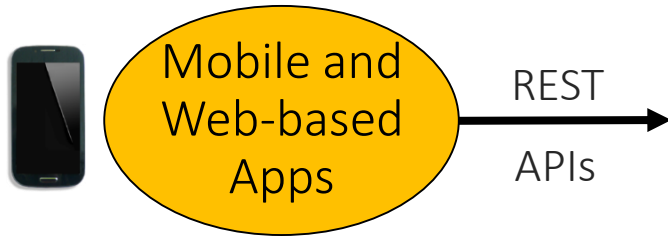


Connect and Transform Your Digital Business with IBM

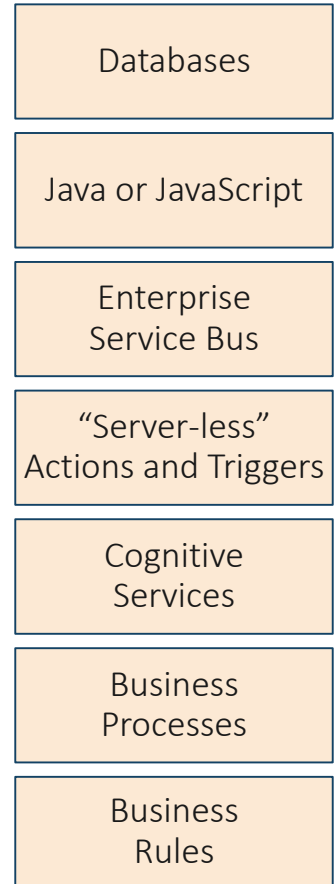
Unleash Innovation with the API Economy



Unleash innovation with the API economy



Connect to APIs
to extend the
reach and power
of your apps



What are REST APIs and why are they popular?

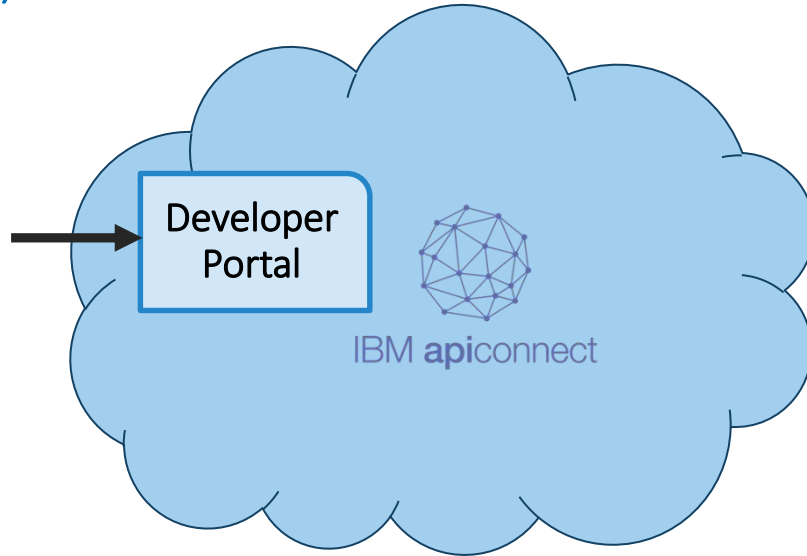
- Representational State Transfer (REST) is a software architecture style for interacting with services
 - Communication over HTTP with HTTP verbs (GET, POST, PUT, DELETE)
 - A client application only needs to use a URI to invoke a service
 - Data transfer is typically done using JSON format
- Stateless model - each request from a client contains all information needed by the server to service the request
- Swagger is a new standard for defining REST API interfaces
- REST and Swagger have gained widespread acceptance as a simpler alternative to SOAP and WSDL-based Web services

Developers use APIs to enrich their apps, but finding them and using them can be difficult

- *How do you know what is available?* APIs are scattered across organizations, making them less likely to be used
- *How do you know how to use them?* APIs are inconsistently documented, making it more time consuming to use them
- *How do you know if they work?* Cannot test APIs prior to coding them into an app, making testing more difficult and time consuming
- *How can you share what you learned?* Inability to share feedback means that developers waste time making the same mistakes

IBM API Connect solves these problems by cataloging APIs and delivering them in a developer-friendly portal

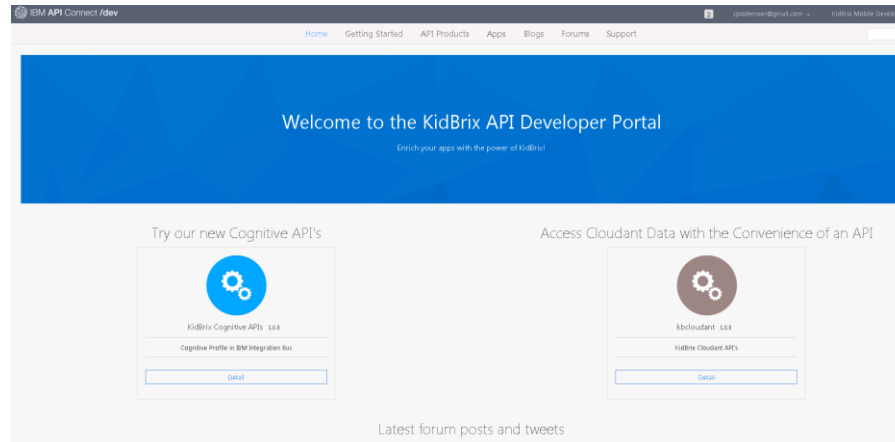
API consumers
(app developers)
build apps using
published APIs



- Presents published APIs
- Details API interfaces and usage policies
- Offers testing to understand behavior
- Allows developers to share what they have learned via ratings and blogs

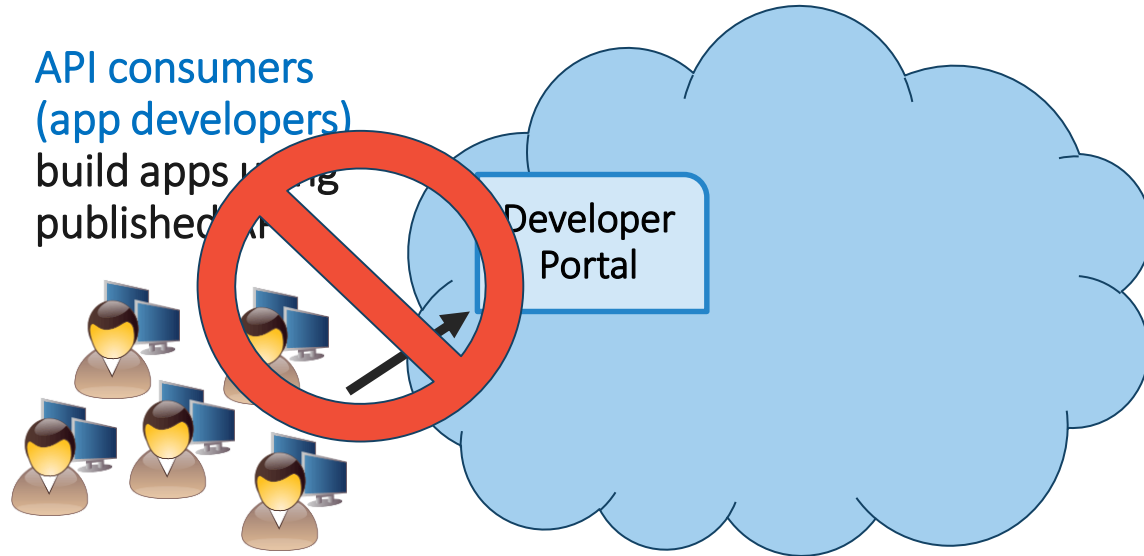
Demo: Discover APIs via the API Connect Developer Portal

- Explore a catalog of available APIs
- View API interfaces and usage policies
- Test the API and get a code snippet to add to your code
- Share expertise and feedback



Amazon and Pivotal API management solutions lack developer portals to aid API consumption

API Discovery



With API Connect, a healthcare company reduces the time and cost for partners

- The business requested a portal to expose healthcare plans, but IT estimated a huge cost and **6-8 months to complete**
- IBM API Connect will enable them to expose healthcare capabilities as APIs to partners and customers with an **ROI measured in days instead of months**
- Estimated **1000 hours saved** through the Developer Portal alone
- In addition, they estimate **significant savings on recurring costs** associated with maintaining custom code and managing API access

Managing a profusion of APIs can be a challenge

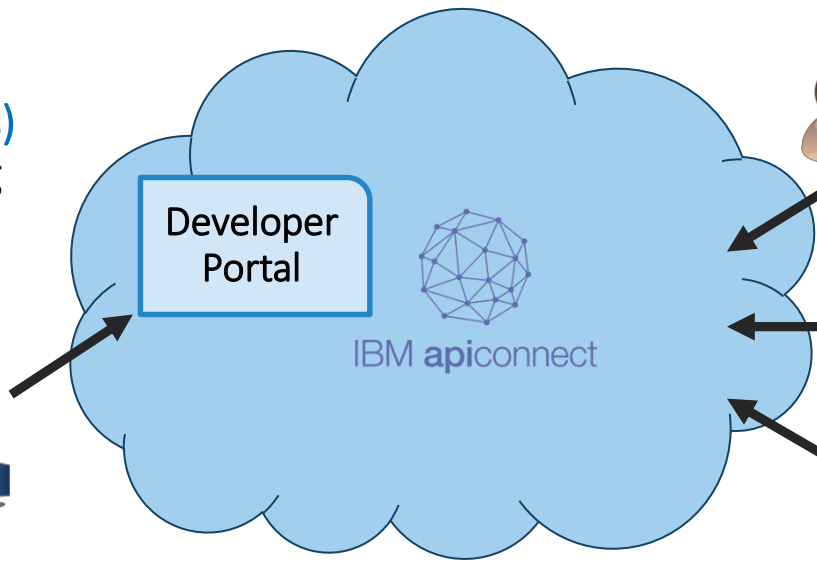
- How can an API provider quickly create APIs and manage them through their lifecycle?
- How can administrators specify limits to the usage of individual APIs?
- How can business owners monitor usage and performance statistics in order to determine API adoption and quality?



API stakeholders collaborate effectively through well-defined separation of responsibilities

API Discovery

API consumers
(app developers)
build apps using
published APIs



API Management

API providers
(API developers)
create, test, deploy,
publish and run APIs



Administrators
specify API
entitlements

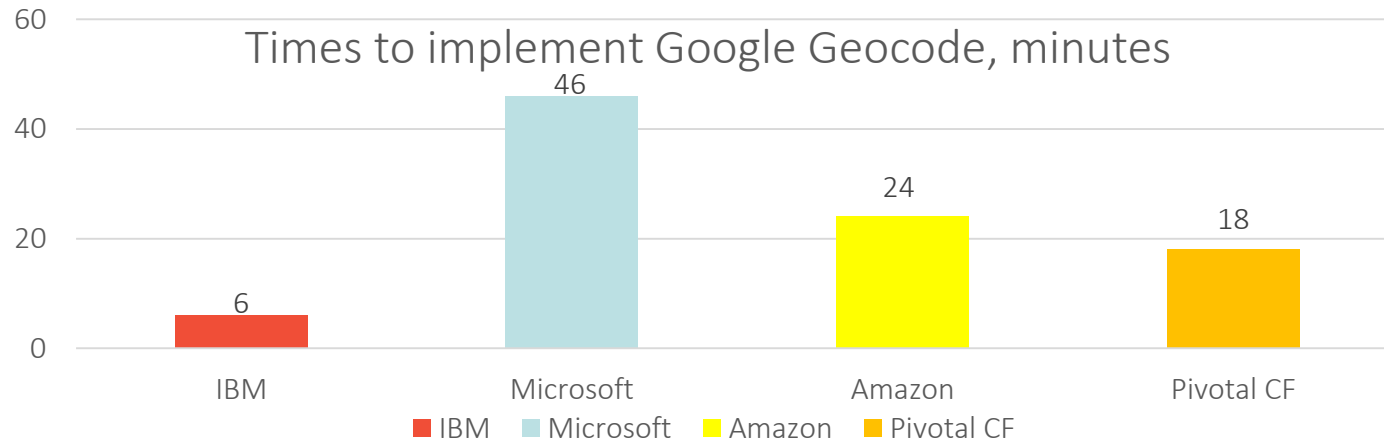


Business owners
monitor and charge
for API usage



Simplify interfaces or aggregate API calls for easier consumption by app developers

- Expose an API with a different interface, mapping from the exposed API to the target API
- Amazon, Azure, and Pivotal require coding or complex configuration to do this. Mule requires Mule ESB.

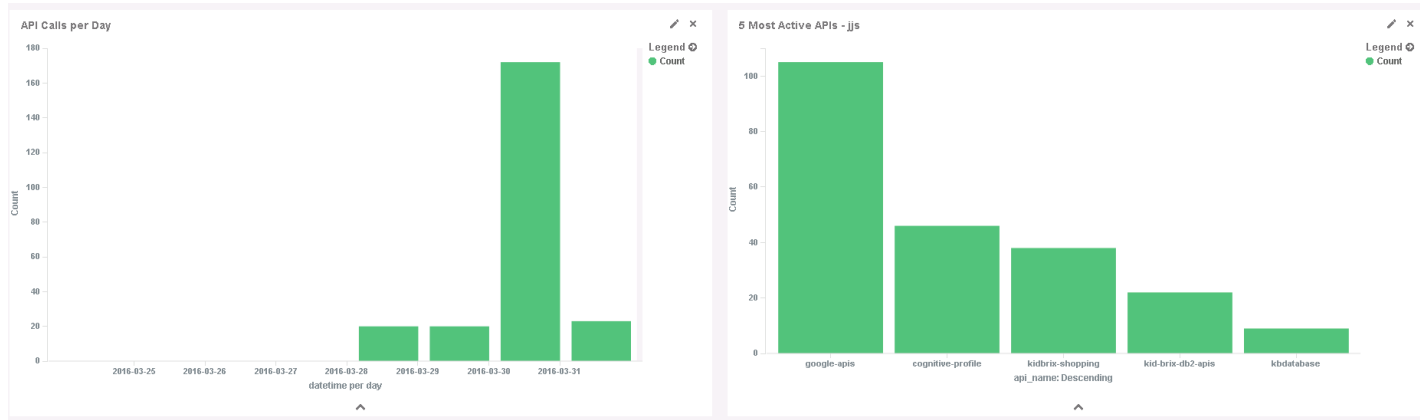


Add policies to control and even monetize API usage

- Create plans that limit the number of APIs calls that can be made in a period of time
- For example, a “free” offering may allow apps to call a set of APIs 100 times per day – a “premium” offering may allow unlimited access
- Access to APIs requires a “client id” associated with the app, allowing policy enforcement and monitoring

Manage the full lifecycle of your APIs

- Manage API versions and lifecycle
- Create developer organizations and manage participants
- Monitor usage by API and application



Demo: Publish and monitor an API

- Publish, deprecate, or retire APIs
- Monitor APIs to determine which APIs are popular
- Monitor response time to determine if additional resources are needed

The screenshot displays the IBM Bluemix API Catalog interface. At the top, there's a navigation bar with 'IBM Bluemix' and 'APIs' tabs. A success message indicates that 'Kid Brix Product (version 2.0) has been published to Sandbox' 4 days ago. Below this is a search bar and a list of APIs. The 'Kid Brix Product' is highlighted, showing its details and monitoring options.

Title	State
KidBrix Database Product kbdatabaseproduct 1.0.0	Published
Kid Brix Product kid-brix-product 2.0	Published

Monitoring options for 'Kid Brix Product':

- APIs: google-apis 2.1, kidbrix-cognitive-apis 1.0.0, liberty-rest-apis 1.0.0
- Plans: Default (1 subscriber)

State filters on the right: Staged, Published, Deprecated, Retired, Archived

With API Connect, Citi is using hackathons and developer challenges to drive innovation



The second Citi Mobile Challenge was launched in the U.S. in October 2014.
Selected finalists presented their concepts at Demo Day events in Miami, New York and Silicon Valley.

- Seeks to transform the digital banking landscape through innovative mobile solutions and IoT/wearables
- Offers 40,000 API calls from more than 100 different groups
- Provides prototype APIs to allow developers to interact with fake accounts

Other solution alternatives don't stack up to API Connect



	IBM apiconnect	amazon web services™	Microsoft Azure	Pivotal Web Services	MuleSoft
API management solution	✓	✓	✓	✓	✓
App developers portal	✓		✓		✓
On-premises option	✓			different product	Via Docker
API transformation	✓	requires proprietary language	requires complex XML	requires coding	requires enterprise service bus

Enter the API economy with IBM API Connect

1) Publish

- **Publish** APIs to a shared catalog

2) Manage

- **Analyze** the APIs performance and use by application
- **Manage** policies to control and monetize API usage

3) Socialize

- **Publish** the API to a portal to **share** it with internal and external developers
- **Invite** developers to join the API community