Faculty of Science, Engineering and Technology

Fundamentals of Data Management

Pass Tasks 5.2.1: SQL - Data Definition Language

Overview

In this tutorial, you will practise using SQL DDL statements to CREATE, ALTER and DROP tables in databases.

Purpose

Learn to write SQL DDL statements to create tables.

Task

Solve the tasks given below.

Time

This task should be completed in your fifth lab class and submitted for feedback in the fifth lab.

Resources

- Elmasri & Navathe, Fundamentals of Database Systems

- Connolly & Begg, Database Systems, Chapter 7

- Online resources, e.g.
    - Several topics on SQL at this link:
       http://www.w3schools.com/sql/default.asp

Feedback

Discuss your solutions with the tutorial instructor.

Next

Get started Week 6.

Credit Tasks 5.2.1 — Submission Details and Assessment Criteria

Document your solutions to the tasks using a Word processor and upload to Doubtfire as pdf. The tutors will discuss them with you in the lab.

Subtask 5.2.1

Consider the following COMPANY Database relations

Employee

Attribute	Explanation
emp_id	id field
emp_fname	first name
emp_lname	last name
emp_bdate	birth date
emp_address	street & city
gender	M, F or U(ndefined)
dept_id	id of department
super_id	emp_id of superior

Project

Attribute	Explanation
proj_id	id field
proj_name	name
proj_loc	location of project
dept_id	id of department that owns the project

Department

Attribute	Explanation
dept_id	id field
dept_name	name
mgr_id	emp_id of manager
mgr_start_date	date when manager started running the department

Works_on

Attribute	Explanation
proj_id	id of project
emp_id	id of employee working on it
role	role of the employee in the project
hours	number or hours employee worked on the project

Salary

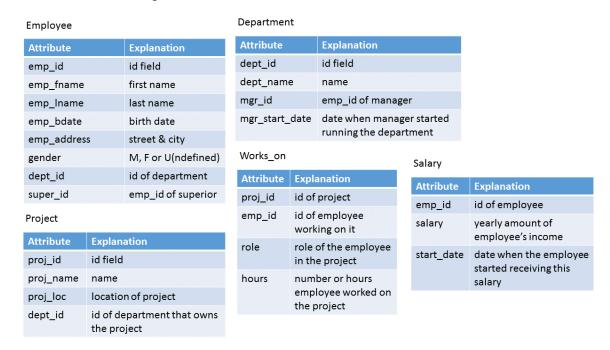| Attribute	Explanation
emp_id	id of employee
salary	yearly amount of employee's income
start_date	date when the employee started receiving this salary

Figure 2: COMPANY database

The company database is incomplete. The database also has to accommodate some details about the role the employee has in a project – such as technician or manager. There has to be a field salary_factor which is a number that shows the percentage of additional remuneration a user receives for working in this role. There also has to be an comment attribute where the role can be described.

Having added these fields, write the DDL statements to create all tables. You solution must include foreign key constraints, check constraints and default values (where they are meaningful). You must also show which attributes are nullable and reasoning why.

Document the solution and upload.