

Writeup for Company Management System

Motivation and Use

Do you understand the motivation for the database project and how someone would use it?

To maintain a proper company management system that provides departments with simple, all-in-one access to company and employee information. For example, HR can access employee IDs, names, and branch locations, Accounting can track total sales between employees and clients, and Warehouse can monitor stock products between branches and suppliers.

Video Presentation Link: <https://youtu.be/JVVaEWLBlhs>

Multiple Relations and Data Sources

Is it clear how the database project will involve multiple relations and/or data sources?

The database includes the following entities/tables:

- employee
- branch
- client
- works_with (connects employee and client tables)
- supplier

Employee entity has the following attributes:

- employee_id PRIMARY KEY
- manager_id PRIMARY KEY
- employee_first_name
- employee_last_name
- employee_position

Branch entity has the following attributes:

- branch_id PRIMARY KEY
- branch_name
- branch_location
- employee_count
- employee_manager_id FOREIGN KEY

Client entity has the following attributes:

- client_id PRIMARY KEY
- client_name
- client_location
- branch_branch_id FOREIGN KEY

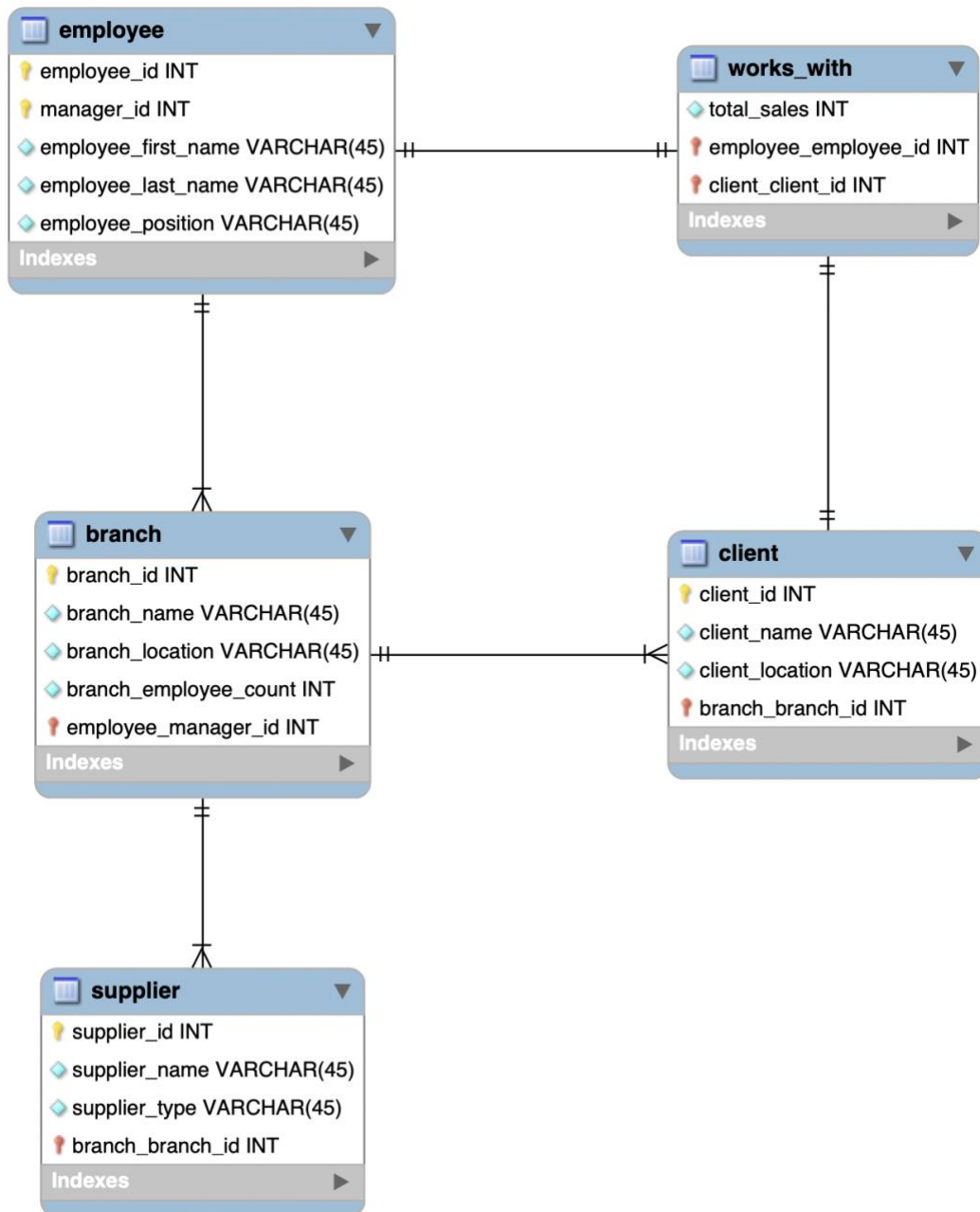
WorksWith entity has the following attributes:

- total_sales
- employee_employee_id PRIMARY KEY and FOREIGN KEY kept separately
- client_client_id PRIMARY KEY and FOREIGN KEY kept separately

Supplier entity has the following attributes:

- supplier_id PRIMARY KEY
- supplier_name
- supplier_type
- branch_branch_id PRIMARY KEY and FOREIGN KEY kept separately

E/R Diagram for Company Management System



Entities have the following relationships:

- Employee-Branch: many employees belong to one branch
- Branch-Client: one branch can have many clients
- Branch-Supplier: one branch can have many suppliers
- Employee-WorksWith-Client: many employees can work with/sell to many clients

Platforms For Creation and Querying

Are possible platforms used for creation and querying or presenting the data specified and are those platform choices justified?

The platforms that I used include:

- CSPB MySQL Database for the (raw) interface
- JupyterLab for writing and keeping the code in one place

Stating Learning Outcomes

Are the learning outcomes clearly stated?

By undertaking this project, my learning outcomes included:

- Gaining experience with SQL
- Practicing using different tools for creating databases
- Implementing the knowledge learned from CSPB 3287 into a real-world project
- Working with primary and foreign keys, and entity relationships
- Understanding cascading effects of adding or removing entities or attributes

Meeting Learning Outcomes

Are the ways that the learning outcomes will be met clearly stated?

I met the learning outcome by:

- Using the class material, such as the textbook, labs, and lectures
- Referring to the MySQL website and other online tutorials
- Interacting on Piazza by asking and responding to questions
- Getting hands-on experience as necessary (trial and error)
- Keeping an eye on deadlines and submission instructions

Works Cited

Garcia-Molina, Hector, Jeffrey Ullman, and Jennifer Widom. *Database Systems: The Complete Book*. 2nd. Upper Saddle River, New Jersey: Pearson Prentice Hall, 2001.