

MySQL Labs

MySQL (Day2):

1	Update students courses table, set the registration date value to "Today";
	UPDATE students_courses SET reg_date = CURRENT_DATE;
2	Display the registration date in the following format: <i>Day, month/ year</i>
	SELECT DATE_FORMAT(reg_date , '%e , %M / %Y') AS time FROM students_courses;
3	Display the <u>full name (first, last)</u> of the student with <u>his grade</u>. <i>if his grade is greater than 85% Excellent, from 75% to 85% Very good, from 65% to 75% Good and from 55% to 65% pass otherwise will be graded as failed.</i>
	SELECT CONCAT_WS(' ',s.first_name,s.last_name) AS 'full name', IF (sc.grade>=85, "Excellent", IF (sc.grade>=75, "Verygood", IF (sc.grade>=65, "good", IF (sc.grade>=55, "pass", IF (sc.grade<55, "failed" ,"")))))) AS grade FROM students s , students_courses sc WHERE s.student_id = sc.student_id;
4	Display the <u>capitalized last name</u> , and the <u>grade</u> , if he has no grade display the keyword <u>absent</u>. [using ifNULL function]
	SELECT UCASE(s.last_name),IFNULL(sc.grade,"absent") FROM students s left join students_courses sc on s.student_id = sc.student_id ;
5	Display <u>students' names</u>, <u>course name</u> along with their grades.
	select s.first_name , s.last_name , sc.grade from students s , students_courses sc where s.student_id = sc.student_id;
6	For each course, display the <u>course name</u>, <u>min grade</u>, <u>max grade</u>, <u>average grade</u>, <u>number of attended students</u>.

	select c.course_name , min(sc.grade), max(sc.grade), avg(sc.grade) from courses c , students_courses sc where c.course_id = sc.course_id group by c.course_name;
7	Use subquery to display the <u>names of the students</u> who were born before student no 1.
	select first_name , last_name from students where birth_date < (select birth_date from students where student_id = 1);
8	Use subquery to display the <u>data of all the courses</u> with a credit hour similar to MySQL's credit hours
	select * from courses where credit_hour = (select credit_hour from courses where course_name = 'MySQL');
10	Create a view called <u>female_students_vu</u> to display all the female students
	create view female_students_vu as select * from students where gender = 'female';
11	Try to <u>insert a male student</u> through your view
	update female_students_vu set gender = 'male' where student_id = 4; <pre> +-----+-----+-----+-----+-----+-----+-----+ student_id first_name last_name tel email gender birth_date +-----+-----+-----+-----+-----+-----+-----+ 5 Mona Khalil NULL NULL female 1992-10-01 +-----+-----+-----+-----+-----+-----+-----+ </pre>
12	Select all the data from your view and then from the students table
	select * from female_students_vu; select * from students; <pre> MariaDB [php]> select * from female_students_vu; +-----+-----+-----+-----+-----+-----+-----+ student_id first_name last_name tel email gender birth_date +-----+-----+-----+-----+-----+-----+-----+ 5 Mona Khalil NULL NULL female 1992-10-01 +-----+-----+-----+-----+-----+-----+-----+ 1 row in set (0.001 sec) MariaDB [php]> select * from students; +-----+-----+-----+-----+-----+-----+-----+ student_id first_name last_name tel email gender birth_date +-----+-----+-----+-----+-----+-----+-----+ 1 Ahmed Aly NULL NULL male 1991-10-01 2 Ahmed Ibrahim NULL NULL male 1991-09-01 3 Ahmed Ossama NULL NULL male 1992-10-01 4 Hoda Khaled NULL NULL male 1991-09-01 5 Mona Khalil NULL NULL female 1992-10-01 +-----+-----+-----+-----+-----+-----+-----+ </pre>
13	Prevent the ability to insert another male student through you view

	<pre> MariaDB [php]> create or replace view female_students_vu as select * from students where gender = 'female' with check option; Query OK, 0 rows affected (0.006 sec) MariaDB [php]> select * from female_students_vu; +-----+-----+-----+-----+-----+-----+-----+ student_id first_name last_name tel email gender birth_date +-----+-----+-----+-----+-----+-----+-----+ 4 Hoda Khaled NULL NULL female 1991-09-01 5 Mona Khalil NULL NULL female 1992-10-01 +-----+-----+-----+-----+-----+-----+-----+ 2 rows in set (0.001 sec) MariaDB [php]> update female_students_vu set gender = 'male' where student_id = 4; ERROR 1369 (44000): CHECK OPTION failed `php`.`female_students_vu` </pre>
14	<i>Use the information schema to display the <u>table name</u> , <u>schema</u> and the <u>updatability</u> of the <u>female_students_vu</u> view</i>
	<pre> MariaDB [information_schema]> select table_name from information_schema.tables where table_name = 'female_students_vu'; +-----+ table_name +-----+ female_students_vu +-----+ 1 row in set (0.002 sec) MariaDB [information_schema]> select table_schema from information_schema.tables where table_name='female_students_vu'; +-----+ table_schema +-----+ php +-----+ 1 row in set (0.002 sec) MariaDB [information_schema]> select create_options from information_schema.tables where table_name = 'female_students_vu'; +-----+ create_options +-----+ NULL +-----+ 1 row in set (0.003 sec) </pre>
15	<i>Use the information schema to display the <u>create time</u>, <u>table rows</u>, <u>auto increment</u>, and the <u>comments</u> on the students table.</i>
	<pre> MariaDB [information_schema]> select create_time , table_rows ,auto_increment,table_comment from information_schema.tables where table_name = 'female_students_vu'; +-----+-----+-----+-----+ create_time table_rows auto_increment table_comment +-----+-----+-----+-----+ NULL NULL NULL VIEW +-----+-----+-----+-----+ 1 row in set (0.002 sec) </pre>
16	<i>Create a nonunique index on the foreign key column (COURSE_ID) in the students_courses table.</i>
	<pre> create index forgein_index on students_courses(course_id); MariaDB [information_schema]> select name from information_schema.INNODB_SYS_INDEXES where name = 'forgein_index'; +-----+ name +-----+ forgein_index +-----+ 1 row in set (0.000 sec) </pre>
17	<i>Create a user with your name and give him the privilege to access the grades database</i>
	<pre> create user 'rana'@'localhost' identified by 'rana'; grant all on grades.* to rana identified by 'rana' ; </pre>
18	<i>Connect to mysql using the user you created and try to insert one record in the courses table.</i>

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Your MariaDB connection id is 86
Server version: 10.4.27-MariaDB mariadb.org binary distribution

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Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> show databases;
+-----+
| Database |
+-----+
| grades   |
| information_schema |
+-----+
2 rows in set (0.002 sec)

MariaDB [(none)]> use grades;
Database changed
MariaDB [grades]> show tables;
+-----+
| Tables_in_grades |
+-----+
| courses           |
| male_students     |
| students          |
| students_courses  |
+-----+
4 rows in set (0.001 sec)

MariaDB [grades]> desc courses;
+-----+-----+-----+-----+-----+-----+
| Field      | Type          | Null | Key | Default | Extra          |
+-----+-----+-----+-----+-----+-----+
| course_id  | int(11)       | NO   | PRI | NULL    | auto_increment |
| course_name | varchar(100)  | NO   |     | NULL    |                |
| credit_hour | int(11)       | YES  |     | NULL    |                |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.009 sec)

MariaDB [grades]> insert into courses values(default, 'Apache', 6);
Query OK, 1 row affected (0.173 sec)

MariaDB [grades]> select * from courses;
+-----+-----+-----+
| course_id | course_name | credit_hour |
+-----+-----+-----+
| 1         | Apache      | 6           |
+-----+-----+-----+
1 row in set (0.000 sec)

MariaDB [grades]>

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19 *Change your password.*

	set password = password('rana');
20	<i>Show your privileges.</i>
	show grants;