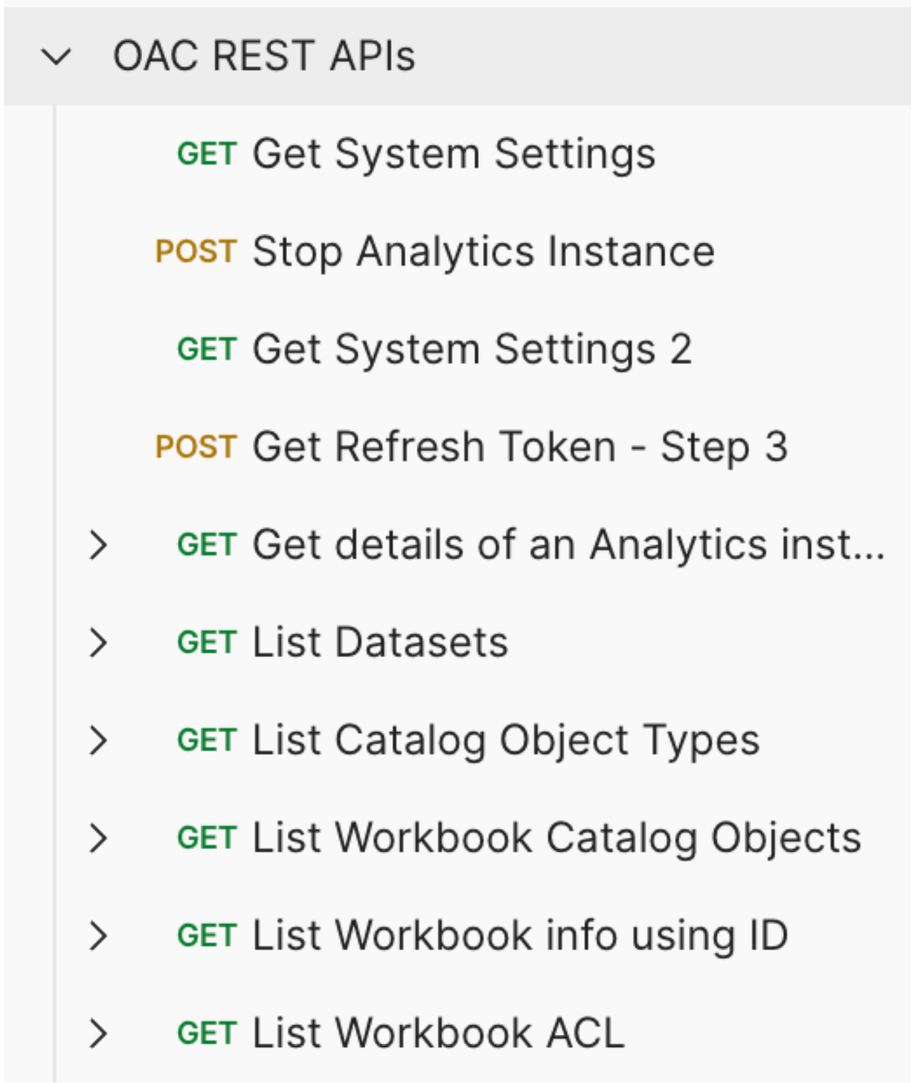
- Introduction – OAC, REST APIs, and benefits of automation
- Automation Use Cases – Content deployment, User Management, Disaster Recovery
- REST API Fundamentals – Key concepts and request structure
- Practical Examples – API calls, best practices, error handling
- Infrastructure-as-Code – Integrating 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)

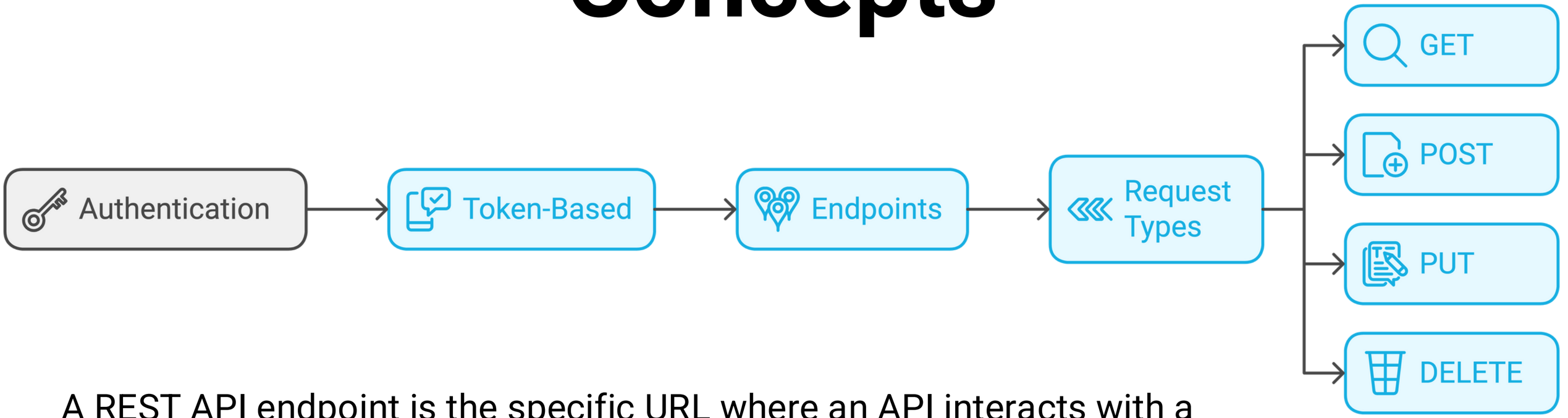
ORACLE Analytics



REST APIs in OAC – Introduction



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`

[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>")`.

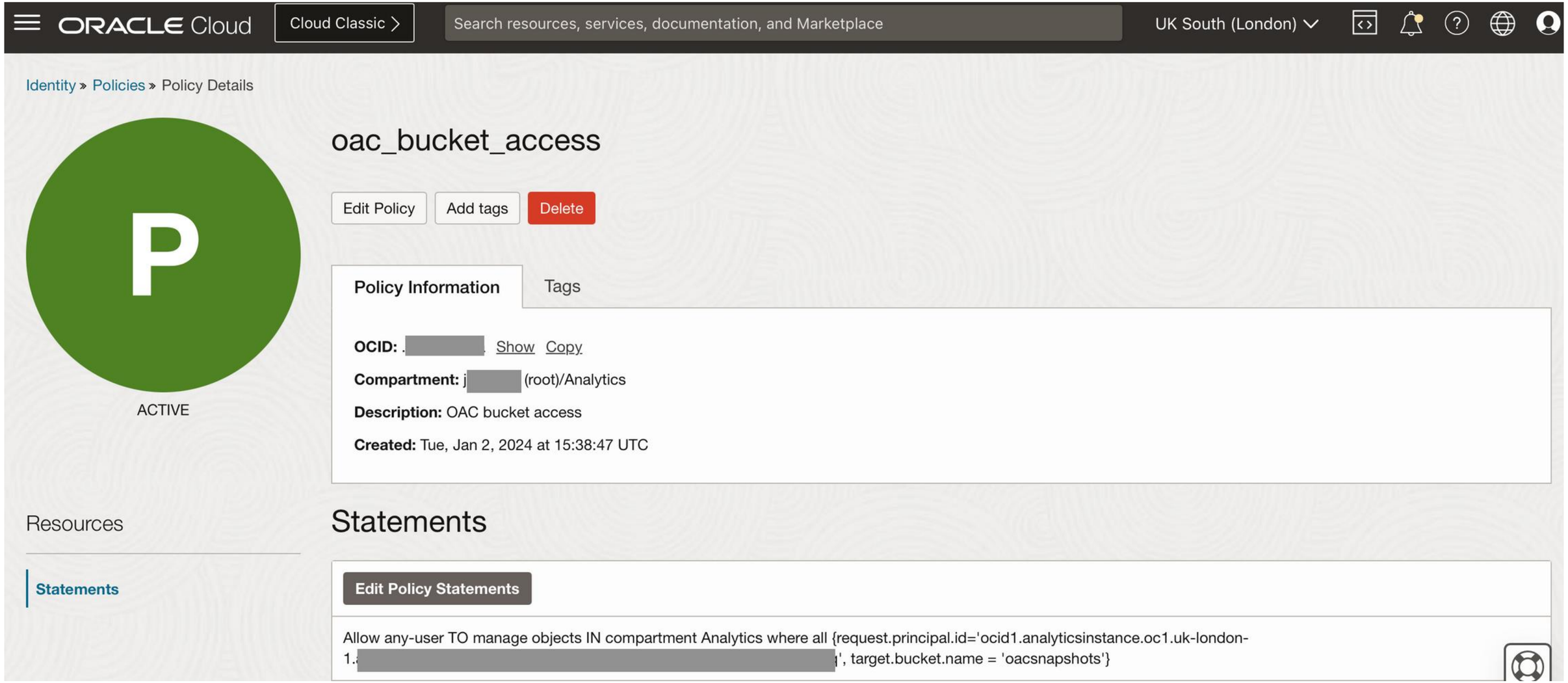
- Include payload data for POST/PUT requests using

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

Using Postman

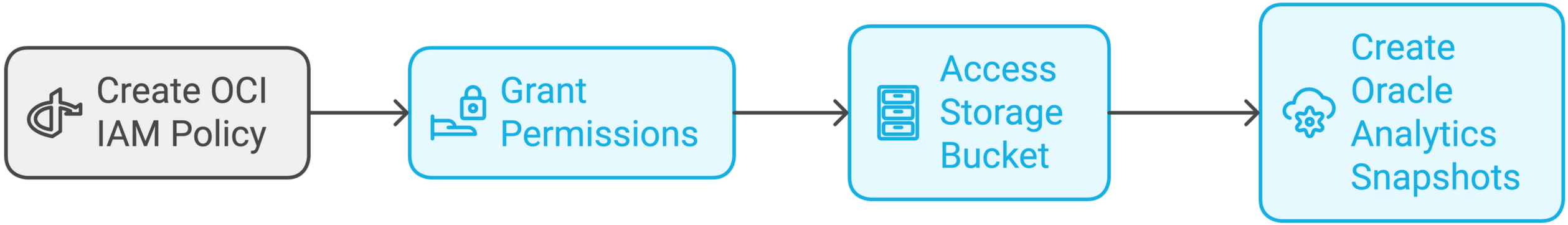
- Select the HTTP method and enter the endpoint URL.
- Go to Authorization to add the token (if needed).
- Under Body, enter payload data in JSON format for POST/PUT requests.

Prerequisites



OCI IAM Policy

Required for Snapshots

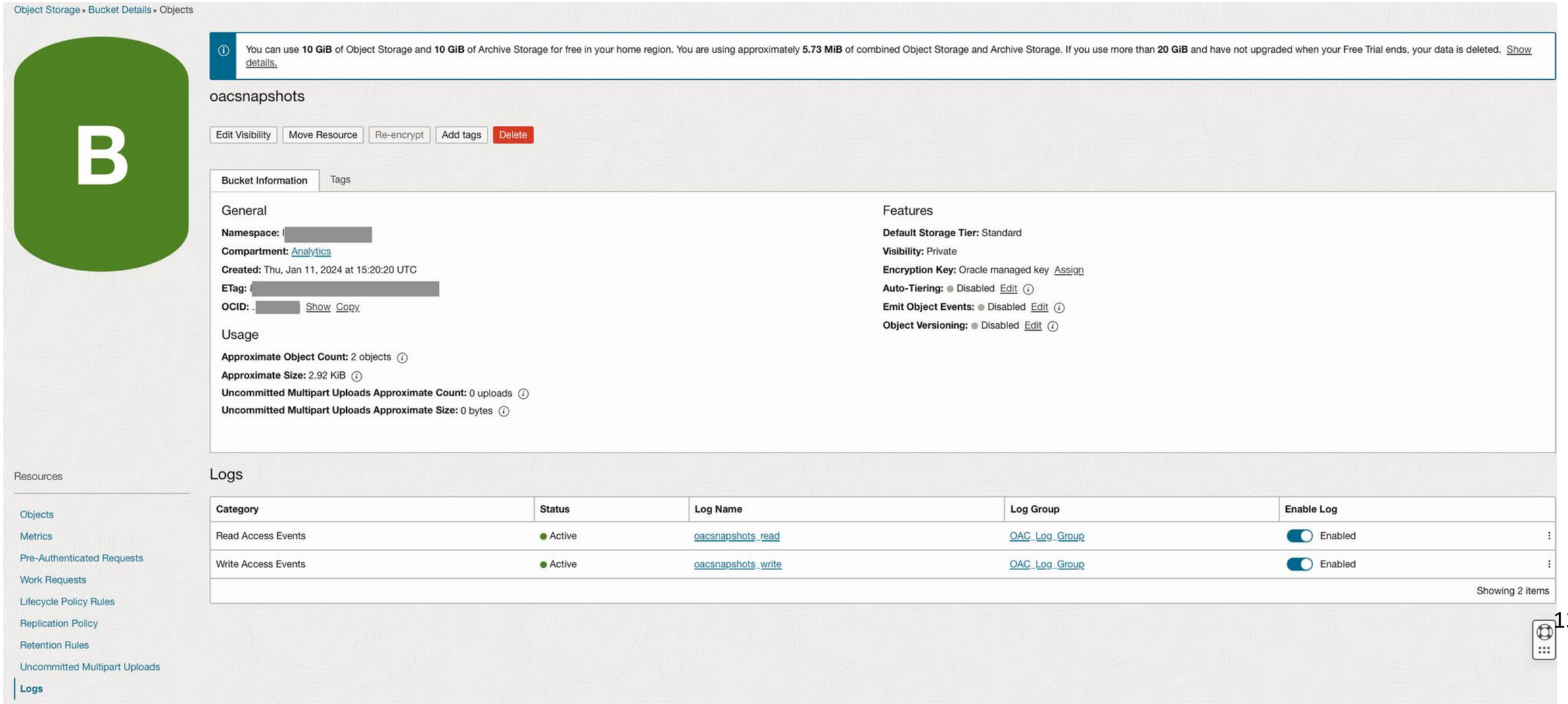


Create an OCI IAM policy that grants your Oracle Analytics Cloud instance access to a storage bucket using resource principal authentication.

```
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'}
```

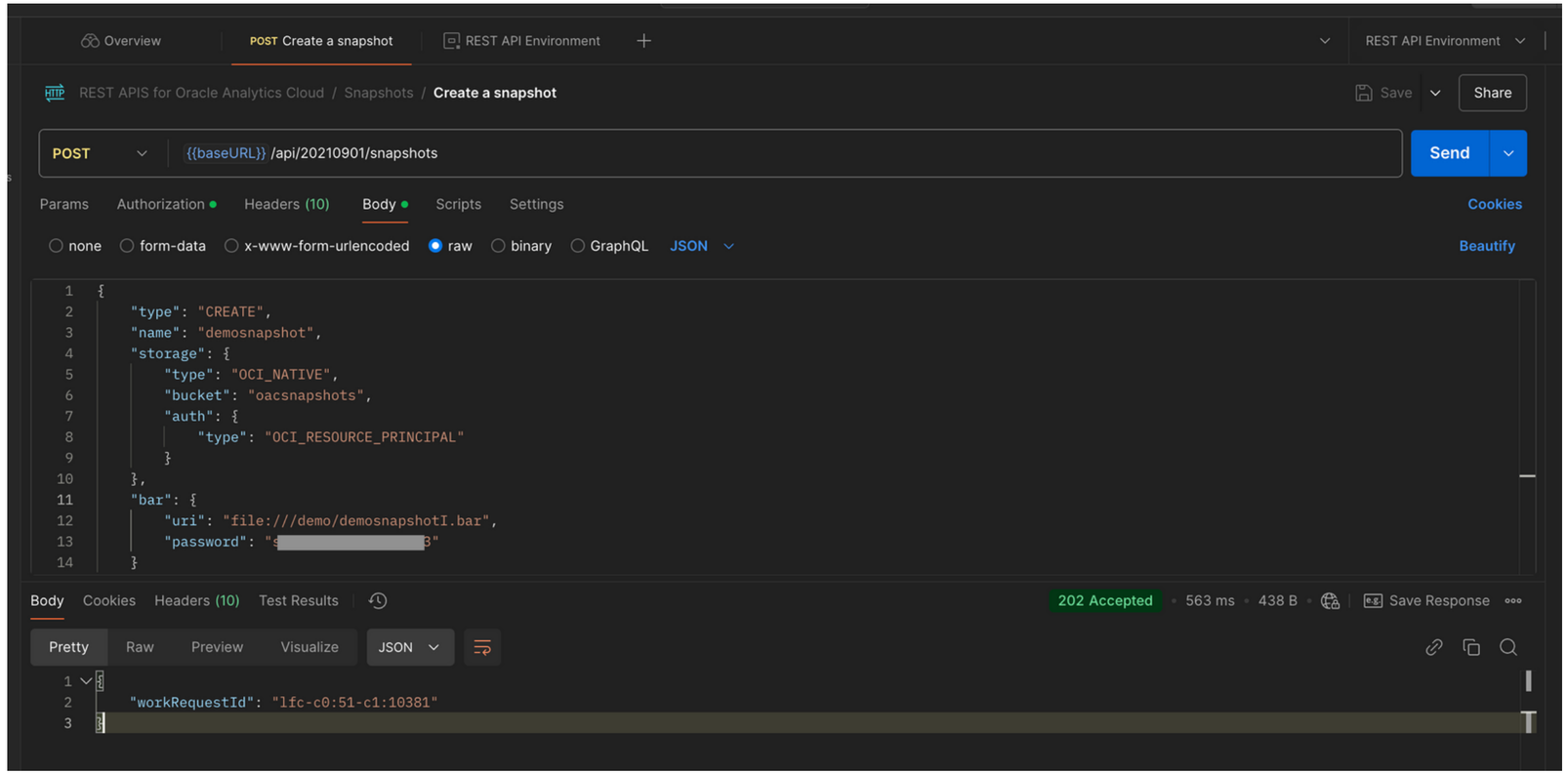
Prerequisites - “Optional”

Create Storage Bucket Logs



Executing an API call in Postman

Triggering an OAC snapshot via the *snapshots* endpoint

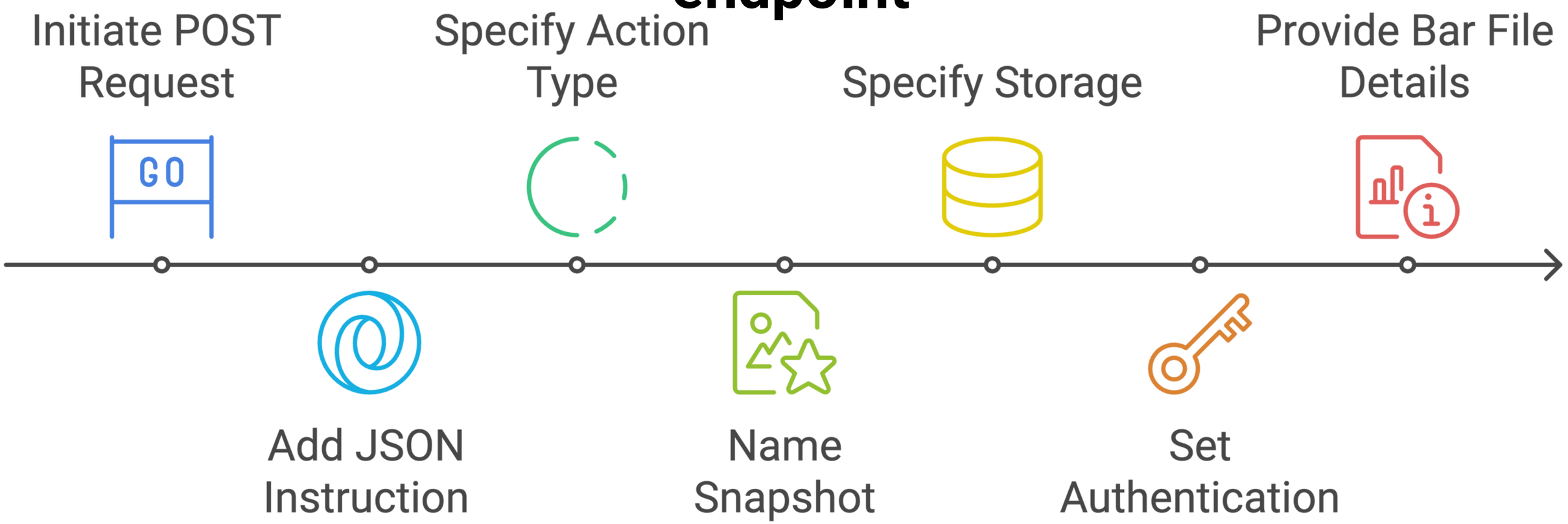


- POST method used
- Add JSON format instruction to the Body of the API

```
"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* endpoint



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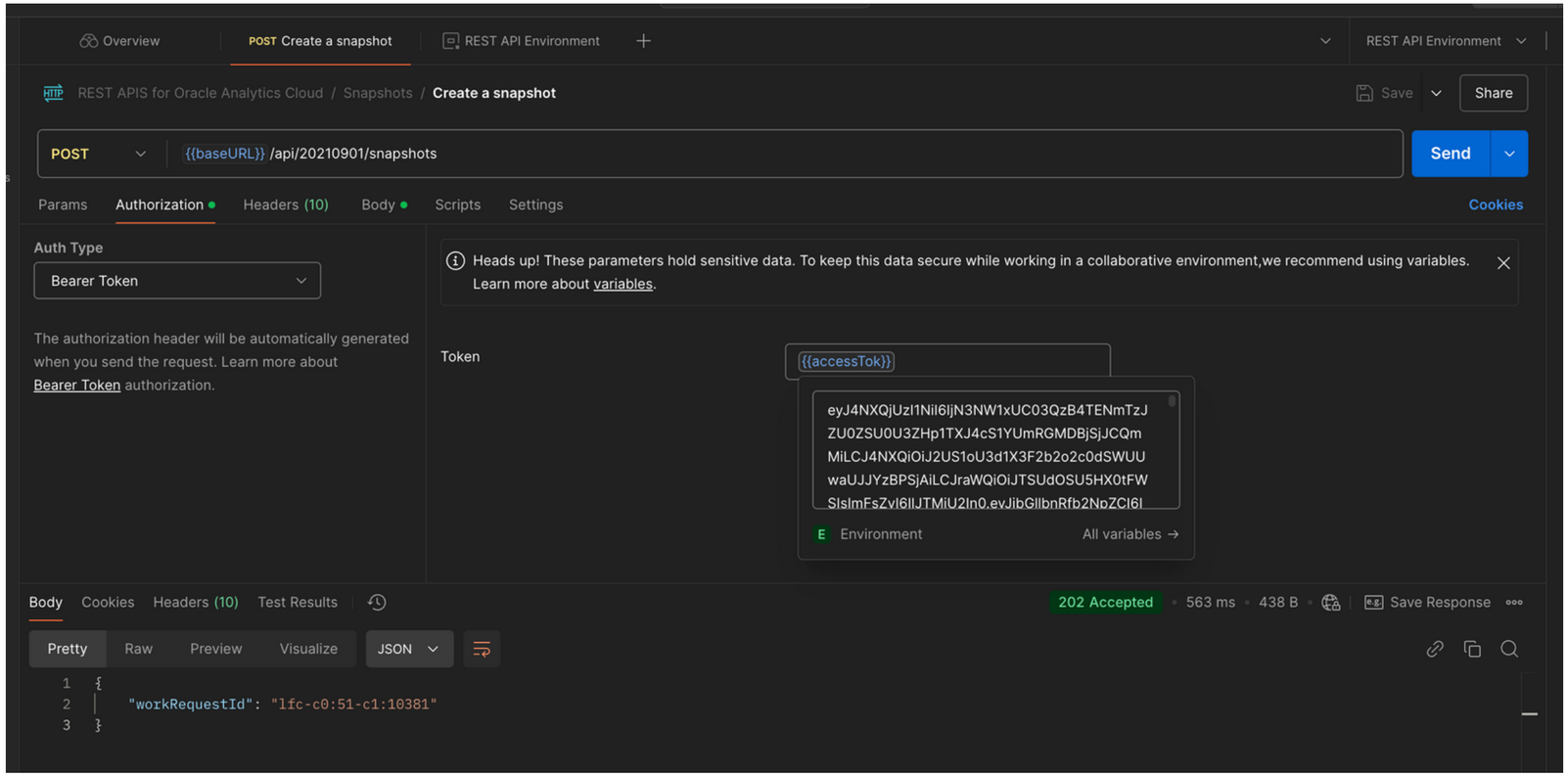
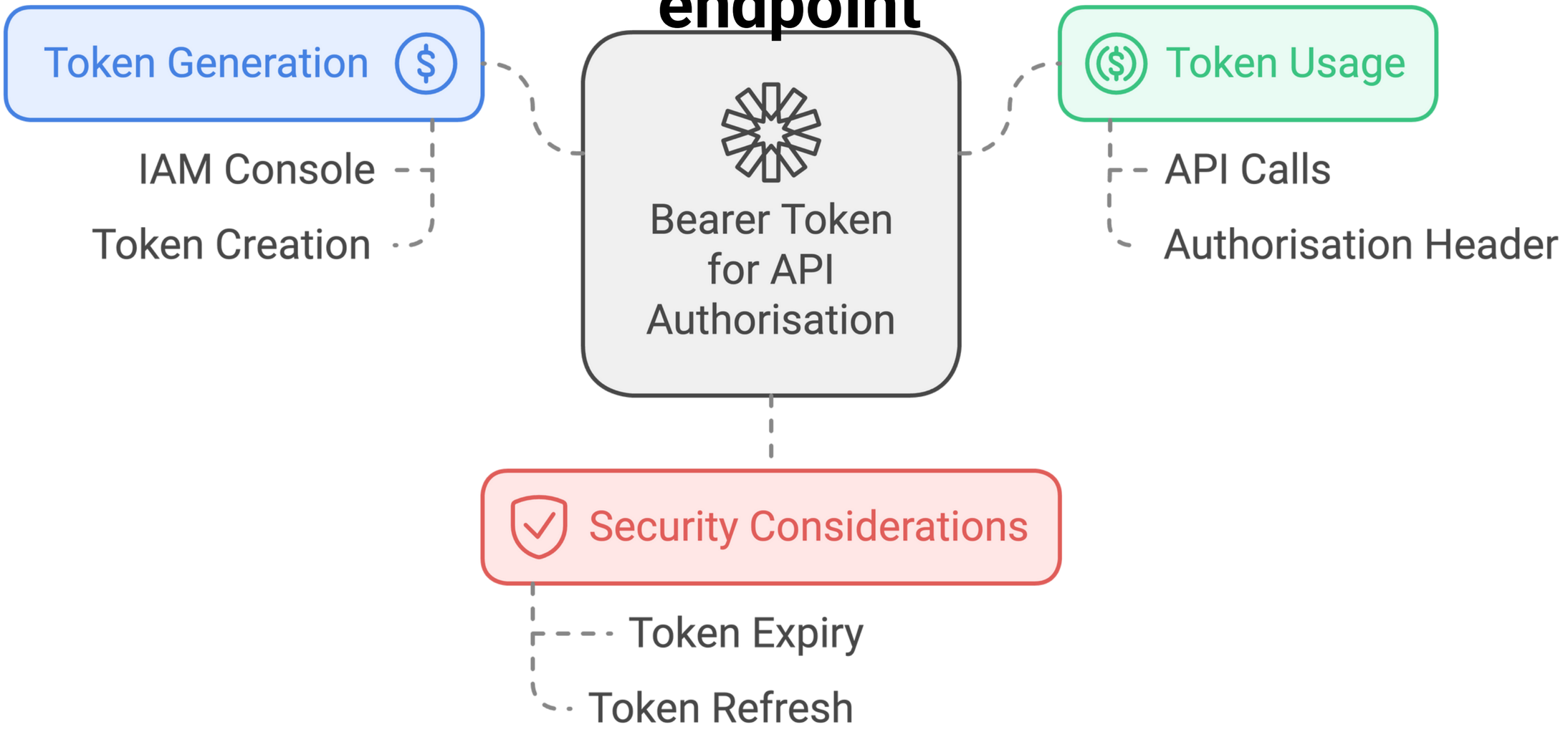
Triggering an OAC snapshot via the *snapshots* endpoint



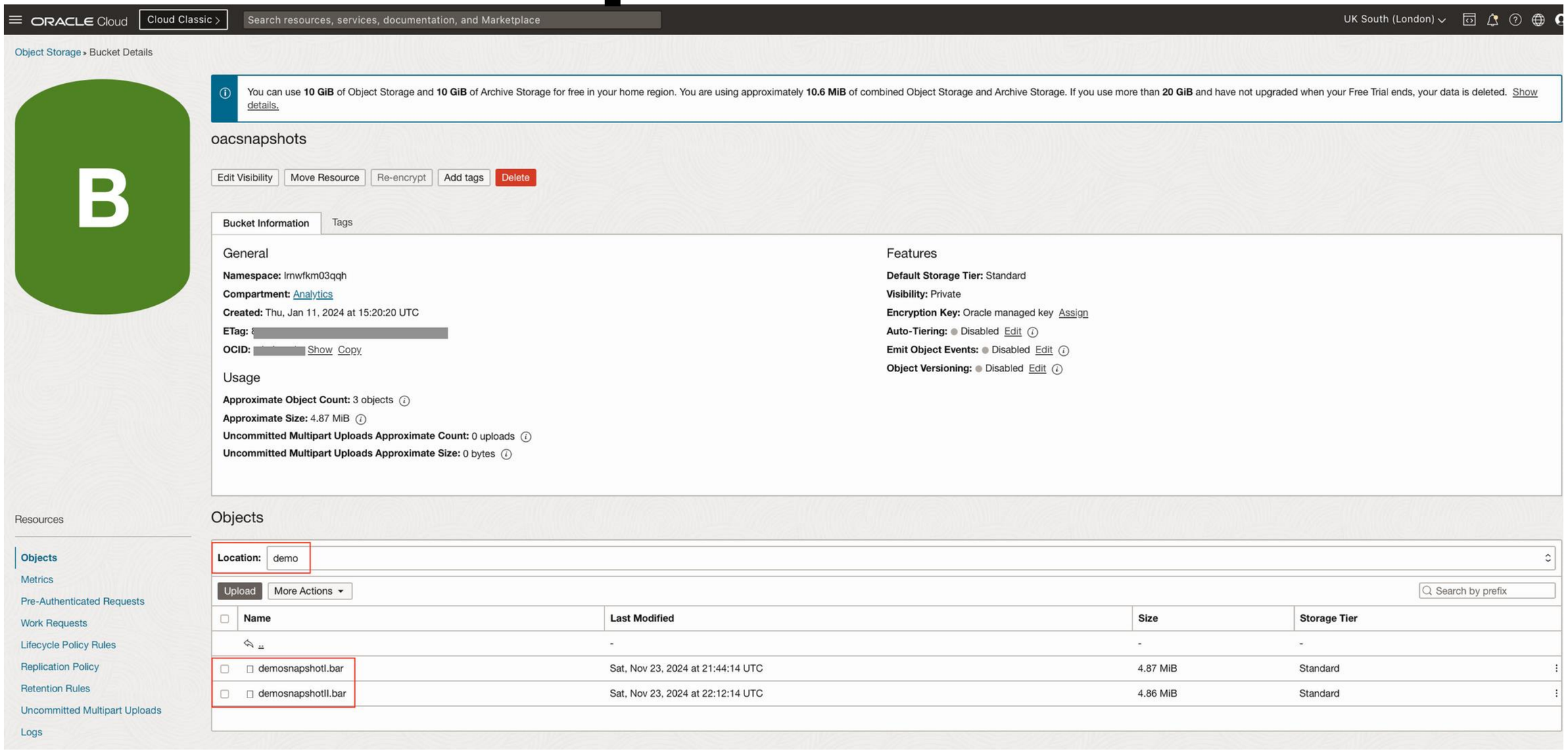
- Bearer Token used for Authorisation
- Use token generated in the IAM console to execute the API

Executing an API call in Postman

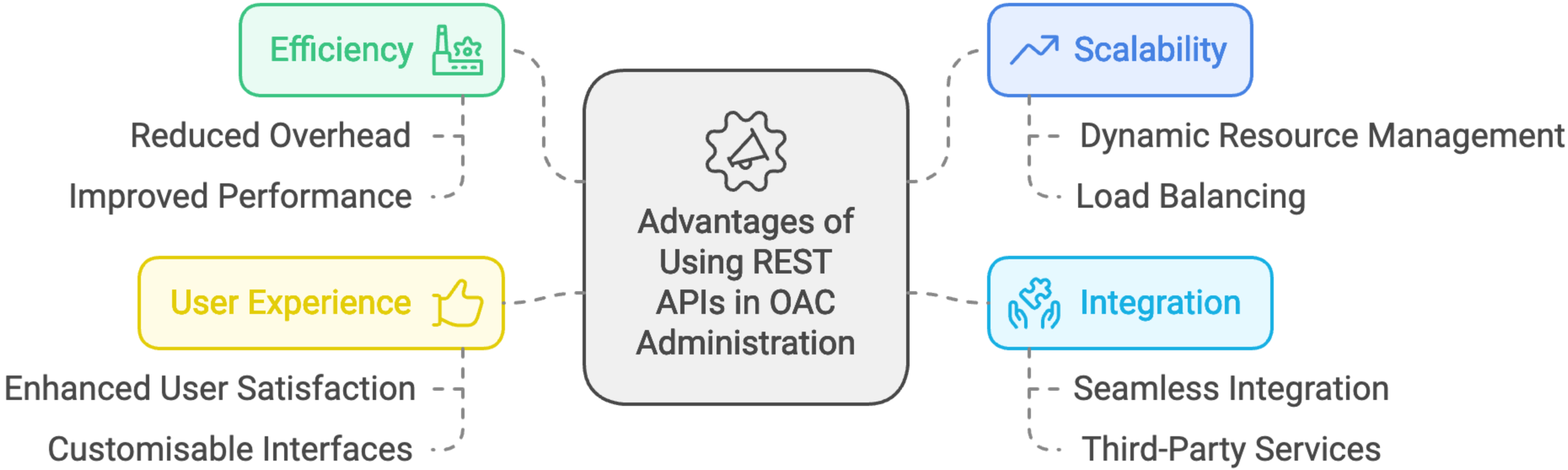
Triggering an OAC snapshot via the *snapshots* endpoint



Snapshot Files

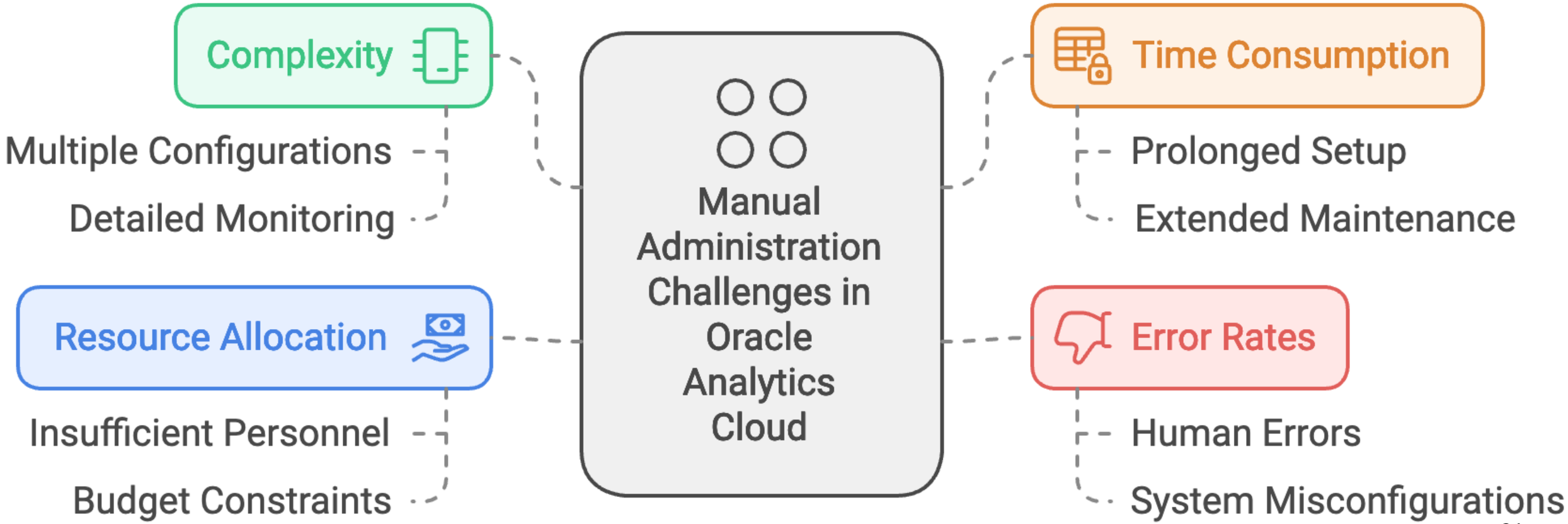


Advantages of Using REST APIs in OAC Administration



Why Automate OAC Administration?

Manual Administration Challenges in Oracle Analytics Cloud



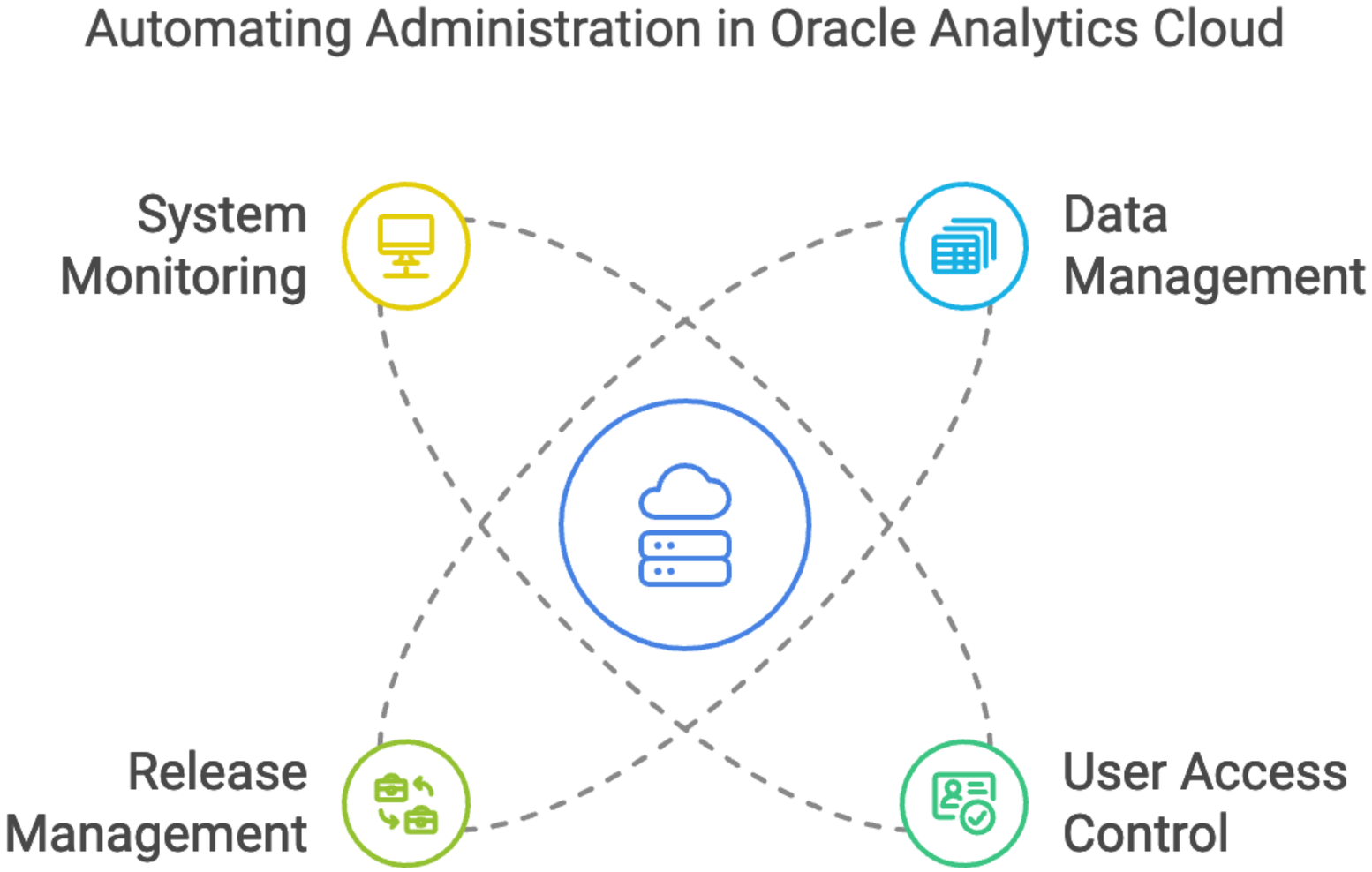
Benefits of Automation in OAC

Speed

Scalability

Reliability

Overview of Administration Tasks Suited for Automation in OAC



Automating 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

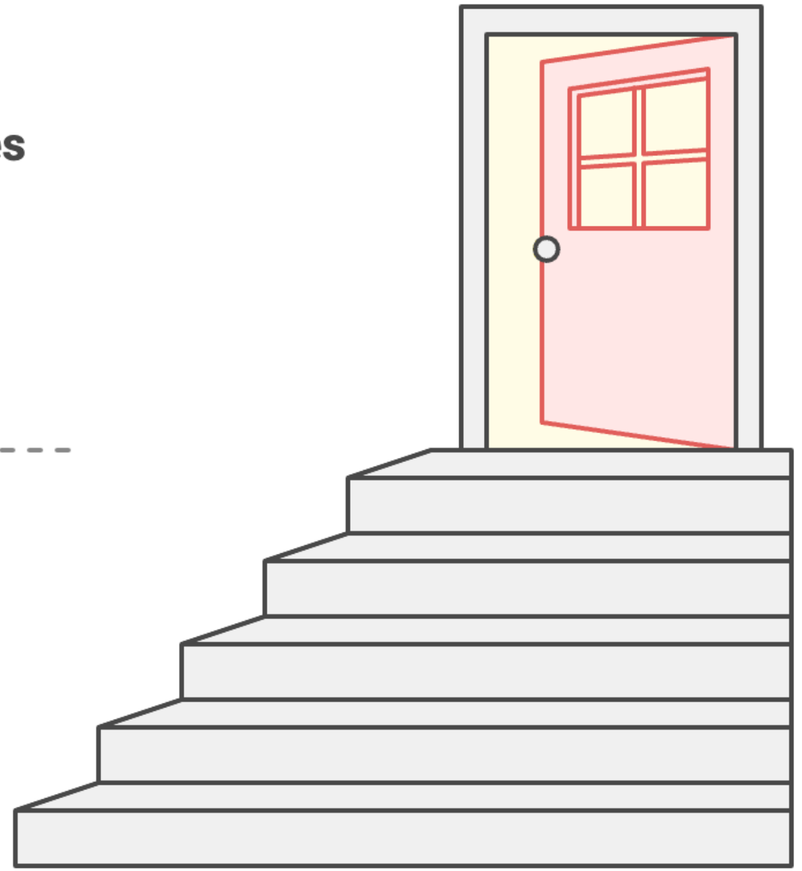
Streamline analytics deployment through automation for enhanced efficiency.

Manual deployment processes

Time-consuming and error-prone.

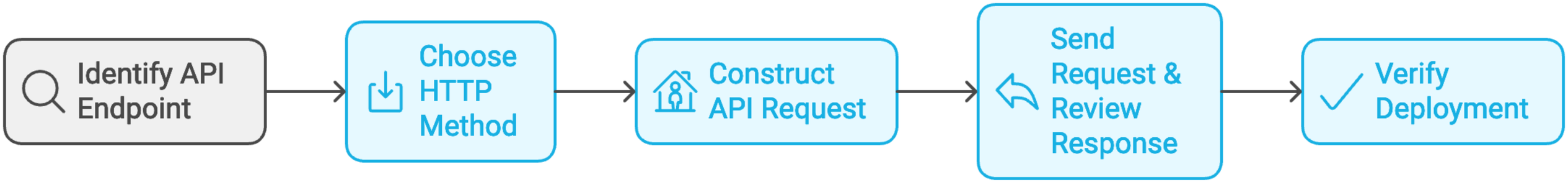
Automated deployment systems

Consistent and reliable analytics delivery.

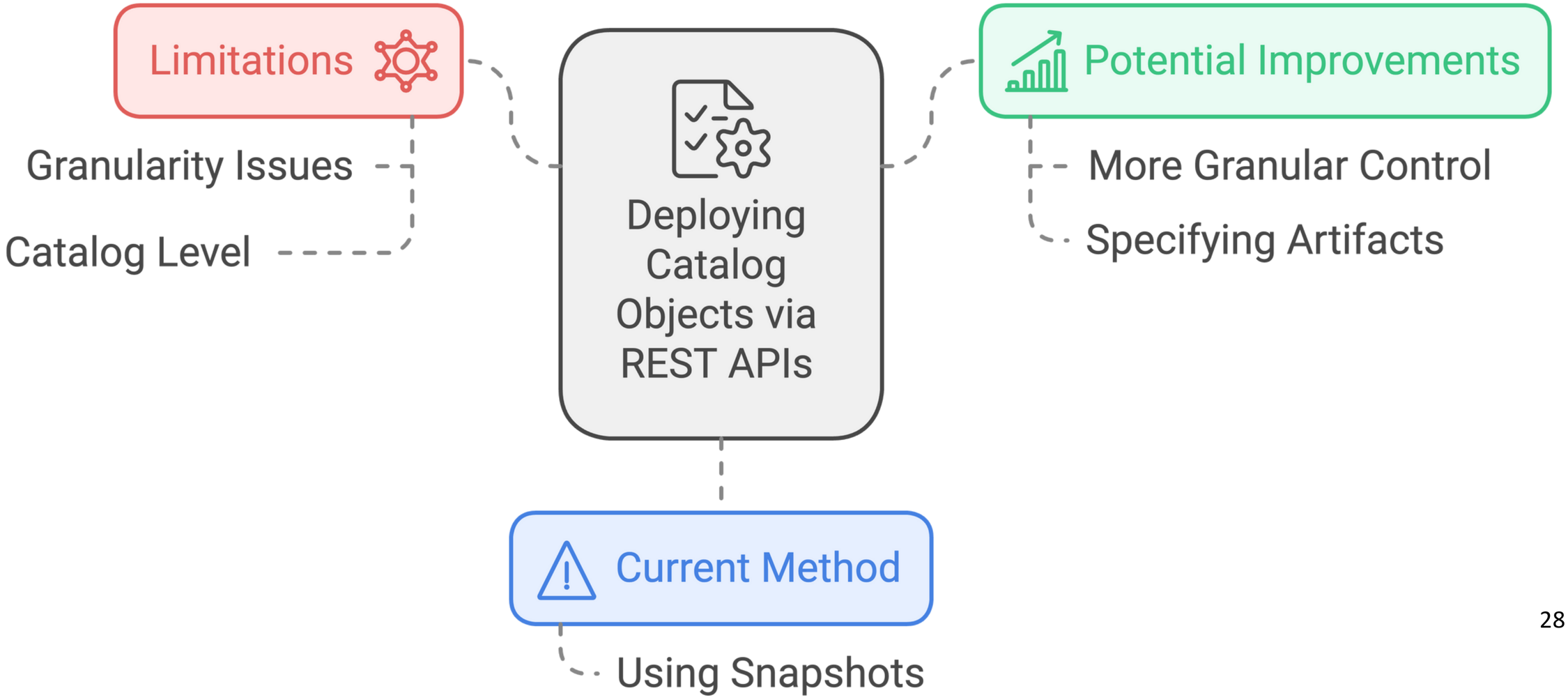


Step-by-Step Deployment API Process

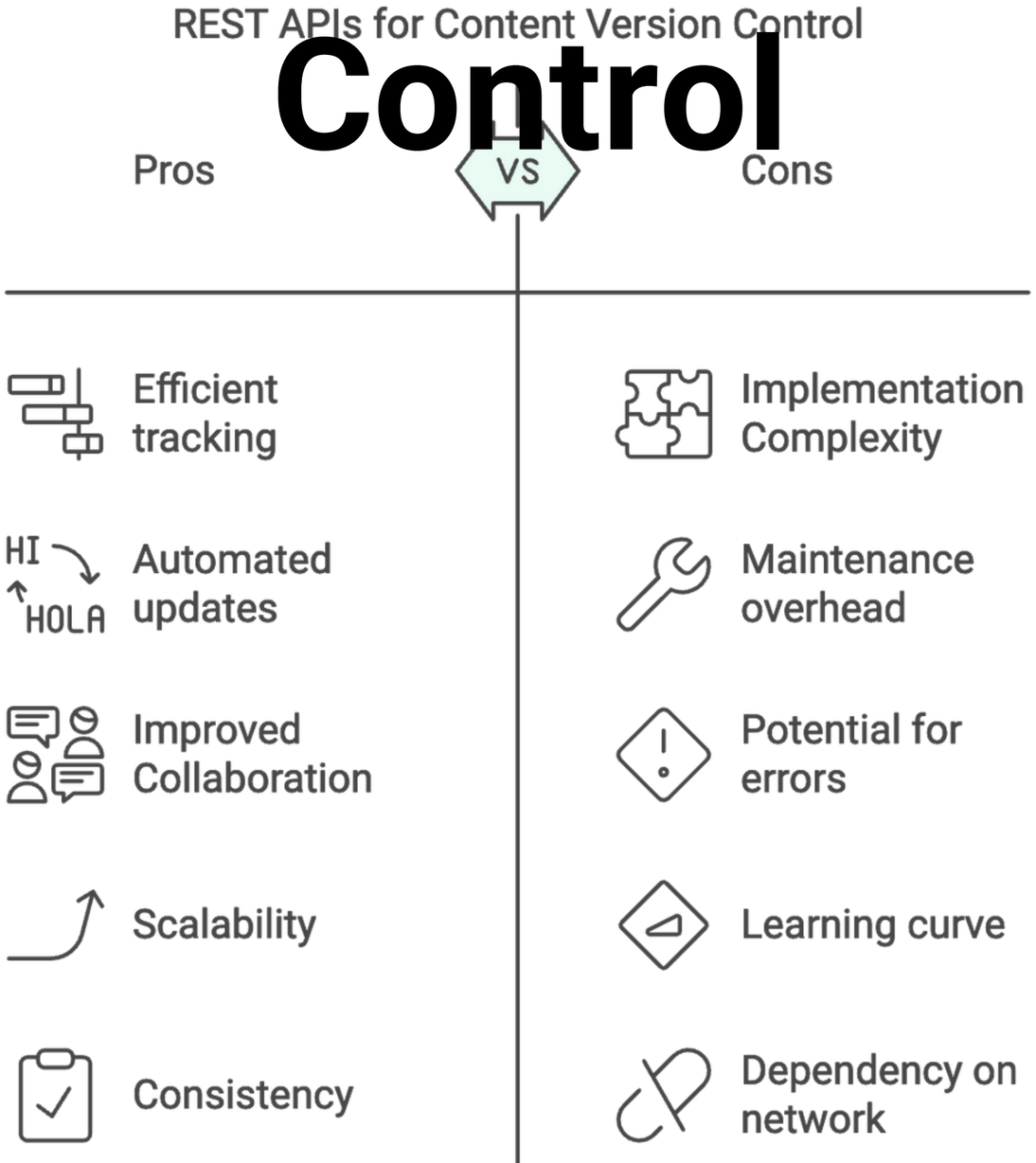
Overview of calls and responses



Use of REST APIs for Deploying Catalog Objects



Content Version Control



Backups & Disaster Recovery

Importance of Disaster Recovery Planning in OAC

Key Outcomes

Efficiency Gains

Cost Savings

Reduced Errors

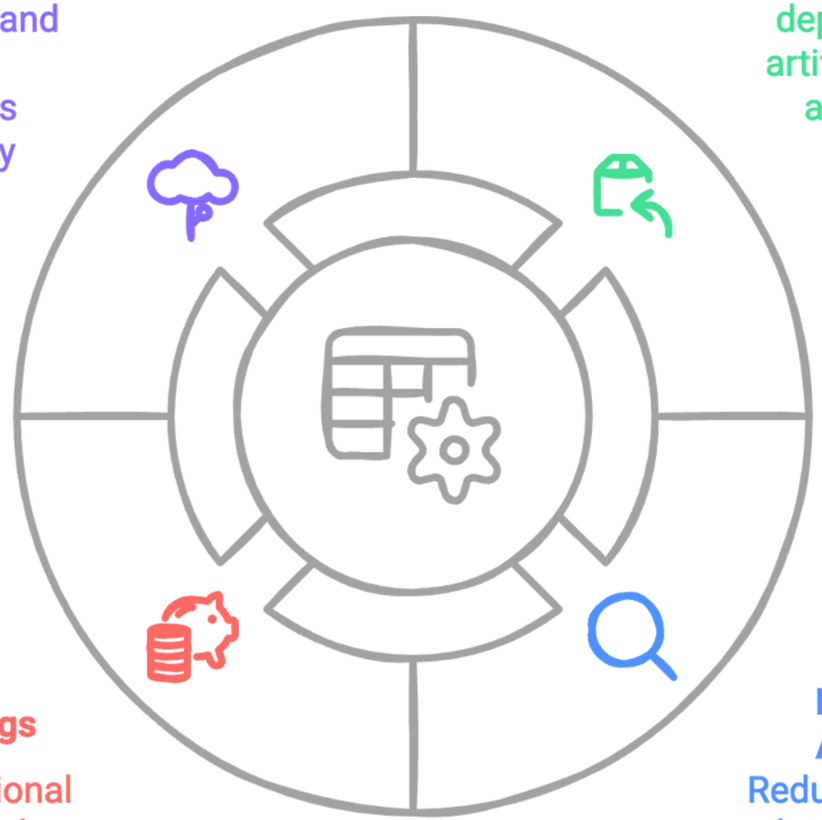
Benefits of Automation in Scalable OAC Environments

Scalability

Ability to expand analytics capabilities seamlessly

Better Release Management

deployment of artifacts can be automated



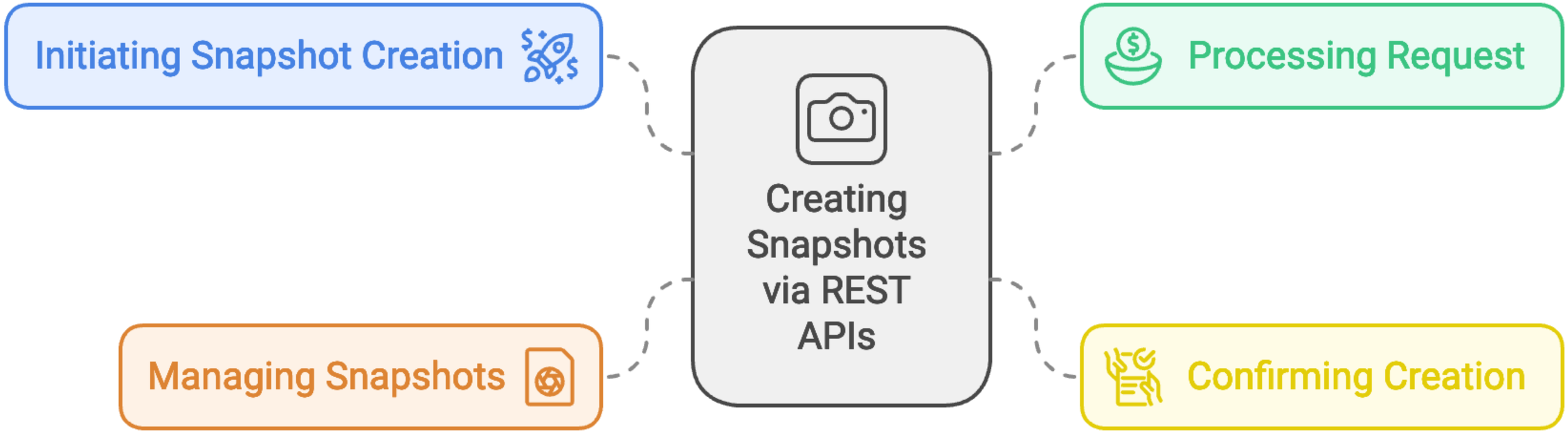
Cost Savings

Lower operational costs through automated processes

Improved Accuracy

Reducing errors in data processing and reporting

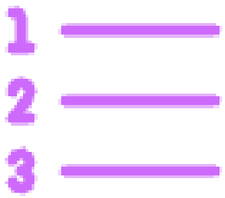
Creating Snapshots with REST APIs – Process overview



Integration

Data Flows & Sequences

Data Flows



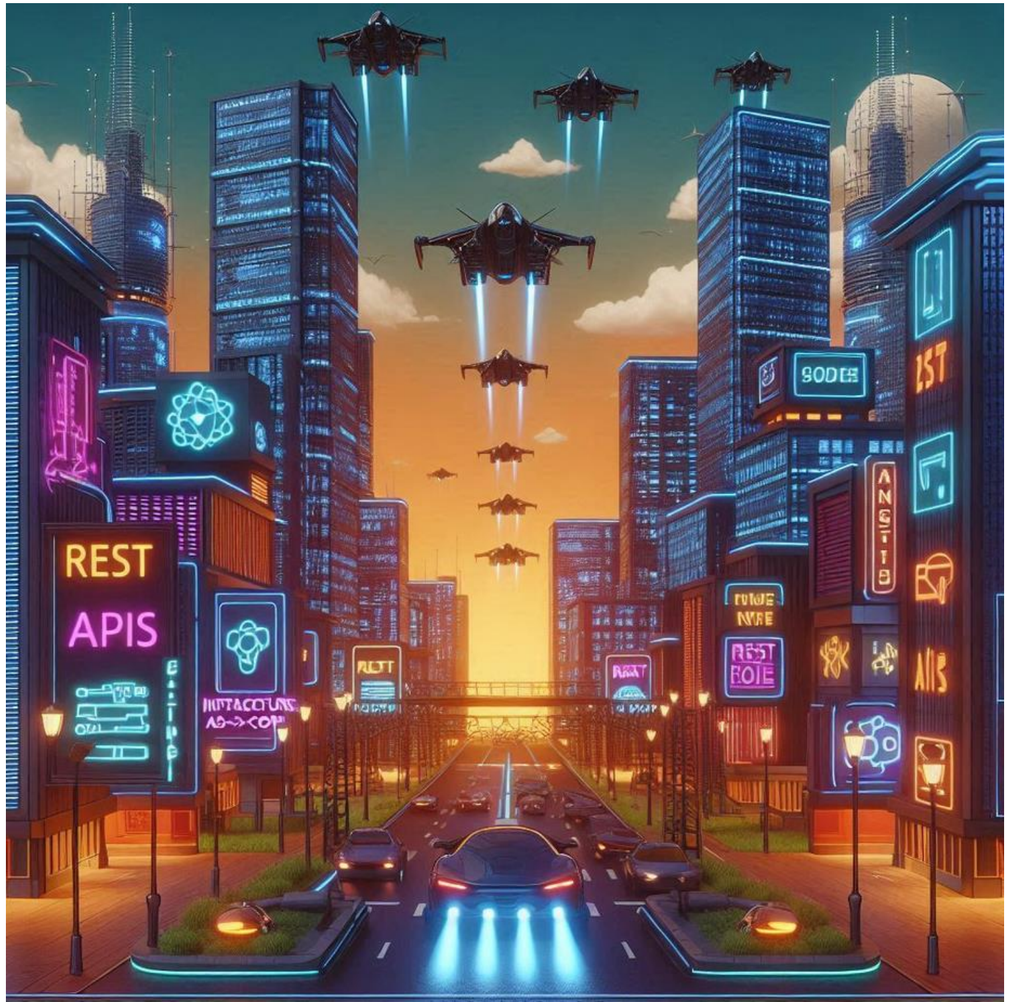
Sequences

Run Dataflow

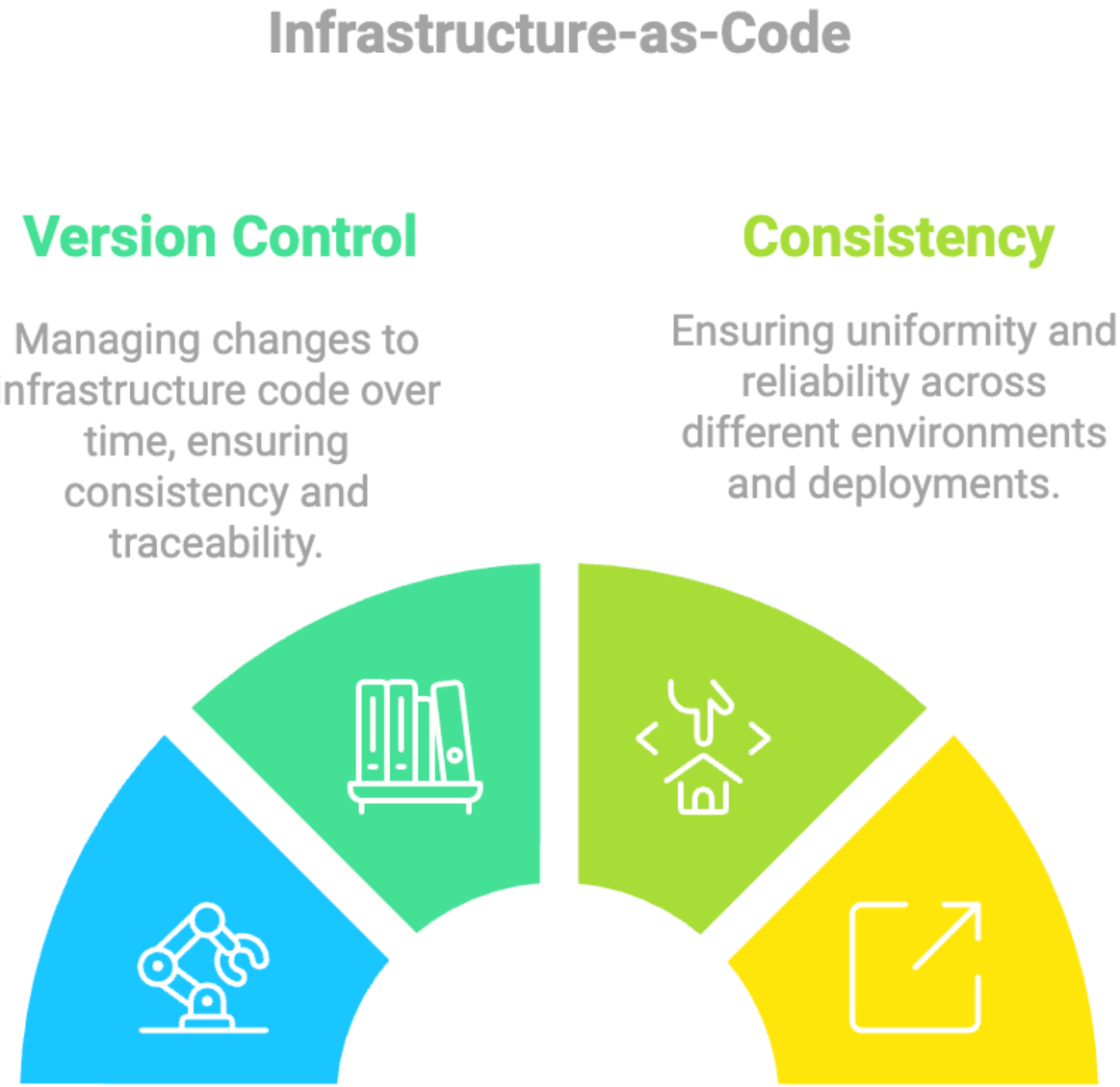
Reload Data

Run Sequence

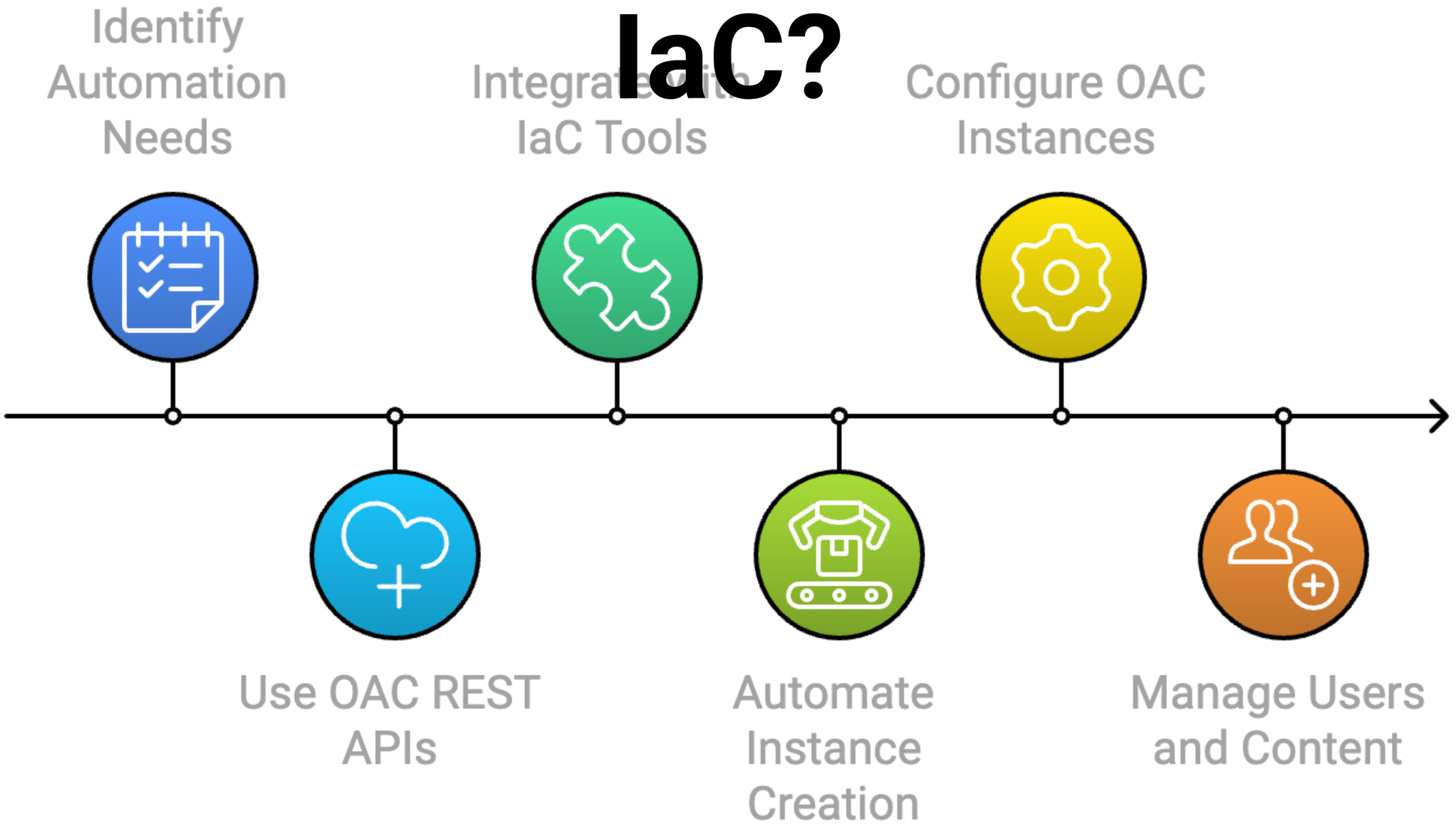
APIs and Infrastructure-as-Code (IaC)



What is Infrastructure-as-Code?



Why Use OAC REST APIs with IaC?



Use Cases for OAC + IaC Integration

How to utilise OAC + IaC integration?

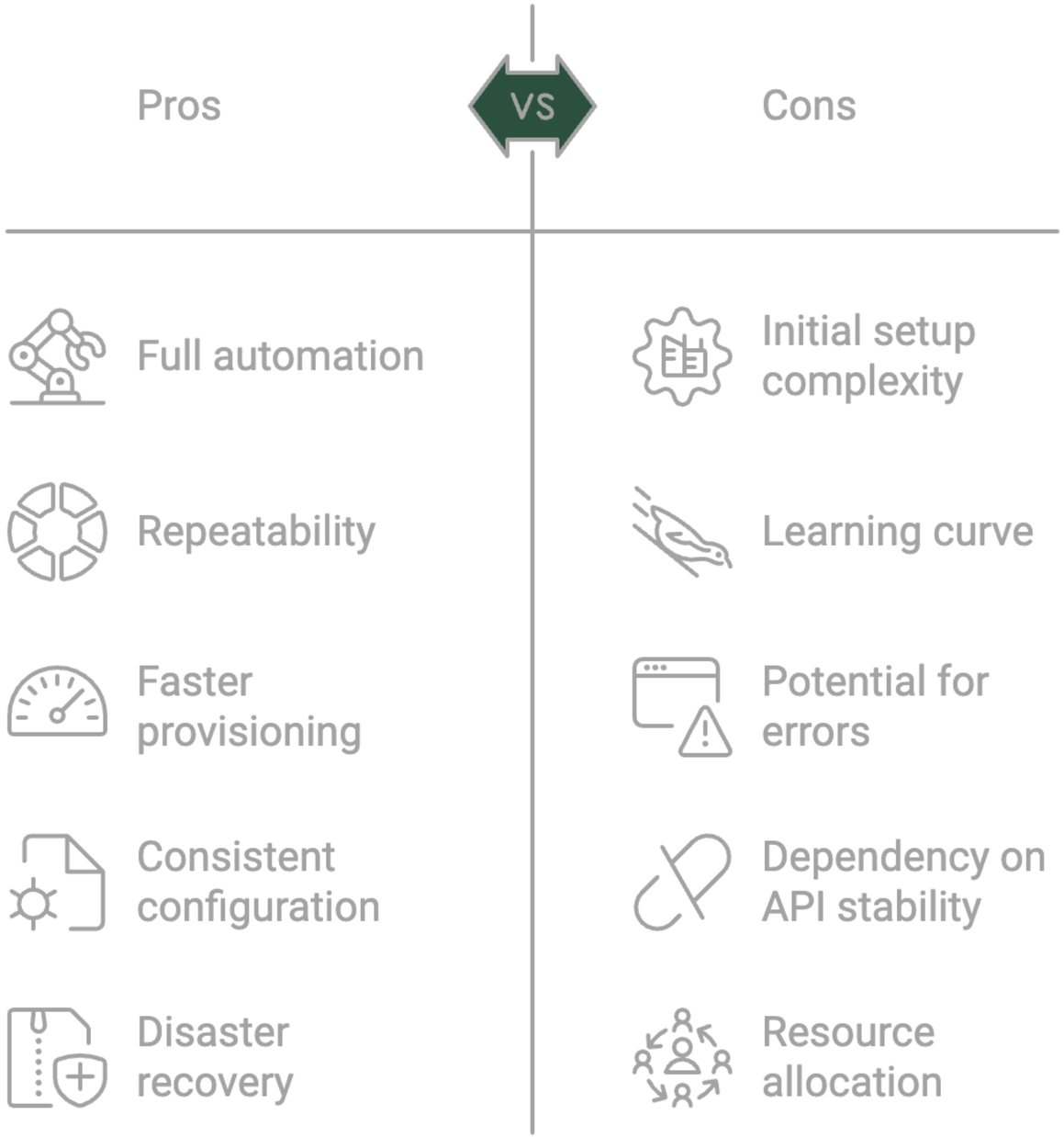
Spin up OAC instance

Automate the setup of OAC instances for efficiency and consistency

Snapshot Loading

Replicate environments and apply consistent settings or permissions

Benefits of this approach

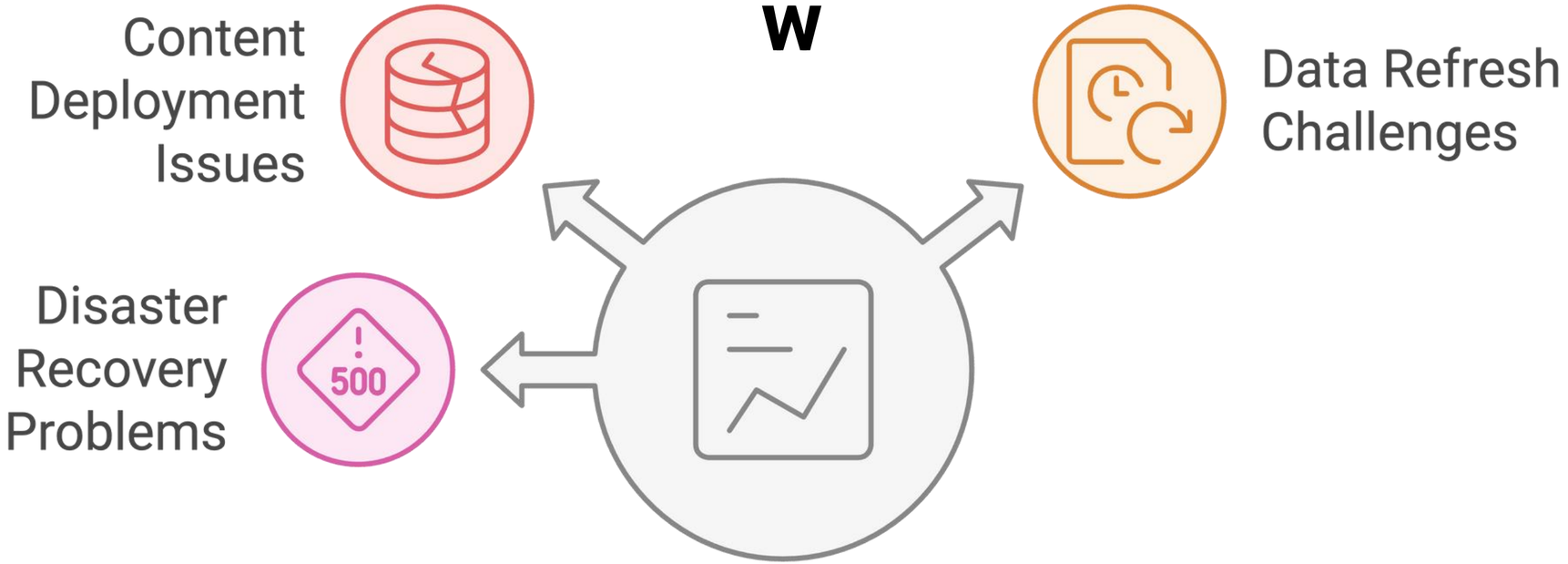


Case Study


CASE STUDY
CASE STUDY
CASE STUDY
INSIGHTS
INSIGHTS
CASE STUDY

Automating OAC Administration for a Global Retailer

Overview



Automating OAC Administration for a Global Retailer

Solution

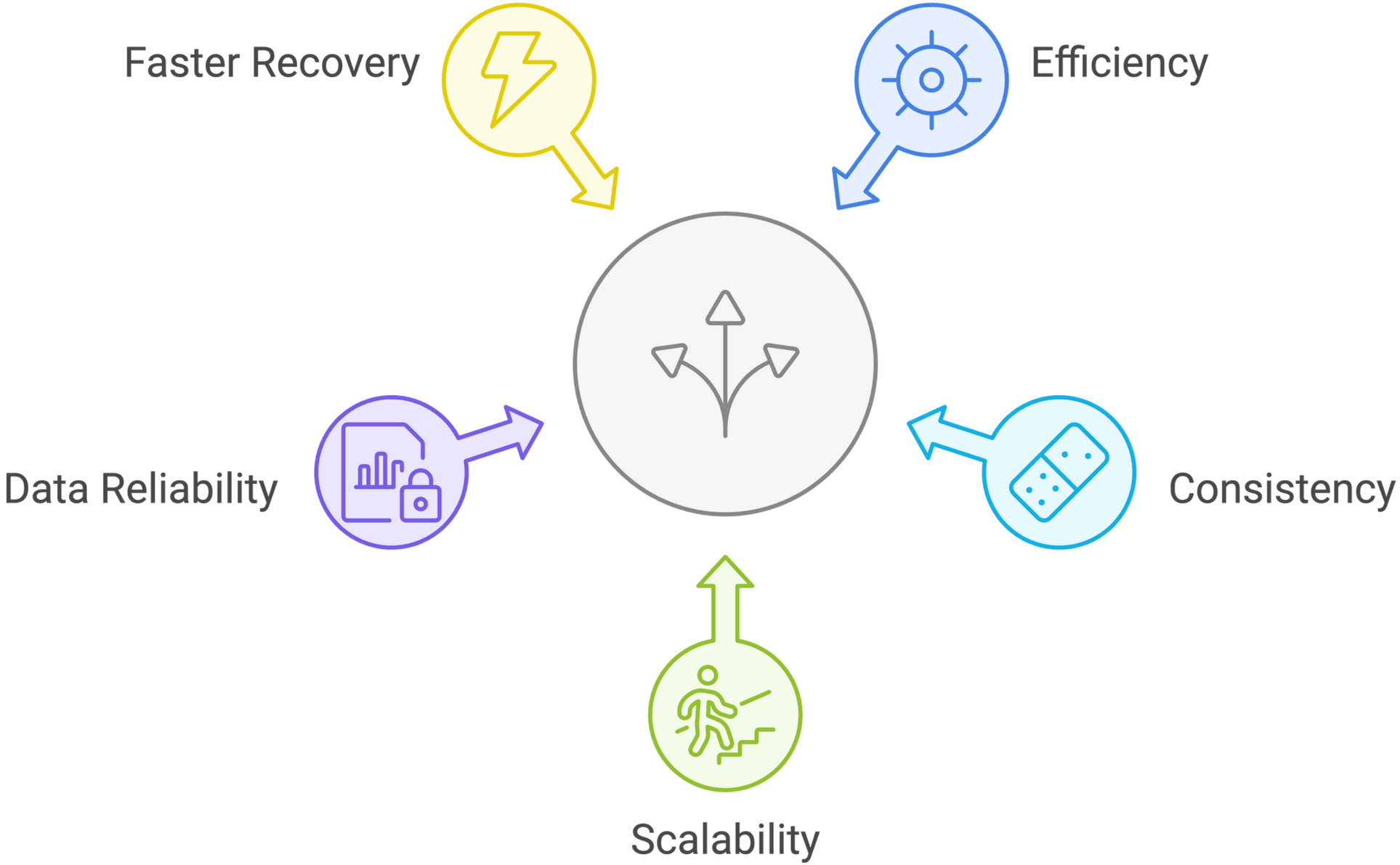
Content Deployment Pipeline

Oracle Analytics REST APIs

Data Refresh Automation

Automated Disaster Recovery

Benefits of REST API Automation



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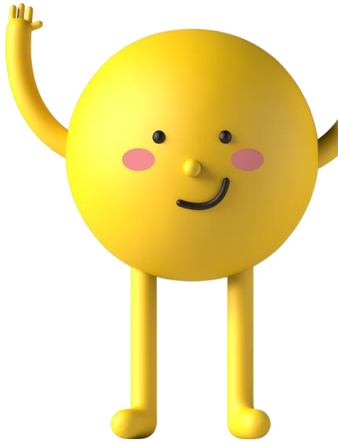
Q&A Session

Please raise your hand and provide your question.



Resources

Generate OAC Snapshots

Postman

Configuration
REST API Overview

Using the Data Flow and Sequence APIs

Helpful Links –

ORACLE ANALYTICS VIDEOS:
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OAC SEPTEMBER NEW FEATURES VIDEOS BY ORACLE:
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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End of Presentation

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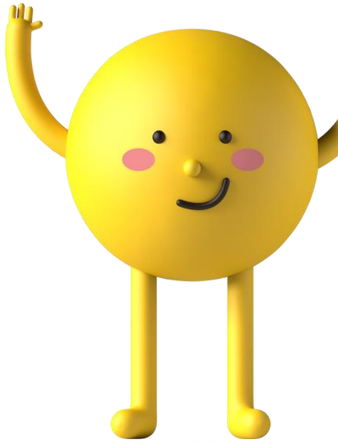

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March 2025

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Joel Acha