Course overview:

1. **Basics (10 days)**
   a) Working on **GoormIDE**
   b) Database- create, drop
   c) Working with tables- create, drop, inserting data(s)
   d) Working with basic data type
   e) Warnings, NULL/NOT NULL, Primary key, Default key.
   f) **Assignment**- it will include 3-4 different questions in which you will have to perform the commands taught so far.

   How to submit: You will send me the link to your terminal of Goorm via email/ google form and can also send screenshot/upload your code on Github and submit the link via google form.

2. **CRUD operation (15 days)**
   a) Select, Where
   b) Aliases (As)
   c) Update
   d) Delete
   e) **CRUD challenge**: you will have to solve a challenging query (problem), which will be given to you over google meet and you will have to submit its solution within a limited time frame.
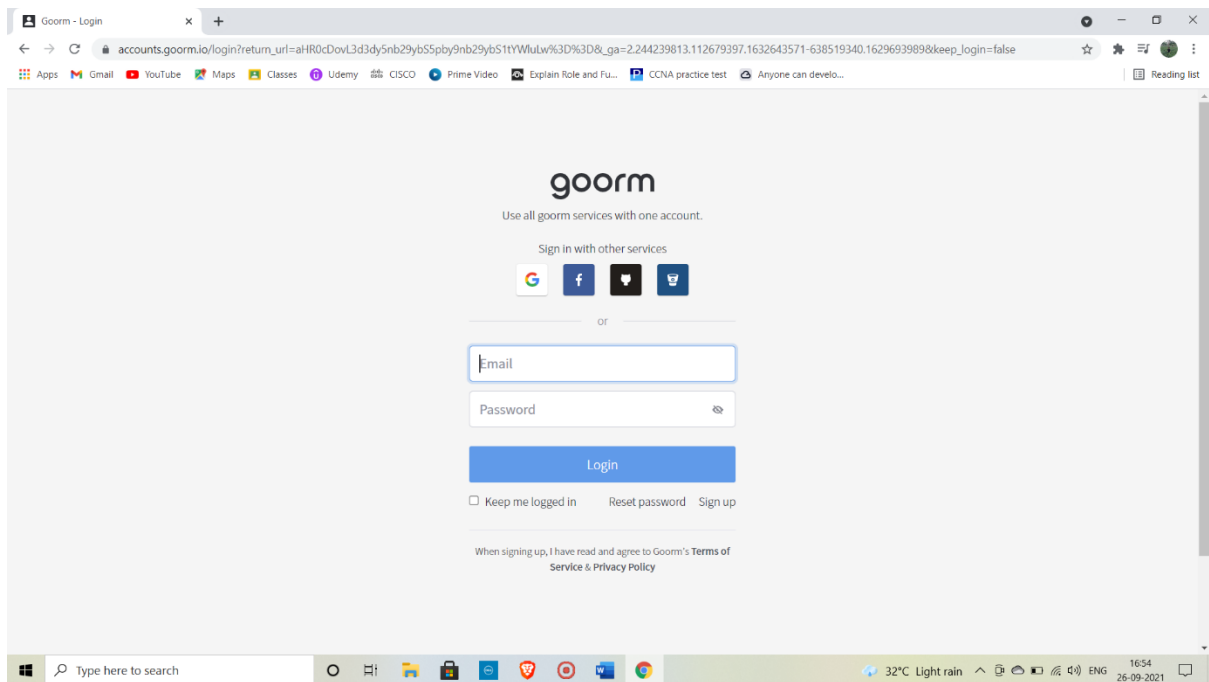
3. **Working with (15 days)**
   a) String- concat, substring, replace, reverse, upper, lower, char length,etc
   b) Distinct, order by, like, limit, wildcard,etc
   c) Aggregate functions- count, group by, min/max, average, etc
   d) Data types- int, float, double, decimal, date/time (formatting, maths), timestamp…
   e) Logical operator- equal/not equal, greater/smaller,case statements, etc
   f) **Mini database challenge**: you will have to solve a challenging query (problem), which will be given to you over google meet and you will have to submit its solution within a limited time frame.
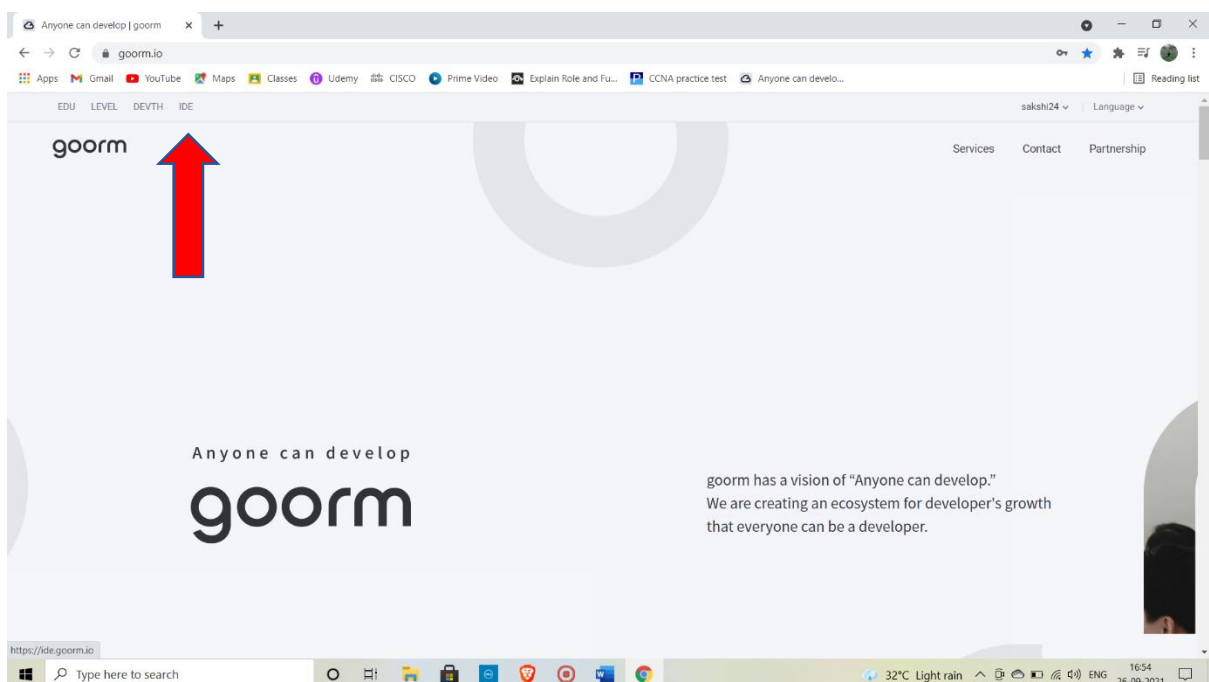
4. **Introduction to (20 days)**
   a) E-R Diagrams- one to one, one to many (cross join/left join/right join/inner join), many to one, many to many (tv joins, foreign key)
   b) Instagram database clone
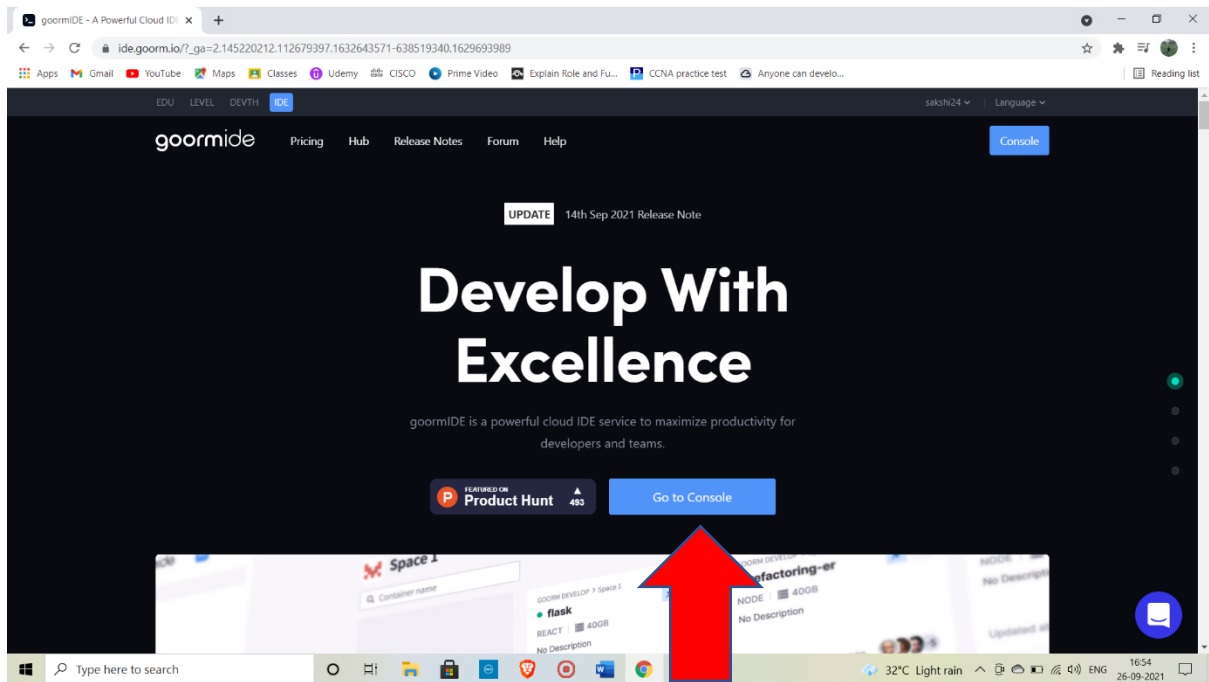   c) **Final challenge** (INSTAGRAM CLONE CHALLENGE)

SQL - Goorm.io Signup Instructions

- Sign up for a free goorm account, [here](#).
  - Be sure to use a valid email, you will need to confirm the email address in order to sign up.
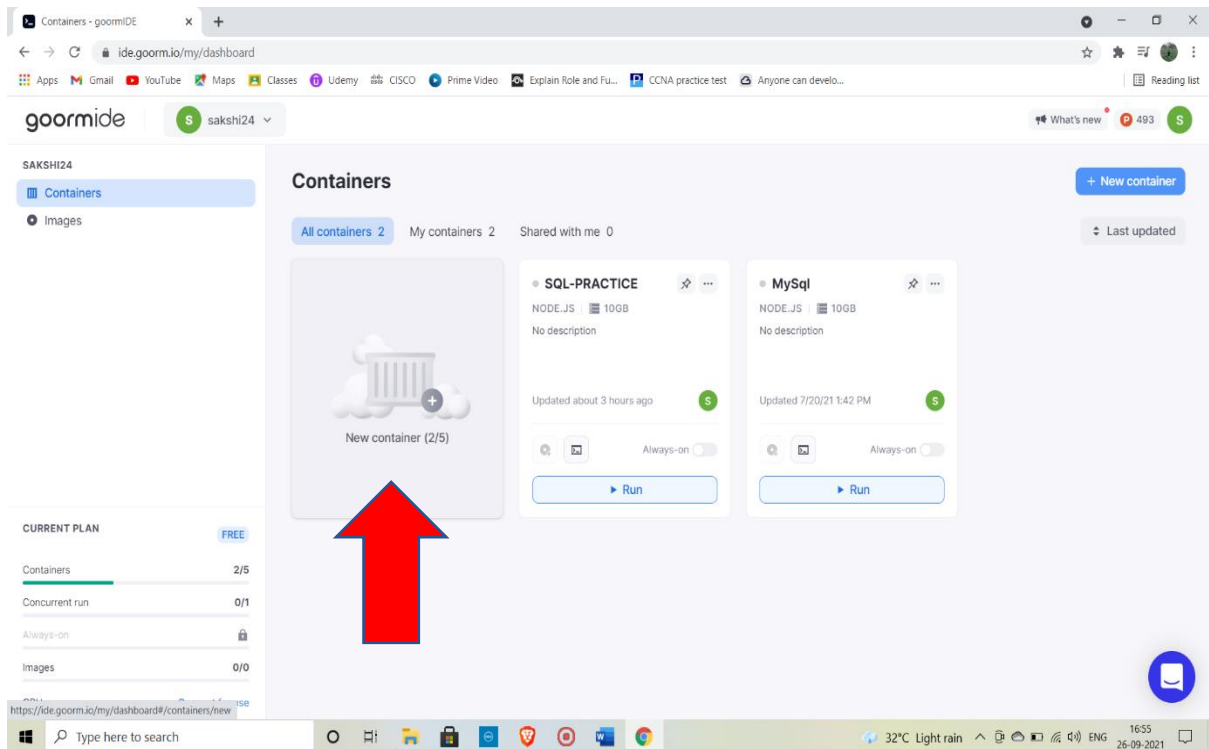- Log in to Goorm.io, if you are not already logged in.

- Go to your IDE dashboard, [here](#), this is where you will create and manage your containers. Please bookmark this page, you will use it often (RED ARROW).
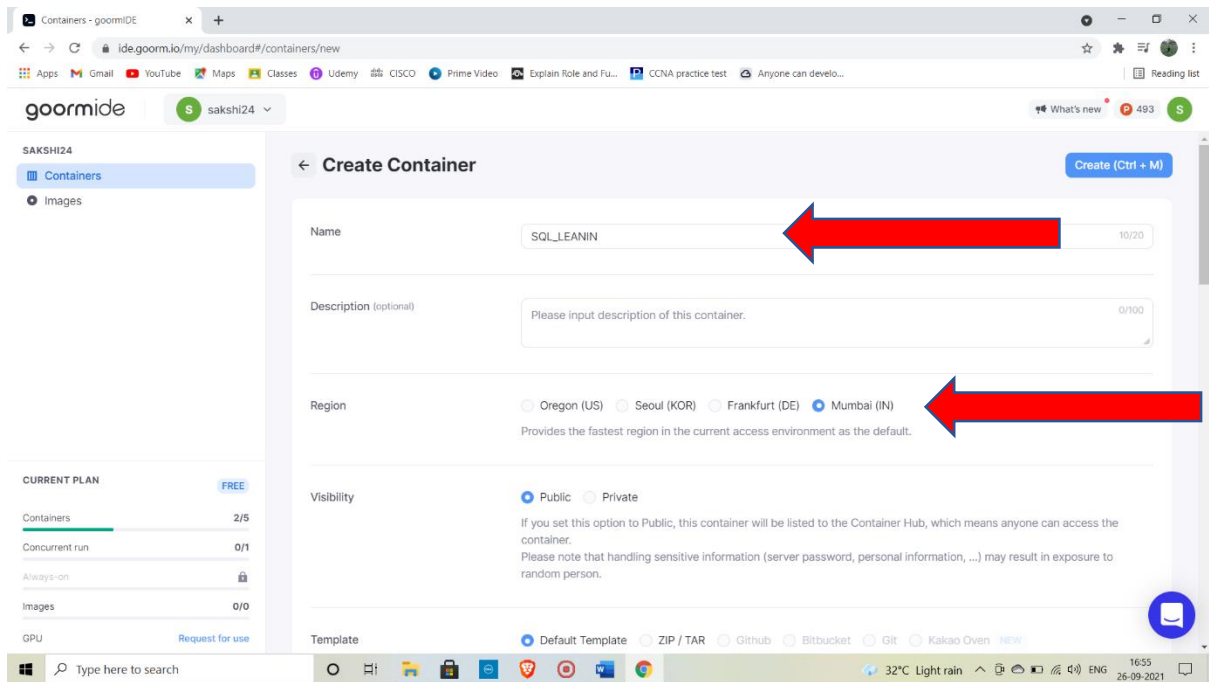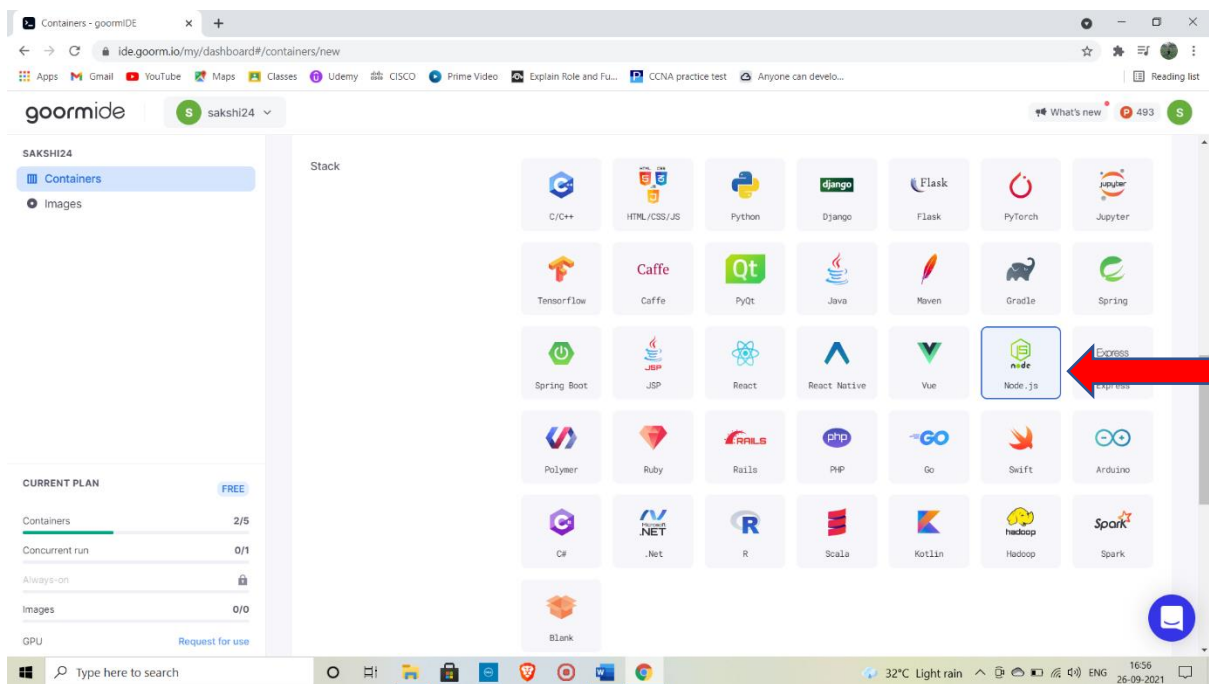
- CLICK ON THE CONSOLE OPTION AS SHOWN IN SCREENSHOT
- To create a new container, click on the "+ New Container" of your IDE dashboard.
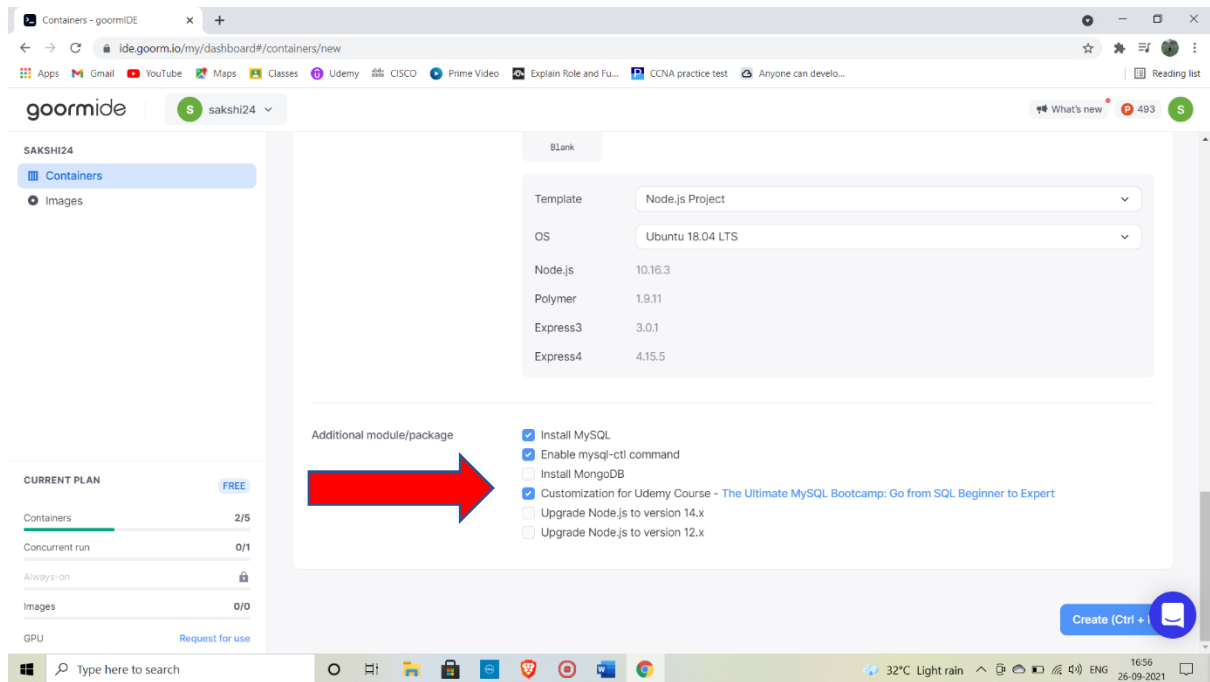

- Input a container name, e.g., 'mysql' OR 'SQL_LEANIN' or 'SQL_PRACTICE'

- Select the region 'MUMBAI'
- Go down to "Stack" and click on "Node.js".

- Go down to Additional module/package and check all three of the following options:
  - Install MySQL
  - Enable mysql-ctl command
  - "Customization for Udemy Course - The Ultimate MySQL Bootcamp: Go from SQL Beginner to Expert".

- Click the "Create (Ctrl + M)" button. (TO CREATE CONTAINER)
- Wait a few minutes for your container to be created and configured.
- When the container has been created you will see a green circle around a check mark, now click on the **"Run container"** button.

Discuss with other mentees/with me in case you face some problem in making account over discord.

WATCH THE FOLLOWING VIDEOS TO GET AN OVERVIEW OF GOORM

- You are now inside of your goorm container. When you're done working you can close this window, but if you want to return to your container you will need to go back to your IDE dashboard, here and click the "Run" button beneath your container name.
- Please view this video to learn the basics of file/folder creation and navigation within your new goorm.io container.
- Please view this video to learn how to run your mysql server and open the mysql shell.
- Please view this video to learn how to run MySQL commands from a file. This will make working with Goorm much easier!

If you get stuck anywhere discuss over discord or else will be discussed over google meet 😊

BEFORE WE START, MENTEES MUST LOOK FOR FOLLOWING ANSWERS AND TRY TO PRACTICE THESE BASIC COMMANDS (WE WILL DISCUSS THESE LATER)

1. What is database why they matter?
2. Database vs database management system?
3. MySQL Vs SQL?
4. Relational vs non-relational databases? And examples.

PRACTICE THESE COMMANDS

1. SHOW DATABASE;
2. CREATE DATABASE <NAME>;
3. DROP DATABASE <NAME>;
4. USE DATABASE <NAME>;
5. CREATE TABLE <TABLE_NAME>

   (

   <COLUMN_NAME_1> DATA_TYPE,

   <COLUMN_NAME_2> DATA_TYPE,

   <COLUMN_NAME_3> DATA_TYPE

)

6. SHOW TABLES;
7. DESC <TABLE_NAME>;
8. SHOW COLUMN FROM <TABLE_NAME>;
9. DROP <TABLE_NAME>;
10. INSERT INTO <TABLE_NAME> (COLUMN_NAME_1, COLUMN_NAME_2) VALUES (A,B);
11. SELECT * FROM <TABLE_NAME>
12. INSERT INTO <TABLE_NAME> (COLUMN_NAME_1,COLUMN_NAME_2) VALUES (A,B), (C,D), (E,F), (G,H), (I,J);
13. SHOW WARNINGS;
14. NULL/NOT NULL
15. DEFAULT
16. PRIMARY KEY
17. AUTO INCREMENT

Using the above syntax attempt the below commands:

A. Create a database with name 'classmates'.
B. Create a table 'friends' with fields 'first_name', 'last_name', 'roll_no', 'id_no' and select the appropriate datatype for each filed.
C. Describe the fields of table
D. Insert your details as per your BANASTHALI DATA
E. Multiple insert into the table with at least 5 of your classmate/friends detail (OR ANY FICTIONAL DETAIL)
F. Select all the data in table and display it
G. Drop the table

H.   You realised you have not set DEFAULT is case a student does not uses last_name and NOT NULL in case of roll_no and id_no. Also, you want id_no and roll_no to be unique so use PRIMARY KEY and create another table. Such that, table name is 'updated_friends' and following changes mentioned above are corrected.

Don't worry if you are not able to solve this, it will be discussed!

RESOURCES FOR SQL QUERIES PRACTICE AND REVISION

1. WEBSITES FOR PRACTICING QUERIES
    - https://www.w3schools.com/sql/
    - https://leetcode.com/problemset/database/
    - https://mode.com/sql-tutorial/introduction-to-sql/
    - https://www.hackerrank.com/domains/sql
    - https://www.khanacademy.org/computing/computer-programming/sql
2. CHEATSHEET FOR QUICK REVISION OF SQL COMMANDS
    - https://www.mysqltutorial.org/mysql-cheat-sheet.aspx
    - http://g2pc1.bu.edu/~qzpeng/manual/MySQL%20Commands.htm
    - https://phoenixnap.com/kb/mysql-commands-cheat-sheet
3. YOU CAN ALSO DOWNLOAD DEV MYSQL SOFTWARE TO PRACTICE

    LINK: https://dev.mysql.com/downloads/mysql/8.0.html

Although I will be using GOORM.io would want you to use the same and will suggest to do theory from W3School.com and practice queries after gaining confidence on basics, over any website mentioned above in point 1.