Lab 01	IT615 Database Management System
Autumn'2015, DA-IICT, Gandhinagar 03-08-2015	

Focus of lab work in this week is to get familiarity with environment, and learn to create tables (relations) using SQL.

Do following tasks on remote server for which details have been given to you. Your TAs have access to your database and will be able to see what you have done. Try to finish your work by the 6 PM of your lab day.

1. Look at following pages and understand basics of creating tables and using CREATE TABLE statement -
   http://intranet.daiict.ac.in/~pm_jat/postgres/html/ddl-basics.html
   http://intranet.daiict.ac.in/~pm_jat/postgres/html/ddl-constraints.html

2. Look at following pages and learn about basic data types supported by postgreSQL
   http://intranet.daiict.ac.in/~pm_jat/postgres/html/datatype.html
   (Look at only 8.1.1, 8.1.2, 8.1.3, 8.3, 8.5.1)

Start pgAdmin, connect to postgreSQL server; open SQL window, and perform following actions.

3. Create Schema named Company using following command in SQL window.
   ```
   CREATE SCHEMA company;
   ```

4. Set this as default work schema by issuing following command-
   ```
   SET SEARCH_PATH TO company;
   ```

5. Create tables as per DDL given in figure below.

6. Add some tuples to the company database by executing statements in script
   http://intranet.daiict.ac.in/~pm_jat/insert_company.sql

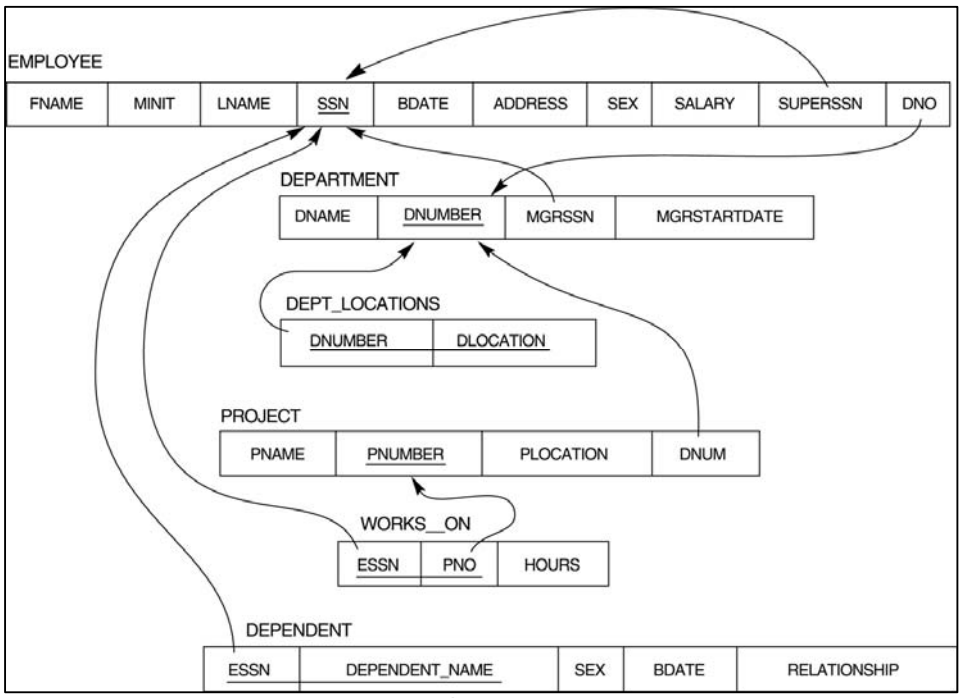

Figure-1

```
CREATE TABLE employee (
      fname VARCHAR(20),
      minit CHAR(1),
      lname VARCHAR(20),
      ssn DECIMAL(9,0),
      bdate DATE,
      address VARCHAR(30),
      sex CHAR(1),
      salary DECIMAL(10,0),
      superssn DECIMAL(10,0),
      dno SMALLINT,
      PRIMARY KEY (ssn),
      FOREIGN KEY (superssn) REFERENCES employee(ssn)
            ON DELETE SET DEFAULT ON UPDATE CASCADE
);

CREATE TABLE department (
      dname VARCHAR(20),
      dno SMALLINT,
      mgrssn DECIMAL(9,0),
      mgrstartdate DATE,
      PRIMARY KEY (dno),
      FOREIGN KEY (mgrssn) REFERENCES employee(ssn)
            ON DELETE SET DEFAULT ON UPDATE CASCADE);

CREATE TABLE dept_locations(
      dno SMALLINT,
      dlocation VARCHAR(20),
      FOREIGN KEY (dno) REFERENCES department on delete cascade,
      PRIMARY KEY (dno,dlocation)
);
```

```
CREATE TABLE project(
      pname VARCHAR(20),
      pno SMALLINT,
      plocation VARCHAR(20),
      dno SMALLINT,
      PRIMARY KEY (pno),
      FOREIGN KEY (dno) REFERENCES department(dno)
);

CREATE TABLE works_on(
      essn DECIMAL(9,0),
      pno SMALLINT,
      hours DECIMAL(5,1),
      FOREIGN KEY (essn) REFERENCES employee(ssn)
            ON DELETE CASCADE ON UPDATE CASCADE,
      FOREIGN KEY (pno) REFERENCES project(pno)
            ON DELETE CASCADE ON UPDATE CASCADE,
      PRIMARY KEY (essn,pno)
);

CREATE TABLE dependent(
      essn DECIMAL(9,0),
      dependent_name VARCHAR(20),
      sex CHAR(1),
      bdate DATE,
      relationship VARCHAR(20),
      FOREIGN KEY (essn) REFERENCES employee(ssn)
            ON DELETE CASCADE ON UPDATE CASCADE,
      PRIMARY KEY (essn,dependent_name)
);

ALTER table employee add FOREIGN KEY (dno) REFERENCES
department(dno);
```

Figure-2