

Department of Computer Science University of Cyprus

EPL342 – Databases

Lab 10

SQL-DML 3

(Views, Triggers, Functions)

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http://www.cs.ucy.ac.cy/courses/EPL342



Before We Begin

- Start the SQL Server Management Studio
 - Start →

All Programs →

Microsoft SQL Server →

SQL Server Management Studio

Server: APOLLO

Authentication: SQL Server Authentication

Username: <your username>

Password: <your password>



Northwind Database Queries

Create the following views:

- 1. view EmployeeFullNames: Displays the ID and Full Name (Last name + Firstname) of each employee
- 2. view NumberOfEmployeesByCity: create a view that displays the city and number of employees that live in
- 3. view_TotalSalesByCustomerCity: create a view that displays the total number of sales and total number of orders for all customer's cities
- 4. Execute the following sql statement sp helptext 'view TotalSalesByCustomerCity'
- 5. To avoid displaying the sql text of view 3, enforce encryption and execute sp_helptext again to see that you have done it properly

 Databases – Panaviotis Andreou (University of Cyprus)



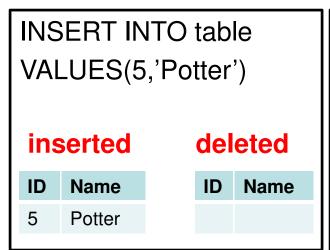
TRIGGERS

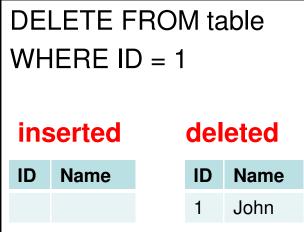
Whenever a trigger is executed two tables are utilized:

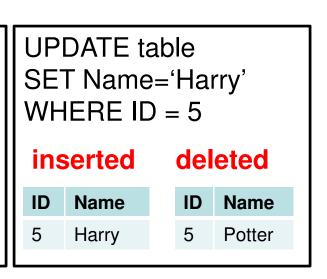
- The inserted table: used for INSERT and UPDATE triggers
- The deleted table used for DELETE and UPDATE triggers
 Both tables are valid only for the duration of the trigger

TRIGGERS (inserted, deleted tables) - Example

ID	Name	
1	John	
2	Anne	
3	Marius	
4	Steven	







ID	Name
1	John
2	Anne
3	Marius
4	Steven
5	Potter

Name
Anne
Marius
Steven
Potter

ID	Name
2	Anne
3	Marius
4	Steven
5	Harry



Northwind Database Queries

Create the following triggers:

- 1. tr_AUDIT_Employees We need to track down when and by who a new employee is inserted to the database or a current employee is updated.
 - Create 4 new columns to the Employee table (CREATE_ID, CREATE_DATE, UPDATE_ID, UPDATE_DATE)
 - To get the current date use the GetDate() function
 - To get the current user logged in use (SELECT **USER**)
 - After you finish the trigger, test it by adding new employees and by changing employee names.
- 2. tr_ORDER_TOTAL We need to update the total amount for each order automatically.
 - Create a new column (TOTAL type: money) to the Orders table
 - This column must update the total amount for each order (Lab 10-Query
 9) whenever an order detail is inserted or updated



Northwind Database Queries

Create the following functions:

- **1. fn_ABS -** input: int, output: positive int
- 2. fn_DATE_ONLY input: datetime, output: string (10 chars) with the format dd/mm/yyyy
- 3. fn_LEFT input: string A, int B, output: substring of string A, from char 0 to B (e.g., fn_LEFT('Harry Potter', 5)='Harry'
- **4. fn_REVERSE** input: string A, output: reverse string A (e.g., fn_REVERSE('Avada Kedavra')='arvadeK adavA')