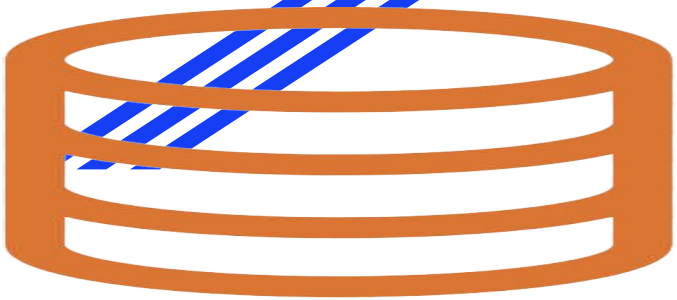
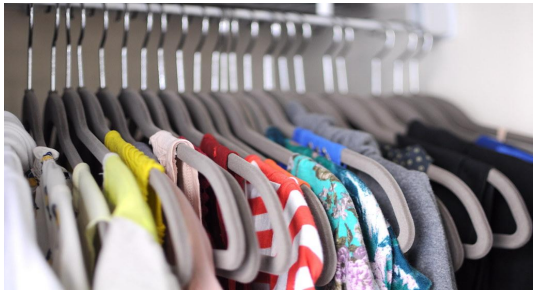


SQL

How to create a database for personal and business purposes.

Americorps Steven C. Wong
5/2/2022



About page

This slideshow is to inform you of how to get organized this spring and orchestrate your business, closet or personal belongings with a free database my MySQL

Add connection SQL Work Bench

- Add a new connection called MyFirstConnection in the SQL Development Module in MySQL Workbench and take a screenshot that shows your new connection in MySQL Connections.MySQL :: Download MySQL Installer

  First download mySQL Server Community Download at the following URL : MySQL :: Download MySQL Installer.

Tutorial to create first connection on MySQL

MySQL :: MySQL Workbench Manual :: 5.2 Creating A New MySQL Connection (Tutorial)

You must download mysql community server in order for it to work on your personal laptop and desktop computer

MySQL :: Download MySQL Community Server

Upload sample database

- Go to https://www.mysqltutorial.org/mysql-sample-database.aspx and download MySQL Sample Database to your computer, unzip the file.
- In MySQL Workbench, go to File Run SQL Script. Select the file mysqlsampledatabase.sql from step 2. Leave the Default Schema Name and Default Character Set fields blank, then select Run.
- Either refresh the Workbench or exit and return. Once you have refreshed (or reopened) MySQL Workbench, select the Schema tab. Notice the classicmodels schema in the left navigation pane.
- This database setup can be changed to meet your needs. You can use it for personal business or to keep track of your belongings.

Database information summary

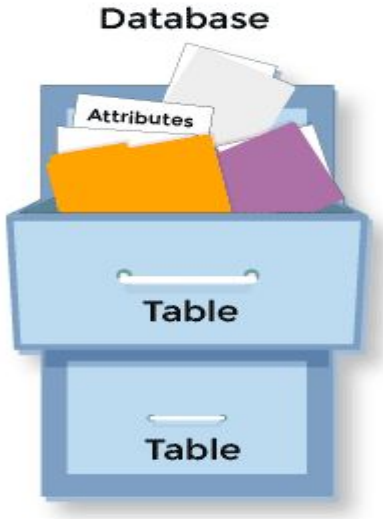
Database Technology

Prior to the creation of databases, information kept on a computer was typically stored in a file-based system. Within an organization, these files could be manipulated using various applications based on organizational needs. However, there are several disadvantages of this approach to storing data in this manner, such as data redundancy, integrity, and security. Thus, the need for databases arose.

To understand the basic concepts of a database, think of a file-based system or, better yet, a filing cabinet full of files, similar to Figure 1. Imagine that each file is a customer. When you gather information about a new customer, you complete a form and update the file. This customer information represents a row in your customer table in your database. You file the form alphabetically by the first letter of the customer name. If you were efficient, you might further alphabetize all of the customers within each alpha file (e.g., A, B, C). In some cases, you might file the customer by the customer number. What if you needed to easily access all of the customers by state? Another good example is a phone book. Phone books are printed alphabetically by last name. In a more heavily populated area, the names may be first separated by area and then by alphabet

Figure 1

DBMS Compared to a Paper Filing System



How to build your own database summary

Consider that filing cabinet full of customer files, if you are filing invoices for a specific customer, how do you know which file to put the invoice in? Most customers have a customer number. You would likely match the customer number on file with your customer number on the invoices. There is a relationship where the unique customer number (primary key) is related to the customer number on the invoice (foreign key). Also, databases tend to have header and detail records. So, if a customer places an order, you will have a summary record for that order; then, you will also have a detail record—one line for each item ordered. You will learn a lot more, but this is a basic description of how a relational database works.

Thus far, you have learned about the creation of a simple table. A table is an entity. Entities are models of real-world items or ideas. In business, there are customers, vendors, inventory, etc. All of these are entities for your database. Attributes are something the entity might have. For example, a customer entity might have a name, address, phone number, credit limit, etc. There are also relationships between the tables. A vendor supplies a product. A customer purchases product.

Now, consider the fact that your organization must manage and maintain its database(s). This will require some type of database management system (DBMS). There are numerous relational DBMSs such as Microsoft SQL, Oracle, and MySQL. This course will rely on MySQL as the primary DBMS for the assignments. This is an open-source DBMS that is compatible with both Mac and Windows operating systems. More detail on this can be found within this week's resources.

References

Watt, A. (2014). *Database design* (2nd ed.). Open Textbook Library.

Software requirements to build database

Software Requirements:

During this module to build your own database, you will use MySQL Server and MySQL Workbench (two software components) to complete most of the assignments. Links to installation instructions are found in the Week 1 resources.

- **MySQL Community Server** is the Database Management System (DBMS) that can store multiple working databases on your computer within a single system.
- **MySQL Workbench** is a graphical design and management tool used to create and manage working databases in MySQL.

Questions?