

Slide 1: What Is SQL Anyway?

What is SQL Anyway?

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Slide 2: Learning Objectives

Learning Objectives

Define SQL

Discuss how SQL differs from other computer languages

Explain how SQL is used in a database

Slide 3: Learning Objectives

Learning Objectives

Compare and contrast roles of database administrator and data scientist

Explain importance of knowing which SQL syntax you're using in a given database

Slide 4: What Is SQL?

What is SQL?

Structured Query Language (SQL) is a standard computer language for relational database management and data manipulation

Used to query, insert, update and modify data

Pronounced as “sequel” or S-Q-L

Slide 5: What Is SQL?

What is SQL?

Used to **communicate** with databases

Statements are made up of **descriptive words** and are easy to learn

SQL is a **non-procedural language**:

- Cannot write complete applications
- Simple, but powerful

Slide 6: How is SQL Used?

How is SQL Used?

SQL is all about **data**!

Read/retrieve data

Write data – add data to a table

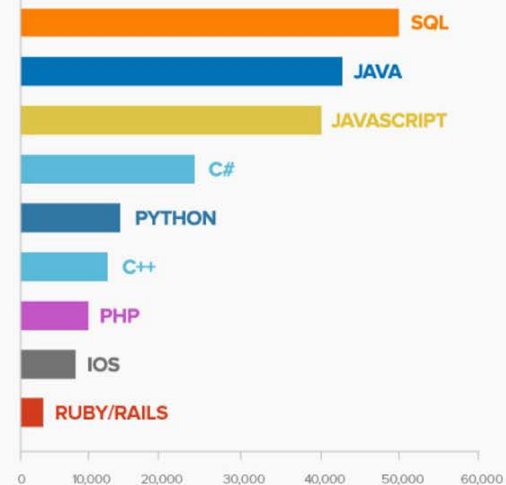
Update data – insert new data

Slide 7: Who Uses SQL?

Who Uses SQL?

Languages ranked by number of programming jobs

Data from
Indeed.com
2016



Slide 8: Who Uses SQL?

Who Uses SQL?

Backend Developer Data Architect

QA Engineer ETL Developer

Database Admin
(DBA) Systems Engineer

Data Scientist

Data Analyst

System Admin

Slide 9: Database Administrator or Data Scientist

Database Administrator or Data Scientist

Database Administrator

Manages/governs entire database

Gives permissions to users

Determines access to data

Manages and creates tables

Uses SQL to query and retrieve data

Data Scientist

End user of a database

Uses SQL to query and retrieve data

Slide 10: How Do Data Scientists Use SQL?

How Do Data Scientists Use SQL?

Retrieve data

May create their own table or test environment

Combine multiple sources together

Writes complex queries for analysis

Slide 11: SQL and Database Management Systems

SQL and Database Management Systems

How you write syntax will depend on what DBMS you are using

Each DBMS has its own “**dialect**”

SQL can **translate**

You will tweak based on the “**dialect**” your DBMS speaks

Slide 12: Relational Database Management Systems

Relational Database Management Systems

SQL Server

Microsoft SQL Server

IBM DB2 Oracle

Apache Open Office
Base

Sybase ASE

SQLite

PostgreSQL

MySQL