

DB2 Tables

Task 1. Create table, with **DEFAULT** and **auto increment** columns

1. start CLP
2. start DB2 database manager (db2start)
3. connect to database testdb (created last time) as STUDENT
db2 connect to sample user STUDENT
4. list options of the CLP (db2 list command options)
5. display the list of tables in db testdb (db2 list tables)
6. if there is a table employee, drop it (db2 drop table employee)
7. in text editor (notepad) create file script1.sql, with the definition of the table employee, with the following fields
ID SMALLINT NOT NULL,
NAME VARCHAR(9),
DEPT SMALLINT NOT NULL WITH DEFAULT 10,
JOB CHAR(5),
YEARS SMALLINT,
SALARY DECIMAL(7,2)
8. from CLP, load the file script1.sql, using command
db2 -tvf path/file-name
9. insert into employee two rows, but without the value of field DEPT
10. insert next row, with the value of DEPT
11. display the contents of employee, what are the values of DEPT?
12. drop employee
13. create new file script2.sql with the definition of table employee, like above, but change the definition of the field ID, to auto increment (IDENTITY field), starting from 5, with step 5
14. insert into employee two rows (can you insert a value to ID?)
15. display the contents of employee, what are the values of ID?
16. disable the autocommit option in the CLP (db2 update command options using c off)
17. insert next row to employee, next rollback the transaction
18. insert another row to employee and commit the transaction
19. display the contents of employee, what are the values of ID?
20. drop employee
21. create table employee like in point 13, but the field ID must be auto increment, starting from 11, with step 1, maximum value 15, with option cycle
22. insert 5 rows to employee, display them and check, what are the values of the field ID
23. insert next 2 rows, what are the values of the field ID in these rows?
24. drop employee
25. create table employee like in point 13, but the field ID must be auto increment, starting from 1, with step 1, cache 10
26. insert 5 rows to employee, commit transaction, display them and check, what are the values of the field ID
27. disconnect from the database and close CLP
28. start CLP, connect to testdb
29. insert a row to employee
30. display the employee contents, what are the values in ID?
31. drop employee

Task 2. Create table, with **generated** columns

1. create table sales with fields (create script first, then load it)
NUMBER int not null,
SALE_DATE date WITH DEFAULT current_date,
VALUE decimal(6,2),
DISCOUNT decimal(4,2),
NETTO GENERATED ALWAYS AS (value-discount)
2. insert three rows to sales
3. display sales, what are the values of NETTO?
4. Drop sales and disconnect from db

Task. 3. **Table constraints**

1. start CLP
2. connect to database testdb (created last time) as STUDENT
3. create table dept with fields as follows (create script first, and load it next)
Number int not null primary key,
Name char(10),
Budget decimal(8,2)
and table employee with fields:
ID int not null primary key,
Name varchar(15),
Salary decimal(7,2),
Dept_no int
4. The field dept_no must be FOREIGN KEY, referencing table dept, field number, with the option ON DELETE CASCADE (use ALTER TABLE, give the name to the constraint)
5. Insert to table dept new department data with the name IT number 1 and budget 5000
6. Insert to table employee three employees of department IT
7. Insert to table employee new employee of department Marketing, is this possible?
8. Insert new department to table dept, with name Marketing, number 2 and budget 2000
9. Insert to table employee new employee of department Marketing
10. Delete from table dept department IT
11. Display the contents of table employee, what can you observe?
12. Put the constraint CHECK on field budget (table dept) to ensure that the budget is within the range 3000 – 7000; is this possible or not? Why?
13. Change the date in table dept so that the above constraint CHECK can be put
14. Insert into dept new department with name Sales, number 3, without budget; is this possible and why?