Stored Procedures

sp\_InsertCustomer

The sp\_InsertCustomer procedure will put a new customer into the database and log such an operation into an audit log at the same time. It requires various factors as input, which include: first name, last name, and email of the customer, which are necessary, and other details such as phone number and address which are optional. It then inserts the customer record in the Customer table, chooses the new CustomerID with SCOPE\_IDENTITY(), and logs the operation to the AuditLog table. Error handling is in place to report any error in execution through the procedure.

sp\_GenerateSalesReport

This stored procedure provides a sales report for any specified time. This stored procedure includes two parameters: one for the date commencing the period of the report, and one for the date concluding the report period. This stored method collects all the transactions within the supplied range, together with the transaction ID, customer name, product details, quantity, and money per transaction. Also, the action of report production gets noted in the AuditLog table for tracking accountability purposes. Error management has also been provided to control possible execution issues.

sp\_AssignProductDiscount

The sp\_AssignProductDiscount process guarantees a product is awarded a discount only once. It takes a ProductID and a DiscountID as inputs. Before making the assignment, it verifies whether the combination already exists in the ProductDiscount database. If not, it does the insert of the new association and returns a success message. If the combination already exists, the method advises the user. Errors are recorded and reported using an error-handling block.

Triggers

trg\_UpdateStockAfterSale

The trg\_UpdateStockAfterSale trigger updates the quantities in stock after the recording of a new sale in the SalesTransactionDetail database. It decreases the quantity of the sold product in the Stock table following an entry, according to the information in the inserted record. Additionally, it logs in the AuditLog table the operation performed to update the stock. This trigger is designed to ensure that, after each sale, the stock is updated correctly.

trg\_ReorderNotification

The trg\_ReorderNotification trigger will constantly watch any updates to the Stock table and log an alert if the available quantity of any product goes below the reorder level. This trigger will be invoked following the execution of an update operation to make sure that any low-stock condition will promptly be noted in the AuditLog table for further action, as this would signal serious stock shortages and therefore enhance inventory efficiency.

trg\_LogCustomerDeletion

The trg\_LogCustomerDeletion trigger writes into the AuditLog database facts about which customer records have been removed. Whenever a client is deleted from the client table, the trigger extracts data from the DELETED pseudo-table, including the customer name and email, and logs an audit trail. This offers traceability of all client data deletions and promotes system responsibility.