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How to Design Integrations with MDM SaaS

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Housekeeping Tips

- Today's Webinar is scheduled for 1 hour
- The session will include a webcast and then your questions will be answered live at the end of the presentation
- All dial-in participants will be muted to enable the speakers to present without interruption
- Questions can be submitted to "All Panelists" via the Q&A option and we will respond at the end of the presentation
- The webinar is being recorded and will be available on our Success Portal - where you can download the slide deck for the presentation. The link to the recording will be emailed as well.
- Please take time to complete the post-webinar survey and provide your feedback and suggestions for upcoming topics.

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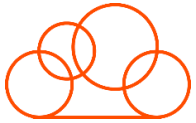
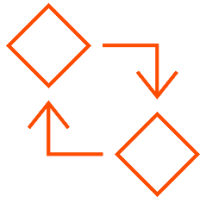


Bootstrap trial and POC Customers

Enriched Customer Onboarding experience

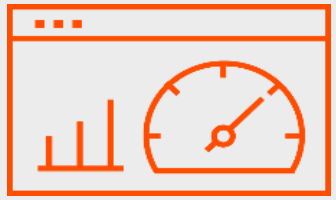


Product Learning Paths and Weekly Expert Sessions

Informatica Concierge

Tailored training and content recommendations

More Information



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Agenda

- Integration Options
  - UI based Data Management
  - Batch and Realtime Ingress/Egress
- Strategies and Recommendations
  - Bulk data processing strategies
  - Realtime data processing
  - External Data comparisons
- Demo
  - Using EVO to downgrade trust
  - Realtime Publishing via CDIR
- Q & A

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Integration Options

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MDM SaaS Integration Options

BATCH

Ingress Jobs brings the data from Source Systems to MDM

CDI Mappings can be used to Ingress the data to MDM
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FILE UPLOAD

File Upload from UI to Bulk Create/Update Records

REAL TIME

APIs and UI data Comes to MDM in Real Time

Leverage native API's or customize using CAI process endpoints.

Batch Integrations

Real Time Integrations

BATCH

Egress Jobs take the master records out of MDM to Downstream

CDI Mappings can be used to extract and transform and load the data to Downstream

REAL TIME

Records Changed Real Time in MDM

Leverage native API's or customize using CAI process endpoints.

BUSINESS EVENTS

Asynchronous Publish of Modified data

Store the records in Middleware(e.g.: Kafka) for Downstream

Batch Integrations

Real Time Integrations

Integration Design Considerations

- Initial load vs. Incremental (ongoing) loads
- Load strategies
  - Direct from source vs. staging layer
  - Delta detection & dependencies on MDM data
- Primary key construction
- Job frequency

- Publication frequency
- Load Strategies
  - Direct to target vs. publication layer
  - Delta detection
- Reporting requirements
- Determine how MDM events are published:
  - Create, Update
  - Merge & Unmerge
  - Delete (soft-delete vs. hard-delete)

Data Quality, Validations & Enrichments

- Leverage several features to enforce data quality standards

Cloud Data Quality

- Batch rules for ingress jobs
- Real-time rules UI validation and standardization

Reference 360

- Standardize attributes across the data model
- Standardize codes from source systems to enterprise code values

Data as a Service

- Built-in support for data verification and enrichment including:
  - Address
  - Phone
  - Email

3rd Party Integrations

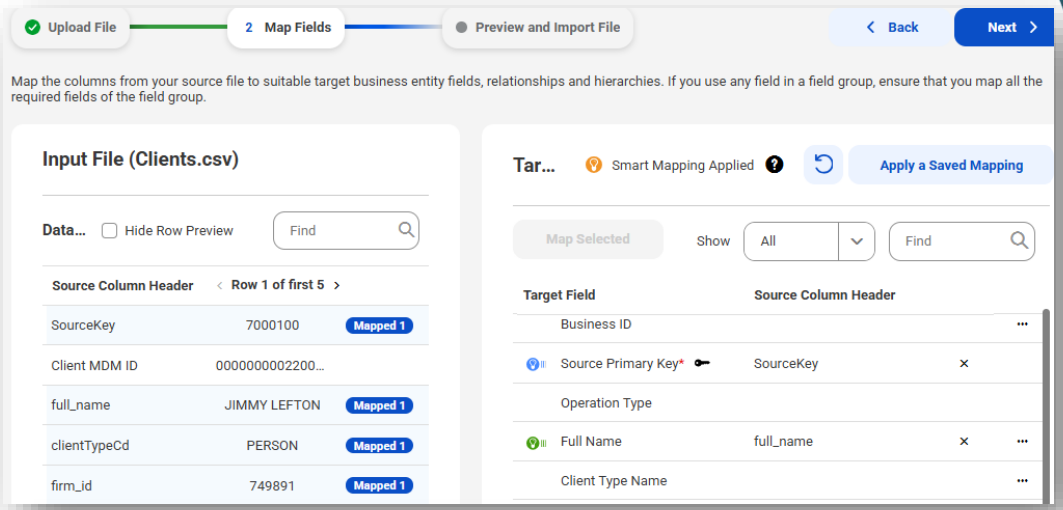
- Leverage connectors and accelerators for common 3rd party integrations including:
  - D&B
  - GDSN

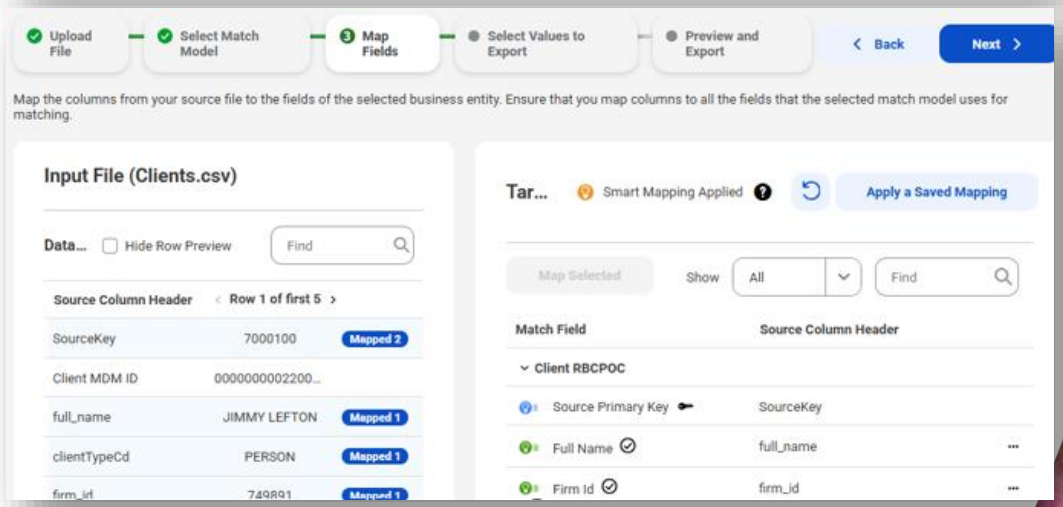
EVO

- Enrichment and Validation Orchestrator for complex real-time decision logic
- Supports any 3rd party integration

UI based Data Management

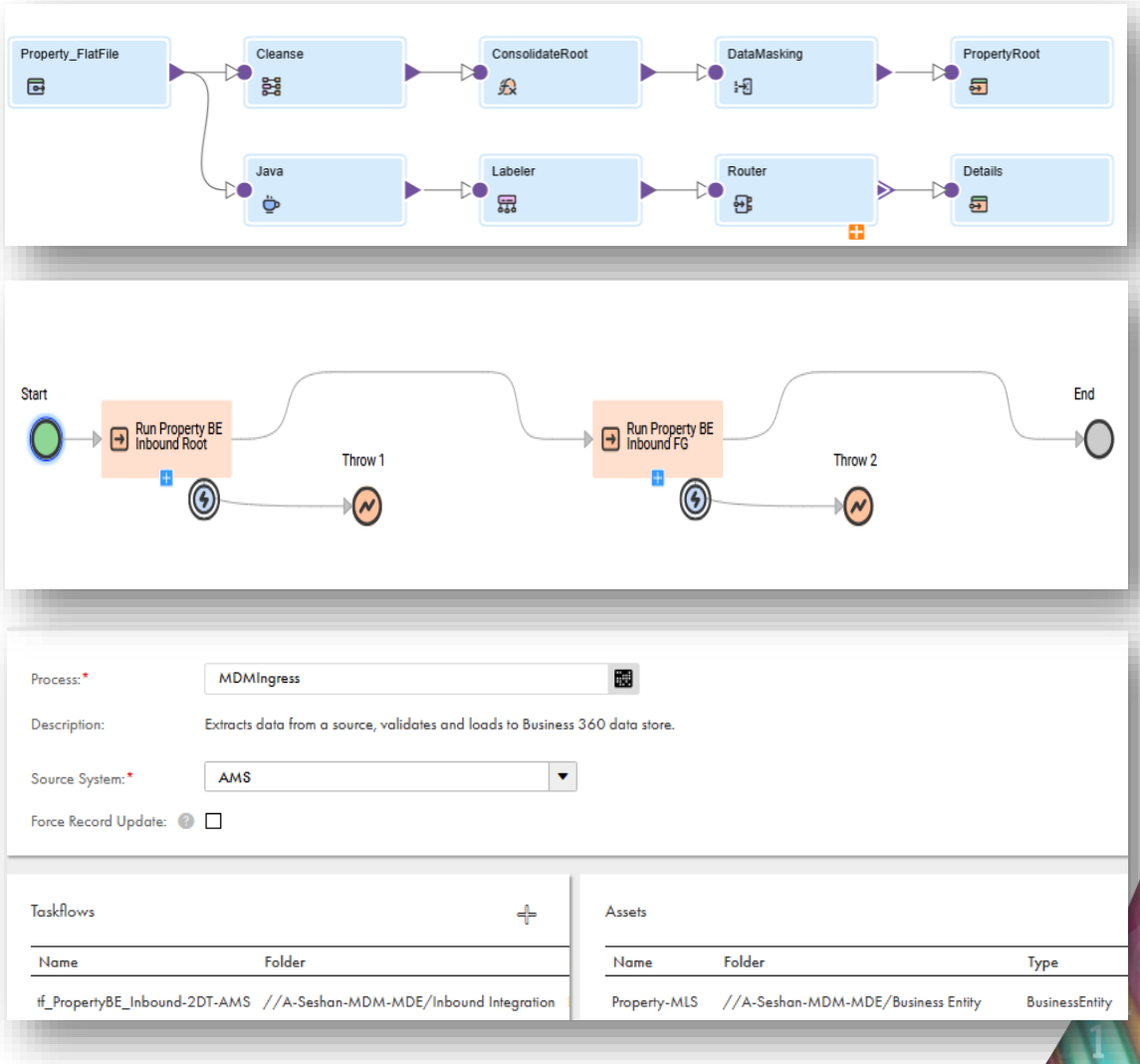
- File Upload feature allows import of CSV data file to load Business Entity, Relationship and Hierarchies directly and supports Create Update and Delete operations.
  - Users can load data for a specified Source System or to Default Source with ability to map the data fields to corresponding entity attributes and save it for future use.
  - Users can see the Preview Data before submitting import job and Monitor job that provide completion metrics on successfully processes and failed records.
- External Matching feature allows users to perform matching of external CSV data file with MDM data using match rules configured in MDM to analyze match results before importing them.
  - The input file data is not stored in MDM until the user completes the import process thus avoiding redundant or duplicate data getting created in MDM and gives users control over what data enters the system.
  - The feature supports Match and Export mode that exports matches master data values and Match and Import mode to Import selected records or all records in the file
  - Overall, this feature supports informed decision-making and helps maintain a clean and trusted master data environment





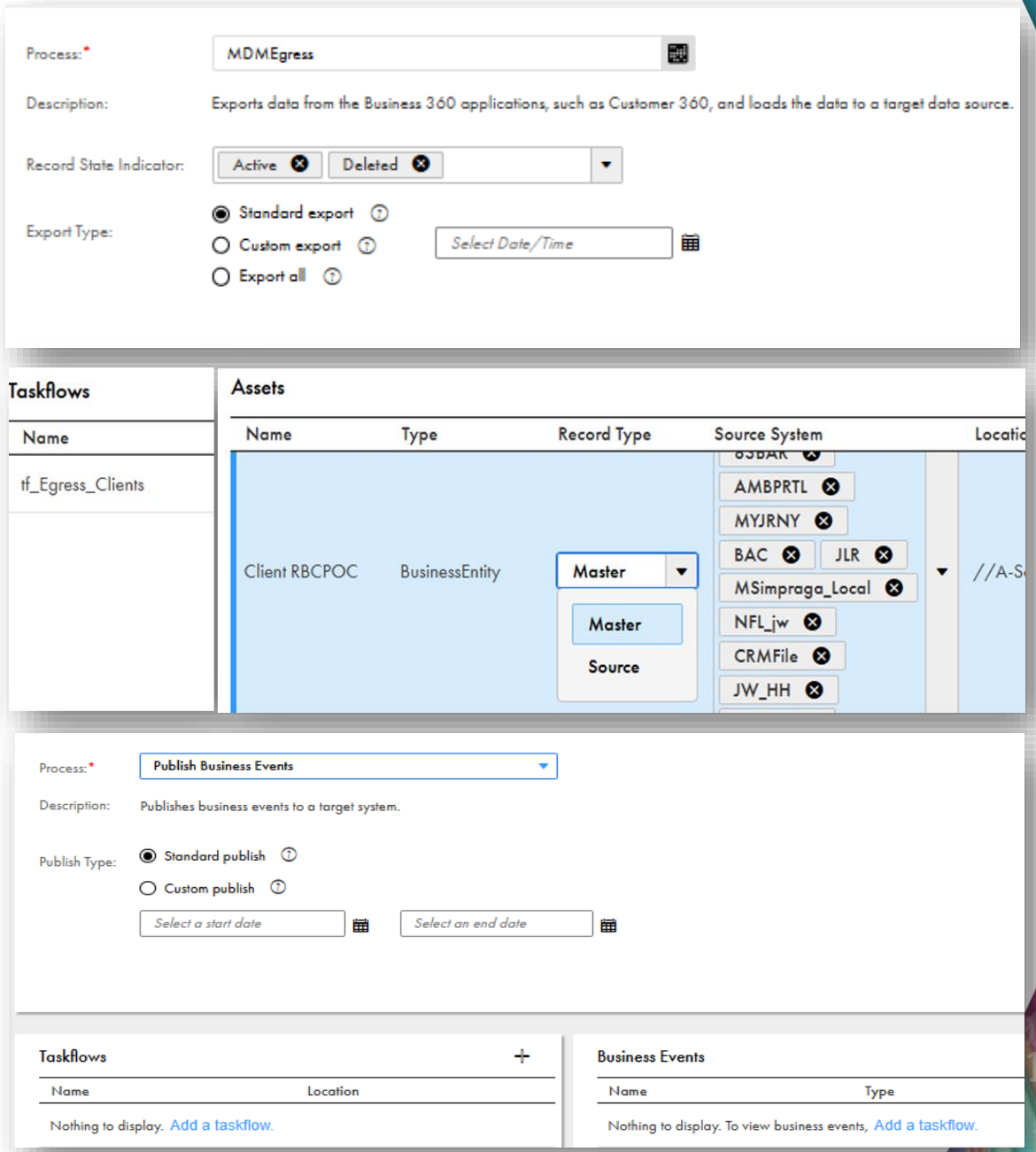
Batch Ingress

- IDMC provides **Large variety of connector** to various system which can be leveraged by **Cloud Data Integration (CDI)** services to connect and get data from various data sources into MDM.
    - CDI jobs are **scalable** to handle large volumes of data effectively through bulk processing and Provides robust error handling and logging mechanisms for failed records.
    - CDI provides large number of **transformation** that can use **Cloud Data Quality (CDQ)** assets to cleanse enrich standardize and validate data ingresses into MDM
- IDMC also provides two special MDM Ingress connectors **B360 and FEP** Connectors to **read** from and **write** data into **Business Entity, Relationship, Hierarchies** objects.
    - Only the **MDM Connectors** available in CDI can be used process batch data with MDM SaaS objects
- **MDM Ingress jobs** are used to perform data load operations using CDI mappings, tasks and task flow
    - MDM jobs can be configured to load data from a specific **source system** and one or more business entity can be loaded using the same Ingress Job
    - Jobs can be submitted and monitored using MDM APIs thus allowing o help with automation of job sequencing and submission process



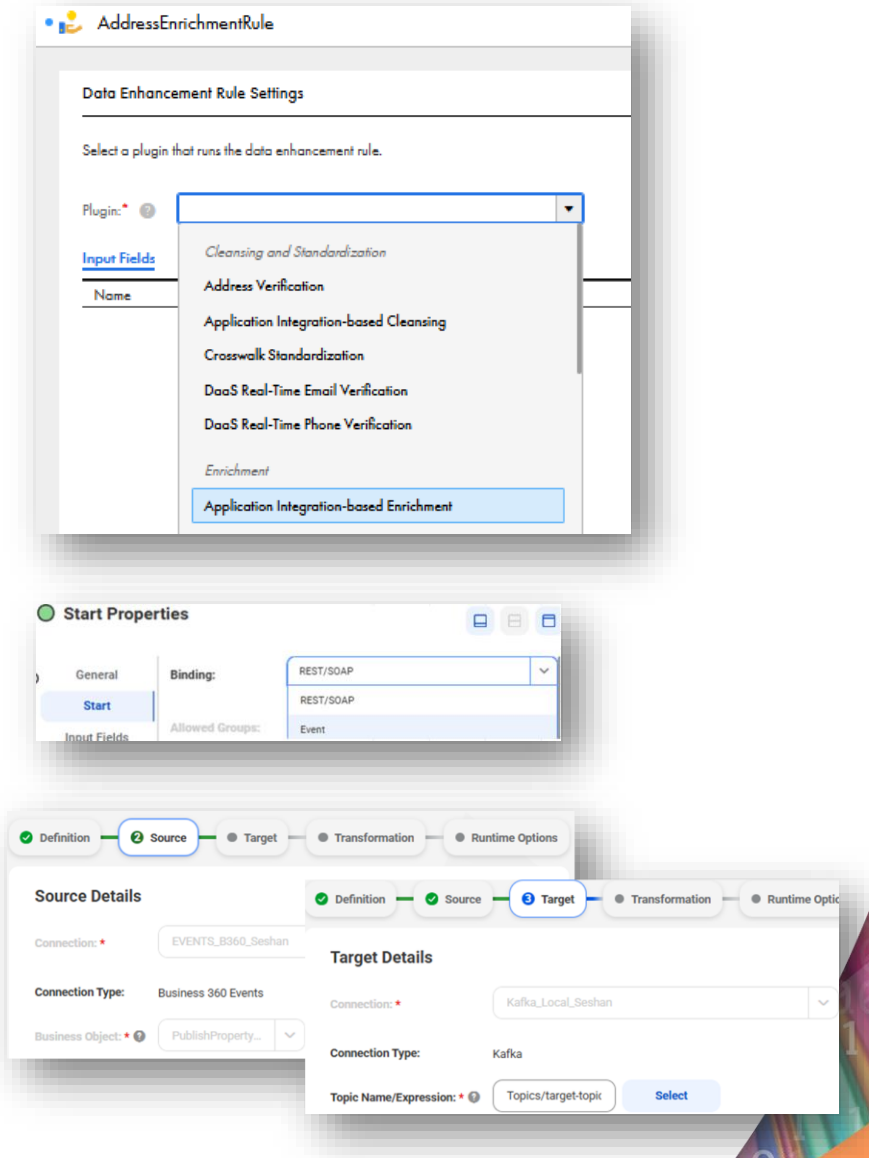
Batch Egress

- **Incremental and Full Egress** of is available for Business Entity, relationships Hierarchies and match pairs collections in MDM have and has 3 different modes.
  - **Extract Record Type** can be configured to extract either Master or Source Records
  - **Export All** - exports the entire master dataset of the corresponding collections to downstream applications or external systems and is typically used for initial data synchronization and for audit/regulatory needs
  - **Standard Extract** is the default batch export configured that provided full export on initial run and does Incremental (Delta) Extract on subsequent runs which minimizes overhead in publishing data
  - **Custom Extract** are for specific use cases where all data created and updated need to be extracted after a specific time stamp. This helps in publishing data that is needed for specific snapshot usage
- **Publishing Business Events** can be configured to publish changes in MDM data that can be read by CDI **Business Events connectors** to **publish events in batch**



Realtime Capabilities

- **Native MDM REST APIs** supports Business Entity and its Relationships data operation covering **CRUD, Merge, Unmerge** and managing **MDM Jobs**
  - **Business Entity** and **Relationship** APIs support GET, POST, PUT, PATCH and DELETE REST calls.
  - **Structured authentication** mechanism for any REST clients to be able work with MDM data and fully implements user **Role Authorizations** configured on MDM data.
- **Cloud Application Integration (CAI)** processes can handle MDM realtime data management use cases
  - **Search, Get and Create** Business entity and Related entities in realtime and **Encapsulate Business Logic** Validation, Derivations, Cleansing and logics and works with various request and response structures across originating and consuming system.
  - Can make search and get REST API calls to **3rd Party data providers** utilizing Business entity data for search and can be used as **EVO Plugin** for Enrichment, Validation and Cleansing use cases
  - Can be deployed **HTTPS** or **Event** mode and **Registered** as **Public Rest API** in API center for Enterprise-wide use cases
- **Business Events Realtime Publishing** is accomplished using **Cloud Data Ingestions and Replication (CDIR)** service.
  - CDIR are tasks defined in CDI that can be deployed to **listen to messages** published by **Business events,** any published message get **immediately streamed** in realtime to **Kafka or File** target as per the task configuration



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Strategies and Recommendations

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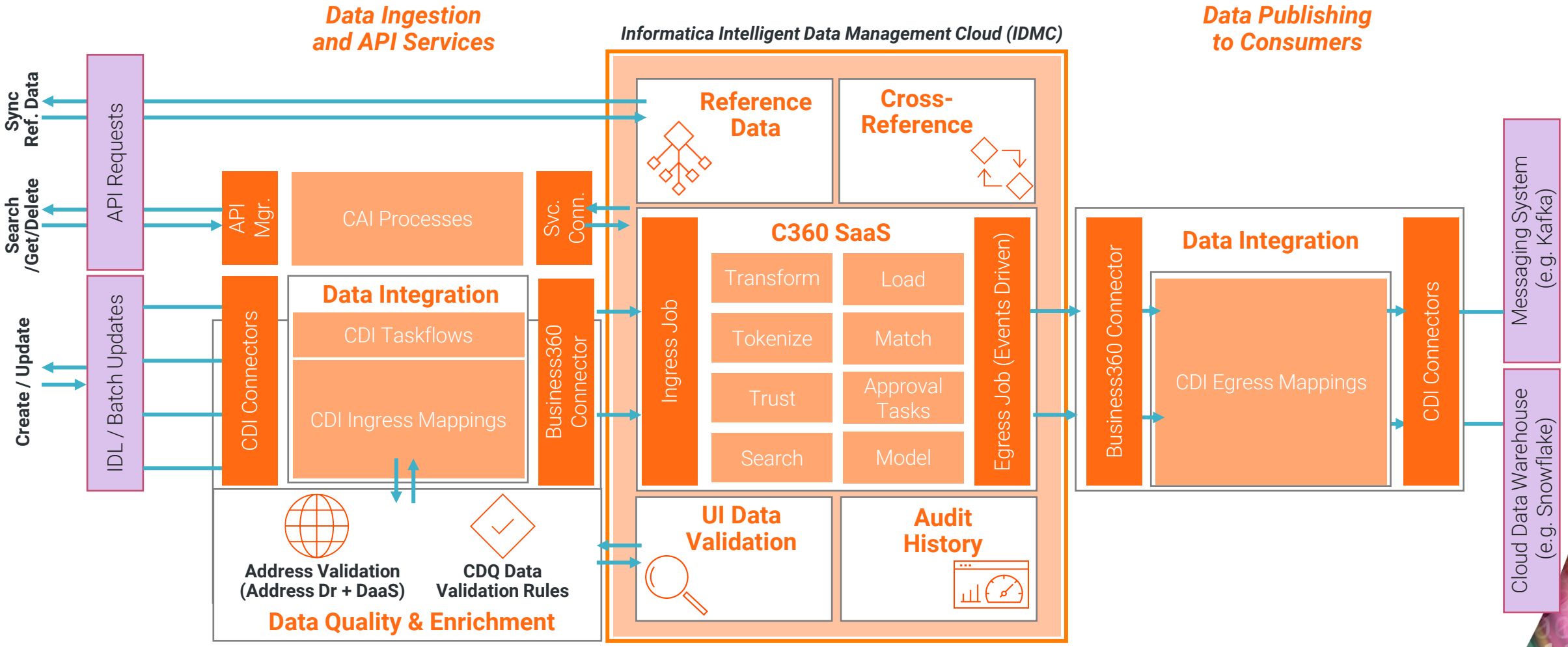
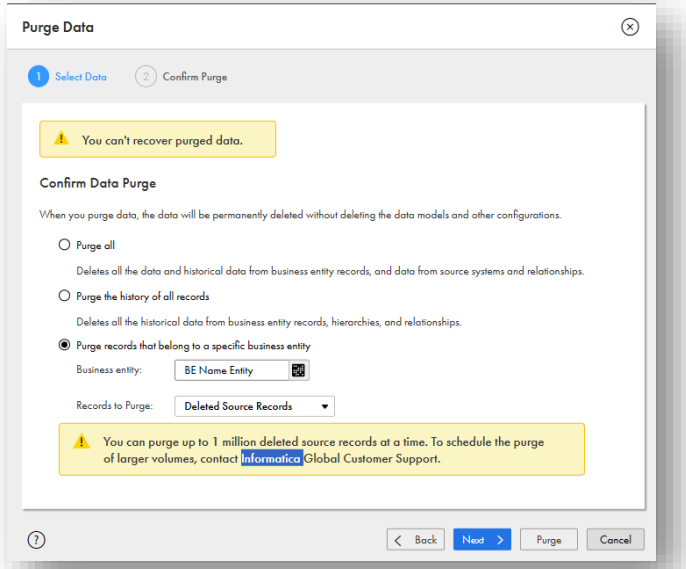
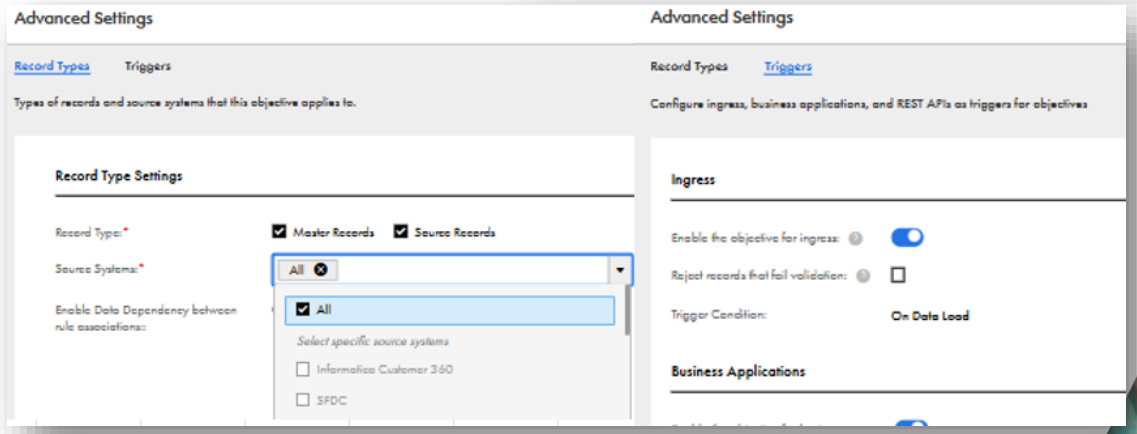
MDM SaaS Ecosystem



Bulk Data Processing – Ingress

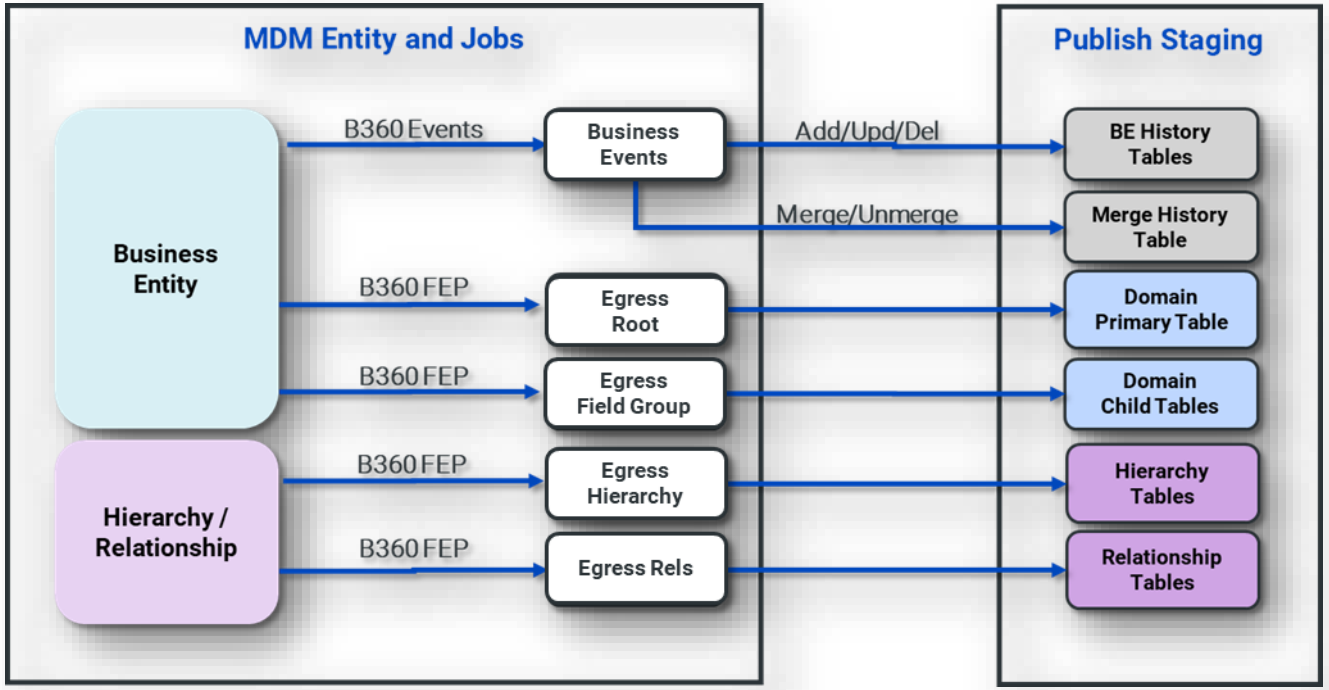
- Create **distinct mappings** for hierarchy instances, root relationships, and relationships in data integration. Assign each mapping to a dedicated mapping task and combine all tasks into a unified task flow for streamlined processing.
- When handling large data volumes, divide the source into chunks of **25–50 million** records per job. Segment data logically into multiple jobs to optimize parallel loading and simplify recovery from failures.
- Enable batch jobs to **soft delete source records**; these can later be purged to maintain a concise and consolidated master record count within MDM.
- Use **parameterized** mappings for sources with similar schema, allowing reusable task flows and reducing future maintenance effort.
- Mark records as "**not ready for match**" when they fail validation or are pending review. This prevents unnecessary match processing and helps focus resources on qualified records.
- Apply **EVO-based** data quality validations during ingestion, with the option to accept or reject records that fail validation, ensuring only qualified data enters the system.
- For faster, direct merges, use the **Load by MDM ID** feature to bypass standard matching, expediting record consolidation.





Bulk Data Processing – Egress

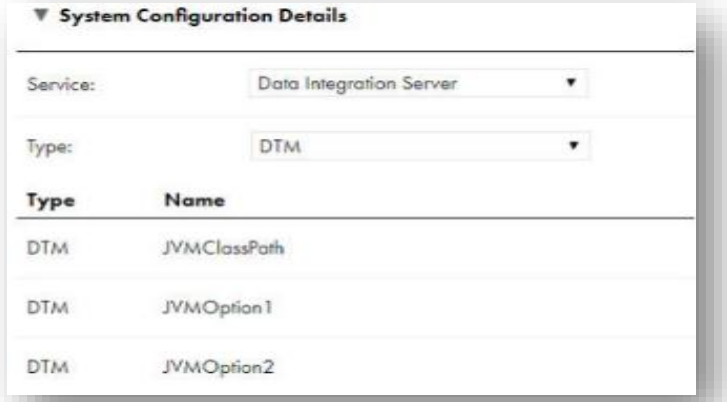
- Implement **Publish Staging** area to Upsert MDM data changes on regular interval for downstream consumption.
  - The publish staging area schema can be mapped to the corresponding Business Entity structure by mapping **root** Node to **the Domain Parent table** and **field group** nodes mapping to corresponding **child tables**
  - Keeping publishing staging in Sync with MDM Standard **Egress Jobs using B360 FEP connectors** recommended overs Business Events to reduce multiple updates within an inflight transaction before the logical transaction is completed in MDM
  - **MDM Data Change History, Merge and Unmerge History** is not directly available for egress, use **Business Events** to publish all changes and keep appending it to corresponding **History / Merge table** in publish staging
  - **Business Events connectors** can be used in **CDI** to extract data changes via **Micro batches**

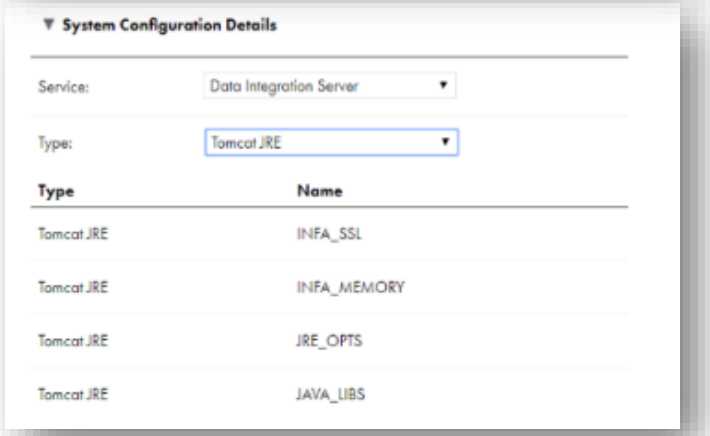


- **Submission of Ingress, Egress and Match Merge** jobs are supported by APIs and basic scheduling is available in MDM.
  - These API can be used to run Job chain form **3rd part Scheduler** to ensure sequencing if ingress, Egress and Match operations
  - **CAI processes** can be created to handle **MDM Job orchestration** and implement dependency management logics.

Secure Agent Config

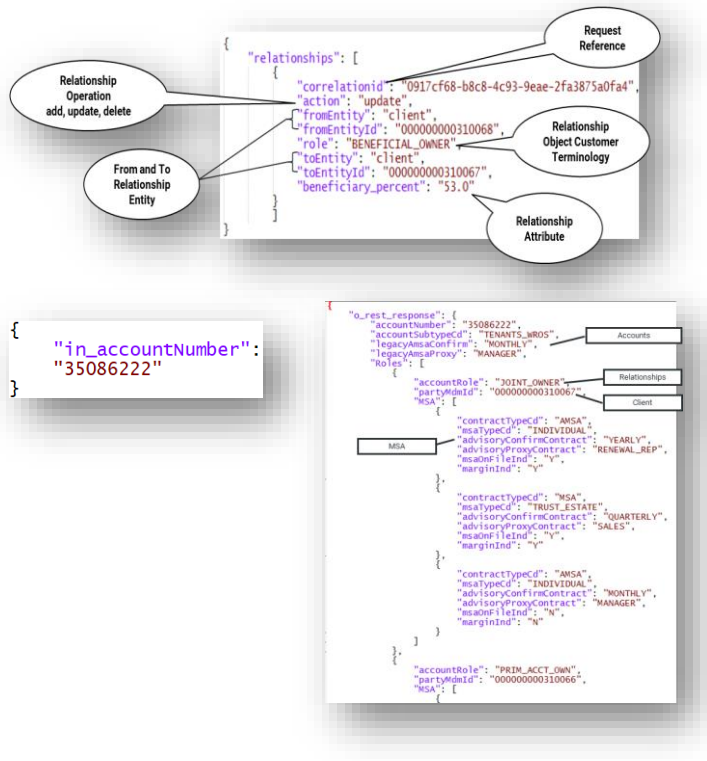
- **Secure Agent engine** enables secure communication between your organization and Informatica Cloud.
- **Sizing Secure Agent** involves with Memory and CPU allocation that can be configured from Administration service Runtime menu
- **Memory intensive operations** need setting the JVMOption to allocate sufficient Memory for processing, for example to set 8GB heap memory size populate the JVM Option **-Xmx 8g**
- **Concurrent task execution** require to set maxDTMProcesses parameter with required number of processes to run in parallel





Realtime Data Processing

- Consider **CAI** processes to orchestrate MDM API calls to handle MDM data for realtime end points and consumers
  - **Search and Get** Business entity and Related entities to consolidate and provide data across business entity for usage in Search before create, External Portals data requests and other realtime end consumers use cases
  - **Consolidate multiple MDM operations** handling complex business logic and validations on data being processed such as Search before create, Search across BE and related entities, Create Update or Delete relationships across Bes.
  - **Simplifies object meta data** handling that uses entity names instead of internal id helps **Tailor Request and Response** payloads aligning with calling and consuming application terminology.
  - Has options to simplify **IDMC User Credential Management** by the calling applications and can also be Registered as **Public API** in API Center for easy access and transaction control
  - **CAI EVO Plugin** has powerful capability to enrich, validate or cleanse and performing various data management operations on the BE record being process, but are only triggered for UI and API calls.
- **Business Events Realtime Publishing** is accomplished using **Cloud Data Ingestions and Repication (CDIR)** service.
  - CDIR are tasks defined in CDI that can be deployed to **listen to messages** published by **Business events**.
  - Any **business event message** once published are **immediately streamed** in realtime to **Kafka or File** target as per the task configuration, CAI can be deployed in event mode on Kafka topic to further process the messages in realtime as they arrive



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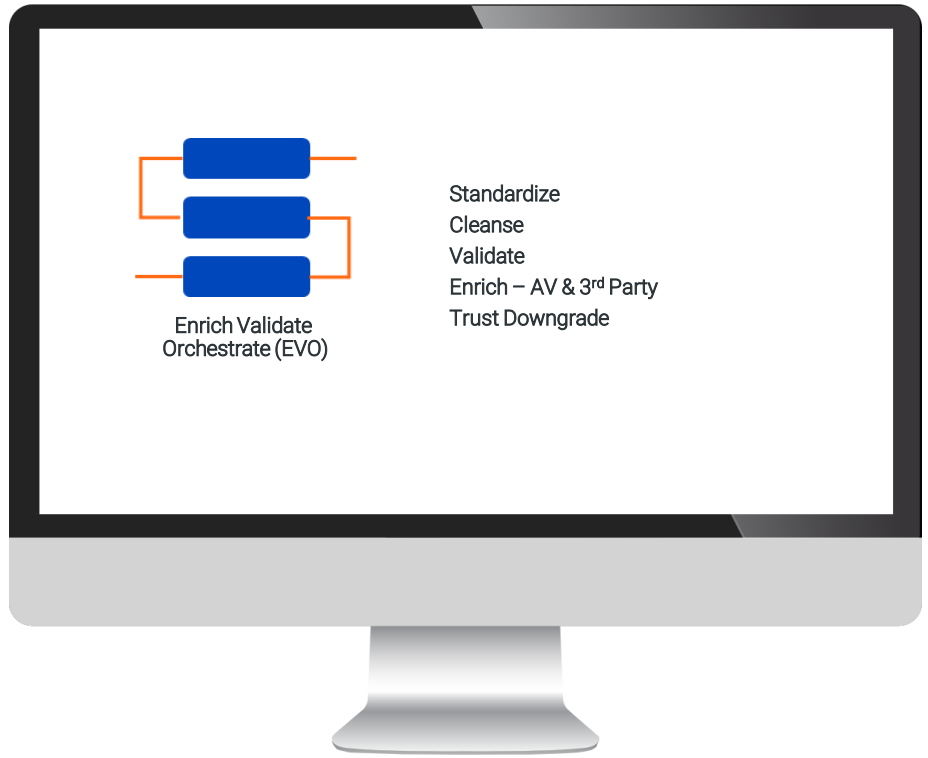
DEMO

Leveraging EVO for Ingress

Trust Downgrade by Source



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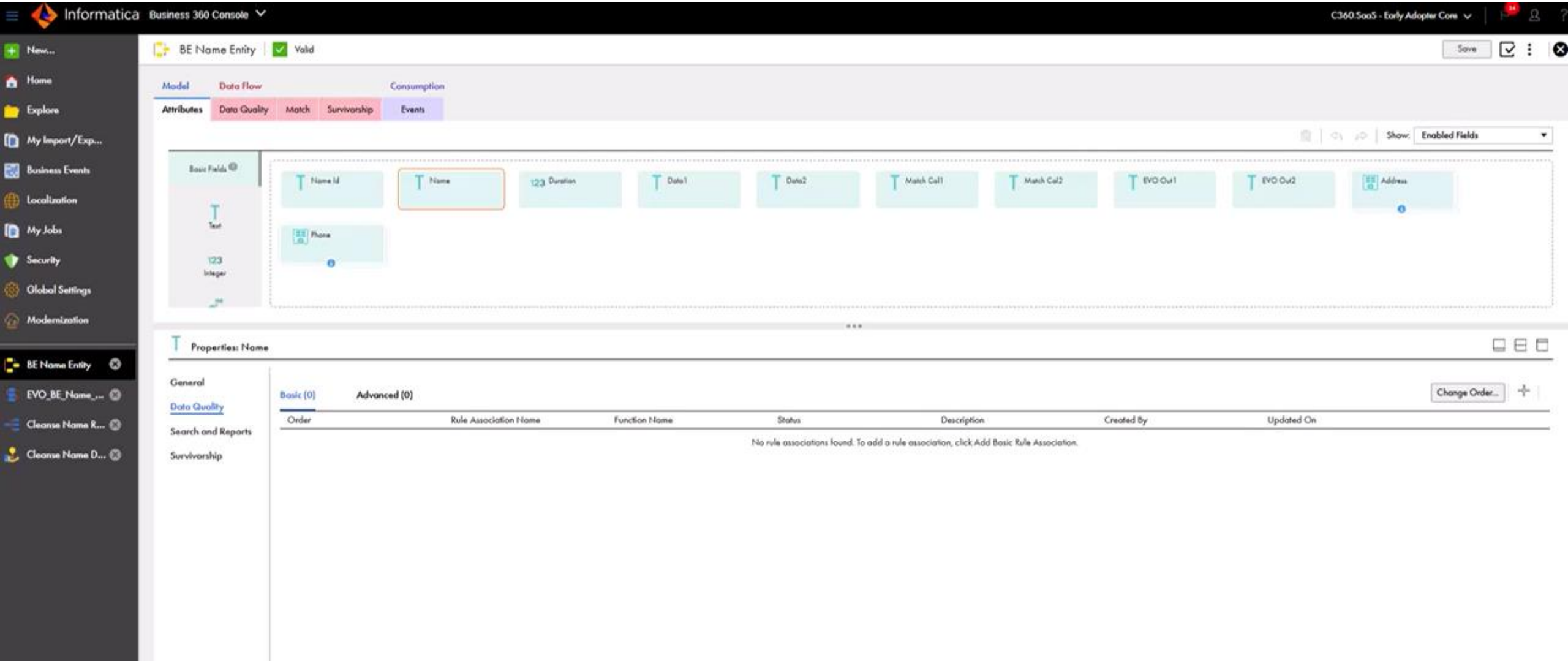

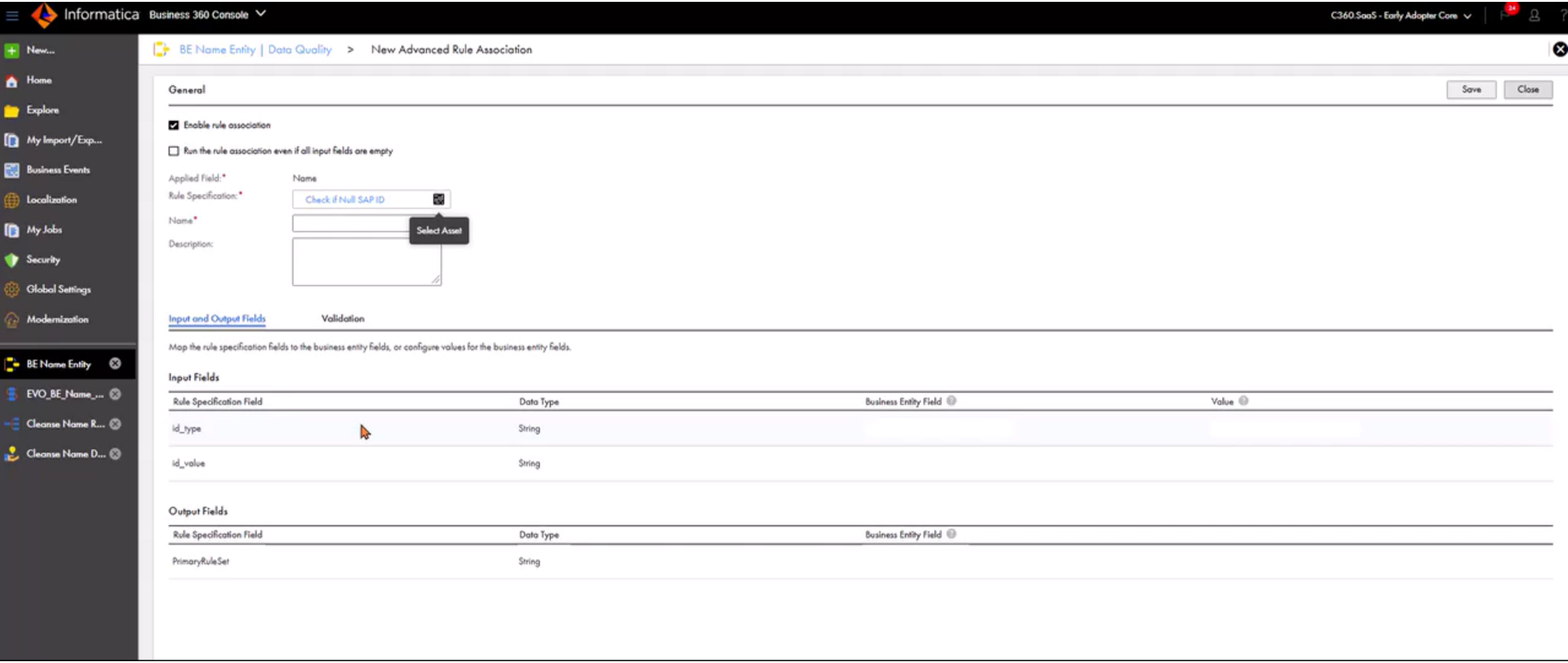

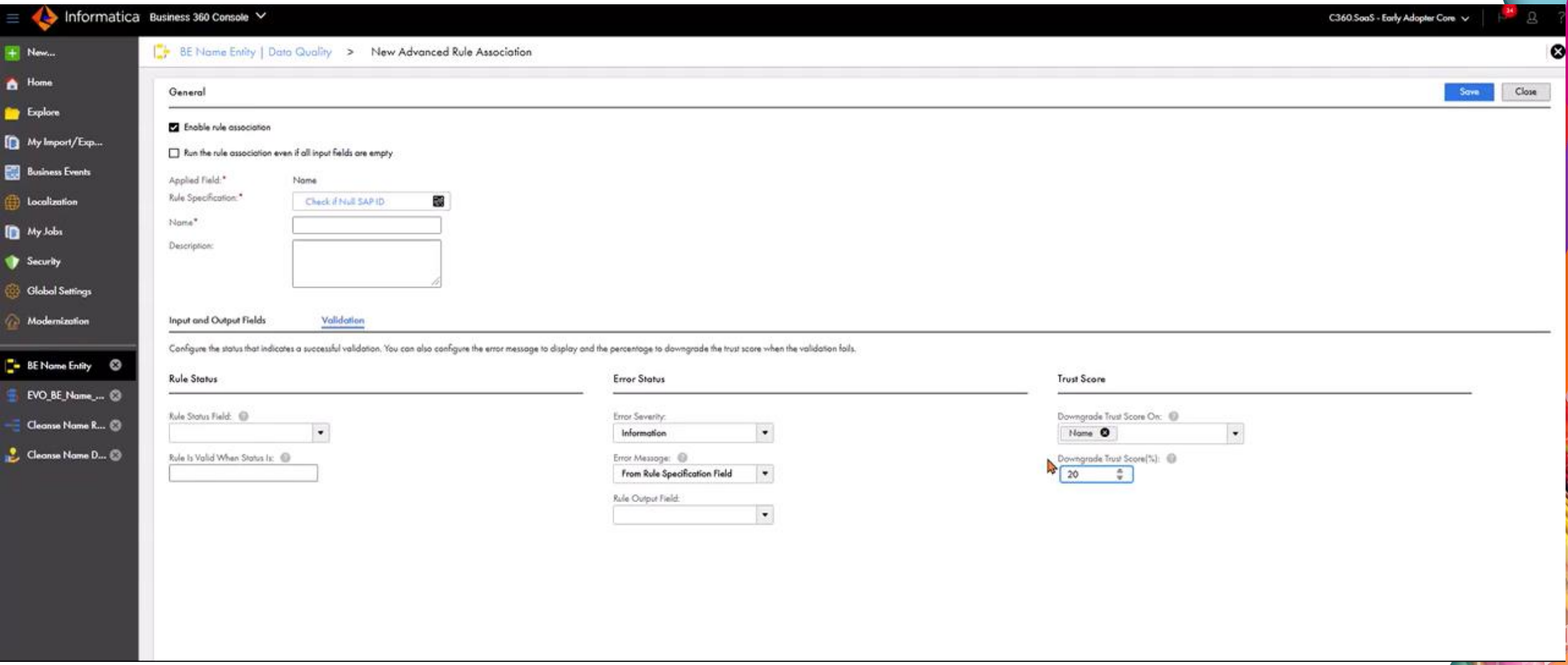

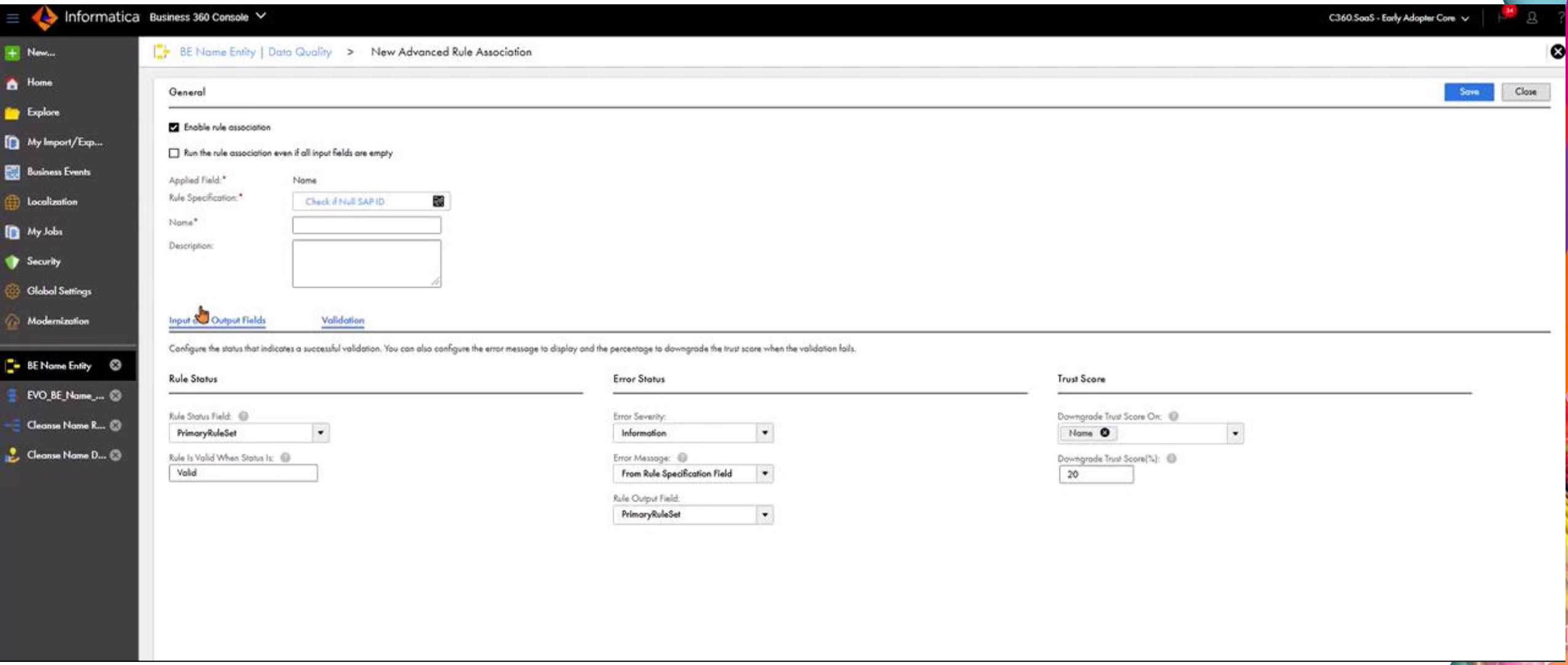

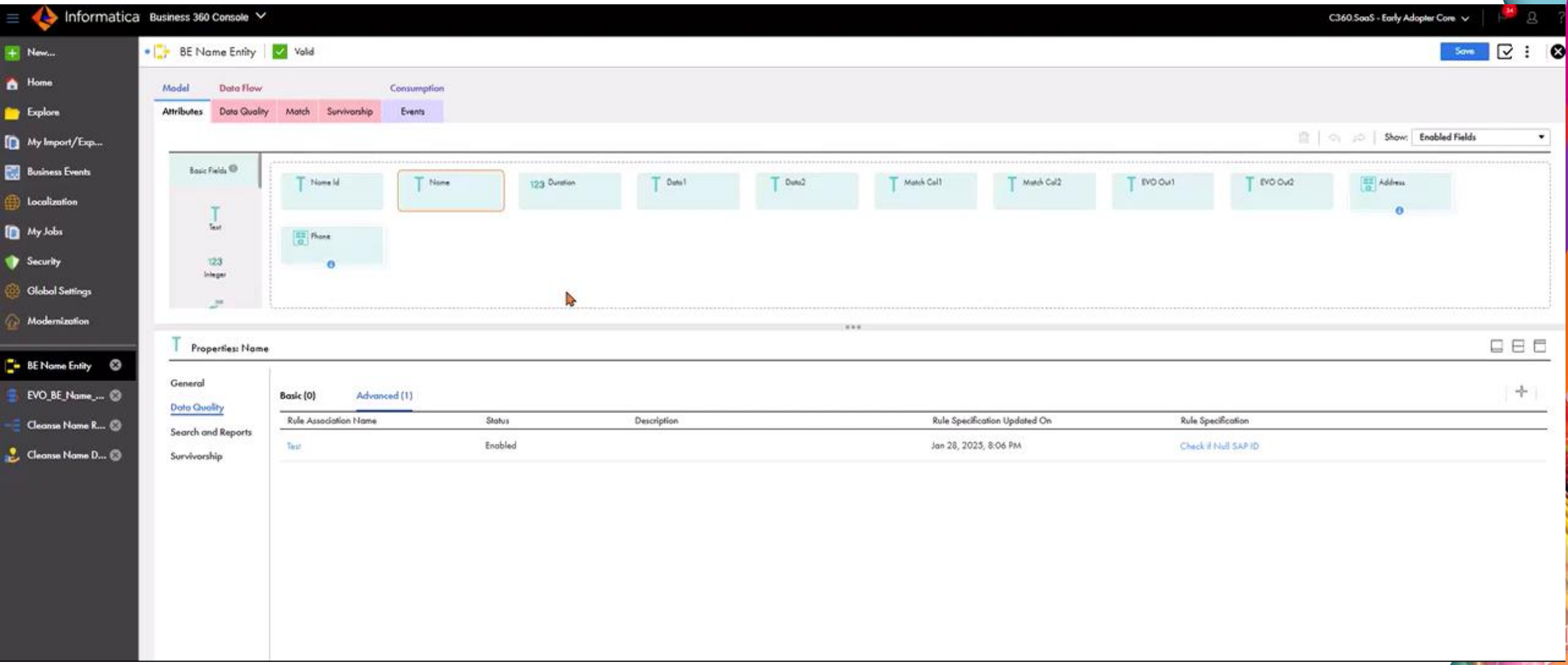

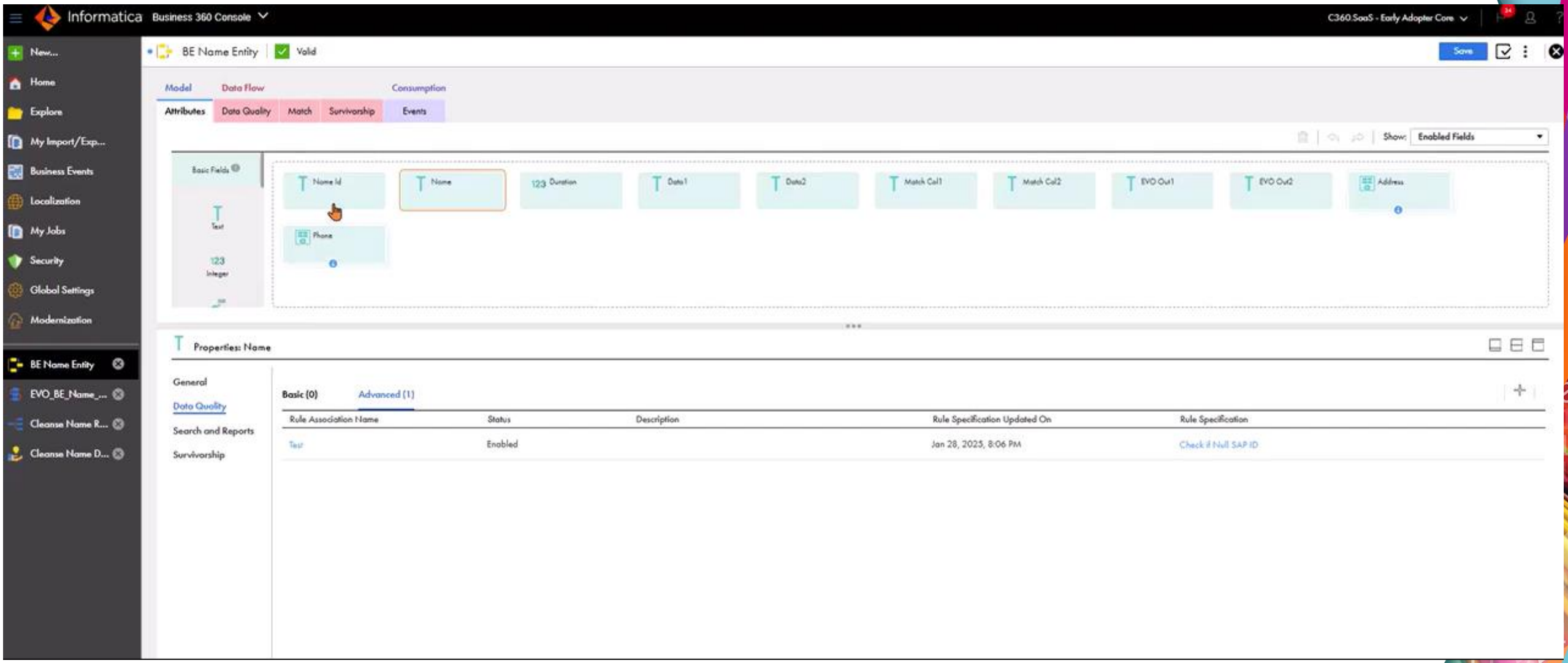

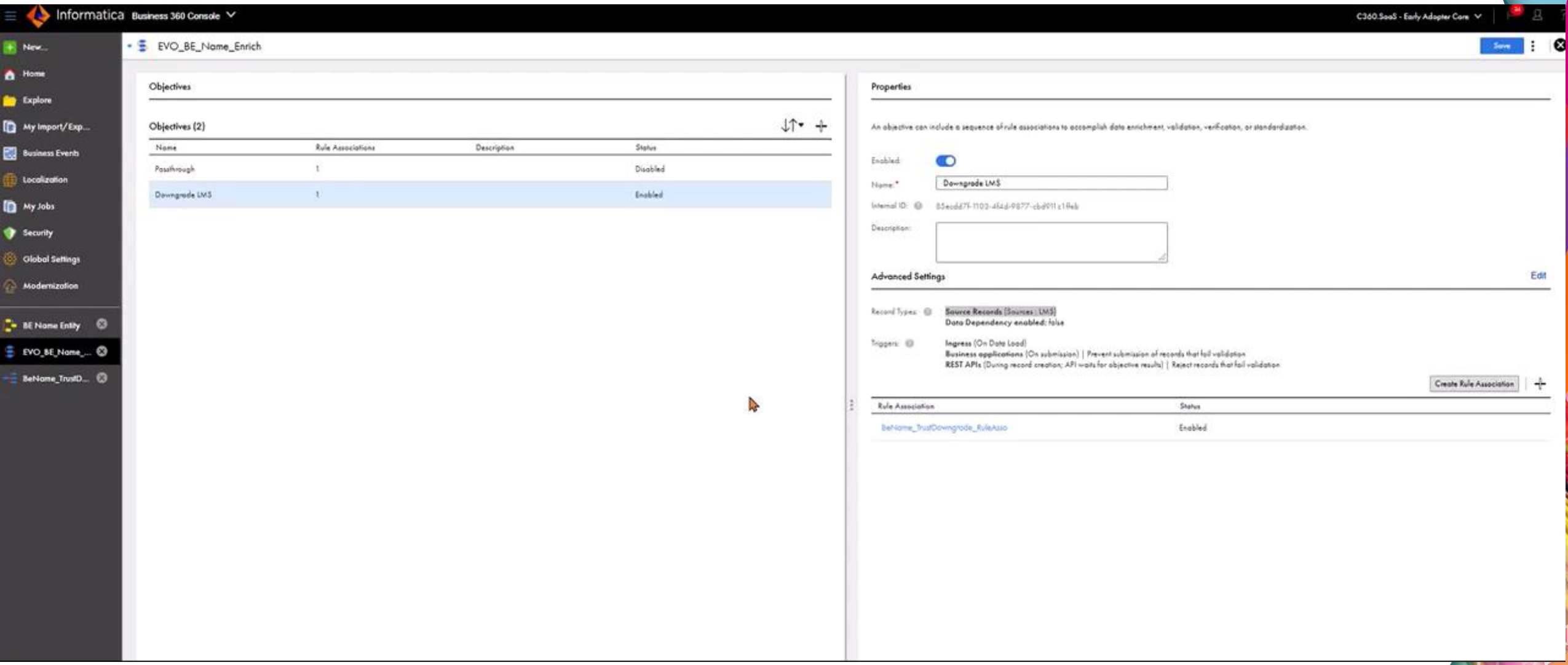

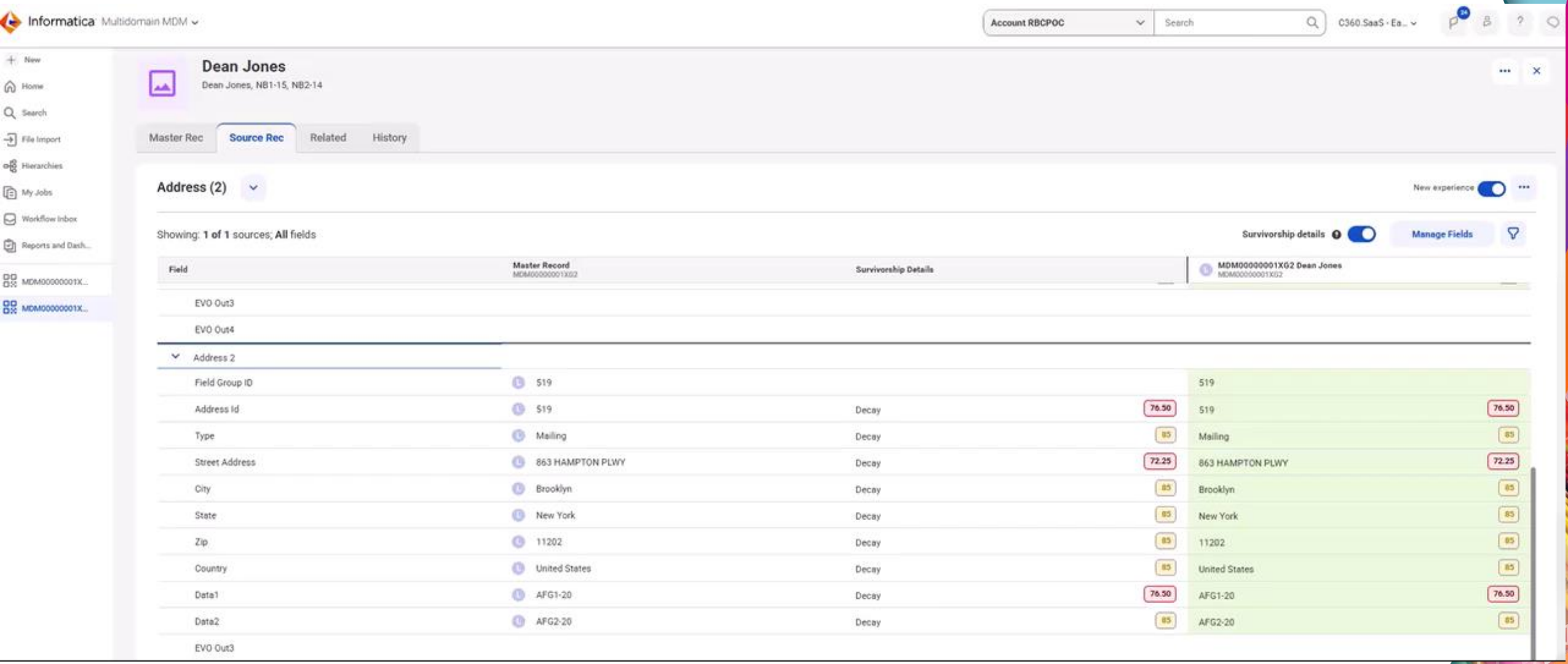

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DEMO

Realtime Publish with CDIR

MDM to Kafka Event Based Publish

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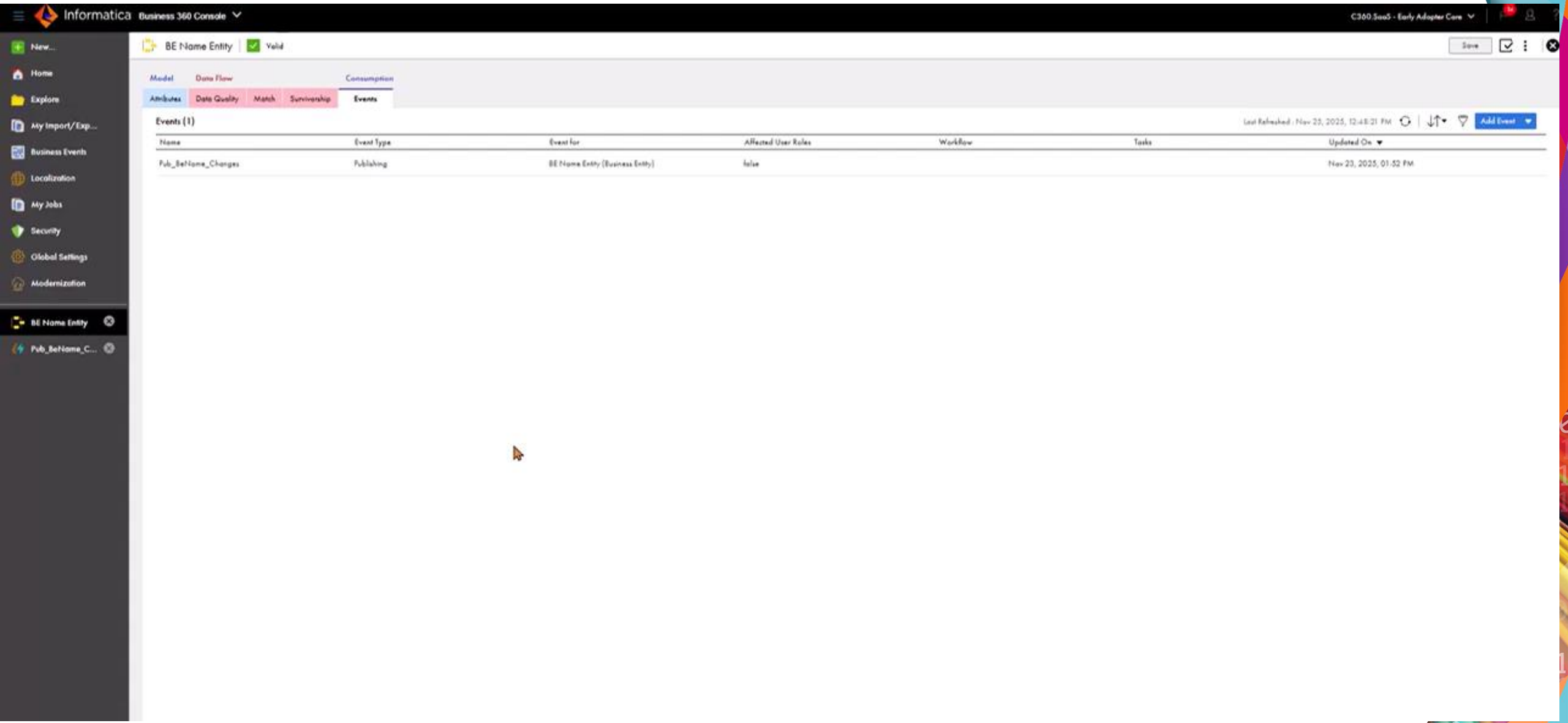

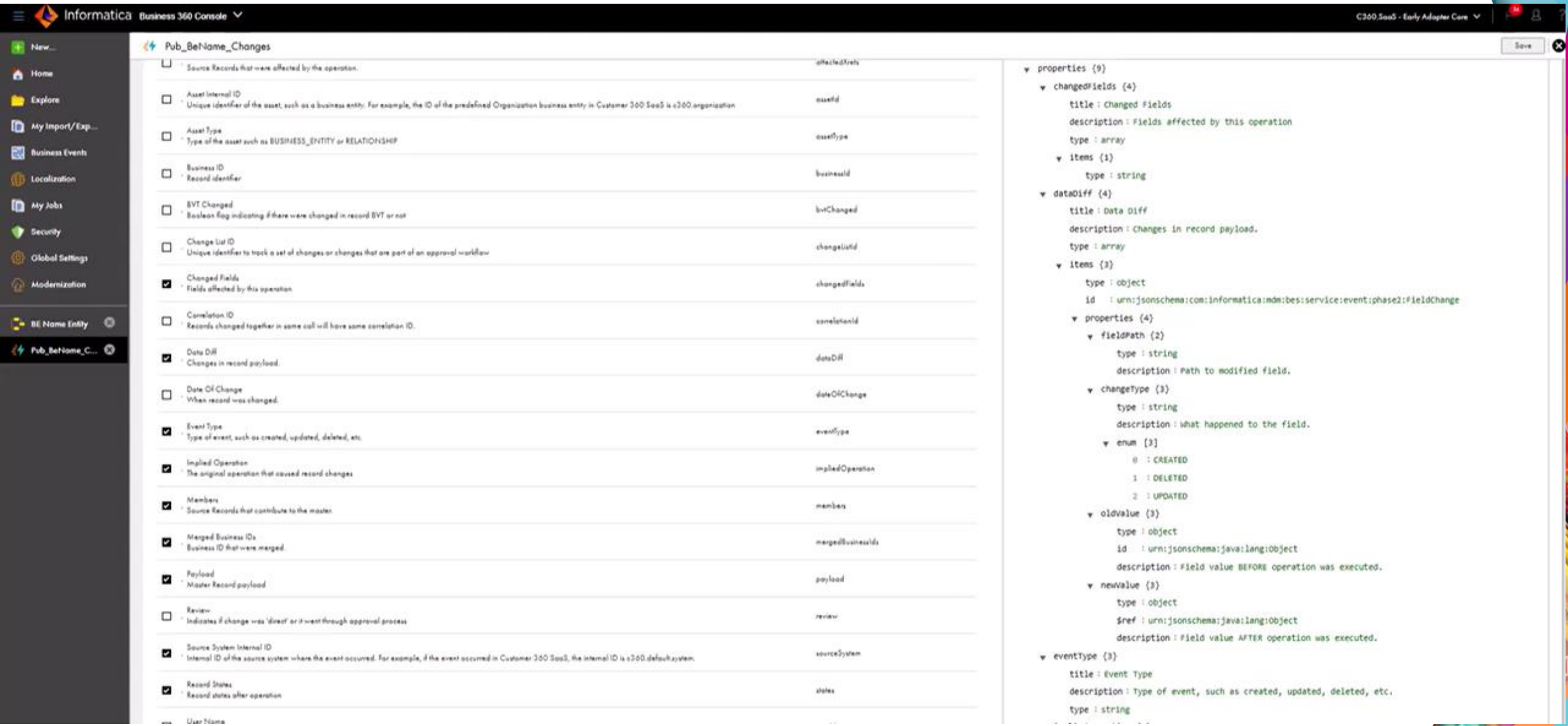

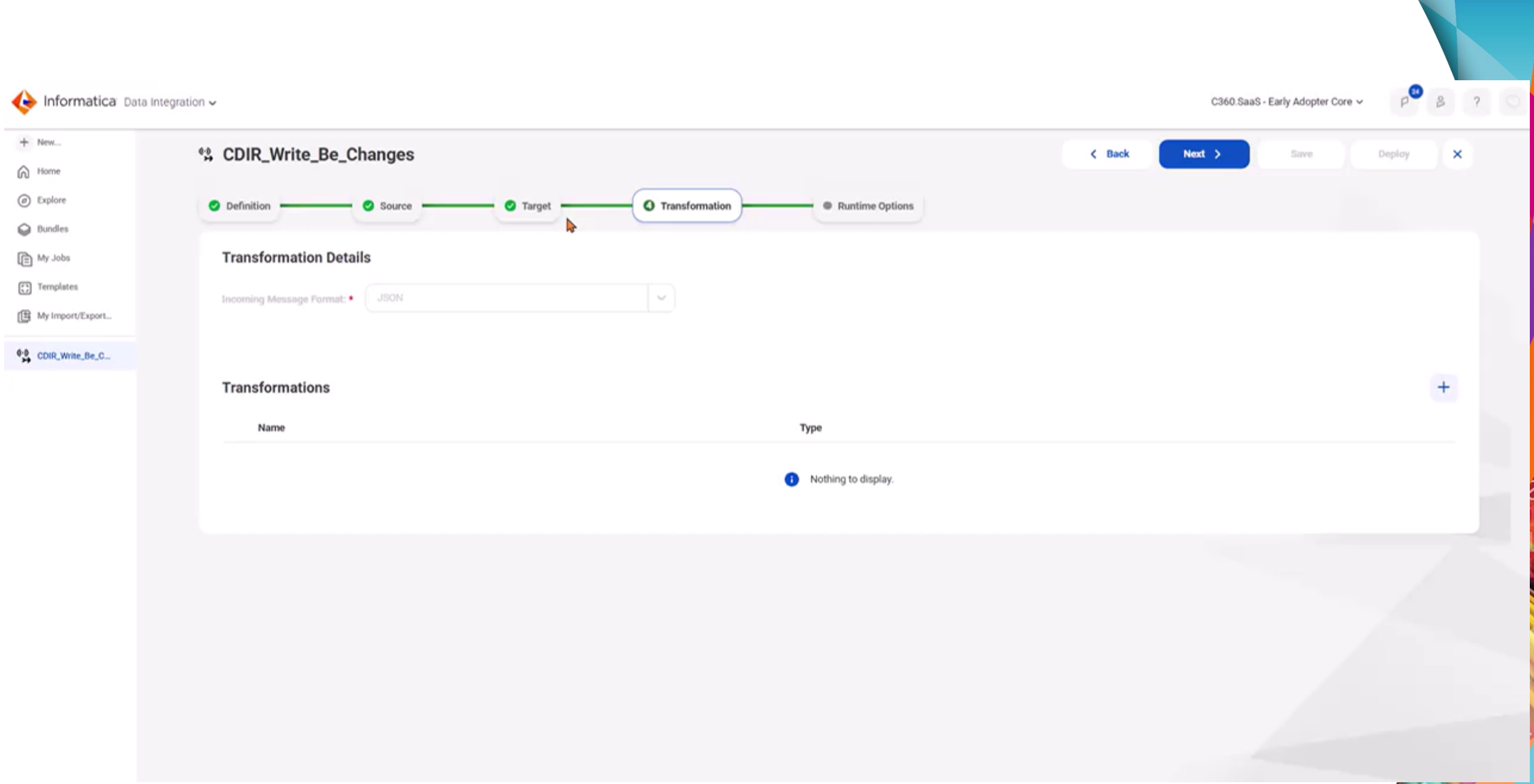

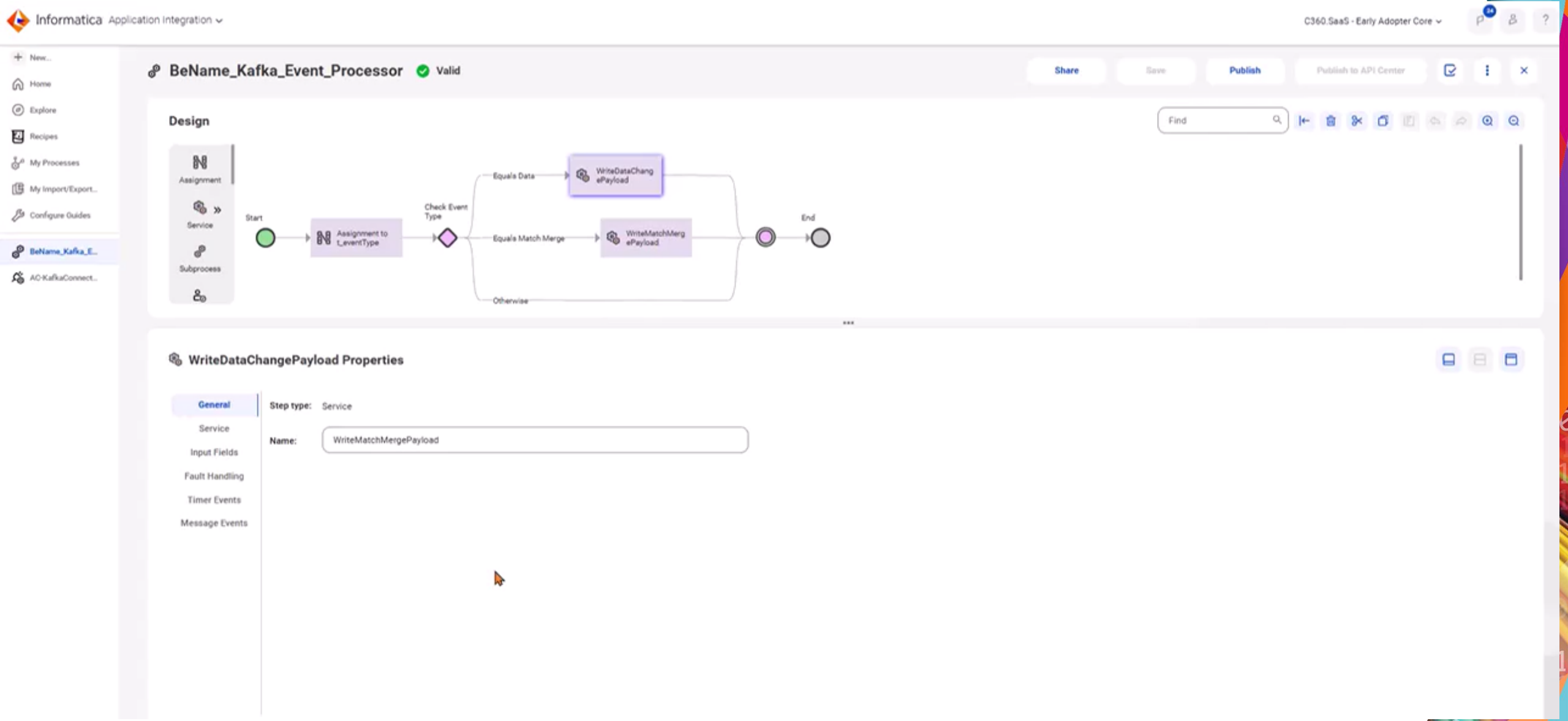

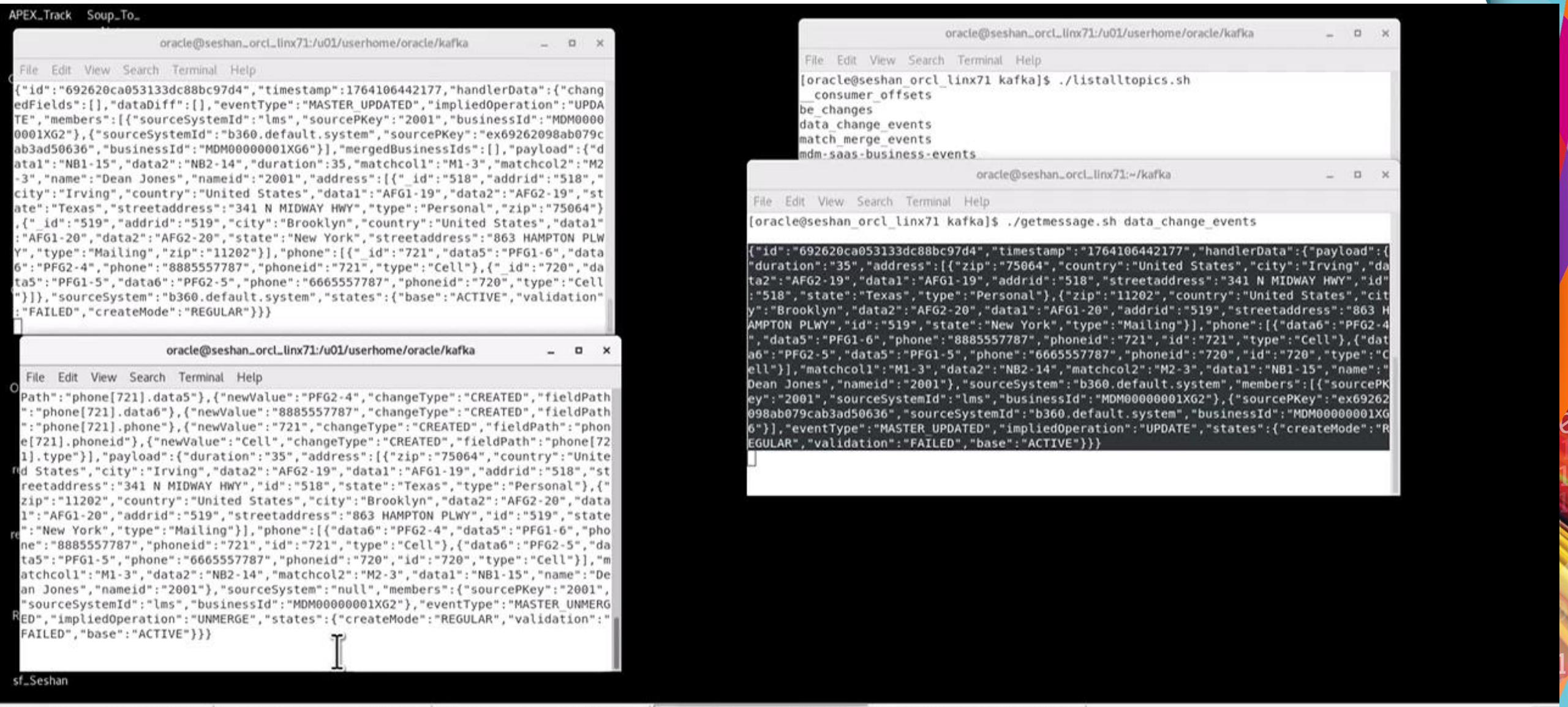

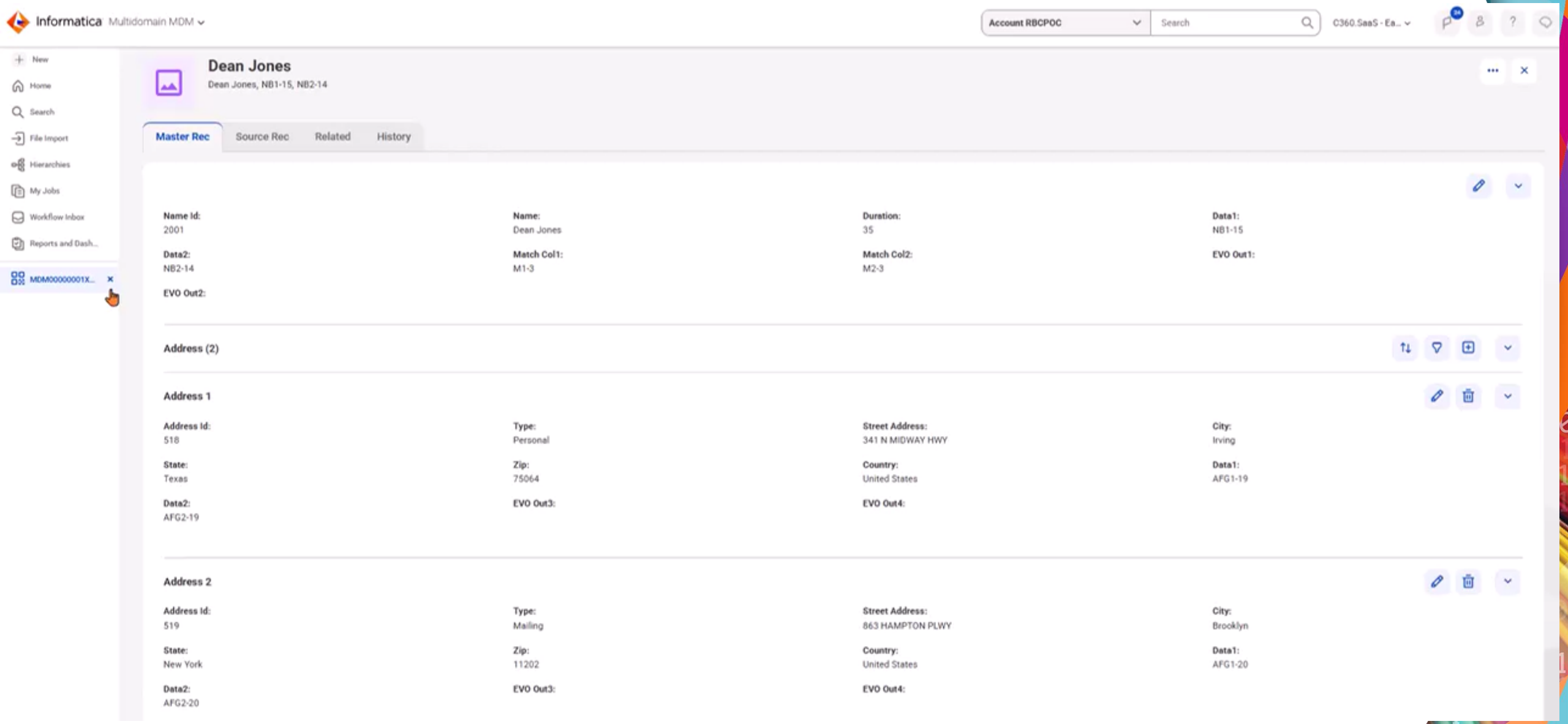

Thank You!

Questions?

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