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# MySQL Shell 8.1 Release Notes

## Abstract

This document contains release notes for the changes in each release of MySQL Shell 8.1.

For additional MySQL Shell documentation, see <http://dev.mysql.com/>.

Updates to these notes occur as new product features are added, so that everybody can follow the development process. If a recent version is listed here that you cannot find on the download page (<https://dev.mysql.com/downloads/>), the version has not yet been released.

The documentation included in source and binary distributions may not be fully up to date with respect to release note entries because integration of the documentation occurs at release build time. For the most up-to-date release notes, please refer to the online documentation instead.

For legal information, see the [Legal Notices](#).

For help with using MySQL, please visit the [MySQL Forums](#), where you can discuss your issues with other MySQL users.

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This document contains release notes for the changes in each release of MySQL Shell 8.1.

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## Changes in MySQL Shell 8.1.1 (2023-07-26, Innovation Release)

- [Utilities Added or Changed Functionality](#)
- [Utilities Bugs Fixed](#)
- [Bugs Fixed](#)

### Utilities Added or Changed Functionality

- MySQL Shell dump and load utilities now support the Oracle Cloud Infrastructure Object Storage Dedicated Endpoints format for Pre-Authenticated Request (PAR) URLs:

```
namespace.objectstorage.region.oci.customer-oci.com/.../
```

For more information, see [OCI Object Storage Dedicated Endpoints](#).

MySQL Shell continues to support the legacy PAR URL format:

```
objectstorage.region.oraclecloud.com/.../
```

(Bug #35548572)

### Utilities Bugs Fixed

- As of MySQL Server 8.1.0, MySQL HeatWave Service contains a schema named `mysql_audit`. As a result, the dump and load utilities encountered a duplicate object error when copying data from one DB System to another.

As of this release, with the `ocimds` option enabled, `dumpInstance()` automatically excludes the `mysql_audit` schema. (Bug #35550282)

- If an AWS HEAD request failed with an authorization error, it was not retried. As of this release if such a request fails with a `400 HTTP` error, it is retried.

Additionally, if the refresh process for AWS credentials has a defined expiration time, the refresh process is triggered 5 minutes before the required time. (Bug #35468541)

### Bugs Fixed

- Errors generated by stored procedures were not returned over classic MySQL protocol connections. (Bug #35549008)

## Changes in MySQL Shell 8.1.0 (2023-07-18, Innovation Release)

- [AdminAPI Added or Changed Functionality](#)
- [AdminAPI Bugs Fixed](#)
- [Utilities Added or Changed Functionality](#)

- [Utilities Bugs Fixed](#)
- [Functionality Added or Changed](#)
- [Bugs Fixed](#)

## AdminAPI Added or Changed Functionality

- **Important Change:** MySQL Shell now supports Read Replicas.

InnoDB Cluster Read Replicas are read-only copies of a Cluster member. Asynchronous replication keeps the replica up to date, enabling you to scale out your workload, offload read requests from your Cluster to one, or more, dedicated read-only instances, and provide additional redundancy to your dataset. In the event of a failure of the source, the Read Replica automatically connects to another Cluster member and resumes replication.

The following methods were added:

- `Cluster.addReplicaInstance()`: Adds a Read Replica to the Cluster.

The following methods were extended to support InnoDB Cluster Read Replicas:

- `Cluster.removeInstance()`
- `Cluster.rejoinInstance()`
- `Cluster.setRoutingOption()`
- `Cluster.status()`
- `Cluster.describe()`
- `Cluster.routingOption()`
- `Cluster.dissolve()`
- `Cluster.forceQuorumUsingPartitionOf()`
- `ClusterSet.removeCluster()`
- `ClusterSet.routingOptions()`
- `Cluster.setInstanceOption()`
- `Cluster.fenceAllTraffic()`

See [MySQL InnoDB Cluster Read Replicas](#). (WL #15056)

- The `status_update_frequency` changes introduced for ClusterSets by Bug#34190956 in MySQL Shell 8.0.31 are extended to apply to Clusters and ReplicaSets.

The following methods were added:

- `ReplicaSet.setRoutingOption()`
- `ReplicaSet.routingOptions()`

The following methods were extended to include `status_update_frequency`:

- `Cluster.setRoutingOption()`
- `Cluster.routingOptions()`

(WL #15601)

References: See also: Bug #34190956.

## AdminAPI Bugs Fixed

- Rebooting a replica cluster from complete outage could result in the cluster rejoining the ClusterSet, but not the instance members of the replica cluster. This happened only if the primary cluster was under heavy load or the replica cluster was missing transactions from the ClusterSet. (Bug #35444244)
- If a Cluster was rebooted with `dba.rebootClusterFromCompleteOutage()`, and the communication stack was changed to `mysql`, the seed instance was not rebooted with the correct SSL options. (Bug #35416666)
- If the X Protocol port was changed for a cluster member and that member restarted, the AdminAPI did not update the metadata with the new port number, leading to connection errors and so on.

As of this release, `cluster.status()` checks for port changes and `cluster.rescan()` updates the metadata with the new port number. (Bug #35410360)

- Operations which permitted clone-based recovery, such as `ClusterSet.createReplicaCluster`, did not validate the donor and recipient unless `cloneDonor` was explicitly specified. As a result, under certain circumstances, clone-based recovery could fail due to incompatibilities in the automatically chosen donor. (Bug #35358531)
- Under certain circumstances, `dba.rebootClusterFromCompleteOutage()` failed with malformed GTID errors relating to `GROUP_CONCAT`. `dba.rebootClusterFromCompleteOutage()` must query the complete GTID set of the channel and this query failed if the default `GROUP_CONCAT_MAX_LEN` value was too low.

As of this release, queries which do not require the `GROUP_CONCAT` function, do not use it and queries which require it, use a `GROUP_CONCAT_MAX_LEN` value of 1GB. (Bug #35356006)

- Running `clusterSet.rejoinCluster()` on a cluster which was ONLINE and a healthy member of the ClusterSet, left the cluster in an invalid state. The following warning was displayed in the `instanceErrors` field of the status message:

```
"WARNING: The value of
'group_replication_transaction_size_limit' does not match the
Cluster's configured value. Use Cluster.rescan() to repair."
```

(Bug #35354749)

- During a failover of a ClusterSet replication channel, the `clusterSet.status()` value `clusterSetReplicationStatus` reported `ERROR` and `globalStatus` returned `OK_NOT_REPLICATING`. Errors and warnings relating to misconfigured or stopped channels were also returned. These statuses and errors were misleading as the channel was attempting to connect to another source or replica.

As of this release, `clusterSetReplicationStatus` returns `CONNECTING`, and `globalStatus` returns `OK` while a channel connection attempt is ongoing. If there is an error, it is ignored until the channel state updates to either ON or OFF.

Additionally, the `ReplicaSet.status()` field, `status`, also returns `CONNECTING`. (Bug #34614769)

## Utilities Added or Changed Functionality

- It is now possible to dump data to a Bucket or Prefix Pre-Authenticated Request (PAR) using the following utilities:

- `util.dumpInstance(outputUrl[, options])`
- `util.dumpSchemas(schemas, outputUrl[, options])`
- `util.dumpTables(schema, tables, outputUrl[, options])`

where `outputURL` now supports PARs. (WL #14646)

- It is now possible to copy an instance, schemas, and tables from one instance to another with the new MySQL Shell copy utilities. The copy utilities enable you to copy DDL and data between MySQL instances, without the need for intermediate storage. The data is stored in memory.

The following methods were added:

- `util.copyInstance()`: Enables copying of an entire instance to another server.
- `util.copySchemas()`: Enables copying of one or more schemas to another server.
- `util.copyTables()`: Enables copying of one or more tables from a schema to another server.

See [Copy Instance, Schemas, and Tables](#). (WL #15298)

## Utilities Bugs Fixed

- Under certain circumstances, `util.loadDump()` could fail when retrieving a file from AWS S3, Oracle Cloud Infrastructure Object Storage, or Azure Blob Storage, even though the file was downloadable by other means.

As of this release, if CURL errors occur, such as 52: `CURLE_GOT_NOTHING`, 56 `CURLE_RECV_ERROR`, or 28: `CURLE_OPERATION_TIMEDOUT` `utils.loadDump()` retries the download. (Bug #35362775, Bug #35392531)

- In previous versions, loading a dump from the previous version resulted in an error, unless the `ignoreVersion` option was set to true.

As of this release, migration from a version to the next consecutive version, such as 5.7 to 8.0, no longer results in an error and no longer requires the `ignoreVersion` option.



### Note

The behavior remains unchanged for migration between non-consecutive versions, such as 5.6 to 8.0.

(Bug #35359364)

- If an exception occurred while importing a single, uncompressed file with `util.import_table()`, MySQL Shell crashed. (Bug #35313366)
- `util.loadDump()` did not log warnings about rows replaced during the load. (Bug #35304391)
- Under certain circumstances, loading a dump with `ignoreExistingObjects` enabled to an instance with existing DDL objects could fail with an error similar to the following:

```
columns dictionary object is invalid.
(There are no elements supplied.)
```

As of this release, DDL for existing tables and views is not processed, if `ignoreExistingObjects` is enabled.

Additionally, duplicate triggers are now reported and excluded routines and events are no longer reported as duplicates. (Bug #35102738)

- The upgrade checker utility did not check stored procedures and routines for the deprecated qualifier syntax `.tbl_name`. (Bug #35046623)
- If chunking was enabled for a dump of tables, but the primary key or unique index used to chunk the table contained an `ENUM` column, some of the tables rows were not exported to the dump. This occurred if the `ENUM` column's values were not ordered alphabetically.

As of this release, primary keys or unique indexes which contain one or more `ENUM` columns, are ignored when selecting an index for chunking. (Bug #110352, Bug #35180061)

## Functionality Added or Changed

- MySQL Shell now supports the `--loose` prefix.

For more information on this prefix, see [Program Option Modifiers](#). (Bug #110141, Bug #35112454)

- It is now possible to specify the Kerberos client authentication mode on Microsoft Windows platforms, using a new option `plugin-authentication-kerberos-client-mode=SSPI | GSSAPI`.



### Note

This option is only available on Microsoft Windows platforms. Attempting to use it on non-Windows platforms results in an error.

(WL #15556)

- You can now specify the OCI config file and profile used when connecting to a MySQL HeatWave Service DB System with the OCI Authentication plugin. The following options are available from the command line, options file, and MySQL Shell connection options as attributes in a dictionary or in a connection URI:
  - `oci-config-file`: defines the location of the OCI config file to use with the OCI Authentication Plugin. The value defined here overrides the value defined in the `oci.configFile` option.
  - `authentication-oci-client-config-profile`: defines the profile in the OCI config file to use with the OCI Authentication Plugin. The value defined here overrides the value defined in the `oci.profile` option.



### Note

These options are only available for connections with the OCI Authentication Plugin.

(WL #15561)

- MySQL Shell now supports setting query attributes. The following commands and API methods were added:
  - SQL: `\query_attributes`
  - JavaScript: `session.setQueryAttributes()`
  - Python: `session.set_query_attributes()`

See [MySQL Shell Commands](#). (WL #15571)

- MySQL Shell now supports the `STATEMENT_ID` session tracker. If the server system variable `session_track_system_variables` is set to `*` or `STATEMENT_ID`, the statement ID is returned for statements.



#### Note

This applies to classic protocol only. The statement ID is not returned over X Protocol.

The following property is added to enable you to retrieve the statement ID:

- `ClassicResult.statementId`: Same behavior as the `getStatementId()` method.

(WL #15574)

## Bugs Fixed

- The MySQL configuration utility `mysql_config_editor` was not bundled with MySQL Shell 8.0.33. (Bug #35459202)

References: This issue is a regression of: Bug #34097411.

- It was not possible to use the Python function `json.dumps` with MySQL Shell dictionaries. (Bug #35450521)
- MySQL Shell command line did not correctly handle missing optional arguments. A NULL value was used instead of a valid value, resulting in an error. (Bug #109827, Bug #35068427)