

Lab week 9 (ISYS2120 sem2 2024)

Welcome to week 9's lab. In this Week of our ISYS2120 course, we have a 2-hour session (and hence there is no private meeting of the group with the tutor). Note that the SQL Online Quiz can only be done in a lab on campus; if you miss your scheduled lab, you can try to attend a different one, but it will depend on the tutor to decide if there is room. **If you miss doing the quiz, you should apply for special consideration.**

The first hour of the lab is used for the assessment task: SQL Online Quiz, worth 5% of the unit. The actual quiz will run for 50 minutes, and start no earlier than X:05 where X is the hour of the start of the lab. This gives you a chance to show your SQL skills, by writing queries that solve information needs described in English text. This will be done in Ed lessons under test conditions (ie time constraints, and also there is no help from tutor, other students, or the internet!), but without extensive automarking until after the week is over. As well as being a small part of the assessment, it serves as a valuable learning experience, to reinforce your understanding, and build confidence in your SQL skills (or if necessary, it will prompt you to revise any aspects that you miss during the hour, so you can do better on the final exam where there will again be several SQL query-writing questions).

The rest of the lab is devoted to preparation, and initial work, for asst 3. In particular, this is the time to catch up on any of steps that were not successful in week 8 lab (as we know some students met difficulties at that time).

Before the lab:

We encourage all students to take some time to review the material covered in lab in Week 8 (please get the latest version of the instructions from Canvas, as we had to update them several times during the week, as we discovered issues with connections etc). This review will help you build a strong foundation as we dive into this lab. To prepare for the SQL Online Quiz, we have released a Practice Quiz on Ed; you should be sure you worked through this under test-like conditions (that is, in a 50 minute block without consulting any assistance).

A. SQL Online Quiz

Spend the first hour of your lab time completing the appropriate day's version of this quiz. It is found on Ed through the Lessons tab, please select the correct quiz for your tutorial day. Your tutor will provide you with the password to enter the quiz. The timer does not start until you click start attempt. This quiz asks you to produce SQL queries for 4 questions. The quiz will run for 50 minutes, starting at a time decided by the tutor (but no earlier than X:05). If you are late to class, you may get less than 50 minutes to answer the questions. All the questions are based on a relational schema about users, posts, followers, comments etc; a copy of the schema and sample data was announced in <https://edstem.org/au/courses/17874/discussion/2232021>. Each question has one test which is run automatically for you; however, we will also run extra tests at the end of the week, and your score will be based on how many tests you get the correct answer on (including the ones you do not find out about). So we encourage you to do your own testing, but also manage your time well. One approach can be to aim to get the right answer on the single test we provide, for every question, before then doing more testing with other data of your own choice for edge-cases etc.

B. Work on Assignment 3

In the second hour, you will work on Asst3. The first thing is to check group membership. We have created on Canvas, new groups whose name starts _Asst3. Each group generally has the same members as you met with each week, in 20-minute checking with tutor; this is usually the combination of two separate subgroups who worked on Asst2. Most groups have 4 or 5 members, but 3 is also possible. If you want to change your membership (for example, if you want to leave the group), you should speak to the tutor at the start of the activity. The tutor will try to arrange groups suitably. You can also email the unit coordinator at alan.fekete@sydney.edu.au by Friday of week 9 at the latest.

As a group, you need to allocate each member to a different one of the tables, as indicated in the assignment instructions. The choices are Airports, Aircraft, Flights, Passengers, Tickets. [Note that if there are fewer than five members, some tables are not allocated. Each member should only have a single table to work on.] You also need to decide which member will be the data owner. The data owner will manage the access for all members of the group. All access from the group members web application code will be to the data owner's database.

If you are the data owner, please ensure that you either execute the command `"SET SCHEMA 'airline';"`, so that you can access the tables in the correct schema in the window, or refer to the table with their fully qualified name (e.g. `airline.Users`). You can check the currently active schema in the connection with `"SELECT current_schema();"`.

Now, call the appropriate `"GRANT ..."` commands to give permissions to your team members. You will need, at minimum, to execute the command: `"GRANT USAGE ON SCHEMA airline TO y24s2i2120_MEMBER";` where MEMBER is the unikey of the group member you are granting to.

Note that in order for base levels of functionality to work in the webapp, some additional tables, such as the Users table, must be available. You can consider changing the scaffold and the table used to improve your security for the security aspect of the assignment. You can check the permissions you have granted with the command “SELECT * FROM information_schema.table_privileges;”

If you are not the data owner in your group, please ensure that you change the config file for the webapp to connect to the appropriate database *of the data owner* (instead of connecting to your own database). This involves opening config.ini in the webapp directory, and adding the line

“database = y24s2i2120_UNIKEY” below the line

“host = awsprddb4836.shared.sydney.edu.au” where UNIKEY is the unikey of the data owner. Note however that you still set the webapp so it will login there with your own postgresql accountname and password.

During the lab, each member should try to run the web application (with the initial functionality of the provided code scaffold) accessing the data owner’s database. Please work with your tutor to debug any issues.

If you haven’t yet done so, use remaining time to complete the work from week 8 lab.

After the lab session

- Note that after week 9, is a mid-semester break, which goes up to (and including) the public holiday on Monday October 7. So, there is no lecture in week 10, however there are labs on Tuesday to Friday of that week. If your lab is scheduled for Monday, there will instead be a two-hour long lab in week 11, when you will do the material of both lab10 and lab11.
- Handwritten Summary10 asks you to write a summary by hand of what you have learned from lab in week 8, and especially, what is still unclear, or any technical difficulties you still find in doing these steps. This is due on Friday October 4 at 11:59pm [that is, during the mid-semester break].
- Make sure you have settled with your group on who is data owner, which table you will deal with; also be sure that you can access that table in the data owner’s database.