



# Data Engineering and the Rise of the API

*The changing landscape of data sources and systems interaction.*

# Thank you to our Fabric February Friends!

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Nearly twenty years of experience working with data platform and cloud technologies. Working with SQL Server, Azure, AWS, Snowflake and Databricks to deliver OLTP and Analytics solutions.

# What are we discussing?

Looking at how we used to get data, what APIs were used for and how that has changed. Then looking forward and thinking about what might change, and what the needs of a data engineer are for APIs.





# How we got Data



# Where we get data from now



# Data Engineering & APIs

Line of Business Apps are typically SaaS-first now, not many internally hosted.

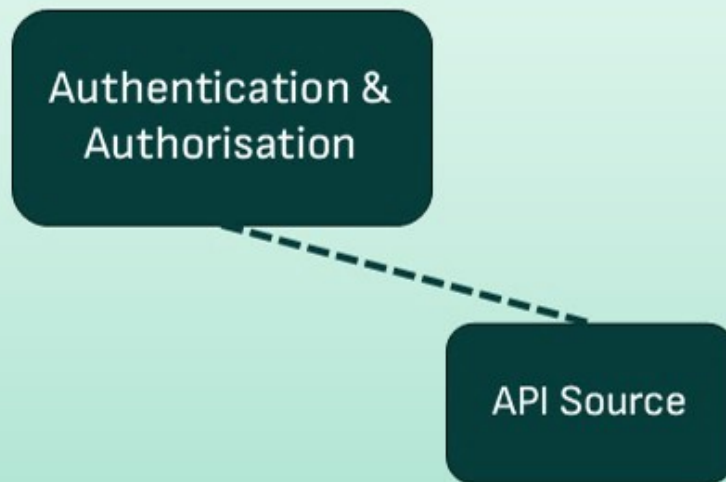
Data obtained by SOAP, REST, or GraphQL APIs.

Data is largely in semi-structured format such as JSON or XML.



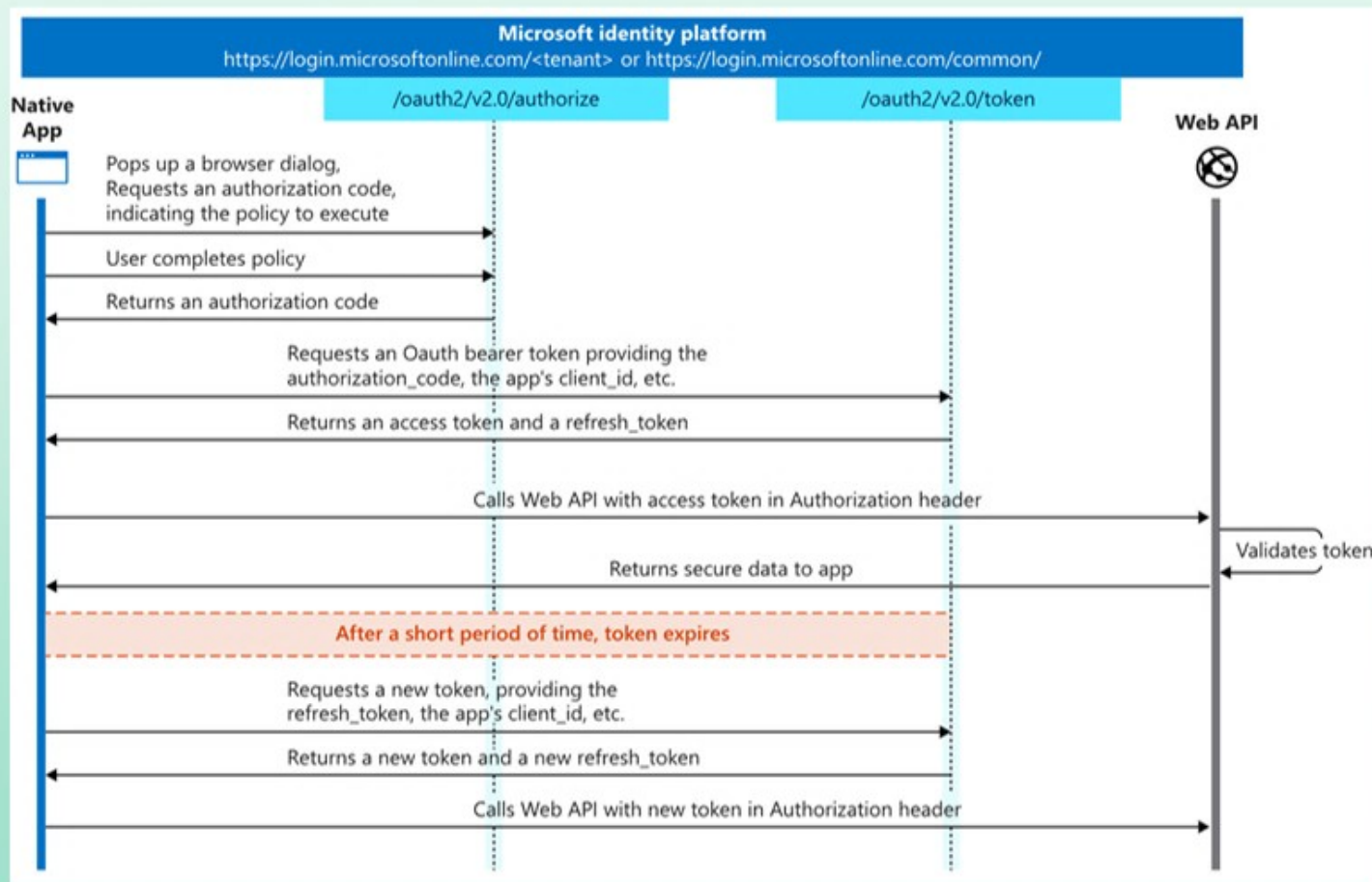


# API gotchas for the Data Engineer

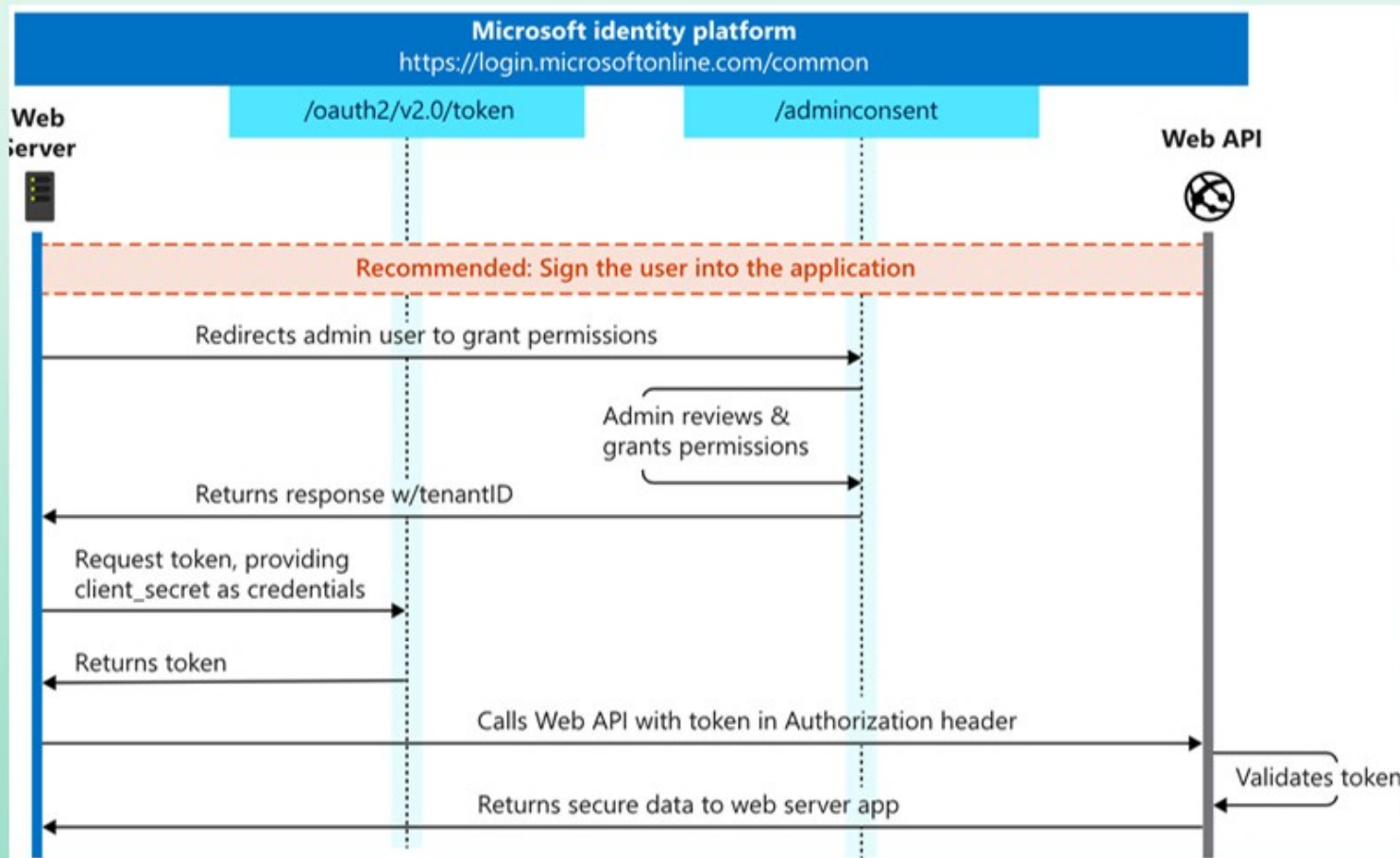




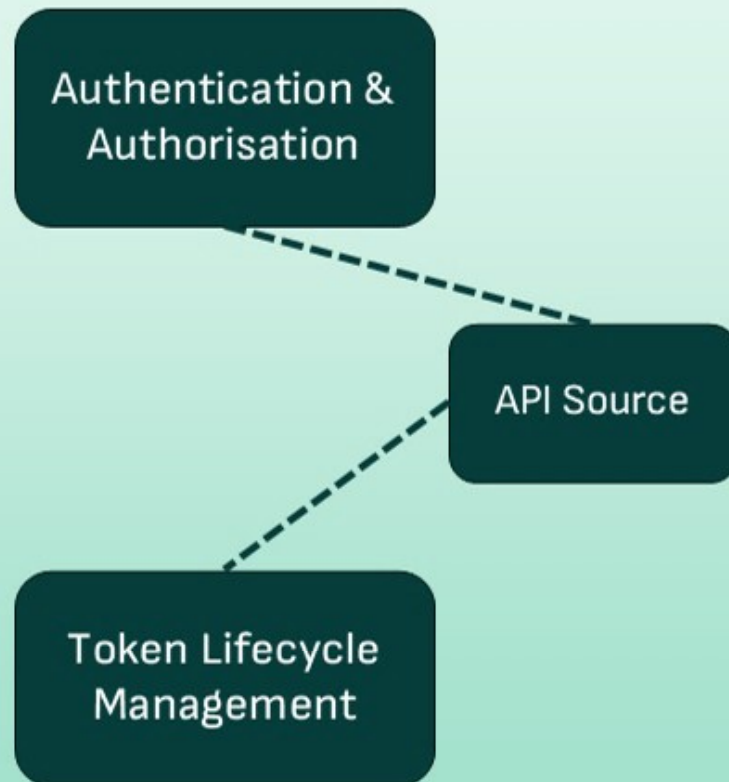
# OAuth 2.0 – Code Flow



# OAuth 2.0 – Client Credentials

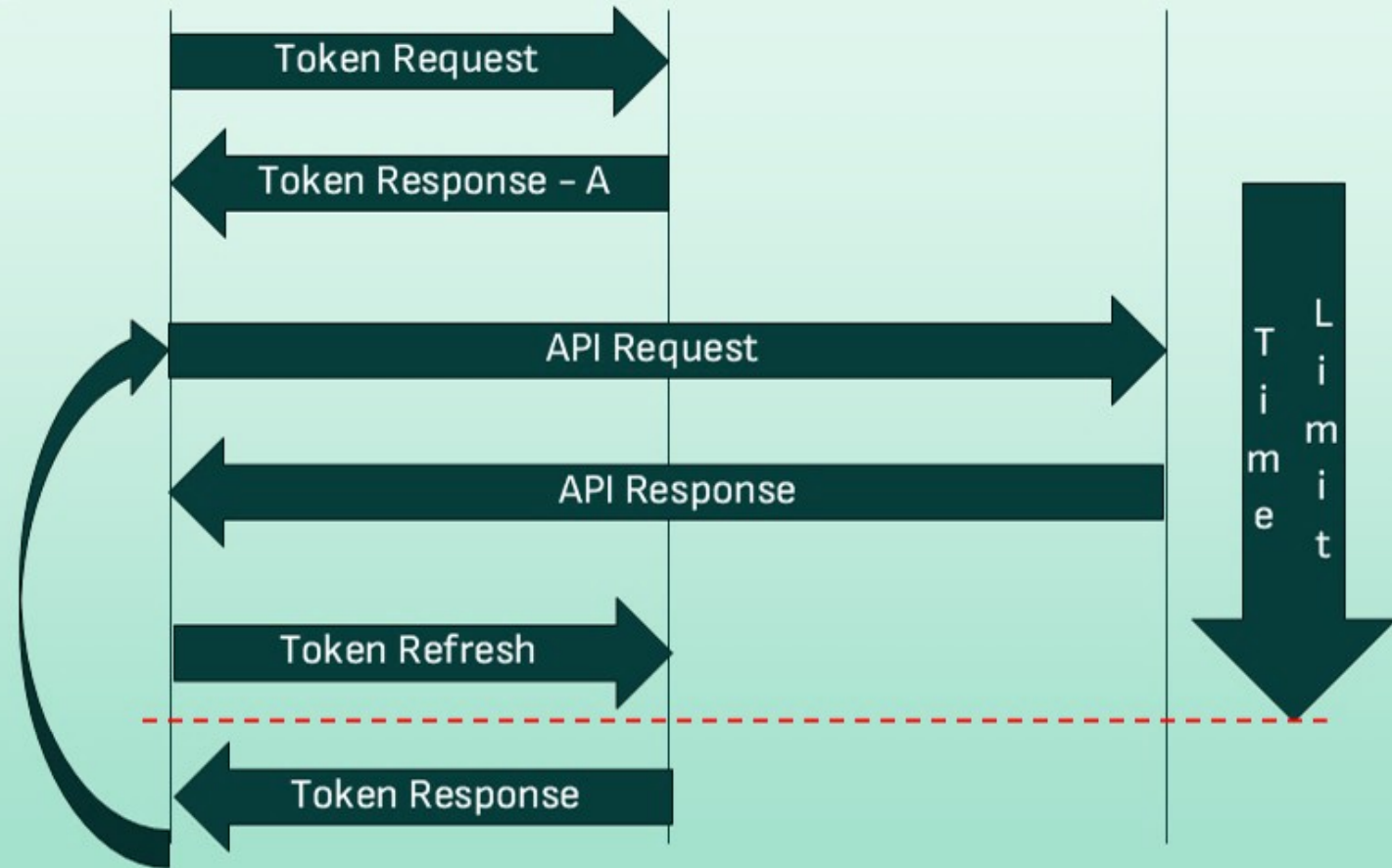


# API gotchas for the Data Engineer

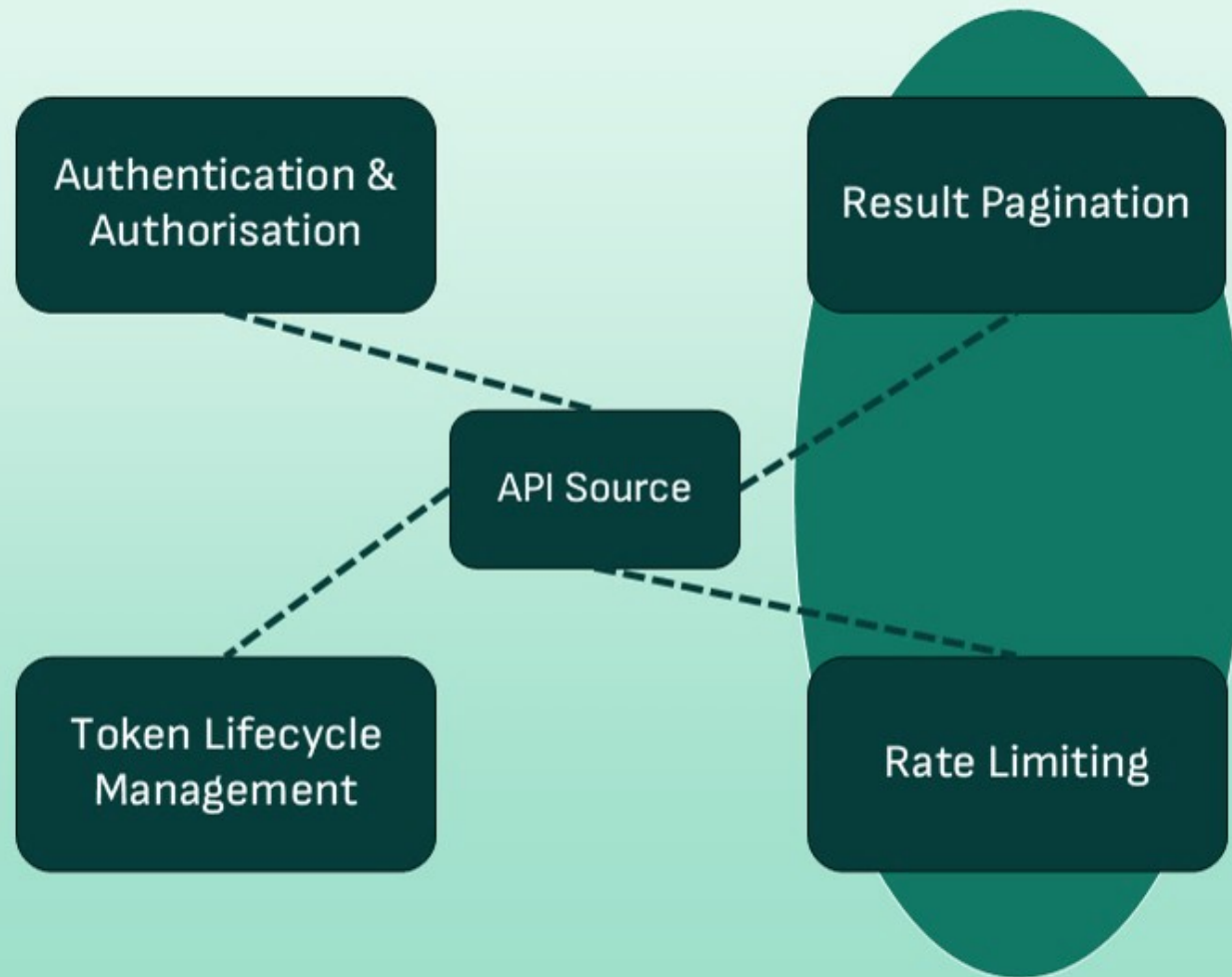




# Token Lifecycle



# API gotchas for the Data Engineer



# Demo

*How do we interact with APIs?*



# Demo

*Pulling data from GitHub with Azure Data Factory.*



# What does the future hold.

More GraphQL for data engineering activities, supporting more granular queries than API endpoints.

APIs that support bulk data operations with automated tooling.

As data engineers we need to adopt API principles such as versioning in our data products.

Making use of APIs in platforms like Databricks and Fabric for management and deployment.



# Summary

Read the docs, each API is different and will have its own nuance around authorization, token expiry, rate limits etc.

Understand where you plan to do the transformations once you have the data, at landing or in platform processing.

Get involved in the buying process for applications or the requirement spec if developing in-house.





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# Thank you!

