Oracle® Database

Release Notes for Oracle Data Transforms

Latest

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Oracle Database Release Notes for Oracle Data Transforms, Latest

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Contents

2 Known Issues and Workarounds

Preface

This document describes the new features, major changes, and known issues of Oracle Data Transforms.

This preface contains the following topics:

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

Related Documents

For more information, see the following documents in Oracle Data Integrator Library:

- *Release Notes for Oracle Data Integrator*
- *Understanding Oracle Data Integrator*
- *Developing Integration Projects with Oracle Data Integrator*
- *Installing and Configuring Oracle Data Integrator*
- *Upgrading Oracle Data Integrator*
- *Integrating Big Data with Oracle Data Integrator Guide*
- *Application Adapters Guide for Oracle Data Integrator*
- *Developing Knowledge Modules with Oracle Data Integrator*
- *Connectivity and Knowledge Modules Guide for Oracle Data Integrator Developer's Guide*
- *Oracle Data Integrator Tools Reference*
- *Data Services Java API Reference for Oracle Data Integrator*
- *Open Tools Java API Reference for Oracle Data Integrator*
- *Getting Started with SAP ABAP BW Adapter for Oracle Data Integrator*
- *Java API Reference for Oracle Data Integrator*
- *Getting Started with SAP ABAP ERP Adapter for Oracle Data Integrator*
- *Oracle Data Integrator 12c Online Help*, which is available in ODI Studio through the JDeveloper Help Center when you press **F1** or from the main menu by selecting **Help**, and then **Search** or **Table of Contents**.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

What’s New in Oracle Data Transforms

This chapter summarizes the new features and significant product changes for Oracle Data Transforms.

This chapter includes the following sections:

1.1 Oracle Data Transforms 2026.03.23.00

This release introduces the following new functionality:

- **OCI Vault Integration for Connections** - Data Transforms integrates with OCI Vault to allow the use of vault secret credentials to authenticate connections. See Use OCI Vault Secret Credentials for Connections.
- **Image Vector Embeddings in Data Flows** - You can now add image vector embeddings in a data flow using the Oracle Cloud Infrastructure (OCI) Generative AI service. In the Data Flow Editor, use the **Image Embedding Vector** operator within the *Machine Learning* database function to convert input images to vector embeddings. Data Transforms uses images in the BLOB data type as input from source to generate the embeddings. Note that you need to have an Oracle Autonomous Database 23ai connection to use this feature. For more information, see Use Embedding Vectors in a Data Flow.
- **Capture Auditing Information for Data Loads** - The Settings button on the Data Load Detail page now includes options that you can use to add auditing data columns when you run a data load. When the data load runs these auditing columns are added into the target table and populated with the relevant information. See Run a Data Load for more details.
- **Collect and Publish Statistics for Iceberg tables** - Iceberg tables may be populated through multiple engines. Data Transforms allows you to collect and publish statistics for Iceberg tables so that query optimizers can determine execution plan for a given query to get better performance. The Workflow editor includes the **Iceberg Stats** step that lets you do this. You can use the step independently or add an Iceberg data load to the work flow, and then add **Iceberg Stats** as a step to collect table and column statistics and publish them to an external table. See *Collect and Publish Iceberg Table Statistics to External Tables* in Create an Apache Iceberg Connection.
- **Enhancements to the Job Details page** - The steps that are displayed on the Job Details page are now categorized in different nodes for ease of reference. These include Admin Jobs, Execution Sets, and Tables. See Create and Manage Jobs for more information about the Job Details page.
- **Load Data to Apache Iceberg tables using Snowflake Open Catalog** – You can use Snowflake Data Catalog when you create an Apache Iceberg connection to load data. To create the connection you need an existing REST catalog setup that is based on Apache Polaris (incubating). You can use AWS S3 storage services for storing data into Apache Iceberg as target tables. See Create an Apache Iceberg Connection for detailed instructions.
- **Oracle AI Data Catalog integration for Apache Iceberg connections** – You can create Apache Iceberg connections using **Oracle AI Data Catalog** as the catalog provider. To create the connection you need to provide the catalog service URL and the authentication credentials to connect to the service. Once authenticated, Data Transforms establishes

secure connectivity to the Iceberg catalog and gives you access to governed Iceberg namespaces and tables that you can load data to. See Create an Apache Iceberg Connection for detailed instructions.

- **Support for Apache Iceberg Parquet File Clustering and Compaction** - Apache Iceberg stores every change in data as a new parquet file. Depending on the amount of change made to the data these can accumulate over time and cause storage overheads and decreased query performance. Data Transforms supports the Iceberg clustering and compaction features to mitigate increased storage costs and optimize query performance. You can add an Iceberg data load to the work flow, and then add **Iceberg Clustering and Compaction** as a step. You can then schedule the workflow to run the data load and then execute clustering and compaction on the loaded data. See *Parquet File Clustering and Compaction* in Create an Apache Iceberg Connection.
- **Load Data into Oracle Fusion Incentive Compensation tables** - Oracle Data Transforms enables ingestion of Oracle Fusion Incentive Compensation data from CSV files stored in Oracle Object Storage into Oracle Fusion Incentive Compensation tables. The **Oracle Fusion Import** step in the Workflow allows you to load CSV files from Object Storage to Oracle Fusion Incentive Compensation tables. See Create and use an Oracle Fusion Incentive Compensation Connection.
- **Load Data into Oracle Fusion Subscription Management tables** - You can use Oracle Data Transforms to stage and load subscription-related data from CSV files stored in Object Storage into the Oracle Fusion Subscription Management application tables. The **Oracle Fusion Import** step in the Workflow allows you to load CSV files from Object Storage to Oracle Fusion Subscription Management tables. See Create and use an Oracle Fusion Subscription Management Connection.
- **Additional Connection Types** - The supported application connection types in this release are:
  - MariaDB
  - Sage Intacct

  For the complete list of supported connection types, see Supported Connection Types.

1.2 Oracle Data Transforms 2026.01.21.00

This release introduces the following new functionality:

- **Configure Timezone to Run Schedules** - You can set the default timezone for running schedules using the new **Settings** page under the Administration tab. The configuration you set here appears as the default selection on the Create Schedule page. Note that you can choose a different timezone when you create a schedule. See Set Timezone to Run Schedules.
- **Set Desired Border Color to your Data Transforms Instance** - You can apply distinct colors to your Data Transforms environments to differentiate between them. The **Settings** page under the Administration tab includes a color palette that you can choose from to set the color. The selected color appears as a border around the user interface. See Apply Color Coding to Oracle Data Transforms Environments.
- **Provisioning UI Enhancements** - When you log in to your Autonomous Database environment, you now see a splash screen that displays a slide show of the capabilities of Data Transforms.
- **Advanced options for Apache Iceberg** - You can now set the Batch Update Size for Apache Iceberg connections to control the number of records that are updated on the target table at a time. This helps improve performance of data load runs. See Create an Apache Iceberg Connection.

- **Enhancements to Python API for Oracle Data Transforms** – Oracle Data Transforms Python SDK enables developers to use Python APIs to manage connections, data loads, data flows, workflows, and schedules. This release includes the following enhancements to the Python API:
  - The DataEntity class now includes the “inline view” option that you can use to create data entities using inline SQL query code.
  - The Project API includes fixes and tweaks that improve overall ease of use and performance for working with projects.

  See Python API for Oracle Data Transforms.

1.3 Oracle Data Transforms 2025.11.25.00

This release introduces the following new functionality:

- **View dependencies and delete objects** - You can now check where an object is used before deleting it. You can view dependencies and delete one or more of the following object types:
  - **Connections** - All data entities associated with the connection are deleted. Any data loads that use this connection as source or target are also removed. See View and Manage Connections.
  - **Schemas** - All data entities associated with the schema are removed. See View and Manage Connections.
  - **Data Loads** - The data load and any workflow steps that reference this data load are deleted. See View and Manage Data Loads.
  - **Data Entities** - Any data flows that reference the deleted data entities become invalid. Data load jobs for loading deleted data entities will fail. No additional objects are deleted. See View and Manage Data Entities.
  - **Data Flows** - The data flow and any workflow steps that reference this data flow are deleted. See View and Manage Data Flows.
  - **Workflows** - The workflow and any workflow steps that reference this workflow are deleted. See View and Manage Workflows.
- **Enhancements to Oracle Financials Cloud connector** - You can now choose from two options to create an Oracle Financials Cloud connection. The **Application** tab on the Create Connection page includes the options - **Oracle Financials Cloud** and **Oracle Financials Cloud Rest**.
  See Create an Oracle Financials Cloud Connection for more information.
- **Cross platform support for Design Migration** - Data Transforms now supports cross platform import of objects from a Data Transforms Marketplace instance to a Data Transforms Autonomous Database instance. Note that, currently, you cannot import objects between any of the other supported platforms.
  See Export and Import Objects for information about exporting and importing objects within environments.

1.4 Oracle Data Transforms 2025.09.19.00

This release introduces the following new functionality:

- **Use SQL Queries to Generate Data Flow** - You can use SQL statements to build a data flow. The Data Transforms SQL parser feature analyzes the SQL statement, generates the

data flow, and displays it on the Design Canvas. See Generate Data Flow from SQL Statements for detailed information.

- **Materialized Views in Data Flows** - Data Transforms supports the use of materialized views in a data flow. You can create a materialized view data entity using the Data Flow graphical editor and define the refresh settings of the view. Once created, you can use it as a source in a data flow. See Create and Use a Materialized View in a Data Flow for instructions.
- **Data Load support for Oracle Business Intelligence Cloud Connector** - You can use an Oracle Business Intelligence Cloud Connector (BICC) connection to load data to Oracle Autonomous Database. For BICC data loads, the Data Load Detail page provides two options - **Incremental Merge**, which updates the data in the selected column by comparing the source table with the target table and **Incremental w/Deletes** that deletes records from the target table that are no longer available in the source table. This simplifies and improves performance for BICC data loads. See Create an Oracle Business Intelligence Cloud Connector Connection for detailed information.
- **Data Load Job Details Enhancements** - The Job Details page for data load jobs includes the **Rerun Selected Tables** option that allows you to rerun the job for selected tables. This is useful when you want to reload only a few tables instead of rerunning the entire data load job. Note that you can use this feature for jobs where the main data load job has either completely successfully or has errors in any of the steps. See Create and Manage Jobs for more information about the Job Details page.
- **REST API for Oracle Data Transforms** - External systems and developers can use Data Transforms REST APIs to retrieve information about Data Transforms such as projects, connections, data loads, data flows, workflows, schedules, and variables. You can also use REST APIs for secure authentication as well as to export and import design objects. See REST API for Oracle Data Transforms.

1.5 Oracle Data Transforms 2025.07.18.00

This release introduces the following new functionality:

- **Data Transforms in Compute Cloud@Customer** – You can now launch and use Data Transforms in Compute Cloud@Customer environments. You need to create a Data Transforms instance, create a Marketplace image, import the image in your Compute Cloud@Customer infrastructure, and create your Data Transforms instance. See Compute Cloud@Customer for detailed instructions.
- **Supported Connection Type** - This release includes support for the Google Analytics 4 application connection type.
  For the complete list of supported connection types, see Supported Connection Types.
- **Export and import artifacts at the Folder level** - You can now include folders when moving Data Transforms artifacts from one environment and import them into another. For detailed instructions, see Export and Import Objects.
- **Autojoin Associated Tables in a Dataflow** – The Data Flow editor includes the option to use the SQL auto-join feature to establish the join between two tables based on a predefined relationship. See Use Auto-join to Map Associated Tables in a Data Flow.

1.6 Oracle Data Transforms 2025.05.09.00

This release introduces the following new functionality:

- **Extract data from Oracle Enterprise Resource Planning (ERP) Cloud using BI Publisher** – Data Transforms includes support for Oracle ERP Cloud as a data source.

You can now use the Oracle ERP Cloud connector to create a connection to the Business Intelligence (BI) Publisher server and load data from BI Publisher reports to Autonomous Database. You can use this as an alternate method to extract ERP data when BICC based extract is not sufficient. See Create an Oracle Enterprise Resource Planning Cloud Connection for detailed instructions on how you can create an Oracle ERP Cloud connection and use that to import data entities into Data Transforms.

- **Load Data to Apache Iceberg tables** – You can now use Apache Iceberg as a target to load data from SQL-based data sources. To create the connection you need an existing REST catalog setup that is based on Apache Gravitino 0.7.0-incubating or lower version. You can use Oracle Object Storage (S3 compatibility) and AWS S3 storage services for storing data into Apache Iceberg as target tables. See Create an Apache Iceberg Connection for detailed instructions.
- **Settings button on the Data Load Detail page** – The options under Advanced Options have moved into a separate window. Click the **Settings** button to use these options in addition to a few more.

1.7 Oracle Data Transforms 2025.03.14.00

This release introduces the following new functionality:

- **Run Data Studio Data Load using Data Transforms workflows** - You can now define a Data Studio Data Load in a Data Transforms workflow and then execute that data load as part of a Data Flow. This is especially useful when you want to load data from file formats that Data Transforms does not support such as TXT files or JSON files. Use the **Data Studio Load** option in the Workflow Editor to add a Data Studio Data Load as a step to the workflow. You can then schedule the workflow to replay the Data Studio Data Load to capture any updates made to the files and load it into Autonomous Database. In the subsequent workflow steps, a Data Flow can be used to transform the data. See Define a Data Studio Data Load in a Work Flow for more information about how you can run a Data Studio Data Load in Data Transforms.
- **Vector Embeddings in Data Flows** - Data Transforms now supports the integration of vector embeddings in a data flow using the Oracle Cloud Infrastructure (OCI) Generative AI service. In the Data Flow Editor, use the **Text Embedding Vector** operator within the *Machine Learning* database function to convert input text to vector embeddings. You can then use the information for doing similarity searches on textual information field using any data analysis tool of your choice. Note that you need to have an Oracle Database 23ai connection to use this feature. For more information, see Use Text Embedding Vector in a Data Flow.
- **Use Machine Learning (ML) models in Data Flows** – Data Transforms now includes a new data entity type called ML Model. You can use ML Models in a data flow to apply prediction logic on source data and store the output in a target server. To use ML Models in Data Transforms, you need to first build the ML Model in the Data Flow Editor, and then use the **Prediction Model** operator within the **Machine Learning** database function to apply the ML Model on source data. See Machine Learning (ML) Models for more information.
- **Set Custom Variable Value at Runtime** – For data flows and workflows that include variables as part of the flow, when you run the data flow or workflow you can choose to use the default value, the refresh value, or set a custom value at runtime to use for the current run. You can use this feature for running the job with a custom variable value or for testing purposes. Note that this value persists only till the current session runs. See Use Variables in a Data Flow and Use Variables in a Workflow for more information.
- **Show Queued/Waiting Jobs** – The Show Queued/Waiting Jobs option allows you to choose whether to include or exclude queued and waiting jobs when you filter the list of

jobs on the Jobs page. This enhancement helps in improving the overall performance when fetching the list of records to display on the Jobs page. See the Search for a Job section in Create and Manage Jobs for more information.

1.8 Oracle Data Transforms 2024.06.20.00

This release introduces the following new functionality:

- **Supported Connection Type** - This release includes support for the Teradata 17+ database connection type.
  For the complete list of supported connection types, see Supported Connection Types.
- **Job Status for Export and Import Operations** - When you move objects within environments, Oracle Data Transforms runs the operation in the background to complete the process. You can now use the **Jobs** page to see the status of the export or import process that is currently running. For information about exporting and importing objects within environments, see Export and Import Objects.

1.9 Oracle Data Transforms 2024.04.18.00

This release introduces the following new functionality:

- **Support for new URL format for Oracle Object Storage Connections** – Object Storage dedicated endpoints provide new endpoints to access storage buckets securely. This release onward you need to use the new URL format when you create Object Storage connections in Data Transforms. For users that already have an Object Storage connection, the existing URL will be updated to the new URL format on migration. See Create an Oracle Object Storage Connection for more details.
- **Export and import artifacts between environments** - You can now move Data Transforms artifacts such as projects, connections, data loads, data flows, workflows, and schedules from one environment and import them into another. For detailed instructions, see Export and Import Objects.
- **Create and Use Variables** - You can now create variables and use them in the expressions and code within data flows and workflows. See Variables for more information.
- **Configure purging of jobs** - You can configure the purging of older jobs to reduce the load on the sessions table. The default purge interval is 30 days, which means that all jobs that are older than 30 days would be purged automatically. Note that only an ADMIN user (odiadmin) can configure the job purge interval. For more information, see Create and Manage Jobs.
- **OAuth support for Oracle NetSuite connections** – You can now use OAuth 2.0 authentication to connect to Oracle NetSuite data sources. To use this authentication mode you need to provide the User Name, Account ID, Role ID, Client ID, Public Certificate File, Private Key File, and Certificate ID to create the NetSuite connection. See Create an Oracle Netsuite Connection for detailed information.
- **Data Load support for Views** - In addition to tables, you can now load views that are created in the source servers. Views are stored as tables in the target server.

1.10 Oracle Data Transforms 2023.12.11.00

This release introduces the following new functionality:

- **Enhancements to Generic Rest Support** - You can now choose from two options to create a generic REST connector. The Application tab on the Create Connection page includes the following two connection types:
  - **Generic Rest** - Use this to connect to any REST service endpoint to import data entities into Data Transforms. This option is available for Data Transforms that is available as a separate listing on Marketplace, Data Transforms built into Autonomous Database, and Data Transforms built into OCI GoldenGate.
  - **Generic Rest Config** - Use this to use a config file that contains information such as the authentication methods, endpoints, and tables that you want to import data entities from. This option is available only for Data Transforms that is available as a separate listing on Marketplace.

  See Create a REST Server Connection for detailed information.
- **Supported Connection Type** - This release includes support for the SAP HANA application connection type.
  For the complete list of supported connection types, see Supported Connection Types.

1.11 Oracle Data Transforms 2023.08.21.00

This release introduces the following new functionality:

- **OCI GoldenGate Data Transforms** - You can now deploy and access Data Transforms from the OCI GoldenGate Deployments page. Note that Data Transforms in OCI GoldenGate Data Transforms is currently in Limited Availability and only available in specific regions.
- **Enhancements to Generic Rest Support** - To create a generic REST connector, you can now create and upload a config file that contains information such as the authentication methods, endpoints, and tables that you want to import data entities from. See Create a REST Server Connection for detailed information.
- **Support for Geocode Cloud Service** - The Data Flow Editor database function palette now includes a function that utilizes the Geocode Cloud Service. You can use this function as part of your flows. You can find this component as part of the Geocode tools within the Oracle Spatial and Graph database function. Note that this Geocode tool works only in an Autonomous Database environment. For the complete list of supported database functions, see Supported Database Functions.

1.12 Oracle Data Transforms 2023.06.28.00

This release introduces the following new functionality:

- **Data Load support for Databricks Delta Share** - When you create a Data Load, you now have the option to connect to a Delta Share server, select a share, and cache the tables from the share in an Oracle Autonomous Database. The dataload supports incremental loading and can be scheduled to run regularly to keep the cache up to date. To use a Delta Share sharing server to load data from Delta Lake servers to Oracle Autonomous Database see Create a Delta Share Connection for detailed instructions.
- **Delta Share compatibility with Oracle Data Share** - You can use the Delta Share connection to cache tables from Oracle Data Share to Oracle Autonomous Database. See Create a Delta Share Connection for more information.
- **Reserved Words support for Data Loads** - The Data Load Detail page now includes options that you can use to specify how you want to name the columns in the target tables. You can choose to retain the columns names as is from the source tables, convert column

names to uppercase and replace spaces and special characters with underscores, or add a prefix to column names that are reserved words. See Run a Data Load for more details.

- **Multiple Data Flows not supported** - From this release onwards a Data Flow can only have one execution flow. You cannot put multiple flows on a Data Flow and a flow cannot diverge into multiple flows. As a consequence of this, the **Split** component is no longer available for use.

1.13 Oracle Data Transforms 2023.04.21.00

This release introduces the following new functionality:

- **Provisioning Wizard Enhancements to Allow Searching using OCID** - You can now search for the Autonomous Database instance where the repository will be created by using the OCID of the compartment that contains the database instance. See Provision the Oracle Data Transforms Metadata Repository for more details.
- **Supported Connection Type** - This release includes support for the ServiceNow service connection type.
  For the complete list of supported connection types, see Supported Connection Types.
- **AutoREST Connector Configuration** – For connectors that use an autoREST driver that provides the model files along with the driver, Data Transforms samples all the API endpoints listed in the model file when it creates the connection to these datasources. See Work with Connections. When you import data entities from such source connections, Data Transforms retrieves the data from all API endpoints listed in the model file and lists them as separate entities in the Data Entities page.

1.14 Oracle Data Transforms 2023.03.20.00

This release introduces the following new functionality:

- **Redwood UI for Data Transform** - Oracle Data Transforms now supports the Oracle Redwood theme to make for a standardized user experience while using the application.
- **Supported Connection Type** - This release includes support for the Shopify application connection type.
  For the complete list of supported connection types, see Supported Connection Types.

1.15 Oracle Data Transforms 2023.02.22.00

This release introduces the following new functionality:

- **SQL and PLSQL step in Workflows** - The Workflow Editor now includes the SQL icon that allows you to add a SQL or PL/SQL step in the workflow. You can choose an Oracle connection in the step properties page and add the query that you want to run as part of the workflow. See Create a New Workflow for detailed instructions.

1.16 Oracle Data Transforms 2023.01.08.01

This release introduces the following new functionality:

- **Additional Connection Types** - The supported application connection types in this release are:
  - Google Ads

  - Magento
  - WooCommerce
  - Workday

  For the complete list of supported connection types, see Supported Connection Types.

1.17 Oracle Data Transforms 2022.11.16.00

This release introduces the following new functionality:

- **Additional Connection Types** - The supported connection types in this release are:
  - Ahrefs
  - Amazon Aurora
  - Amazon EMR Hive
  - Apache Hive
  - AWS S3
  - Azure Billing
  - Azure Compute
  - Azure Reserved VM Instances
  - Azure Resource Health
  - Azure SQL Database
  - Azure Synapse Analytics
  - Cloudera CDH Hive
  - Confluence Cloud
  - DataStax
  - DocuSign
  - EnterpriseDB
  - FinancialForce
  - FourSquare
  - Google AdSense
  - Google Calendar
  - Google Campaign Manager
  - Google Contacts
  - Google Drive
  - Google Search Ads 360
  - Hortonworks Hive
  - IBM BigInsights
  - IBM DB2 Hosted
  - IBM DB2 Warehouse
  - Klaviyo

  - Mailchimp
  - MapR Hive
  - Marketo
  - PayPal
  - Pivotal HD
  - Pivotal HDB
  - Qmetry
  - QuickBooks Online
  - QuickBooks Payments
  - Quora Ads
  - Sage
  - Salesforce Chatter
  - SAP BW/4HANA
  - SAP NetWeaver
  - Semrush
  - Snowflake
  - Square
  - Stripe
  - Tumblr
  - Twitter
  - Veeva CRM
  - Volusion
  - Wistia
  - WordPress
  - Yelp
  - Zoho CRM
  - Zoom

  For the complete list of supported connection types, see Supported Connection Types.

- **Incremental Merge and Incremental Append for Data Loads** – The Data Load Detail page now includes two options - Incremental Merge and Incremental Append - that you can use to load tables to the target schema. For more information, see Run a Data Load.
- **Inline View for Creating Data Entities** - The Create Data Entity page includes the Inline View data entity type option that you can use to run SELECT statement queries to create data entities. The page includes tabs where you can to add the query, view a read-only list of the columns that the query returns, and preview the column data. See Create Data Entities for more information.
- **Multiple Schema selection for Data Flows** - You can now add multiple schemas to import data entities that you want to use in a data flow.
- **Run Commands from OCI Console** - When the Oracle Data Transforms repository provisioning process completes, the Run command feature of the OCI Console includes

commands that you can run without having to login into the instance. See Use the OCI Console to run commands in the Data Transforms instance for more details.

- **Resetting the Schema Password** - The schema password expires every 180 days from the repository creation date or from the last password reset date. You need to reset the password in the Autonomous Database as well the local wallet. See Reset the Schema User Password for detailed instructions.

1.18 Oracle Data Transforms 2022.08.23.00

This release introduces the following new functionality:

- **Additional Connection Types** - The supported connection types in this release are:
  - 4HANA Cloud
  - Cloudera Impala
  - Microsoft SharePoint
  - SAP S

  For the complete list of supported connection types, see Supported Connection Types.
- **Remote Data Loads** - You can now connect to any Data Transforms instance and run data load jobs remotely. The left panel of the Workflow Details page now also includes two folders named Data Loads and Remote Data Loads. The Data Loads folder lists all the data loads that you have created in your local Data Transforms instance. The Remote Data folder lists all the data loads that you have created in the remote Data Transforms instance that you are connected to. See Create a Data Transforms Connection for Remote Data Load and Run a Data Load for more information.
- **Pre-built Workflows to Build Oracle Netsuite Data Warehouse** - For Oracle NetSuite connections, Data Transforms now includes the Build Data Warehouse wizard that you can use to choose the business areas that you want to include in the data warehouse you want to create in a target server. When the wizard finishes processing completely it installs pre-built dataflows and workflows that you can run to transfer data from the NetSuite connection to the target schema. See Create an Oracle Netsuite Connection for detailed information.
- **Generic Rest Support** - You can now connect to any REST service endpoint to import data entities into Data Transforms and use them in data flows. See Create a REST Server Connection for instructions on how to create a Rest Server connection.
- **DBMS Cloud Authentication Support for Oracle Object Storage Connections** - You can now use DBMS Cloud authentication to connect to your Oracle Object Storage connections. To use this connection mode you need to create the credentials in the repository as well as in the Autonomous Database that you created during instance creation. See Create an Oracle Object Storage Connection for more details.

1.19 Oracle Data Transforms 2022.07.20.00

This release introduces the following new functionality:

- **Additional Connection Types** - The supported connection types in this release are:
  - Aha!
  - GitHub
  - Jira

  - TeamCity

  For the complete list of supported connection types, see Supported Connection Types.

- **Provisioning Wizard Enhancements to Allow Custom Wallet Password** - When you select the Autonomous Database instance where the repository will be created, Data Transforms generates a one-time password required to download the wallet file. If you want to specify a custom wallet password that matches specific validation criteria you can now do that in the provisioning wizard.

1.20 Oracle Data Transforms 2022.06.22.00

This release introduces the following new functionality:

- **Additional Connection Types** - The supported connection types in this release are:
  - Apache Spark SQL
  - Azure Data Lake Storage
  - Greenplum
  - MySQL Heatwave

  For the complete list of supported connection types, see Supported Connection Types.
- **Compression option for incremental loads on Oracle** - The Incremental Update data integration mode now includes an **Auto compression** option. When this option is set to `True`, data flow jobs that use the Incremental Update mode to load data onto a compressed Oracle target partition will recompress the modified target partitions after the load completes successfully. Note that for table partitions that are not originally compressed, the compression is skipped irrespective of whether Auto compression is set to true.
- **Search and Filter Enhancements in the Data Load User Interface** - You can now filter the list of data entities displayed in the Data Load Detail page by specifying regular expression characters in the search keyword to refine the results. You can then select items from the filtered list and load them to the target schema. You can also sort the displayed list to view the selected and unselected items. See Run a Data Load.

1.21 Oracle Data Transforms 2022.05.19.00

This release introduces the following new functionality:

- **Support for Oracle Financials Cloud** – Data Transforms now includes support for fetching real time transactional data from Oracle Financials Cloud REST endpoints. You can import the resources that are associated with the specified REST endpoint and load it on to ADW. See Create an Oracle Financials Cloud Connection for more information.
- **Integration with Oracle Object Storage** – You can now connect to Oracle Object Storage from Data Transforms for uploading data onto Oracle Object Store and downloading data to ADW from Oracle Object Store. For more information about how to create an Oracle Object Store connection, see Create an Oracle Object Storage Connection.
- **Creation of Custom Connectors** – Apart from the built-in connectors that Data Transforms includes, this release onward you can create custom connectors that you can use to connect Data Transforms to any JDBC supported datasources. For more information see, Create Custom Connectors.
- **Supported Connection Type** – This release supports the Google Big Query database connection type.

For the latest list of supported connection types, see Supported Connection Types.

1.22 Oracle Data Transforms 2022.04.18.01

This release introduces the following new functionality:

- **Simulate Code for Data Flows** – The Data Flow Editor now includes the capability to display the simulated code of a data flow job execution. The displayed details are color coded in green and red so that you can easily differentiate between the code related to the source and target schema respectively. The feature is useful if you want to check the mappings in the data flow and the code that will run in the background to complete the data flow job.

1.23 Oracle Data Transforms 2022.03.03.00

This release introduces the following new functionality and enhancements:

- **Workflows Within Workflows** – You can now add other workflows to the design in the Workflow Editor.
- **Data Entities can contain Tags** – When creating or editing Data Entities, you can add Tags. Tags can be used to filter the Data Entities shown in the Data Entity Page.
- **Feature Group** – Data Entities can be marked as a "Feature Group" entity type. You can do this in the Advanced Options of the Data Entity creation or edit page.

1.24 Oracle Data Transforms 2022.01.30.00

This release introduces the following new functionality and enhancements:

- **Instance Provisioning Improvements** – Provisioning Data Transforms instance is now a two-step process. When you provision the instance from OCI Marketplace, you only need to provide details about the network and compute instance configuration. When you connect to the instance for the first time, you are prompted to provide additional information such as whether to create a new repository or use an existing one. This allows for more accurate validation on all user inputs. See Provision the Oracle Data Transforms Metadata Repository for more details.
- **Data Load now supports Oracle GoldenGate** – When you create a Data Load, you now have the option to choose an OCI GoldenGate service to load the data. In the Services section of the Connections page, you can configure the connection to OCI GoldenGate, which then shows up as an option in the Data Load page.
- **Data Flow Editor Enhancements** – The Data Entities panel in the Data Flow Editor is now enhanced to list only those schemas that are associated with the data flow.
- **User Management Enhancements** – This release onwards you can change the password of the SUPERVISOR user. For more information, see Change user password.
- **Unregister from ADP Utility** – This release includes the `UnregisterODI.sh` script that allows you unregister your Oracle Data Transforms instance from Autonomous Database. See Unregister the ODI Instance from Autonomous Database for more information.

1.25 Oracle Data Transforms 2021.12.24.00

This release includes bug fixes.

1.26 Oracle Data Transforms 2021.11.29.00

This release introduces the following new functionality and enhancements:

- **Automated Repository Upgrade** – If you have been using an earlier version of Data Integrator: Web Edition and are connecting to the latest Oracle Data Transforms instance, the repository upgrade happens automatically.
- **User Management Enhancements** – This release includes the addition of a new role called Oracle Data Integrator Admin (odiadmin) that allows the assigned user to change user passwords, delete users, and assign the role to other users. The SUPERVISOR user is assigned the role by default. For more information, see Users
- **Sleep Operation in Workflows** – The Workflow Details page now includes a sleep operator that allows you to define the duration of delay between the steps in the workflow.

1.27 Oracle Data Transforms 2021.10.08.01

This release includes bug fixes.

1.28 Oracle Data Transforms 2021.10.08.00

This release includes the following new functionality and enhancements:

- **User Management** – This release introduces the User Management page in the Administration tab of Oracle Data Transforms that allows you to add users and change user passwords. For more information, see Users.
- **Default Project Names** – This release includes an enhancement wherein a default project name is auto-populated in the Projects page based on the logged-in user. If the user is logged in as SUPERVISOR, the default project name is *Home*. For other users, the default project name is in the format *<username>_Home*. You can edit the default value.
- **Enhancements to the Schema selection feature** – The schema list would fail to populate for connections that have missing information such as user name or password not specified, wallet missing, and so on. This release includes an **Edit** option that opens the **Update Connection** page where you can fill in the missing details.
- **Embedded Job Status** – When you run a data load, data flow, or workflow Oracle Data Transforms runs jobs in the background to complete the request. You can see the status of the last job or the job that is currently running in the Status Panel of the Data Load Details, the Data Flow Editor, and the Workflow Editor page. For more information about the Status panel, see Monitor Status of Data Loads, Data Flows, and Workflows.
- **Supported Connection Types** - The supported application connection types in this release are:
  - BigCommerce (requires driver installation)
  - eBay (requires driver installation)
  - Google Ads (requires driver installation)
  - Google Analytics
  - HubSpot
  - Magento (requires driver installation)
  - Shopify (requires driver installation)

- WooCommerce (requires driver installation)
- Workday (requires driver installation)
- Xero (requires driver installation)
- Zendesk (requires driver installation)

The supported database connection types in this release are:

- Netezza (requires driver installation)
- PostgreSQL
- Teradata (requires driver installation)

For the latest list of supported connection types, see Supported Connection Types.

1.29 Oracle Data Transforms 2021.09.01.01

This release includes the following bug fix:

- **Authorizing Logins from the Database Actions page** - If you choose the **Register Oracle Data Transforms with The Autonomous Database Actions Page** option when creating a Data Transforms instance, you see the Data Transforms card on your Database Actions page. Login redirections to the Data Transforms instance from the Data Transforms card could result in test connection or import data entity failures. This has been fixed.

1.30 Oracle Data Transforms 2021.09.01.00 – Initial Release

This release includes the following new functionality and enhancements:

- **Simplified User Interface** – The Oracle Data Transforms Home page provides easy wizards to get you started. This is very handy for first time users who may not be very familiar with Oracle Data Integrator. The Load Data and Transform Data wizards take users through the prerequisites needed to create a data flow such as creating a connection, importing data entities, and creating and running a data load.
- **Data Loads** – A data load allows you to load multiple data entities from a source connection to a target connection. You can view details of the source schema, the data entities that are loaded from the source schema, and the details of the target schema. You can then choose the action that you want to apply on each data entity – recreate, truncate, append - and load tables in bulk to the target schema. For more information, see Create a Data Load.
- **Statistics of Data Entities** – You can preview detailed statistics of a data entity either from the list of data entities or from any data flow. The information you can see includes the total number of rows and columns in the database table, and two types of thumbnail representations – bar chart and table. You can click the thumbnail to drill down to view detailed statistics of each column. To know more, see View Statistics of Data Entities.
- **Data Flow Attributes** – The data flow diagram now has better grouping of attributes.
- **Supported Connection Types** - The connection types that Data Transforms supports are categorized as **Applications** and **Databases**.
  The supported application connection types in this release are:
  - Amazon Redshift
  - Cassandra
  - Hypersonic SQL

  - IBM DB2 UDB
  - IBM DB2/400
  - Informix
  - Microsoft SQL Server
  - Mongo DB
  - Oracle
  - MySQL
  - Sybase As Anywhere
  - Sybase as Enterprise
  - Sybase AS IQ

  The supported database connection types in this release are:

  - Oracle Analytics Cloud
  - Oracle BI Cloud Connector
  - Oracle EBS
  - Oracle ERP Cloud
  - Oracle Fusion ERP
  - Oracle Fusion Sales
  - Oracle Fusion Service
  - Oracle Marketing Cloud
  - Oracle NetSuite
  - Oracle People Soft
  - Oracle Sales Cloud
  - Oracle Service Cloud
  - Oracle SIEBEL
  - Salesforce.com

  For the latest list of supported connection types, see Supported Connection Types.

- **Database Functions** – The Data Flow Editor supports the use of the following database functions:
  - **Data Transform**: Aggregate, Expression, Filter, Join, Distinct, Lookup, Set, Sort, Split, Subquery Filter, and Table Function.
  - **Data Preparation**: Data Cleanse (with Imputation), Substitution, Equi-Width Binning, Quantile Binning, Lead, Lag, and Replace.
  - **Machine Learning**: Prediction and Outlier Detection.
  - **Text**: Regexp Count, Regexp Instr, Regexp Substr, Regexp Replace, Edit Distance Similarity, and Contains.
  - **Oracle Spatial and Graph**: Buffer Dim, Bunner Tol, Distance Dim, Distance Tol, Nearest, Simplify, Point, Geocode As Geometry, Geocode, Geocode Add, Geocode All, Geocode Addr All, Reverse Geocode, and Spatial Join.
- **Enhanced Oracle Data Integrator Knowledge Modules** – Oracle Data Integrator Knowledge Modules are optimized so that users can use MEDIUM and HIGH connections

to Autonomous Database. This enhancement improves the performance of E-LT-Style data integration executed in Autonomous Database.

1.31 Oracle Data Transforms 2026.03.23.00

This release introduces the following new functionality:

- **OCI Vault Integration for Connections** - Data Transforms integrates with OCI Vault to allow the use of vault secret credentials to authenticate connections. See Use OCI Vault Secret Credentials for Connections.
- **Image Vector Embeddings in Data Flows** - You can now add image vector embeddings in a data flow using the Oracle Cloud Infrastructure (OCI) Generative AI service. In the Data Flow Editor, use the **Image Embedding Vector** operator within the *Machine Learning* database function to convert input images to vector embeddings. Data Transforms uses images in the BLOB data type as input from source to generate the embeddings. Note that you need to have an Oracle Autonomous Database 23ai connection to use this feature. For more information, see Use Embedding Vectors in a Data Flow.
- **Capture Auditing Information for Data Loads** - The Settings button on the Data Load Detail page now includes options that you can use to add auditing data columns when you run a data load. When the data load runs these auditing columns are added into the target table and populated with the relevant information. See Run a Data Load for more details.
- **Collect and Publish Statistics for Iceberg tables** - Iceberg tables may be populated through multiple engines. Data Transforms allows you to collect and publish statistics for Iceberg tables so that query optimizers can determine execution plan for a given query to get better performance. The Workflow editor includes the **Iceberg Stats** step that lets you do this. You can use the step independently or add an Iceberg data load to the work flow, and then add **Iceberg Stats** as a step to collect table and column statistics and publish them to an external table. See *Collect and Publish Iceberg Table Statistics to External Tables* in Create an Apache Iceberg Connection.
- **Enhancements to the Job Details page** - The steps that are displayed on the Job Details page are now categorized in different nodes for ease of reference. These include Admin Jobs, Execution Sets, and Tables. See Create and Manage Jobs for more information about the Job Details page.
- **Load Data to Apache Iceberg tables using Snowflake Open Catalog** – You can use Snowflake Data Catalog when you create an Apache Iceberg connection to load data. To create the connection you need an existing REST catalog setup that is based on Apache Polaris (incubating). You can use AWS S3 storage services for storing data into Apache Iceberg as target tables. See Create an Apache Iceberg Connection for detailed instructions.
- **Oracle AI Data Catalog integration for Apache Iceberg connections** – You can create Apache Iceberg connections using **Oracle AI Data Catalog** as the catalog provider. To create the connection you need to provide the catalog service URL and the authentication credentials to connect to the service. Once authenticated, Data Transforms establishes secure connectivity to the Iceberg catalog and gives you access to governed Iceberg namespaces and tables that you can load data to. See Create an Apache Iceberg Connection for detailed instructions.
- **Support for Apache Iceberg Parquet File Clustering and Compaction** - Apache Iceberg stores every change in data as a new parquet file. Depending on the amount of change made to the data these can accumulate over time and cause storage overheads and decreased query performance. Data Transforms supports the Iceberg clustering and compaction features to mitigate increased storage costs and optimize query performance. You can add an Iceberg data load to the work flow, and then add **Iceberg Clustering and**

Compaction as a step. You can then schedule the workflow to run the data load and then execute clustering and compaction on the loaded data. See *Parquet File Clustering and Compaction* in Create an Apache Iceberg Connection.

- **Load Data into Oracle Fusion Incentive Compensation tables** - Oracle Data Transforms enables ingestion of Oracle Fusion Incentive Compensation data from CSV files stored in Oracle Object Storage into Oracle Fusion Incentive Compensation tables. The **Oracle Fusion Import** step in the Workflow allows you to load CSV files from Object Storage to Oracle Fusion Incentive Compensation tables. See Create and use an Oracle Fusion Incentive Compensation Connection.
- **Load Data into Oracle Fusion Subscription Management tables** - You can use Oracle Data Transforms to stage and load subscription-related data from CSV files stored in Object Storage into the Oracle Fusion Subscription Management application tables. The **Oracle Fusion Import** step in the Workflow allows you to load CSV files from Object Storage to Oracle Fusion Subscription Management tables. See Create and use an Oracle Fusion Subscription Management Connection.
- **Additional Connection Types** - The supported application connection types in this release are:
  - MariaDB
  - Sage Intacct

  For the complete list of supported connection types, see Supported Connection Types.

2

Known Issues and Workarounds

Use this information to understand the known issues and workarounds for Oracle Data Transforms.

This chapter contains the following section:

2.1 Cannot stop a job if navigating from the Data Load Detail page

If you navigate to the **Job Details** page from the **Data Load Detail** page and try to stop the job, Data Transforms shows the name of the data load as 'null' and the stop operation fails.

The workaround for this issue is to navigate to the **Jobs** page, select the data load job, and stop it from the **Job Details** page.

2.2 Connection to an existing repository fails due to missing wallet missing information

Data Transforms uses the information from wallets that are downloaded from the database instance to create a connection to that instance.

If you have provisioned a new Oracle Data Transforms instance and are connecting to an existing repository that is based on Data Transforms 2021.12.24.00 or earlier versions, the connection fails due to missing wallet information.

The workaround for this issue is to upload the wallet manually. Follow these steps:

- Download the wallet from the instance that you want to connect to.
- Login to the Data Transforms interface.
- From the left pane of the Home page, click the **Connections** tab.
- Click the Actions icon (⋮) next to the connection and select **Edit**.
- In the Update Connection page, browse to select the wallet file.
- Select the service.
- Enter the username and password.
- Click **Update** to apply the changes.

From the Actions menu next to the updated connection, select **Test Connection** to check whether the connection is successful.

2.3 Connecting to an existing repository from an older Data Transforms instance fails

If you have provisioned an older Oracle Data Transforms instance, and are connecting to an existing repository that is based on a later version of Oracle Data Transforms the connection fails due to auth token expiry.

To avoid this issue Oracle recommends that you connect to a repository that is based on Data Transforms 2022.11.16.00 or later versions.

2.4 Connection to Data Transforms repository fails if the database is renamed

This issue applies to Data Transforms that is available as a separate listing on Marketplace called Data Integrator: Web Edition.

If you rename the database where the repository is located, Data Transforms fails to connect to such repositories. This is because the environment becomes unusable. The workaround to this issue is to reconfigure the environment using the new database name.

Follow these steps:

1. Remove the wallet files.
   a. Login to the compute instance running Oracle Data Transforms as Oracle user.
   b. Delete the `cwallet.sso` and `cwallet.sso.lck` files from the `/u01/oracle/transforms_home/common/scripts/` directory.
2. Reprovision the Data Transforms instance.
   a. Access Data Transforms via a browser using the URL format `http://<public-ip address>:9999/oracle-data-transforms`.
   b. On the Administration tab, select the **Connect to an existing Repository in an Autonomous Database** option.
   c. In the Autonomous Database Details page, either enter the OCID or browse to select the database where the repository resides.
   d. Provide the password credentials of the administrator user of the Autonomous Database.
   e. To configure the Schema details, use the details you specified during repository creation.

Refer to Provision the Oracle Data Transforms Metadata Repository for more detailed instructions.