

CA2 Lab Report 20%

The objective of the CA Practical report is to demonstrate the various ways that you can connect to an oracle database. There are two parts

A - Connection to Oracle XE database using SQL developer on your own PC, college, or VM

B – Connection to your Cloud Database using SQL developer installed on own PC, College VM

You must complete each part of this report using the **section guidelines in part 2** below

1. For this CA you will complete a report that contains the following parts:

A. Oracle XE –

- Create a connection to **system** on college machine, VM or Home PC.
- Create a username schema called **student**.
- Connect to student and run the createStudent.sql script to create the tables and populate with the provided inserts. This script files to create the student user and the tables and inserts are available on BB. Refer to Figure 1 on page 3.
- Write a Query to describe the structure of one of the tables.
- Write a query to select from the tables. Ensure your query demonstrates the following:
 - Joins data from 3 or more tables
 - Uses 2 or more restricting data operators or keywords
 - Uses an aggregate function
 - Alias all columns appropriately

(For practice, create your management schema in the system connection, connect to management and run the mgt_schema_script.sql script to create the tables and inserts. Video demonstrations are available in the Oracle Environment Folder on BB).

B. Oracle Cloud –

- Create your Oracle Cloud account(using the email you received from Oracle).
- Create a Database Instance
- Obtain an instance wallet
- Connect to the cloud database using SQLdeveloper installed on your home PC, the college machines, or from the LYIT VM.
- Create the same user schema called student on the cloud database
- Connect to student and run the createStudent.sql script to create the tables and populate with the provided inserts. This script file is available on BB. Refer to Figure 1 on page 3
- Write a Query to describe the structure of one of the tables
- Write a different query to select from the tables. Ensure your query demonstrates the following:
 - Joins data from 3 or more tables
 - Uses 2 or more restricting data operators or keywords
 - Selects a date column datatype
 - Uses an aggregate function
 - Alias all columns appropriately

(For practice, create your management schema using your ADMIN connection, connect to management and run the mgt_schema_script.sql script to create the tables and inserts. Video demonstrations are available in the Oracle Environment Folder on BB).).

2. Lab Report Sections Instructions:

This is a formal report. It will start with some basic header fields, which need little explanation.

Student Name:

Course:

Module:

Lecturer:

Submission Date:

The report must define the method for performing the following FOR EACH part (in bold):

Aims or description. Define the purpose of the lab by discussing the Oracle database architecture and outline the various ways that you are going to demonstrate how to make a connection to an Oracle database.

Methods. This is where you will describe the steps completed during the practical work to complete each part/exercise. You will begin by detailing equipment/resources used. On procedural work (as in this practical CA) this will be the most substantial part of the report. The best way to consider what should be in this section is that it should provide adequate instructions for any other student to carry out the same work, without any other information source. It will consist of text and include screen shots(must be captioned).

The final sections of your report are your **Results/Discussion and Conclusions**. In this section of your report you discuss the results, you interpret them and provide further recommendations

The final document should be readable and should have a natural flow.

3. Note

At this level, it is expected to see a clear understanding and analysis of the practical work.

The report sections should be professional and well presented. Marks will be deducted for poor presentation, grammar or spelling.

Screen shots and images should never be presented in isolation (e.g. without text) and should only be used where they contribute to the information presented.

4. Plagiarism

All work must be entirely your own.

You must properly reference any material you use during the course of the work. You should use the Harvard referencing system. Your list of references will appear at the end of the report.

Submission – Week beginning 28st March

The report must be submitted to the **blackboard link** provided. You must **also** submit a **hard copy to me in your practical class that week** that is accompanied by a **CA cover sheet available on BB**.

Specifically, For your Lab report.

Create a **schema called student** on your **home PC or VM** and the **cloud database**.

Connect as student and run the scripts available in the Schema scripts folder, Student Schema folder on BB. This script has a lot of inserts and will take a while to complete.

Complete the remaining tasks.

Ensure you write the report up using the Lab report Sections(section 2) and Instructions.

The screenshot displays the Blackboard interface for the lyit course. On the left is a dark sidebar with the lyit logo and a navigation menu including: PROG_IT602: SQL Programming (2021/22), Home Page, Module Material, Weekly Content, Assignments & Tests, Schema Scripts (highlighted), Oracle Environment, Module Software, Recommended Reading and additional resources, Student Collaboration, Discussions, Journals, Blogs, Collaborate Ultra, Panopto, and Marks. The main content area has a purple header bar with the message "Success: Student Schema Scripts availability updated." Below this is a "Schema Scripts" section with tabs for Build Content, Assessments, Tools, and Partner Content. The content is organized into three sections: 1. "management schema scripts" with attached files: mgt_schema_script.sql (7.243 KB), create_management_in_cloud.sql (439 B), create_user.sql (506 B), and management_relational_schema_data_model.pdf (101.066 KB). It includes instructions on using these scripts to create a management schema user, tables, and insert records, and mentions a relational model diagram. 2. "Student Schema Scripts" with a highlighted instruction: "In this folder is the create student user sql file and the createstudent.sql to create the DDL and insert data. You must create a user called student both on your Oracle XE database as well as in the cloud and be able connect to the student user on both databases using SQLDeveloper. This is part of your CA2 Report." It also states that the student schema can be used for additional practice. 3. "HR Schema Create and Inserts and the data model diagrams" with attached files: HR_creates_inserts.sql (49.797 KB), create_user.sql (491 B), and HR Schema Description.pdf (216.088 KB). It explains that the HR Schema is an Oracle Demo Script used for practicing SQL fundamentals and provides instructions to create a user called hr on the cloud database and connect via SQLDeveloper.

Figure 1- Schema Scripts are available on BB