



Hyrje në shkencën e të dhënave

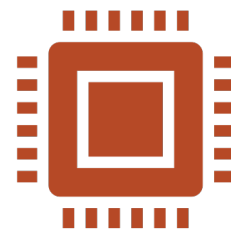
Pjesa 7 – MySQL

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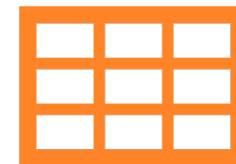
What is MySQL?



SQL = Structured Query Language



MySQL – world’s largest open-source SQL platform



Allows us to store structured data and retrieve from it using SQL

Where is MySQL?

- MySQL server – installed on most UNIX/Linux systems by default, can be installed on Mac or PC
- MySQL client – a software/tool that can be run using command-line or available through IDE like MySQL Workbench or Sequel Pro

Connecting to MySQL

- Using command-line:
 - `mysql -h <servername> -u <username> -p`
- Using IDE:
 - MySQL Workbench
 - Sequel Pro

Standard Socket SSH

Name: Database Server

Host: example.organization.org

Username: chirag

Password:

Database: optional

Port: 3306

Connect using SSL

? Add to Favorites Save changes Test connection Connect

Basic operations with MySQL

- Create a new database
- Importing data
- Retrieving records
- Searching with SQL
- Filtering with SQL

The screenshot shows the MySQL 5.6.19 interface for the 'world' database. The query editor contains the following SQL statement:

```
SELECT Name, Population FROM Country WHERE Region="Caribbean" ORDER BY Population desc;
```

The results are displayed in a table with the following data:

Name	Population
Cuba	11201000
Dominican Republic	8495000
Haiti	8222000
Puerto Rico	3869000
Jamaica	2583000
Trinidad and Tobago	1295000
Guadeloupe	456000
Martinique	395000
Bahamas	307000
Barbados	270000
Netherlands Antilles	217000
Saint Lucia	154000
Saint Vincent and the Grenadines	114000
Aruba	103000
Grenada	94000
Virgin Islands, U.S.	93000
Dominica	71000
Antigua and Barbuda	68000
Saint Kitts and Nevis	38000
Cayman Islands	38000
Virgin Islands, British	21000
Turks and Caicos Islands	17000
Montserrat	11000
Anguilla	8000

The interface also shows the 'TABLES' list on the left, including 'City', 'Country', and 'CountryLanguage'. The 'TABLE INFORMATION' section at the bottom left provides details for the 'Country' table: created: 2/27/16, engine: InnoDB, rows: 4,079, size: 400.0 KiB, encoding: latin1, auto_increment: 4,080. The status bar at the bottom indicates 'No errors; 24 rows affected, taking 3.9 ms'.

Accessing MySQL with Python

- Install PyMySQL
- Import package pymysql.cursors
- Connect to database using pymysql.connect
- Run a query using connection.cursor()

Accessing MySQL with R

- Install RMySQL package
- Connect using `dbConnect()` function
- Run a query using `dbSendQuery()` function

Other popular databases for data science

- NoSQL
- MongoDB
- Google Big Query

Summary

- Databases allow us to store, retrieve, and process data in an effective and efficient manner.
- SQL: Structured Query Language
- MySQL is the most popular open-source database.
- Import data in SQL, CSV, TSV, and other structured languages to a MySQL database using a client or command line.
- Access data using appropriate libraries in Python or R.

Temat e javës së tetë

- Machine Learning
- What is Machine learning
- Regression
- Gradient Descent



Pyetje???