What's New in MySQL 5.7.5?

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Agenda

1. InnoDB
2. Optimizer
3. Strict mode
4. GIS
5. Tools and OS support
InnoDB

- Online buffer pool resizing
- Bulk data load improvements (faster CREATE INDEX)
- The executor can use InnoDB temporary tables (configurable)
- R-trees
- Truncation of undo logs
Optimizer

- New cost model
  - Work in progress, so far mostly refactoring

- ONLY_FULL_GROUP_BY mode recognizes functional dependencies
  - Less strict (still standard compliant)
  - SELECT name, ANY_VALUE(address), MAX(age) FROM t GROUP BY name;

- Refactoring
  - Better split between parsing, resolving, planning/optimization and execution phases
  - True bottom-up parser
Strict Mode

- Strict mode is now default
- Deprecate SQL modes ERROR_FOR_DIVISION_BY_ZERO, NO_ZERO_DATE and NO_ZERO_IN_DATE
  - Now part of strict mode

Strict mode is good for you! :-}
GIS

- InnoDB R-trees
- Use Boost::Geometry for many GIS functions
  - Replace old, homegrown algorithms
- Geohash input/output
- GeoJSON input/output
Tools and OS support

- `mysql_upgrade` and `mysql_install_db` are now C/C++ programs
- Remove obsolete scripts
  - `mysqlbug`
  - `mysql_zap`
  - `mysql_waitpid`
  - `mysqlhotcopy`
- Native syslog support
  - Replaces a shell script wrapper
... and many, many more

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