



Americas Virtual Meetup #16

API Management

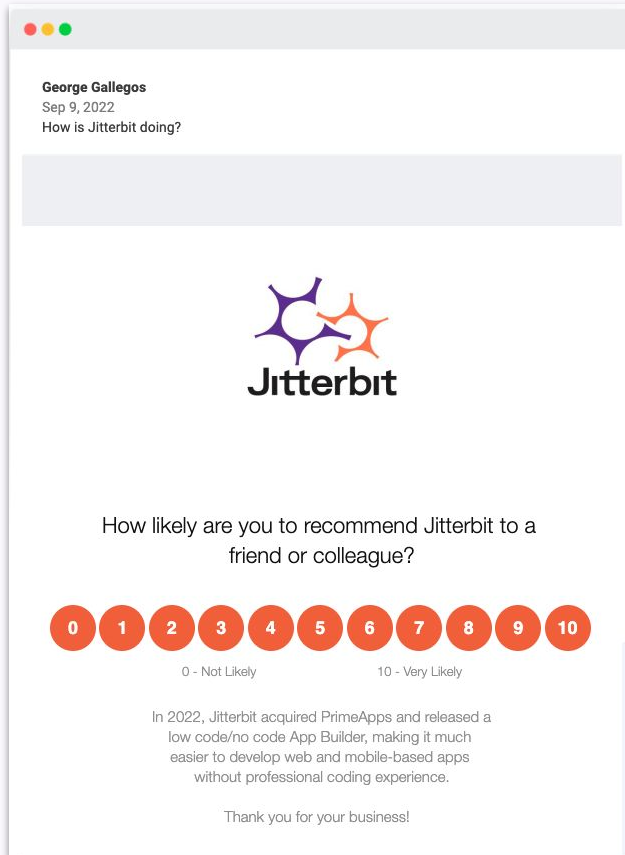
December 20, 2023

Previous Virtual Meetup

Over the last couple of years we have covered many Topics
(all available @ [Jitterbit Customer Workshops](#))

- [Build an App in a day \(Vinyl\)](#)
- **Product Update**
- **Interacting with Instant Messaging Applications**
- Guided Tour to Harmony Implementation
- **Engineering, & Message Queueing**
- Merger and Acquisition Approaches and Salesforce Platform Events
- Jitterbit Marketplace, All Things Environmental, API Best Practices, Data Optimization, Getting Help
- **Data Filtering, Data Merging, In-Memory Data Lookup, Data Validation, Data Cleansing, and Data Enrichment**
- **Twelve Cloud Studio Tips for the Holidays**
- Using iPaaS to Drive Your API Connectivity Needs
- **Building Scalable Projects with Cloud Studio**
- Meetup on Best Practices, Tips and Tricks, Ask an Expert
- Enablement, Best Practices, and Top Tips
- Cloud Studio and APIs

Schedule



Previous Virtual Meetup available on Success Central:

- Advanced Resources >> [Jitterbit Customer Workshops](#)

Today's Agenda:

- API Management update

Make it as interactive as you'd like >> Q&A button

Event Schedule:

- Next: March 20, 2024
 - **What should we cover? What would be valuable?**

Topics/Themes:

- Enablement, Best Practice & Top Tips
- Product Demos
- Cloud Studio & API's
- Real-time Dashboards
- System Monitoring



TODAY'S SPEAKERS

PROFILES



Jaime Delgado
SENIOR CUSTOMER
SUCCESS ARCHITECT

Jaime has 15 years of experience in the cloud application and integration technology space helping organizations through digital transformation and automation of processes. Jaime's interests are in advising organizations maximize their use of APIs to drive innovation and value for their customers.



Roberto Espinosa
SENIOR CUSTOMER
SUCCESS ARCHITECT

For over two decades Roberto has focused on customer and partner success through strategic IT recommendations and world-class solution delivery. He enjoys getting customers to transformative value.



Mayank Bhasin
SENIOR CUSTOMER
SUCCESS ARCHITECT

Mayank is an Enterprise Data Integration Architect by trade who has lead successful technology campaigns including software development and sales, business process improvements, data warehouse modernization on-prem and on-cloud, platform modernization on-prem and on-cloud, data engineering and streaming architectures, data governance, enterprise data cataloging, self-serve data-prep, and data science and advanced analytics; over 17 years of experience and focused mainly on healthcare, retail and utilities industries.

Learnings

API Management

1. New APIM Features

- Publish Operation as API
- Health Monitoring

2. Security Features:

- Overview of supported security features
- API keys, Basic, Anonymous, OAuth
- Multiple security profiles on an API

3. Generating API Documentation:

- Requirements for generating OpenAPI Documentation
- Creating an operation as an API that returns the operation GUID, including command
- Demo on the project API

4. API Router Pattern

5. Exposing an operation as an API to be consumed by another operation

APIM New Features

1. Publish an Operation as an API
 - a. Feature to quickly create an API
 - b. Configuration in one simple screen
 - c. No need to leave Cloud Studio Project in order to create and publish an API

2. Example

Publish New Custom API ×

Service URL: <https://jitterbit123456.jitterbit.net/Development/1/getCustomers>

General

API NAME* SERVICE ROOT: (I.E. PUBLIC API NAME)*

DESCRIPTION

Additional Settings ▾

ENVIRONMENT* VERSION NUMBER

TIMEOUT* Seconds ⓘ ENABLE DEBUG MODE UNTIL: SSL ONLY ENABLE CORS ENABLE VERBOSE LOGGING

Operations

PROJECT	OPERATION	METHOD*	RESPONSE TYPE*
API Customers	Get Customers	GET	Final Target

User Roles

ADMINISTRATOR USER APP DEVELOPER

Security Profiles

PROFILE*

APIM New Features

1. API Health Monitoring
 - a. How are my APIs performing?
 - i. Identify slow running APIs
 - ii. Historical View of response times over a 48 hour period
 - b. Filters
 - i. Within a timeframe
 - ii. Response Threshold
 - iii. Active APIs
 - c. Walkthrough

API Health Monitoring View last refreshed 4:55:21 PM

Last: hour Response threshold: sec All active APIs:

API Name ↓	Version	API Service URL	API Calls	Average Response Time (sec)
Get Jira Issues		https://jbexample123456.jitterbit.net/defaultUrlPrefix...	3	2.23
Get Customers		https://jbexample123456.jitterbit.net/defaultUrlPrefix...	4	4.51

APIM Security Features

1. API Security Profile Overview

- a. Governs and secures the consumption of APIs
- b. Allows a published API to be consumed only by a specific API consumer or a group of consumers
- c. Created and assigned by an organization member with *Admin* or *Write* access in an environment

2. Security Profile Authentication Types

- a. Anonymous
 - i. Anonymous authentication allows the API to be publicly accessible without requiring any authentication
- b. Basic
 - i. Basic authentication uses HTTP authentication to provide API access. When using basic authentication, consumers include the username and password in an encoded string in the authorization header of each request made
- c. OAuth 2.0
 - i. OAuth 2.0 authentication uses one of Azure AD, Google, Okta, or Salesforce as the identity provider. When using OAuth 2.0 authentication, the consumer must validate their identity provider credentials to access an API at runtime
- d. API Key
 - i. API key authentication uses a key-value pair to access an API

APIM Security Features.....contd.

3. Using Multiple Security Profiles

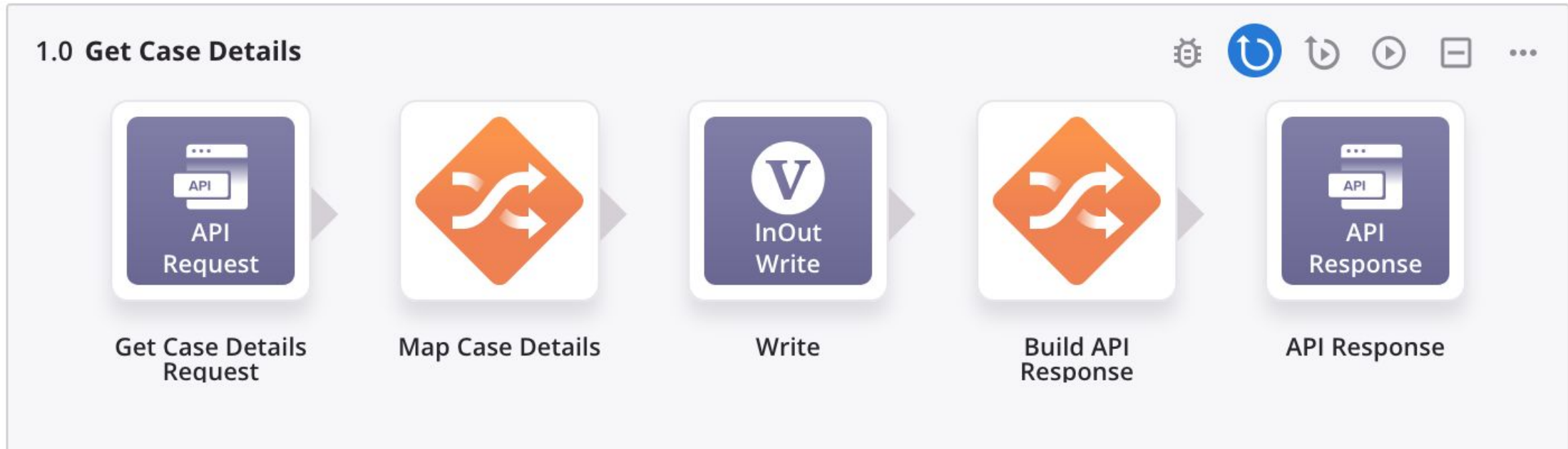
- a. Used within the same environment to employ different methods of authentication and security options
- b. Each method can target to a specific group of API consumers
- c. Following combinations are allowed when using a mix of different authentication types
 - i. multiple security profiles with a) basic authentication to a single API, b) API key authentication to a single API
 - ii. a combination of security profiles that use basic and API key authentication to a single API

Environment: Development							
↑ Name	Type	Description	Rate Limit	Default	Created	Modified	Actions
External Developer Security	OAUTH			<input type="checkbox"/>	9/1/2021, 7:41 PM by example@jbexample.com	9/1/2021, 7:41 PM by example@jbexample.com	
Internal Developer Security	BASIC	Access by internal developers	10	<input type="checkbox"/>	8/27/2021, 7:15 PM by example@jbexample.com	1/24/2022, 10:30 AM by example@jbexample.com	

Environment: Production							
↑ Name	Type	Description	Rate Limit	Default	Created	Modified	Actions
Anonymous Security	ANONYMOUS	Public access	25	<input type="checkbox"/>	8/27/2021, 7:41 PM by example@jbexample.com	8/27/2021, 7:54 PM by example@jbexample.com	
External Production Security	APIKEY	Access by external users		<input type="checkbox"/>	8/27/2021, 7:32 PM by example@jbexample.com	8/27/2021, 7:32 PM by example@jbexample.com	
Internal Production Security	APIKEY	Access by internal users		<input checked="" type="checkbox"/>	8/27/2021, 7:17 PM by example@jbexample.com	8/27/2021, 7:33 PM by example@jbexample.com	

Environment: QA							
↑ Name	Type	Description	Rate Limit	Default	Created	Modified	Actions
External Testing Security	OAUTH	Access outside of QA team	100	<input type="checkbox"/>	8/27/2021, 7:29 PM by example@jbexample.com	1/25/2022, 12:45 PM by example@jbexample.com	
Internal Testing Security	APIKEY	Access by internal QA team	100	<input checked="" type="checkbox"/>	8/27/2021, 7:16 PM by example@jbexample.com	8/27/2021, 7:30 PM by example@jbexample.com	

How to Generate OpenAPI Documentation



How to Generate OpenAPI Documentation (cont.)

All Set, Your Api is Live!

The Api "Get Case Details", Version 1.0 is now published and available on "Virtual Meetups" environment at the URL:

<https://JitterbitTRIAL186866....ualMeetups/1.0/getCaseDetails> ⇌ Copy URL

[Generate OpenAPI document](#) [Dismiss](#)

How to Generate OpenAPI Documentation (cont.)

Portal Manager Environment: Virtual Meetups View API Documentation Regenerate Docs & Publish Save & Publish


Upload Image
Image specs: JPG, .PNG, no more than 120KB
Browse Local Files

Organization: Jitterbit
Base URL: JitterbitTRIAL186866.jitterbit.net

POST /VirtualMeetups/1.0/getCaseDetails

```
1 swagger: '2.0'  
2 info:  
3   title: Jitterbit (Virtual Meetups)  
4   version: 1.0.0  
5 schemes:  
6   - https  
7 host: JitterbitTRIAL186866.jitterbit.net  
8 paths:  
9   /VirtualMeetups/1.0/getCaseDetails:  
10    post:  
11     consumes:  
12     - application/json  
13     produces:  
14     - application/json  
15     parameters:  
16     - name: object
```

How to Share OpenAPI Documentation

 **Organizations**
Define and manage who can participate in integration projects. Create customized Roles and manage the membership of the Roles for each organization

Organization	Date Created	Date Joined	Status	Action
Jitterbit (186866)	12/05/2016 14:34:35 PM	12/05/2016 14:34:35 PM	Active	Action ▼

Roles **Members** Close

6 Roles + Add Role

Role	Status	Permission	Action
▶ Administrator	Active	Read,Admin ▼	Action ▼
API Consumer	Active	Read ▼	Action ▼
App Developer	Active	Read,AppDeveloper ▼	Action ▼
▶ CSA Admin	Active	Read ▼	Action ▼
▶ Dev_Admin	Active	Read ▼	Action ▼
User	Active	Read ▼	Action ▼

Maintaining APIM Documentation

- Portal Manager
- Regenerate Docs Option

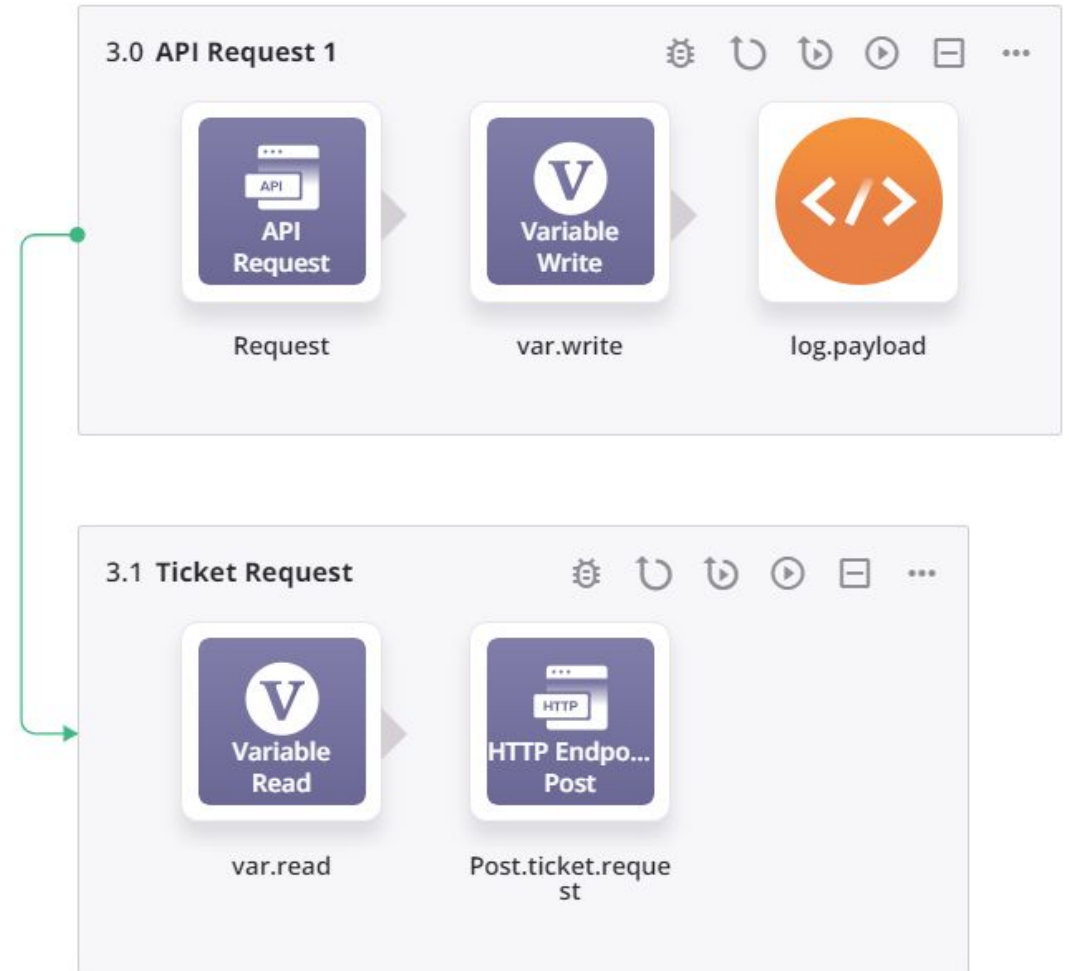
The screenshot displays the 'Manage Developer Portal' interface in Jitterbit API Manager. At the top, there's a navigation bar with the Jitterbit logo, 'API Manager', and user information: 'Welcome back, Roberto', 'Jitterbit (186866)', and 'Help'. Below this, the main heading is 'Manage Developer Portal'. A secondary navigation bar includes 'Portal Manager' (dropdown), 'Environment: Virtual Meetups' (dropdown), and three buttons: 'View API Documentation' (with a plus icon), 'Regenerate Docs & Publish', and 'Save & Publish'. The main content area is divided into two columns. The left column has an 'Upload Image' section with a cloud icon, 'Image specs: JPG, .PNG, no more than 120KB', and a 'Browse Local Files' button. The right column shows 'Organization: jitterbit' and a 'Base URL: JitterbitTRIAL186866.jitterbit.net' field. Below these, there's a green button labeled 'POST' for the endpoint '/VirtualMeetups/1.0/getCaseDetails'. At the bottom, a code editor shows the following Swagger JSON:

```
1 swagger: '2.0'
2 info:
3   title: Jitterbit (Virtual Meetups)
4   version: 1.0.0
5 schemes:
6   - https
7 host: JitterbitTRIAL186866.jitterbit.net
8 paths:
9   /VirtualMeetups/1.0/getCaseDetails:
10    post:
11      consumes:
12        - application/json
13      produces:
14        - application/json
15      parameters:
16        - name: object
```

API Router Patterns

Approach 1: One API URL for each operation or use case

- Complete API Logging and API Analytics
- Complete Swagger Documentation
- No scripting required
- Reduced code maintenance

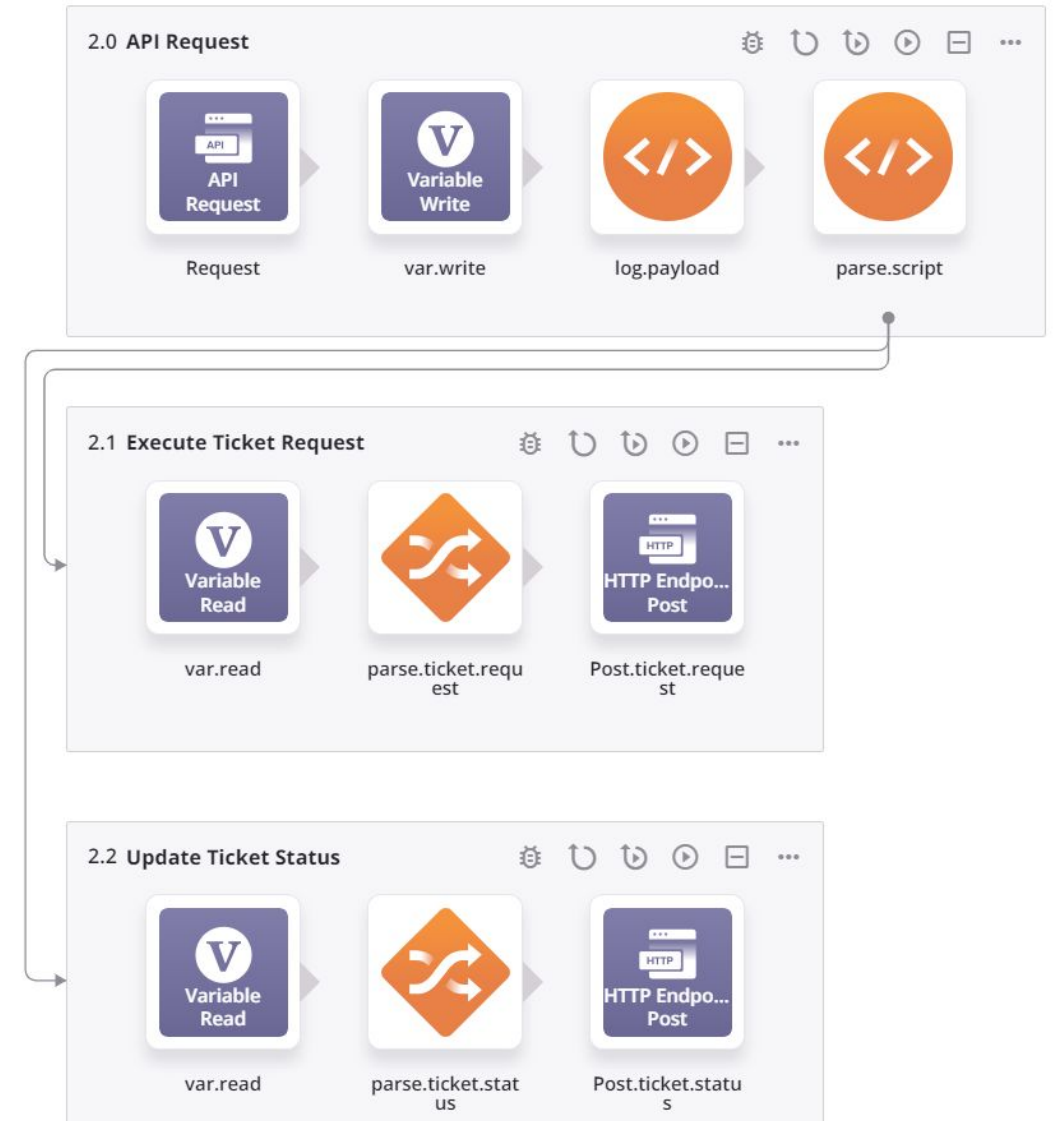


API Router Patternscontd.

Approach 2: One API URL for multiple operations or use cases

- a. Require scripting to parse the URL to decide which operation to run when
- b. Limited API Logging and API Analytics
 - i. The activity will show up in APIM logs/analytics but it will not be able to drill down into the specific API that was called
- c. Limited / Incomplete Swagger Documentation
- d. Effort to build and maintain the parsing script
- e. Reduced Licensing cost

Recommended Approach: Approach 1



API Router Pattern.....contd.

Example: Parsing Script for Approach 2

```
1 <trans>
2 //APPROACH 2
3 $api.var = parseurl($jitterbit.api.request.headers.fulluri);
4 $var.range = length($api.var);
5 $var.num = 0;
6
7 while(
8 $var.num <= $var.range,
9
10     if(
11         $api.var[$var.num] == 'request_update',
12         RunOperation("<TAG>operation:Execute Ticket Request</TAG>")
13     );
14     if(
15         $api.var[$var.num] == 'ticket_update',
16         RunOperation("<TAG>operation:Update Ticket Status</TAG>")
17     );
18 $var.num = $var.num +1
19 );
20 </trans>
```

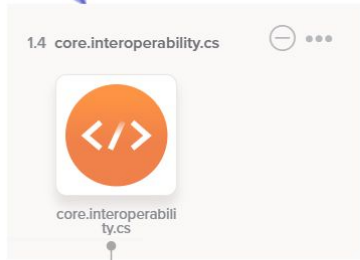
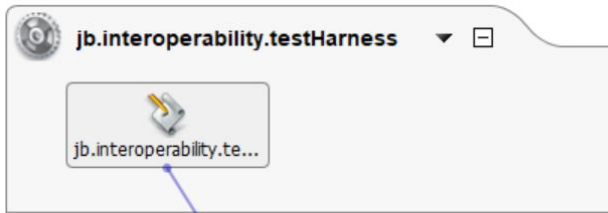
Operation Interoperability

1. Why Interoperability?
 - a. In Transition
 - b. Leveraging Functionality only available in Cloud Studio
2. Design Studio and Cloud Studio Interoperability
 - a. Script Based via `RunOperationFromProject()`
 - b. Custom Jitterbit API
3. What's Required
 - a. Retrieving Operation GUID
 - b. Create an API for the Operation



Cloud Studio - Interoperability with Design Studio

Operation	Project	Environment	Agent	Status	Submitted Date	Last Activity Date
▼ jb.interoperability.testHarn...	jb.radpak	beta	Jitterbit Cloud Agent 3_...	SUCCESS WITH INFO ✓ ↓	07/01/2019 06:37:45 PM	07/01/2019 06:37:49 PM
▼ core.interoperability.cs	RADPak.cs	beta	Jitterbit Cloud Agent 3_...	SUCCESS WITH INFO ✓ ↓	07/01/2019 06:37:48 PM	07/01/2019 06:37:49 PM
jb.interoperability.ds	jb.radpak	beta	Jitterbit Cloud Agent 3_...	SUCCESS WITH INFO ✓ ↓	07/01/2019 06:37:49 PM	07/01/2019 06:37:49 PM



RunOperationFromProject

Declaration

```
bool RunOperationFromProject(string  
operationId[, bool runSynchronously])
```

<https://success.jitterbit.com/display/DOC/General+Functions#GeneralFunctions-RunOperationFromProject>

```
If (!RunOperationFromProject("<TAG>Projects/RADPak.cs/Operations/core.interoperability.cs</TAG>"),  
    RaiseError(GetLastError()))  
;
```

not distribute externally.



Cloud Studio - Interoperability with Design Studio

Operation	Project	Environment	Agent	Status	Submitted Date	Last Activity Date
▼ jb.interoperability.testHarn...	jb.radpak	beta	Jitterbit Cloud Agent 3_...	SUCCESS WITH INFO ✓ ↓	07/01/2019 06:37:45 PM	07/01/2019 06:37:49 PM
▼ core.interoperability.cs	RADPak.cs	beta	Jitterbit Cloud Agent 3_...	SUCCESS WITH INFO ✓ ↓	07/01/2019 06:37:48 PM	07/01/2019 06:37:49 PM
jb.interoperability.ds	jb.radpak	beta	Jitterbit Cloud Agent 3_...	SUCCESS WITH INFO ✓ ↓	07/01/2019 06:37:49 PM	07/01/2019 06:37:49 PM

```
$jb.core.operation.guid = "<TAG>Operations/jitterbit/bestpractice/interoperability/jb.interoperability.ds</TAG>";
```

```
core.interoperability.cs
SCRIPT TYPE: Jitterbit Script

Saved

1 <trans>
2 /*****
3 SCRIPT DATE 01/July/2019
4 AUTHOR: George Jeffcock
5 DESCRIPTION: core.interoperability - show ds to cs and cs to ds
6 HELP URL:
7 *****/
8
9 WriteToOperationLog('Value from ds:'+$jb.core.workVariable);
10 $jb.core.workVariable = 'test2';
11
12 If(!RunOperation($jb.core.operation.guid),
13 RaiseError(GetLastError())
14 );
15
16 WriteToOperationLog('Value from ds again:'+$jb.core.workVariable);
17 $jb.core.workVariable = 'test4';
18
19 </trans>
```

We know from

<https://success.jitterbit.com/display/DOC/Logging+Best+Practices+-+Tech+Talk> and
<https://success.jitterbit.com/display/DOC/Calling+an+Operation+from+a+Command+Line>

you can call an operation using either its name or its GUID so with this in mind you can run an operation in DS **from** CS using the GUID of the DS Operation



Other Ways to Get Help from Jitterbit

Interested in any of the following ⇒ Please reach out to your CSM:

- Learn more about our Solutions (Integration, Automation, App Building with Vinyl, & EDI)
- Best Practices session with Customer Success Architect (CSA)
- Health Check review with CSA
- Working session with CSA to review Jitterbit examples and/or development activities
- CSA office hours every Wednesday @ 10am Pacific Time
- Additional offerings to unleash more value:
 - MIS - Managed Integration Services - Unlock your bandwidth & bring maintenance peace of mind
 - PS Discovery - Complementary discovery to identify projects that can bring more value from Harmony
 - PS engagement to do the work for you (from guidance to full service)
- **Contact:**
 - <https://success.jitterbit.com/>
 - Unsure who your CSM is ⇒ email Success@jitterbit.com or phil@jitterbit.com



QUESTIONS & FEEDBACK

Rock your workflow!