

# 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 7)*
- *End of Life/Support and deprecated features (page 15)*
- *Resolved issues (page 16)*
- *Known issues (page 53)*

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Compose for Data Warehouses has been superseded by Qlik Compose.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.(including SRs).
- 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 (including SRs).
- Customers upgrading from Compose for Data Warehouses 3.1 should contact Qlik Support.

## 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.*

## 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 9) 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\ComposeUpgradeFrom2021_5To2021_8Project_1__210714142110.sql
```

### **Example of Upgrade script 2:**

```
C:\Program Files\Qlik\Compose\data\projects\Project_2\ddl-scripts\ComposeUpgradeFrom2021_8SP4To2021_8SP10Project_2__220114142110.sql
```

### **Example of Upgrade script 3:**

```
C:\Program Files\Qlik\Compose\data\projects\Project_3\ddl-scripts\ComposeUpgradeFrom2021_8SP10To2021_8SP12Project_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.

For migration instructions, see <https://help.qlik.com/en-US/compose/August2021/pdf/Compose-Release-Notes.pdf>



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

## 1.5 Support for the "Replicate Databricks (Cloud Storage)" target endpoint



*Relevant to Compose May 2022 SR1 only. Requires Replicate November 2022 or later.*

From Compose May 2022 SR1, if you use Replicate November 2022 or later to land data in Databricks, only the Replicate Databricks (Cloud Storage) target endpoint can be used. If you are using Replicate May 2022, you can continue using the existing Databricks target endpoints.

## 1.6 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 versions:

- **Qlik Replicate** - Qlik Compose is compatible with Replicate November 2021 latest service release, Qlik Replicate May 2022, and Qlik Replicate May 2023 including its service packs.
- **Enterprise Manager** - Qlik Compose is compatible with Enterprise Manager May 2022.

## Compose May 2022 Service Release 1

Compose May 2022 Service Release 01 is compatible with the following Replicate and Enterprise Manager versions:

- **Qlik Replicate:** Qlik Compose is compatible with Qlik Replicate May 2022, Qlik Replicate November 2022, and Qlik Replicate May 2023 including its service packs.
- **Enterprise Manager:** Qlik Compose is compatible with Enterprise Manager November 2022.

## Compose May 2022 Service Release 2

Compose May 2022 Service Release 2 is compatible with the following Replicate and Enterprise Manager versions:

- **Qlik Replicate:** Qlik Compose is compatible with Qlik Replicate May 2022, Qlik Replicate November 2022 including its service packs, and Qlik Replicate May 2023 including its service packs.
- **Enterprise Manager:** Qlik Compose is compatible with Enterprise Manager November 2022 SR1.

## 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:

After applying changes:

Delete from Change Tables

Keep in Change Tables

Archive the Change Tables

Database name:  ...

Schema name:  ...

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**.

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 added 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 type	Tag
Hubs	CMPS_HubIns

Table type	Tag
Satellites	CMPS_SatIns
Type1 dimensions	CMPS_<data mart name>_DimT1_Init/CMPS_<data mart name>_DimT1_Incr
Type2 dimensions	CMPS_<data mart name>_DimT2_Init/CMPS_<data mart name>_DimT2_Incr
Transactional facts	CMPS_<data mart name>_FctTra_Init/CMPS_<data mart name>_FctTra_Incr
State-oriented facts	CMPS_<data mart name>_FctStO_Init
Aggregated facts:	CMPS_<data mart name>_FctAgg_Init

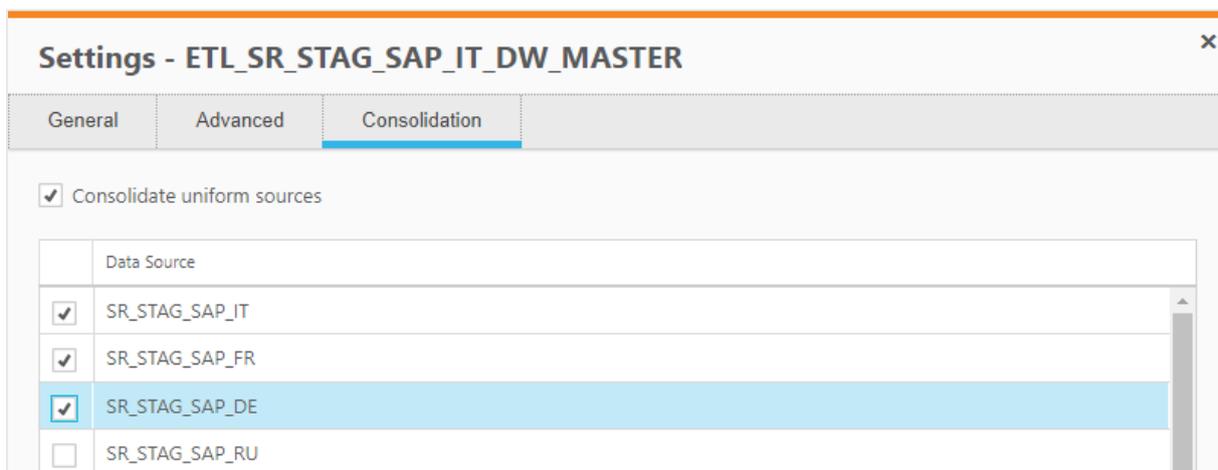
## Uniform source consolidation

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 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.
- Improved performance of data warehouse loading, by reducing statements executed when there is no data to process. This change impacts cloud data warehouses such as Snowflake, Amazon Redshift,

Google BigQuery, and so on.



*Relevant from Compose May 2022 SR1 only.*

### Support for Redshift Spectrum external tables



*Supported from Compose May 2022 SR1 only.*

Customers who want to leverage this support need to create Redshift Spectrum external tables and discover them. Additionally, when running a CDC task, the new **Keep in Change Tables** option [described above](#) needs to be turned on.

### Data mart UX improvement

The Data Mart Dimensions tree and the Star Schema Fact tab were redesigned to provide a better user experience.

### Support for updating custom ETLs using the CLI

This version introduces support for updating custom ETLs using the Compose CLI. This functionality can be incorporated into a script to easily update Custom ETLs.



*Supported from Compose May 2022 SR2 only.*

### Support for defining a custom data mart schema in Microsoft Azure Synapse Analytics

Customers working with Microsoft Azure Synapse Analytics can now utilize the **Create tables in schema** option (in the data mart settings) to define a custom schema for the data mart tables.



*Supported from Compose May 2022 SR2 only.*

## 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 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.*

### Improved Historical Data Store resolution



*Supported from Compose May 2022 SR1 only.*

In previous versions, HDS resolution was one second. This was problematic at times as multiple changes to a Primary Key within a second resulted in only the last change appearing in the HDS. To view all the history, customers were forced to review the landing.

From this version, all changes (history) will shown in the HDS, facilitating better support for auditing.

### 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).

### Databricks projects

#### New Databricks versions

- Databricks 9.1 LTS is now supported on all cloud providers (AWS, Azure, and Google Cloud Platform).
- Databricks 10.4 LTS is now supported on all cloud providers (AWS, Azure, and Google Cloud Platform).



*Databricks 10.4 LTS is supported from Compose May 2022 SR1 only.*

### SQL Warehouse compute and Parquet support



*Supported from Compose May 2022 SR1 only.*

Compose May 2022 SR1 introduces support for SQL Warehouse compute. To benefit from this support, customers need to use the new Replicate Databricks (Cloud Storage) target endpoint, which is available from Replicate November 2022. SQL Warehouse compute offers a lower cost alternative to clusters while also allowing Parquet file format to be used in the Landing Zone.

## Support for Unity Catalog

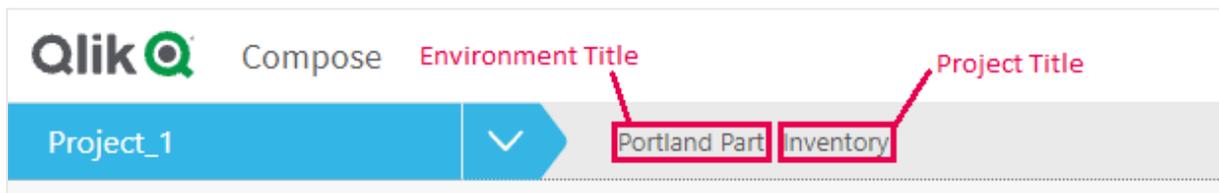
This version introduces support for Databricks Unity Catalog. Customers working with Unity Catalog can now specify a catalog name both in the Landing connection settings and in the Storage connection settings.

## 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**:



*The banner text is shown without the **Environment title** and **Project title** console labels. This provides greater flexibility as it allows you add any banner text you like, regardless of the actual label name. For example, specifying *Project owner: Mike Smith* in the **Project title** field, will display that text in the banner.*

## Support for Microsoft Edge Browser

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

## Windows Server 2022 (64-bit) support

Windows Server 2022 support is available from Compose May 2022 SR1.

## 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.*

### Managing user and group roles using the Compose CLI



*This feature is available from Compose May 2022 SR1 only.*

You can set and update user and group roles using the Compose CLI. You can also remove users and groups from a role in one of the available scopes (for example, Admin in All Projects). This is especially useful if you need to automate project deployment.

### 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.
- Support for Databricks 7.3 has been discontinued.



*End of support for Databricks 7.3 is applicable to Compose May 2022 SR1 only.*

# 4 Resolved issues

This section lists the resolved for the Compose May 2022 initial release and subsequent service releases.

## 4.1 Resolved issues in Compose May 2022 initial release

The following issues were resolved in Compose May 2022 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 **--without\_environment\_specifics** parameter was added to the CLI and a **Replace environment specifics with defaults** option was added to the **Create Deployment Package** window.

**Jira issue:** RECOB-4822

**Salesforce case:** 25044

**Type:** Issue

**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

**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.

**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.

**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

**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.

**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

**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

**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:** Compose CLI 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

**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

**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

**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.

### 4.2 Resolved issues in Compose May 2022 SR1 and SR2

The following issues were resolved in Compose May 2022 SR1 and SR2:

**Jira issue:** RECOB-6639

**Salesforce case:** 69870

**Type:** Issue

**Component/Process:** Data Mart Generation

**Description:** The following error would sometimes be encountered when trying to generate a data mart:

```
GENERAL_EXCEPTION, Object reference not set to an instance of an object
```

**Jira issue:** RECOB-6630

**Salesforce case:** 69276

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** An "invalid column name" error would sometimes be encountered when running data mart tasks.

**Jira issue:** RECOB-6619

**Salesforce case:** 67621

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** When regenerating tasks, Compose would automatically adjust all facts tables by removing the Date dimension OID.

**Jira issue:** RECOB-6514

**Salesforce case:** 69682

**Type:** Issue

**Component/Process:** Data Marts

**Description:** The following error would sometimes occur in an Aggregated Star Schema with a Date dimension:

```
Column is invalid in the select list because it is not contained in either  
an aggregate function or the GROUP BY clause
```

**Jira issue:** RECOB-6537

**Salesforce case:** 66261

**Type:** Issue

**Component/Process:** Data Marts Tasks

**Description:** A "Sequence contains no elements" error would sometimes occur when generating data mart tasks.

**Jira issue:** RECOB-6453 + RECOB-6481

**Salesforce case:** 63783 + 63736

**Type:** Issue

**Component/Process:** Data Marts Tasks

**Description:** A "Value Cannot be Null" error would sometimes occur when generating data mart tasks.

**Jira issue:** RECOB-6635

**Salesforce case:** 69134

**Type:** Issue

**Component/Process:** Data Marts Tasks

**Description:** An "Invalid identifier" error would sometimes occur when running data mart tasks.

**Jira issue:** RECOB-6663

**Salesforce case:** N/A

**Type:** Enhancement

**Component/Process:** Databricks

**Description:** Added support for Unity Catalog.

**Jira issue:** RECOB-5606

**Salesforce case:** 42279

**Type:** Issue

**Component/Process:** Custom ETL

**Description:** When opening a Custom ETL, code with more than 11 lines would not load completely.

**Jira issue:** RECOB-6511

**Salesforce case:** 36345

**Type:** Issue

**Component/Process:** Compose Import Project Repository CLI

**Description:** When running the import\_project\_repository command, a "Data mart is not valid" error would sometimes be encountered.

**Jira issue:** RECOB-6527

**Salesforce case:** 65766

**Type:** Issue

**Component/Process:** Logging

**Description:** When a data mart task instance failed, the data mart log information would sometimes be inaccurate.

**Jira issue:** RECOB-6611

**Salesforce case:** 67579

**Type:** Issue

**Component/Process:** Compose Export Project CLI

**Description:** The --exclude\_envar\_values parameter would not work as expected.

**Jira issue:** RECOB-6674

**Salesforce case:** 70086

**Type:** Issue

**Component/Process:** Data Warehouse Generation

**Description:** Data warehouse ETL generation would fail when query-based mapping included custom environment variables.

**Jira issue:** RECOB-6691

**Salesforce case:** 71770

**Type:** Issue

**Component/Process:** Data Mart

**Description:** Expressions would be ignored when defined on existing fact table attributes.

**Jira issue:** RECOB-6433

**Salesforce case:** N/A

**Type:** Enhancement

**Component/Process:** Apache Impala views in Data Lakes projects

**Description:** The header\_\_batch\_modified column will now be cast as varchar(32) for the outbound Apache Impala views. To leverage this enhancement, you need to set an environment variable.

**Jira issue:** RECOB-6508

**Salesforce case:** 63304

**Type:** Issue

**Component/Process:** AWS glue in Data Lakes projects

**Description:** CDC tasks using AWS glue would sometimes fail with the following error:

```
expects to have a column name on a left side, but got 'substr'
```

**Jira issue:** RECOB-6568

**Salesforce case:** 54618

**Type:** Issue

**Component/Process:** Hive 3.1.3 in Data Lakes projects

**Description:** When using Hive 3.1.3, the following error would sometimes be encountered:

```
SemanticException Line 0:-1 Wrong arguments 'hdr__ts': Casting DATE/TIMESTAMP types to NUMERIC is prohibited
```

**Jira issue:** RECOB-6566

**Salesforce case:** N/A

**Type:** Issue

**Component/Process:** Upgrade from Compose for Data Lakes 6.6

**Description:** Upgrading from Compose for Data Lakes 6.6 would cause the column prefix to change from **header** to **hdr**. To leverage this fix, you need to set an environment variable.

**Jira issue:** RECOB-5343

**Salesforce case:** 35725

**Type:** Issue

**Component/Process:** Discovery

**Description:** It would not be possible to discover landing views.

**Jira issue:** RECOB-6072

**Salesforce case:** 54081

**Type:** Issue

**Component/Process:** Compose CLI

**Description:** The compare\_csv CLI option would not work properly when project items contained line breaks.

**Jira issue:** RECOB-6268

**Salesforce case:** 59331

**Type:** Issue

**Component/Process:** Data Mart Generation

**Description:** The following error would sometimes occur when generating a data mart:

Multiple attributes (n = 2) use the same internal ID: 'DESCRIPTION', 'TEST\_NAME'

**Jira issue:** RECOB-6282

**Salesforce case:** 58371

**Type:** Issue

**Component/Process:** Tasks

**Description:** When a project had two full load tasks reading from the same landing zone database, the CDC task would start from the default partition.

**Jira issue:** RECOB-5808

**Salesforce case:** 48291

**Type:** Issue

**Component/Process:** Data Mart (Fact) Performance

**Description:** Performance issues would be encountered when updating the fact table.

**Jira issue:** RECOB-6311

**Salesforce case:** 57659

**Type:** Enhancement

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

**Description:** Revised ELT statements to reduce number of statements and improve performance running against Synapse including

- Skipping statements when not needed (based on run-time metadata)
- Combining multiple statements into a single one
- Managing Staging table (create/insert/index) based on runtime metadata

**Jira issue:** RECOB-6356

**Salesforce case:** 60650

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** Data mart loading would sometimes fail at the "Merging changes into dimension" stage.

**Jira issue:** RECOB-6410

**Salesforce case:** 62525

**Type:** Issue

**Component/Process:** Environment Variables - Data Warehouse Projects

**Description:** Applying a predefined variable using the CLI would result in an "Object reference not set to an instance of an object" error.

**Jira issue:** RECOB-5290

**Salesforce case:** N/A

**Type:** Issue

**Component/Process:** Security

**Description:** Updated the ojdbc component (ojdbc7-12.1.0.2) to the newest version, which fixes security vulnerability CVE-2016-3506.

**Jira issue:** RECOB-5285

**Salesforce case:** N/A

**Type:** Issue

**Component/Process:** Security

**Description:** Updated the PostgreSQL component (postgresql-42.2.25) to the newest version, which fixes security vulnerability CVE-2022-21724.

**Jira issue:** RECOB-6409

**Salesforce case:** N/A

**Type:** Issue

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

**Description:** If the connection to the database was aborted, the task would not recover.

**Jira issue:** RECOB-6067

**Salesforce case:** N/A

**Type:** Issue

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

**Description:** Changing dimensions from Type 2 to Type 1 would sometimes result in the following errors when recreating the associated tables:

```
SYS,GENERAL_EXCEPTION,Column name '<column-name>' does not exist in the target table or view
```

**Jira issue:** RECOB-6267

**Salesforce case:** N/A

**Type:** Issue

**Component/Process:** Data Mart Validation

**Description:** When validating a data mart with Date and Time columns, the validation would incorrectly report the following message:

```
The data mart tables in the database are different from the data mart definition
```

**Jira issue:** RECOB-6439

**Salesforce case:** N/A

**Type:** Issue

**Component/Process:** Project Import

**Description:** After importing a project from a diagnostic package, editing the connection settings would result in a 'SYS,DESERIALIZE\_TO\_TYPE' incompatibility error.

**Jira issue:** RECOB-6307

**Salesforce case:** 59873

**Type:** Issue

**Component/Process:** Data Mart Task

**Description:** Due to an issue with handling relationships, the data mart task would sometimes fail with the following error:

```
Invalid column name <name>
```

**Jira issue:** RECOB-5366

**Salesforce case:** 35823

**Type:** Issue

**Component/Process:** Filters

**Description:** The fact table would not use the filter of the dimension table it was related to.

**Jira issue:** RECOB-5618

**Salesforce case:** 39793

**Type:** Issue

**Component/Process:** Data Marts - Relationships

**Description:** Relationship prefixes would be ignored when adding dimensions to existing facts.

**Jira issue:** RECOB-6232

**Salesforce case:** 57837

**Type:** Issue

**Component/Process:** Data Mart Loading - SQL Server

**Description:** Loading the data mart would sometimes fail with an "Invalid column name" error.

**Jira issue:** RECOB-5410

**Salesforce case:** 31391

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** The SQL server TempDB system database would reach capacity during Data Mart task execution.

**Jira issue:** RECOB-5418, RECOB-5555

**Salesforce case:** 37420

**Type:** Issue

**Component/Process:** Data Mart Tasks - Performance

**Description:** Data mart tasks would take an excessively long time to complete.

**Jira issue:** RECOB-5425

**Salesforce case:** 51127

**Type:** Issue

**Component/Process:** Data Mart Generation

**Description:** When there were multiple relationships to the same table, issues would be encountered when generating the data mart task.

**Jira issue:** RECOB-5450

**Salesforce case:** 20156

**Type:** Issue

**Component/Process:** Fact Table Statistics

**Description:** The UPDATE STATS command would only update the stats on some of the fact tables, instead of all of them.

**Jira issue:** RECOB-5463

**Salesforce case:** 38236

**Type:** Issue

**Component/Process:** Data Mart Performance

**Description:** When running Full Load ETL statements, records would be loaded directly into the indexed data mart table using CTE (Common Table Expression). These inserts would take an excessively long time to complete.

**Jira issue:** RECOB-5616

**Salesforce case:** 21675

**Type:** Issue

**Component/Process:** Data Marts

**Description:** When an entity had a self-referencing relationship, data mismatches would sometimes occur between the data warehouse and data mart hierarchies.

**Jira issue:** RECOB-5645

**Salesforce case:** 38753

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** The OBSOLETE\_\_INDICATION = 0 rows indicator would be temporarily missing from the data mart while the task was running.

**Jira issue:** RECOB-5655

**Salesforce case:** 43588

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** A task with five or more relationships would take an excessively long time to complete.

**Jira issue:** RECOB-5865

**Salesforce case:** 50151

**Type:** Issue

**Component/Process:** Filters in Data Mart Tasks

**Description:** When defining a multi-column filter condition on a data mart dimension, where one column was from a Satellite table and the other column was from a Hub table, the condition would not be processed correctly.

**Jira issue:** RECOB-5895

**Salesforce case:** 38277

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** The following error would sometime occur after running the data mart task:

duplicate alias 'E04

**Jira issue:** RECOB-6191

**Salesforce case:** 57012

**Type:** Issue

**Component/Process:** State-oriented Fact Tables

**Description:** The OPTION(FORCE ORDER) hint would not be added for state-oriented fact tables.

**Jira issue:** RECOB-6189

**Salesforce case:** 53277

**Type:** Issue

**Component/Process:** Data Mart Tasks

**Description:** An "ambiguous column" error would occur in the data mart after upgrading from Compose for Data Warehouses 7.0 (November 2020).

**Jira issue:** RECOB-6031

**Salesforce case:** 48268

**Type:** Issue

**Component/Process:** INSERT/UPDATE Operations

**Description:** A join clause would be used for INSERT/UPDATE operations, even when flags were set.

**Jira issue:** RECOB-5729

**Salesforce case:** 45316

**Type:** Issue

**Component/Process:** Record status

**Description:** Previously deleted records would still be shown as deleted after the source was reloaded.

**Jira issue:** RECOB-6089

**Salesforce case:** 54204

**Type:** Issue

**Component/Process:** ETL tasks

**Description:** ETL tasks would try to connect to localhost instead of the configured DSN, and fail.

**Jira issue:** RECOB-6079

**Salesforce case:** N/A

**Type:** Feature

**Component/Process:** Compose CLI

**Description:** Added the ability to manage user and group roles using the Compose CLI.

**Jira issue:** RECOB-6005

**Salesforce case:** 51516

**Type:** Issue

**Component/Process:** Amazon Redshift

**Description:** Added support for external (Spectrum) tables.

**Jira issue:** RECOB-6014

**Salesforce case:** 48481

**Type:** Issue

**Component/Process:** Amazon Redshift

**Description:** The following error would occur when using the JDBC 4.2 driver:

```
Java connection failed, error: 'SYS-E-GNRLERR, Required driver class not found: com.amazon.redshift.jdbc41.Driver.'
```

**Jira issue:** RECOB-6003

**Salesforce case:** 48481

**Type:** Issue

**Component/Process:** Databricks

**Description:** The following error would occur when attempting to connect using the latest Databricks JDBC driver:

```
Test connection failed, Error: SYS-E-HTTPFAIL, Failed to add session
connection: SYS-E-GNRLEERR, Required driver class not found:
com.simba.spark.jdbc.Driver..
```

**Jira issue:** RECOB-6078

**Salesforce case:** N/A

**Type:** Enhancement

**Component/Process:** Databricks Cloud Storage

**Description:** Added support for the new "Databricks (Cloud Storage)" Replicate endpoint.

**Jira issue:** RECOB-6041

**Salesforce case:** 51707

**Type:** Issue

**Component/Process:** Snowflake

**Description:** "Header" columns would be case-sensitive in task statements. The issue was resolved by setting the "setIgnoreCaseFlag" flag.

**Jira issue:** RECOB-5582

**Salesforce case:** 37431

**Type:** Issue

**Component/Process:** Drop and Recreate tables

**Description:** When using the **Drop and Recreate > Tables** Data Warehouse option, data would not be populated into the Date and Time hub tables.

**Jira issue:** RECOB-5809

**Salesforce case:** 44396

**Type:** Issue

**Component/Process:** Updating dimensions

**Description:** Updating "ghost" references in the data warehouse would not add the records to the dimension.

**Jira issue:** RECOB-5742

**Salesforce case:** 46049

**Type:** Issue

**Component/Process:** Compose CLI

**Description:** It would not be possible to run multiple instances of the Compose CLI. Therefore, it would not be possible to run multiple project workflows in parallel using the Compose CLI.

**Jira issue:** RECOB-5835

**Salesforce case:** 46762

**Type:** Issue

**Component/Process:** Data marts

**Description:** MIN/MAX custom date functions in the data mart task statements would be dropped prematurely.

**Jira issue:** RECOB-5288

**Salesforce case:** 33745

**Type:** Issue

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

**Description:** When generating ETLs after data mart validation, the following errors would sometimes occur:

`Sequence contains no matching elements`

-OR-

`SYS,GENERAL_EXCEPTION,Input string was not in a correct format.`

**Jira issue:** RECOB-5240

**Salesforce case:** 33030

**Type:** Issue

**Component/Process:** Deleting dimensions

**Description:** Deleting a dimension would sometimes cause the following error:

Object reference not set to an instance of an object

**Jira issue:** RECOB-5387

**Salesforce case:** 34759

**Type:** Issue

**Component/Process:** Installation

**Description:** Some of the HTML files were missing after the installation.

**Jira issue:** RECOB-5454

**Salesforce case:** 32555

**Type:** Enhancement

**Component/Process:** Views

**Description:** CDP view creation was modified for Apache Impala compatibility.

**Jira issue:** RECOB-5506

**Salesforce case:** 38079

**Type:** Issue

**Component/Process:** Upgrade

**Description:** After upgrading from Compose November 2021 to Compose May 2022, the following error would occur:

```
COMPOSE-E-DATAMARTMODELERERROR, Datamart model error.
```

**Jira issue:** RECOB-5442

**Salesforce case:** 38277

**Type:** Issue

**Component/Process:** Data mart tasks

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

```
Terminated:sqlstate 42601, errorcode 2027, message SQL compilation  
error:duplicate alias E04
```

## 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. 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
```