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Week 6

DB1102 / PGR 111 – DATABASES

Today's topics

(Today's chapters: see chapters from the previous 5 lessons)

- Q&A with Per Lauvås, regarding the coursework requirement

- MySQL Server settings (modes) for Windows

- SQL
  - Walkthrough of requested, previous tasks
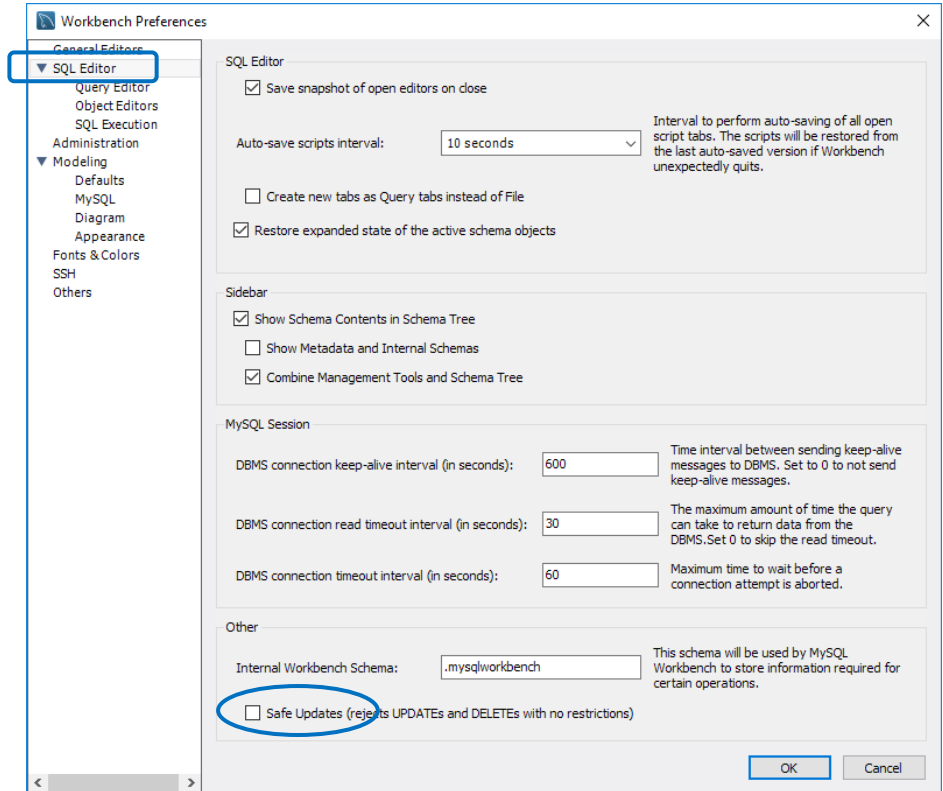 - Repetition of requested, previous topics.

MySQL settings

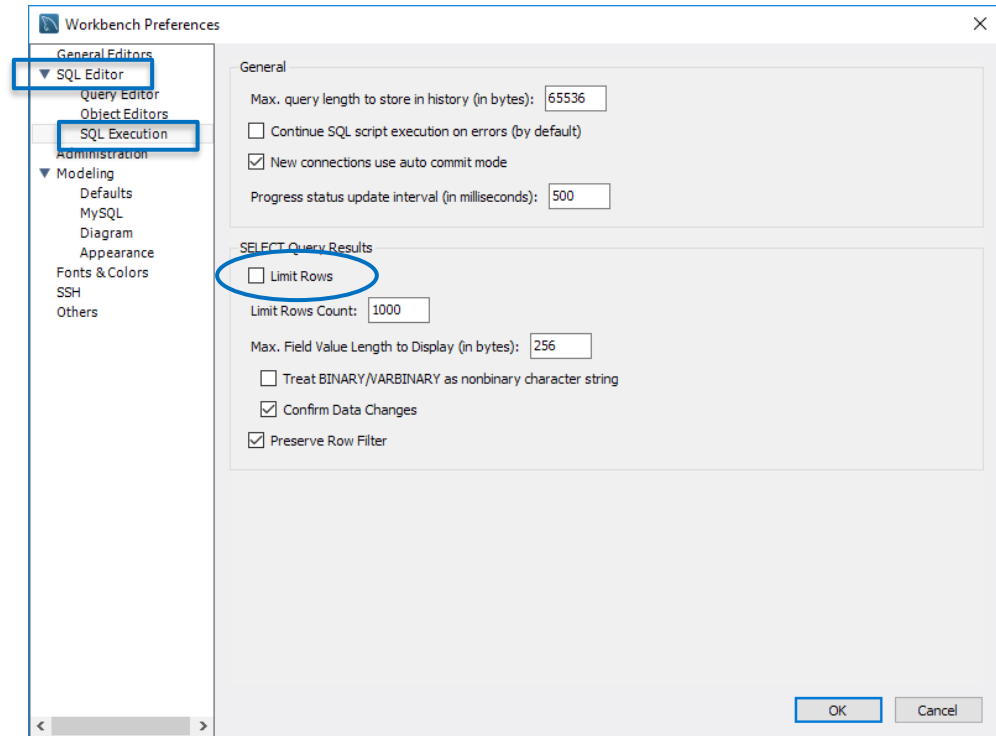# MySQL Workbench, settings (repetition)

IMPORTANT MySQL Workbench settings:

- Menu: Edit -> Preferences...
  - then SQL Editor

- *Remove mark* on Safe Updates.
  - You may need to scroll down to see this setting in your preferences window.

- Keeping mark here will hinder us from performing some of the exercises coming later in this course.
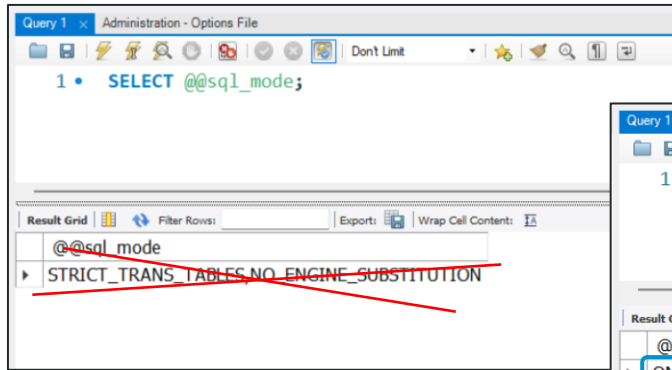
MySQL Workbench, settings (repetition)

- Menu: Edit->Preferences…
  – then SQL Editor
  – then SQL Execution

- *Remove mark* on Limit Rows.

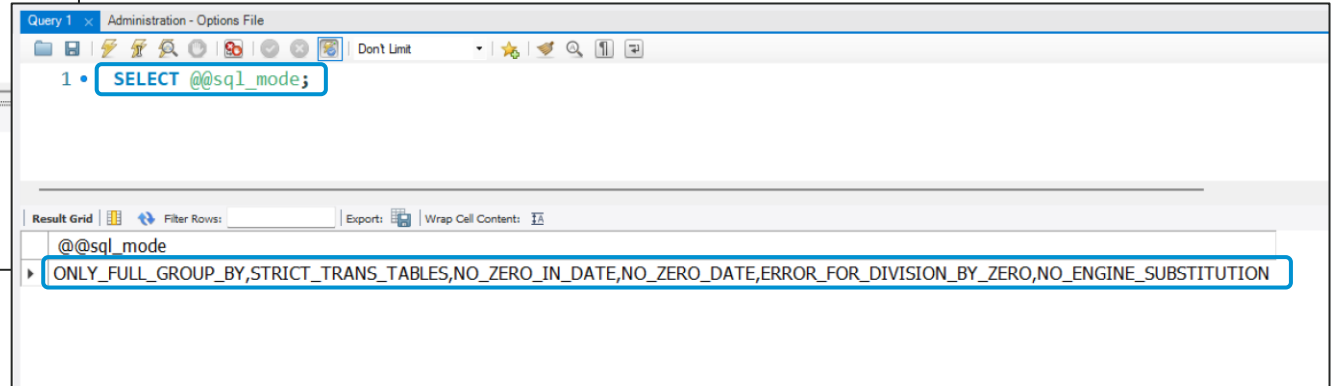- Keeping mark here will hinder us from getting more than 1000 rows returned per query.

Windows only MySQL Server, settings

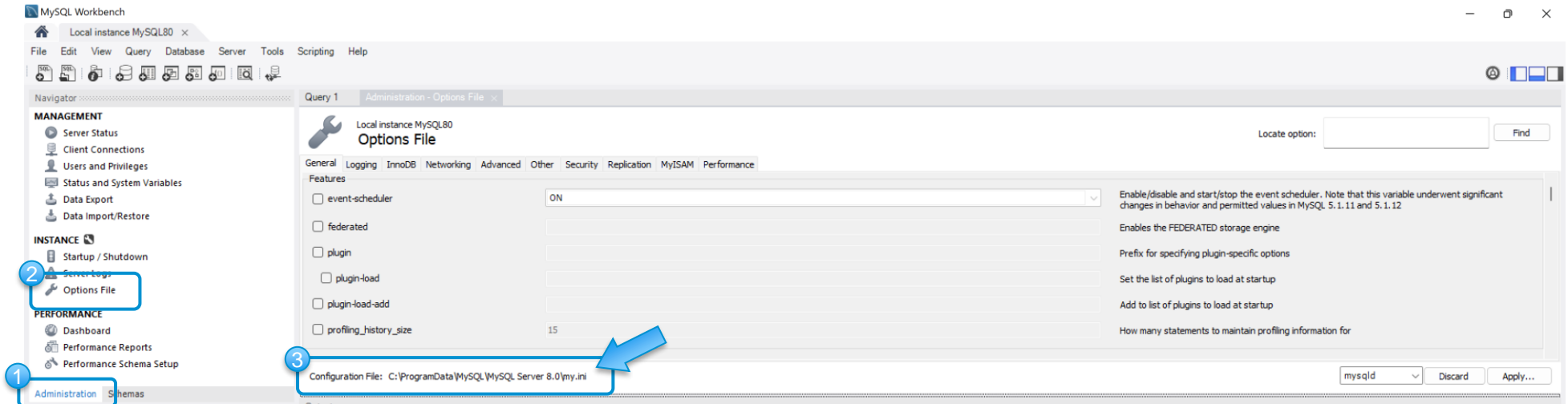- If you're on Windows, you *could* update the *sql_mode* MySQL *Server* setting. (macOS has this set already.)

Windows default is **"not great".** (To few modes set.)

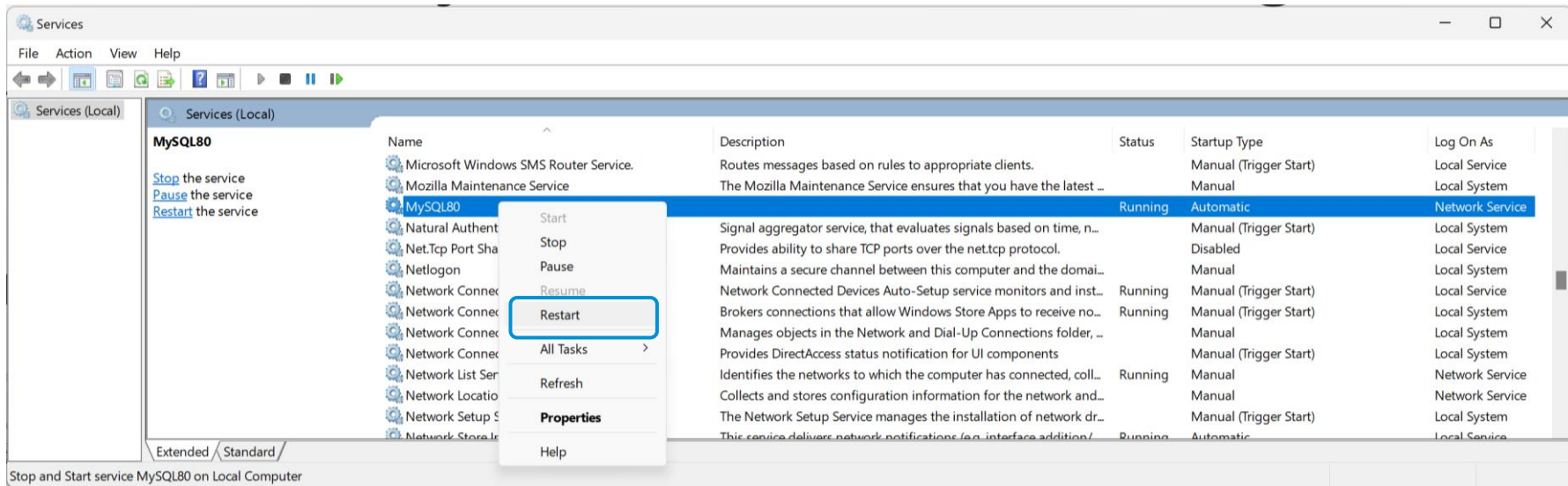This is **much better**! (Same modes as MySQL Server has as default on macOS.)

Windows MySQL Server, settings – cont.

- *NOTE:* This is an advanced update! If you do it wrong, your MySQL Server will not start afterwards!

- To do the update, you need to modify the my.ini file manually. Path can be found as shown in #3, below. To modify the file:
  - Open Notepad as *administrator* (← *important!*). Then open the file found at the path shown on your MySQL Workbench as #3, below.
  - Update 'sql-mode=' in that file to match:
    "ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION"
    Note: Make sure quotation marks are kept, and that there is no line break in the string! (Should all be on one long line.)

Windows MySQL Server, settings – cont.

- After update, restart MySQL Server. You can do this by:
  - Pressing the keys: [Win] + [R]
  - Then writing: services.msc
  - Scroll down to MySQL80 in the list, right-click it, choose: Restart

SQL repetition

Task walkthroughs & topics for repetition

- Walkthrough of requested exercises:
  - Week 4, task 4
  - Week 5, task 3-a and 3-e

- Topics for repetition:
  - Primary key (PK) and foreign key (FK)
  - (LEFT/RIGHT) JOIN
  - GROUP BY
  - WHERE vs. HAVING
  - VIEW
  - Subquery

Custom exercise to show all the topics

- Let's work on an evolving SELECT statement! We want to see:
  1. All cities (Id, Name, CountryCode).
  2. Pluss their countries (Code, Name), so we must join now.
  3. Also for countries without cities.
  4. Instead of listing the data, let's do a count of rows instead.
  5. (#4 didn't make much sense.) Let's do a count of the previous (#3) data instead.
  6. (#5 didn't make sense either.) Let's narrow it to a count of cities per country (Code, Name).
  7. For continent Europe.
  8. Then only show countries with 10 or more (>= 10) cities.
  9. Neat! Save it as a view (name it CityCountEurope) for easy, future use (column names for the view: NumberOfCities, Code, Country). *Remember to test the view!* ☺
  10. Using the view, figure out it's average number of cities.

- Finally, for the subquery: (still using the view)
  – We only want to see the rows with a city count larger than the view's average city count.

Today's exercises & looking ahead

- Now: 2 hours of exercises.

- Not normal exercises today. Instead:
  - Work on your preferred tasks (unfinished ones, maybe?) from previous exercises, to strengthen your SQL knowledge. :-)
  - *But if you have done every previous task:* Do the custom exercise from the previous slide on your own. :-)

- Main contents for the next lesson:
  - ER modelling: A technique to design DBs (schemas) ourselves!

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