Due Date: 5:30pm, November 15, 2023 **Points**: 100
Script file you need: P5_create_tables.txt in D2L course site
Turn-in items
Upload your executable script file named as **P5_x.txt** (x group letter code) in D2L Assignment Folder. One copy per team. **Include contributing group members' name** in the e-copy.

SecuPayroll is a small payroll services company that has been in business for three years. SecuPayroll currently has two clients and expect to add a few more clients in the next five years. The director of the IT department has hired you as a database security consultant to design and implement a virtual private database for the existing payroll application. Figure 1 represents the existing application's data model. To create the database, execute **P5_create_tables.txt** in your DBA643 account.

The main objective of the virtual private database is to allow each client (company) to administer its own payroll data without violating the privacy of other clients. You will use your DBA643 account to create the application tables and administer the virtual private database.

You will **create** two user accounts for the two company administrators: *JAdmin* for Joe Harris of client Nexum and *FAdmin* for Felisa Davis of client Rashima (see COMPANY_ADMINISTRATOR table in provided script file). Please **use** JAdmin and FAdmin as their passwords, respectively. **Use** your *IA643F21_TBS* tablespace as default, *TEMP* as temporary tablespace. **Do not use** any profile **nor** password verify function. You will need to create a public synonym for each table. The public synonym name must be the same as the table name. For example, CREATE PUBLIC SYNONYM Employee for Dba643.Employee. You need to **grant** SELECT, INSERT, UPDATE, DELETE privileges on the five synonyms (COMPANY, EMPLOYEE, TIMESHEET, PAYROLL_PERIOD, DAILY_WORK_HOURS) to the two company administrator accounts. You also need to **grant** Connect and Resource roles to the two company administrators. The Company_Administrator table is for DBA643 use only. The clients should have no access.

Please note that each table has a control column CTL_SEC_USER, which records the User_ID who inserted or updated the record (indicating the ownership). You will use *triggers* to automatically insert the user's ID into CTL_SEC_USER columns when a new record is inserted or an existing record is updated.

Assume each company (client) has only one administrator who can insert, update, or delete records for his/her company. Implement a VPD which allows a company administrator access to only records that he or she owns. Allow DBA643 to access all records. **Do not use any view**.

We will use the following three accounts to test your virtual private database security settings: JAdmin for client Nexum, FAdmin for client Rashima, DBA643 for both clients.

IMPORTANT CHECK LIST:

☐ (1) By running your script file, the VPD should be properly set up and READY for testing. **10% off** if error messages are generated by your script files in addition to loss of points on logical and syntax errors in your code.

☐ (2) Remove any testing records of your own before submitting for grading.
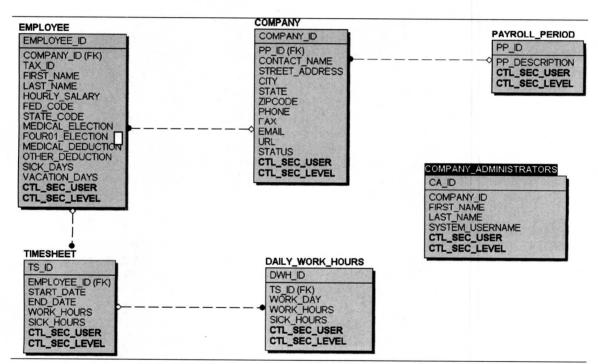
☐ (3) Prepare to demo your project in my office when called upon.

Figure 1 SecuPayroll Database Model