

BAP 6605: Exploring Hybrid Integration with API Connect

Matt Hamann,
API Connect Development

Cody Walker
API Connect Development

InterConnect 2017



Please note

IBM's statements regarding its plans, directions, and intent are subject to change or withdrawal without notice at IBM's sole discretion.

Information regarding potential future products is intended to outline our general product direction and it should not be relied on in making a purchasing decision.

The information mentioned regarding potential future products is not a commitment, promise, or legal obligation to deliver any material, code or functionality. Information about potential future products may not be incorporated into any contract.

The development, release, and timing of any future features or functionality described for our products remains at our sole discretion.

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon many factors, including considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve results similar to those stated here.

Agenda

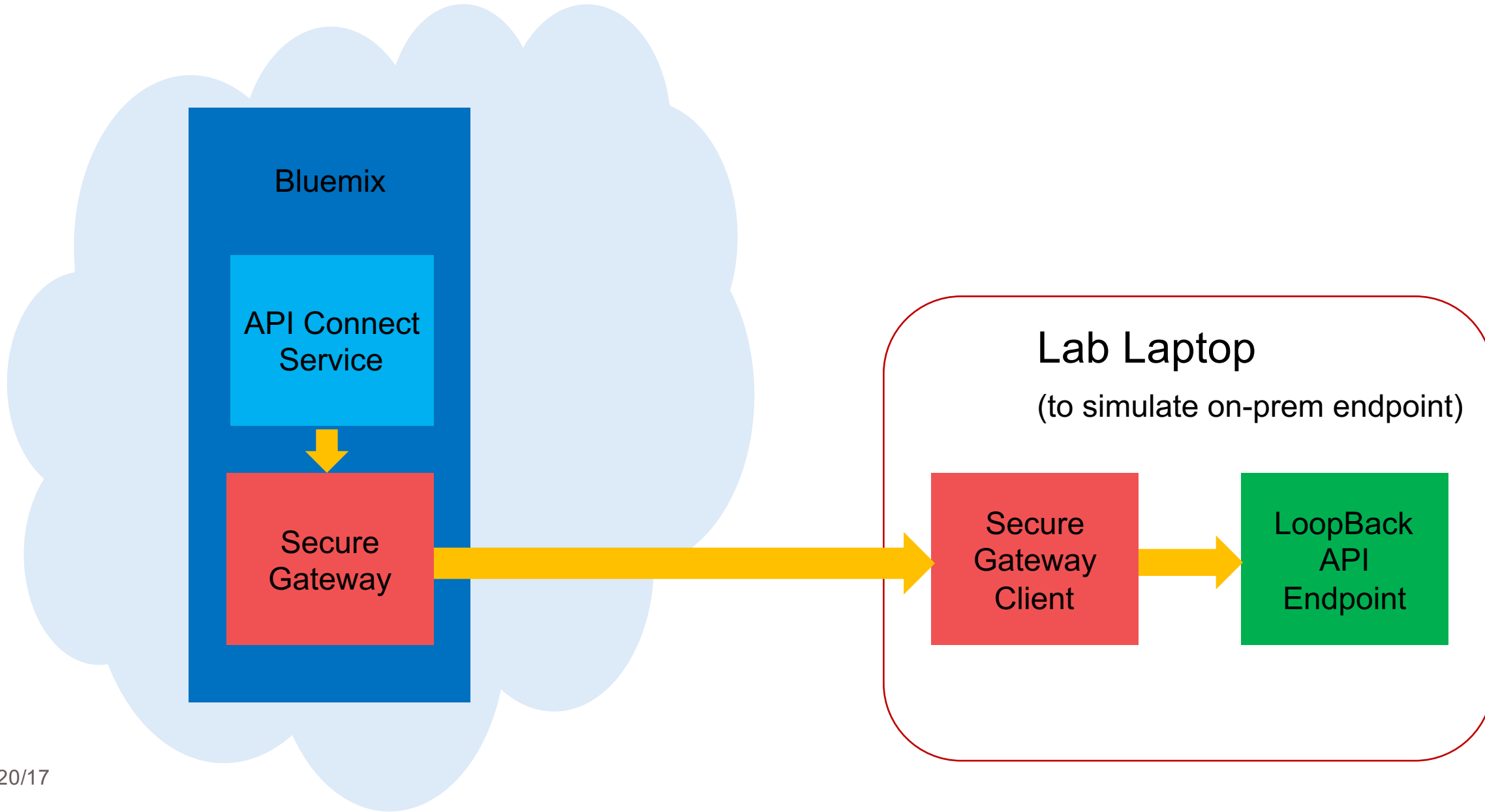
1. Lab

- Securely expose on-premises API endpoint to cloud via API Connect
 - Bluemix
 - API Connect Service
 - Secure Gateway Service
 - LoopBack API Endpoint

2. Demo

- Quickly manage Cloud API Endpoint via Bluemix
- Create API Endpoints from your OpenWhisk Actions

Lab Overview

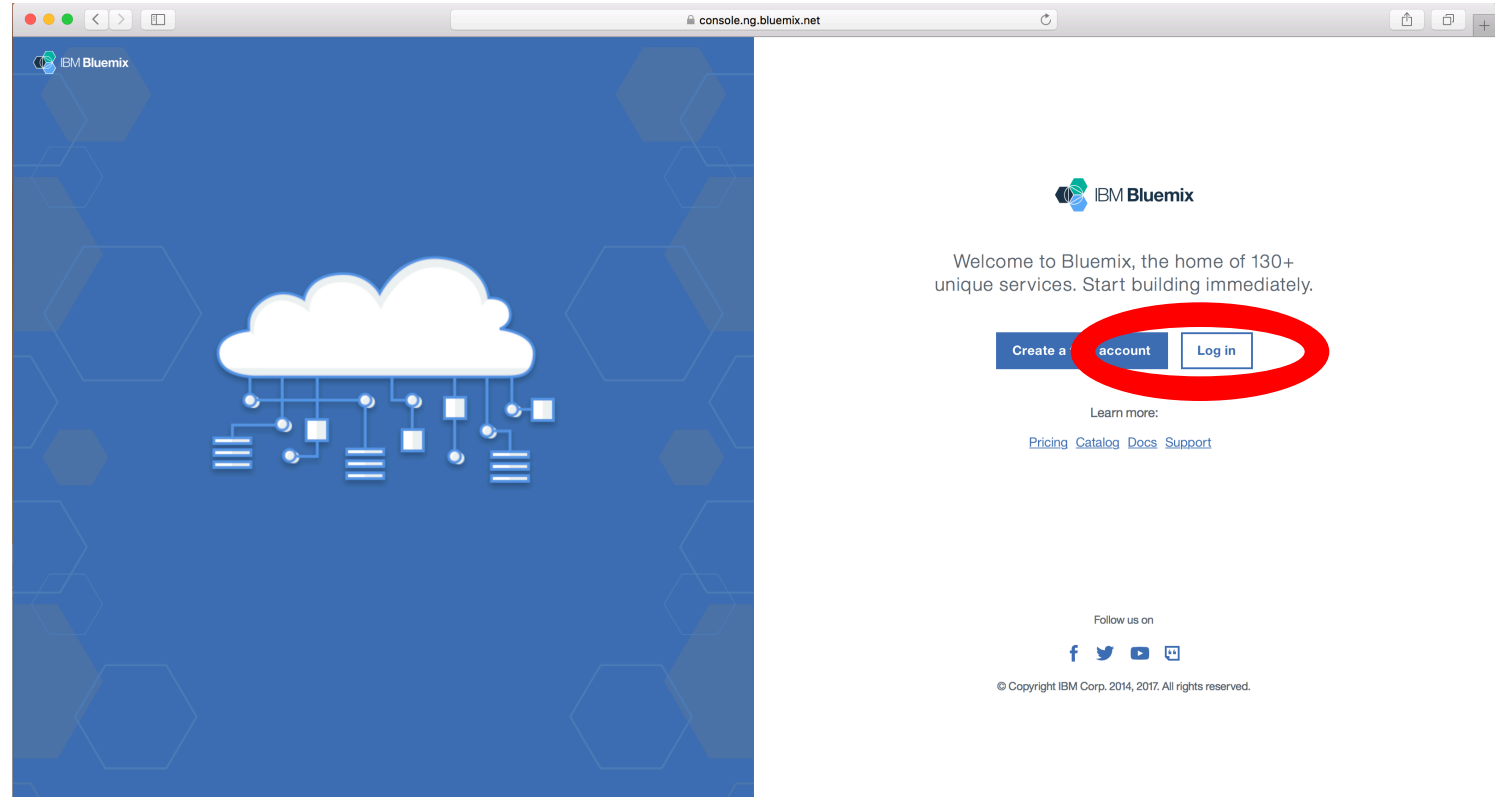


API Endpoint (on Laptop)

1. From within the lab VM, open a terminal
2. Start LoopBack API Endpoint from `~/node-hello-world`
 1. ``npm start``
3. Verify that the API endpoint is working
 1. Open another terminal
 2. `curl http://localhost:3000/api/messages/greet`

Bluemix

- <https://console.ng.bluemix.net>
- Login using your Bluemix account (contact instructor if you do not have a Bluemix account)



Useful Link



Getting Started With Bluemix
(<https://www.ibm.com/cloud-computing/bluemix/getting-started>)

API Connect - Provision

1. From Bluemix Catalog, provision API Connect service to your org and space

1. *Bluemix Catalog > APIs > API Connect*
2. *Select 'Essentials' Plan*
3. *Click 'Create'*

The screenshot shows the IBM Bluemix Catalog interface. The top navigation bar includes 'Catalog', 'Support', and 'Manage'. The left sidebar lists various categories, with 'APIs' highlighted under the 'Services' section. The main content area displays the 'API Connect' service, which is described as 'Create, manage, enforce, and run APIs from API Management.' Below this, the 'Pricing Plans' section is shown, with a table of available plans. The 'Essentials' plan is selected, indicated by a checkmark. The 'Create' button at the bottom right is also highlighted.

PLAN	FEATURES	PRICING
✓ Essentials	50K API calls per month A no-charge plan to provide the essential functionality to create, run, manage, and secure the consumption of APIs and microservices. API call limits apply.	Free
Professional	Billed per 100K API calls per month	\$80.00 USD/100K API calls
Enterprise	Billed per 100K API calls per month	\$100.00 USD/100K API calls
Professional 5M	5 million monthly API calls included and then billed per 100K API calls per month	\$2,500.00 USD/First 5 million API calls \$80.00 USD/100K API calls thereafter
Enterprise 25M	25 million monthly API calls included and then billed per 100K API calls per month	\$10,000.00 USD/First 25 million API calls

API Connect – Import API

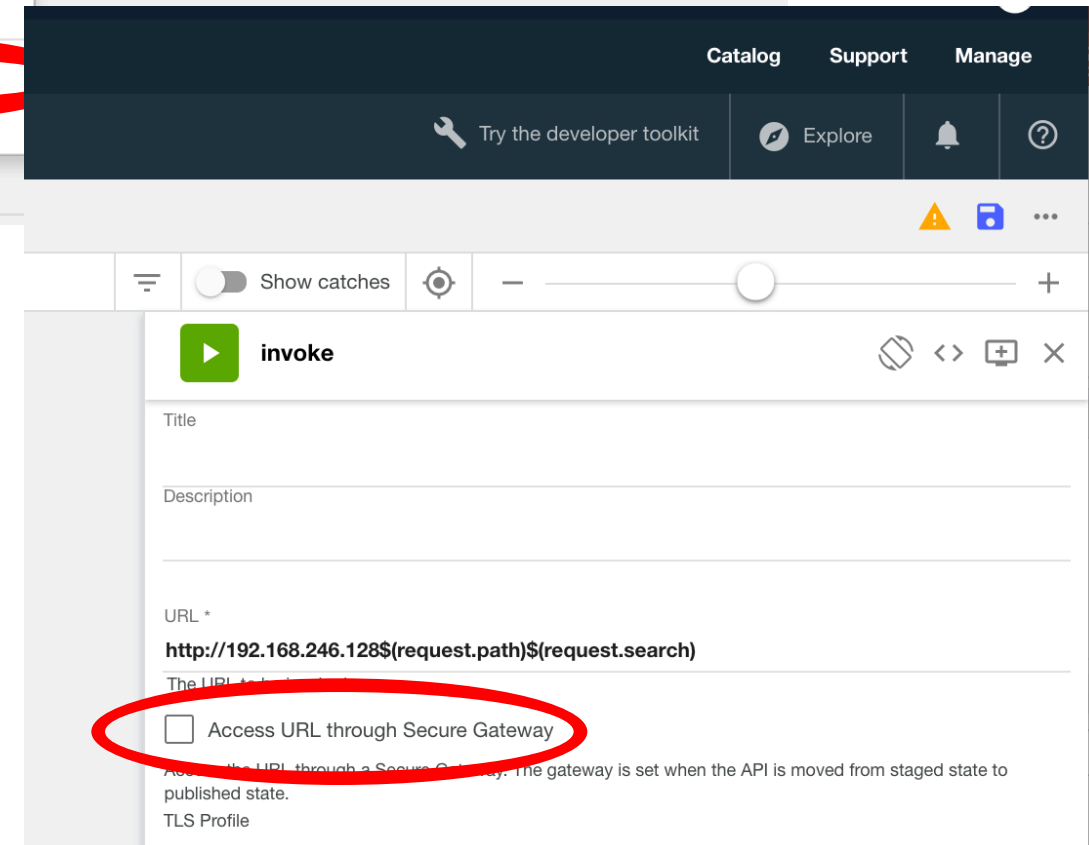
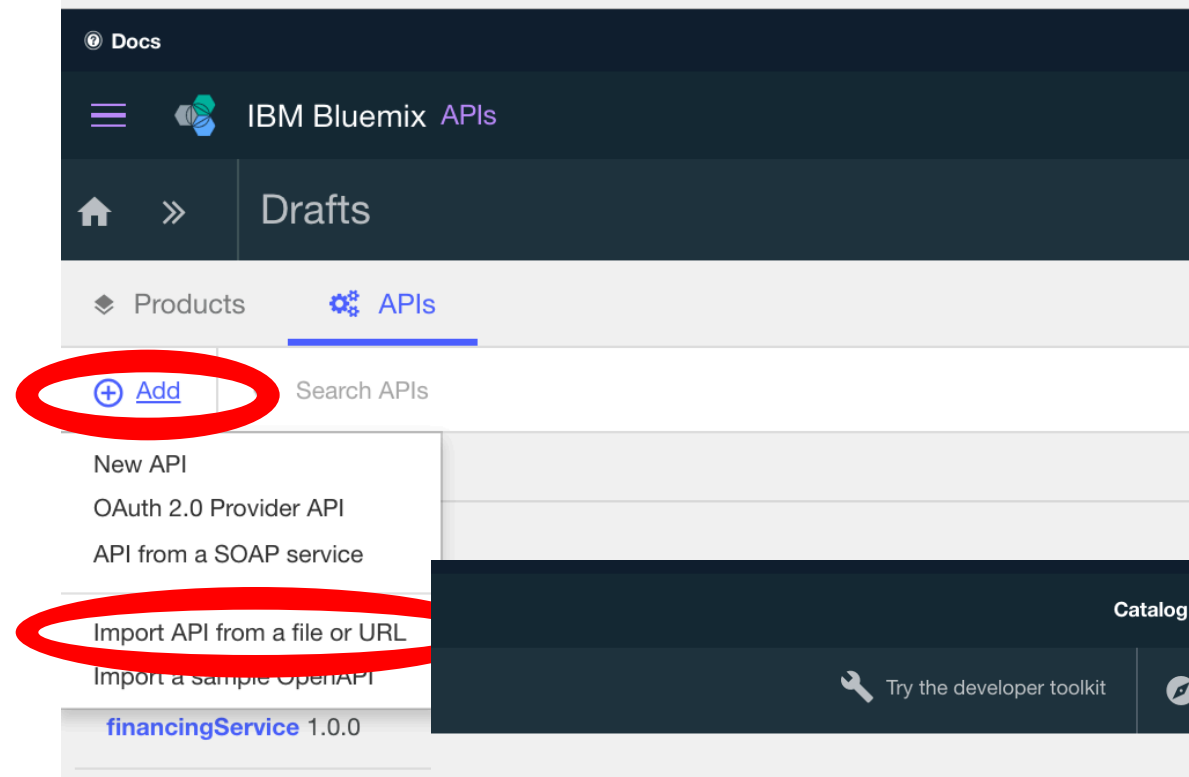
1. From your API Connect dashboard, import Open API (Swagger) document from local filesystem

1. Menu > Drafts > API > + Add > Import API from a file or URL
2. Click `Select File` and select `~/Downloads/swagger.json`
3. Select `Import`

2. Review your API in the `Design` tab

3. In the `Assemble` tab, select `Invoke` policy and allow the endpoint to be accessed through Secure Gateway.

1. Select checkbox `Access URL through Secure Gateway`



API Connect – Secure Gateway

1. Go to Secure Gateway tab in API Connect

1. Menu > Admin > Secure Gateway

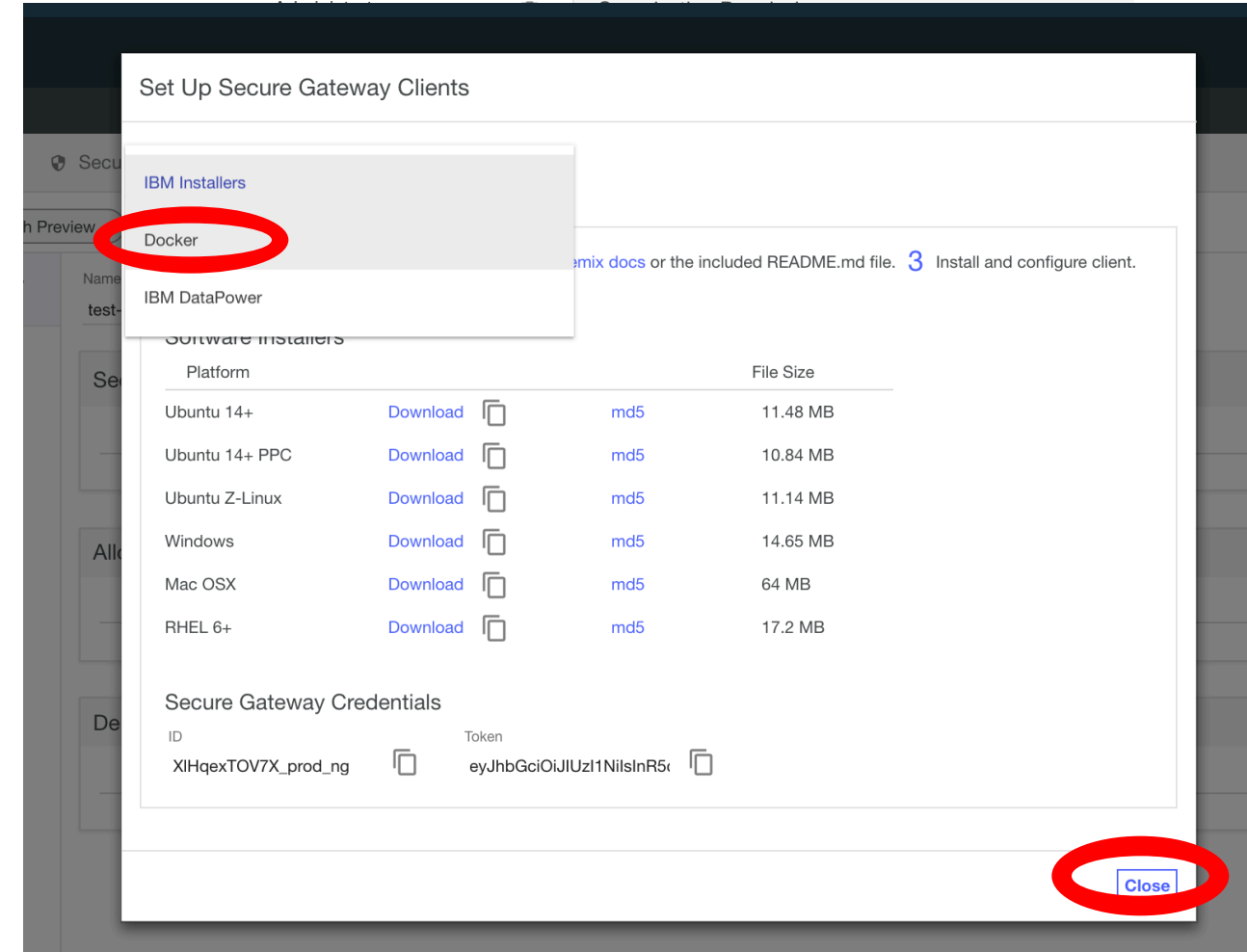
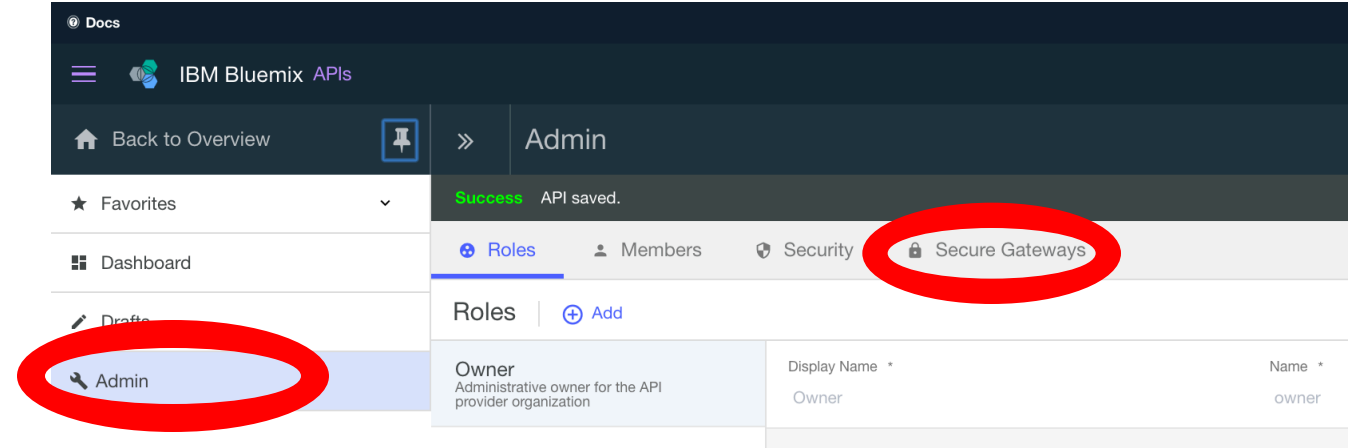
2. Add a Gateway

1. + Add and provide a name for your gateway

3. Setup Secure Gateway Client.

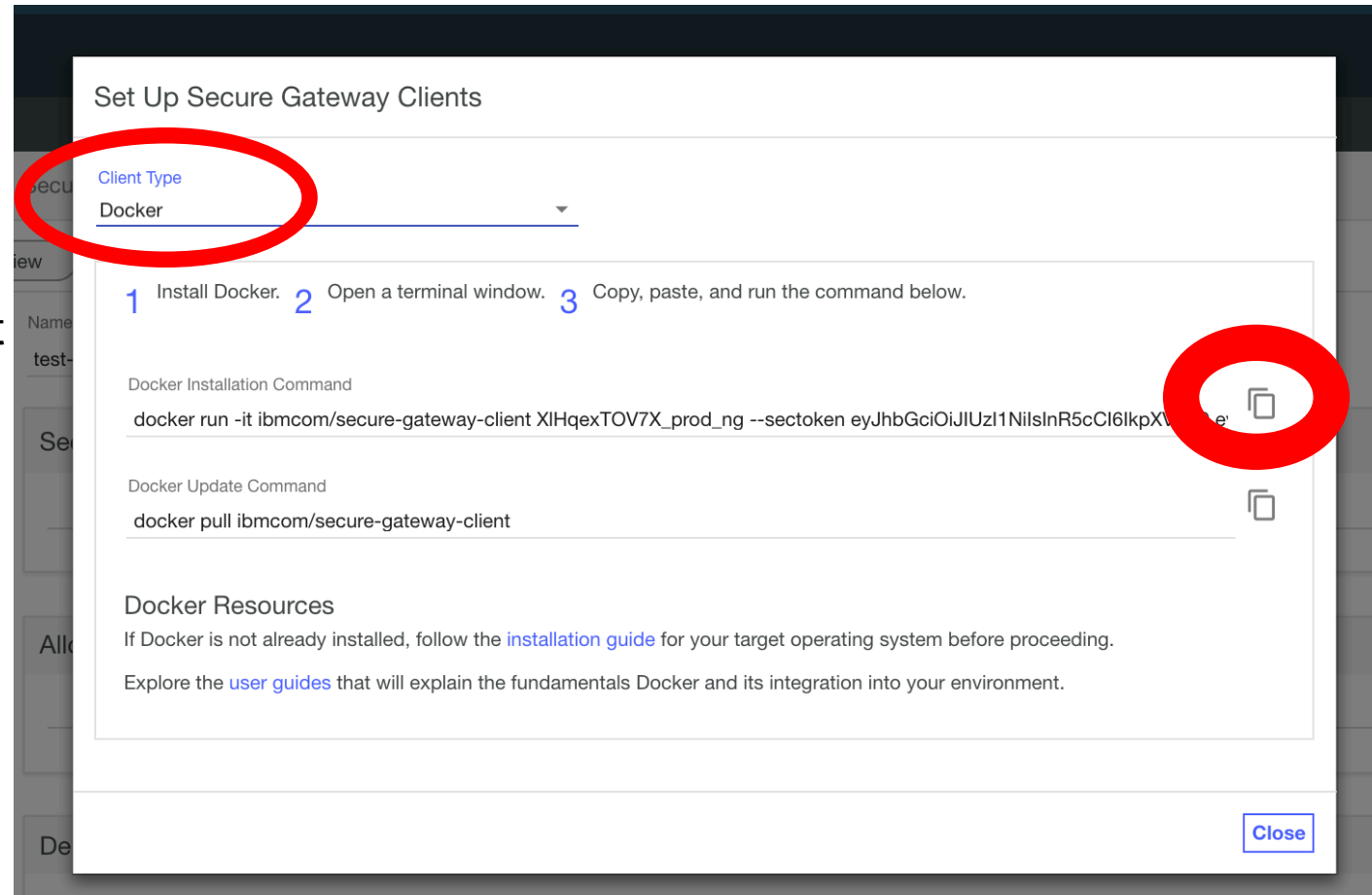
1. + Set up

2. Select `Docker` for the client type



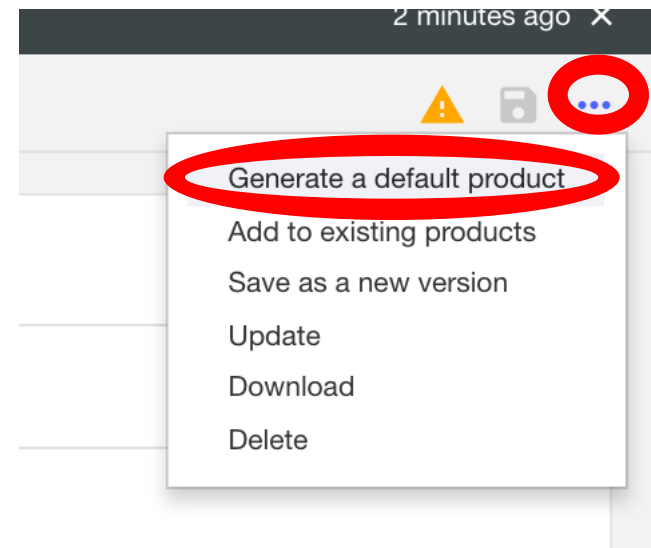
API Connect – Secure Gateway Docker Client

1. Copy `Docker Installation Command` for the Secure Gateway Client
 1. Menu > Admin > Secure Gateways > Set up Client and copy `docker run ...` command by clicking the copy button
2. From a terminal in your lab laptop, install the CLI by pasting the copied `docker run ...` command and hitting `enter`.
3. Update ACL
 1. Press <enter> to get to the cmd prompt
 2. Enter `acl allow 172.17.0.1:3000`
4. Close the Secure Gateway Client setup window



API Connect – Create API Product

1. Create a Default API Product
2. Menu > Drafts > API> More Actions > Generate a default product
3. Enter a title
4. Uncheck the `Publish this product to a catalog`
5. Select `Create Product`

A screenshot of the 'New Product' form. The form has two main sections: 'Info' and 'Publishing'. In the 'Info' section, there are three fields: 'Title *' with the value 'hw-lab product', 'Name' with the value 'hw-lab-product', and 'Version *'. In the 'Publishing' section, there is a checkbox labeled 'Publish this product to a catalog' which is unchecked. A red circle is drawn around the checkbox. A yellow octagon with the word 'uncheck' is placed over the checkbox. At the bottom right, there are two buttons: 'Cancel' and 'Create product'.

API Product Stage and Publish

1. From Drafts page, stage your new API Product
 1. Menu > Drafts > Product > select your new product > Stage > choose Sandbox catalog
2. From the Dashboard, select the Sandbox catalog and publish your API product
 1. Menu > Dashboard > Sandbox > select your product > More Actions > Publish
3. Select your Secure Gateway from the pulldown list

12 minutes ago X

Sandbox

Staged a few seconds ago

Publish

Replace an existing product

Supersede an existing product

Edit visibility

Product analytics

Approval history

Delete from catalog

Edit visibility

hw-lab-2

Visible to: Public (Developer Portal)

Subscribable by: Authenticated (Developer Portal)

All developers will be able to see this product

All authenticated developers in consumer organizations who have signed up for this developer portal can see this product

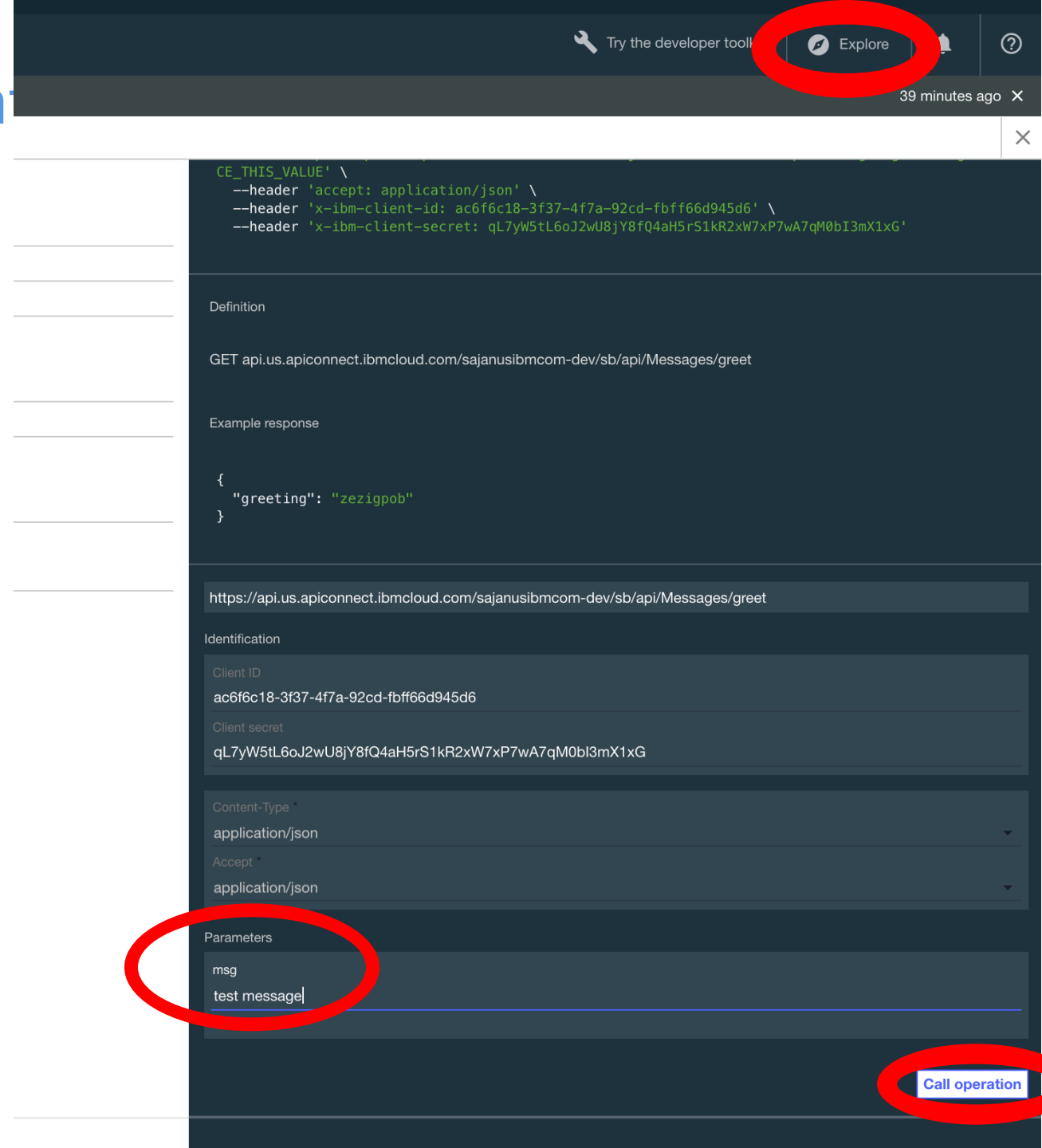
Secure Gateway Assignments

API	URL	Secure Gateway
hw-lab:1.0.0	http://localhost:3000\$(request.path)\$(request.search)	Secure Gateway

Cancel Publish

Test your Managed API Endpoint

1. Go to API Explorer
 1. Explore > Sandbox Catalog
2. Enter a string for the `msg` parameter on the 3rd column
3. Select `Call Operation` to invoke your API



InterConnect 2017

