See Also ACID, hot backup, MySQL Enterprise Backup, storage engine, transaction.

innodb_autoinc_lock_mode

The `innodb_autoinc_lock_mode` option controls the algorithm used for **auto-increment locking**. When you have an auto-incrementing **primary key**, you can use statement-based replication only with the setting `innodb_autoinc_lock_mode=1`. This setting is known as *consecutive* lock mode, because multi-row inserts within a transaction receive consecutive auto-increment values. If you have `innodb_autoinc_lock_mode=2`, which allows higher concurrency for insert operations, use row-based replication rather than statement-based replication. This setting is known as *interleaved* lock mode, because multiple multi-row insert statements running at the same time can receive **auto-increment** values that are interleaved. The setting `innodb_autoinc_lock_mode=0` should not be used except for compatibility purposes.

Consecutive lock mode (`innodb_autoinc_lock_mode=1`) is the default setting prior to MySQL 8.0.3. As of MySQL 8.0.3, interleaved lock mode (`innodb_autoinc_lock_mode=2`) is the default, which reflects the change from statement-based to row-based replication as the default replication type.
See Also auto-increment, auto-increment locking, mixed-mode insert, primary key.

innodb_file_per_table

An important configuration option that affects many aspects of `InnoDB` file storage, availability of features, and I/O characteristics. In MySQL 5.6.7 and higher, it is enabled by default. The `innodb_file_per_table` option turns on **file-per-table** mode. With this mode enabled, a newly created `InnoDB` table and associated indexes can be stored in a file-per-table **.ibd file**, outside the **system tablespace**.

This option affects the performance and storage considerations for a number of SQL statements, such as `DROP TABLE` and `TRUNCATE TABLE`.

Enabling the `innodb_file_per_table` option allows you to take advantage of features such as table **compression** and named-table backups in **MySQL Enterprise Backup**.

For more information, see `innodb_file_per_table`, and Section 15.6.3.2, "File-Per-Table Tablespaces".
See Also compression, file-per-table, .ibd file, MySQL Enterprise Backup, system tablespace.

innodb_lock_wait_timeout

The `innodb_lock_wait_timeout` option sets the balance between **waiting** for shared resources to become available, or giving up and handling the error, retrying, or doing alternative processing in your application. Rolls back any `InnoDB` transaction that waits more than a specified time to acquire a **lock**. Especially useful if **deadlocks** are caused by updates to multiple tables controlled by different storage engines; such deadlocks are not **detected** automatically.
See Also deadlock, deadlock detection, lock, wait.

innodb_strict_mode

The `innodb_strict_mode` option controls whether `InnoDB` operates in **strict mode**, where conditions that are normally treated as warnings, cause errors instead (and the underlying statements fail).
See Also strict mode.

insert

One of the primary **DML** operations in **SQL**. The performance of inserts is a key factor in **data warehouse** systems that load millions of rows into tables, and **OLTP** systems where many concurrent connections might insert rows into the same table, in arbitrary order. If insert performance is important to you, you should learn about **InnoDB** features such as the **insert buffer** used in **change buffering**, and **auto-increment** columns.
See Also auto-increment, change buffering, data warehouse, DML, InnoDB, insert buffer, OLTP, SQL.

insert buffer

The former name of the **change buffer**. In MySQL 5.5, support was added for buffering changes to secondary index pages for `DELETE` and `UPDATE` operations. Previously, only changes resulting from `INSERT` operations were buffered. The preferred term is now *change buffer*.