Americas Virtual Meetup #9
Guided Tour to Harmony Implementation

March 16, 2022

Jitterbit

Meetup Agenda

1	Welcome & Introductions
2	Meetup Format / Schedule
3	Outline of Today's Session
4	Technical Presentation
5	Q&A / Feedback

Things to Know

- **Increasing customer communications**
  - ICYMI: Customer newsletter
    - Year-end results: we had our best year yet
    - New or enhanced connectors and templates
  - Coming soon: CEO customer town hall
    - A chance to hear from our CEO and ask your questions live
    - Save the date will go out in the next couple of weeks
- **Launch of our low-code application development platform**
  - Early adopter program happening this spring; more information to follow soon

SCHEDULE

FORWARD SCHEDULE & THEMES

Previous Virtual Meetup available on Success Central:

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

Event Schedule:

- Next: June 15, 2022

  ◦ **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

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

Jitterbit

Learnings

Jitterbit Performance Check Guidance / How to Plan and Design	Resources and Guided Tour to Harmony Implementation
SFDC Bulk REST API instead of SOAP API (when possible)	Success Central
Chunking	Jitterbit University
Use Global Variables instead of Temp Storage (when possible)	Marketplace
Dedicated (non-shared) Production Private Agent Group	Other Resources
Private Agent Server(s) Sizing based on the Use Case	
Where and How to implement Data Filter and Retrieval criteria in the Integration	
Database Bulk Data Option	

SFDC Bulk REST API instead of SOAP API (when possible)

- Project Design Phase consideration: When the Production source data is large (in tens of thousands) and there is no need to apply transformations on the source data

  - Advantages from performance standpoint:

    - Approximately (depends on the message size) 10,000 records are allowed per API call

      - File limit is 10 MB per API call

    - Suitable for migrations or batch processes to handle 100s of 1000s of records at a time

    - Able to Query, Insert, Update, Upsert, Delete, Hard Delete

    - Faster and scalable as compared to SFDC SOAP API

  - Disadvantages / Caveats:

    - The Bulk REST API requires a flat structure, such as a .csv source and target

    - No transformations, can handle only load or export

      - transformations would need to occur prior to the SFDC activity

    - SFDC custom development implications / errors

      - SFDC triggers that are not bulkified on the target object

Chunking

- Project Design and/or Performance Test Phase consideration: When there is a need to process large datasets faster and within aggressive SLAs (this can be in conjunction with Bulk API)

  - this is done by splitting of source data into multiple chunks based on a chunk size (number of source records)

    - transformations are performed on each chunk separately

    - resulting target chunks (or temporary files) combine to produce the final target

  - applies to:

    - SFDC Bulk REST API

    - SFDC SOAP API (helpful especially when Bulk API is not an option)

    - Operations that do not contain any Salesforce-based activities

Other Chunking Features

- Other Data Chunking Features to be considered during Project Design and/or Performance Test Phase
  - adjustment for the number of records per target chunk or temporary file:
    - For operations that do not contain any Salesforce-based activities, the default chunk size is 1
    - For Salesforce-based operations, the default chunk size is 200
    - If using a Salesforce-based bulk activity, consider changing this value to a much larger number, such as 10,000

- Parallel Processing
  - Chunking can be used to split the source and process multiple chunks in parallel by increasing the number of threads > 1

Chunking Examples

- For example: SFDC SOAP APIs (advanced options)
  - For APIs (example: 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)
    - if chunk size of 1000 is used and the total number of records are 5000:
      - source will be split into chunks of 1000 records
      - 5 temporary files each with 1000 records (5*1000) will be created (as long as the records per file is set to default, which is 0)
      - if the number of threads is set to 2, 2 files will be created in parallel
        - so in the above example, the sequence of the file creation will be 2 files in parallel + 2 files in parallel + 1 file
- Links to refer:
  - Advanced Chunking Settings
  - Chunking Options

Use Global Variables instead of Temp Storage (when possible)

- Design Phase consideration: If the Production Payloads are going to be small (<=7KB), get away from writing files to the disk (IO intense) and use global variables (memory resident) instead

  - makes a big difference in performance if there are multiple operations in multiple Jitterbit projects running simultaneously with this pattern and on the same agent machine

  - can be used as source and target within operations

  - Re-usability: For example- 'WriteToOperationLog' script

    - re-use the same global variable and the same script

  - Need only one(ish)

  - Clean-up after themselves

    - no need to archive, build a clean-up process or file management

Dedicated (non-shared) Production Private Agent Group

- Topology to be considered while building the Production environment and to be tested before and during the Performance Test cycle:

  - Install Production agent group(s) on a dedicated (non-shared) machine, instead of on a shared machine (example: an existing database server, etc.), or else:

    - the Jitterbit operations will be competing for hardware resources; especially in case of high data volumes and/or high frequency operations

    - as the Production environment matures and more and more projects are brought over, there will be an inevitable decline in the performance of the operations

  - Consider installing and configuring 2 agent machines (active-active) in the Production Agent Group (licensing discussion needed)

    - this would allow High Availability (HA) of the Jitterbit Production environment

      - significant, especially if dealing with mission critical applications

    - this will allow load balancing, scalability, increased performance of the operations; especially when the number of operations grow in the Jitterbit Production environment

Private Agent Server(s) Sizing based on the Use Case

- Sizing recommendation (based on the use case) of the agent machine(s) to be considered while building the Production environment and to be tested before and during the Performance Test cycle:

  - It's recommended to install and configure 1 big Production Agent machine if the use case requires batch / scheduled processing of high data volumes (example: > 1GB source files)

  - It's recommended to install and configure multiple smaller Production Agent machines for optimal performance if the use case requires processing several incremental updates/records or API calls (small datasets or messages) in a near-real-time (very frequent) fashion

  - This recommendation is in addition to the High Availability (HA) recommendation discussed earlier and both the recommendations should be considered independently

Where and How to implement Data Filter and Retrieval criteria in the Integration

- Project Design phase consideration: For optimal performance and data scalability in Production environment, consider the following scenario:

  - Integration design pattern should be able to filter the source data within the source endpoint before it's brought over to Jitterbit, instead of bringing over ALL the data to the platform and then applying the filter criteria

    - 'Select' clause in case of DB source

    - 'Where' clause in case of DB source

    - ID (or list of IDs) in case of REST / SOAP endpoints

    - etc.

      - Advantages:

        - Minimize network traffic and reduce CPU cycles

        - Avoid writing big files to the disk and minimize IO calls

        - Enhances data scalability in Production

        - Overall, better performance as the data filter is executed early in the flow, so smaller datasets

Where and How to implement Data Filter and Retrieval criteria in the Integration

- Another Design Phase consideration:

  - Change Data Capture / Near-Real-Time Retrievals: If the source endpoint does not provide the capability to retrieve "only" the incremental records, build that mechanism in Jitterbit

    - Avoid FULL Data Refresh

    - Timestamp based change data capture

    - Write and Read the last RunDate Timestamp to and from Jitterbit cache

    - Better Performance as the data filter is executed early in the flow, so smaller datasets

Database Bulk Data Option

- Project Design Phase consideration: When Production source and / or target data to be loaded is large (tens of thousands), consider this topology during development and test it in Performance Test cycle

  - faster and scalable; especially in case of aggressive SLAs

  - available with Oracle or MS SQL Server when jTDS database driver is selected

  - optimal performance for high data volumes

    - Insert

    - Update

    - Upsert

  - Amazon Redshift

    - Update Bulk Activity: updates multiple records in a table

    - Insert Bulk Activity: inserts multiple records in a table

Success Central

- **Searching for Information**
  - DS
  - CS
  - APIM
- **Best Practice**
  - https://success.jitterbit.com/display/DOC/Best+Practices+with+Jitterbit
- **Tech Talks**
  - https://success.jitterbit.com/display/DOC/Jitterbit+Tech+Talks
  - https://success.jitterbit.com/display/DOC/Cloud+Studio+Tech+Talk
  - https://success.jitterbit.com/pages/viewpage.action?pageId=81071482
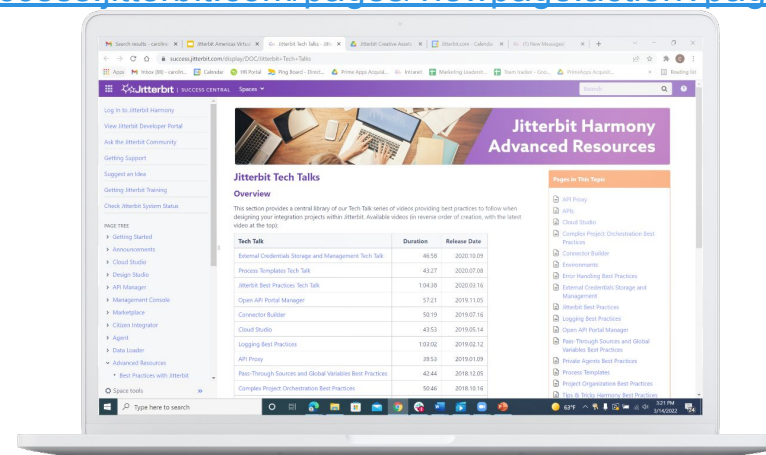
Jitterbit University

- **Training Paths**
  - Developer
  - Citizen
  - Admin
  - Salesforce
  - APIM
  - Advanced Topics

Marketplace

- **Recipes**
  - pre-built integration project that unidirectionally moves data across two systems

- **Process Templates**
  - a solution based approach that groups together different flows to meet a business need

- **Example of how to use each**
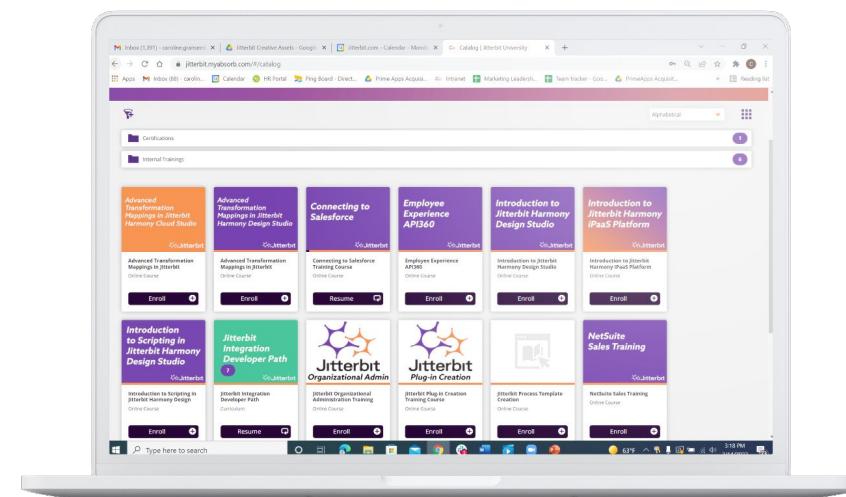
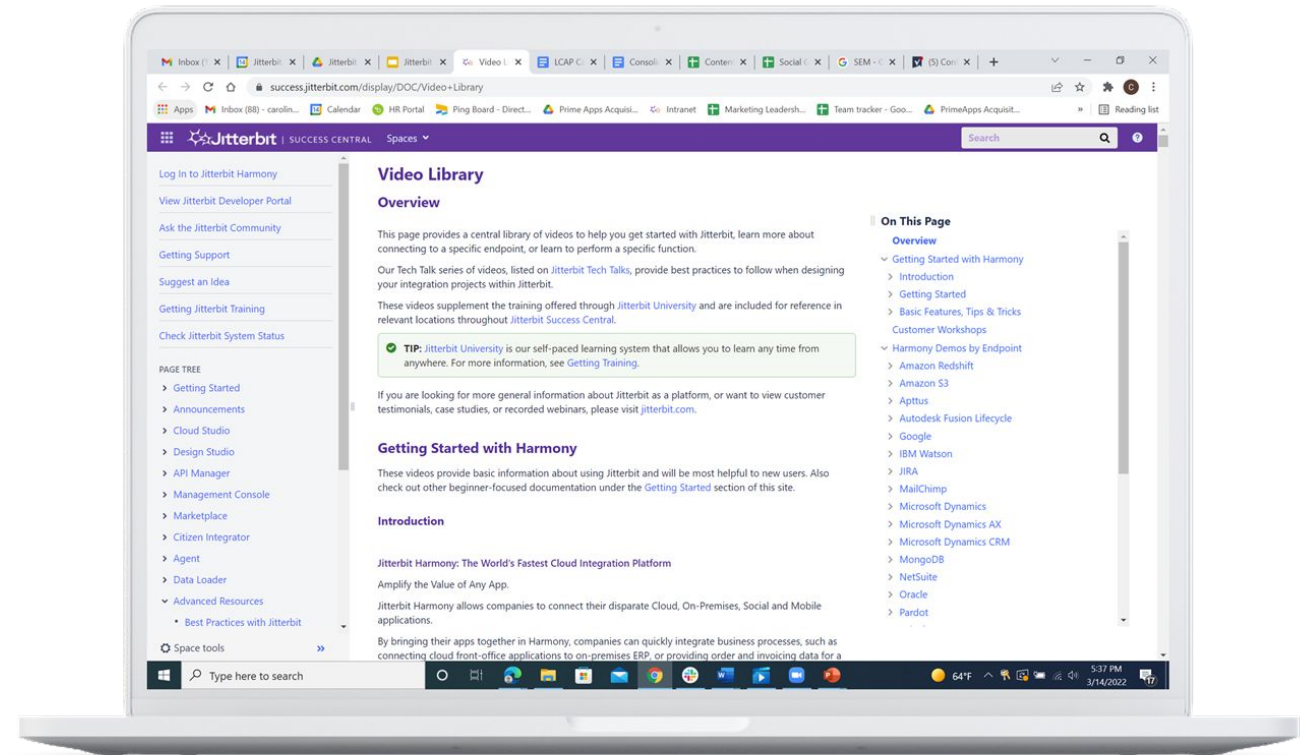jitterbit.com/marketplace
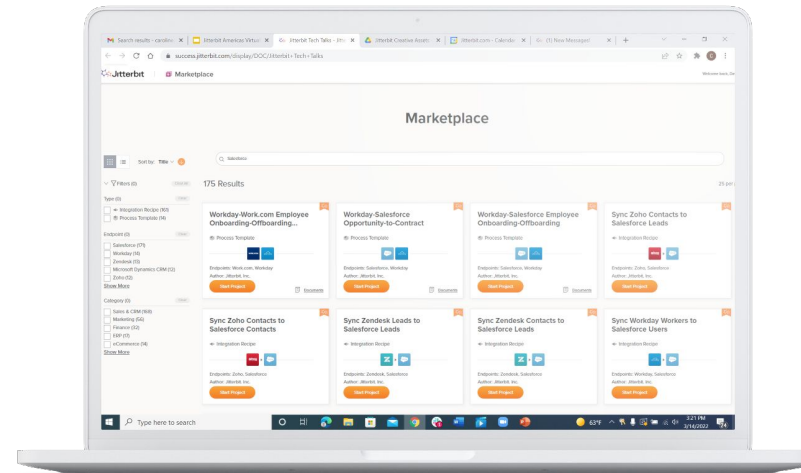
More Resources

- **CSAs**
  - Onboarding, Health Checks, Platform Questions
  - CSMs can schedule sessions
  - TAM Engagements
- **Professional Services**
  - Bucket of hours
- **Managed Services**
  - Full service

Other Ways to Get Help from Jitterbit

- **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+2022%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 Cont'd.

- Integration Project Methodology
- Advanced Resources
- Getting Started
- Getting Training
- Jitterbit Customer Workshops
- Video Library
- Jitterbit Developer Portal
- Ask the Jitterbit Community
- Submit a Support Case
- Check Jitterbit System Status

Q & A

QUESTIONS & FEEDBACK