Analytics Vidhya

Working with APIs

Understanding APIs and Their Role in AI Agents

Instructor

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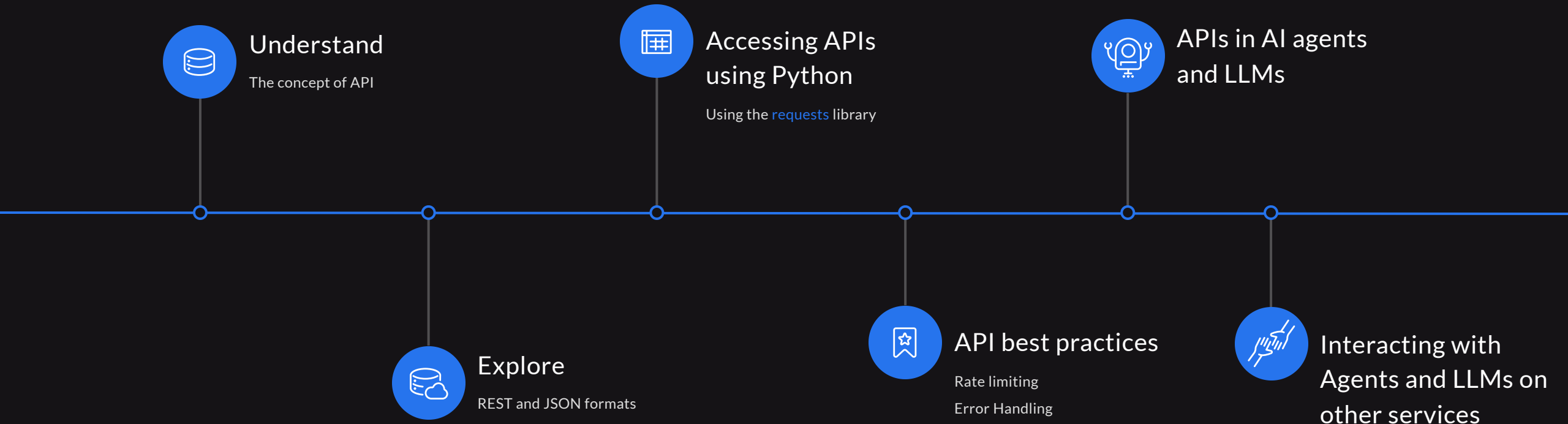


Module Agenda

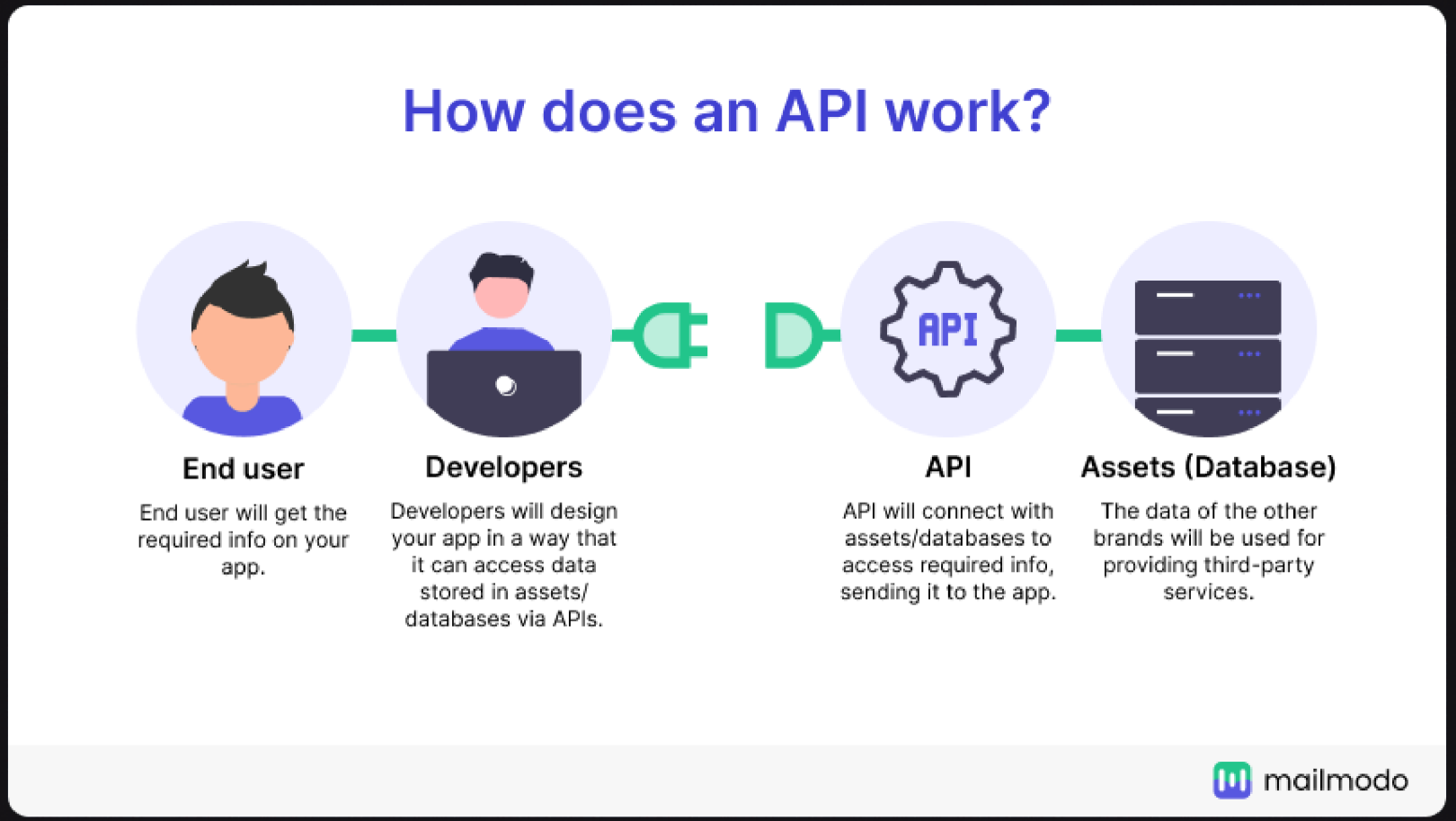
What is an API?

Application Programming Interface or API is a set of rules and protocols for building and interacting with software applications

It enables communication between software components, allowing different systems to interact seamlessly.

Analogy: Think of API as a waiter taking your order to the kitchen and bringing back your food.

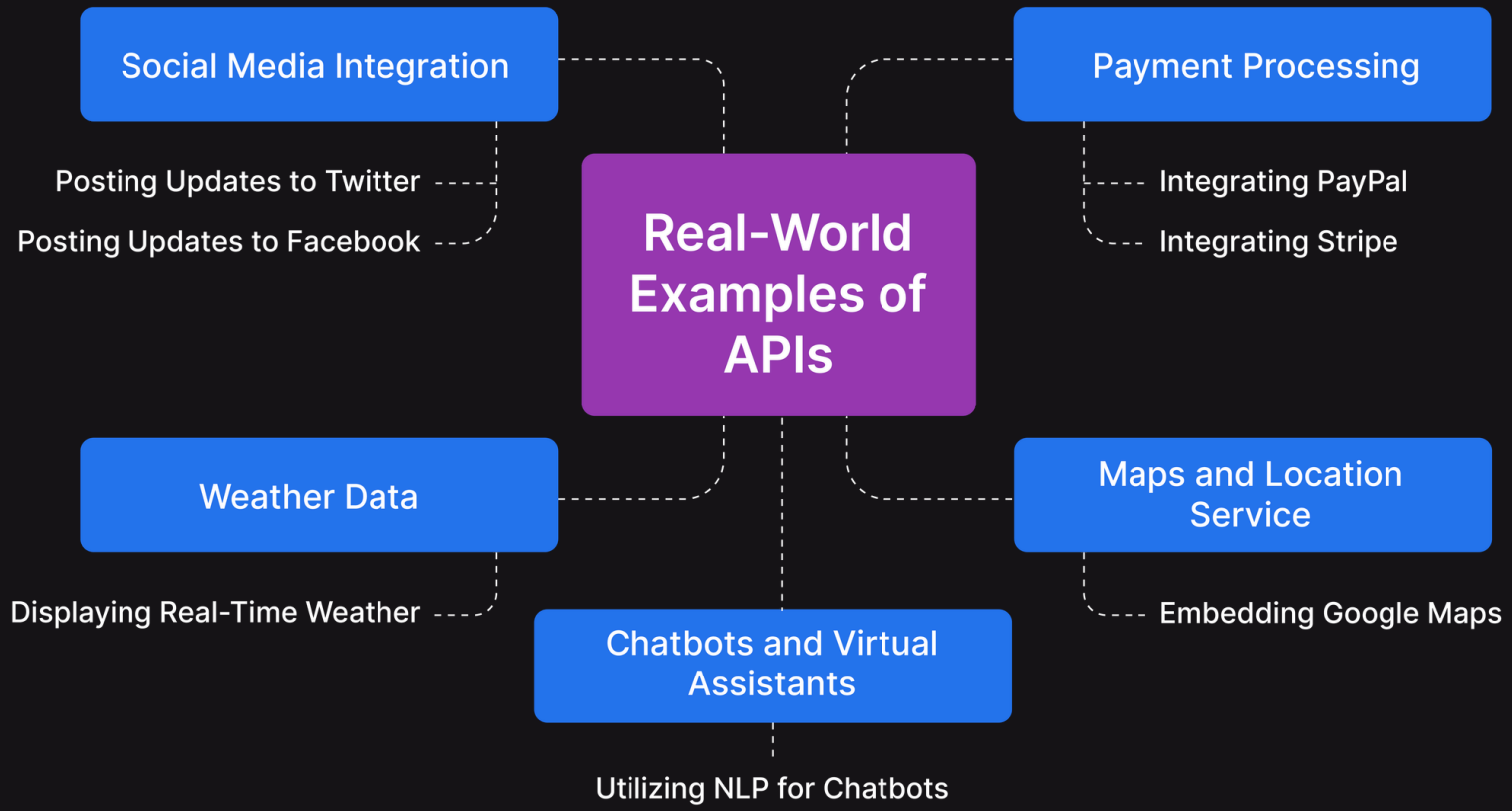
How Does an API Work?



Why APIs are Important

- Interoperability: Allows different systems to work together
- Scalability: Supports multiple clients and platforms
- Reusability: Use existing services without reinventing the wheel
- Innovation: Encourages development of new applications and integrations
- Accessibility: Enables access to third-party data

Real-World Examples of APIs



APIs in the Context of LLMs and AI Agents

Role of APIs

Access pre-trained models and AI services

Offload heavy computational to external servers

Common AI APIs used in creating Agents

OpenAI GPT models

HuggingFace, Cohere Models

Google Cloud AI services

Benefits

Leverage advanced AI without building models from scratch

Access to real-time data

Integrate multiple services

Use-cases

APIs for Embeddings and chat completions

Natural language processing

Sentiment analysis

Language translation

Recommendation systems fetching data from external sources

Interacting with LLMs via APIs

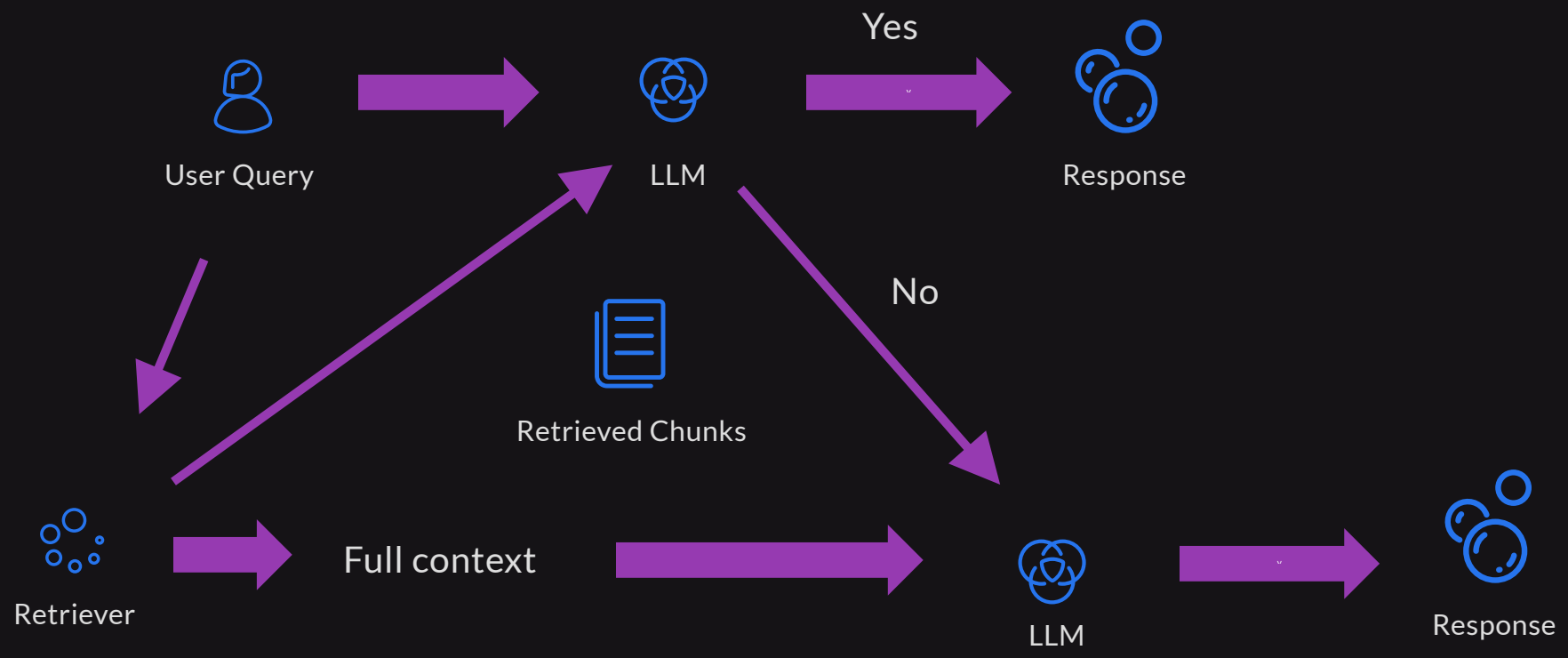
```
## Example with OpenAI API: ##
import openai
openai.api_key = 'YOUR_API_KEY'
response = openai.Completion.create(
    engine='text-davinci-003',
    prompt='What is the capital of France?',
    max_tokens=5
)
print(response['choices'][0]['text'])
```

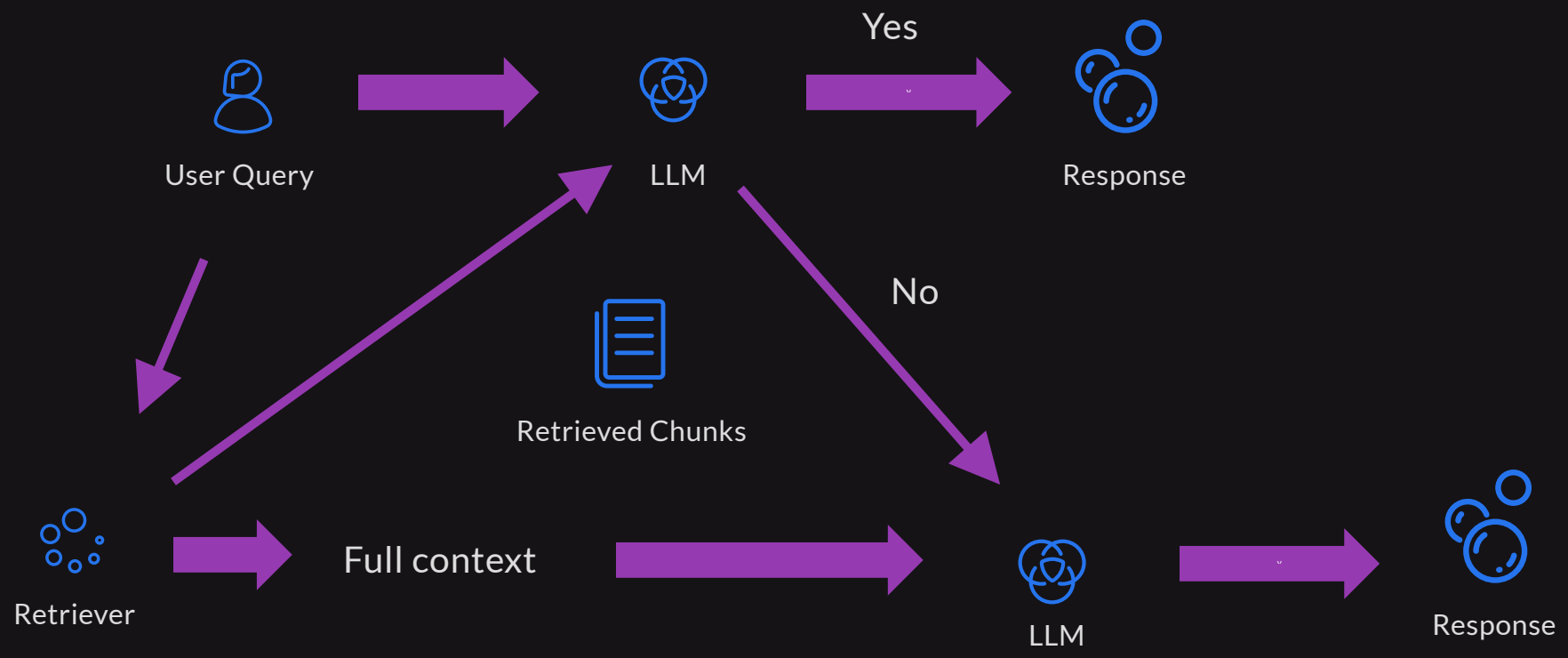
Workflow

- Spend a prompt or input to the API
- API processes the input using an LLM
- Receive and parse the response

Considerations

- Latency: API calls introduce network delays
- Costs: Pay per use or subscription-based models
- Data Privacy: Be cautious with the sensitive data.


Yes
User Query
LLM
Response
No
Retrieved Chunks
Retriever
Full context
LLM
Response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