

**INFO 6210 SEC 01 - DATA MANAGEMENT AND DATABASE DESIGN
SUMMER 2020**

**P4. DATABASE IMPLEMENTATION FOR RETAIL STORE MANAGEMENT
PROJECT TEAM 10**

TEAM MEMBERS

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ETL PROCESS

Please use the Folder: **SQL Implementation**

Note: Please execute the following files in sequence

1. Setting up the database

(Location: SQL Implementation/1. SettingUpDatabase)

- a. '1. Create database.sql'
- b. '2. CreateEncryptionCertificateAndSymmetricKey.sql'
- c. '3. CreateTables.sql'
- d. '4. AddPrimaryKey.sql'
- e. '5. AddForeignKey.sql'
- f. '6. CreateIndex.sql'
- g. '7. Check Constraints.sql'

2. Define functions used by Table Level Check Constraints

(Location: SQL Implementation/2. CreateFunctions)

- a. 'Constraint_Check_Customer_Discounted_TotalPrice.sql'
- b. 'Constraint_Check_Estimated_Time.sql'

- c. 'Constraint_Check_Selling_Price.sql'

3. Define scalar-valued functions

(Location: SQL Implementation/2. CreateFunctions)

- a. 'function_apply_discount.sql'
- b. 'function_check_order_completed.sql'
- c. 'function_get_available_delivery_personnel.sql'
- d. 'function_get_final_total_price.sql'
- e. 'function_get_next_customer_benefit_id.sql'
- f. 'Function_get_next_deliver_id.sql'

4. Define Table level Check constraints using Functions

(Location: SQL Implementation/3. Table Level Check Constraints using functions)

- a. 'Check_Completed_Order_insertion.sql'
- b. 'CheckConstraint_Compare_Customer_Discounted_TotalPrice.sql'
- c. 'Constraint_SellingPrice_DiscountedSellingPrice.sql'

5. Define Stored Procedures

(Location: SQL Implementation/4. CreateProcedures)

- a. 'procedure_change_stock_on_quantity.sql'
- b. 'procedure_delivery_fee_update.sql'
- c. 'procedure_initiate_delivery.sql'
- d. 'procedure_take_supplier_intake.sql'

6. Create Triggers

(Location: SQL Implementation/5. CreateTriggers)

- a. 'trigger_apply_product_discount.sql'
- b. 'trigger_calculate_total_price.sql'
- c. 'trigger_calculateCustomerSatisfaction_ForInsert.sql'
- d. 'trigger_change_stock_on_quantity.sql'
- e. 'trigger_customerFeedback_insteadofinsert.sql'
- f. 'trigger_deliver_personnel_availability.sql'
- g. 'trigger_total_price_with_deliver_fee.sql'

7. ETL Process - Data Entry

(Location: SQL Implementation/6. ETL Process - Data Entry)

- a. '1. Insertion_locationTable.sql'
- b. '2. Insertion_branchTable.sql'
- c. '3. Insertion_employeeTable'

- d. '4. Insertion_supplierTable'
- e. '5. Insertion_productTable'
- f. '6. Insertion_branchProduct'
- g. '7. Insertion_customerTable'
- h. '8. Insertion_branchCustomerTable'
- i. '9. Insertion_deliveryPersonnelTable'

Insert orders from files in order:

(Location: SQL Implementation/9. Order Insertions)

Note: Internally these order insertions use triggers, stored procedures and functions for inserting and manipulating data in related columns

- a. 'Order Insertions Sid(310).sql'
- b. 'Order Insertions Sid(311).sql'
- c. 'Order Insertions Sid(312).sql'
- d. 'Order Insertions Sid(313).sql'
- e. 'Order Insertions Sid(300).sql'
- f. 'Order Insertions Sid(301).sql'
- g. 'Order_Insertions_Antara(302).sql'
- h. 'Order_Insertions_Antara(303).sql'
- i. 'Order_Insertions_Antara(304).sql'
- j. 'Order_Insertions_Antara(305).sql'
- k. 'Order_Insertions_Varad(314).sql'
- l. 'Order_Insertions_Varad(315).sql'
- m. 'Order_Insertions_Varad(316).sql'
- n. 'Order_Insertions_Varad(317).sql'
- o. 'Order306_santosh.sql'
- p. 'Order307_santosh.sql'
- q. 'Order308_santosh.sql'
- r. 'Order309_santosh.sql'

8. CreateViews

(Location: SQL Implementation/7. CreateViews)

- a. 'Customer_view.sql'
- b. 'CustomerSatisfaction view.sql'
- c. 'delivery_personnel_view.sql'
- d. 'Employee_table_view.sql'
- e. 'Inventory Management view.sql'
- f. 'Sales profit view.sql'
- g. 'timely-delivery view.sql'

The SQL implementation includes the following three items:

1. Table-level CHECK Constraints based on a function:

- a. Constraint_Check_Customer_Discounted_TotalPrice
- b. Constraint_SellingPrice_DiscountedSellingPrice
- c. Check_Completed_Order_insertion

2. Computed Columns based on a function:

- a. total_price (Table: dbo.[order])
- b. delivery_fee (Table: dbo.[delivery])
- c. total_price_with_delivery_fee (Table: dbo.[delivery])
- d. customer_satisfaction (Table: dbo.[customer_benefit])
- e. customer_discounted_total_price (Table: dbo.[customer_benefit])
- f. discounted_selling_price (Table: dbo.[order_branch_product])
- g. sale_profit

3. Column Data Encryption:

Columns that were encrypted are as follows:

- a. customer_password (Table: dbo.[customer])
- b. employee_password (Table: dbo.[employee])
- c. delivery_personnel_password (Table: dbo.[delivery_personnel])

