

levads datu bāzēs



LATVIJAS UNIVERSITĀTE
**BIZNESĀ, VADĪBĀS
UN EKONOMIKĀS
FAKULTĀTE**

VUMC VADĪBAS UN
UZNĒMĒJDARBĪBAS
MĀCĪBU CENTRS

ESF projekts Nr. 8.4.1.0/16/I/001

"Nodarbināto personu profesionālās kompetences pilnveide"

NACIONĀLAIS
ATTĪSTĪBAS
PLĀNS 2020



EIROPAS SAVIENĪBA
Eiropas Sociālais
fonds

I E G U L D Ī J U M S T A V Ā N Ą K O T N ē

Elementāri vaicājumi



5. lekcija

Šodienas lekcijā

- Datu Atlase**
- Datu Sakārtošana**
- Datu Pievienošana**
- Problēmu risināšana**



Piemēru datubāzes

VUMC

levads datu bāzēs

2022

Lejūpielādēt skriptu projektu



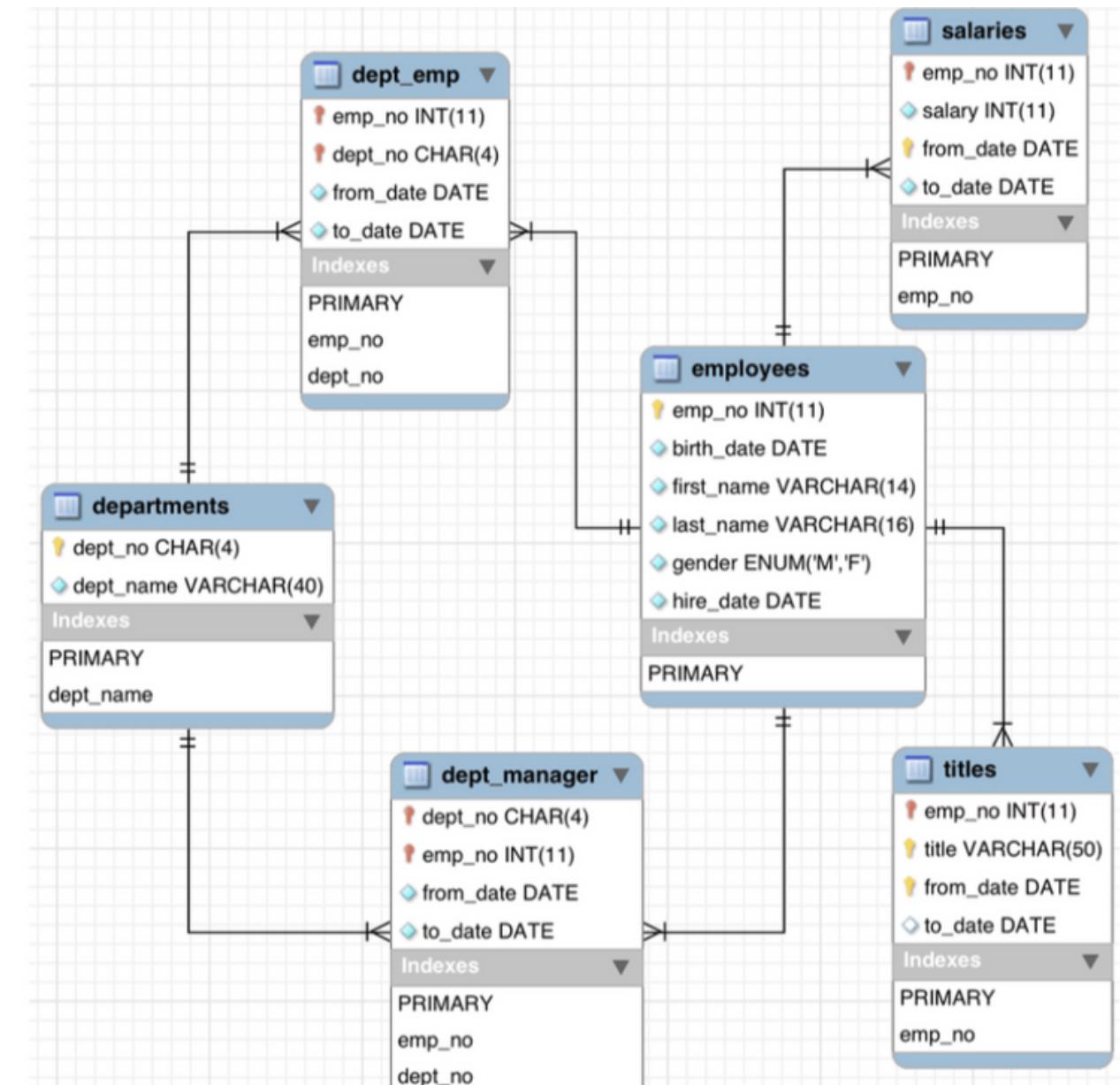
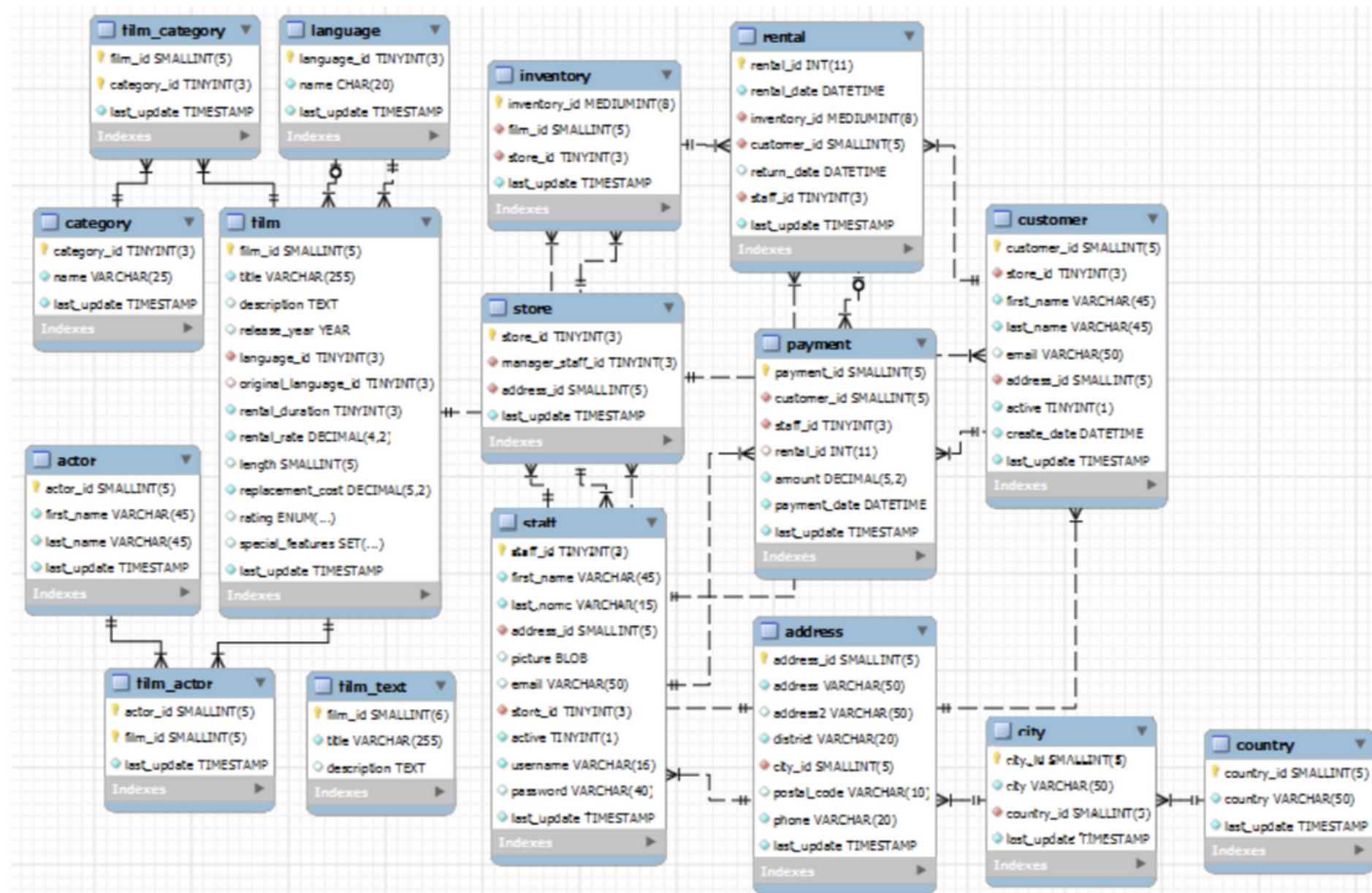
SAKILA

<https://dev.mysql.com/doc/sakila/en/>



EMPLOYEES

<https://dev.mysql.com/doc/employee/en/employees-installation.html>





Piemēru datubāzes

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2022

datacharmer/ **test_db**



A sample MySQL database with an integrated test suite, used to test your applications and database servers

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Contributors

1

Issue

3k

Stars

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Forks



datacharmer/test_db: A sample MySQL database with an integrated test suite, used to test your applications and database servers

A sample MySQL database with an integrated test suite, used to test your applications and database servers - GitHub - datacharmer/test_db: A sample MySQL database with an integrated test suite, use...

GitHub

Piemēru datubāžu instalēšana



- **Jābūt GIT uzinstalētam**
- **Zem windows varat lietot terminālu gitbash**

```
git clone https://github.com/datacharmer/test_db.git
```

```
cd /Users/robertspolis/workspace/mysql/test_db/
```

```
g
```

```
mysql -uadmin -p -h trainer-1.ckh4seomnuyp.eu-west-1.rds.amazonaws.com
```

```
-- SAKILA datubāzes instalēšana
source sakila/sakila-mv-schema.sql
source sakila/sakila-mv-data.sql
```

```
-- employees datubāzes instalēšana
source employees.sql
```

SELECT komanda

 Ar SELECT komandu lasām tabulu ierakstus

 Norādām kolonu nosaukumus, visas kolonas apzīmējam ar *

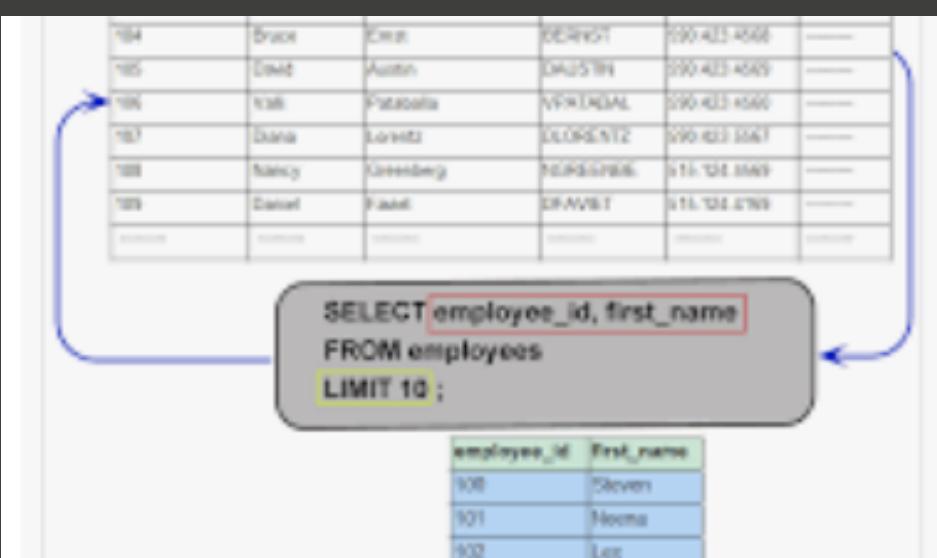
 FROM tabulas nosaukums

 SELECT * from employees

 LIMIT pieliekam lai samazinātu atgriežamo ierakstu skaitu

 Ar USE komandu izvēlamies tekošo shēmu/datubāzi

 Ar DESCRIBE noskaidrojam tabulas struktūru.



```
USE employees;
mysql> describe employees;
```

```
+-----+-----+-----+-----+-----+
| Field      | Type       | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| emp_no     | int(11)    | NO   | PRI | NULL    |       |
| birth_date | date       | NO   |     | NULL    |       |
| first_name | varchar(14) | NO   |     | NULL    |       |
| last_name  | varchar(16) | NO   |     | NULL    |       |
| gender     | enum('M', 'F') | NO   |     | NULL    |       |
| hire_date  | date       | NO   |     | NULL    |       |
+-----+-----+-----+-----+-----+
6 rows in set (0.06 sec)
```

```
mysql> select * from employees limit 5;
```

```
+-----+-----+-----+-----+-----+
| emp_no | birth_date | first_name | last_name | gender | hire_date |
+-----+-----+-----+-----+-----+
| 10001  | 1953-09-02 | Georgi     | Facello   | M      | 1986-06-26 |
| 10002  | 1964-06-02 | Bezalel    | Simmel    | F      | 1985-11-21 |
| 10003  | 1959-12-03 | Parto     | Bamford   | M      | 1986-08-28 |
| 10004  | 1954-05-01 | Chirstian | Koblick   | M      | 1986-12-01 |
| 10005  | 1955-01-21 | Kyoichi   | Maliniak  | M      | 1989-09-12 |
+-----+-----+-----+-----+-----+
5 rows in set (0.05 sec)
```

```
>
```

SELECT komandas paplašinājumi



**SELECT komandai ir vairākas klauzes,
kuras paplašina SELECT iespējas**



**Klauzēm ir svarīga secība, citādi
rodas sintakses kļūda!**

- DISTINCT: parādīt unikālos elementus
- FROM: norādīt tabulu kā datu avotu
- WHERE: filtra nosacījums ierakstu atlassei
- ORDER BY: sakārtot ierakstus kolonu vai izteiksmju secībā
- LIMIT: ierobežo atgriežamo ierakstui skaitu

- SELECT DISTINCT <kolonu saraksts>
- FROM <tabulas nosaukums>
- WHERE <izteiksme>
- ORDER BY <kolonu vai izteiksmju virkne>
- LIMIT <ierakstu-skaits>;

SELECT DISTINCT

```
mysql> select gender from employees limit 10;  
+-----+  
| gender |  
+-----+  
| M     |  
| F     |  
| M     |  
| M     |  
| M     |  
| F     |  
| F     |  
| M     |  
| F     |  
| F     |  
+-----+  
10 rows in set (0.05 sec)
```



SELECT DISTINCT :
parādīt unikālos elementus

```
mysql> SELECT DISTINCT gender FROM employees;  
+-----+  
| gender |  
+-----+  
| M     |  
| F     |  
+-----+  
2 rows in set (0.14 sec)
```

SELECT ar WHERE nosacījumu

```
mysql> SELECT first_name,last_name FROM employees
WHERE birth_date = '1963-12-28' LIMIT 5;
+-----+-----+
| first_name | last_name |
+-----+-----+
| Berry      | Farrel    |
| Ramalingam | Schwartzbauer |
| Mantis     | Oillio    |
| Leni       | Nishimukai |
| Arif       | Meriste   |
+-----+-----+
5 rows in set (0.05 sec)
```

SELECT ar WHERE un AND/OR

```
mysql> SELECT first_name, last_name, birth_date FROM employees  
WHERE first_name = 'Apostol' LIMIT 5;  
+-----+-----+-----+  
| first_name | last_name | birth_date |  
+-----+-----+-----+  
| Apostol    | Pintelas   | 1964-02-02 |  
| Apostol    | Bahr        | 1952-09-06 |  
| Apostol    | Rabehasaina | 1961-09-17 |  
| Apostol    | Lunt        | 1962-04-30 |  
| Apostol    | Goodrum     | 1953-12-05 |  
+-----+-----+-----+  
5 rows in set (0.05 sec)
```



Veidojam logiskas izteiksmes ar AND un OR



AND ir patiess ja abas izteiksmes vienlaicīgi ir patiesas jeb TRUE

```
mysql> SELECT first_name, last_name, birth_date FROM employees  
WHERE first_name = 'Apostol' AND birth_date='1956-04-09';  
+-----+-----+-----+  
| first_name | last_name | birth_date |  
+-----+-----+-----+  
| Apostol    | Marchesini | 1956-04-09 |  
+-----+-----+-----+  
1 row in set (0.12 sec)
```



OR ir patiess ja vismaz viena no 2 izteiksmēm ir patiesa jeb TRUE

SELECT ar ORDER BY



Atlasīt ierakstus norādītajā secībā

```
mysql> SELECT first_name, last_name, birth_date FROM employees  
-> WHERE first_name like '%pos%' LIMIT 10;  
+-----+-----+-----+  
| first_name | last_name | birth_date |  
+-----+-----+-----+  
| Apostol | Pintelas | 1964-02-02 |  
| Apostol | Bahr | 1952-09-06 |  
| Apostol | Rabehasaina | 1961-09-17 |  
| Apostol | Lunt | 1962-04-30 |  
| Apostol | Goodrum | 1953-12-05 |  
| Apostol | Peot | 1962-01-21 |  
| Apostol | Radhakrishnan | 1962-03-25 |  
| Apostol | Collette | 1954-06-04 |  
| Apostol | Shihab | 1961-06-02 |  
| Apostol | Birch | 1960-02-03 |  
+-----+-----+-----+  
10 rows in set (0.01 sec)
```

```
mysql> SELECT first_name, last_name, birth_date  
-> FROM employees  
-> WHERE first_name like '%pos%'  
-> ORDER BY birth_date, last_name  
-> LIMIT 10;  
+-----+-----+-----+  
| first_name | last_name | birth_date |  
+-----+-----+-----+  
| Apostol | Reistad | 1952-02-06 |  
| Apostol | Bouloucos | 1952-03-29 |  
| Apostol | Shokrollahi | 1952-04-18 |  
| Apostol | Bresenham | 1952-04-23 |  
| Apostol | Douceur | 1952-05-11 |  
| Apostol | Peir | 1952-06-22 |  
| Apostol | Ressouche | 1952-07-12 |  
| Apostol | Kriebel | 1952-08-07 |  
| Apostol | Herber | 1952-08-12 |  
| Apostol | Cannane | 1952-08-27 |  
+-----+-----+-----+  
10 rows in set (0.12 sec)
```



Teksta kolonas iespējams
filtrēt ar LIKE izteiksmi

- % - apzīmē patvaļīgu simbolu virkni
- _ - apzīmē vienu, atsevišķu simbolu

SELECT ar ORDER BY un ASC/DESC



Norādot secības
pieprasījumu iespējams
pievienot secības prasību:

➤ ASC - augošsā secībā

➤ DESC - dilstošā ssecībā

```
mysql> SELECT first_name,last_name,birth_date FROM employees WHERE
first_name like '%pos%' ORDER BY birth_date DESC, last_name ASC LIMIT
10;
+-----+-----+-----+
| first_name | last_name | birth_date |
+-----+-----+-----+
| Apostol   | Gruenwald | 1965-01-12 |
| Apostol   | Gubsky    | 1964-12-13 |
| Apostol   | Spinelli   | 1964-12-13 |
| Apostol   | Constantine | 1964-12-04 |
| Apostol   | Lieberherr | 1964-11-29 |
| Apostol   | Sullins    | 1964-09-28 |
| Apostol   | Leonhardt  | 1964-09-21 |
| Apostol   | Copas      | 1964-09-20 |
| Apostol   | Ozeri      | 1964-09-16 |
| Apostol   | Quadeer    | 1964-08-13 |
+-----+-----+-----+
10 rows in set (0.11 sec)
```

Problēmu risināšana

► SHOW WARNINGS: Informatīvie ziņojumi

ERROR 1054 (42S22)

► SHOW ERRORS: Kļūdu ziņojumi

errorcode (SQL STATE)

```
mysql> SELECT first_name, last_name, birth_date FROM employees WHERE first_name like '%pos%' ORDER BY birth_date_ DESC, last_name ASC LIMIT 10;
ERROR 1054 (42S22): Unknown column 'birth_date_' in 'order clause'
mysql> show errorss
-> ;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'errorss' at line 1
mysql> show errors
-> ;
+-----+
| Level | Code | Message |
+-----+
| Error | 1064 | You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'errorss' at line 1 |
+-----+
1 row in set (0.01 sec)

mysql> show warnings;
+-----+
| Level | Code | Message |
+-----+
| Error | 1064 | You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'errorss' at line 1 |
+-----+
1 row in set (0.00 sec)
```

```
mysql> SIGNAL SQLSTATE 42522;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the
right syntax to use near '42522' at line 1
```

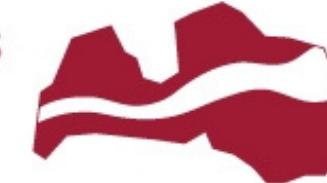


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