

# SQL BOOTCAMP

Brandon M. Burroughs, Associate Product Manager at Clarabridge

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# SQL BOOTCAMP

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## ADMINISTRATIVE STUFF

- Wifi: GA-Guest
- Password: yellowpencil
- Files: [https://github.com/brandonmburroughs/sql\\_bootcamp](https://github.com/brandonmburroughs/sql_bootcamp)

 **Code**

 [Issues](#) 0

 [Pull Requests](#) 0

 [Wiki](#)

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 [Graphs](#)

 [Settings](#)

**HTTPS** clone URL

<https://github.com/>



You can clone with [HTTPS](#), [SSH](#),  
or [Subversion](#). 

 **Clone in Desktop**

 **Download ZIP**

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**HELLO!**

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## **BRANDON M. BURROUGHS**



- BS Finance from Louisiana Tech University
- BS Mathematics & Statistics from Louisiana Tech University
- MS in Statistics from the University of North Carolina
- Data Analyst and IT Support at UNC ITS
- Associate Product Manager of Analytics & Linguistics at Clarabridge
- Expert in Residence for Data Science at General Assembly
- Cycling, Backcountry Camping, Computers, the Internet, Nonfiction Literature

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# AGENDA

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## TODAY

- Introduction to Databases
- Creating Databases and Tables
- Adding, Querying, and Removing Data
- Exploring, Discovering, and Aggregating Data
- Joining Tables
- More Queries and Aggregations
- Case Statements
- More Joins
- Advanced Queries and Aggregations
- Review

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# **INTRODUCTION TO DATABASES**

# WHAT IS A DATABASE?

- An organized collection of data
- Organized overall by a schema (like a blueprint of a database)
- Organized into tables with different sets of data
- If each family is a set of data, a house would be the table, and the neighborhood would be the schema.
- Think many Excel sheets, but without so many limitations

### WHY USE A DATABASE?

- You can ask questions of the data
- Has a nice, structured language
- Access large amounts of data relatively quickly
- Reliable and scalable
- Many are ACID compliant – ensures your transactions are safely processed or that you're notified otherwise

### RELATIONAL VS. NOSQL

- Relational
  - Traditional rows and columns data
  - Strict structure
  - Entire column for each feature
- NoSQL
  - No well defined data structure
  - Works better for unstructured data
  - Cheaper hardware



### RELATIONAL VS. NOSQL

- Today, we'll be talking about relational databases.
- Still the most used and appropriate for a lot of data.
- Popular names
  - MySQL
  - Oracle
  - Postgres
  - Microsoft SQL Server
  - SQLite

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### SQL

- Stands for Structured Query Language
- Used to ask questions of the database
- Many different functions
  - Create data storage repo
  - Add data
  - Get data
  - Transform data
  - Aggregate data
  - Delete data
- Standard language with some differences among “dialect”.

### DATA TYPES

- BOOLEAN/TINY INT– 0/1
- INT – any whole number
- FLOAT(<n>,<m>) – number with n digits before the decimal and m digits after the decimal
- DATETIME, TIMESTAMP, and DATE – various date and time combinations
- CHAR(<length>) – text with a fixed length
- VARCHAR(<length>) – text with a given maximum length
- And many more...

# **CHECK SETUPS**

### CHECK SETUPS

- MySQL Community Server should be installed.
- Help your neighbors if you already have everything set up.
- Tools
  - Command Line Client
    - Windows: Open “MySQL Command Line Client”
    - Mac: Open “Terminal” and type “/usr/local/mysql/bin/mysql”
  - SQL Workbench (or other GUI)
    - SQL Editor Preferences: Turn off “Safe Updates”.
- I’ll be using the GUI today.

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**LET'S CODE**

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**REVIEW**

### REVIEW

- Introduction to Databases
- Created Databases and Tables
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**THANKS!**

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## **BRANDON M BURROUGHS**

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