Федеральное государственное бюджетное образовательное учреждение

высшего образования

«Российский экономический университет им. Г.В. Плеханова»

Московский приборостроительный техникум

Специальность: 09.02.07 Информационные системы и программирование

Квалификация: Программист

Общепрофессиональная дисциплина: ОП 08 Основы проектирования баз данных

МПТ.09.02.07-П.ОП.08.ОПБД.П50-7-20.10.22

Отчёт к практической работе № 5

«Реализация таблиц и ограничений в базе данных»

Тема: «Разработка базы данных на примере предметной области: ««Ресторан». Реализация

подсистем: учёт и обработка заказов, учёт и реализация меню».

|  |  |
| --- | --- |
| Проверил: | Выполнил: |
| Щаников И.М.\_\_\_\_\_\_\_\_\_\_ | Студент группы |
| (\_\_\_\_\_\_\_\_)\_\_\_\_\_\_\_\_\_\_\_\_\_ | П50-7-20 |
| «\_\_\_»\_\_\_\_\_\_\_\_\_\_\_\_\_2022г. | \_\_\_\_\_\_\_\_\_\_\_\_Огурцов А.А. |
|  | «\_\_\_»\_\_\_\_\_\_\_\_\_\_\_\_\_2022г. |

2022

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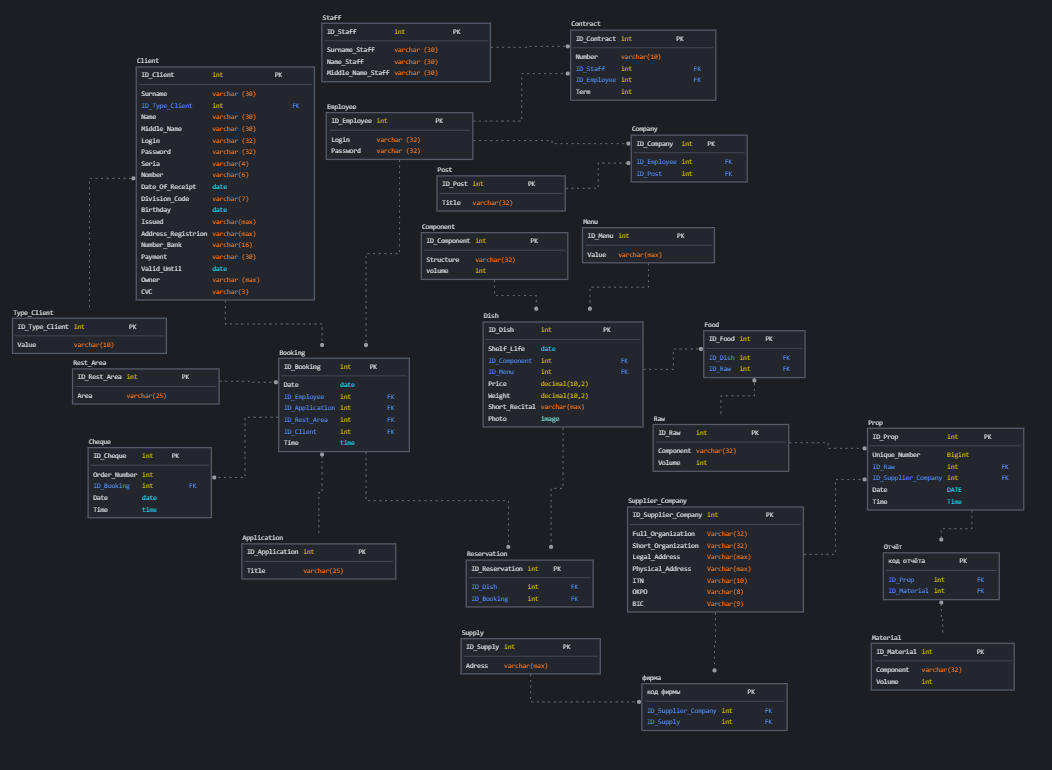
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1. ЦЕЛИ ПРАКТИЧЕСКОЙ РАБОТЫ

На основании даталогической модели данных и словаря данных, разработать структуру таблиц базы данных, на сервере СУБД.

ЭТАПЫ ВЫПОЛНЕНИЯ

1. Проект даталогической модели данных, на основании 4 практической работы;



1. Реализация скрипта настройки и создания файла базы данных;

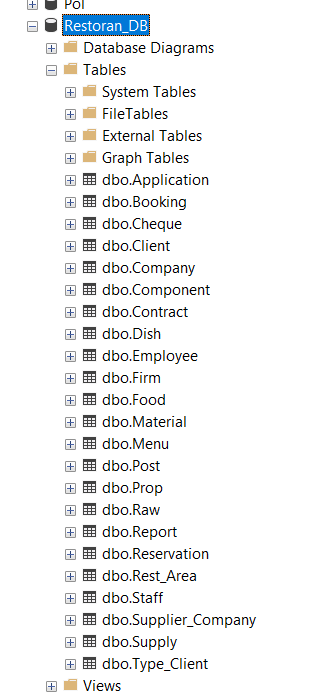
|  |  |
| --- | --- |
| Название объекта | Скрипт объекта |
| Restoran\_DB | set ansi\_nulls on  go  set ansi\_padding on  go  set quoted\_identifier on  go  create database [Restoran\_DB]  go  use [Restoran\_DB]  go |

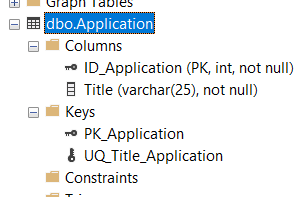
1. На основании словаря данных, произвести реализацию родительских таблиц базы данных (Поле с типом данных, Varchar (max), не может быть с ограничением unique – пометить жёлтым цветом);

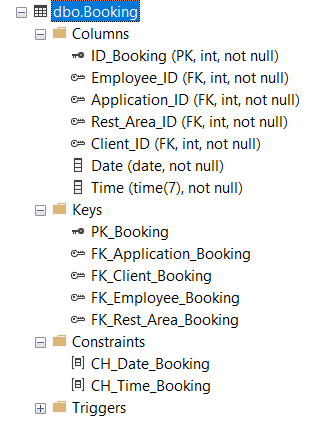
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ключ | Наименование | Тип данных | Примечание | Скрипт объекта |
| Type\_Client | | | | |
| PK | ID\_Type\_Client | INT | Первичный ключ таблицы “Тип клиента” | create table [dbo].[Type\_Client]  (  [ID\_Type\_Client] [int] not null identity(1,1),  [Value] [varchar] (10) not null  constraint [PK\_Type\_Client] primary key clustered  ([ID\_Type\_Client] ASC) on [PRIMARY],  constraint [UQ\_Value\_Type\_Client] unique ([Value])  )  go |
|  | Value | VARCHAR (10) | Уникальное поле |
| Post | | | | |
| PK | ID\_Post | INT | Первичный ключ таблицы “Должность” | create table [dbo].[Post]  (  [ID\_Post] [int] not null identity(1,1),  [Title] [varchar] (32) not null  constraint [PK\_Post] primary key clustered  ([ID\_Post] ASC) on [PRIMARY],  constraint [UQ\_Title\_Post] unique ([Title])  )  go |
|  | Title | VARCHAR (32) | Уникальное поле |
| Menu | | | | |
| PK | ID\_Menu | INT | Первичный ключ таблицы “Меню” | create table [dbo].[Menu]  (  [ID\_Menu] [int] not null identity(1,1),  [Value] [varchar] (max) not null  constraint [PK\_Menu] primary key clustered  ([ID\_Menu] ASC) on [PRIMARY]  )  go |
|  | Value | VARCHAR (MAX) | Уникальное поле |
| Component | | | | |
| PK | ID\_Component | INT | Первичный ключ таблицы “Ингредиенты” | create table [dbo].[Component]  (  [ID\_Component] [int] not null identity(1,1),  [Structure] [varchar] (32) not null,  [Volume] [int] not null  constraint [PK\_Component] primary key clustered  ([ID\_Component] ASC) on [PRIMARY],  constraint [UQ\_Structure\_Component] unique ([Structure]),  constraint [CH\_Volume\_Component] check ([Volume] > 0)  )  go |
|  | Structure | VARCHAR (32) | Уникальное поле |
|  | Volume | INT | Проверка на отрицательность |
| Supply | | | | |
| PK | ID\_ Supply | INT | Первичный ключ таблицы “Поставка” | create table [dbo].[Supply]  (  [ID\_Supply] [int] not null identity(1,1),  [Adress] [varchar] (max) not null  constraint [PK\_Supply] primary key clustered  ([ID\_Supply] ASC) on [PRIMARY]  )  go |
|  | Adress | VARCHAR (MAX) | Уникальное поле |
| Raw | | | | |
| PK | ID\_Raw | INT | Первичный ключ таблицы “Сырьё” | create table [dbo].[Raw]  (  [ID\_Raw] [int] not null identity(1,1),  [Component] [varchar] (32) not null,  [Volume] [int] not null  constraint [PK\_Raw] primary key clustered  ([ID\_Raw] ASC) on [PRIMARY],  constraint [UQ\_Component\_Raw] unique ([Component]),  constraint [CH\_Volume\_Raw] check ([Volume] > 0)  )  go |
|  | Component | VARCHAR(32) | Уникальное поле |
|  | Volume | INT | Проверка на отрицательность |
| Material | | | | |
| PK | ID\_Material | INT | Первичный ключ таблицы “Материал” | create table [dbo].[Material]  (  [ID\_Material] [int] not null identity(1,1),  [Component] [varchar] (32) not null,  [Volume] [int] not null  constraint [PK\_Material] primary key clustered  ([ID\_Material] ASC) on [PRIMARY],  constraint [UQ\_Component\_Material] unique ([Component]),  constraint [CH\_Volume\_Material] check ([Volume] > 0)  )  go |
|  | Component | VARCHAR (32) | Уникальное поле |
|  | Volume | INT | Проверка на отрицательность |
| Application | | | | |
| PK | ID\_Application | INT | Первичный ключ таблицы “Заявка” | create table [dbo].[Application]  (  [ID\_Application] [int] not null identity(1,1),  [Title] [varchar] (25) not null  constraint [PK\_Application] primary key clustered  ([ID\_Application] ASC) on [PRIMARY],  constraint [UQ\_Title\_Application] unique ([Title])  )  go |
|  | Title | VARCHAR (25) | Уникальное поле |
| Employee | | | | |
| PK | ID\_Employee | INT | Первичный ключ таблицы “Сотрудник” | create table [dbo].[Employee]  (  [ID\_Employee] [int] not null identity(1,1),  [Login] [varchar] (32) not null,  [Password] [varchar] (32) not null  constraint [PK\_Employee] primary key clustered  ([ID\_Employee] ASC) on [PRIMARY],  constraint [UQ\_Login\_Employee] unique ([Login]),  constraint [CH\_Login\_Employee] check (len([Login])>=8),  constraint [CH\_Password\_Employee\_Upper] check ([Password] like ('%[A-Z]%')),  constraint [CH\_Password\_Employee\_Letter\_Lower] check ([Password] like ('%[a-z]%')),  constraint [CH\_Password\_Employee\_Symbols] check ([Password] like ('%[!@#$%^&\*()]%'))  )  go |
|  | Login | VARCHAR (32) | Не менее 8 символов, уникальное поле |
|  | Password | VARCHAR (32) | Спец символы, минимум одна заглавная одна прописная латинская буквы |
| Staff | | | | |
| PK | ID\_Staff | INT | Первичный ключ таблицы “Персонал” | create table [dbo].[Staff]  (  [ID\_Staff] [int] not null identity(1,1),  [Name\_Staff] [varchar] (30) not null,  [Surname\_Staff] [varchar] (30) not null,  [Middle\_Name\_Staff] [varchar] (30) not null  constraint [PK\_Staff] primary key clustered  ([ID\_Staff] ASC) on [PRIMARY]  )  go |
|  | Name\_Staff | VARCHAR (30) |  |
|  | Surname\_Staff | VARCHAR (30) |  |
|  | Middle\_Name\_Staff | VARCHAR (30) |  |
| Rest\_Area | | | | |
| PK | ID\_Rest\_Area | INT | Первичный ключ таблицы “Зона отдыха” | create table [dbo].[Rest\_Area]  (  [ID\_Rest\_Area] [int] not null identity(1,1),  [Area] [varchar] (30) not null  constraint [PK\_Rest\_Area] primary key clustered  ([ID\_Rest\_Area] ASC) on [PRIMARY],  constraint [UQ\_Area\_Rest\_Area] unique ([Area])  )  go |
|  | Area | VARCHAR (25) | Уникальное поле |
| Supplier\_Company | | | | |
| PK | ID\_Supplier\_Company | INT | Первичный ключ таблицы “Фирма поставщика” | create table [dbo].[Supplier\_Company]  (  [ID\_Supplier\_Company] [int] not null identity(1,1),  [Full\_Organization] [varchar] (32) not null,  [Short\_Organization] [varchar] (32) not null,  [Legal\_Address] [varchar] (max) not null,  [Physical\_Address] [varchar] (max) not null,  [ITN] [varchar] (10) not null,  [OKPO] [varchar] (8) not null,  [BIC] [varchar] (9) not null  constraint [PK\_Supplier\_Company] primary key clustered  ([ID\_Supplier\_Company] ASC) on [PRIMARY],  constraint [UQ\_Full\_Organization\_Supplier\_Company] unique ([Full\_Organization]),  constraint [CH\_ITN\_Supplier\_Company] check ([ITN] = 10),  constraint [CH\_OKPO\_Supplier\_Company] check ([OKPO] = 8),  constraint [CH\_BIC\_Supplier\_Company] check ([BIC] = 9)  )  Go |
|  | Full\_Organization | VARCHAR (32) | Уникальное поле |
|  | Short\_Organization | VARCHAR (32) |  |
|  | Legal\_Address | VARCHAR (MAX) | Уникальное поле |
|  | Physical\_Address | VARCHAR (MAX) | Уникальное поле |
|  | ITN | VARCHAR (10) | 10 цифр, Уникальное поле, Проверка на отрицательность |
|  | OKPO | VARCHAR (8) | 8 цифр, Уникальное поле, Проверка на отрицательность |
|  | BIC | VARCHAR (9) | 9 цифр, Уникальное поле, Проверка на отрицательность |

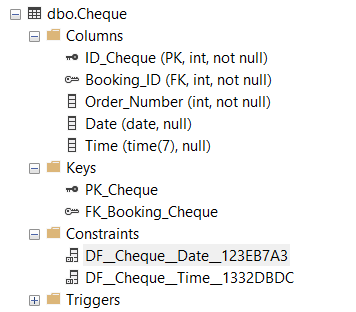
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Client | | | | |
| PK | ID\_Client | INT | Первичный ключ таблицы “Клиент” | create table [dbo].[Client]  (  [ID\_Client] [int] not null identity(1,1),  [Type\_Client\_ID] [INT] not null,  [Name] [VARCHAR] (30) not null,  [Surname] [VARCHAR] (30) not null,  [Middle\_Name] [VARCHAR] (30) not null,  [Seria] [VARCHAR] (4) not null,  [Nomber] [VARCHAR] (6) not null,  [Date\_Of\_Receipt] [DATE] null default(getdate()),  [Division\_Code] [VARCHAR] (7) not null,  [Birthday] [DATE] null default(getdate()),  [Issued] [VARCHAR] (MAX) not null,  [Address\_Registrion] [VARCHAR] (MAX) not null,  [Number\_Bank] [VARCHAR] (16) not null,  [Payment] [VARCHAR] (30) not null,  [Valid\_Until] [DATE] null default(getdate()),  [Owner] [VARCHAR] (MAX) not null,  [CVC] [VARCHAR] (3) not null,  [Login] [VARCHAR] (32) not null,  [Password] [VARCHAR] (32) not null  constraint [PK\_Client] primary key clustered  ([ID\_Client] ASC) on [PRIMARY],  constraint [UQ\_Login\_Client] unique ([Login]),  constraint [UQ\_Number\_Bank\_Client] unique ([Number\_Bank]),  constraint [CH\_Login\_Client] check (len([Login])>=8),  constraint [CH\_Password\_Client\_Upper] check ([Password] like ('%[A-Z]%')),  constraint [CH\_Password\_Client\_Letter\_Lower] check ([Password] like ('%[a-z]%')),  constraint [CH\_Password\_Client\_Symbols] check ([Password] like ('%[!@#$%^&\*()]%')),  constraint [CH\_CVC\_Client] check ([CVC] = 3),  constraint [CH\_CVC\_Client\_INT] check ([CVC] like '[0-9][0-9][0-9]'),  constraint [CH\_Number\_Bank\_Client] check ([Number\_Bank] = 16),  constraint [CH\_Number\_Bank\_Client\_INT] check ([Number\_Bank] like '[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]'),  constraint [CH\_Seria\_Client] check ([Seria] = 4),  constraint [CH\_Seria\_Client\_INT] check ([Seria] like '[0-9][0-9][0-9][0-9]'),  constraint [CH\_Division\_Code\_Client] check ([Division\_Code] like '[0-9][0-9][0-9][-][0-9][0-9][0-9]'),  constraint [CH\_Nomber\_Client] check ([Nomber] = 5),  constraint [CH\_Nomber\_Client\_INT] check ([Nomber] like '[0-9][0-9][0-9][0-9][0-9][0-9]'),  constraint [FK\_Type\_Client] foreign key ([Type\_Client\_ID]) references [dbo].[Type\_Client] ([ID\_Type\_Client]),  constraint [UQ\_Seria\_Nomber\_Client] unique ([Nomber], [Seria]),  constraint [CH\_Birthday\_Client] check ([Birthday] < getdate()),  constraint [CH\_Date\_Of\_Receipt\_Client] check ([Date\_Of\_Receipt] > getdate())  )  go |
| FK | Type\_Client\_ID | INT |  |
|  | Name | VARCHAR (30) |  |
|  | Surname | VARCHAR (30) |  |
|  | Middle\_Name | VARCHAR (30) |  |
|  | Seria | VARCHAR (4) | 4 цифры, Проверка на отрецательность |
|  | Nomber | VARCHAR (6) | 6 цифр, Проверка на отрецательность |
|  | Date\_Of\_Receipt | DATE | 31-12-2000, Дата>дня рождения |
|  | Division\_Code | VARCHAR (7) | ###-### |
|  | Birthday | DATE | 31-12-2000, Дата<Текущей даты |
|  | Issued | VARCHAR (MAX) |  |
|  | Address\_Registrion | VARCHAR (MAX) |  |
|  | Number\_Bank | VARCHAR (16) | 16 цифр, Уникальное поле, Проверка на отрецательность |
|  | Payment | VARCHAR (30) |  |
|  | Valid\_Until | DATE | 31-12-2000, Дата<=Текущей даты |
|  | Owner | VARCHAR (MAX) |  |
|  | CVC | VARCHAR (3) | 3 цифры, Проверка на отрицательность |
|  | Login | VARCHAR (32) | Не менее 8 символов, уникальное поле |
|  | Password | VARCHAR (32) | Спец символы, минимум одна заглавная одна прописная латинская буквы |
| Dish | | | | |
| PK | ID\_Dish | INT | Первичный ключ таблицы “Блюдо” | create table [dbo].[Dish]  (  [ID\_Dish] [int] not null identity(1,1),  [Component\_ID] [int] not null,  [Menu\_ID] [int] not null,  [Shelf\_Life] [date] default (format(Getdate(),'dd-MM-yyyy')),  [Photo] [image] not null,  [Price] [int] not null,  [Weight] [int] not null,  [Short\_Recital] [varchar] (max) not null  constraint [PK\_Dish] primary key clustered  ([ID\_Dish] ASC) on [PRIMARY],  constraint [FK\_Component] foreign key ([Component\_ID])  references [dbo].[Component] ([ID\_Component]),  constraint [FK\_Menu] foreign key ([Menu\_ID])  references [dbo].[Menu] ([ID\_Menu]),  )  go |
| FK | Component\_ID | INT |  |
| FK | Menu\_ID | INT |  |
|  | Shelf\_Life | DATE | 31-12-2000, Дата>=Текущей дате |
|  | Photo | IMAGE | Уникальное поле |
|  | Price | DECIMAL(10,2) | Не отрицательное |
|  | Weight | DECIMAL(10,2) | Не отрицательное |
|  | Short\_Recital | VARCHAR (MAX) | Уникальное поле |
| Booking | | | | |
| PK | ID\_Booking | INT | Первичный ключ таблицы “Бронирование” | create table [dbo].[Booking]  (  [ID\_Booking] [int] not null identity(1,1),  [Employee\_ID] [int] not null,  [Application\_ID] [int] not null,  [Rest\_Area\_ID] [int] not null,  [Client\_ID] [int] not null,  [Date] [date] not null,  [Time] [time] not null  constraint [PK\_Booking] primary key clustered  ([ID\_Booking] ASC) on [PRIMARY],  constraint [FK\_Employee\_Booking] foreign key ([Employee\_ID])  references [dbo].[Employee] ([ID\_Employee]),  constraint [FK\_Application\_Booking] foreign key ([Application\_ID])  references [dbo].[Application] ([ID\_Application]),  constraint [FK\_Rest\_Area\_Booking] foreign key ([Rest\_Area\_ID])  references [dbo].[Rest\_Area] ([ID\_Rest\_Area]),  constraint [FK\_Client\_Booking] foreign key ([Client\_ID])  references [dbo].[Client] ([ID\_Client]),  constraint [CH\_Date\_Booking] check ([Date] > getdate()),  constraint [CH\_Time\_Booking] check ([Time] > Convert(time, SYSDATETIME()))  )  go |
| FK | Employee\_ID | INT |  |
| FK | Application\_ID | INT |  |
| FK | Rest\_Area\_ID | INT |  |
| FK | ID\_Client | INT |  |
|  | Date | DATE | 31-12-2000, Дата>=Текущей дате |
|  | Time | TIME | 24:33, Время>=Текущему времени |
| Cheque | | | | |
| PK | ID\_Cheque | INT | Первичный ключ таблицы “Чек” | create table [dbo].[Cheque]  (  [ID\_Cheque] [int] not null identity(1,1),  [Booking\_ID] [int] not null,  [Order\_Number] [int] not null,  [Date] [date] null default(getdate()),  [Time] [time] null default(Convert(time, SYSDATETIME()))  constraint [PK\_Cheque] primary key clustered  ([ID\_Cheque] ASC) on [PRIMARY],  constraint [FK\_Booking\_Cheque] foreign key ([Booking\_ID])  references [dbo].[Booking] ([ID\_Booking])  )  go |
| FK | Booking\_ID | INT |  |
|  | Order\_Number | INT | Уникальное поле |
|  | Date | DATE | 31-12-2000, Дата=Текущей дате |
|  | Time | TIME | 24:33, Время=Текущему времени |
| Contract | | | | |
| PK | ID\_Contract | INT | Первичный ключ таблицы “Контракт” | create table [dbo].[Contract]  (  [ID\_Contract] [int] not null identity(1,1),  [Staff\_ID] [int] not null,  [Employee\_ID] [int] not null,  [Nomber] [VARCHAR] (10) not null,  [Term] [int] not null  constraint [PK\_Contract] primary key clustered  ([ID\_Contract] ASC) on [PRIMARY],  constraint [FK\_Staff] foreign key ([Staff\_ID])  references [dbo].[Staff] ([ID\_Staff]),  constraint [FK\_Employee\_Contract] foreign key ([Employee\_ID])  references [dbo].[Employee] ([ID\_Employee]),  constraint [CH\_Nomber\_Contract] check ([Nomber] like '[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]'),  constraint [UQ\_Nomber\_Contract] unique ([Nomber]),  constraint [CH\_Term\_Contract] check ([Term] > 0)  )  go |
| FK | Staff\_ID | INT |  |
| FK | Employee\_ID | INT |  |
|  | Nomber | VARCHAR (10) | Уникальное поле, 10 цифр, Проверка на отрицательность |
|  | Term | INT | В месяцах, Проверка на отрицательность |
| Prop | | | | |
| PK | ID\_Prop | INT | Первичный ключ таблицы “Реквизит” | create table [dbo].[Prop]  (  [ID\_Prop] [int] not null identity(1,1),  [Raw\_ID] [int] not null,  [Supplier\_Company\_ID] [int] not null,  [Unique\_Number] [BIGINT] not null,  [Date] [date] null default(getdate()),  [Time] [time] null default(Convert(time, SYSDATETIME()))  constraint [PK\_Prop] primary key clustered  ([ID\_Prop] ASC) on [PRIMARY],  constraint [FK\_Raw\_Prop] foreign key ([Raw\_ID])  references [dbo].[Raw] ([ID\_Raw]),  constraint [FK\_Supplier\_Company\_Prop] foreign key ([Supplier\_Company\_ID])  references [dbo].[Supplier\_Company] ([ID\_Supplier\_Company]),  constraint [CH\_Unique\_Number\_Prop] check ([Unique\_Number] > 0)  )  go |
| FK | Raw\_ID | INT |  |
| FK | Supplier\_Company \_ID | INT |  |
|  | Unique\_Number | BIGINT | Уникальное поле, Проверка на отрицательность |
|  | Date | DATE | 31-12-2000, Дата=Текущей дате |
|  | Time | TIME | 24:33, Время=Текущему времени |
| Company | | | | |
| PK | ID\_Compony | INT | Первичный ключ таблицы “Компания” | create table [dbo].[Company]  (  [ID\_Compony] [int] not null identity(1,1),  [Employee\_ID] [int] not null,  [Post\_ID] [int] not null  constraint [PK\_Company] primary key clustered  ([ID\_Compony] ASC) on [PRIMARY],  constraint [FK\_Post] foreign key ([Post\_ID])  references [dbo].[Post] ([ID\_Post]),  constraint [FK\_Employee\_Company] foreign key ([Employee\_ID])  references [dbo].[Employee] ([ID\_Employee]),  )  Go |
| FK | Employee\_ID | INT |  |
| FK | Post\_ID | INT |  |
| Reservation | | | | |
| PK | ID\_Reservation | INT | Первичный ключ таблицы “Бронь” | create table [dbo].[Reservation]  (  [ID\_Reservation] [int] not null identity(1,1),  [Booking\_ID] [int] not null,  [Dish\_ID] [int] not null  constraint [PK\_Reservation] primary key clustered  ([ID\_Reservation] ASC) on [PRIMARY],  constraint [FK\_Booking\_Reservation] foreign key ([Booking\_ID])  references [dbo].[Booking] ([ID\_Booking]),  constraint [FK\_Dish\_Reservation] foreign key ([Dish\_ID])  references [dbo].[Dish] ([ID\_Dish])  )  go |
| FK | Dish\_ID | INT |  |
| FK | Booking\_ID | INT |  |
| Firm | | | | |
| PK | ID\_Firm | INT | Первичный ключ таблицы “Фирма” | create table [dbo].[Firm]  (  [ID\_Firm] [int] not null identity(1,1),  [Supply\_ID] [int] not null,  [Supplier\_Company\_ID] [int] not null  constraint [PK\_Firm] primary key clustered  ([ID\_Firm] ASC) on [PRIMARY],  constraint [FK\_Supply\_Firm] foreign key ([Supply\_ID])  references [dbo].[Supply] ([ID\_Supply]),  constraint [FK\_Supplier\_Company\_Firm] foreign key ([Supplier\_Company\_ID])  references [dbo].[Supplier\_Company] ([ID\_Supplier\_Company])  )  go |
| FK | Supplier\_Company \_ID | INT |  |
| FK | Supply\_ID | INT |  |
| Report | | | | |
| PK | ID\_Report | INT | Первичный ключ таблицы “Отчёт” | create table [dbo].[Report]  (  [ID\_Report] [int] not null identity(1,1),  [Prop\_ID] [int] not null,  [Material\_ID] [int] not null  constraint [PK\_Report] primary key clustered  ([ID\_Report] ASC) on [PRIMARY],  constraint [FK\_Prop\_Report] foreign key ([Prop\_ID])  references [dbo].[Prop] ([ID\_Prop]),  constraint [FK\_Material\_Report] foreign key ([Material\_ID])  references [dbo].[Material] ([ID\_Material])  )  go |
| FK | Prop\_ID | INT |  |
| FK | Material\_ID | INT |  |
| Food | | | | |
| PK | ID\_Food | INT | Первичный ключ таблицы “Еда” | create table [dbo].[Food]  (  [ID\_Food] [int] not null identity(1,1),  [Raw\_ID] [int] not null,  [Dish\_ID] [int] not null  constraint [PK\_Food] primary key clustered  ([ID\_Food] ASC) on [PRIMARY],  constraint [FK\_Raw] foreign key ([Raw\_ID])  references [dbo].[Raw] ([ID\_Raw]),  constraint [FK\_Dish] foreign key ([Dish\_ID])  references [dbo].[Dish] ([ID\_Dish])  )  go |
| FK | Raw\_ID | INT |  |
| FK | Dish\_ID | INT |  |

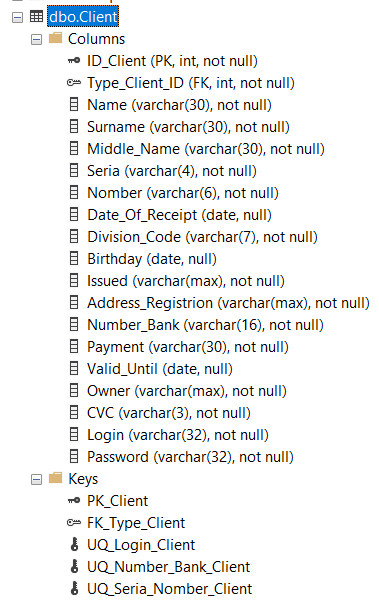
1. Продемонстрировать результат разработанной базы данных, приложив иллюстрации обозревателя объектов, среды разработки базы данных;

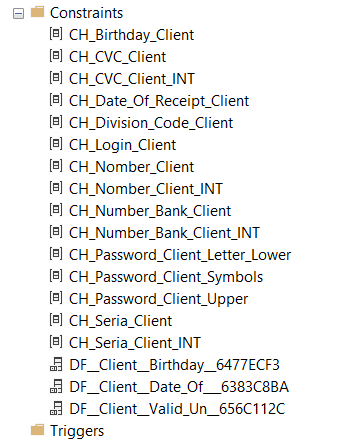


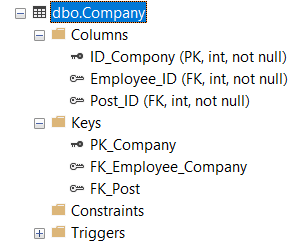


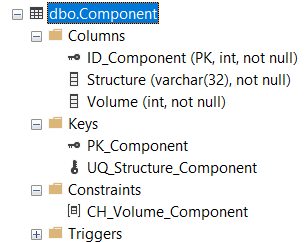


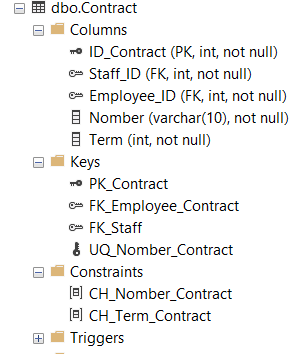


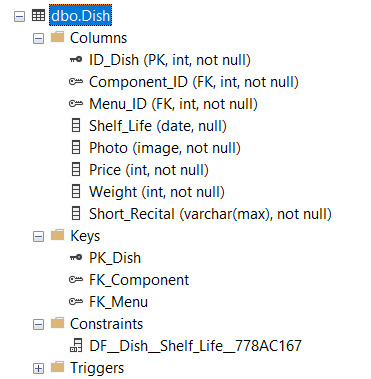


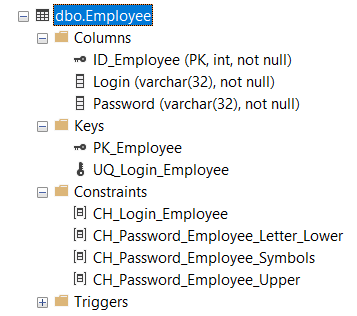


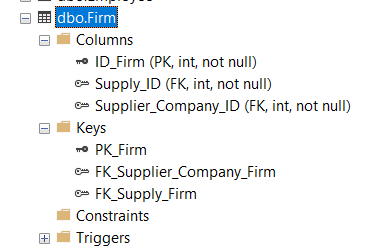


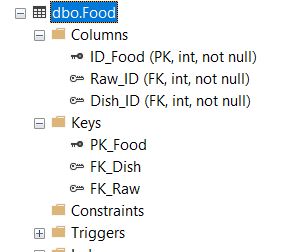


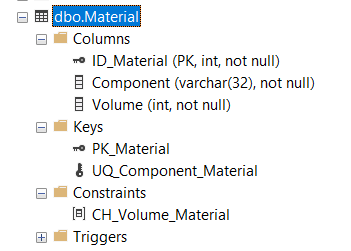


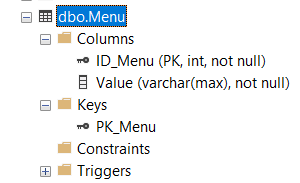


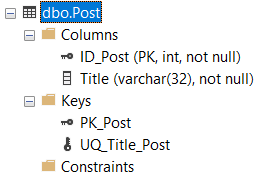


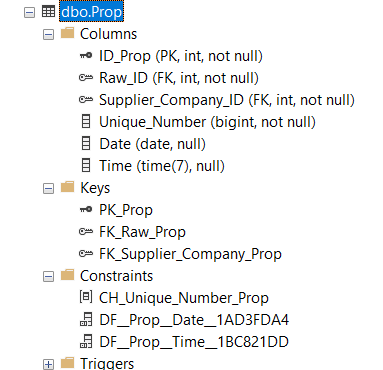


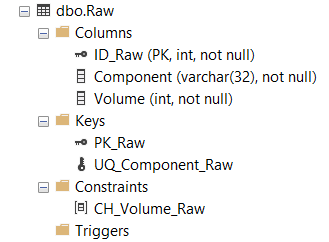


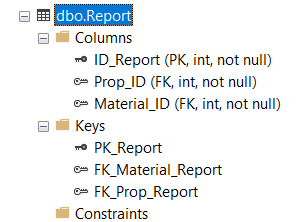


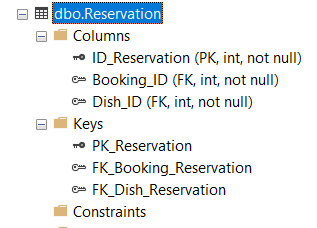


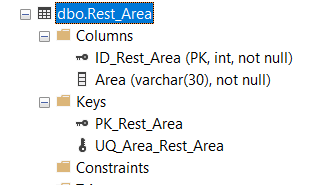


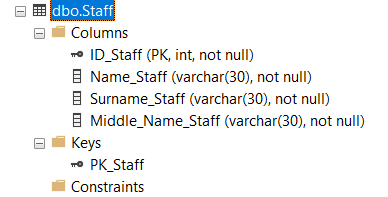


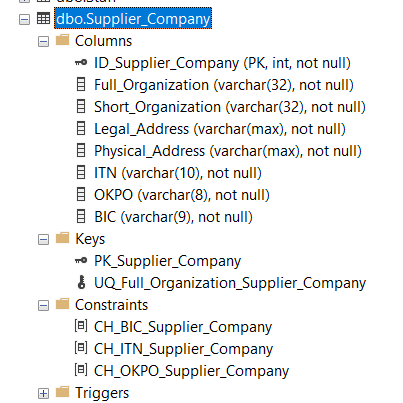


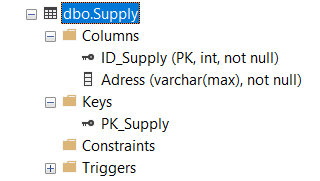


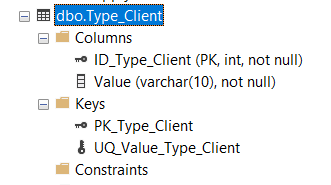




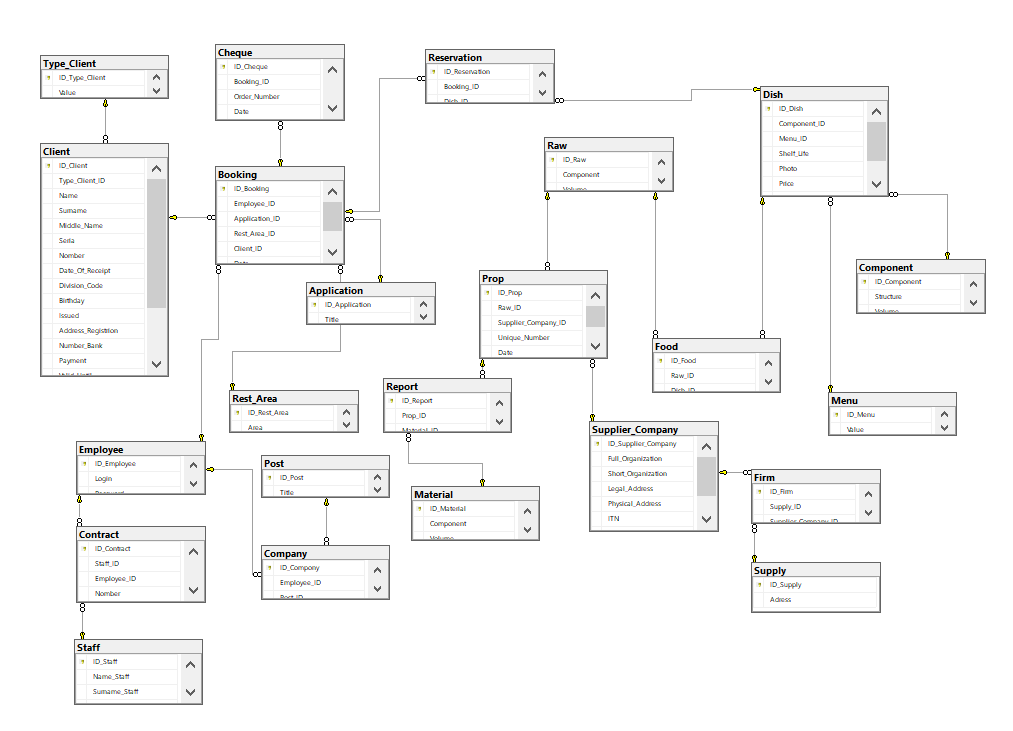








1. Продемонстрировать даталогическую модель данных, из инструментальной среды разработки баз данных



1. ВЫВОД

Я получил навыки, на основании проведённого анализа предметной области, а именно в проведении нормализации, приведение ненормализованной формы к 3НФ, применение свойств данных, которые подлежат хранению в базе данных к нормализации отношений, приведении отношений к структурированному виду, применение принципов и механизмов межтабличных связей.

1. СПИСОК ИСПОЛЬЗУЕМЫХ МАТЕРИАЛОВ

[Пример этапов практической](file:///\\ACER-AN\Users\logge\Desktop\база%20данных\3\Практическая%20работа%20№%202.docx) (Word, [задание](https://drive.google.com/file/d/1zYxKsKm5Ab-BnWJW_s2Mf3UT1uGUmMb6/view?usp=drive_web&authuser=1), [шаблон отчёта](https://drive.google.com/file/d/1Kc04FsjOh3HGFh_ZDjBzIs9-qh3YjYNP/view?usp=drive_web&authuser=1).