
10 ADO.NET Exercises Using Northwind Database

1. List All Customers (SqlDataReader)

Task: Use `SqlConnection` and `SqlCommand` to fetch all customers from the `Customers` table. Print `CustomerID`, `CompanyName`, and `Country`.

2. Search Orders by Customer ID (Parameterized Query)

Task: Write a method `GetOrdersByCustomer(string customerId)` Use `SqlCommand` with `WHERE CustomerID = @customerId` to fetch and display orders.

3. Insert a New Product (ExecuteNonQuery)

Task: Insert a new record into the `Products` table with:

- `ProductName`: "Test Product"
 - `SupplierID`: 1
 - `CategoryID`: 1
 - `UnitPrice`: 25
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4. Update Employee Title (Parameter Binding)

Task: Update the `Title` of an employee based on their `EmployeeID`. Use `SqlCommand.Parameters.AddWithValue`.

5. Delete a Product (DELETE Query)

Task: Delete a product from the `Products` table using its `ProductID`. Ensure user input is protected using parameterized queries.

6. Join Orders and Customers (INNER JOIN)

Task: Join `Orders` and `Customers` to display:

- `OrderID`
 - `CompanyName`
 - `OrderDate` Use `SqlCommand` and display the results in a `DataReader`.
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7. Display Total Sales by Category (GROUP BY + Aggregation)

Task: Use `SqlDataAdapter` and `DataTable` to run:

```
SELECT CategoryID, SUM(UnitPrice * Quantity) AS TotalSales
FROM [Order Details]
GROUP BY CategoryID
```

Display results using a loop in C#.

8. Execute Stored Procedure - CustOrderHist

Task: Call Northwind's built-in stored procedure `CustOrderHist` which takes `@CustomerID` and returns product names and totals for that customer.

```
cmd.CommandText = "CustOrderHist";  
cmd.CommandType = CommandType.StoredProcedure;
```

9. Simulate Transaction - Insert Order and Details

Task: Use `SqlTransaction` to:

- Insert into `Orders`
 - Insert into `Order Details` Commit if both succeed; rollback otherwise.
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10. Use SqlDataAdapter + DataSet (Disconnected Model)

Task: Load all `Products` using `SqlDataAdapter` into a `DataSet`. Display only products with `UnitsInStock > 20`.
