Database management for shop

Střední průmyslová škola elektrotechnická, Ječná 30

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Type of projekt: school

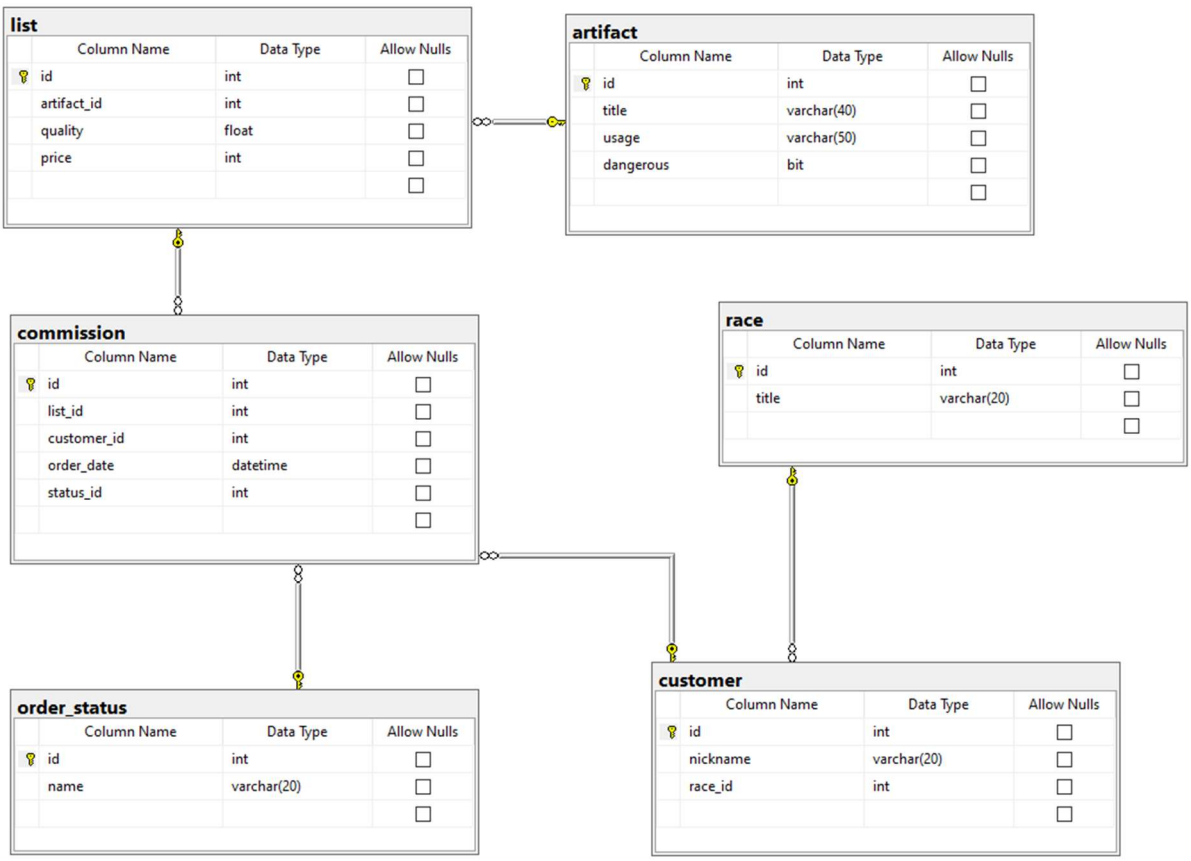
Github: **https://github.com/notvivi/DatabaseManagementForShop**

1. Basic info

- This project is console application based on creating, editing and deleting commissions.
- Created with C# in Visual studio 2022 + .NET SDK
- Microsoft SQL Server Management Studio 20
- Used architecture: DAO and monolith

2. Database description

Database model



Tables

Artifact – table

Stores information about artifacts.

- **id** – primary key, unique identifier of the artifact
- **title** – name of the artifact
- **usage** – purpose or use of the artifact
- **dangerous** – indicates whether the artifact is dangerous

List – table

Represents a list of artifacts available for sale or trade.

- **id** – primary key, unique identifier of the list record
- **artifact_id** – foreign key referencing **artifact(id)**
- **quality** – quality level of the artifact
- **price** – price of the artifact

Customer – table

Stores information about customers.

- **id** – primary key, unique identifier of the customer
- **nickname** – customer nickname or name
- **race_id** – foreign key referencing **race(id)**

Race – table

Defines races to which customers can belong.

- **id** – primary key, unique identifier of the race
- **title** – name of the race

Commission – table

Represents an order/commission made by a customer.

- **id** – primary key, unique identifier of the commission
- **list_id** – foreign key referencing **list(id)**
- **customer_id** – foreign key referencing **customer(id)**
- **order_date** – date and time when the commission was created
- **status_id** – foreign key referencing **order_status(id)**

Order_status – table

Defines possible states of a commission.

- **id** – primary key, unique identifier of the status
- **name** – name of the order status (e.g. Created, Cancelled, Completed)

Views

get_commissions – view

- Provides an overview of commissions with customer and artifact details.

get_stats_per_order_customer – view

- Provides statistical information about customer orders.

get_pricelist – view

- Displays a complete price list of available artifacts.

3. Scheme of importable files

- Artifacts and races can be imported from CSV file using UI.
- Mandatory Optional

artifacts.csv

title	usage	dangerous
Sword	Combat	True

races.csv

title
Mermaid

4. How to install and configure project

- Look into README
  https://github.com/notvivi/DatabaseManagementForShop/blob/main/README.md
- Program is configured with config.json that has this inside.

```
- {"ConnectionString":
  "Server=YOUR_SERVER_NAME;Database=shop;Trusted_Connection=True;TrustServerC
  ertificate=True;"}

- {"ConnectionString": "Server=YOUR_SERVER_NAME;Database=shop;User
  Id=USER_EXAMPLE;Password=PASSWORD_EXAMPLE;TrustServerCertificate=True;"}
```

5. Use case – creating order

➔ The customer views the available artifacts using the get_pricelist view.
➔ The system displays artifact details including title, usage, quality, price, and danger status.
➔ The customer selects an artifact from the list.
➔ The customer chooses his id.
➔ The system creates a new record in the Commission table with:

- selected list_id
- customer's customer_id
- current date and time as order_date
- default status set to Created

➔ The system confirms that the commission was successfully created.

6. Third-party library

- Microsoft.Data.SqlClient (NuGet)

7. Summary

- This project is a C# console application for managing shop commissions using a Microsoft SQL Server database.
- It allows creating, editing, and deleting orders, works with multiple related tables, and uses SQL views for clear data overviews.
- The project demonstrates basic database design, SQL usage, and data access using the DAO architecture.