



Americas Virtual Meetup #17

HTTP v1 & v2

April 3rd, 2024

Previous Virtual Meetup

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

- [API Management](#)
- [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:

- HTTP v2

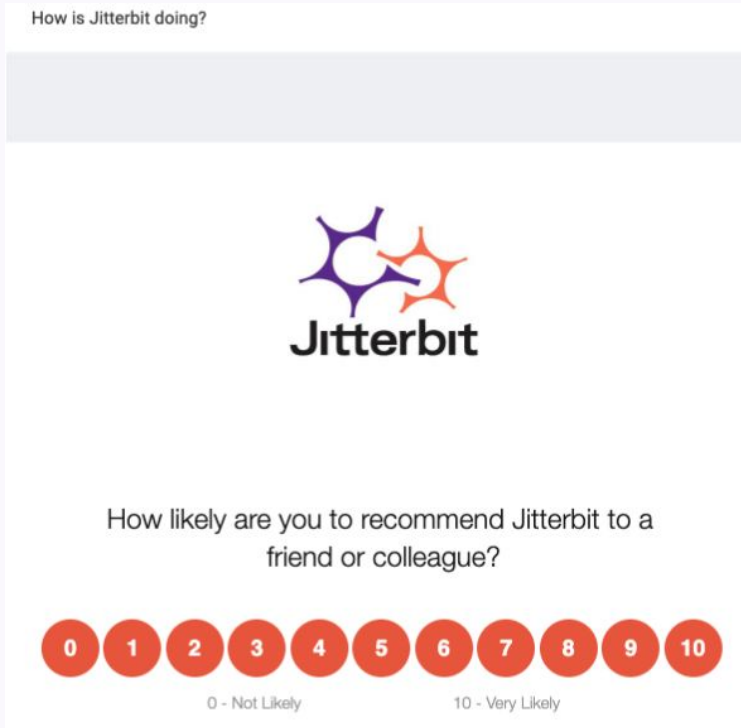
Make it as interactive as you'd like >> Q&A button

Event Schedule:

- Next: June 19, 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 16 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.

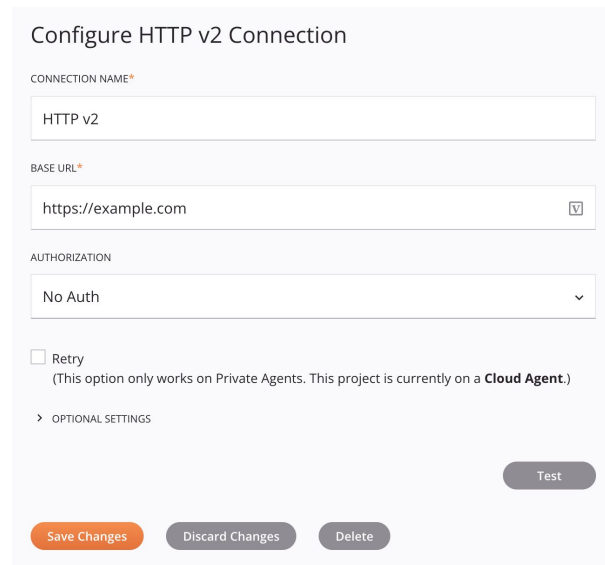
Learnings

HTTP v1 & v2

1. HTTP V2 Connector Overview
2. Transition from HTTP v1 to v2
3. Debugging on Private Agents
4. Examples: Amazon Selling Partner API
5. Examples: Salesforce Custom API
6. Examples: NetSuite Calling a Saved Search

HTTP V2 Connector Overview

- **Key HTTP V2 Connector Enhancements**
 - Supports common authentication types
 - Supports OAuth 2.0 client credentials flow
 - Reduces scripting for the connection
 - Supports native multipart payload
 - Simplifies troubleshooting
- **Creating an HTTP V2 Connection**



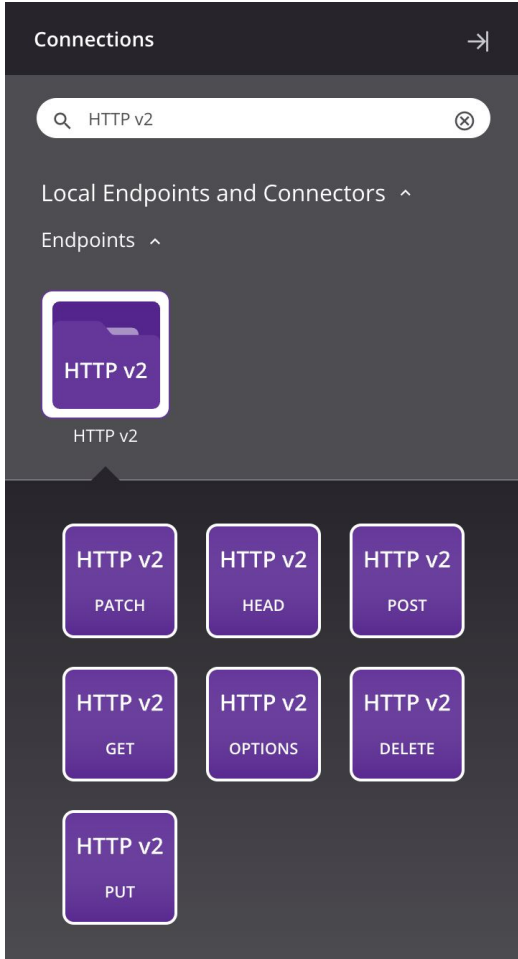
The screenshot shows a web form titled "Configure HTTP v2 Connection". It contains the following fields and controls:

- CONNECTION NAME***: A text input field containing "HTTP v2".
- BASE URL***: A text input field containing "https://example.com" with a checkmark icon on the right.
- AUTHORIZATION**: A dropdown menu with "No Auth" selected.
- Retry**: A checkbox that is currently unchecked. Below it is a note: "(This option only works on Private Agents. This project is currently on a **Cloud Agent**.)"
- OPTIONAL SETTINGS**: A section header with a right-pointing chevron.
- Test**: A grey button located at the bottom right of the form.
- Save Changes**: An orange button at the bottom left.
- Discard Changes**: A grey button at the bottom center.
- Delete**: A grey button at the bottom right.

HTTP V2 : Authorization Types

- **API Key**
 - Uses an *API key-value pair*
 - Sent in headers or query parameters.
- **AWS Signature**
 - Uses an *AWS access key ID, secret access key, region, service, and session token*
 - Sent using Amazon Web Services (AWS) Signature Version 2 in headers or query parameters.
- **Basic Auth**
 - Uses a *username and password*
 - Sent in headers
- **Bearer Token**
 - Uses a *bearer token*
 - Sent in headers
- **Digest Auth**
 - Uses a *username, password, realm, nonce, algorithm, QOP, nonce count, client nonce, and opaque*
 - Sent in headers
- **Hawk Authentication**
 - Uses a *Hawk authentication ID, authentication key, application-specific information, an app ID, and DLG*
 - Sent in headers
- **No Auth**
 - Access the service anonymously without authorization.
- **OAuth 2.0**
 - Uses the *grant type* and provide the OAuth token endpoint, client ID, client secret, and scope
 - Sent in headers or the request body.

HTTP V2: Activities



- **GET:** Retrieves information about a resource on a service over HTTP/S.
- **POST:** Creates a new resource on a service over HTTP/S.
- **PUT:** Replaces an existing resource on a service accessible over HTTP/S.
- **DELETE:** Deletes a resource on a service over HTTP/S.
- **PATCH:** Applies partial modifications to an existing resource on a service over HTTP/S.
- **OPTIONS:** Retrieves information about the communication options for a resource on a service over HTTP/S.
- **HEAD:** Retrieves the status line and header section of a resource on a service over HTTP/S.

Note: All above activities can be used as a source or target in an operation.

Converting from HTTP v1 to v2 Connector

1. Best Practices:
 - a. Before making any changes, deploy the project so that there is a restore point to revert to as necessary
 - b. Make the changes in a non-production environment first, then migrate the project to a production environment.
2. Conversion steps:
 - a. Create an HTTP v2 connection >> copy the values from the original HTTP connection to the new HTTP v2 connection

Configure HTTP Connection

CONNECTION NAME*

BASE URL*

USERNAME

PASSWORD

CERTIFICATE

None

Retry
(This option only works on Private Agents. This project is currently on a **Cloud Agent**.)

OPTIONAL SETTINGS

Security Option

Use Basic HTTP Authentication

Configure HTTP v2 Connection

CONNECTION NAME*

BASE URL*

AUTHORIZATION

Basic Auth

USERNAME*

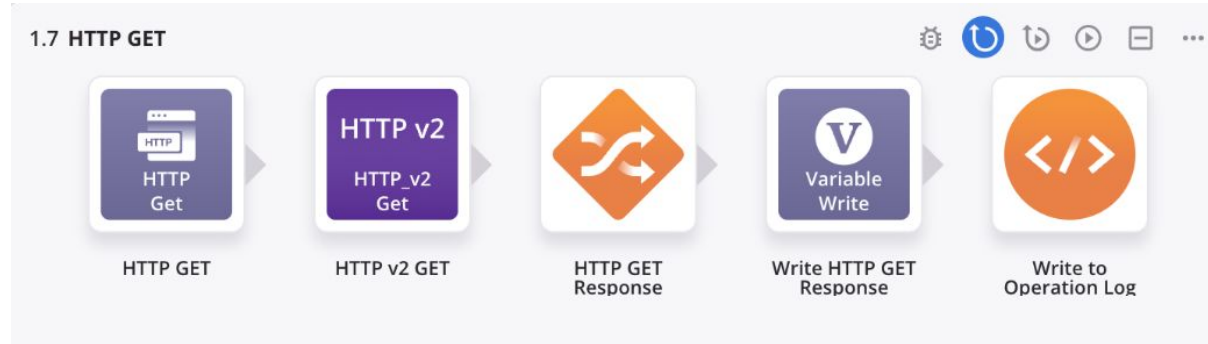
PASSWORD*

Retry
(This option only works on Private Agents. This project is currently on a **Cloud Agent**.)

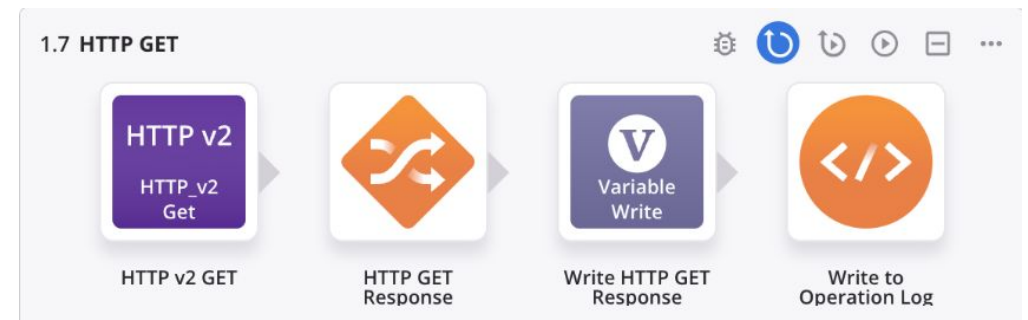
OPTIONAL SETTINGS

Converting from HTTP v1 to v2 Connector.....contd.

- b. For each operation in the project containing HTTP activities associated with the connection replaced in the previous step, add an HTTP v2 activity



- c. Copy the configuration values from the original HTTP activity to the new HTTP v2 activity placed next to it
- d. Set Request and Response schemas as necessary for the new HTTP v2 activities in their configuration steps 2 and 3 by using saved schema
- e. Remove the original HTTP activities from the affected operations
- f. Verify that the schemas and mappings in relevant transformations are as expected
- g. Deploy any changes to affected operations and verify that they function as intended. Repeat this process until all HTTP connections and activities in the project have been replaced



Debugging on Private Agents

1. Operation Debug Logging

- a. Operation debug log files
 - i. generated when operation debug logging is enabled
- b. Component input / output data
 - i. input / output data written to Cloud Studio log is retained by Harmony cloud for 30 days
 - ii. private agent 10.48 or later is required
- c. API operation logs
 - i. logs for both successful and unsuccessful API operations
 - ii. when debug logging is disabled, only unsuccessful API operations are logged
 1. Alternatively, set `EnableLogging=true` in the `[APIOperation]` section of the private agent configuration file `jitterbit.conf`.

2. Verbose Logging

- a. Enable HTTP v2 connector verbose logging using this specific configuration entry of logger name and level in the `logback.xml` file (`log4j.properties` file for agent version 10.34 and earlier)
 - i. `<logger name="org.jitterbit.connector.verbose.logging.http" level="DEBUG"/>`

Debugging on Private Agents.....contd.

3. Jitterbit Tomcat Server Logs

- a. Provides detailed logging for Jitterbit Tomcat server
- b. Enable by editing the private agent configuration file jitterbit.conf, and then restart Jitterbit services
 - i. Under the [JavaBackend] section, set DebugLogLevel=ALL
 - ii. Under the [JavaUiBackend] section, set LogLevel=ALL
 - iii. Under the [JdbcEngine] section, set LogLevel=ALL
 - iv. The logs are written to these default locations:
 1. Windows: C:\Program Files\Jitterbit Agent\tomcat\logs
 2. Linux: /opt/jitterbit/tomcat/logs

4. Enabling Operation ID Logging

- a. Enable for operations causing a crash due to memory contention, poor performance, etc.
- b. Enable OperationIdLogging in the [APIOperation] section in the private agent configuration file jitterbit.conf
- c. If a crash occurs, the operation ID is written to one of these default locations
 - i. Windows: C:\Program Files\Jitterbit Agent\apache\logs\apache_crash.txt
 - ii. Linux: /opt/jitterbit/apache/logs/apache_crash.txt

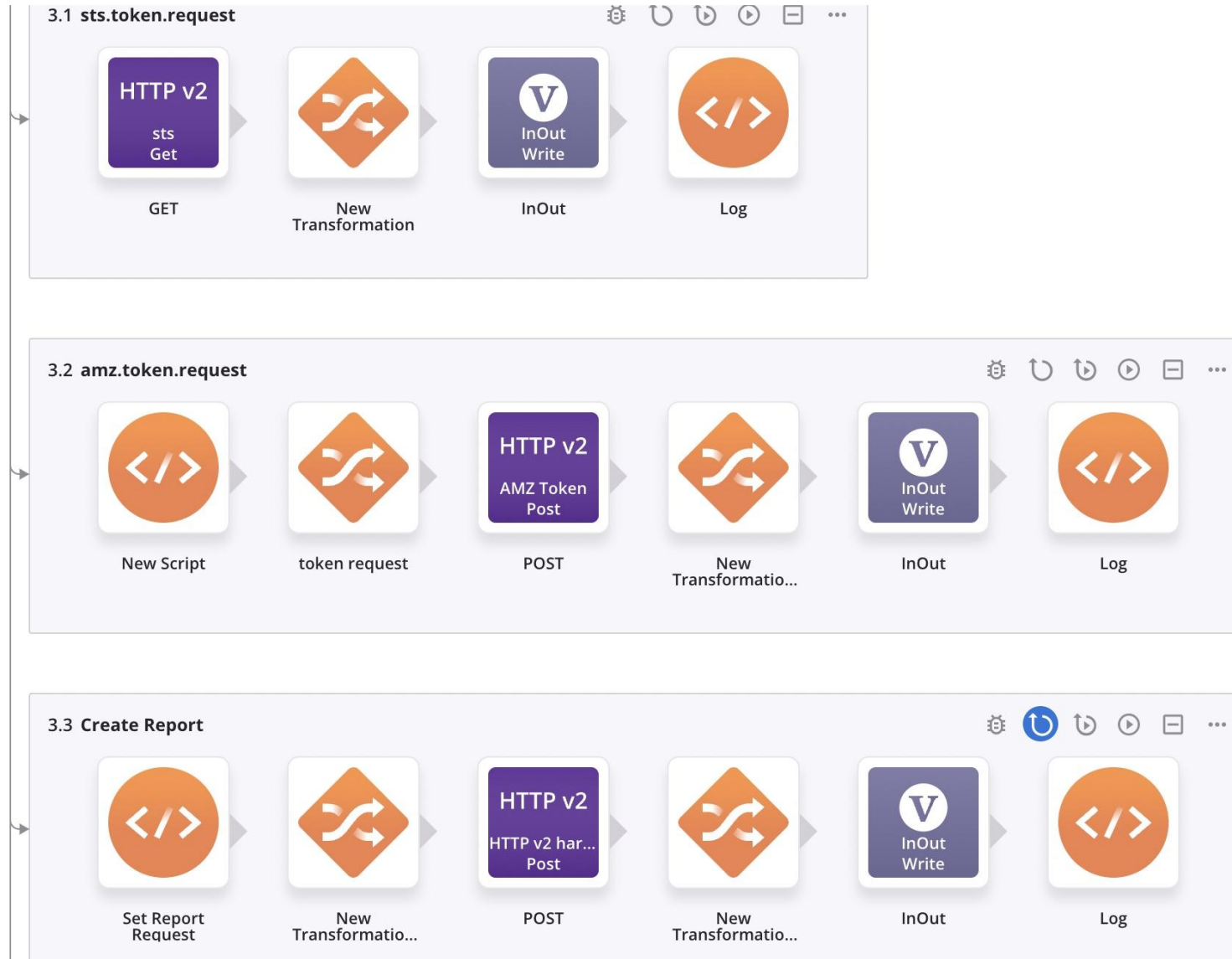
5. References

- a. [Troubleshooting on Private Agents](#)
- b. [Operation Debug Logging for Private Agents](#)
- c. [Private Agent Logs and Log Files Location](#)
- d. [Operation Logging](#)

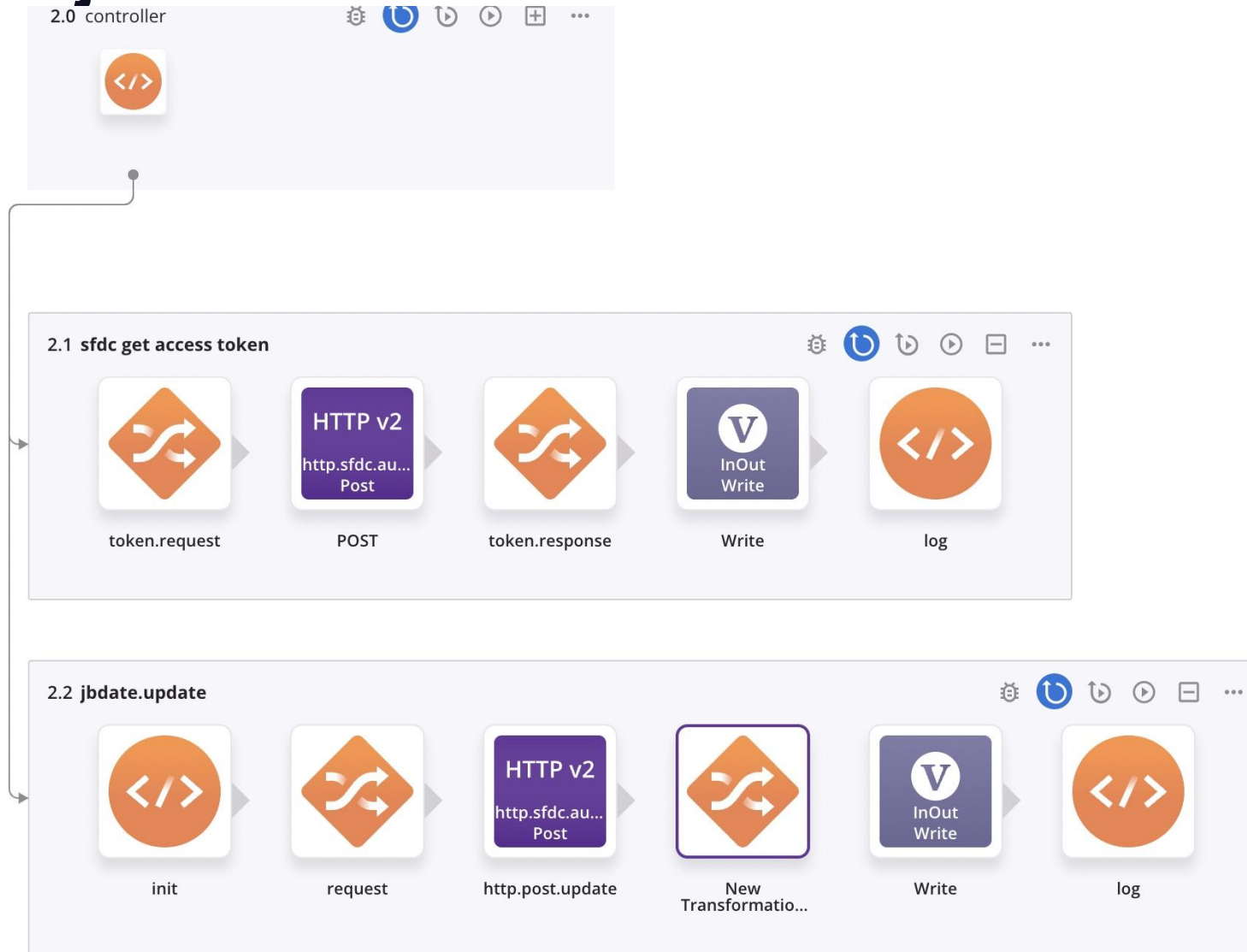
Useful Examples of HTTP V2

1. Amazon : Selling Partner API(SP-API)
 - a. Amazon requires the encryption of the payload which requires javascript libraries to be able to retrieve a token and authenticate
2. Salesforce: Calling a Salesforce Custom API
 - a. Customers can build custom APIs in Salesforce which requires the use of the HTTP Connector in order to access those APIs
 - b. Historically multiple calls were required to authenticate and retrieve a token to make custom API calls
3. NetSuite: Calling the NetSuite API for a specific Saved Search
 - a. Netsuite Authentication required javascript encryption libraries to authenticate
 - b. A little complex to implement
 - c. Often NetSuite customers have more than 1000 Saved Searches in their org which does not allow the Jitterbit NS Connector to retrieve a list of Saved Searches

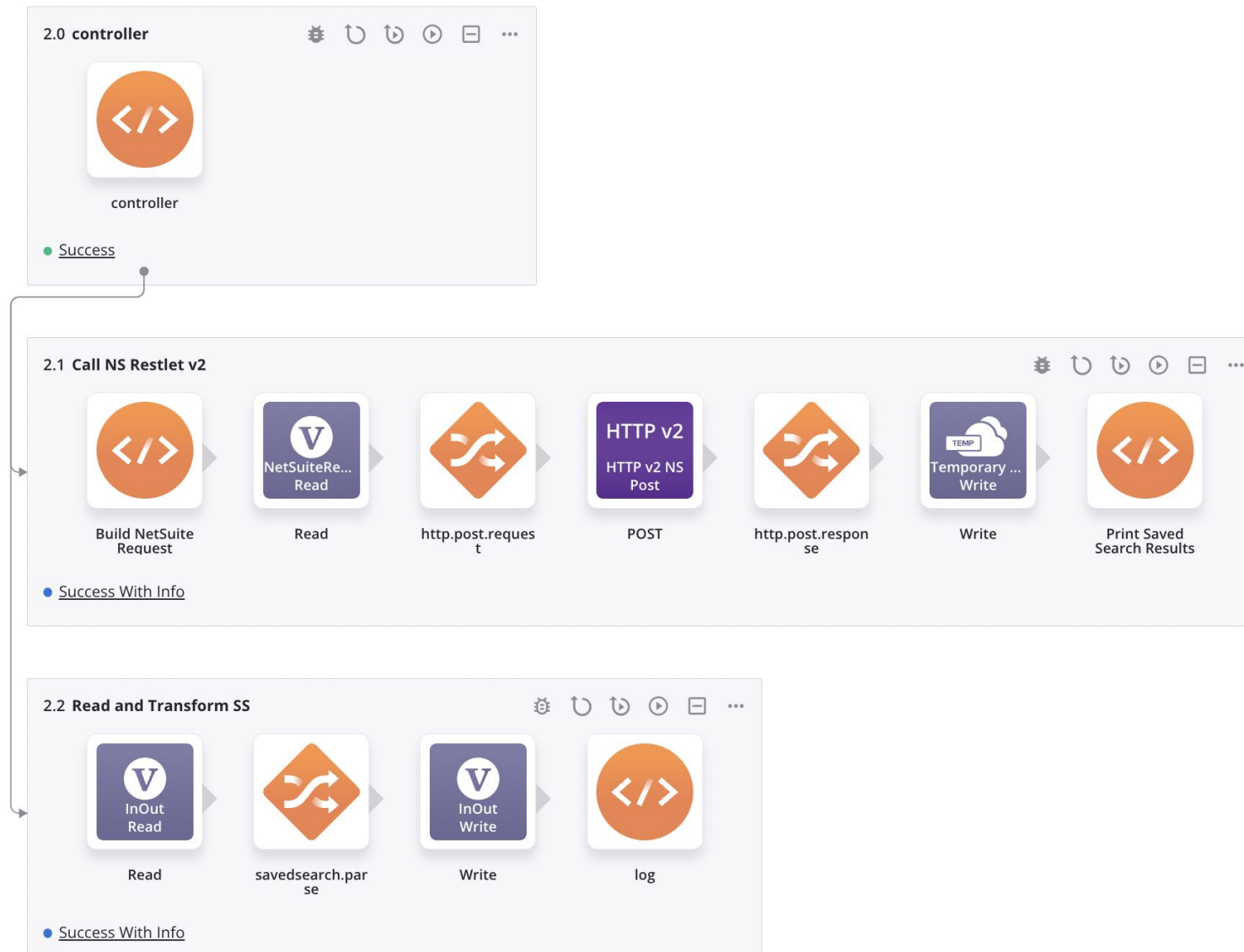
HTTP V2 : Amazon Selling Partner API



HTTP V2 : Calling a Salesforce Custom API for a Custom Metadata Object



HTTP V2 : NetSuite API - Calling an Saved Search



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 or 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:
 - Enhanced Services - Unlock your bandwidth & bring experts to help you with project optimization
 - 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!