Database System

Lecture 13

SQL Sub Languages

TCL-Transaction Control Language

COMMIT

SAVEPOINT

ROLLBACK

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SQL Components Or SQL Sub Languages

DCL : Data Control Language
           Example: Grant, Revoke.
DDL : Data Definition Language.
           Example: Create, Alter, Drop, Rename and
           Truncate.
DML : Data Manipulation Language
           Example: Insert, Update, Delete
DRL : Data Retrieval Language
           Example: Select
TCL : Transaction Control Language
           Example : Rollback, Commit, Savepoint

TCL-Transaction Control Language

TCL-Transaction Control Language

TCL commands:
- *COMMIT*
- *SAVEPOINT*
- *ROLLBACK*

TCL-Transaction Control Language

➢ Transaction is a unit of work.

➢ The unit is will depend on your application but generally it defines some sequence of statements .

➢ Transactions are made up of any number of DML commands

TCL - COMMIT

Used to save any unsaved updates to the database and all savepoints and locks are released. We must always issue a Commit or Rollback command to finish a unit of work, which prevents an indeterminate state of an application while leaving DB.

TCL - SAVEPOINT

It divides a transaction into smaller sub units. It has a parameter which is the name of the savepoint. This name can be used to rollback all updates from the time when you issued the named savepoint.

TCL - ROLLBACK

- ➢ Removes pending database updates.
- ➢ Rollback without specifying a savepoint name removes all pending updates.

TCL - Examples

Suppose : you have create employees3 table with four columns as below:
     (Empid , Empname, EmpJob,EmpSal)
     CREATE TABLE Employees3
     (
     Empid   NUMBER(10)   NOT NULL,
     Empname   VARCHAR2(20)   NOT NULL,
     EmpJob   VARCHAR2(20),
     EmpSal   NUMBER(7,2)
     );

TCL - Examples

Examples :

 INSERT INTO Employees3
VALUES (101,'Dhafer','manager',7866.67);

Commit;

Now :

We save the insert statement to the database.

TCL - Examples

Examples :

 INSERT INTO Employees3
VALUES (102,'Mohammed','Superviser',6000);
Savepoint One
        select * from Employees3 ;
INSERT INTO Employees3
VALUES (103,'Ahmed','Teamleader ',4000.43);
Savepoint Two
        select * from Employees3 ;
INSERT INTO Employees
VALUES (104,'Riyad','Teamleader ',4500);
Savepoint Three

TCL - Examples

Examples :

    select * from Employees3 ;
 INSERT INTO Employees3
VALUES (105,'Hadil','HR',1500);
    select * from Employees3 ;
Rollack to Three
    select * from Employees3 ;
Rollack to Two
    select * from Employees3 ;
Rollack to One
    select * from Employees3 ;

Thank you

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