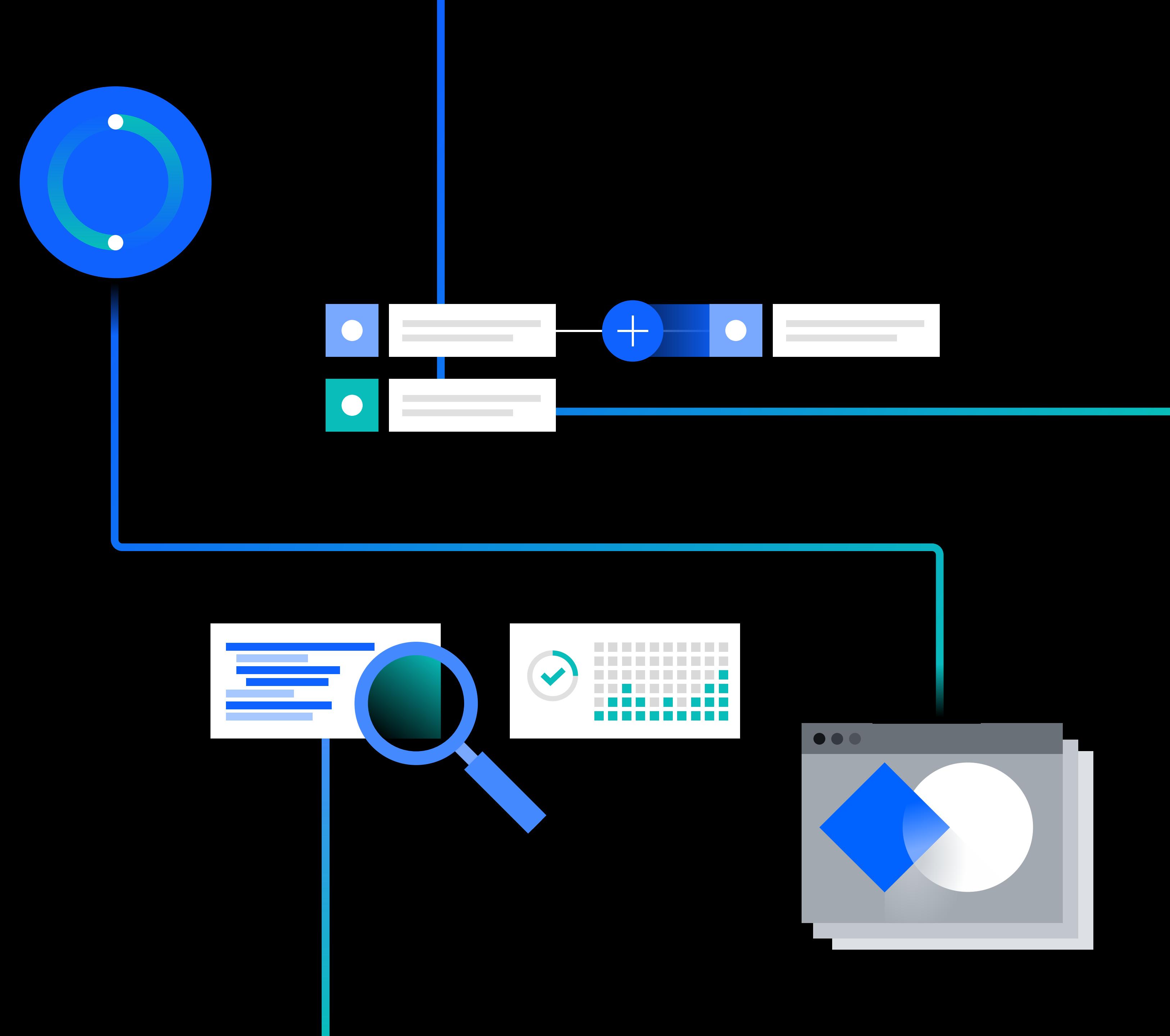


# IBM API Connect

in Cloud Pak for Integration



# Powering Essential Solutions

With an increasing need for virtual services during the pandemic, APIs (application programming interfaces) continue to be the backbone for crucial infrastructures by connecting applications and data sources.

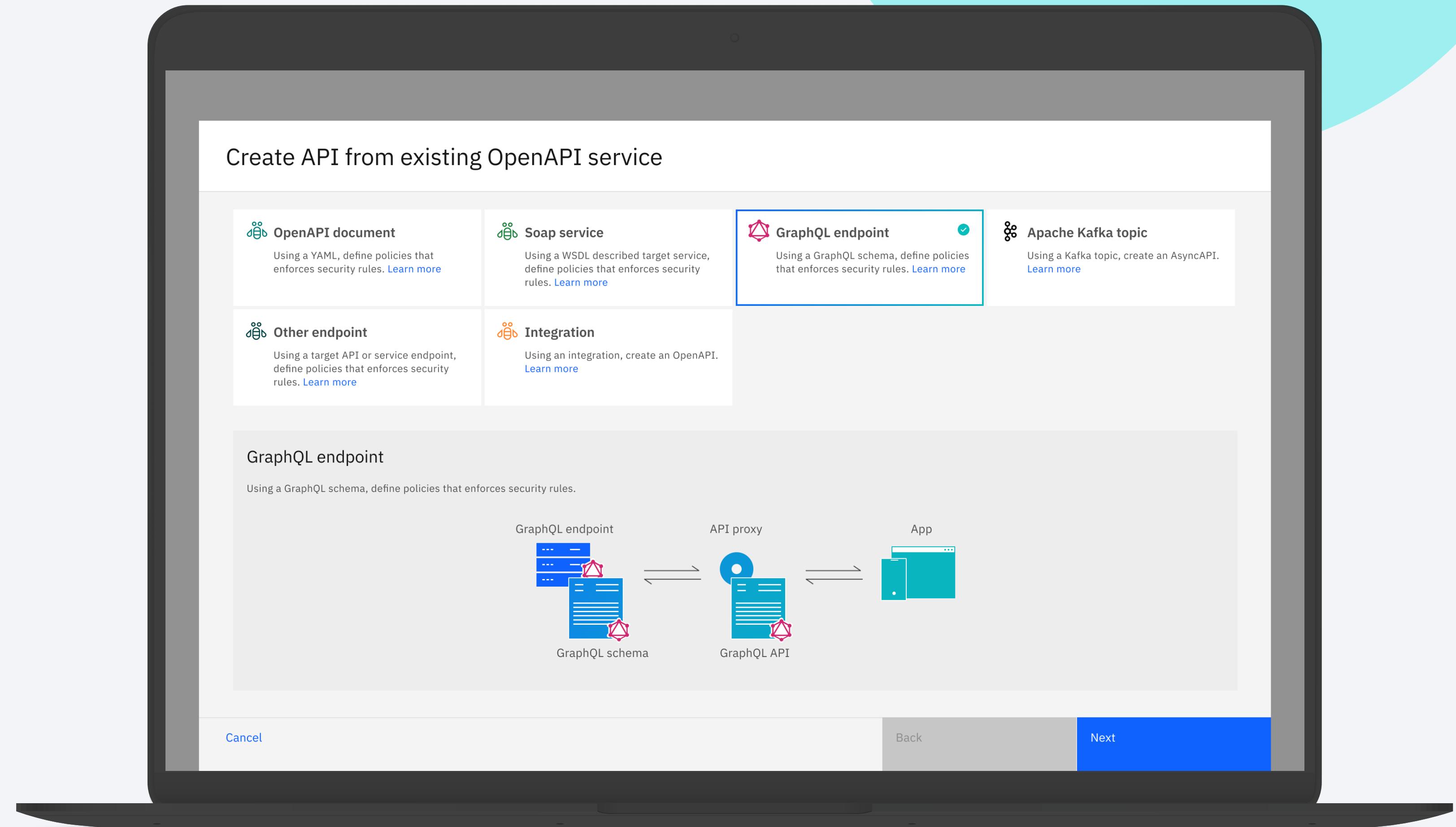
**IBM API Connect**, as a part of Cloud Pak for Integration, enables software developers to create, manage, and share APIs in a single, unified experience. Through shared assets and automated testing, our solution improves API quality and slashes development cycles from weeks to days.

Following our own IBM Design Thinking loop, we completed extensive research to understand our users' pain points and build empathy to design and deliver an elegant product.

# Supports all the modern API types

Creating an API requires expertise, especially with emerging API types.  
To minimize entry barriers, we:

- Created built-in templates to rapidly create, test and deploy APIs
- ◆ Designed tools to visually compose and compare API architectures
- Incorporated intelligent suggestions to improve data representations



Request

GET http://order.swagger.io/v2/track

Clear Send

Response

HTTP Status: 200 Response Time: 5153ms

Body Header Trace

Reorder Read-only

Operation switch

- GET /account
  - Invoke
  - Parse
- Get /order
  - Map
  - Invoke
  - Map

Show catches Show minimap

Catches

Finally

Full trace Advanced Edit assembly

```

1 toggleState = (element, evt) => {
2   const data = element.dataset;
3   const label = (data.label) ? data.label : '';
4   const previousValue = (data.previousValue) ?
5     data.previousValue : '';
6   const initialEvt = evt;
7   this.changeState({
8     group: data.event,
9     element,
10    label,
  
```

# Simplified development loop

Today, software developers need to juggle between separate API editing and testing tools. To address this, we:

- Consolidated building and testing into a single user interface
- ◆ Designed effortless visual debugging tools to isolate and remedy errors

# Automate testing with Watson AI

Writing tests is tedious and time-consuming but necessary to ensure services stay up and running. We leveraged an AI solution to:

- Use machine learning to automate API testing with 100% test coverage
- ◆ Evaluate data to identify testing gaps from real use cases
- Derive insights to handle complex scenarios to reduce repetitive tasks

The screenshot shows the IBM Automation interface with the following details:

**Header:** IBM Automation, Test suites / Order, View and track your orders and deliveries.

**Navigation:** Tests (selected), API quality, API dashboard, Settings.

**Search:** A search bar at the top right.

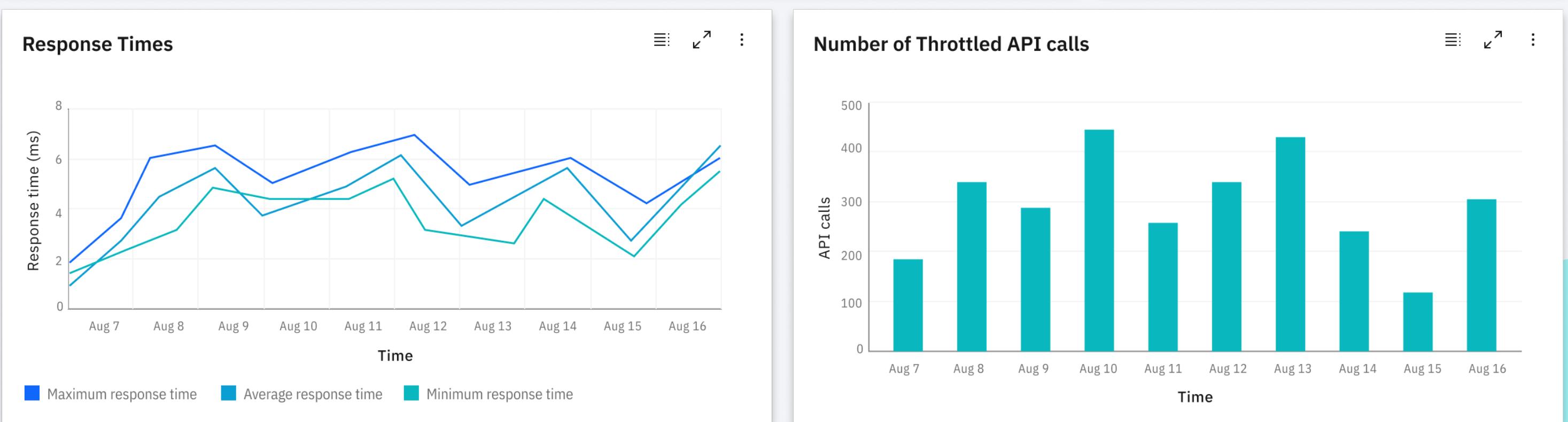
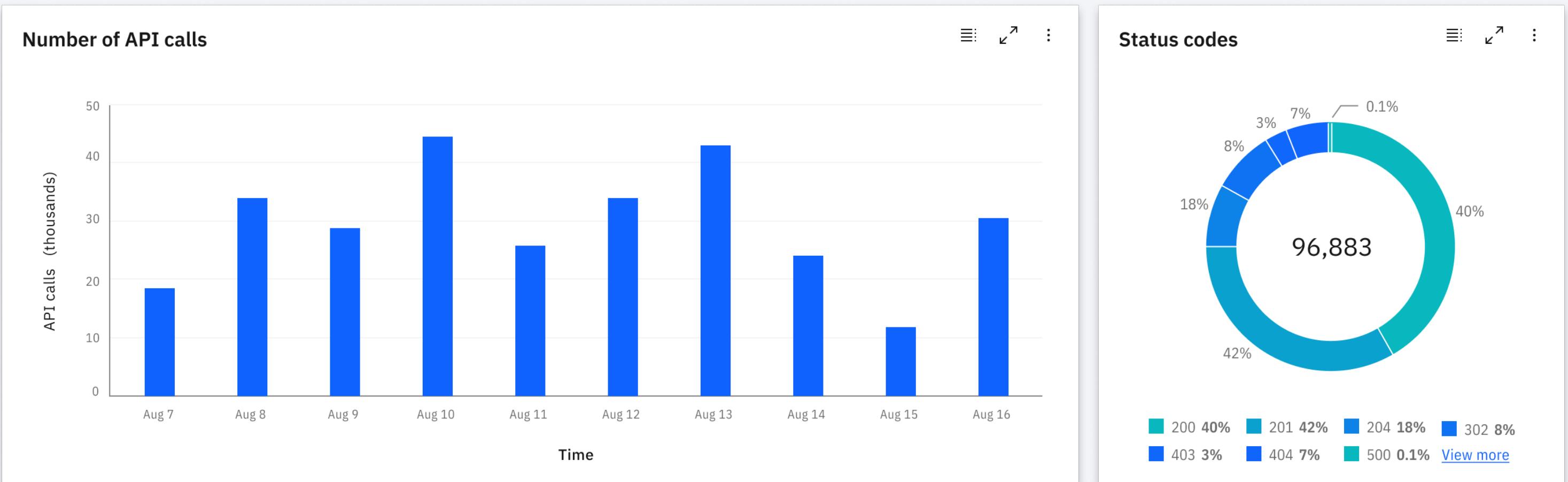
**Table:** A table listing 24 test cases under the "Tests" tab.

Name	Tags	Status	Modified
post_create_an_order		Passed	2 minutes ago
post_cancel_an_order		Passed	A day ago
post_close_an_order		Passed	5 days ago
post_reopen_a_close_order		Passed	5 days ago
get_retrieve_a_list_of_orders		Failed	5 days ago
get_retrieve_a_specific_order		Passed	5 days ago
get_retrieve_an_order_account		Passed	13 days ago
put_upload_an_order		No result	13 days ago
del_delete_an_order		No result	13 days ago
Items per page: 10	1 - 10 of 24 items	1 of 3 pages	

**Right Panel:**

- Insights (9):** We identified the insights based on historical data that might help improve your test. Last update: 04/27/2021 12:20. Update insights.
- Watson recommended:** Improve the Order API test coverage of production use cases by up to 12.5%.
- Test Case Details:** 200 OK for post\_orders /orders. Completeness score 94%. View detail. Add test case.
- Path Suggestions:** /orders (3), /orders/{order\_id}/cancel (3), /orders/{order\_id}/close (1), /orders/{order\_id}/open (2).

<b>Total Calls</b>	<b>Total Errors</b>	<b>Average Response Time</b>
271,704	12,590	4.87 ms



# Monitor APIs with ease

Monitoring crucial API data is frustrating when it's scattered across different sources. To address this, we:

- Organized significant metrics into a curated dashboard
- ◆ Highlighted trends so potential insights are not left undiscovered

# All in one place

It's incredibly challenging to find or reuse assets across integration portfolio. To address this, we:

- Designed a visually engaging and lightweight portal that allows Application developers to discover APIs and other integration assets
- ◆ Organized content that inspire users to continue innovating without duplicating work

The screenshot shows the 'IBM Automation' API catalog interface. At the top left is a navigation bar with three horizontal lines, the text 'IBM Automation', a bell icon, a user profile icon, and a three-dot menu icon. On the right side of the header are icons for notifications, user profile, and settings.

The main area is titled 'API catalog' and features a search bar with the placeholder 'Integration'. Below the search bar is a section titled 'Integration 9 items'.

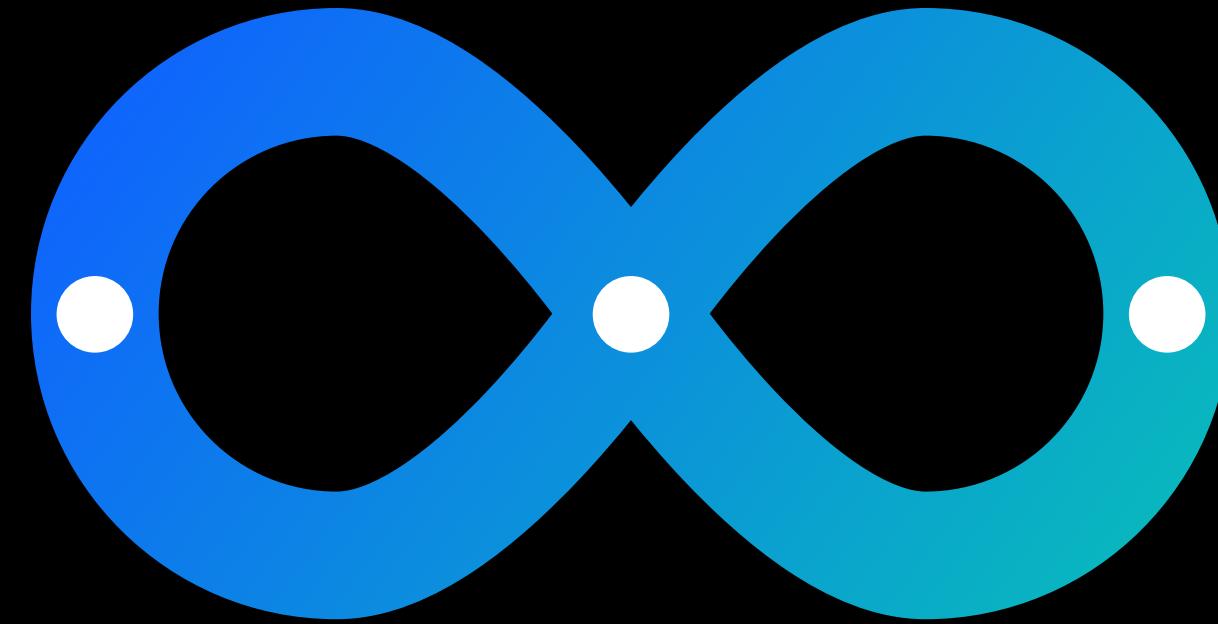
On the left side of the catalog, there are three filter panels:

- Category:** Includes checkboxes for 'All', 'Integration' (which is checked), 'Data' (which is checked), and 'AI'.
- Namespaces:** Includes checkboxes for 'All' (checked), 'Dev' (checked), and 'Test' (checked).
- API types:** Includes checkboxes for 'All' (checked), 'Rest (OpenAPI 2.0)' (checked), 'Rest (OpenAPI 3.0)' (checked), 'GraphQL' (checked), and 'AsyncAPI' (checked).

The catalog displays nine items in a grid format:

Category	Description	Endpoints	Status
Inventory	Get inventory lists for all stores and markets	REST (OpenAPI 2.0)	Online
Locations	Get a list of all store locations	GraphQL	Online
Shipment tracking	Obtain tracking information for store, marketplace, and customer shipments	AsyncAPI	Online
Customers	Create, review, and update customer information	REST (OpenAPI 3.0)	Online
Employees	Create, review, and update employee information	GraphQL	Online
Suppliers	Obtain list of current inventory suppliers	AsyncAPI	Online
Address validation	REST (OpenAPI 3.0)	GraphQL	Online
Postal code validation	GraphQL	AsyncAPI	Online
Global supply chain	AsyncAPI		Online

# The loop guides us



Observe

Reflect

Make

During our research and design process, we developed domain knowledge about the complexities of APIs in a world that is increasingly reliant on them.

We built a thorough understanding of how software developers think to balance solving their current pain points with anticipating their future needs.

The result is a streamlined, elegant, and efficient API management solution that empowers our users to tackle the world's most pressing challenges.

# Customers love us!



**“Very powerful and professional API solution with a great interface”**  
Integration Developer



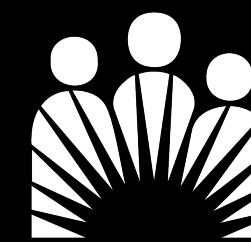
**“One of the best API management tool”**  
Senior System Engineer



**“Robust tool for API lifecycle management”**  
Technical Support Engineer



**“A leader for full Life cycle API management”**  
Gartner Magic Quadrant report



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**citibank**

**TOYOTA**