

ADDED NEW COLUMN CALLED DOB IN PERSON TABLE

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'entri_dd41' selected. The main editor shows the following SQL script:

```
1 -- Added new column called DOB in the Persons table with data type as Date
2
3 ALTER TABLE Persons ADD DOB DATE;
4 desc persons;
```

The 'Result Grid' shows the structure of the 'Persons' table:

| Field | Type | Null | Key | Default | Extra |
|--------------|--------------|------|-----|---------|-------|
| Id | int | NO | PRI | NULL | |
| Prname | varchar(100) | YES | | NULL | |
| Lname | varchar(100) | YES | | NULL | |
| Population | int | YES | | NULL | |
| Rating | decimal(3,2) | YES | | NULL | |
| Country_id | int | YES | MUL | NULL | |
| Country_name | varchar(100) | YES | | NULL | |
| DOB | date | YES | | NULL | |

The 'Output' pane shows the execution log:

| # | Time | Action | Message | Duration / Fetch |
|---|----------|----------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------|
| 1 | 14:06:19 | USE entri_dd41 | 0 row(s) affected | 0.000 sec |
| 2 | 14:06:20 | ALTER TABLE Persons ADD DOB DATE | 0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0 | 0.045 sec |
| 3 | 14:08:41 | desc from persons | Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your M... | 0.016 sec |
| 4 | 14:08:54 | desc persons | 8 row(s) returned | 0.000 sec / 0.000 sec |

CREATED USER DEFINED FUNCTION TO CALCULATE AGE USING DOB

The screenshot shows the MySQL Workbench interface. The left sidebar displays the 'SCHEMAS' tree with 'entri_dd41' selected. The main editor shows the following SQL script:

```
1 -- Added a new column called DOB in the Persons table
2 ALTER TABLE Persons
3 ADD DOB DATE;
4 -- user-defined function to calculate age using DOB
5
6 DELIMITER //
7 CREATE FUNCTION CalculateAge(DOB DATE)
8 RETURNS INT
9 DETERMINISTIC
10 BEGIN
11     RETURN YEAR(CURDATE()) - YEAR(DOB) -
12         (DATE_FORMAT(CURDATE(), '%m%d') < DATE_FORMAT(DOB, '%m%d'));
13 END;
14 //
15 DELIMITER ;
```

The 'Output' pane shows the execution log:

| # | Time | Action | Message | Duration / Fetch |
|---|----------|------------------------------------------------------------------------|-----------------------------------------------|------------------|
| 1 | 12:17:40 | USE entri_dd41 | 0 row(s) affected | 0.000 sec |
| 2 | 12:17:50 | ALTER TABLE Persons ADD DOB DATE | Error Code: 1060. Duplicate column name 'DOB' | 0.000 sec |
| 3 | 12:21:31 | CREATE FUNCTION CalculateAge(DOB DATE) RETURNS INT DETERMINISTIC BEGIN | 0 row(s) affected | 0.016 sec |

SELECTED QUERY TO FETCH AGE OF ALL PERSONS

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
9 DETERMINISTIC
10 BEGIN
11     RETURN YEAR(CURDATE()) - YEAR(DOB) -
12         (DATE_FORMAT(CURDATE(), '%d') < DATE_FORMAT(DOB, '%d'));
13 END;
14 //
15 DELIMITER ;
16
17 -- select query to fetch the Age of all persons using the function
18 SELECT Id, Fname, Lname, CalculateAge(DOB) AS Age
19 FROM Persons;
```

The Result Grid shows the output of the query:

| Id | Fname | Lname | Age |
|----|----------|---------|-----|
| 1 | John | Kunan | 12 |
| 2 | Subah | Borghol | 12 |
| 3 | Sarfaraz | Khan | 12 |
| 4 | Subhash | Raj | 12 |
| 5 | Eyad | | 12 |
| 6 | Alice | White | 12 |
| 7 | Peter | | 12 |
| 8 | Anna | Byj | 12 |
| 9 | Lufi | One | 12 |
| 10 | Maria | Ahmad | 12 |
| 11 | Kinia | | 12 |
| 12 | Aby | | 12 |

The Action Output pane shows the following actions:

| # | Time | Action | Message | Duration / Fetch |
|---|----------|----------------------------------------------------------------------------------|-----------------------------------------------|-----------------------|
| 1 | 12:17:40 | USE entri_d441 | 0 row(s) affected | 0.000 sec |
| 2 | 12:17:50 | ALTER TABLE Persons ADD DOB DATE | Error Code: 1060. Duplicate column name 'DOB' | 0.000 sec |
| 3 | 12:21:31 | CREATE FUNCTION CalculateAge(DOB DATE) RETURNS INT DETERMINISTIC BEGIN RETURN... | 0 row(s) affected | 0.016 sec |
| 4 | 12:22:22 | SELECT Id, Fname, Lname, CalculateAge(DOB) AS Age FROM Persons LIMIT 0, 1000 | 12 row(s) returned | 0.000 sec / 0.000 sec |

FINDED THE LENGTH OF EACH COUNTRY NAME IN THE COUNTRY TABLE

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
15 DELIMITER ;
16
17 -- select query to fetch the Age of all persons using the function
18 SELECT Id, Fname, Lname, CalculateAge(DOB) AS Age
19 FROM Persons;
20
21 -- Finded the length of each country name in the Country table
22 SELECT Country_name, LENGTH(Country_name) AS Name_Length
23 FROM Country;
```

The Result Grid shows the output of the query:

| Country_name | Name_Length |
|--------------|-------------|
| India | 5 |
| Syria | 5 |
| Pakistan | 8 |
| Poland | 6 |
| England | 7 |
| France | 6 |
| Italy | 5 |
| Nepal | 5 |
| Iran | 4 |
| Japan | 5 |

The Action Output pane shows the following actions:

| # | Time | Action | Message | Duration / Fetch |
|---|----------|-------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------|
| 1 | 12:17:40 | USE entri_d441 | 0 row(s) affected | 0.000 sec |
| 2 | 12:17:50 | ALTER TABLE Persons ADD DOB DATE | Error Code: 1060. Duplicate column name 'DOB' | 0.000 sec |
| 3 | 12:21:31 | CREATE FUNCTION CalculateAge(DOB DATE) RETURNS INT DETERMINISTIC BEGIN RETURN... | 0 row(s) affected | 0.016 sec |
| 4 | 12:22:22 | SELECT Id, Fname, Lname, CalculateAge(DOB) AS Age FROM Persons LIMIT 0, 1000 | 12 row(s) returned | 0.000 sec / 0.000 sec |
| 5 | 12:23:00 | SELECT Country_name, LENGTH(Country_name) AS Name_Length FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |

EXTRACTED THE FIRST THREE CHARACTERS OF EACH COUNTRY'S NAME IN COUNTRY TABLE

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Limit to 1000 rows

```
18 SELECT Id, Fname, Lname, CalculateAge(DOB) AS Age
19 FROM Persons;
20
21 -- Finded the length of each country name in the Country table
22 * SELECT Country_name, LENGTH(Country_name) AS Name_Length
23 FROM Country;
24
25 -- Extracted the first three characters of each country's name in the Country table
27 * SELECT Country_name, LEFT(Country_name, 3) AS First_Three_Chars
28 FROM Country;
```

Result Grid

| Country_name | First_Three_Chars |
|--------------|-------------------|
| India | Ind |
| Syria | Syr |
| Pakistan | Pak |
| Poland | Pol |
| England | Eng |
| France | Fra |
| Italy | Ita |
| Nepal | Nep |
| Iran | Iro |
| Japan | Jap |

Result 3

Output

Action Output

| # | Time | Action | Message | Duration / Fetch |
|---|----------|--------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------|
| 1 | 12:17:40 | USE entri_dd41 | 0 row(s) affected | 0.000 sec |
| 2 | 12:17:50 | ALTER TABLE Persons ADD DOB DATE | Error Code: 1060. Duplicate column name 'DOB' | 0.000 sec |
| 3 | 12:21:31 | CREATE FUNCTION CalculateAge(DOB DATE) RETURNS INT DETERMINISTIC BEGIN RETURN... | 0 row(s) affected | 0.016 sec |
| 4 | 12:22:22 | SELECT Id, Fname, Lname, CalculateAge(DOB) AS Age FROM Persons LIMIT 0, 1000 | 12 row(s) returned | 0.000 sec / 0.000 sec |
| 5 | 12:23:00 | SELECT Country_name, LENGTH(Country_name) AS Name_Length FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |
| 6 | 12:23:45 | SELECT Country_name, LEFT(Country_name, 3) AS First_Three_Chars FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |

Object Info Session

CONVERTED COUNTRY NAME TO UPPER CASE IN COUNTRY TABLE

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Local instance MySQL80

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Limit to 1000 rows

```
23 FROM Country;
24
25 -- Extracted the first three characters of each country's name in the Country table
26
27 * SELECT Country_name, LEFT(Country_name, 3) AS First_Three_Chars
28 FROM Country;
29
30 -- Converted all country names to uppercase and lowercase in the Country table
31 -- UPPERCASE
32 * SELECT Country_name, UPPER(Country_name) AS Uppercase_Name
33 FROM Country;
```

Result Grid

| Country_name | Uppercase_Name |
|--------------|----------------|
| India | INDIA |
| Syria | SYRIA |
| Pakistan | PAKISTAN |
| Poland | POLAND |
| England | ENGLAND |
| France | FRANCE |
| Italy | ITALY |
| Nepal | NEPAL |
| Iran | IRAN |
| Japan | JAPAN |

Result 5

Output

Action Output

| # | Time | Action | Message | Duration / Fetch |
|---|----------|--------------------------------------------------------------------------------------------|--------------------|-----------------------|
| 3 | 12:21:31 | CREATE FUNCTION CalculateAge(DOB DATE) RETURNS INT DETERMINISTIC BEGIN RETURN... | 0 row(s) affected | 0.016 sec |
| 4 | 12:22:22 | SELECT Id, Fname, Lname, CalculateAge(DOB) AS Age FROM Persons LIMIT 0, 1000 | 12 row(s) returned | 0.000 sec / 0.000 sec |
| 5 | 12:23:00 | SELECT Country_name, LENGTH(Country_name) AS Name_Length FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |
| 6 | 12:23:45 | SELECT Country_name, LEFT(Country_name, 3) AS First_Three_Chars FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |
| 7 | 12:24:11 | SELECT Country_name, UPPER(Country_name) AS Uppercase_Name FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |
| 8 | 12:25:10 | SELECT Country_name, UPPER(Country_name) AS Uppercase_Name FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |

Object Info Session

CONVERTED COUNTRY NAME TO LOWER CASE IN COUNTRY TABLE

MySQL Workbench

Local instance MySQL80

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```
28 FROM Country;
29
30 -- Converted all country names to uppercase and lowercase in the Country table
31 -- UPPERCASE
32 SELECT Country_name, UPPER(Country_name) AS Uppercase_Name
33 FROM Country;
34
35 -- LOWER CASE
36 SELECT Country_name, LOWER(Country_name) AS Lowercase_Name
37 FROM Country;
38
```

Result Grid

| Country_name | Lowercase_Name |
|--------------|----------------|
| India | india |
| Syria | syria |
| Pakistan | pakistan |
| Poland | poland |
| England | england |
| France | france |
| Italy | italy |
| Nepal | nepal |
| Iran | iran |
| Japan | japan |

Result 6 x Read Only

Output

Action Output

| # | Time | Action | Message | Duration / Fetch |
|---|----------|--------------------------------------------------------------------------------------------|--------------------|-----------------------|
| 4 | 12:22:22 | SELECT Id, Fname, Lname, CalculateAge(DOB) AS Age FROM Persons LIMIT 0, 1000 | 12 row(s) returned | 0.000 sec / 0.000 sec |
| 5 | 12:23:00 | SELECT Country_name, LENGTH(Country_name) AS Name_Length FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |
| 6 | 12:23:45 | SELECT Country_name, LEFT(Country_name, 3) AS First_Three_Chars FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |
| 7 | 12:24:11 | SELECT Country_name, UPPER(Country_name) AS Uppercase_Name FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |
| 8 | 12:25:10 | SELECT Country_name, UPPER(Country_name) AS Uppercase_Name FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.000 sec / 0.000 sec |
| 9 | 12:25:27 | SELECT Country_name, LOWER(Country_name) AS Lowercase_Name FROM Country LIMIT 0, 1000 | 10 row(s) returned | 0.015 sec / 0.000 sec |

Object Info Session