Oracle® Fusion Middleware

Release Notes for Oracle GoldenGate for Big Data

19c (19.1.0.0)

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Oracle Fusion Middleware Release Notes for Oracle GoldenGate for Big Data, 19c (19.1.0.0)

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Preface

Oracle GoldenGate for Big Data 19*c* streams transactional data into Big Data systems in real time, raising the quality and timeliness of business insights. This document contains the release notes for the 19*c* (19.1.0.0.6) release of Oracle GoldenGate for Big Data.

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`.

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Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, such as "From the File menu, select **Save**." Boldface also is used for terms defined in text or in the glossary.
italic *italic*	Italic type indicates placeholder variables for which you supply particular values, such as in the parameter statement: `TABLE` *table_name*. Italic type also is used for book titles and emphasis.
`monospace` `MONOSPACE`	Monospace type indicates code components such as user exits and scripts; the names of files and database objects; URL paths; and input and output text that appears on the screen. Uppercase monospace type is generally used to represent the names of Oracle GoldenGate parameters, commands, and user-configurable functions, as well as SQL commands and keywords.
UPPERCASE	Uppercase in the regular text font indicates the name of a utility unless the name is intended to be a specific case.
`{}`	Braces within syntax enclose a set of options that are separated by pipe symbols, one of which must be selected, for example: {*option1*	*option2*	*option3*}.
`[]`	Brackets within syntax indicate an optional element. For example in this syntax, the `SAVE` clause is optional: `CLEANUP REPLICAT` *group_name* [, `SAVE` *count*]. Multiple options within an optional element are separated by a pipe symbol, for example: [*option1*	*option2*].

Related Information

- The Oracle GoldenGate Product Documentation Libraries are found at:https://docs.oracle.com/en/middleware/goldengate/index.html

- Additional Oracle GoldenGate information, including best practices, articles, and solutions, is found at:Oracle GoldenGate A-Team Chronicles

- **Oracle GoldenGate Classic for Big Data** in Using Oracle GoldenGate on Oracle Cloud Marketplace

1

Introduction

This chapter introduces the Release Notes for Oracle GoldenGate for Big Data19*c* (19.1.0.0.0).

1.1 Latest Release Information

This document is accurate at the time of publication. Oracle will update the release notes periodically after the software release. You can access the latest information and additions to these release notes on the Oracle Technology Network at:

http://www.oracle.com/technetwork/indexes/documentation/index.html

1.2 Purpose of this Document

This document contains the release information for Oracle Fusion Middleware Release for Oracle GoldenGate for Big Data.

Oracle recommends you review its contents before installing, or working with the product.

1.3 System Requirements and Specifications

Oracle GoldenGate follows the Fusion Middleware system requirements and certifications for production environments. For more information, see http://www.oracle.com/technetwork/middleware/ias/downloads/fusion-certification-100350.html.

1.4 Bugs Fixed and Enhancements

This chapter describes the bugs fixed and enhancements at the time of release.

The Bug number is the number of the BugDB ticket. For questions on specific tickets or issues, consult Oracle Support.

1.5 Product Documentation

For complete documentation on Oracle GoldenGate, go to https://docs.oracle.com/en/middleware/goldengate/index.html.

1.6 Oracle Support

Oracle customers that have purchased support have access to electronic support through My Oracle Support at https://support.oracle.com

1.7 Licensing Information

Licensing information for Oracle Fusion Middleware is available at:

https://shop.oracle.com

Detailed information regarding license compliance for Oracle Fusion Middleware is available at:

Licensing Information User Manual.

1.8 Downloading and Applying Required Patches

Downloading Patches

Go to My Oracle Support to download the latest software patches.

https://support.oracle.com

See the `README` file in the patch distribution for up-to-date information on the software fixes provided by the patch.

To download and install the latest software patch:

1. Login to My Oracle Support.

2. Click the **Patches & Updates** tab.

3. Under the Patch Search tab, select **Product or Family (Advanced Search)**, and select the **Include all patches in a product family** check box.

4. Enter **Oracle GoldenGate** as the product, select the platform and release, and click **Search**.

The list of currently available patches for Oracle GoldenGate is returned.

For SQL Server CDC Extract you may need these software patches:

- For SQL Server 2012, 2014, and 2016, Microsoft has identified and fixed an issue where some `UPDATE` operations may be written incorrectly to a CDC staging table as an `INSERT` followed by a `DELETE`, rather than a `DELETE/INSERT` pair. This may cause downstream replication issues, such as a primary key violation, therefore Oracle recommends that you apply the Microsoft fix for this issue: https://support.microsoft.com/en-us/help/3030352.

- For SQL Server 2016, prior to enabling supplemental logging, ensure that you have patched the SQL Server instance based on the following bug fix from Microsoft: https://support.microsoft.com/en-us/help/3166120/fix-could-not-find-stored-procedure-sys.sp-cdc-parse-captured-column-list-error-in-sql-server-2016 If the instance is not correctly patched with the Microsoft fix, issuing `ADD TRANDATA` against a table for the database may incorrectly report that supplemental logging succeeded when it may not have; therefore no records are captured for that table.

Applying this Patch

You must follow the existing upgrade procedures to overlay the old binaries with the new binaries. In addition, you must rerun `ADD TRANDATA` for each table that is already enabled for `TRANDATA` using these steps:

1. Stop all Oracle GoldenGate processes

2. Follow normal upgrade procedures for binary replacement though do not start any Oracle GoldenGate processes, see Upgrading Oracle GoldenGate for Heterogeneous Databases *Using Oracle GoldenGate for Heterogeneous Databases*.

3. Manually stop the SQL Server CDC Capture job for the database. If the job is processing a large transaction, it may take some time before it actually stops.

4. Ensure that the Extract is stopped.

5. Using GGSCI, run `ADD TRANDATA` again for every table hat you previously enabled it for.

> **Important:**
>
> Do *not* run the `DELETE TRANDATA` command.

6. Manually restart the SQL Server CDC Capture job.

7. Manually restart the Oracle GoldenGate processes (Extract, Replicat, MGR, and so on.)

1.9 Upgrade

For more information about how to upgrade to Oracle GoldenGate for BigData, see 19*c* (19.1.0.0.x) and both are described in *Installing and Upgrading Oracle GoldenGate for Big Data*.

2

What's New in this Release

This chapter describes the features, enhancements, and changes made to Oracle GoldenGate. Oracle updates the release notes periodically after the software release. This document is accurate at the time of publication.

2.1 19.1.0.0.8 Release — April 2021

Support has been added to mutate permissions to the S3 object ACL using S3 Canned Access Control list

For more information, see Configuring the S3 Event Handler in the *Oracle GoldenGate for Big Data User Guide*.

Support has been added to trim the parameter contents of the `${columnValue[]}` parameters so that whitespace is supported. For more information, see Using Templates to Resolve the Topic Name and Message Key in the *Oracle GoldenGate for Big Data User Guide*.

Metacolumn support for seqno and rba

The following Metacolumn keywords have been added to resolve the trail file sequence number and rba respectively: `${seqno}` and `${rba}`. For more information, see Setting Metacolumn Output in the *Oracle GoldenGate for Big Data User Guide*.

Cassandra database password in Oracle Wallet is now secure

Support has been provided to store the Cassandra database password inside the Oracle Wallet.

2.2 19.1.0.0.7 Release — November 2020

Support has been added for all the available COPY SQL S3 authorization.

The Redshift Event Handler has been enhanced to support all the available COPY SQL S3 authorization mechanisms. For more information, see Redshift COPY SQL Authorization in *Using Oracle GoldenGate for Big Data*.

Schema Mapping for BigQuery Handler has been updated.

The table schema name specified in the replicat map statement has been mapped to the BigQuery dataset name. For more information, see Schema Mapping for BigQuery in *Using Oracle GoldenGate for Big Data*.

The template mapper functionality has been enhanced with a new keyword.

The template mapper functionality has been enhanced with a new keyword to resolve token values - `${token[]}`. For more information, see Using Templates to Resolve the Stream Name and Partition Name in *Using Oracle GoldenGate for Big Data*.

The Kafka Connect Handler has been updated to include an ability to control the namespace on generated schemas.

Added the configuration property `gg.handler.name.schemaNamespace` allowing the user better control of generated schema naming. For more information, see Kafka Connect Handler Configuration (Table Kafka Connect Handler Configuration Properties) in *Using Oracle GoldenGate for Big Data*.

2.3 19.1.0.0.6 Release — September 2020

The S3 Event Handler has implemented the ability to change AWS roles when STS is enabled.

The `gg.eventhandler.name.STSAssumeRole` and `gg.eventhandler.name.STSAssumeRoleSessionName` parameters have been added to the S3 Event Handler. For more information, see S3 Handler Configuration in *Using Oracle GoldenGate for Big Data*.

2.4 19.1.0.0.5 Release — August 2020

Oracle GoldenGate for Big Data now supports Autonomous Datawarehouse (ADW) Handler

- **Support has been added for compressed updates in the trail.**

- **XMLTYPE support added to Autonomous Data Warehouse (ADW) Event Handler**
  An XML cast function has been introduced in the merge SQL to convert the CLOB value in the staging table to XMLTYPE.

- **ADW: Support LOB updates**
  If the GoldenGate trail is generated by Oracle Integrated capture, then for the UPDATE operations on the source LOB column, only the changed portion of the LOB is written to the trail file.

For more information, see Using the Autonomous Data Warehouse Event Handler in the *Using Oracle GoldenGate for Big Data*.

Enhancement to HDFS Event Logger

If the log level is set to DEBUG, then the HDFS configuration properties will be logged.

Support has been added for Elasticsearch High Level REST client

For more information, see Elasticsearch High Level REST Client Dependancies in the Using Oracle GoldenGate for Big Data.

For more information, see Using the Autonomous Data Warehouse Event Handler in *Using Oracle GoldenGate for Big Data*.

Kafka and Kafka Connect support for headers have been added.

For more information, see Using the Kafka Handler and Using the Kafka Connect Handler in *Using Oracle GoldenGate for Big Data*.

Enhancement to Metacolumns functionality

The following two metacolumns have been added to the pluggable formatters: `${primarykeycolumns}` and `${currenttimestampiso8601}`. For more information, see Using the Pluggable Formatters in *Using Oracle GoldenGate for Big Data*.

Oracle GoldenGate for Big Data Certification

For more information, see Oracle Fusion Middleware Supported System Configurations.

2.5 19.1.0.0.4 Release — May 2020

Addition of Missing Parameters

The following new parameters were added in Oracle GoldenGate BigData: `TRIMSPACES`, `TRIMVARSPACES`, `SPACESTONULL`.

Support for capturing the single record message containing binary data.

Support was added to enable capturing of single record messages containing binary data.

2.6 19.1.0.0.3 Release — March 2020

Addition of a New Configuration Property on the Parquet Event Handler

A new property `gg.eventhandler.name.writerVersion` has been added on the Parquet Event Handler to support the explicit selection of the Parquet writer version. For more information, see Parquet Handler Configuration.

OCI Java SDK Upgraded to Support Newer Regions

The version of the OCI Java SDK has been moved up in order to support newer regions. If the OCI Event Handler is used, then you must use version 1.5.4 or higher of the OCI Java SDK.

2.7 19.1.0.0.1 Release — October 2019

The following new features were introduced in this release:

Redshift Event Handler is Introduced.
Support was added for the Redshift Event Handler.
For more information about using up the Redshift Event Handler, see Using the RedShift Event Handler in *Using the Oracle GoldenGate for Big Data*.

Addition of a New S3 Event Handler Configuration
A new S3 Event Handler configuration was added to allow users to disable S3 bucket administration, for example, create bucket. Bucket administration requires S3 administrative privileges that some customers may be unwilling to grant to the Oracle GoldenGate for Big Data replicat process. This feature allows users to turn off the bucket administration, thereby the only privilege required is for data file uploading to S3. For more information, see `gg.eventhandler.name.enableBucketAdmin` in S3 Handler Configuration in *Using the Oracle GoldenGate for Big Data*..

JMS Capture to Support Parsing Multiple Precisions of Timestamp Data
Support is provided to parse multiple precisions of timestamp data in the JMS capture.

Kafka Connect Handler to Support Avro Logical Types
The Kafka Interceptor support was added to the Kafka Connect Handler. For more information, see Kafka Interceptor for Kafka Connect Handler.

Support added to Debug Logging in Kafka Handler
Support is added to the Kafka Handler and the Kafka Connect handler to log the Kafka topic, partition, and offset of successfully published Kafka messages when the DEBUG logging is enabled.

2.8 19.1.0.0.0 Release — August 2019

The following new features were introduced in this release:

HBase Handler now supports HBase 2.x
Support was added for HBase 2.x. For more information about enabling the HBase 2.x connectivity, see Using the HBase Handler in *Using the Oracle GoldenGate for Big Data*.

Elasticsearch Handler now supports Elasticsearch 7.x
Support was added for Elasticsearch 7.x using the Elasticsearch Transport Client. For more information about enabling the Elasticsearch Handler connectivity, see Using the Elasticsearch Handler in *Using the Oracle GoldenGate for Big Data*.

Command Event Handler is introduced
The Java File Writer Handler writes data files locally and then uses Event Handlers to perform post processing on staged files. The Command Event Handler is introduced to allow users to execute external scripts to perform actions on staged files.
For more information about setting up the Command Event Handler, see Using the Command Event Handler in *Using the Oracle GoldenGate for Big Data*.

Delimited Text Formatter added functionality to optionally write both before and after image data.
The Delimited Text Formatter added functionality to optionally write both before and after image data. For more information about enabling the Delimited Text Formatter, see Delimited Text Formatter in *Using the Oracle GoldenGate for Big Data* .

MongoDB Handler optionally supports transactions
Support was added in the MongoDB Handler for transactions. MongoDB added transactional support in MongoDB 4.0. For more information about enabling these transactions, see Using the MongoDB Handler in *Using the Oracle GoldenGate for Big Data*.

Support for Microsoft Azure Data Lake Gen 2
Support was added for Microsoft Azure Data Lake Gen 2 Handler transactions. For more information, see Connecting to Microsoft Azure Data Lake 2 in *Using the Oracle GoldenGate for Big Data*.

Replicat support for handling the mapping of GG_HEARTBEAT records
Replicat was changed to handle the mapping of heartbeat tables by automatically creating the target table definition. For more information, see Automatic Heartbeat Overview in *Administering Oracle GoldenGate for Big Data*.

2.9 Deprecated Items

This following features were deprecated in the 19.1.0.0 release:

- Flume support has been removed: The Flume Handler has been removed from Oracle GoldenGate for Big Data.

- HBase 0.98.x and earlier support has been removed: The HBase Handler has removed support for HBase 0.98.x and earlier HBase versions. The HBase Handler now only supports HBase 1.x and HBase 2.x.

3

Known Issues

This section describes the known issues, with any available workarounds, identified in each release. The Bug *number* is the number of the BugDB ticket. For questions on specific tickets or issues, consult Oracle Support.

3.1 Release 19.1.0.0.5 — August 2020

Bug 31728442 - Coordinated Apply Replicat feature

The Coordinated Apply Replicat feature is currently not supported in the Autonomous Datawarehouse (ADW) delivery.

3.2 Initial Release 19.1.0.0.0 — August 2019

Bug 29761322 - Oracle: Multibyte CLOB encoding is incorrect when Extract writes 12.2 trail format after software upgrade to 18.1 or later.

When the Extract writes a multibyte CLOB data to the trail in the same format as the existing trail file format, the Extract writes MBCS CLOB data in an incorrect encoding. This happens in either of the following cases: when the trail file format is 12.2 or older, or the `FORMAT RELEASE` used to specify a format is older than 12.2.

Workaround: Perform an explicit `ETROLLOVER` after the software upgrade if the current trail file format is 12.2 and there are multibyte CLOBs.

4
Bugs Fixed and Enhancements

This chapter describes the bugs fixed and enhancements at the time of release.

The Bug number is the number of the BugDB ticket. For questions on specific tickets or issues, consult Oracle Support.

4.1 Release 19.1.0.0.15 — June 2023

Bug 32862043 - Extract is abending with "OGG-25119 Failed to create missing sub-directories"

This issue has been fixed.

4.2 Release 19.1.0.0.14 — June 2022

Bug 34014027 - File Writer Handler may encounter java.lang.IllegalArgumentException: Cannot set target checkpoint to null or GGTranID.UNSET exception when Java operation filtering is enabled.

This issue has been fixed.

Bug 33847292 - DDL changes/Table metadata changes lead to issue in Stage and Merge processing

This issue has been fixed.

Bug 33734218 - BigQuery Handler may propagate large number in scientific notation format when a source numeric field is mapped to a string field in BigQuery.

This issue has been fixed. Change was made to convert numbers from scientific notation to standard form.

4.3 Release 19.1.0.0.13 — January 2022

Upgrade of log4j 2.17.1 to address Security Vulnerability

The following security vulnerability has been fixed: **CVE-2021-44832**

Oracle recommends that you upgrade to this patch to include these security fixes.

Bug 33270938 - Generic: Rollback should not happen when disabling GROUPTRANSOPS

This issue has been fixed.

4.4 Release 19.1.0.0.12 — January 2022

Upgrade of log4j to address Security Vulnerability

The following security vulnerabilities have been fixed: **CVE-2021-45046** and **CVE-2021-44228**.

Oracle recommends that you upgrade to this patch to include these security fixes.

After you have applied the patch, do the following:

- Manually remove the older version of log4j related jar files from `ggjava/resources/lib/optional`.

- In the `.properties` file of the replicat or extract groups, add the following:
  ```
  gg.log.classpath=ggjava/resources/lib/optional/log4j-
  api-2.16.0.jar:ggjava/res ources/lib/optional/log4j-
  core-2.16.0.jar:ggjava/resources/lib/optional/log4j-slf4j-
  impl-2.16.0.jar
  ```

4.5 Release 19.1.0.0.10 — November 2021

Bug 33471061 - Azure storage account key for authentication into ADLS

This issue has been fixed.

Bug 33392133 - The replicat suddenly crashes, and upon restart, a duplicate parquet file gets created.

This issue has been fixed.

Bug 33328546 - Avro Formatter added configuration to allow special handling of Oracle Number source types as string.

This issue has been fixed.

Bug 33322992 - File Writer Handler failing to delete data files on Windows due to process based file locking.

This issue has been fixed. File Writer Handler now implements retries on file delete operations.

Bug 32880283 - Oracle GoldenGate for Big Data replicate creating Parquet files hangs and generate dump files .

This issue has been fixed.

Bug 33298943 - Azure Data Lake File exists error

This issue has been fixed. Parquet Event Handler change to overwrite target files if file already exists.

4.6 Release 19.1.0.0.9 — August 2021

Enh 32804778 - Added metacolumn keyword to provide indication that the metadata for associated table has changed.

This issue has been fixed. The metacolumn `${metadatachanged}` has been added. This metacolumn has a boolean value and when `true`, it indicates that the metadata of the table has changed as of the current record.

Enh 33053571 - Replication to tables on multiple target schemas is now supported.

Bug 33007616 - Initial Load From Cassandra Crash For Out Of Memory

This issue has been fixed.

Bug 32792682 - CassandraCommitLogDirectoryReader - Exception while reading commitlogs .

This issue has been fixed.

Bug 32830352 - Upgraded Apache Commons IO 2.8.0.

This is a Security fix for CVE-2021-29425.

4.7 Release 19.1.0.0.8 — April 2021

Enh 32455419 - Oracle GoldenGate for Big Data: S3 Event handler: Support Canned Access Control List

Support has been added to mutate permissions to the S3 object ACL using S3 Canned Access Control list. For more information, see Configuring the S3 Event Handler in the *Oracle GoldenGate for Big Data User Guide*.

Bug 32639595 - Avro and Kafka Connect - Error in timestamp logical types when source field is a date or time.

Timestamps sources can propagate as timestamp logical types. Dates and times cannot. This issue is fixed.

Bug 32609848 - Velocity template generates duplicate messages in the File Writer Handler when mode is tx.

This issue has been fixed.

Bug 32492392 - Failing to parse Timestamps from trail.

The issue with parsing timestamp column data from MySQL, PostreSQL, and DB2 sources has been fixed.

Bug 32322155 - GoldenGate Big Data JMS extract abends if decimal number starts with the decimal point.

This issue has been fixed.

Bug 32217448 - Adding trim to columnValue template

This issue has been fixed by adding a functionality to trim the parameter contents of the `${columnValue[]}` parameters so that whitespace is supported. For more information, see Using Templates to Resolve the Topic Name and Message Key in the *Oracle GoldenGate for Big Data User Guide*.

Enh 32200821 - Metacolumn support for seqno and rba

This issue has been fixed. The following Metacolumn keywords have been added to resolve the trail file sequence number and rba respectively: `${seqno}` and `${rba}`. For more information, see Setting Metacolumn Output in the *Oracle GoldenGate for Big Data User Guide*.

Bug 32203093 - Secure database password in Oracle Wallet

Cassandra Capture added support to store the password for the Cassandra database in Oracle Wallet.

Bug 32619663 - Kafka Connect Handler to set the namespace and unique name generated row schemas for op formatted messages

Kafka Connect Handler to set the namespace and unique name generated row schemas for op formatted messages. To enable this functionality, the configuration property `gg.handler.name.schemaNamespace` must be set.

Bug 32430128: Upgrade Jackson Databind library to 2.12.1

The following security bug was fixed:

Enh 32203093: Secure database password inside Oracle Wallet

This issue has been fixed.

- **CVE-2020-25649**

4.8 Release 19.1.0.0.7 — November 2020

Enh 31953602 - Kafka Connect Handler add ability to control the namespace on generated schemas.

Added the configuration property `gg.handler.name.schemaNamespace` allowing the user better control of generated schema naming. For more information, see Kafka Connect Handler Configuration (Table Kafka Connect Handler Configuration Properties) in *Using Oracle GoldenGate for Big Data*.

Enh 31936725 - Stage and Merge: Redshift: COPY SQL Authorization enhancement

The Redshift Event Handler has been enhanced to support all the available COPY SQL S3 authorization mechanisms. For more information, see Redshift COPY SQL Authorization in *Using Oracle GoldenGate for Big Data*.

Enh 31721551 - Token output in the template mapper

The template mapper functionality has been enhanced with a new keyword to resolve token values - `${token[]}`. For more information, see Using Templates to Resolve the Stream Name and Partition Name in *Using Oracle GoldenGate for Big Data*.

Bug 31960873 - Operation Delimited Text Formatter - Injecting 2 line delimiters after truncate operations

This issue has been fixed. The extra line delimiter after truncate operations has been removed.

Bug 31936543 - BigQuery handler : Dataset to be derived from table schema name

The table schema name specified in the replicat map statement has been mapped to the BigQuery dataset name. For more information, see Automated Table Creation in *Using Oracle GoldenGate for Big Data*.

Bug 32015766 - MongoDb target connection fails with 'Command failed with error 18 (AuthenticationFailed)'

This issue has been fixed.

Bug 31922247 - Kafka formatted message contains incorrect before image portion of the record

This issue has been fixed.

4.9 Release 19.1.0.0.6 — September 2020

Bug 31839295 - The Avro Formatter formatOp operation failed. java.lang.ArithmeticException: Rounding necessary .

This issue has been fixed. The Avro Formatter has implement rounding when the scale setting requires rounding on Avro decimal logical types.

Enh 31814794 - The S3 Event Handler has implemented the ability to change AWS roles when STS is enabled.

This issue has been fixed. See S3 Handler Configuration in *Using Oracle GoldenGate for Big Data*.

Bug 31786482 - OCI Bucket Creation

This issue has been fixed by changing the bucket creation by the OCI automated bucket creation feature from a public to private access.

4.10 Release 19.1.0.0.5 — August 2020

Bug 31526594 - ADW handler is abending with java.lang.ClassNotFoundException: oracle.jdbc.driver.OracleDriver

This issue has been fixed.

Bug 31524648 - ADW handler abending with ORA-00001: unique constraint error while processing UPSERT

This issue has been fixed.

Bug 31471259 - Remove flume example from AdapterExamples

This issue has been fixed. The `flume` example has been removed from the `AdapterExamples` folder.

Bug 31409651 - Oracle GoldenGate for Big Data Replicat Publish Messages to all Destination rather Defined Destination.

This issue has been fixed.

Enh 31404378 - OGGBD: Stage and Merge: ADW: Support compressed updates in the trail

Support has been added for compressed updates in the trail. For more information, see Troubleshooting and Diagnostics in the *Using Oracle GoldenGate for Big Data*.

Enh 31404362 - OGGBD: Stage and Merge: ADW: XMLTYPE support

An XML cast function has been introduced in the merge SQL to convert the CLOB value in the staging table to XMLTYPE.

Bug 31302830 - NO-OP updates applied even NOAPPLYNOOPUPDATES parameter

This issue has been fixed.

Enh 31316766 - HDFS Event Handler - Log HDFS configuration properites at debug level.

If the log level is set to DEBUG, then the HDFS configuration properties will be logged.

Enh 31202078 - Command Event Handler - Fail at initialization if script does not exist at configured location

This issue has been fixed.

Enh 29722965 - Elasticsearch Handler - Migrate from Transport APIs to High Level Rest Synchronous APIs

Support has been added for Elasticsearch High Level REST client. For more information, see Elasticsearch High Level REST Client Dependancies in the *Using Oracle GoldenGate for Big Data*.

Enh 30121870 - Stage and Merge support applying to ADW

This issue has been fixed by applying the Stage and Merge support to ADW.

Enh 31182988 - ADW: Support LOB updates

If the GoldenGate trail is generated by Oracle Integrated capture, then for the UPDATE operations on the source LOB column, only the changed portion of the LOB is written to the trail file. For more information, see Using the Autonomous Data Warehouse Event Handler in *Using Oracle GoldenGate for Big Data*.

Enh 27444427 - Kafka Handler - Add support for Kafka Headers

Kafka and Kafka connect support for headers have been added. For more information, see Using the Kafka Handler and Using the Kafka Connect Handler in *Using Oracle GoldenGate for Big Data*.

Enh 30564524 - Metacolumns functionality - Add output for primary key column names

The following two metacolumns have been added to the Avro formatters: `${primarykeycolumns}` and `${currenttimestampiso8601}`. For more information, see Using the Pluggable Formatters in *Using Oracle GoldenGate for Big Data*.

Bug 31114658 - ADW: External table is not fetching very small/large values in the AVRO file that has Decimal data type

This issue has been fixed.

Bug 31101426 - OGGBD: AVRO file generated by ADW/File writer with JDBC MDP is not correct for the NUMBER data types.

This issue has been fixed. The ADW configuration has been corrected.

Bug 30846809 - ADW handler: ORA-01830: date format picture ends before converting entire input string error

This issue has been fixed by using the following parameters: `gg.eventhandler.adw.dateFormat=YYYY-MM-DD HH24:MI:SS` and `gg.eventhandler.adw.timestampFormat=YYYY-MM-DD HH24:MI:SS.FF9` in the ADW handler.

Bug 29650246 - Jms Extract hanging even after Jms server down

This issue has been fixed.

4.11 Release 19.1.0.0.4 — May 2020

BUG 31235726 - Heartbeat table incorrect buffer handling which caused metadata mismatch on subsequent operations.

This issue was fixed.

BUG 31373926 - OCI Event Handler fails if OCI credentials lack admin privileges to interrogate and create OCI buckets.

This issue was fixed. The Oracle Cloud Infrastructure (OCI) Handler has been modified to work without admin privileges.

ENH 31071500 - Support capture of single record message containing binary data.

This issue has been fixed. Support was added to enable capturing of single record messages containing binary data.

BUG 31208539 - Duplicate record in transaction mode after processing RESTART ABEND record.

This issue was corrected by fixing duplicate operations when handling `RESTART_ABEND` with DDL operation from the last commit operation.

ENH 31073365 - Support TRIMSPACES, SPACESTONULL in Oracle GoldenGate replicat.

This issue was fixed by implementing missing `TRIMSPACES`, `TRIMVARSPACES` and `SPACESTONULL` parameters in Oracle GoldenGate BigData.

BUG 31256903 - Incorrect before image handling when involving ALLOWDUPTARGETMAP mode.

This issue is fixed by fixing missing `BEFORE` values when mapping the same source tables to different target tables.

BUG 31010774 Correct OCI Event Handler proxy server configuration.

This issue was fixed by adding the following properties to set the proxy settings: `gg.eventhandler.name.proxySever`, `gg.eventhandler.name.proxyPort`, `gg.eventhandler.name.proxyProtocol`, `gg.eventhandler.name.proxyUsername`, and `gg.eventhandler.name.proxyPassword`. For more information about these properties, see Configuring the Oracle Cloud Infrastructure Event Handler in the *Using Oracle GoldenGate for Big Data* Guide.

BUG 31297753 Upgrade log4j to version 2.13.2

The following security bug was fixed:

• CVE-2020-9488

4.12 Release 19.1.0.0.3 — March 2020

BUG 30926357 - Property gg.handler.name.EnableTimestampLogicalType is not getting enabled with gg.format.timestamp

The feature to enable logical timestamps in Kafka Connect and Avro is not working when the content regex replacement feature is also enabled. This issue is fixed.

BUG 29875647 - Extract abends with error code 16002 when source data contains newlines

This issue has been fixed.

BUG 30843726 - Unable to Selected Parquet Writer Versions.

A new property `gg.eventhandler.name.writerVersion` has been added on the Parquet Event Handler to support the explicit selection of the Parquet writer version.

BUG 31038699 - OCI Event Handler - Does not work with 1.5.x+ versions of the OCI SDK

The version of the OCI Java SDK has been moved up in order to support newer regions. If the OCI Event Handler is used, then you must use version 1.5.4 or higher of the OCI Java SDK.

BUG 30916397 - HDFS Handler - Roll on Metadata change is broken

This issue is fixed.

BUG 30752010 Security Bug

The following security vulnerabilities have been fixed:

- CVE-2019-16943
- CVE-2019-19267
- CVE-2019-17531

BUG 31018223 Security Bug

The following reported security vulnerabilities have been fixed:

- CVE-2020-8840
- CVE-2020-9546
- CVE-2020-9547
- CVE-2019-14892
- CVE-2019-14893

4.13 Release 19.1.0.0.2 — January 2020

Bug 25106122 - Possible SQL injection in Hive automated table creation.

The possible SQL injection in automated Hive table creation functionality was fixed.

30318721 - CVE-2018-11058: ORACLE SECURITY SERVICE UPGRADE

The following security vulnerabilities were fixed:

- CVE-2018-11058
- CVE-2016-0701
- CVE-2016-2183
- CVE-2016-6306
- CVE-2016-8610

- CVE-2018-11054
- CVE-2018-11055
- CVE-2018-11056
- CVE-2018-11057
- CVE-2018-15769

4.14 Release 19.1.0.0.1— October 2019

ENH 30153046 - JMS Extract is failing with date format error - [ERROR]: Could not convert date using format YYYY-MM-DD:HH:MI:SS.FFFFFFFFF

This release contains an improvement in JMS capture to support parsing multiple precisions of timestamp data.

BUG 30220338 - Oracle Golden Gate Big Data Adapter Kafka Connect Handler not able to generate decimal timestamps

This release contains an improvement in Kafka Connect handler to support Avro logical types.

BUG 30110907 - SQL Server to AWS S3, OGG-15051 Java or JNI exception: java.lang.NoClassDefFoundError: oracle/goldengate/datasource/UserExitMain.

This release adds a new S3 event handler configuration to allow users to disable S3 bucket administration (for example, create bucket). Default: `true`, which means the S3 event handler can potentially try to verify and create bucket if it doesn't exist.

ENH 29873179 - how to get the offset value from response in Goldengate for Big Data This release adds debug logging in Kafka handler to log topic, partition, and offset upon successful sent messages.

4.14.1 Critical Security Updates — October 2019

Critical Security Fixes

This release includes critical security fixes including the following CVEs. Oracle strongly recommends that you upgrade to this release of Oracle GoldenGate for Big Data and Oracle GoldenGate CVE-2018-11058.

The following security fixes are provided in the Oracle GoldenGate for Big Data 19.1.0.0.1 release:

- CVE-2019-16335 (Bug: 30347733): This affects the jackson-databind component.
- CVE-2019-14439 (Bug: 30172810): This affects the jackson-databind component.
- CVE-2018-8088 (Bug: 30172807): This affects the slf4j component.

The update for CVE-2018-11058 also addresses the following:

- CVE-2016-0701
- CVE-2016-2183
- CVE-2016-6306
- CVE-2016-8610
- CVE-2018-11054

- CVE-2018-11055

- CVE-2018-11056

- CVE-2018-11057

- CVE-2018-15769

For more information, see Oracle Critical Patch Update Advisory.

4.15 Release 19.1.0.0.0 — August 2019

Bug 29548820 — When issued STOP *, all groups go into ABENDED status.

Extract was changed to set the checkpoint ready status to `false` when processing a SQL operation record, which corrected the erroneous abended status.

Bug 29507343 — Specific HP NonStop data types incorrectly converted in OGGBD.

A mapping issue when handling decimal with decimal point types from HP NonStop was fixed.

Bug 28065055 — Replicat SIGSEGV when processing GG_HEARTBEAT records

Replicat was changed to handle the mapping of heartbeat tables by automatically creating the target table definition.

Enh 29719124 — Enable MAPINVISIBILECOLUMMS functionality for non-Oracle targets.

The `MAPINVISIBLECOLUMNS` replicat configuration property is now supported for non-Oracle targets.

Bug 28507572 — Incorrect lag reported by pmsrvr

Negative lag in `pmsrvr` was reported as very high positive lag. Issue is fixed.

Enh 29689282 — Elasticsearch Handler add support for Elasticsearch 7.x.

The Elasticsearch Handler now supports Elasticsearch version 7.x.

Enh 29631406 — Delimited Text Formatter enhanced to output both before and after image data.

Prior to the Oracle GoldenGate for Big Data 19.1.0.0 release, the Delimited Text Formatter could only output after image data for inserts and updates, and before image data for deletes. The Delimited Text Formatter can now be optionally configured to output both before and after image data for inserts, updates, and deletes.

Enh 29624591 — Java Adapter configuration framework modified to trim trailing whitespace from configuration values.
The Java Adapter configuration framework was modified to trim trailing whitespace characters from configuration values.

Enh 29314345 — HBase Handler added support for HBase 2.x

The HBase Handler was modified to support HBase 2.x.

Enh 29250231 — MongoDB Handler added support for transactions.

The MongoDB Handler add optional support for transactions. Support for transactions was added in the 4.0 version of MongoDB.

Enh 29357124 — HBase Handler default functionality was changed to set timestamps for HBase operations from the HBase Handler

The default functionality of the HBase Handler was changed to set the set timestamps for HBase operations from the HBase Handler. Prior to the Oracle GoldenGate for Big Data 19.1.0.0 release, the default value for `gg.handler.hbase.setHbaseOperationTimestamp` was `false`. Starting with the Oracle GoldenGate for Big Data 19.1.0.0 release, the default value is `true`.