Database Systems Project 1 - CSE-5330-005

Name: **CHINMAYEE MAKARAJU**

UTA ID: **1002091569**

Professor: **Ranjan Dash**

Semester: **Fall 2023**

Overview:

This README file contains information about the Database System Project that was assigned in order to understand how to use a relational DBMS. The interactive command line facility and the SQL programming facility are used for creating tables, loading them with data, and querying and updating the tables.

Steps for Connecting to Omega Server:

Pre-requisite:

- UTA Omega server Account Creation
- Getting access to Oracle / Mysql database
- Getting pulse secure VPN setup and installation
- Getting File Zilla setup for Transferring files from the local to the Omega server as Instructed by OIT website

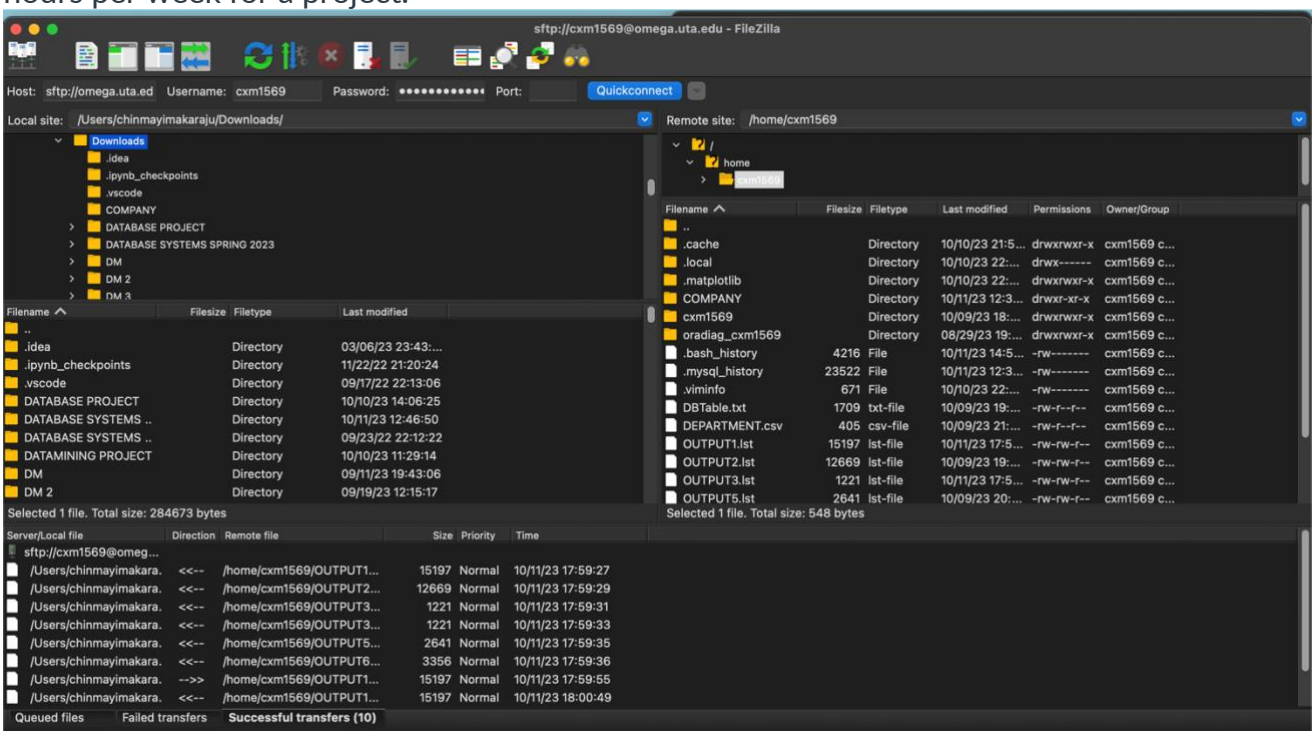
Step 1: Pulse Secure VPN Connection is established in order to Connect to UTA Omega Server.

Step 2: Username and password to be provided for successful login to Omega server

Step 4: To connect to mysql the below command is used along with database password and connected successfully.(mysql -usernsme -p -h acadmysqldb001p)

Problems:

Q1: We will use the COMPANY schema specified in Figures 3.7 (and 4.1) of the textbook (6thedition) for this project, except the EMPLOYEE relation will have an extra attribute, 'OverTimeCount' which increments the count each time an employee charges more than 40 hours per week for a project.



To write CREATE TABLE statements in a text file and execute the commands from the file through SQLPLUS

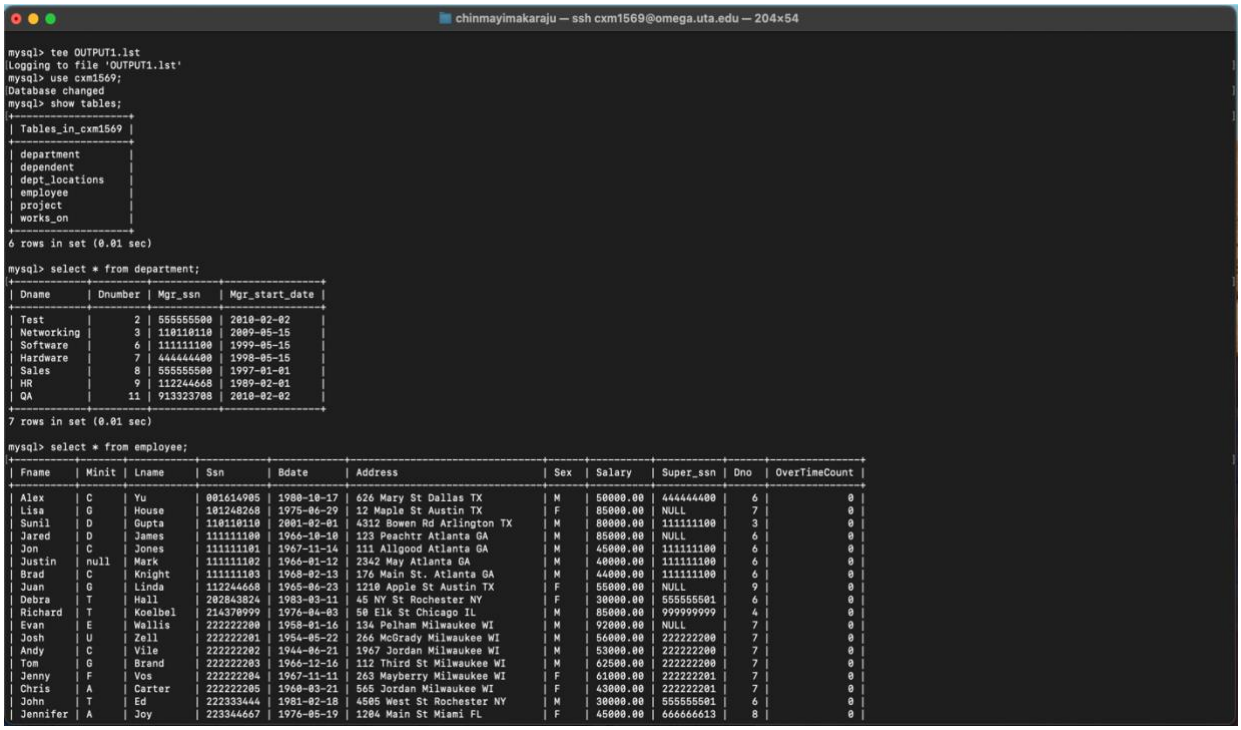
- DB Project folder containing subfolder called Problem_1.
- It contains two text files called --> **CREATE_TABLES.txt** and OUTPUT1.lst
- The CREATE_TABLES.txt file is transferred from the local to the Omega server using File Zilla as shown in the below snapshot

- Once the text file is transferred to the omega server. The text file containing create table statements is executed using the following command in mysql within omega server:
  Source CREATE_TABLES.txt
- File spooling is done using the commands tee and note commands in MySQL as shown below and Tables are created successfully and captured using spooling in **OUTPUT1.lst** file.

Q2: Loading of data from .csv file to MYSQL Tables using Python:

- DB Project folder contains a subfolder named Problem_2.
- It contains project data, all 5 .csv files, and **Records_Insertion.py** python coding file for loading data from csv file to MYSQL tables that are created above.
- python Records_Insertion.py
- Installations required - mysql-connector-python-8.0.30-windows-x86-64bit and python 3.7 version
- Connection is established and data is loaded for the insertion of records

- The output for the same is captured using file spooling as **OUTPUT2.lst** and **OUTPUT2_AfterInsertion.lst** to differentiate before insertion and after insertion of records using python script and both the text files are transferred via File Zilla from the omega server under the Problem_2 subfolder.
- Snapshot from Omega server given below in showing the inserted records.



Q3: Querying for the questions given:

- DB Project folder contains a subfolder named Problem_3.
- It contains **Q3_Queries.txt** file containing all queries
- The queries are executed from the SQL command line from the Omega server.
- The output for the same is captured using file spooling as **OUTPUT2.lst** and transferred via File Zilla from the omega server under the Problem_3 subfolder.

Q6: Insertion of 3 Records violating Integrity Constraints

- DB Project folder contains a subfolder named Problem_6
- It contains **Q4_Queries_InsertionViolatingIntegrityConstraints.txt** file containing 3 queries for insertion that violated integrity constraints
- The queries are executed from the SQL command line from the Omega server.
- The output for the same is captured using file spooling as **OUTPUT3.lst** and transferred via File Zilla from the omega server under the Problem_4 subfolder.

Q7: Deletion of records violating Referential Integrity Constraints

- DB Project folder contains a subfolder named Problem_7
- It contains **Q5_Queries_DeletionViolatingReferentialIntegrityConstraint.txt** file containing a query for deletion of a record that violates referential integrity constraints.
- The queries are executed from the SQL command line from the Omega server.
- The output for the same is captured using file spooling as **OUTPUT4.lst** and transferred via File Zilla from the omega server under the Problem_5 subfolder.

Q8: Insertion of 3 records that does not violate any Integrity Constraints:

- DB Project folder contains a subfolder named Problem_8
- It contains **Q6_Queries_InsertionOfRecords.txt** file containing queries for the Insertion of records that does not violate any Constraints**.** The queries are executed from the SQL command line from the Omega server.
- The output for the same is captured using file spooling as **OUTPUT5.lst** and transferred via File Zilla from the omega server under the Problem_6 subfolder.

Q9: Creating trigger:

- DB Project folder contains a subfolder named Problem_9.
- It contains **Q6_Queries_InsertionOfRecords.txt** file containing queries for the Insertion of records that does not violate any Constraints**.** The queries are executed from the SQL command line from the Omega server.
- The output for the same is captured using file spooling as **OUTPUT6.lst** and transferred via File Zilla from the omega server under the Problem_6 subfolder.