

Americas Virtual Meetup #6

Environments, Agents, APIs, and Optimization

June 16th, 2021

Meetup Agenda

- Welcome & Introduction
- Meetup Format / Schedule
- Outline of Today's Session
- Technical Presentation
- Q&A / Feedback

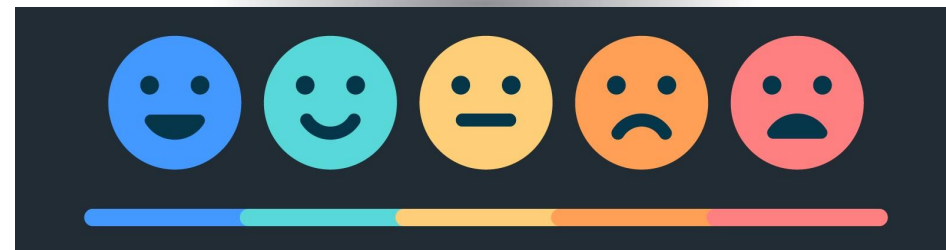


Format & Schedule

PARTICIPATION, FEEDBACK & FORWARD
SCHEDULE

FORMAT

PARTICIPATION, Q&A AND FEEDBACK



SCHEDULE

FORWARD SCHEDULE & THEMES

Previous Virtual Meetup available on Success Central:

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

Event Schedule:

- June 16th, 2021: Environments, Agents, APIs, and Optimization
- Next Virtual Meetup: September 15th, 2021
 - **What should we cover? What would be valuable?**

Topics/Themes:

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



Jitterbit Marketplace

Dawn Ronayne
Solutions Product Manager

Jitterbit Marketplace Overview

The screenshot displays the Jitterbit Marketplace interface. At the top, the Jitterbit logo is on the left, and navigation links for Platform, Solutions, Customers, Partners, Resources, Company, and Data Loader are in the center. A prominent orange 'Request Trial' button and a 'Login' link are on the right. Below the navigation, a search bar contains the text 'monthly payroll'. To the left of the search bar are filters and sorting options: 'Filters', 'Sort by: Title', and 'Asc. ↑'. The main content area shows '233 Results' and '6 per page'. Two asset cards are visible: one for 'Americaneagle.com' (Certified Partners) and one for 'NetSuite-Magento Invoice to Fulfillment' (Process Templates). Each card includes logos for various systems, endpoint expertise, partner offerings, and a 'Contact Us' button.

- Searchable Collection of Assets
 - Certified Partners
 - Process Templates
 - Integration Recipes
- Benefits
 - Targeted Expertise
 - Shorten Timelines
 - Examples & Best Practices

Jitterbit Marketplace Future



- Connector Cards
- Partner Onboarding
- Consolidating Public and Harmony Marketplace
- Solution Wizard Import Process

TODAY'S SPEAKERS

PROFILE



Jaime Delgado
Senior Customer Success
Architect

Jaime has 14 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 helping organizations maximize their use of APIs to drive innovation and value for their customers.



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.

Today's Meetup

OUTLINE / OVERVIEW OF SESSION

Learnings

- Jitterbit Marketplace - Intro / why does it matter to customers; how to get the best of it? (Completed)
- All things environments, agent groups and agents
- API Best Practices (**Discovery, Interaction, Design pattern, Configuration**)
- Options for data size optimization (Chunking, SFDC Bulk API, & Database Bulk Data Option)
- Other ways to get help from Jitterbit (CSA, TAM & other services)

Environments, Agent Groups and Agents

- Best practice is to build 3 Jitterbit environments
 - Development (Dev), Testing (QA), Production (Prod)
 - This allows seamless migration of code to higher environments, testing, and restoration to previous versions
 - Respect the software release cycle and migrate from Dev > QA > Prod
 - <https://success.jitterbit.com/display/DOC/Environments>
 - <https://success.jitterbit.com/display/DOC/Environments+Tech+Talk>
- Environments need to be tied to a single agent group (private or cloud)
 - The access that users have in a specific environment depends on the combination of their organization role's permissions and its environment access
- *Tip:* Use project variables to manage endpoint credentials in various environments

Environments, Agent Groups and Agents

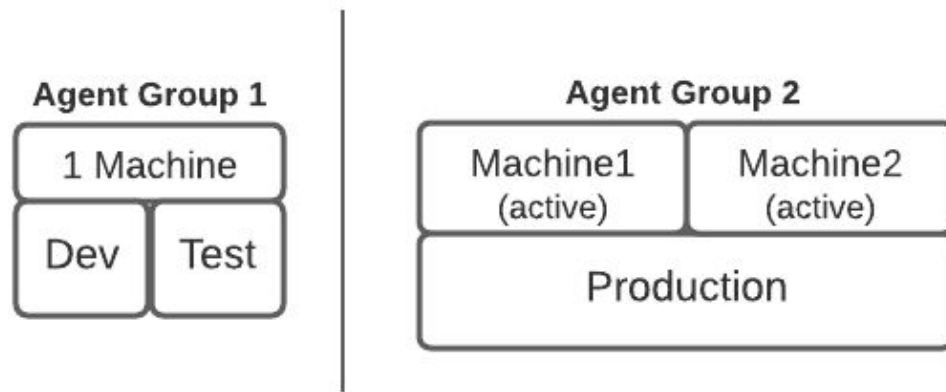
.....*contd.*

- As a best practice, Prod agent group should not be shared with Dev or Test because
 - upgrades applied to Dev or Test will directly impact Prod
 - no capability to test the upgrades, security patches or bug fixes in Dev or Test before migrating to Prod
- As a best practice, install Prod agent(s) on a separate server (not on a shared or existing database server), otherwise
 - will be competing for hardware resources
 - performance degradation
- Another guideline is to have at least 2 machines in the Prod agent group
 - allows High Availability (HA)
 - licensing discussion with CSM
 - allows load balancing, scalability, increased performance especially when the number of operations grow in the Jitterbit environment

Environments, Agent Groups and Agents

.....*contd.*

- A typical architecture followed by many customers is shown below, although it is really an architecture decision that needs to be made based on your requirements and hardware sizing exercise.



- Sizing and hardware recommendations:
 - <https://success.jitterbit.com/display/DOC/System+Requirements+for+Private+Agents>
 - <https://success.jitterbit.com/display/DOC/Private+Agents+Best+Practices+Tech+Talk>

- As a general guideline from hardware sizing standpoint:
 - one big machine is recommended if your use case requires batch processing of high data volumes (ex: > 1GB source files)
 - multiple smaller machines are recommended for optimal / best performance if your use case is processing thousands of incremental updates or API calls (smaller datasets or messages) in near-real-time

Environments, Agent Groups and Agents

.....contd.

- Additionally, a Sandbox (SB) environment has proven very useful to many customers as it gives an opportunity to test and play every time when:
 - a new security patch is released for the Jitterbit agent
 - advanced features are added to the design or cloud studio
 - following private agent upgrade best practices
 - SB > Dev > QA/Test > Prod
 - SB should have the latest version of agent out of all the environments
 - SB is available for private as well as cloud agent groups
 - for cloud agents, SB is usually 30 days ahead of Prod

Environments, Agent Groups and Agents

.....contd.

- Examples

S. No.	Environment	Agent Group
A)	<u>Private Agent(s):</u>	
1.	Sandbox	Sandbox Private Agent
2.	Development	Development / Test Private Agent
3.	Test / QA	Development / Test Private Agent
4.	Production	Production Private Agent Group
B)	<u>Cloud Agent(s):</u>	
5.	Sandbox	Jitterbit Sandbox Cloud Agent Group
6.	Development	Jitterbit Cloud Agent Group
7.	Test / QA	Jitterbit Cloud Agent Group
8.	Production	Jitterbit Production Cloud Agent Group

Options for data size optimization - Chunking

- Allows faster processing of large datasets by splitting of source data into multiple chunks based on a chunk size (# of source records)
 - transformations are performed on each chunk separately
 - resulting target chunks (or temporary files) combine to produce the final target
 - parallel processing
 - chunking can be used to split the source and process multiple chunks in parallel by increasing the # of threads > 1
 - # of records per target chunk or temporary file can also be adjusted
 - the default is 0, meaning there's no limit and all the records will be in 1 file
 - <https://success.jitterbit.com/display/CS/Operation+Options>
 - <https://success.jitterbit.com/display/DOC/Salesforce+Advanced#SalesforceAdvanced-ChunkingSettings>

Options for data size optimization - Chunking

..... contd.

- SFDC SOAP APIs (advanced options)
 - For APIs (ex: Upserts, Inserts, etc.), the API limit is 200 records per call
 - if chunk size of 200 is used:
 - source will be split into chunks of 200 records
 - each transformation calls the web service once with the 200 records (repeated until all the records have been processed)
- For large XML source and targets:
 - use chunking to make the transformation require less memory
 - use as large a chunk size as possible, making sure that the data for one chunk fits into available memory



CHUNKING SETTINGS	
Chunk size:	<input type="text" value="200"/>
Number of Records Per File:	<input type="text" value="0"/> <small>(0 means all records in one file)</small>
Max number of threads:	<input type="text" value="2"/>

Options for data size optimization - SFDC Bulk API & Database Bulk Data option

- SFDC Bulk REST API
 - for scheduled batch processes to handle hundreds of thousands of records at a time
 - allows up to 10,000 data records with a 10 MB file limit per API call
 - load or export (no transformations), typically for migrations
 - requires a flat data structure, such as CSV source and target
 - upsert / insert / update / delete / hard delete / query
 - faster and scalable as compared to SFDC SOAP API
- Database Bulk Data option
 - to improve performance when working with large amounts of data
 - available when the Oracle or SQL Server jTDS database driver is selected
 - Amazon Redshift
 - Insert Bulk Activity
 - Update Bulk Activity

API Discovery - Learning to Interact with a new API

Discover http **Published** endpoints
(REST, GraphQL, SOAP Services) **NOT**
with Jitterbit

- **Use dedicated client:**
 - SOAPUI / Postman
 - Connectivity / Authentication
 - Iterate quickly
 - Learn request details
 - Learn response Error details
 - Finally learn response success details
- **Then **Consume** into Jitterbit by modelling what you have learned**



API Discovery - Learning to Interact with a new API

- In Practice
 - API Discovery in Postman
 - Cloud Studio Implementation



API Design in Jitterbit

Step 1 - Collaborate with Consumers

- Agree API Contract
- Gather Request & Response Schema
- Agree Developers Portal will be the [Single Source of Truth](#)

Step 2 - Desktop/Cloud Studio



- Transformation Operation
- Mock Data Script

Step 3 - API Manager



- Publish Custom API

Step 4 - API Manager: Developers Portal



- Generate Raw OpenAPI Documentation
- Edit OpenAPI Documentation

Step 5 - Alert Consumers

- Mocked Service ready for consumption/critique

Step 6 - Get on with the service's implementation in the safe knowledge you are not the bottleneck to the success

Use the Cloud Agents if you are waiting on Private Agents / Connectivity. Let nothing get in your way of publishing the mocked service



Example Company 1.0.0
 [Base URL: ExampleCompany12345.jitterbit.org/v2]

This is a sample adapted from the [Swagger Petstore sample](#). For this sample, you can use the api key `special-key` to test the authorization filters.

[Terms of service](#)
[Contact the developer](#)
[Apache 2.0](#)
[Find out more about Swagger](#)

Schemes

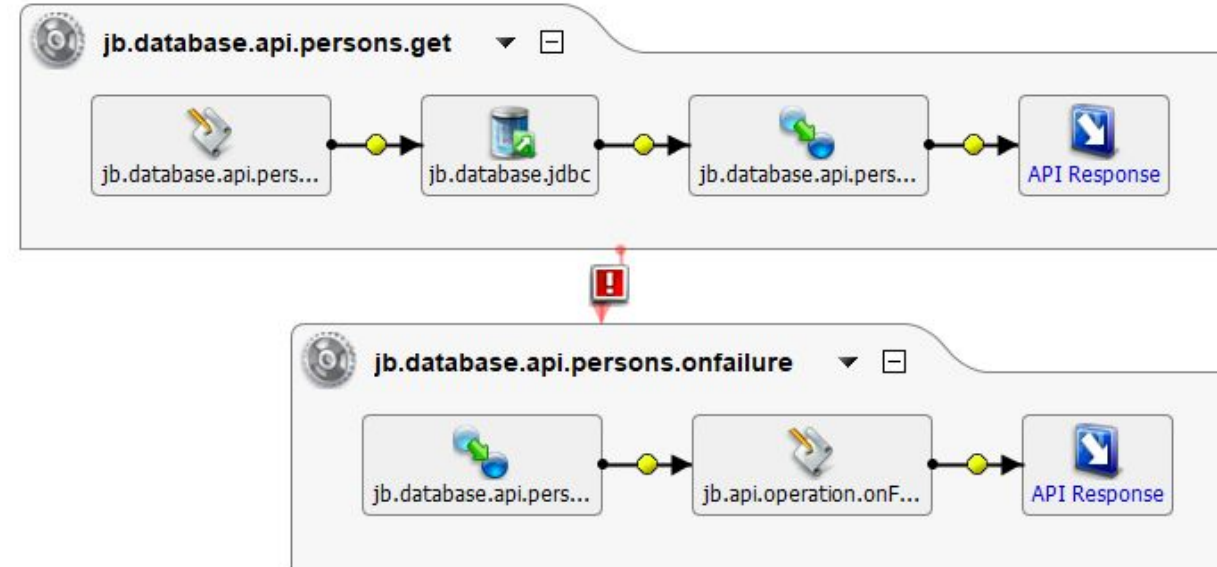
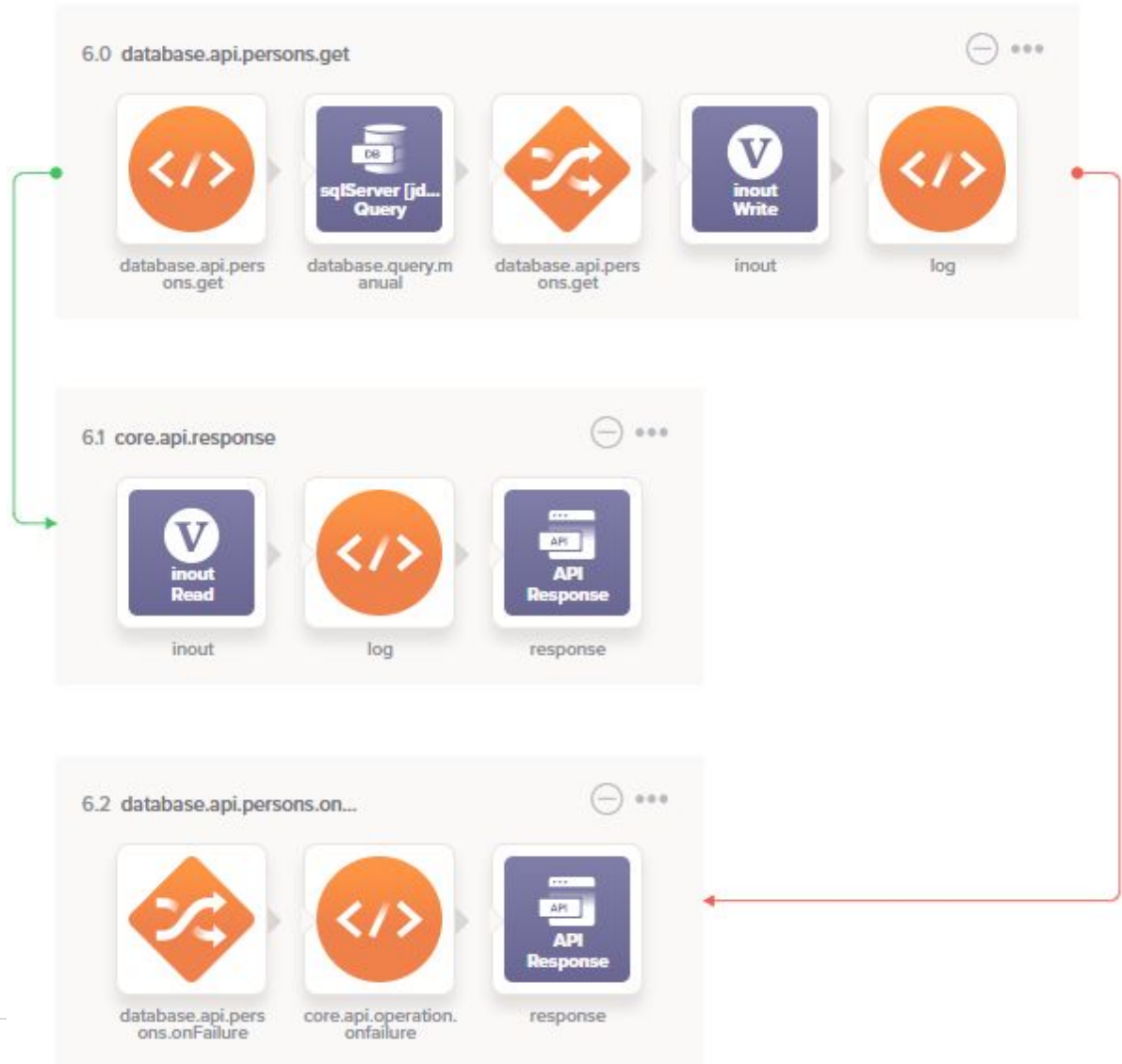
HTTPS ▼ Authorize

pet Everything about your Pets Find out more: <http://swagger.io> ▼

POST	/pet	Add a new pet to the store	
PUT	/pet	Update an existing pet	
GET	/pet/findByStatus	Finds Pets by status	
GET	/pet/findByTags	Finds Pets by tags	
GET	/pet/{petId}	Find pet by ID	



API Design - Unlock your data using Custom API



persons

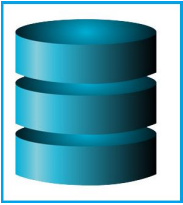
No Version

Beta

Custom

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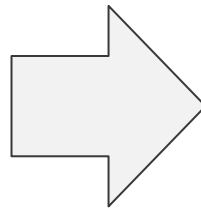
Last published: 28/06/19 10:00 PM



API Design - Unlock your data using Custom API

The screenshot shows the Microsoft SQL Server Enterprise Manager interface. The top pane displays a T-SQL query script for a stored procedure named 'SelectTopNRRows'. The query selects the top 1000 rows from the 'Person' table, including columns like BusinessEntityID, PersonType, NameStyle, Title, FirstName, MiddleName, LastName, Suffix, EmailPromotion, and Demographic. The bottom pane shows the results of the query as a table with 23 rows and 11 columns.

BusinessEntityID	Person Type	NameStyle	Title	FirstName	MiddleName	LastName	Suffix	EmailPromotion	AdditionalContactInfo	Demographic
1	SC	0		Karl	J	Chester		0		
2	EM	0		Terri	Lee	Duffy		0		
3	EM	0	NULL	Derick	NULL	Tamburello	NULL	0	NULL	<IndividualSu
4	EM	0	NULL	Rob	NULL	Walters	NULL	0	NULL	<IndividualSu
5	EM	0	Ms.	Gail	A	Erickson	NULL	0	NULL	<IndividualSu
6	EM	0	Mr.	Jossef	H	Goldberg	NULL	0	NULL	<IndividualSu
7	EM	0	NULL	Dylan	A	Miller	NULL	2	NULL	<IndividualSu
8	EM	0	NULL	Diane	L	Margheim	NULL	0	NULL	<IndividualSu
9	EM	0	NULL	Gigi	N	Matthew	NULL	0	NULL	<IndividualSu
10	EM	0	NULL	Michael	NULL	Raheem	NULL	2	NULL	<IndividualSu
11	EM	0	NULL	Ovidiu	V	Cracium	NULL	0	NULL	<IndividualSu
12	EM	0	NULL	Thierry	B	D'Hers	NULL	2	NULL	<IndividualSu
13	EM	0	Ms.	Janice	M	Galvin	NULL	2	NULL	<IndividualSu
14	EM	0	NULL	Michael	I	Sullivan	NULL	2	NULL	<IndividualSu
15	EM	0	NULL	Sharon	B	Salavaria	NULL	2	NULL	<IndividualSu
16	EM	0	NULL	David	M	Bradley	NULL	1	NULL	<IndividualSu
17	EM	0	NULL	Kevin	F	Brown	NULL	2	NULL	<IndividualSu
18	EM	0	NULL	John	L	Wood	NULL	2	NULL	<IndividualSu
19	EM	0	NULL	Mary	A	Dempsey	NULL	1	NULL	<IndividualSu
20	EM	0	NULL	Wanida	M	Benshoof	NULL	2	NULL	<IndividualSu
21	EM	0	NULL	Terry	J	Eminhizer	NULL	2	NULL	<IndividualSu
22	EM	0	NULL	Sariya	E	Hampad...	NULL	0	NULL	<IndividualSu
23	EM	0	NULL	Mary	E	Gibson	NULL	0	NULL	<IndividualSu



The screenshot shows the Postman API client interface. A GET request is configured to the endpoint `https://jitterpaks276792.jitterbit.eu/apis-beta/persons?EmailPromotion=true`. The 'Query Params' section shows `EmailPromotion` set to `true`. The response status is `200 OK` with a time of `1023 ms` and a size of `4 KB`. The response body is displayed in JSON format, showing a list of person objects with fields like `BusinessEntityID`, `Title`, `FirstName`, `MiddleName`, `LastName`, and `EmailPromotion`.

```
1 {
2   "success": true,
3   "message": null,
4   "data": {
5     "persons": [
6       {
7         "BusinessEntityID": 16,
8         "Title": null,
9         "FirstName": "David",
10        "MiddleName": "M",
11        "LastName": "Bradley",
12        "EmailPromotion": true
13      },
14      {
15        "BusinessEntityID": 19,
16        "Title": null,
17        "FirstName": "Mary",
18        "MiddleName": "A",
19        "LastName": "Dempsey",
20        "EmailPromotion": true
21      },
22      {
23        "BusinessEntityID": 29,
24        "Title": null,
25        "FirstName": "Mark",
26        "MiddleName": "V"
```


Hosting Custom APIs - High Transaction APIs on Private Agents

- Request per minute Limits (above 200 requests per minute)
 - requires private agent
- Best Performance on an Agent Running Linux
- Private Agent Configuration Settings
 - Jitterbit.conf file
 - Under [DbInfo] add this setting: [DbInfo] UseInternalPooling=true
 - Log Settings
 - LogSync
 - ShipService
 - ODBC Settings postgresSQL ANSI and Unicode set to 60 seconds
- Reach out to your CSM to schedule a session with support/CSA to go over this configuration

Other ways to get Help from Jitterbit (CSA, TAM & other services)

- Best Practices session with Customer Success Architect (CSA)
 - Reach out to your Customer Success Manager (CSM) to schedule
- Health Check review with CSA
 - Reach out to your CSM to schedule
 - <https://success.jitterbit.com/display/DOC/Jitterbit+Integrate+Conference+2021%2C+Session+3>
- Architecture assessment with CSA or TAM (Technical Account Manager)
 - Reach out to your CSM to schedule
- Working session with CSA for Jitterbit examples and/or development activities
 - Reach out to your CSM to schedule
- CSA office hours every Wednesday @ 10am Pacific Time
 - Reach out to your CSM to get invited
- Customer workshops or customized training with CSA or TAM (customized to your use cases)
 - Reach out to your CSM to schedule
- Contact:
 - success@jitterbit.com | <https://success.jitterbit.com/>

Other ways to get Help from Jitterbit (CSA, TAM & other services..... *contd.*)

- Other useful Jitterbit resources

- [Success Central](#)
- [Best Practices with Jitterbit](#)
- [Integration Project Methodology](#)
- [Advanced Resources](#)
- [Getting Started](#)
- [Getting Training](#)
- [Jitterbit Customer Workshops](#)
- [Jitterbit Tech Talks](#)
- [Video Library](#)
- [Jitterbit Developer Portal](#)
- [Ask the Jitterbit Community](#)
- [Submit a Support Case](#)
- [Check Jitterbit System Status](#)

Q&A

QUESTIONS & FEEDBACK



Mission

Empowering innovation and delivering exceptional experiences by connecting data, people, and processes.

Vision

To be the most sought-after partner, delivering best-in-class products and services connecting the world's systems.