Teradata Real Steel

# Requirements

* Access to Oracle DB server - tdserver [tduser/ tduser]; Server:10.207.182.114
* TeraData Client 14.10 – Open source client tool to connect to server and practice

# Intended Audience

* Prepared for new fresh out engineers and college graduates
* And for Cross skilling engineers

# Rounds

All questions here are based on the standard tables like **emp** and **dept**

## Round 1 – ‘Kid’ mode

Write DML queries for the following questions

1. Display unique Jobs from EMP table

**ANS : SELECT DISTINCT JOB FROM EMP;**

1. List the employees in the ascending order of their salaries

**ANS : SELECT SALARY ,ENAME FROM EMP ORDER BY SALARY**

1. List the details of the employees in ascending order of the dept no and descending of Jobs

**ANS : SELECT \* FROM EMP ORDER BY DEPTNO ASC , JOBS DESC**

1. Display all the unique job groups in the descending order

**ANS : SELECT DISTINCT JOB FROM EMP ORDER BY JOB DESC**

1. Display all the employees who are managers

**ANS : SELECT \* FROM EMP WHERE JOB = ‘MGR’**

1. List the employees who joined before 1981

**ANS : SELECT \* FROM EMP WHERE HIREDATE < (’01-JAN-81’);**

1. List the Empno, Ename, Sal, daily sal of all employees in the ascending order of annual sal

**ANS : SELECT ENMPNO,ENAME,SAL,SUM(SAL) AS ASAL ORDER BY ASAL**

1. Display the Empno, Ename, job, Hiredate, Exp of all Mgrs

**ANS : SELECT EMPNO,ENAME,JOB,HIREDATE,EXP WHERE JOB=’MGR’**

1. List the Empno, Ename, Sal, experience of all employees working for Mgr=7369

**ANS : SELECT ENMPNO,ENAME,SAL,EXP WHERE MGR=7369**

1. Display all the details of the employees whose Comm. Is more than their Sal

**ANS : SELECT \* FROM EMP WHERE COMM>SAL**

1. List the employees in the asc order of Designations of those joined after the second half of 1981

**ANS : SELECT \* FROM EMP WHERE HIREDATE >(’01-AUG-81’) ORDER BY DESIGNATION**

1. List the employees along with their experience and daily salary is more than Rs.100

**ANS : SELECT \* FROM EMP WHERE (SAL/30)>100**

1. List the employees who are either ‘CLERK’ or ‘ANALYST’ in the Desc order

**ANS : SELECT \* FROM EMP WHERE JOB = 'CELRK' AND JOB='ANALYST' ORDER BY JOB DESC**

1. List the employees who joined on 1-MAY-81,3-DEC-81,17-DEC-81,19-JAN-80 in asc order of seniority

**ANS : SELECT \* FROM EMP WHERE HIREDATE = 05/01/81 AND HIREDATE = 12/03/81 AND HIREDATE = 12/17/1981 AND HIREDATE = 01/19/1980 ORDER BY HIREDATE DESC**

1. List the emp who are working for the Deptno 10 or 20
2. List the employees who are joined in the year ‘81
3. List the employees who are joined in the month of Aug 1980
4. List the Enames those are having five characters in their Names
5. List the Enames those are starting with ‘S’ and with five characters
6. List the employees those are having four chars and third character must be ‘r’
7. List the Five character names starting with ‘S’ and ending with ‘H’
8. List the employees whose Sal is four digit number ending with Zero
9. List the employees whose names having a character set ‘LL’ together
10. Display the Empno, Ename, Sal, Dname, Loc, Deptno, Job of all employees working at CJICAGO or working for ACCOUNTING dept with Ann Sal>28000, but the Sal should not be=3000 or 2800 who doesn’t belongs to the Mgr and whose no is having a digit ‘7’ or ‘8’ in 3rd position in the asc order of Deptno and desc order of job
11. List the Empno, Ename, Sal, Dname, Exp, and Ann Sal of employees working for Dept10 or 20
12. List the details of the employees whose Salaries more than the employee BLAKE
13. List the employees whose Jobs are same as ALLEN
14. List the employees who are senior to King
15. List the Employees who are senior to their own MGRS
16. List the Employees of Deptno 20 whose Jobs are same as Deptno10
17. List the Employees whose Sal is same as FORD or SMITH in desc order of Sal
18. List the employees Whose Jobs are same as MILLER or Sal is more than ALLEN
19. List the Employees whose Sal is > the total remuneration of the SALESMAN
20. List the employees who are senior to BLAKE working at CHICAGO & BOSTON
21. List the employee names and his average salary department wise
22. Find out least 5 earners of the company
23. Find out employees whose salaries greater than salaries of their managers
24. List the managers who are not working under the president (the manager should not be president)
25. List the records from emp whose deptno is not in dept table
26. List the details of the employees in the ascending order of the sal
27. List the dept in the ascending order of the job and the desc order of the employees print empno, ename
28. Display the unique dept of the employees as in employee table
29. Display the details of the BLAKE
30. List the emp whose annual sal is < 25000 in the asc order of the salaries
31. List the empno,ename,sal,TA30%,DA 40%,HRA 50%,GROSS,LIC,PF,net,deduction,net allow and net sal in the ascending order of the net salary
32. List all the 4 char employees
33. List the employees whose sal is ending with 00
34. List employees who joined in the month having second char ‘a’
35. List the emp who are clerks who have exp more than 8yrs
36. List the employees joined in jan with salary ranging from 1500 to 4000
37. List the employees along with exp of those working under the mgr whose number is starting with 7 but should not have a 9 joined before 1983
38. List the employees who are working as either mgr or analyst with the salary ranging from 2000 to 5000 and without commission
39. List the empno,ename,sal,job of the employees with /ann sal <34000 but receiving some comm. Which should not be>sal and designation should be sales man working for dept 30
40. List the empno,ename,sal,job,deptno&exp of all the employees belongs to dept 10 or 20 with an exp 6 to 10 y working under the same mgr with out comm. With a job not ending irrespective of the position with comm.>200 with exp>=7y and sal<2500 but not belongs to the month sep or nov workingunder the mgr whose no is not having digits either 9 or 0 in the asc dept& desc dept
41. List the details of the employees working at Chicago
42. List the empno, ename, sal, loc of the employees working at Chicago dallas with an exp>6ys
43. List the employees along with loc of those who belongs to dallas ,newyork with sal ranging from 2000 to 5000 joined in 81
44. List the employees who are senior to MILLER
45. List the total salary, maximum and minimum salary and average salary of the employees deptno wise, for department 20 and display only those rows having an average salary > 1000
46. Display the name and employee number of the employee who is earning the second highest salary
47. List the department number and total salary payable in each department
48. List names of employees who are more than 2 years old in the company
49. List the maximum salary paid to a salesman
50. List the name of the employee and designation of the employee who does not report to anybody
51. List the total salary, maximum and minimum salary and average salary of the employees, for department 20.
52. List employees whose job is same as that of Smith
53. List employee getting the max salary
54. List all managers
55. List employees who are not managers
56. List all employees who earn more than the average salary in their department
57. List employees whose salary is greater than their manager’s salary
58. List employees who work in Research department
59. List name, salary and PF amount of all employees. (PF is calculated as 10% of basic salary)
60. List the employee names of analysts and salesmen.
61. List the names of those employees whose employee numbers are 7369, 7521, 7839, 7934, 7788.
62. List those employees who do not belonging to department 30, 40, or 10.
63. List those employee names who have joined between 30 June and 31 Dec ‘81.
64. List the different designations available in the company
65. List those employees name that are not eligible for commission
66. List the name of the employee and designation of the employee who does not report to anybody
67. List the employees who are eligible for commission
68. List names of employees if the names have “i” as the second character
69. Display the names of all employees with their salary and commission earned. Employees with a null commission field should have 0 in the commission column

## Round 2 – Group by clause

Write queries for the following questions

1. List the count and average salary for employees in department 20.

**ANS : SELECT COUNT(EMPID) , AVG(SALARY) FROM EMP WHERE DEPTNO=20**

1. List names of employees who are older than 30 years in the company.

**ANS : SELECT ENAME FROM EMP WHERE YEAR(DATE)-YEAR(HIREDATE)>30**

1. List the employee name , hire date in the descending order of the hire date.

**ANS: SELECT EMPNAME, HIREDATE ORDER BY HIREDATE DESC**

1. List employee name, salary, PF, HRA, DA and gross; order the results in the ascending order of gross. HRA is 50% of the salary and DA is 30% of the salary.
2. List the department numbers and number of employees in each department.

**ANS: SELECT DEPTNO,COUNT(EMPNO) FROM EMP GROUP BY DEPTNO**

1. List the department number and total salary payable in each department.

**ANS : SELECT DEPTNO , SUM(SAL) FROM EMP GROUP BY DEPTNO**

1. List the jobs and number of employees in each job. The result should be in the descending order of the number of employees.

**ANS : SELECT JOB , COUNT(EMPNO) FROM EMP GROUP BY JOB ORDER BY COUNT(EMPNO) DESC**

1. List the total salary, maximum and minimum salary and average salary of the employees jobwise.

**ANS : SELECT SUM(SAL),MAX(SAL),MIN(SAL),AVG(SAL) FROM EMP GROUP BY JOB**

1. List the total salary, maximum and minimum salary and average salary of the employees, for department 20.

**ANS : SELECT SUM(SAL),MAX(SAL),MIN(SAL) , AVG(SAL) FROM EMP WHERE DEP=20**

1. List the average salary of the employees job wise, for department 20 and display only those rows having an average salary > 1000

**ANS: SELECT AVG(SAL),JOB FROM EMP WHERE DEPTNO=20 GROUP BY DEPTNO,JOB HAVING AVG(SAL)>1000**

## Round 3 – SUBQUERIES

Write queries for the following questions

1. List employees whose job is same as that of Smith

**ANS : SELECT \* FROM EMP WHERE JOB IN ( SELECT JOB FROM EMP WHERE ENAME=’SMITH’))**

1. List employees who have joined after Adam

**ANS : SELECT \* FROM EMP WHERE HIREDATE > ( SELECT HIREDATE FROM EMP WHERE ENAME=’ADAM’)**

1. List employees who salary us greater than Scott’s salary

**ANS : SELECT \* FROM EMP WHERE SAL IN (SELECT SAL FROM EMP WHERE ENAME=’SCOTT’)**

1. List employees getting the max salary

**ANS : SELECT \* FROM EMP WHERE SAL IN (SELECT MAX(SAL) FROM EMP)**

1. List employees show salary is > the max salary in deptno 30

**ANS : SELECT \* FROM EMP WHERE SAL IN (SELECT MAX(SAL) FROM EMP WHERE DEPTNO=30)**

1. List all employees whose department and designation is same as that of employee with empno 7788.

**ANS : SELECT \* FROM EMP WHERE DEPTNO IN (SELECT DEPTNO FROM EMP WHERE EMPNO=7788)**

**AND JOB IN ( SELECT JOB FROM EMP WHERE EMPNO=7788)**

1. List employee who are not managers

**ANS : SELECT \* FROM EMP WHERE JOB IS NOT IN(‘MANAGER’)**

1. List all managers
2. **ANS : SELECT \* FROM EMP WHERE JOB IN(‘MANAGER’)**
3. List all employees who earn more than the average salary in their department

**ANS : SELECT \* FROM EMP WHERE SAL >ALL(SELECT AVG(SAL) FORM EMP GROUP BY DEPTNO)**

1. List employees whose salary is greater than their manager’s salary

**ANS : SELECT \* FROM EMP WHERE SAL >ALL (SELECT SAL FROM EMP WHERE JOB=’MANAGER’)**

1. List departments with no employees

**ANS : SELECT D.DNAME FROM DEPT D WHERE NOT EXISTS (SELECT \* FROM EMP E WHERE D.DEPTNO = E.DEPTNO)**

## Round 4 – Joins (Mortal mode)

1. List employee name, department number and their corresponding department name.

**ANS : SELECT ENAME , DEPTNO FROM EMP E,DEPT D WHERE E.DEPTNO=D.DEPTNO**

1. List employee name and their manager name

**ANS : SELECT E.ENAME,M.ENAME AS MANAGER FROM EMP E ,EMP M WHERE E.MGR=M.EMPNO**

1. List employees who work in Research department

**ANS : SELECT ENAME FROM EMP E,DEPT D WHERE E.DEPTNO=D.DEPTNO AND DEPT=’RESEARCH’**

1. List all rows from EMP table and only the matching rows from DEPT table.

**ANS : SELECT \* FROM EMP E,DEPT D WHERE E,DEPTNO=D.DEPTNO**

1. List all rows from EMP table and only the matching rows from DEPT table.

**ANS : SELECT \* FROM EMP E,DEPT D WHERE E,DEPTNO=D.DEPTNO**

1. Write a query to perform full outer join between EMP and DEPT tables

**ANS : SELECT ENAME,EMPNO FROM EMP FULL OUTER JOIN DEPT ON EMP.DEPTNO=DEPT.DEPTNO**

1. List employee name, their manager name and managers manager name

**ANS : SELECT E.ENAME,M.ENAME AS MMANAGER ,N.ENAME AS MMANAGER FROM EMP E ,EMP M,EMP N WHERE E.MGR=M.EMPNO AND M.MGR=N.EMPNO**

## Round 5 – Tables & Data types:

1. Create table *sample* with 1 column and insert 5 records of your own.
2. Insert existing record which have been inserted already and verify.
3. Create new table with 1 column which can allow duplicate records.
4. Create new table *empcopy* and copy all records of *emp* table.
5. Create new table *deptcopy* and copy only the schema of *dept* table
6. Create new table *empdept* and copy records from *emp* and *dept* tables.
7. Create new table *temp* and it should be available only for the current session.
8. Create new table *temp01*  with 3 columns and insert 5 records of your own. While extracting the table the user should not able to see the inserted records.
9. Create new table temp02 with 4 columns and insert 5 records of your own. While extracting the table the user can able to see the inserted records.
10. Create new table *temp03* in run time to find the average salary of emp table.
11. Create new table *temp04* with 3 columns. And the table should not be visible in the table list(help command).
12. Create new table *temp05* with 4 columns. The Other users should be able to access and insert the data into the same table.(GTT)
13. Add column *column2*  in *sample* table.
14. Change the first column name as *column\_new* in *sample* table. If not able to change explain.
15. Create new table *temp\_char* with column *name*  and the data type *varchar(10).* Modify the data type into *varchar(5)*.

## Round 6 – Constraints:

1. Create a new table *temp06* with 1 column and the user should not be able to insert NULL.
2. Create new table with *temp07* with 1 column and the system should allow only the unique values to be inserted.(PK)
3. Create new table *temp\_pi* with 2 columns with primary index for the 2nd column.
4. Create new table *temp\_fk* with Foreign Key constraint.
5. Create new table *temp\_pk2* with primary key for more than 1 column.
6. Create new table *temp\_uk2* with unique key for more than 1 column.
7. Create new table *temp\_cc*  and it contains column *age.* The user should be able enter age between 18 and 55.
8. Update the *sample* table with UPSERT process.

## Round 7 – Views:

1. Create a view *temp\_view*  with all records of *emp*  table.

**ANS :CREATE VIEW TEMP\_VIEW AS SELECT \* FROM EMP**

* **SELECT \* FROM TEMP\_VIEW**

1. Insert a new row in the view *temp\_view.*

**ANS : CREATE VIEW TEMP\_VIEW AS INSERT INTO DEPT(40,’BUSINESS’,’BOSTON’)**

1. Update existing record in the view *temp\_view.*
2. Create new view *temp\_join*  with combination of 2 tables.(emp and dept tables).
3. Create new view *temp\_where*  with constraint of deptno is 10.
4. Add a new row into the view *temp\_where* with deptno 20.
5. Create new view with ‘*with check option’.*

## Round 8 – Macros:

1. Create new macro *mac01* and it should list all the empno from *emp* table.
2. Create new macro that should display all records from emp and dept tables one by one.
3. Create new macro *mac02* with 3 columnsand should accept inputs during run time (on execution).

## Round 9 – Analytical Functions:

1. List deptno,job,total sal from *emp* table using ROLLUP function.
2. List deptno,job, total sal from *emp* table using CUBE function.
3. List ename,job,sal from *emp* table using CSUM function.
4. List empno,sal,deptno,mavg from *emp* table using MAVG function.
5. List empno,deptno,msum from *emp* table using MSUM function.
6. List empno,sal,mdiff from *emp*  table using DIF function.
7. List all the records from *emp* table and show the rank according to salary.

## Round 10 – Import & Export:

**Create WebEx record for the below tasks:**

1. Create a new SQL file which should be exported in DATA format.
2. Create new SQL file which should be exported in REPORT format( export first 10 records only)
3. Create new SQL file which should be exported in CSV format.
4. Create new SQL file which should be exported in xls format.
5. Create new SQL file which should import data from txt file and should get inserted into the newly created table in BTEQ Database.
6. Create new SQL file which should import data from txt file( in REPORT format) and should get inserted into the newly created table in BTEQ DB.
7. Create new SQL file which should import data from CSV file and should be inserted into the newly created table in BTEQ DB.