MySQL Cluster Manager 8.0 Release Notes

Abstract

This document contains information about changes in successive versions of MySQL Cluster Manager 8.0, starting with the most recent release (MySQL Cluster Manager 8.0.42). Changes in previous MySQL Cluster Manager releases can be found afterwards, ordered from newest to oldest.

For additional MySQL Cluster Manager 8.0 documentation, see https://dev.mysql.com/doc/mysql-cluster-manager/8.0/en/.

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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Preface and Legal Notices

This document contains information about changes in successive versions of MySQL Cluster Manager 8.0, starting with the most recent release (MySQL Cluster Manager 8.0.42). Changes in previous MySQL Cluster Manager releases can be found afterwards, ordered from newest to oldest.

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Changes in MySQL Cluster Manager 8.0.42 (2025-04-16, Bugfix Release)

Version 8.0.42 is the latest General Availability release of the 8.0 series of MySQL Cluster Manager. It is suitable for use with MySQL NDB Cluster 8.0, 7.6, and 7.5.

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- **Important Change:** For platforms on which OpenSSL libraries are bundled, the linked OpenSSL library for MySQL Cluster Manager has been updated to version 3.0.16. Issues fixed in OpenSSL version 3.0.16 are described at https://openssl-library.org/news/openssl-3.0-notes/. (Bug #37656086)

- **Agent:** MySQL Cluster Manager now uses the third-party library GLib version 2.82.4. The new GLib version is included in the MySQL Cluster Manager distribution archive. (Bug #37475574)

Bugs Fixed

- **Agent:** The `stop process` timed out for processes in the `ADDED` state. (Bug #37691818)

- **Agent:** The `backup cluster` command failed with an "Access denied" error when the `mcmd_password` had a '#' at the end. (Bug #37609816)

- **Client:** A `delete cluster` command failed if the backup's schema file containing the metadata of the NDB tables was missing (for example, due to accidental manual deletion). With this fix, the command works in such situations. (Bug #37660069)

Changes in MySQL Cluster Manager 8.0.41 (2025-01-22, Bugfix Release)

Version 8.0.41 is the latest General Availability release of the 8.0 series of MySQL Cluster Manager. It is suitable for use with MySQL NDB Cluster 8.0, 7.6, and 7.5.

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- **Packaging:** The following packages for MySQL Cluster Manager will no longer be offered by Oracle:

  - SLES12 packages

  - Solaris SPARC packages

  - Generic Linux glibc2.12 packages (generic Linux glibc2.17 packages are offered now instead) (Bug #37292788)

- The `delete cluster` command now fails if a backup of the cluster exists somewhere under */path-to-mcm-data-repository*/clusters/*clustername* (the default arrangement). The backup should first be moved to another other location or be deleted before the `delete cluster` command is executed. This is to prevent an unexpected loss of the cluster backup. (Bug #37326544)

Bugs Fixed

- **Agent:** `mcmd` sometimes failed to load its information XML files when they are malformed, causing errors in its operations. With this fix, proper error handling is put in place for loading the files, in order to avoid subsequent errors. (Bug #37247168)

Changes in MySQL Cluster Manager 8.0.40 (2024-10-16, Bugfix Release)

Version 8.0.40 is the latest General Availability release of the 8.0 series of MySQL Cluster Manager. It is suitable for use with MySQL NDB Cluster 8.0, 7.6, and 7.5.

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- **Important Change:** For platforms on which OpenSSL libraries are bundled, the linked OpenSSL library for MySQL Cluster Manager has been updated to 3.0.15. Issues fixed in OpenSSL version 3.0.15 are described at https://openssl-library.org/news/openssl-3.0-notes/. (Bug #37021997)

- **Client:** When a `mysqld` node quit unexpectedly, the error message given was uninformative. The `mcm` client now displays error information extracted from the `mysqld` log in the situation. (Bug #36840761)

- **Client:** MySQL Cluster Manager now uses the third-party library GLib version 2.80.3. The new GLib version is included in the MySQL Cluster Manager distribution archive. (Bug #36782677)

Bugs Fixed

- **Client:** The error text for the `COMMAND_OPTION_DEPENDENCY` error was incorrect, with the command name being replaced by the cluster name. (Bug #36954160)

Changes in MySQL Cluster Manager 8.0.39 (2024-07-23, Bugfix Release)

Version 8.0.39 is the latest General Availability release of the 8.0 series of MySQL Cluster Manager. It is suitable for use with MySQL NDB Cluster 8.0, 7.6, and 7.5.

This release contains no functional changes or bug fixes and is published to align the version number with the MySQL NDB Cluster 8.0.39 release.

Changes in MySQL Cluster Manager 8.0.38 (2024-07-02, Bugfix Release)

Important

This release is no longer available for download. It was removed due to a dependency on a version of the server which is also no longer available for download. See MySQL 8.0.38 Release Notes. Please upgrade to MySQL Cluster Manager 8.0.39 instead.

Version 8.0.38 is the latest General Availability release of the 8.0 series of MySQL Cluster Manager. It is suitable for use with MySQL NDB Cluster 8.0, 7.6, and 7.5.

Bugs Fixed

- **Client:** MySQL Cluster Manager did not handle correctly the version information for some cluster parameters' introduction or removal, so that it was sometimes confused with the availability of those parameters for a cluster. (Bug #36647522)

- **Client:** `mcm` did not issue a deprecation warning when the deprecated `validate_password` plugin was being used for `mysqld` connections. (Bug #36589037)

- **Client:** When `ndb_restore` failed, the error message did not give much information. With this patch, a more informative message is given in the situation. (Bug #36388952)

- **Client:** The format of the `mysqld` XML configuration file (`mcm-installation-dir/var/mysqld_8.0.xml`) has been updated to better organize the configuration information. (Bug #36298214)

- Certain restrictions for upgrading and downgrading on MySQL Cluster Manager have been removed. Please refer to Upgrading and Downgrading NDB Cluster for valid upgrade and downgrade paths for MySQL NDB Cluster and MySQL Cluster Manager. (Bug #36610348, Bug #36720575)

Changes in MySQL Cluster Manager 8.0.37 (2024-04-30, Bugfix Release)

Version 8.0.37 is the latest General Availability release of the 8.0 series of MySQL Cluster Manager. It is suitable for use with MySQL NDB Cluster 8.0, 7.6, and 7.5.

Bugs Fixed

- **Agent:** With release 8.0.36, `mcmd` quit unexpectedly when trying to shut down if the cluster had no `mysqld` nodes. It was due to the new output format of `ndb_info_select_all` that confused mcmd. This fix removed the confusion for `mcmd`. (Bug #36437192, Bug #36438611)

- **Agent:** The configuration for a `mysqld` node could not be loaded if the configuration file used `!include` to import another configuration file and the file path for the import contained any dashes (-) in it. (Bug #36029115)

- **Client:** Some help texts of the `mcm` client commands contained artifacts, which have now been removed. (Bug #36398066, Bug #36210786)

- **Client:** Auto completion for client commands did not always work. It has been fixed, but is also disabled now by default. To enable the function, use the `--auto-rehash` variable to `TRUE` when you start the `mcm` client. (Bug #34968330)

Changes in MySQL Cluster Manager 8.0.36 (2024-01-16, Bugfix Release)

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- MySQL Cluster Manager now uses the third-part library GLib version 2.78.0. The new GLib version is included in the MySQL Cluster Manager distribution archive. (Bug #35906966)

Bugs Fixed

- For a cluster without any `mysqld` nodes, after adding a new process, a rolling restart hung, and then `mcmd` quit unexpectedly. This was due to the wrong initial status assigned to the added node, and this fix corrects it. (Bug #36092321)

- The `mysqld` system variable `admin_ssl_cipher` was taken by `mcmd` to be of the file name data type, which was wrong. With this fix, `mcmd` now recognizes it as string. (Bug #36082159)

- In some rare occasions, an `mcmd` agent quit unexpectedly when it tried to recover itself. That was due to some incorrect locking happening when multiple threads accessed the data repository together. This fix implements the correct locking. (Bug #36072282)

- When restoring a backup, the error message only said that the restore failed when the password for the backup was not properly supplied. With this fix, the error message made it clear when the password file did not exist, or when the password was invalid. (Bug #36022311)

- On Unix-like platforms, the process name for `mcmd` has been changed to `main` since release 8.0.34. The name is now changed back to `mcmd` to make it easier to monitor the process with the `ps` command. (Bug #35948991)

- When `mcmd` was running on Windows platforms, there were too many "Async queue pop timeout" warnings, making it hard to read the log. The threshold for issuing the warning is now raised to 0.5s to avoid unnecessary warnings. (Bug #35463580)

- When starting `mcmd`, a user named `root` could be set up for connection from a client, even if `mcmd` was not being run by root. That is now disallowed. (Bug #34999007)

Changes in MySQL Cluster Manager 8.0.35 (2023-10-25, Bugfix Release)

- [Functionality Added or Changed](#)

- [Bugs Fixed](#)

Functionality Added or Changed

- **Agent:** `mcmd` now reports "Access denied" to a client for a failed authentication and gives no more details. (Bug #35528333)

- **Agent:** The MySQL Cluster Manager version information is now printed to the `mcmd` log when `mcmd` stops. (Bug #35528304)

- MySQL Cluster Manager now uses the third-part library GLib version 2.76.3. The new GLib version is included in the MySQL Cluster Manager distribution archive. (Bug #35477518)

Bugs Fixed

- **Agent:** In situations where the `mysqld` log was excessively long, the `stop agents` command can never be completed, as `mcmd` was stuck in log processing. With this fix, log processing by `mcmd` has been improved to avoid the issue. (Bug #35556925)

Changes in MySQL Cluster Manager 8.0.34 (2023-07-18, General Availability)

- [Functionality Added or Changed](#)

- [Bugs Fixed](#)

Functionality Added or Changed

- **Important Change:** For platforms on which OpenSSL libraries are bundled, the linked OpenSSL library for MySQL Cluster Manager has been updated from OpenSSL 1.1.1 to OpenSSL 3.0. The exact version is now 3.0.9. More information on changes from 1.1.1 to 3.0 can be found at https://www.openssl.org/docs/man3.0/man7/migration_guide. html. (Bug #35386681)

Bugs Fixed

- **Agent:** `mcmd` could not be run as a service on a Linux platform unless a PID file was configured in the DEFAULT section in the `mcmd` configuration file, which should not be necessary. (Bug #35396661)

- **Client:** Users did not receive a warning message when packages supported on an experimental basis were added (for example, when the package added was of an NDB version that was ahead of the MCM version being used). A warning is now issued in the situation. (Bug #35457886)

- **Client:** Setting the `mysqld` system variable `audit_log_format` to the value `JSON` using the `mcm` client resulted in an error and the complaint that the value was illegal. (Bug #35367868)

- **Client:** Client authentication failed for `mcm` with "(using password: NO)" in the error message if a password was supplied and the option `--default-auth` was set to a method other than `caching_sha2_password`. (Bug #35233284)

Changes in MySQL Cluster Manager 8.0.33 (2023-04-18, General Availability)

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- The README file has been updated with corrections and improvements. (Bug #35208333)

- Starting from release 8.0.33, there is no upgrade path from MySQL Cluster Manager 1.4 to 8.0 except via 1.4.8. For release 1.4.7 or earlier, upgrade to 1.4.8 first, and then to 8.0.

Bugs Fixed

- **Agent:** When reporting the total number of active `mcm` client connections, `mcmd` always reported instead the total number of connections made since it started. (Bug #35096409)

- **Agent:** `mcmd` sent a 8-bit scramble to a client that was trying to connect, while a 7-bit one was required, causing authentication to fail sometimes. (Bug #35014240)

- **Agent:** The `mcmd help` output has been improved with corrections and reorganization. (Bug #34899135)

- **Agent:** When the same port number was used to configure more than one connection port, `mcmd` started as usual and failed eventually. With this fix, `mcmd` throws an error immediately in the situation and refuses to start. (Bug #34891286)

- **Agent:** When `mcmd` was started and it printed the message on how to connect to it, it always printed the name of the host on which `mcmd` was running, but ignored the `bind_address` that had been set. Also, the port number in the message was wrong, unless it had been set with the deprecated `bind-port` option. (Bug #34694458)

- **Agent:** Success message of the `upgrade cluster` command has been changed to cover both upgrades and downgrades. (Bug #34503870)

- **Client:** The `mcm` client lost connection to `mcmd` as it executed another command after `show status`. (Bug #34943145)

- **Client:** `mcm` misidentified itself as a `mysql` client in the system log. (Bug #34894735)

Changes in MySQL Cluster Manager 8.0.32 (2023-01-17, General Availability)

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- **Agent:** A new `mcmd` option, `--core-file`, has been added. If its value is `1` (default), when `mcmd` quits unexpectedly, it writes a core file to the location where it was started or to another core dump location as specified by the operating system. (Bug #34881109)

- **Agent:** A `set` command can now be used to perform a reset on a configuration parameter, which allows `set` and `reset` operations to be run by a single `set` command to avoid multiple rolling restarts. See Performing a reset with a set command for details. (Bug #23590684)

- **Agent:** A new `--restart` option has been added to the `set` command for overriding the default restart type of the parameters `MaxNoOfExecutionThreads` and `ThreadConfig` for data nodes. See the option's description for details. *Please note that the option should only be used under guidance by support personnel from Oracle.* (WL #15386)

Bugs Fixed

- **Agent:** `mcmd` allowed itself to be started by the root user of the operating system, which should not happen. With this fix, `mcmd` throws an error in the situation. (Bug #34839125)

- **Agent:** If the `mcmd` configuration file had multiple sections whose names started with `mcmd` (which made the configuration invalid), `mcmd` proceeded with starting, but then quit unexpectedly. With this fix, a proper error is thrown in the situation. (Bug #34759709)

- **Agent:** When running the `list backups` command, `mcmd` printed its whole binary message into the log file if the log severity level was set at `debug`. (Bug #34657441)

- **Agent:** When a cluster is running with `EncryptedFileSystem= 1`, the `mcmd` log did not show the exact command by which the data node was started, but had the `ndbd` or `ndbmtd` command options shuffled. With this fix, the command is shown with its options properly sorted, and the command is also printed to the file `mcm_data/clusters/<clustername>/pid/cmd.<nodeid>` for easy access. (Bug #34643817)

- **Agent:** When a connection using the classic protocol to `mysqld` was closed before handshake was finished, `mcmd` quit unexpectedly. With this fix, a proper error is thrown in the situation. (Bug #34385879)

- **Client:** A `set filesystem-password-file` command run on the `mcm` client was not kept in the client's history. It is now made available in the history for easy access. (Bug #34709187)

Changes in MySQL Cluster Manager 8.0.31 (2022-10-11, General Availability)

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- **Agent:** Previously, an attempted cluster upgrade from the NDB 7.6 series to the 8.0 series that was rejected on the first start of a new `ndb_mgmd` node could not be rolled back using the `upgrade cluster` command. With this fix, the user can now perform the rollback in the situation to return the cluster to a stable state. (Bug #34432349)

- **Agent:** If a `set` command was attempted with the same value as was already in use, for some configuration parameters, `mcmd` would still perform some unnecessary process or cluster restarts. With this fix, the command returns an error in the situation, telling the user that the command causes no changes to the cluster configuration. Also, a new option `--retry`, has been added to the `set` command, to be used when the user really needs to run the `set` command and force a restart of the relevant processes. (Bug #22588763)

- **Agent:** The `stop process` command now accepts a node type or a list of node IDs as its argument for stopping multiple processes. See the command description for `stop process` for details. (Bug #16879795)

- **Client:** Since NDB 8.0.31, the `--core-file` command-line-only attribute is no longer supported by `ndb_mgmd`. As a result, `mcmd` no longer supports configuring the option on `ndb_mgmd` nodes. (Bug #34629250)

- Transparent Data Encryption (TDE) for NDB Cluster (see File System Encryption for NDB Cluster) is now supported by MySQL Cluster Manager. See Setting Up Encryption, for more information. (Bug #34122958, WL #15319)

Bugs Fixed

- **Agent:** `mcmd` could hang when a packet larger than 16MB was sent between the client and `mcmd`. It was because `mcmd` miscalculated the packet size and thus failed to chunk the packet into multiple packets for proper transmission, and this fix corrects the problem. (Bug #34578419)

- **Agent:** When a newly added data node failed to start, attempts to restart it again with `start process` and the `--initial` option always resulted in errors with the complaint `Nodegroup unavailable`. (Bug #34307445)

- **Client:** `mcmd` used to accept some invalid configuration options silently and simply ignored them. With this fix, invalid configuration options are rejected with errors. (Bug #34450589)

- The MySQL Cluster Manager installation included a number of unnecessary libraries, which have now been removed. (Bug #34456516)

Changes in MySQL Cluster Manager 8.0.30 (2022-07-26, General Availability)

- Deprecation and Removal Notes

- Functionality Added or Changed

- Bugs Fixed

Deprecation and Removal Notes

- **Agent:** The command-line format of the following options has been deprecated:

  - `--bind-port`

  - `--copy-port`

  - `--xcom-port`

  - `--mcmd-user`

Use the `--mcmd.[option]` format instead, or specify the options in the configuration file. (Bug #33676376)

Functionality Added or Changed

- **Agent:** The `update process` command can now be run on a process that is in the `starting` status. Typical use case for this is: when `mcmd` looses control of a `mysqld` node due to a timeout of the `start process` on it, once the issue is fixed on the node, `update process` can be run to re-establish control of the node by `mcmd`. (Bug #32779154)

- **Client:** With the release of MySQL Enterprise Edition 8.0.30, the MySQL Enterprise Encryption functions are now provided by a component. The `set` command of the `mcm` client can now be used on the component's system variables (see Configuring MySQL Enterprise Encryption for descriptions of the system variables). (Bug #34104948)

- **Client:** When no data nodes are available, a `set` command that restarts a `mysqld` node without also restarting the data nodes is now rejected. This is to make sure that issues with the data nodes are first handled, so that the `mysqld` restart will actually be successful. (Bug #33617571)

- **Client:** The following errors have been added to cover a number of issues that the `collect logs` command might run into:

  - ERROR 5502 Cannot announce TCP port **n** on **host**

  - ERROR 5503 No clients connected for **n** seconds

  - ERROR 5504 No reader progress while collecting files

  - ERROR 5505 Error reading from remote agent **host**

  - ERROR 5506 File copy failed to **host**

  - ERROR 5507 Server **host** refusing connections from client **host**

  - ERROR 5508 Server **host** reset connection from client **host**

  (Bug #26619287)

- MySQL Cluster Manager now uses the third-part library GLib version 2.72.0. The new GLib version is included in the MySQL Cluster Manager distribution archive. (Bug #34209408)

Bugs Fixed

- **Agent:** The success message from the `delete cluster` and `delete backup` commands now includes information on the number of warnings issued, when applicable. (Bug #34237041)

- **Agent:** Occasionally, the `mcmd` agent quit unexpectedly if the handshake was aborted somehow during a connection attempt by an `mcm` client. (Bug #34197655)

- **Agent:** When a configuration option for `mcmd` that cannot be set in a configuration file was set there, or when an option is specified in the wrong section of the configuration file (see `mcmd`, the MySQL Cluster Manager Agent for explanations), `mcmd` was still started successfully, while the options were not actually set. With this patch, `mcmd` throws an error instead in the situation. (Bug #34119635)

- **Agent:** Setting `--copy-port=0` caused `mcm`d to throw an error with the message that the value was not in the allowed range, while it actually was. (Bug #34114479)

- **Agent:** Occasionally, the `mcmd` agent quit unexpectedly while parsing event records from an `ndb_mgmd node`. (Bug #32922993)

- **Client:** The `delete cluster` command always reported success as long as it could finish its reconfiguration plan, even if some files or folders for the cluster could not be deleted. With this fix, the command reports "Cluster deleted successfully, but some files remain" when that is the case. (Bug #28949053)

Changes in MySQL Cluster Manager 8.0.29 (2022-04-26, General Availability)

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- **Agent:** Previously, `mcmd` ignored any unknown configuration options. A new configuration option, `unknown_config_option`, has now been introduced, and it accepts the following values:

  - `error` (the default setting): `mcmd` returns an error when an unknown option is encountered

  - `warning`: `mcmd` prints a warning when an unknown option is encountered and continues with starting.

  (Bug #33581159)

- The `start process` command can now be used to start a specific type or list of nodes. See the description of the command for details. (Bug #33934457)

- When a backup ID has been specified with the `--backupid` option for a `backup cluster`, `restore cluster`, `abort backup`, or `delete backup` command, any leading zeros of the ID are dropped. This patch adds a warning when this happens, so the user knows if an unintended ID has been used. (Bug #33805006)

Bugs Fixed

- **Agent:** The `remove process` command allowed duplicated process ID entries. With this fix, an error is thrown when a process ID is repeated in the command. (Bug #33844469)

- **Agent:** When bootstrapping an NDB 8.0 cluster, `mcmd` did not set the `mysqlx_port` and `mysqlx_socket` system variables for `mysqld`, resulting in errors appearing in the `mysqld` log. With this fix, those system variables are now properly set at bootstrapping. (Bug #33729859)

- **Agent:** Multiple sinks for `mcmd` logging could not be configured individually by the `mcmd` configuration file, so that all the sinks worked in the same manner. (Bug #33650263)

- **Client:** `mysqld` options for the validate_password plug-in were not recognized, and setting any of them using the `mcm` client resulted in an error. (Bug #33901017)

Changes in MySQL Cluster Manager 8.0.28 (2022-01-18, General Availability)

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- **Agent:** MySQL Cluster Manager now supports encrypted cluster backup. See descriptions for the `backup cluster` and `restore cluster` commands for details. (Bug #30733027)

- **Agent:** A new status value for `show status --cluster` has been introduced: the `failed` status indicates that while all processes in the cluster have exited, unlike `stopped`, some nodes did not exit cleanly. (Bug #30723251)

- **Agent:** Users can now set or override at the `mcmd` command line any agent options configurable with the agent configuration file (with the exception of `mcmd_password`) by specifying the option in the format of `--section_name.option=value`, where *section_name* is name of the section in the configuration file that the option belongs to (for example, `--mcmd.bind_port=12345` and `--logger.level=DEBUG`). See `mcmd`, the MySQL Cluster Manager Agent for details. (Bug #29239804)

- **Agent:** In the `list backups` output for agent backups of a site (that is, for `list backups --agent mysite`), the `Parts` column has been replaced with the `Files` column, to show how many files each backup consists of. (Bug #27946094)

- **Agent:** The `show status --operation` commands always returned `<no message>` for the `Description` column. The column now displays more useful information (for example, a status or error message returned by the listed command) when it is available. (Bug #22607982)

- **Client:** The scenarios that caused the 7006 Process Error to be thrown are now covered by five different error codes:

  - 7006: A cluster process fails

  - 7030: An unexpected reply when connecting to a cluster process

  - 7032: An error occurs while starting a cluster utility process

  - 7033: A probe for an available port or socket (for connecting to a process to be started or just started) fails

  - 7034: A cluster process cannot be started

  (Bug #33563302)

- **Client:** A new command `list warnings`, has been introduced for checking important warnings issued across the whole site during the executions of MySQL Cluster Manager client commands. See the command description for details. (Bug #33378770)

- **Client:** The `help` command has been improved, with its output explaining itself better. (Bug #33321016)

- **Client:** A new `--retry` option has been added to the `import config` command for reimporting the cluster configuration from the `config.ini` file after the cluster is already running. See the description of the option for details. *This option should only be used at the instruction of Oracle Support.* (Bug #30836499)

- **Client:** Reporting on errors related to file reading or writing has been improved with a new error code (`106 FILE_ERROR`) and better error descriptions. (Bug #26246700)

- **Client:** A new command, `delete backup`, has been introduced for deleting a cluster backup. See the command description for details. (Bug #24295069, WL #14620)

- **Client:** The `get` command now has a new `--all` option, using which creates two more columns in the output of the command:

- `Type`: Shows the expected type of the configuration attribute.

- `Restart`: Shows the expected process restarts needed when changing the configuration attribute.

  See the description for the `--all` option for details. (Bug #23561548)

- **Client:** The error messages returned by MySQL Cluster Manager for failed utility processes (restores, upgrades, and so on) have now been improved: Output from the utility processes themselves, when available, are now returned, (Bug #23173980)

- **Client:** Error messages provided by the `mcm` client were sometimes not helpful with clusters having `mysqld` nodes, because `mcm` failed to extract relevant information from the `mysqld` error log. With this fix, `mcm` returns more helpful information under the same situations. (Bug #17282820)

Bugs Fixed

- **Agent:** A lot of logging that was intended for the `note` log level appeared in the log when `--level` was set to `info` (the default value). With this fix, the information only appears with the log severity level set to `note` or below. (Bug #33720754)

- **Agent:** The `mcmd` log contained duplicated entries of log excerpts from `ndb_mgmd` nodes. The duplication has now been eliminated. (Bug #33635312)

- **Agent:** In some situations (for example, when the agent was already hanging on some commands), a `stop agents` command did not return a reply to the client. It was because a locked mutex had prevented a proper shutdown for the agent, and this fix corrects the issue. (Bug #33633155)

- **Agent:** At the restart of `mcmd`, an error was reported in the log that the package path in use by the current cluster did not contain the MySQL NDB Cluster executables. The error was introduced by a change in release 8.0.26 that caused the wrong path to be checked, and it has now been rectified. (Bug #33620437)

- **Agent:** `mcmd` quit unexpectedly during an `import config` operation if, when querying a management node, the `--configdir` was pointing to an old and invalid configuration cache. With this fix, the error is avoided by not using the `--configdir` option for the query. (Bug #33541431)

- **Agent:** After a `delete site` command failed due to issues with data repository access, a subsequent agent command made `mcmd` quit unexpectedly. With this fix, preliminary checks reject the `delete site` command if needed, instead of allowing an unsuccessful run. Also, reporting on repository file access issues has been improved. (Bug #30498763)

- **Agent:** When using the `set` command to specify a value for the `mysqld` system variable `innodb_directories` in quotes, the quotes were skipped when the value was written to the `mysqld` node's `my.cnf` file, which might cause any semicolons (;) in the value to be misinterpreted as special characters on some platforms. (Bug #29317574)

- **Agent:** When backing up a cluster, the operation finished without any warnings even if the backup for a data node or `mysqld` node was missing at the end. With this fix, a warning was issued in the situation, and the backup operation reports the problem. (Bug #27168861)

- **Client:** The `restore cluster` command returned success even if its `--skip-nodeid` option included all the applicable nodes. With this fix, an error is thrown instead in the situation. (Bug #33608705)

- **Client:** A `backup cluster` command might fail with a timeout even if the backup was actually successful, when there was not much data to back up and the success message for the command

arrived even before `mcmd` started waiting for it. With this fix, the success message is resent in the situation to avoid a timeout. (Bug #33437273)

- **Client:** After a `backup cluster` command was aborted, the next `backup cluster` operation failed with the message that it had been aborted unexpectedly . It was due to a confusion with the backup IDs involved, and this patch fixes the issue. (Bug #29239804)

Changes in MySQL Cluster Manager 8.0.27 (2021-10-19, General Availability)

Bugs Fixed

- **Agent:** Formats of the `.xml` configuration files in the `/var` folder under the MySQL Cluster Manager installation directory have been modified, to correct some minor issues. (Bug #33312186)

- **Agent:** `mcmd` quit unexpectedly when, in an `import config` operation, it ran into a file system error as it tried to access a cluster installation. With this fix, a proper error is thrown in the situation. (Bug #33173565)

- **Agent:** When using the `.msi` installer to install MySQL Cluster Manager on Windows platforms, the default target location was `C:\Program Files (x86)` even if MySQL Cluster Manager is a 64-bit software. Also, the installation ended up in `C:\Program Files (x86)` even if users chose `C:\Program Files` as its target location. These were because the installer mistook the software to be 32 bit, and that has been corrected by this patch. (Bug #33097025)

Changes in MySQL Cluster Manager 8.0.26 (2021-07-20, General Availability)

Version 8.0.26 is the first General Availability release of the 8.0 series of MySQL Cluster Manager. It is suitable for use with MySQL NDB Cluster 8.0, 7.6, and 7.5.

Listed below are functionality changes and bug fixes for MySQL Cluster Manager 8.0.42 , in comparison to release 1.4.8.

- Functionality Added or Changed

- Bugs Fixed

Functionality Added or Changed

- **Important Change:** There are a number of important changes going from MySQL Cluster Manager 1.4 and 8.0; see What Is New in MySQL Cluster Manager 8.0 for details. Users of MySQL Cluster Manager 1.4 should make sure they understand those changes before they migrate to MySQL Cluster Manager 8.0.

- **Agent:** Status detection for a management or data node has become more efficient, as `mcmd` no longer relies on reading the log of the node to determine its readiness. (Bug #31446224)

- **Client:** The file hierarchy under the `collected-files` folder created by the collect logs command has been reorganized. See the description for the collect logs command for details. (Bug #27921828)

- **Client:** The `mcm` client delivered in the stand-alone MySQL Cluster Manager package for Linux platforms (which does not include the NDB Cluster binaries) no longer has a dependence on a `mysql` client already installed on the system. (Bug #14032410)

Bugs Fixed

- **Agent:** The memory size returned by the show settings command using the `--hostinfo` option was not always consistent. It was because the value was not rounded off to the nearest megabyte by a consistent method, and this patch corrects the issue. (Bug #32788118)

- **Agent:** `mcmd` quit unexpectedly when running the import config command for a 8.0.24 or 8.0.25 cluster with an `ndb_mgmd` node ran with the `--print-full-config` option. (Bug #32785972)

- **Agent:** An update process command failed when a node was started with the `--nowait-nodes` option. With this fix, the option is allowed, but a warning is issued saying the option is not preserved after the update. The same applies now to the `--initial-start` and `--logbuffer-size` options, for the relevant node types. (Bug #32288203)

- **Agent:** When MySQL Cluster Manager was upgraded from 1.4.2 to 1.4.8, if the `mcmd` user on the `mysqld` nodes had `localhost` as its host, connections cannot be established to the `mysqld` nodes after the upgrade. It was because the upgrade changed the host for the user account to `127.0.0.1`. With this patch, when connection fails for `'user'@'127.0.0.1'`, `mcmd` attempts `'user'@'localhost'`. (Bug #32131361)

- **Agent:** After assigning explicitly each node to a node group, the cluster cannot be started if the node group IDs did not start from zero or were not consecutive numbers. This patch removes the restrictions. (Bug #31837504)

- **Agent:** The `delete site` command failed with the complaint that the site contains clusters even when it did not. (Bug #31739439)

- **Agent:** Where some command caused a process to fail (`Error 7006`), a warning from the log was displayed in place of the error message that explained the actual problem. (Bug #31496860)

- **Agent:** Sometimes, a node remained running even after the `mcm` client reported that it had been stopped successfully. It happened when `mcmd` experienced troubles with hostname resolutions, and this patch eliminated the unnecessary hostname lookups. (Bug #31399903)

- **Agent:** An `mcmd` agent might consume a disproportionately large amount of the host's CPU power when there was a long log of highly repetitive messages that `mcmd` tried to examine. This patch limits the extent by which `mcmd` would go backward in time when examining the log messages, in order to avoid the problem. (Bug #31364594)

- **Agent:** An `mcmd` agent quit unexpectedly during an `import config` command when a `mysqld` query returned an error or if the query failed due to a connection problem. (Bug #31336743)

- **Agent:** A get command failed with the complaint that the host's package was not defined if, after a cluster was created, a package was added to a host outside of the cluster, and then the host executed the get command on the cluster. It was because the `mcmd` agent did not look up package information from the configuration store, and this patch makes it do that. (Bug #31293854)

- **Agent:** On Windows platforms, an add hosts operation failed with a timeout at an attempt to add cloud hosts using computer names. (Bug #31095584)

- **Agent:** The create site command failed when the name of the host for the `mcmd` agent was resolved to 127.0.1.1 by the operating system (which is the case in, for example, the default network setup for Ubuntu systems). (Bug #31012284)

- **Agent:** When all hosts of a cluster were restarted and remove hosts was the last command executed before that, if hostname resolutions failed for all the hosts with all the agents after the restart, the site for

the cluster would then disappear from the site list. This was due to all the agents removing their hosts from the site in that situation, each thinking its own host had been removed by other agents. With this fix, at recovery, an agent now creates a repository backup before removing itself form a site, in order to avoid the inadvertent loss of the site configuration metadata. Also, a test on hostname resolution on all site members is performed before an agent removes itself from a site, and if the test fails, the remove hosts command is not executed. (Bug #30889457)

- **Agent:** A memory leak occurred for a restore cluster command run for an NDB 8.0 cluster when the `mcmd` agent failed to make a connection to a `mysqld` node. (Bug #30761243)

- **Client:** Hostnames longer than 64 characters were not supported by MySQL Cluster Manager. With this patch, the limit is extended to 255 characters. (Bug #29459484)

- When the MySQL Cluster Manager binaries for Red Hat Enterprise Linux/Oracle Enterprise Linux 7 was run on a Red Hat Enterprise Linux/Oracle Enterprise Linux 8 system, the operating system complained that the `libnsl.so.1` library was missing. However, the library was not really required. With this fix, the complaint disappears. (Bug #30996729)

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