

# Complete SQL Bootcamp

## 「Video 2」 Introduction SECTION I: Course Introduction

- Course objective: Use SQL to interact with a database & analyze information

• Great skill to have!

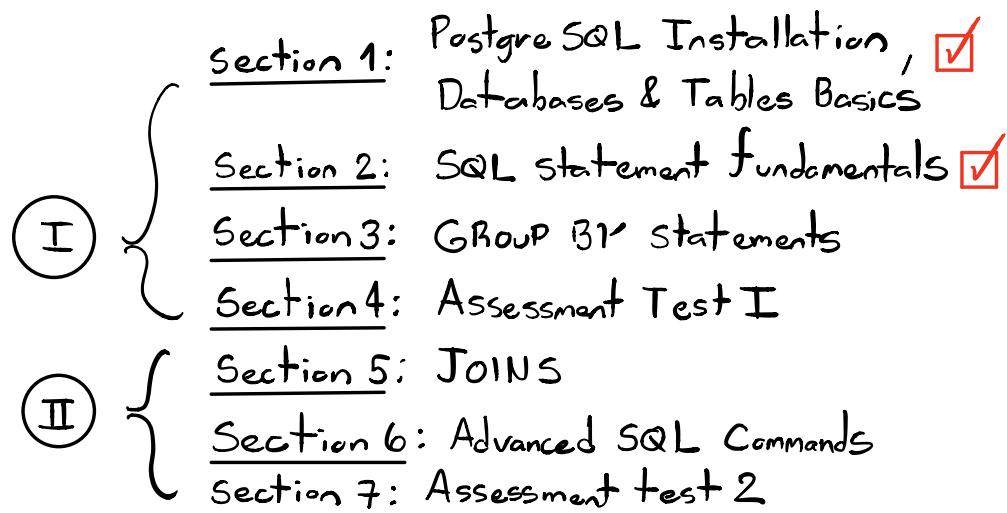
- We will be using PostgreSQL

} → Syntax & skills  
can be applied to  
other softwares

that use SQL:

- ↳ Amazon Redshift
- ↳ Microsoft SQL Server
- ↳ MySQL
- ↳ ORACLE DATA BASE

## 「Video 3」 Course Curriculum



- III
- Section 8: Create Databases & Tables
  - Section 9: Assessment test 3
  - Section 10: Conditional Expressions and Procedures
  - Section 11: Extra lectures : PostgreSQL with Python
  - Section 12: Special offers

## « Video 4 » Overview of Databases

Lecture overview {

- what are databases?
- why use databases?

- Databases are systems that allow users to store and organize data.
- They are useful when dealing with large amounts of data.
- Typical users

- Databases have a wide variety of users!

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- Analysts
  - Marketing
  - Business
  - Sales
- Technical
  - Data Scientist
  - Software Engineer
  - Web Developers

- Basically anyone needing to deal with data!
  - ↳ Great use case to work with a DB!

- From Spreadsheets to DB

- Most users have some familiarity with spreadsheet software (e.g. Excel)
- Let's discuss use cases for spreadsheets versus databases.

### Spreadsheets

- One time analysis
- Quickly need to chart something out
- Reasonable data size
  - ↳ Excel / Google Spreadsheets may handle.
- Ability for untrained people to work with data.

### Databases

- \* Data Integrity
  - ↳ Don't allow easy changes
- \* Can handle massive amounts of data.
  - ↳ would make Excel / Google spreadsheets CRASH!
- \* Quickly combine different datasets.
- \* Automate steps for re-use
  - ↳ SQL Syntax
- \* Can support data for websites and applications

↳ Websites / web applications

/ Mobile applications

⇒ Linked to some sort of database.

Spreadsheet  $\leftrightarrow$  DB

Tabs  $\longleftrightarrow$  Tables

Columns  $\longleftrightarrow$  Columns

Rows  $\longleftrightarrow$  Rows

Similarities

b/w Spreadsheets & DB

Database Platform options

PostgreSQL	<ul style="list-style-type: none"><li>• Free (open source)</li><li>• Widely used on internet</li></ul>	<ul style="list-style-type: none"><li>• Multiplatform</li></ul>
MySQL / Maria SQL	<ul style="list-style-type: none"><li>• Free (open source)</li><li>• Widely used on internet</li></ul>	<ul style="list-style-type: none"><li>• Multiplatform</li></ul>
MS SQL Server Express	<ul style="list-style-type: none"><li>• Free but limited</li></ul>	<ul style="list-style-type: none"><li>• Windows</li></ul>
Microsoft Access	<ul style="list-style-type: none"><li>(-) Cost</li><li>(-) Not easy to use just SQL</li></ul>	
SQLite	<ul style="list-style-type: none"><li>Free (open source)</li><li>(-) Mainly Command line</li></ul>	

- PostgreSQL is a great DB option to learn how to use SQL. ⇒ Easy to install and use.

↳ Most of the commands are general for other management systems.

- SQL → Structured Query Language Learned in this Course can be applied to a variety of DB or SQL based software.

- **SQL** → The programming language used to communicate with our DB's.

DATA BOTH IN & OUT

Example:

```

    SELECT customer_id, first_name,
           last_name
      FROM sales
     ORDER BY first_name
  
```

• We will learn this later!

SQL Syntax

- SQL is useful for a lot of things

**SQL**

↳ PostgreSQL

Amazon Redshift

**Software**

- Looker
- Periscope

**Big Data**

- Hive (Hadoop abstraction)
- Google BigQuery
- FB Presto

All run on Some Sort of  
SQL Syntax