Qlik Compose May 2022 Release Notes

Skipping versions: Customers who are not upgrading directly from the previous version are strongly encouraged to review the release notes for all versions higher than their currently installed version.

In these release notes:

- Migration and upgrade (page 2)
- What's new? (page 6)
- End of Life/Support and Deprecated Features (page 12)
- Resolved Issues (page 13)
- Known issues (page 35)

For more information about a particular feature, please refer to the Compose Help.
1 Migration and upgrade

This section describes various upgrade scenarios and considerations.

1.1 Upgrade paths

Compose upgrade path
Direct upgrade is supported from Compose May 2021 or Compose August 2021 only. Customers upgrading from earlier Compose versions need to first upgrade to one of the aforementioned versions and then to Compose May 2022.

Compose for Data Warehouses upgrade path
Compose for Data Warehouses has been superseded by Qlik Compose. Existing Compose for Data Warehouses customers can upgrade to Qlik Compose as described below.

For information on the procedure for upgrading from Compose for Data Warehouses to Compose February 2021, see the February 2021 release notes.

Upgrading from Compose for Data Warehouses 6.6.1 (September 2020) or 7.0 (November 2020):
  a. Upgrade to Compose February 2021.
  b. Upgrade to Compose May 2021.
  c. Compose May 2022.

Upgrading from unsupported Compose for Data Warehouses versions
  • Customers upgrading from Compose for Data Warehouses 6.5 or 6.6:
    a. Upgrade to Compose for Data Warehouses 6.6.1.
    b. Upgrade to Compose February 2021.
    c. Upgrade to Compose May 2021.
    d. Upgrade to Compose May 2022.
  • Customers upgrading from Compose for Data Warehouses 6.3 or 6.4:
    a. Upgrade to Compose for Data Warehouses 6.5.
    b. Upgrade to Compose for Data Warehouses 6.6.1.
    c. Upgrade to Compose February 2021.
    d. Upgrade to Compose May 2021.
    e. Upgrade to Compose May 2022.
  • Customers upgrading from Compose for Data Warehouses 3.1 should contact Qlik Support.
1 Migration and upgrade

Compose for Data Lakes upgrade path

For information on upgrading from Compose for Data Lakes, see Migrating from Compose for Data Lakes (page 5).

1.2 Required post-upgrade actions after upgrading from Qlik Compose

ETL script enhancements

After upgrading, in order to benefit from the latest enhancements to the task ETL scripts:

- Customers with Data Warehouse projects should regenerate all task ETLs either by selecting the task and clicking the Generate button in the Manage Tasks and Manage Data Marts windows, or by running the generate_project CLI as described in the Compose online help.
- Customers with Data Lake projects should regenerate all task ETLs by selecting the task and clicking the Generate button in the Manage Storage Tasks window, or by running the generate_project CLI as described in the Compose online help.

Upgrade scripts

After upgrading, depending on the version from which you upgraded, you might need to generate upgrade scripts and run them in your databases.

Upgrade script 1

Should be run only if upgrading from versions earlier than Compose August 2021.

Various performance enhancements require modifications to the internal Compose tables in the following data warehouses:

- Microsoft SQL Server
- Oracle
- Microsoft Azure Synapse Analytics
- Google Cloud BigQuery
- Amazon Redshift

If you have Data Warehouse projects configured to use any of the above databases, you need to generate an upgrade script and then run it in each of the relevant databases.

Running the script in Google Cloud BigQuery and Amazon Redshift databases will delete historical monitoring metadata.
1 Migration and upgrade

Upgrade script 2

Should be run only if upgrading from versions earlier than Compose August 2021 Service Release 02.

This upgrade script must be run after upgrading, as the database structure has been slightly modified to correctly report the error mart for each source (as part of the Uniform source consolidation (page 8) feature).

Upgrade script 3

Should be run only if upgrading from versions earlier than Compose August 2021 SP 12, and only if you have projects with Microsoft Azure Synapse Analytics data warehouse (or intend to create such projects in the future).

Generating and running the upgrade scripts

1. From the Start menu, open the Compose Command Line console and run the following command:.
   ```
   ComposeCli.exe connect
   ```

2. Run the following command:
   ```
   ComposeCli.exe generate_upgrade_scripts
   ```
   For each of your projects, the CLI output will tell you the name of the script and its location. Each script has a different name, consisting of the script identifier (the bold part), the project name, and a timestamp.

   **Example of Upgrade script 1:**
   ```
   C:\Program Files\Qlik\Compose\data\projects\Project_1\ddl-scripts\ComposUpgradeFrom2021_5To2021_8\Project_1__210714142110.sql
   ```

   **Example of Upgrade script 2:**
   ```
   C:\Program Files\Qlik\Compose\data\projects\Project_2\ddl-scripts\ComposUpgradeFrom2021_8SP4To2021_8SP10\Project_2__220114142110.sql
   ```

   **Example of Upgrade script 3:**
   ```
   C:\Program Files\Qlik\Compose\data\projects\Project_3\ddl-scripts\ComposUpgradeFrom2021_8SP10To2021_8SP12\Project_3__220518142110.sql
   ```

3. Access each of your databases using SQL Workbench or a similar tool and run the script(s).
4. When the script(s) completes successfully, generate and run your tasks in Compose.
1.3 Licensing

Existing Compose for Data Warehouses customers who want to create and manage Data Warehouse projects only in Qlik Compose can use their existing license. Similarly, existing Compose for Data Lakes customers who want to create and manage Data Lake projects only in Qlik Compose can use their existing license.

Customers migrating from Qlik Compose for Data Warehouses or Qlik Compose for Data Lakes, and who want to create and manage both Data Warehouse projects and Data Lakes projects in Qlik Compose, will need to obtain a new license. Customers upgrading from Compose February 2021 can continue using their existing license.

It should be noted that the license is enforced only when trying to generate, run, or schedule a task (via the UI or API). Other operations such as Test Connection may also fail if you do not have an appropriate license.

1.4 Migrating from Compose for Data Lakes

Compose for Data Lakes has been superseded by Qlik Compose. Existing Compose for Data Lakes customers can migrate their projects from Qlik Compose for Data Lakes to Qlik Compose. You can migrate both your project definitions and your data although the latter is only required if you need to migrate production data.


Migration can be performed from Compose for Data Lakes 6.6 only.

1.5 Compatibility with related Qlik products

Qlik Replicate is required for landing data into the data warehouse or storage while Qlik Enterprise Manager allows you to monitor and control Compose tasks running on different servers. This section lists the supported versions for each of these products.

Compose May 2022 Initial Release

Compose May 2022 Initial Release is compatible with the following Replicate and Enterprise Manager product versions:

- **Qlik Replicate** - Qlik Compose is compatible with Replicate November 2021 latest service release and Replicate May 2022.
- **Enterprise Manager** - Qlik Compose is compatible with Enterprise Manager May 2022.
2 What's new?

The following section describes the enhancements and new features introduced in Qlik Compose May 2022.

The "What's new?" is cumulative, meaning that it also describes features that were already released as part of Compose August 2021 service/patch releases. This is because customers upgrading from initial release versions might not be aware of features that were released in interim service releases.

2.1 What's new in Data Warehouse projects?

The following section describes the enhancements and new features introduced in Qlik Compose Data Warehouse projects.

Keeping changes in the Change Tables

This version introduces a new Keep in Change Tables option in the landing zone connection settings:

When you select the Keep in Change Tables option, the changes are kept in the Change Tables after they are applied (instead of being deleted or archived). This is useful as it allows you to:

- Use the changes in multiple Compose projects that share the same landing
- Leverage Change Table data across multiple mappings and/or tasks in the same project
- Preserve the Replicate data for auditing purposes or reprocessing in case of error
- Reduce cloud data warehouse costs by eliminating the need to delete changes after every ETL execution

Referenced dimensions

This version introduces support for referencing dimensions. To facilitate this new functionality, a new Reference selected dimensions option has been added to the Import Dimensions dialog which, together with the toolbar button, has been renamed to Import and Reference Dimensions.
2 What's new?

The ability to reference dimensions improves data mart design efficiency and execution flexibility by facilitating the reuse of data sets. Reuse of dimension tables across data marts allows you to break up fact tables into smaller units of work for both design and data loading, while ensuring consistency of data for analytics.

Data mart enhancements

Data mart adjust

This version introduces the following enhancements:

- The automatic data mart adjust feature has been extended to include DROP COLUMN and ADD COLUMN support.
- In previous versions, adding a dimension which did not relate to any fact would require the data mart to be dropped and recreated. From this version, such dimensions can be adding using auto-adjust, including Date and Time dimensions.
- The `generate_project` CLI now supports automatic data mart adjust for specific objects. In previous versions, Compose would adjust the data marts by dropping and recreating the tables, regardless of the required change. This would sometimes take a lot of time to complete. From this version, only the changes will be adjusted. For example, if a new column was added to a dimension, only that specific column will be added to the data mart tables. To support this new functionality the `-stopIfDatamartsNeedRecreation` parameter must be included in the command. If this parameter is omitted and the data mart needs to be adjusted, Compose will drop and recreate the data mart tables like it did in previous versions.

Data mart reloading

This version introduces the ability to reload the data mart or parts of the data mart without dropping and recreating it, thereby eliminating costly and lengthy reloading of the data mart while maximizing data availability. Such operations should usually be performed after a column with history has been added by the automatic adjust operation.

To facilitate this, a new `mark_reload_datamart_on_next_run` CLI has been developed. The new CLI allows users to mark dimensions and facts to be reloaded on the next data mart run. These can either be specific dimensions and facts or multiple dimensions and facts (either from the same data mart or different data marts) using a CSV file.

Microsoft Azure Synapse Analytics Enhancements

A number of changes related to statistics have been implemented. In addition, several statements are now tagged with an identifier label for troubleshooting 'problem queries' and identifying possible ways to optimize database settings. Moreover, the addition of labels to ELT queries enables fine-grained workload management and workload isolation via Synapse WORKLOAD GROUPS and CLASSIFIERS.

The identifier labels are as follows:

<table>
<thead>
<tr>
<th>Table type</th>
<th>Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hubs</td>
<td>CMPS_HubIns</td>
</tr>
</tbody>
</table>
## What's new?

<table>
<thead>
<tr>
<th>Table type</th>
<th>Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satellites</td>
<td>CMPS_SatIns</td>
</tr>
<tr>
<td>Type1 dimensions</td>
<td>CMPS_&lt;data mart name&gt;<em>DimT1_Init/CMPS</em>&lt;data mart name&gt;_DimT1_Incr</td>
</tr>
<tr>
<td>Type2 dimensions</td>
<td>CMPS_&lt;data mart name&gt;<em>DimT2_Init/CMPS</em>&lt;data mart name&gt;_DimT2_Incr</td>
</tr>
<tr>
<td>Transactional facts</td>
<td>CMPS_&lt;data mart name&gt;<em>FctTra_Init/CMPS</em>&lt;data mart name&gt;_FctTra_Incr</td>
</tr>
<tr>
<td>State-oriented facts</td>
<td>CMPS_&lt;data mart name&gt;_FctStO_Init</td>
</tr>
<tr>
<td>Aggregated facts:</td>
<td>CMPS_&lt;data mart name&gt;_FctAgg_Init</td>
</tr>
</tbody>
</table>

### Uniform source consolidation

Uniform source consolidation as its name suggests allows you to ingest data from multiple sources into a single, consolidated, entity.

To enable uniform source consolidation configuration, a new **Consolidation** tab has been added to the data warehouse task settings.

When the **Consolidate uniform sources** option is enabled, Compose will read from the selected data sources and write the data to one consolidated entity. This is especially useful if your source data is managed across several databases with the same structure, as instead of having to define multiple data warehouse tasks (one for each source), you only need to define a single task that consolidates the data from the selected data sources.

*Consolidation tab showing selected data sources*

### Environment variables

Environment variables allow developers to build more portable expressions, custom ETLs, and Compose configurations, which is especially useful when working with several environments such as DTAP (Development, Testing, Acceptance and Production). Different environments (for example, development
What's new?

and production) often have environment-specific settings such as database names, schema names, and Replicate task names. Variables allow you to easily move projects between different environments without needing to manually configure the settings for each environment. This is especially useful if many settings are different between environments. For each project, you can use the predefined environment variables or create your own environment variables.

Excluding environment variables from export operations

An option has been added to replace environment-specific settings with the defaults when exporting projects (CLI) or creating deployment packages.

To facilitate this functionality, the `--without_environment_specifics` parameter was added to the `export_project_repository` CLI and a `Exclude environment variable values` option was added to the `Create Deployment Package` dialog.

Support for data profiling and data quality rules when using Google Cloud BigQuery

You can now configure data profiling and data quality rules when using Google Cloud BigQuery as a data warehouse.

Attributes case sensitivity support

In previous versions, attempting to create several Attributes with the same name but a different case would result in a duplication error. Now, such attributes will now be created with an integer suffix that increases incrementally for each attribute added with the same name. For example: Sales, SALES_01, and Sales_02.

Associating a Replicate task that writes to a Hadoop target

You can now associate a Replicate task that writes to a Hadoop target with the Compose landing.

Performance improvements

This version provides the following performance improvements:

- Validating a model with self-referencing entities is now significantly faster than in previous versions. For instance, it now takes less than a minute (instead of up to two hours) to validate a model with 5500 entities.
- The time it takes to "Adjust" the data warehouse has been significantly reduced. For instance, it now takes less than three minutes (instead of up to two hours) to adjust a data warehouse with 5500 entities.
- Optimized queries, resulting in significantly improved data warehouse loading and CDC performance.
- Significantly improved the loading speed of data mart Type 2 dimensions with more than two entities. In order to benefit from this improvement, customers upgrading with existing data marts needs to regenerate their data mart ETLs.
Data mart UX improvement
The Data Mart Dimensions tree and the Star Schema Fact tab were redesigned to provide a better user experience.

2.2 What's new in Data Lake projects?
The following section describes the enhancements and new features introduced in Qlik Compose Data Lake projects.

Support for excluding deleted records from ODS views
A Deleted records in ODS views section has been added to the General tab of the project settings, with the following options:

- Exclude the corresponding record from the ODS views - This is the default option as records marked as deleted should not usually be included in ODS views.
- Include the corresponding record in the ODS views - Although not common, in some cases, you might want to include records marked as deleted in the ODS views in order to analyze the number of deleted records and investigate the reason for their deletion. Also, regulatory compliance might require you to be able to retrieve the past record status (which requires change history as well).

As this was the default behavior in previous versions, you might need to select this option to maintain backward compatibility.

Associating a Replicate task that writes to a Hortonworks Data Platform target
You can now associate a Replicate task that writes to a Hortonworks Data Platform target with the Compose landing connection (in a Cloudera Data Platform (CDP) Compose project).

New Databricks Version
Databricks 9.1 LTS is now supported on all cloud providers (AWS, Azure, and Google Cloud Platform).

2.3 New features common to both Data Warehouse projects and Data Lake projects

New Project title setting
A new Project title setting had been added to the Environment tab of the project settings. The project title will be shown in the console banner. If both an Environment Title and a Project Title are defined, the project title will be displayed to the right of the environment title. Unlike the Environment title and Environment type, which are unique for each environment, the project title is environment independent. This means that the project title will always be retained, even when deploying to a different environment.

The following image shows the banner with both an Environment title and a Project title:
Support for Microsoft Edge Browser

This version introduces support for accessing the Compose console using Microsoft Edge.

Security Hardening

For security reasons, command tasks are now blocked by default. To be able to run command tasks, a Compose administrator needs to turn on this capability using the Compose CLI. For more information, see the Compose online help.

This functionality only applies to command tasks created after a clean installation. If you upgrade to this version, command tasks will continue to work as previously.
3 End of Life/Support and Deprecated Features

This section provides information about End of Life versions, End of Support features, and deprecated features.

- Internet Explorer is no longer supported.
4 Resolved Issues

The following section lists the issues resolved since Compose August 2021 Initial Release.

Jira issue: RECOB-4808
Salesforce case: 2271788
Type: Issue
Component/Process: Environment variables in data mart
Description: After the data mart database name was applied as an environment variable, Compose would not clear the cache automatically, resulting in the old cache object not being reset.

Jira issue: RECOB-4806
Salesforce case: 26263
Type: Issue
Component/Process: UI
Description: Selecting a Replicate task would not be possible when using a Hortonworks Data Platform endpoint in a Cloudera Data Platform Compose project.

Jira issue: CMPS-625
Salesforce case: N/A
Type: Enhancement
Component/Process: Environment variables in export
Description: An option has been added to remove environment information when exporting projects (CLI) or creating deployment packages.

To facilitate this functionality, the \texttt{--without\_environment\_specifics} parameter was added to the CLI and a \texttt{Replace\ environment\ specific\ with defaults} option was added to the Create Deployment Package window.

Jira issue: RECOB-4822
Salesforce case: 25044
Type: Issue
Resolved Issues

**Component/Process:** Project deployment

**Description:** The following error would sometimes be encountered when deploying a project:

Invalid Configuration file the database `<name>` Landing does not exist

**Jira issue:** RECOB-4802

**Salesforce case:** 2218782

**Type:** Enhancement

**Component/Process:** Project Settings

**Description:** A new **Project title** field has been added to the project settings' **General** tab. The value of the field will be included in the project deployment.

**Jira issue:** RECOB-4861

**Salesforce case:** 26682

**Type:** Issue

**Component/Process:** Test connection

**Description:** When the schema name was `*`, testing the connection for the landing database would return the following error:

Object reference not set to an instance of an object

**Jira issue:** RECOB-4854

**Salesforce case:** 7550

**Type:** Issue

**Component/Process:** Lineage

**Description:** When importing data marts using the **Composecli import_csv** command, the "Show lineage" option for corresponding domain attributes would be disabled.

**Jira issue:** RECOB-4876

**Salesforce case:** 27847

**Type:** Issue

**Component/Process:** Project Deployment
4 Resolved Issues

**Description:** When a landing connection was removed from the target project, project deployment would fail with the following error:

REPO-E-ITMNTFND, Invalid configuration file. The 'Database' 'Landing4' does not exist. REPO,CONFIGURATION_ITEM_NOT_FOUND,Database,Landing4

**Jira issue:** RECOB-4809

**Salesforce case:** 22405

**Type:** Issue

**Component/Process:** Data Marts

**Description:** Hub tables would sometimes be updated unnecessarily which would result in unnecessary updates of the related dimensions.

**Jira issue:** RECOB-4836

**Salesforce case:** N/A

**Type:** Issue

**Component/Process:** Data Marts

**Description:** Failed to set a filter on a dimension or a fact.

**Jira issue:** RECOB-4779

**Salesforce case:** 24471

**Type:** Issue

**Component/Process:** Data Marts

**Description:** Filters and expression on dimensions would not work as expected.

**Jira issue:** RECOB-4882

**Salesforce case:** 27704

**Type:** Issue

**Component/Process:** Data Marts

**Description:** When a data mart contained an entity with multiple satellites, the query would sometimes be generated incorrectly.
Resolved Issues

**Jira issue:** RECOB-4864
**Salesforce case:** 24810
**Type:** Issue
**Component/Process:** Filters and expressions
**Description:** Tasks with filters or expressions would end with errors.

**Jira issue:** RECOB-4913
**Salesforce case:** 27960
**Type:** Issue
**Component/Process:** Compare CSV CLI
**Description:** The Compare CSV CLI would sometimes not complete successfully.

**Jira issue:** RECOB-4917
**Salesforce case:** 28209
**Type:** Issue
**Component/Process:** Expression Editor
**Description:** An error would sometimes occur when opening the Expression Editor.

**Jira issue:** RECOB-4959
**Salesforce case:** 20574
**Type:** Issue
**Component/Process:** Data Warehouse Tasks - Snowflake
**Description:** Records in the data warehouse would not be updated with a NULL value, even though the data warehouse task was set to "Set the target value to null".

**Jira issue:** RECOB-4928
**Salesforce case:** 27075
**Type:** Issue
Component/Process: Metadata validation in Data Lakes projects

Description: Validating the metadata would fail with an error that "ID" is a reserved word.

Jira issue: RECOB-4722
Salesforce case: 2271788
Type: Issue

Component/Process: Project documentation

Description: In the generated project documentation, the domain name would be shown in the attribute name field.

Jira issue: RECOB-4739
Salesforce case: 22780
Type: Issue

Component/Process: Databricks

Description: After upgrading to 2021.08 SP08, Databricks connection issues would be encountered when a token was revoked.

Jira issue: RECOB-4707
Salesforce case: N/A
Type: Issue

Component/Process: Data Marts - Oracle

Description: The following Oracle syntax error would be encountered during the initial load task command: ::

ORA-01400: cannot insert NULL into

Jira issue: RECOB-4675
Salesforce case: 15882
Type: Issue

Component/Process: Facts
**Description:** State oriented facts would not reflect changes that were made to the Type 2 relation or changes that were made to the dimension table.

**Jira issue:** RECOB-4771
**Salesforce case:** 24505
**Type:** Issue
**Component/Process:** Project deployment
**Description:** Users with the "Designer" role were not able to deploy project deployment packages.

**Jira issue:** RECOB-4785
**Salesforce case:** 10094
**Type:** Issue
**Component/Process:** Import CSV
**Description:** After running the import_csv CLI command to import tasks, the generated task statements would contain a syntax error.

**Jira issue:** RECOB-4776
**Salesforce case:** 23553
**Type:** Issue
**Component/Process:** Data mart editing
**Description:** When working with large models, it would not be possible to edit a dimension or fact.

**Jira issue:** RECOB-4656
**Salesforce case:** 21696
**Type:** Issue
**Component/Process:** CSV Import - Microsoft Azure Synapse Analytics Data Warehouse
**Description:** Importing a CSV file to a project with a Microsoft Azure Synapse Analytics data warehouse would fail if the CSV contained an NVARCHAR attribute.

**Jira issue:** RECOB-4666
**Salesforce case:** 19667

**Type:** Issue

**Component/Process:** Security

**Description:** Resolved security vulnerabilities discovered in Compose 2021.8.0.365.

**Jira issue:** RECOB-4699

**Salesforce case:** 23508

**Type:** Issue

**Component/Process:** Upgrade Script

**Description:** Running the generate_upgrade_script command would fail after upgrading to 2021.8.0.425.

**Jira issue:** RECOB-4045

**Salesforce case:** 10967

**Type:** Issue

**Component/Process:** Generate project CLI

**Description:** Running the generate_project CLI command with the --database_already_adjusted parameter would drop the Qlik table "TPIL_DMA_RUNNO".

**Jira issue:** RECOB-3999

**Salesforce case:** 9804

**Type:** Issue

**Component/Process:** Generate project CLI

**Description:** Running the generate_project CLI command with the --database_already_adjusted parameter would fail with the following error:

SQL compilation error: <p>Object does not exist, or operation cannot be performed.

**Jira issue:** RECOB-4057

**Salesforce case:** N/A

**Type:** Issue

**Component/Process:** Data Mart

**Description:** Creating a denormalized new dimension would create the root dimension only.
4  Resolved Issues

**Jira issue:** RECOB-3990  
**Salesforce case:** 2264064  
**Type:** Issue  
**Component/Process:** Workflows  
**Description:** In rare cases, it would not be possible to create, edit, or duplicate workflows.

**Jira issue:** RECOB-3937, RECOB-3859  
**Salesforce case:** 2236402, 5136  
**Type:** Issue  
**Component/Process:** Upgrade  
**Description:** After migrating to 2021.5, projects containing two domain attributes with the same name but a different case (e.g. abc and Abc) would fail to load with the following error:  
SYS,GENERAL_EXCEPTION, An item with the same key has already been added.

**Jira issue:** RECOB-3987  
**Salesforce case:** N/A  
**Type:** Issue  
**Component/Process:** Project Deployment  
**Description:** It would not be possible to open a project after deployment if one schema was missing.

**Jira issue:** RECOB-4043  
**Salesforce case:** 9043  
**Type:** Issue  
**Component/Process:** Data Mart  
**Description:** Fact tables would contain obsolete VIDs from dimensions, resulting in orphaned records.

**Jira issue:** RECOB-4033  
**Salesforce case:** 9805  
**Type:** Issue
Resolved Issues

Component/Process: Data Mart

Description: Data mart loading tasks would sometimes fail with the following error:

Cannot write value for process parameter twice: 1265: Duplicate write to param DimCnt_Tot

Jira issue: RECOB-3204
Salesforce case: 2214622
Type: Issue

Component/Process: Loading data mart dimensions into Snowflake and Microsoft Azure Synapse Analytics

Description: When a data mart ETL task failed, the next task would sometimes load duplicate rows into dimensions.

Jira issue: RECOB-3957
Salesforce case: 2231873
Type: Issue

Component/Process: Data marts

Description: Adding data mart dimensions would sometimes fail without a clear error.

Jira issue: RECOB-3954
Salesforce case: 8634
Type: Issue

Component/Process: Data warehouse validation

Description: The following error would occur when validating the data warehouse:

Index was out of range. Must be non-negative and less than the size of the collection

Jira issue: RECOB-3902
Salesforce case: 7392
Type: Issue

Component/Process: Snowflake

Description: The data warehouse ETL would fail to create a transient table with a "already exists" error.
4 Resolved Issues

**Jira issue:** RECOB-3934  
**Salesforce case:** 8399  
**Type:** Issue  
**Component/Process:** CLI  
**Description:** Importing a project repository to a new project that does not exist it would fail with the following error:  
*Project: 'Project_name' does not exist.*

**Jira issue:** RECOB-3636  
**Salesforce case:** 2248515  
**Type:** Issue  
**Component/Process:** Backdating  
**Description:** Backdated data in the Data Warehouse would not get updated in the Data Mart.

**Jira issue:** RECOB-3703  
**Salesforce case:** 2240557  
**Type:** Issue  
**Component/Process:** Backdating  
**Description:** Migrating a project from an older version would disable the backdating options. The issue was resolved by adding a new CLI command line that sets the "Add actual data row and a precursor row" option for all entities as well as in the project settings.

```
composecli set_backdating_options --project project_name
```

After running the command, refresh the browser to see the changes.

**Jira issue:** RECOB-3719  
**Salesforce case:** 2260256  
**Type:** Issue  
**Component/Process:** Discovery from Snowflake  
**Description:** When a landing table had a foreign key, discovering the table would result in the following error (excerpt):  
*Specified argument was out of the range of valid values.*
Jira issue: RECOB-3799
Salesforce case: 2264057
Type: Issue
Component/Process: Validation and Schema Evolution
Description: Validation of Databricks storage and Snowflake data warehouse would be excessively long. The slow Databricks validation would also impact schema evolution.

Jira issue: RECOB-4528
Salesforce case: 17678
Type: Issue
Component/Process: Pivot table - Google BigQuery
Description: In Google BigQuery projects, the data mart pivot table displays a "no data error" when there is data in tables.

Jira issue: RECOB-4529
Salesforce case: 17465
Type: Issue
Component/Process: Data profiler - Google BigQuery
Description: In Google BigQuery projects, the following error would be encountered when using the data profiler: "SYS,GENERAL_EXCEPTION,Sequence contains no elements"

Jira issue: RECOB-4535
Salesforce case: 16513
Type: Issue
Component/Process: OID and VID Columns
Description: The OID and VID column names would include the entire path from the fact source to the dimension instead of just the dimension name.

Jira issue: RECOB-4555
**Salesforce case:** 2260638

**Type:** Issue

**Component/Process:** MySQL source

**Description:** When setting up a MySQL source connection, testing the connection would return the following error: "Object reference not set to an instance of an object".

**Jira issue:** RECOB-4557

**Salesforce case:** 19777

**Type:** Issue

**Component/Process:** Export CLI

**Description:** After deleting an entity, export of projects using the CLI would sometimes fail.

**Jira issue:** RECOB-4584

**Salesforce case:** 19673

**Type:** Issue

**Component/Process:** Data mart loading

**Description:** When a dimension contained more than 10 entities, loading of the data mart would fail with the following error: "Case expressions may only be nested to level 10. Operation cancelled by user".

**Jira issue:** RECOB-4595

**Salesforce case:** 20256

**Type:** Issue

**Component/Process:** Data mart task generation

**Description:** Data mart task generation would fail when attributes of the same entity were assigned to different satellite tables.

**Jira issue:** RECOB-4633

**Salesforce case:** 20347

**Type:** Issue

**Component/Process:** Bulk Operations
Resolved Issues

Description: Generating Bulk Operations would not include the last data mart in the list.

Jira issue: RECOB-4636
Salesforce case: 20746
Type: Issue
Component/Process: Data mart loading
Description: Some projects could not be opened after upgrading.

Jira issue: RECOB-4464
Salesforce case: 14522
Type: Issue
Component/Process: CLI
Description: Running the "generate_project" command with the "database_already_adjusted" parameter would reset the data mart to the "Create Tables" state.

Jira issue: RECOB-3917
Salesforce case: 2256585
Type: Issue
Component/Process: Data mart dimensions
Description: Sometimes, rows in dimensions would incorrectly be marked as obsolete.

Jira issue: RECOB-4459
Salesforce case: 17328
Type: Issue
Component/Process: CLI - Export CSV
Description: Running the export_csv command would cause ETL Set generation to fail for lookups with the following error:

SYS,GENERAL_EXCEPTION,startIndex cannot be larger than length of string.<p>Parameter name: startIndex
4 Resolved Issues

**Jira issue:** RECOB-4481

**Salesforce case:** 17567

**Type:** Issue

**Component/Process:** Data marts

**Description:** Data Mart creation would sometimes fail with the following error "Sequence contains no matching element".

**Jira issue:** RECOB-4482

**Salesforce case:** 17567

**Type:** Issue

**Component/Process:** Data marts

**Description:** An error would sometimes be encountered when trying to delete a star schema.

**Jira issue:** RECOB-4390

**Salesforce case:** 12810

**Type:** Issue

**Component/Process:** ETLs

**Description:** The ETL for handling data mart dimensions would use the non-optimized approach for one of the statements.

**Jira issue:** RECOB-4386

**Salesforce case:** 14640

**Type:** Issue

**Component/Process:** Snowflake

**Description:** After four hours of inactivity, a "Snowflake Authentication token has expired" error would be shown.

**Jira issue:** RECOB-4500

**Salesforce case:** 5008

**Type:** Issue
Component/Process: ETLs

Description: Verification of unused and/or outdated column mapping expressions would lead to redundant errors.

Jira issue: RECOB-4501
Salesforce case: 17659
Type: Issue

Component/Process: Data Marts

Description: Validation of Type 2 dimensions would sometimes fail with an error that no Type 2 columns were detected (and that the dimension should be created as Type 1), even though Type 2 relationships existed in the dimension.

Jira issue: RECOB-4370
Salesforce case: N/A
Type: Issue

Component/Process: Security

Description: Fixes critical vulnerabilities (CVE-2021-45105, CVE-2021-45046, CVE-2021-44228) that may allow an attacker to perform remote code execution by exploiting the insecure JNDI lookups feature exposed by the logging library log4j. The fix replaces the vulnerable log4j library with version 2.16.

Jira issue: RECOB-4293
Salesforce case: 15341
Type: Issue

Component/Process: UI

Description: Editing a data mart entity after creating the data mart would result in all of the fields being reordered alphabetically.

Jira issue: RECOB-4199
Salesforce case: 12178
Type: Issue

Component/Process: Project settings - Snowflake only
Description: Enabling the **Write metadata to the TDWM tables in the data warehouse** option in the project settings would have no effect.

Jira issue: RECOb--4320
Salesforce case: 2160919
Type: Issue
Component/Process: Deployment packages

Description: The source schema connection would not be updated after deploying a deployment package.

Jira issue: RECOb-4258
Salesforce case: 13575
Type: Issue
Component/Process: Data mart

Description: Data mart creation would fail when there were more than 500 relationships.

Jira issue: RECOb-4330
Salesforce case: 13852
Type: Issue
Component/Process: Amazon Redshift

Description: An error would occur when trying to connect to Amazon Redshift using SSL.

Jira issue: RECOb-4351
Salesforce case: 16688
Type: Issue
Component/Process: Data Marts

Description: When there was a 3-tier relationship - for example, Entity_A→Entity_B→Entity_C - and the Fact table contained columns from Entity_A and Entity_C, changes in the relationship values in Entity_B (which should have updated columns from Entity_C in the Fact) would not be updated in the Fact table.

Jira issue: RECOb-4071
Salesforce case: 5258
Type: Issue
Component/Process: Live Views
Description: Reading from live views would take an excessively long time.

Jira issue: RECOB-4387
Salesforce case: 16511
Type: Issue
Component/Process: Microsoft Azure Synapse Analytics
Description: Columns with numeric(n,n) data types would not be retrieved from the Landing Zone.

Jira issue: RECOB-4339
Salesforce case: 5276
Type: Issue
Component/Process: Import
Description: The following error would sometimes be encountered when importing a data mart:
SYS,GENERAL_EXCEPTION,Sequence contains no matching element

Jira issue: RECOB-4388
Salesforce case: 14522
Type: Issue
Component/Process: ComposeCLI Project Generation
Description: Generating the project would truncate the data mart tables when running the following command:
ComposeCli.exe generate_project --project <project name> --database_already_adjusted

After generating the project, you need to clear the cache by running the following command:
ComposeCli.exe clear_cache --project <project name> --type storage

Jira issue: RECOB-4316
4 Resolved Issues

**Salesforce case:** N/A

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** When loading dimensions, a column would sometimes be used twice, causing the data mart task to fail.

**Jira issue:** RECOB-4235

**Salesforce case:** 13170

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** A runtime parameter ("MutCnt_8323" or similar) was incorrectly initialized, causing the data mart task to fail.

**Jira issue:** RECOB-4104

**Salesforce case:** 2160919

**Type:** Enhancement

**Component/Process:** Microsoft Azure Synapse Analytics Performance

**Description:** Performance was improved by adding indexes to Transactional and State Oriented fact tables.

**Jira issue:** RECOB-4105

**Salesforce case:** 2160919

**Type:** Enhancement

**Component/Process:** Microsoft Azure Synapse Analytics Performance

**Description:** Performance was improved by creating the TEMP table as a HEAP table instead of a HASH table.

**Jira issue:** RECOB-4106

**Salesforce case:** 2160919

**Type:** Enhancement
Resolved Issues

**Component/Process:** Microsoft Azure Synapse Analytics Performance

**Description:** Performance was improved by updating the statistics after each incremental load of the dimensions.

**Jira issue:** RECOB-4126

**Salesforce case:** 10967

**Type:** Enhancement

**Component/Process:** Microsoft Azure Synapse Analytics Performance

**Description:** Performance was improved for data mart ETL tasks by adding indexes (over columns used for join clauses) to intermediate tables.

**Jira issue:** RECOB-4109

**Salesforce case:** 10247

**Type:** Issue

**Component/Process:** Diagnostics

**Description:** Diagnostic packages would contain the server name of the customer environment, which would sometimes result in users being locked out when the package was deployed in our internal testing environment. Now, the diagnostic packages will be generated without the server name.

**Jira issue:** RECOB-4113

**Salesforce case:** 2222648

**Type:** Issue

**Component/Process:** Project Documentation

**Description:** The project documentation for Multi-Table ETLs and Post-Loading ETLs was generated without contents.

**Jira issue:** RECOB-4142

**Salesforce case:** 10996

**Type:** Enhancement

**Component/Process:** Compose CLI Timeouts
**Description:** A session expired error would sometimes occur during the CLI commands that took a long time to complete (e.g. `import_csv`). To resolve such timeouts, users can now add the "-timeout seconds" parameter to the command. Setting ",-timeout -1" will run the command without it timing out.

**Jira issue:** RECOB-3928  
**Salesforce case:** 7892  
**Type:** Issue  
**Component/Process:** Post-ETL Error Reporting

**Description:** Errors in Post-ETL stored procedures run on Microsoft Azure Synapse Analytics would not be reported.

**Jira issue:** RECOB-4149  
**Salesforce case:** 2218407  
**Type:** Issue  
**Component/Process:** ETLs on Snowflake

**Description:** While working with Snowflake via the private link configuration, the engine task would sometimes stop unexpectedly.

**Jira issue:** RECOB-5239  
**Salesforce case:** 33030  
**Type:** Issue  
**Component/Process:** Data Mart Adjustment

**Description:** When dropping a relationship to a lookup-table in the Model, adjusting the data mart would fail with the following error:

Object reference not set to an instance of an object

**Jira issue:** RECOB-5210  
**Salesforce case:** 33745  
**Type:** Issue  
**Component/Process:** Data Mart Task Generation
Resolved Issues

**Description:** The following error would sometimes be encountered when generating ETLs after data mart validation:

Sequence contains no matching elements" or "SYS,GENERAL_EXCEPTION,Input string was not in a correct format

**Jira issue:** RECOB-5217  
**Salesforce case:** 30618  
**Type:** Issue  
**Component/Process:** Data Mart Tasks  
**Description:** Data mart tasks would sometimes fail with the following error: Invalid object name dbo.TPIL_RUNS

**Jira issue:** RECOB-4929  
**Salesforce case:** N/A  
**Type:** Enhancement  
**Component/Process:** Data Lakes Project - Real-Time Views  
**Description:** Subquery HIVE errors would sometimes be encountered when creating and reading from the real-time view. The issue was resolved by updating the latest applied partition during runtime,

**Jira issue:** RECOB-5081  
**Salesforce case:** 26461  
**Type:** Issue  
**Component/Process:** Satellite Loading Performance  
**Description:** Performance issues would sometimes be encountered when loading data warehouse satellites tables.

**Jira issue:** RECOB-5064  
**Salesforce case:** 29989  
**Type:** Issue  
**Component/Process:** Project documentation
Description: When generating project documentation, the following error would sometimes occur:

System.OutOfMemoryException

Jira issue: RECOB-5137

Salesforce case: 30948

Type: Issue

Component/Process: Adding dimensions

Description: Adding a dimension without the "dummy" row would result in incomplete loading on the next task run.
5 Known issues

This section describes the known issues for this release.

**Jira issue:** N/A

**Salesforce case:** N/A

**Component/Process:** Schema Evolution - New Columns

**Description:** When using Replicate to move source data to Compose, both the Full Load and Store Changes replication options must be enabled. This means that when Replicate captures a new column, it is added to the Replicate Change Table only. In other words, the column is stored without being added to the actual target table (which in terms of Compose is the table containing the Full Load data only i.e. the landing table).

For example, let's assume the **Employees** source table contains the columns **First Name** and **Last Name**. Later, the column **Middle Name** is added to the source table as well. The Change Table will contain the new column while the Replicate Full Load target table (the Compose Landing table) will not.

In older versions of Compose for Data Warehouses, mappings relied on the Full Load tables (the Compose Landing tables), meaning that users were not able to see any new columns (i.e. **Middle Name** in the above example) until they were created in the Full Load tables via a reload.

From Compose May 2021, the Compose Discover and Mappings windows show changes to new columns that exist in both the Change Tables and the Replicate Full Load target tables. This allows Schema Evolution to suggest adding columns that exist in either of them.

Although this is a much better implementation, it may create another issue. If a Full Load or Reload occurs in Compose before the Replicate reload, Compose will try to read from columns that have not yet been propagated to the Landing tables (assuming they exist in the Change Tables only). In this case, the Compose task will fail with an error indicating that the columns are missing.

Should you encounter such a scenario, either execute a reload in Replicate or create an additional mapping without the new columns to allow Compose to perform a Full Load from the Landing tables.

**Jira issue:** N/A

**Salesforce case:** N/A

**Component/Process:** Referenced dimensions

**Description:** If a dimension being referenced is dropped and created, or reloaded for any reason (for example, the source data mart is fully rebuilt on each load), any facts to which the referenced dimension was added should be reloaded too. Currently, Compose does not handle this automatically.

**Workaround:**
Run the data marts containing the referenced dimensions.

**Jira issue:** RECOB-5315

**Salesforce case:** 33522

**Component/Process:** Snowflake Data Warehouse Tasks

**Description:** When generating the data warehouse task, if any attribute with the JSON data type is defined as Type 2, the following error will occur:

SYS,GENERAL_EXCEPTION,invalid enum value<p>Parameter name: ACDataType