DETERMINISTIC, NO SQL, or READS SQL DATA in its declaration and binary logging is enabled

Asked 7 years ago Active 1 month ago Viewed 203k times

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While importing the database in mysql, I have got following error:

```
1418 (HY000) at line 10185: This function has none of DETERMINISTIC, NO SQL, or READS SQL DATA
in its declaration and binary logging is enabled (you *might* want to use the less safe
log_bin_trust_function_creators variable)
```

I don't know which things i need to change. Can any one help me how to resolve this?

mysql Edit tags

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edited Sep 24 '14 at 11:06
Donal
26.6k 10 60 70

asked Sep 24 '14 at 10:57
ASR
2,811 3 32 58

7 Answers

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i use this command on ubuntu:

```
mysql -u root -p
```

and enter mysql server error and execute this command in mysql:

```
SET GLOBAL log_bin_trust_function_creators = 1;
```

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answered Aug 10 at 8:59
amiirhoseinseif
11 1

Wasn't this already given? Please do not repeat – Vega Aug 11 at 10:53

worked for me, in CREATE FUNCTION – Saad Ahmed Aug 27 at 10:42

0

Try setting the definer for the function!

So instead of

```
CREATE FUNCTION get_pet_owner
```

you will write something akin to

```
CREATE DEFINER= procadmin @ %  FUNCTION get_pet_owner
```

which ought to work if the user *prodacmin* has rights to create functions/procedures.

In my case the function worked when generated through MySQL Workbench but did not work when run directly as an SQL script. Making the changes above fixed the problem.

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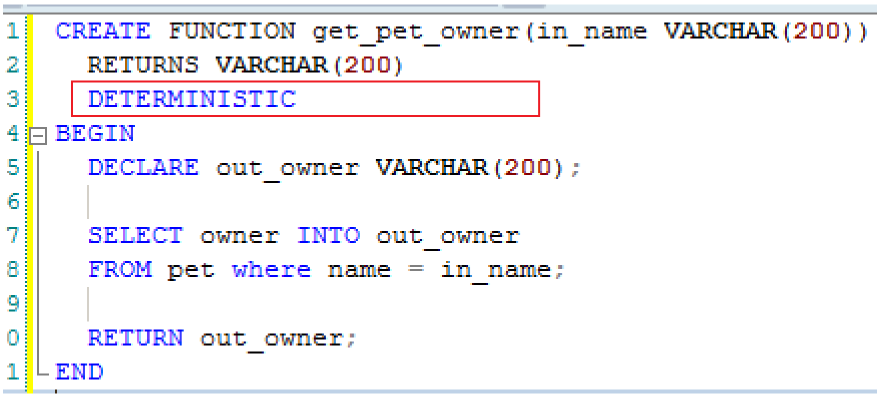
answered Jan 28 '19 at 17:55
DevKingKev
51 1 2

7

When your function is deterministic, you are safe to declare it to be deterministic. The location of "DETERMINISTIC" keyword is as follows.



```
CREATE FUNCTION get_pet_owner(in_name VARCHAR(200))
  RETURNS VARCHAR(200)
  DETERMINISTIC
BEGIN
  DECLARE out_owner VARCHAR(200);

  SELECT owner INTO out_owner
  FROM pet where name = in_name;

  RETURN out_owner;
END
```

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answered Oct 11 '18 at 5:33
Park JongBum
929 13 23

3

On Windows 10,

I just solved this issue by doing the following.

1. Goto my.ini and add these 2 lines under **[mysqld]**

   ```
   skip-log-bin
   log_bin_trust_function_creators = 1
   ```

2. restart MySQL service

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edited Apr 25 '18 at 23:49
Daniel Puiu
928 6 21 28

answered Apr 25 '18 at 20:12
Preetham
307 1 9

after doing this, I got error on slave - `Got fatal error 1236 from master when reading data from binary log: 'Binary log is not open'` – Ramratan Gupta May 24 '18 at 6:28

321

There are two ways to fix this:

1. Execute the following in the MySQL console:

   ```
   SET GLOBAL log_bin_trust_function_creators = 1;
   ```

2. Add the following to the mysql.ini configuration file:

   ```
   log_bin_trust_function_creators = 1;
   ```

The setting relaxes the checking for non-deterministic functions. Non-deterministic functions are functions that modify data (i.e. have update, insert or delete statement(s)). For more info, see here.

Please note, if binary logging is NOT enabled, this setting does not apply.

Binary Logging of Stored Programs

> If binary logging is not enabled, log_bin_trust_function_creators does not apply.

log_bin_trust_function_creators

> This variable applies when binary logging is enabled.

The best approach is a better understanding and use of deterministic declarations for stored functions. These declarations are used by MySQL to optimize the replication and it is a good thing to choose them carefully to have a healthy replication.

DETERMINISTIC A routine is considered “deterministic” if it always produces the same result for the same input parameters and NOT DETERMINISTIC otherwise. This is mostly used with string or math processing, but not limited to that.

NOT DETERMINISTIC Opposite of "DETERMINISTIC". "*If neither DETERMINISTIC nor NOT DETERMINISTIC is given in the routine definition, the default is NOT DETERMINISTIC. To declare that a function is deterministic, you must specify DETERMINISTIC explicitly.*". So it seems that if no statement is made, MySQl will treat the function as "NOT DETERMINISTIC". This statement from manual is in contradiction with other statement from another area of manual which tells that: " *When you create a stored function, you must declare either that it is deterministic or that it does not modify data. Otherwise, it may be unsafe for data recovery or replication. By default, for a CREATE FUNCTION statement to be accepted, at least one of DETERMINISTIC, NO SQL, or READS SQL DATA must be specified explicitly. Otherwise an error occurs*"

I personally got error in MySQL 5.5 if there is no declaration, so i always put at least one declaration of "DETERMINISTIC", "NOT DETERMINISTIC", "NO SQL" or "READS SQL DATA" regardless other declarations i may have.

READS SQL DATA This explicitly tells to MySQL that the function will ONLY read data from databases, thus, it does not contain instructions that modify data, but it contains SQL instructions that read data (e.q. SELECT).

MODIFIES SQL DATA This indicates that the routine contains statements that may write data (for example, it contain UPDATE, INSERT, DELETE or ALTER instructions).

NO SQL This indicates that the routine contains no SQL statements.

CONTAINS SQL This indicates that the routine contains SQL instructions, but does not contain statements that read or write data. This is the default if none of these characteristics is given explicitly. Examples of such statements are SELECT NOW(), SELECT 10+@b, SET @x = 1 or DO RELEASE_LOCK('abc'), which execute but neither read nor write data.

Note that there are MySQL functions that are not deterministic safe, such as: NOW(), UUID(), etc, which are likely to produce different results on different machines, so a user function that contains such instructions must be declared as NOT DETERMINISTIC. Also, a function that reads data from an unreplicated schema is clearly NONDETERMINISTIC. *

> *Assessment of the nature of a routine is based on the "honesty" of the creator: MySQL does not check that a routine declared DETERMINISTIC is free of statements that produce nondeterministic results. However, misdeclaring a routine might affect results or affect performance. Declaring a nondeterministic routine as DETERMINISTIC might lead to unexpected results by causing the optimizer to make incorrect execution plan choices. Declaring a deterministic routine as NONDETERMINISTIC might diminish performance by causing available optimizations not to be used.*

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edited Nov 27 '17 at 13:42
Andrii Abramov
8,327 8 59 81

answered Sep 24 '14 at 11:05
Donal
26.6k 10 60 70

can u explain me what happened in background ? – ASR Sep 24 '14 at 11:19

2 I suspect the database has a function that modifies data (has an update, insert or delete statement in it). For more info, see here: dev.mysql.com/doc/refman/5.0/en/stored-programs-logging.html – Donal Sep 24 '14 at 11:31

1 You should always take backups – Donal Sep 24 '14 at 12:01

it need super privileges ! – felipe Feb 22 '17 at 0:27

tried this but still got the non deterministic problem, any other suggestion? thanks – Edwin Bermejo Jul 23 '18 at 3:15

|

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following Donald's comment:

> This variable applies when binary logging is enabled.

All I had to do was:

1. disabled log_bin in my.cnf (#log_bin)
2. restart mysql
3. import DB
4. enable log_bin
5. restart mysql

That step out that import problem.

(Then I'll review the programmer's code to suggest an improvement)

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answered Jun 21 '17 at 21:00
Mayra Navarro
93 2 7

61

- When you create a stored function, you must declare either that it is deterministic or that it does not modify data. Otherwise, it may be unsafe for data recovery or replication.
- By default, for a CREATE FUNCTION statement to be accepted, at least one of DETERMINISTIC, NO SQL, or READS SQL DATA must be specified explicitly. Otherwise an error occurs:

To fix this issue add following lines After Return and Before Begin statement:

```
READS SQL DATA
DETERMINISTIC
```

For Example :

```
CREATE FUNCTION f2()
RETURNS CHAR(36) CHARACTER SET utf8
/*ADD HERE */
READS SQL DATA
DETERMINISTIC
BEGIN
```

For more detail about this issue please read Here

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answered Jul 2 '15 at 12:53
Sunny S.M
4,880 1 33 37

This works because the setting `READS SQL DATA` is the least restrictive of the three. If your function falls into the `NO SQL` or the `DETERMINISTIC` category, you may improve performance by modifying your functions. On the other hand, the setting `READS SQL DATA` is also the least error prone. So if you incorrectly use `NO SQL` or `DETERMINISTIC` you may get incorrect results. – Jonathan Dec 4 '15 at 21:57

@SunnyS.M,Awesome explanation as like READS SQL DATA DETERMINISTIC.To fix this issue add following lines After Return and Before Begin statement: – Md Haidar Ali Khan Nov 28 '18 at 8:27

Note that the MySQL manual states "*Assessment of the nature of a function is based on the honesty of the creator. MySQL does not check that a function declared DETERMINISTIC is free of statements that produce nondeterministic results*" – BadHorsie Oct 22 '20 at 16:02