

SQL with Python

Sugarkhuu Radnaa

Py4Econ in Ulaanbaatar

py4econ@gmail.com

Week 4: Learning objectives

Get to know:

- 1 Working with SQL using Python

SQL

SQL is the most popular database language. There are many different DBMS (database management system)s including SQL and NoSQL.

Popular SQL databases:

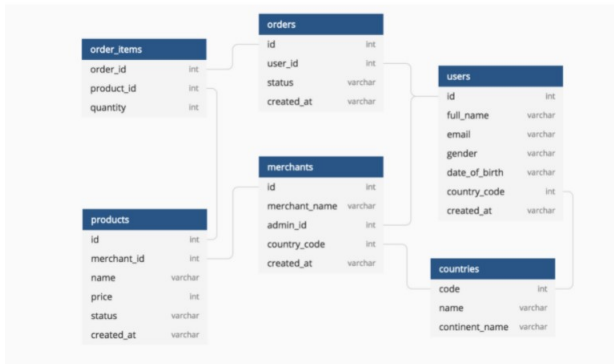
- 1 Oracle SQL
- 2 Microsoft SQL
- 3 MySQL
- 4 PostgreSQL

Popular NoSQL databases:

- 1 MongoDB
- 2 ElasticSearch
- 3 Casandra

Sample database (SQL) design

Data architecture is a crucial in any organization. When due implemented, it can become a game changing factor. Efficient ETL, Datawarehouse and data centers are necessary for an efficient DBMS.



SQL: W3SCHOOL examples

- ❶ `SELECT CustomerName, City FROM Customers;`
- ❷ `SELECT * FROM Customers WHERE Country='Mexico';`
- ❸ `SELECT * FROM Customers WHERE Country='Germany' AND (City='Berlin' OR City='München');`
- ❹ `UPDATE Customers SET ContactName = 'Alfred Schmidt', City= 'Frankfurt' WHERE CustomerID = 1;`
- ❺ `SELECT * FROM Customers WHERE ContactName LIKE 'a%';`
- ❻ `SELECT Customers.CustomerName, Orders.OrderID FROM Customers LEFT JOIN Orders ON Customers.CustomerID = Orders.CustomerID ORDER BY Customers.CustomerName;`
- ❼ `SELECT COUNT(CustomerID), Country FROM Customers GROUP BY Country ORDER BY COUNT(CustomerID) DESC;`

Homework

① Task 1

- Push your result into your homework repository
- Deadline: 1 week

Note: Commit your results step by step.

Task 1

- 1 Populate a MySQL (or PostgreSQL) table by the data in "data.xlsx" (CREATE TABLE)
- 2 Select 'firstName' and 'lastName' of the first three rows ('LIMIT')
- 3 Select 'firstName' and 'age' of the last three rows ('ORDER BY, LIMIT')

Tip: Watch the following tutorial for MySQL (PostgreSQL)

- MySQL
- PostgreSQL

Thank you!