RDBMS FINAL PROJECT

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BSSE - II - A - Evening

Prologue:

With the ever-changing and continuously variable era of big data handling, businesses and especially industrialists & vendors find it extremely tedious to keep up with the tide.

Technically speaking, it has become very difficult to calculate the quantity of orders made or dispatched, complete updated information about each employee and retrieving previous records. The existing factory management system (FMS) is very costly and time-consuming, so a computerized and automated system must replace the run-down DB Management System.

Factory-HUB:

The proposed solution is an application called as Factory-Hub that allows its user, typically a DB Admin to keep track of data through a well understood GUI while also allowing one to insert, update, delete, create and retrieve data. Factory-Hub is an application that is aimed to be made available as a Windows app initially with a further approach to make it a Web app also.

Factory-Hub provides a fabulous UI integrated with the new features of forms that enable the admin to access the physical Database via the iconic application. Through this app, various kinds of reports can be generated that range around the major components of the factory.

The application features general components as Employee, Clients and Orders, where Departments are rendered as a strong entity in terms of RDBMS. The system shall require inputs comprising of basic info for each respective relation and will generate statistical reports against each one. It can also provide latest updated info for each relation.

Tech Environment:

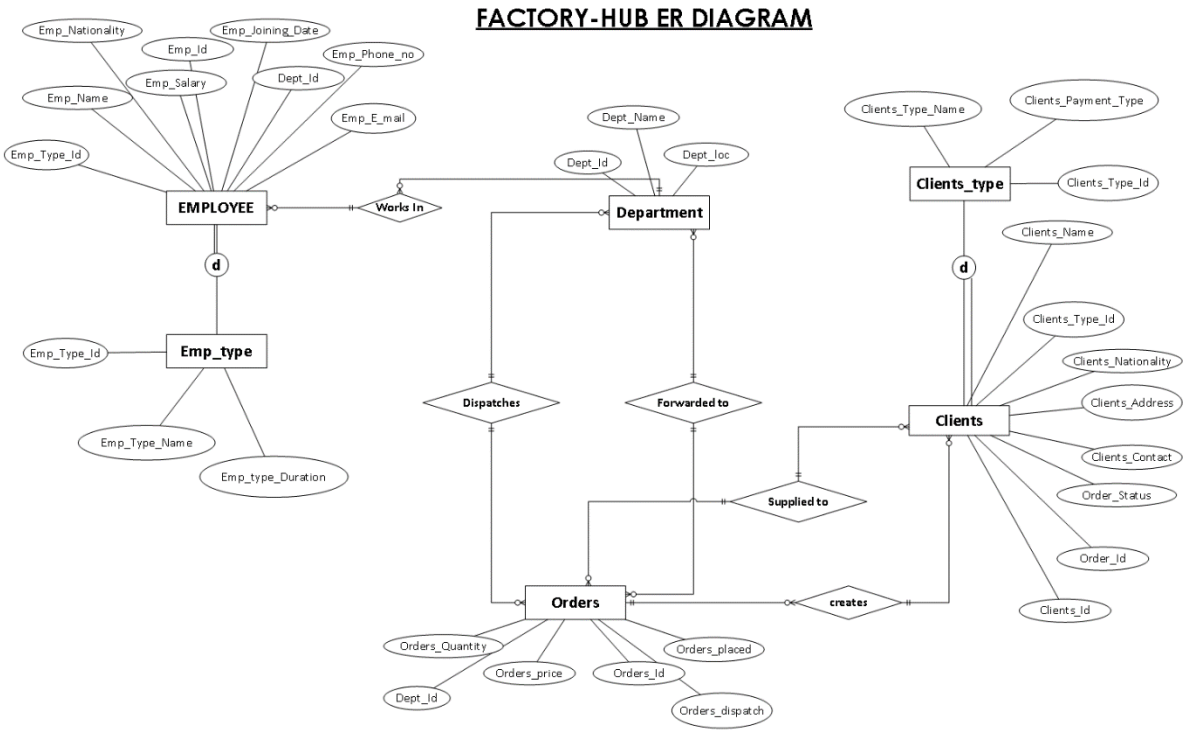
Hardware Specs:

- Processor: Intel Core-i5
- RAM: 4GB
- Hard Disk : 500GB

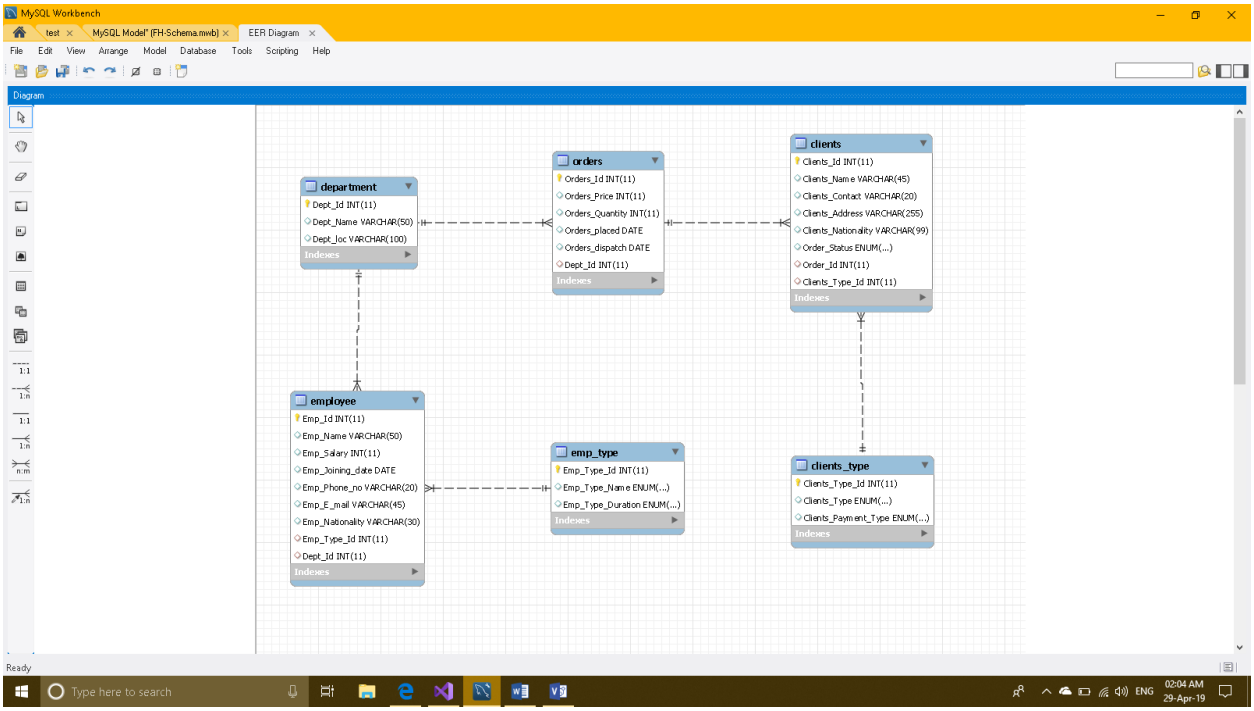
Software Specs:

- Operating System: Windows 8.1 & Windows 10
- Framework & PL: .NET & C#
- User-Interface: Windows Forms Application
- Database: MySQL
- API: MySQL for Visual Studio

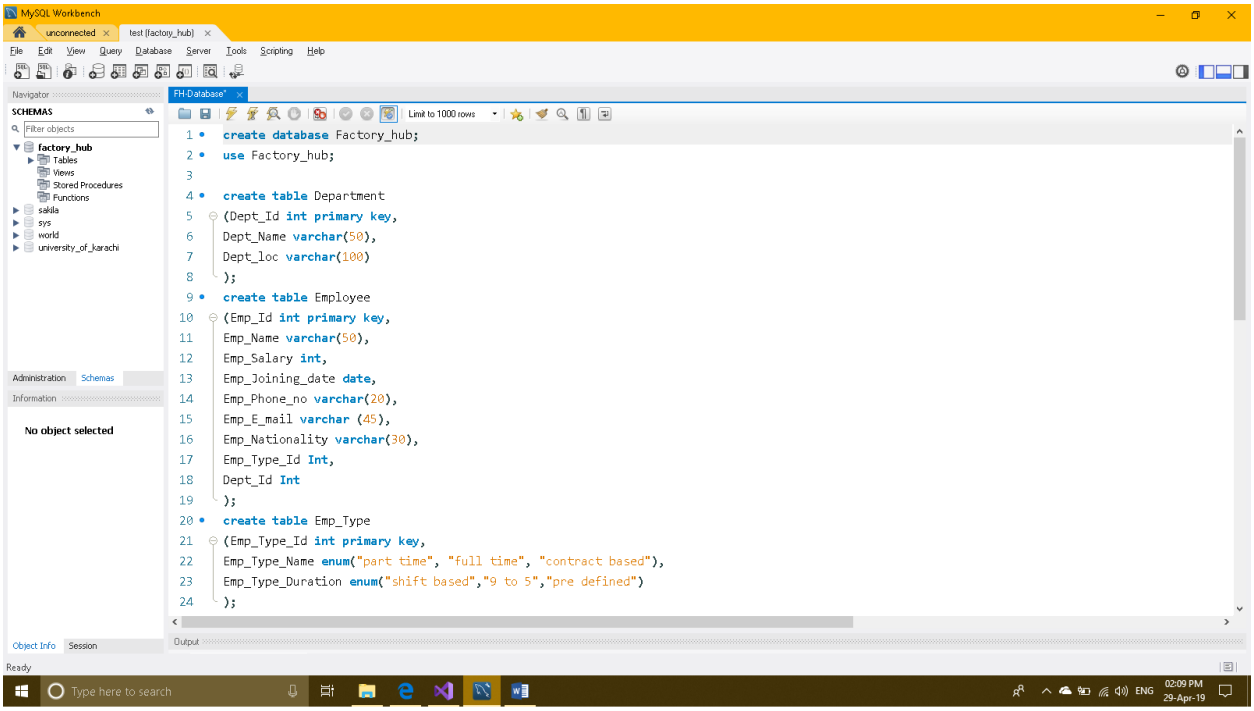
ER Diagram



Database Schema

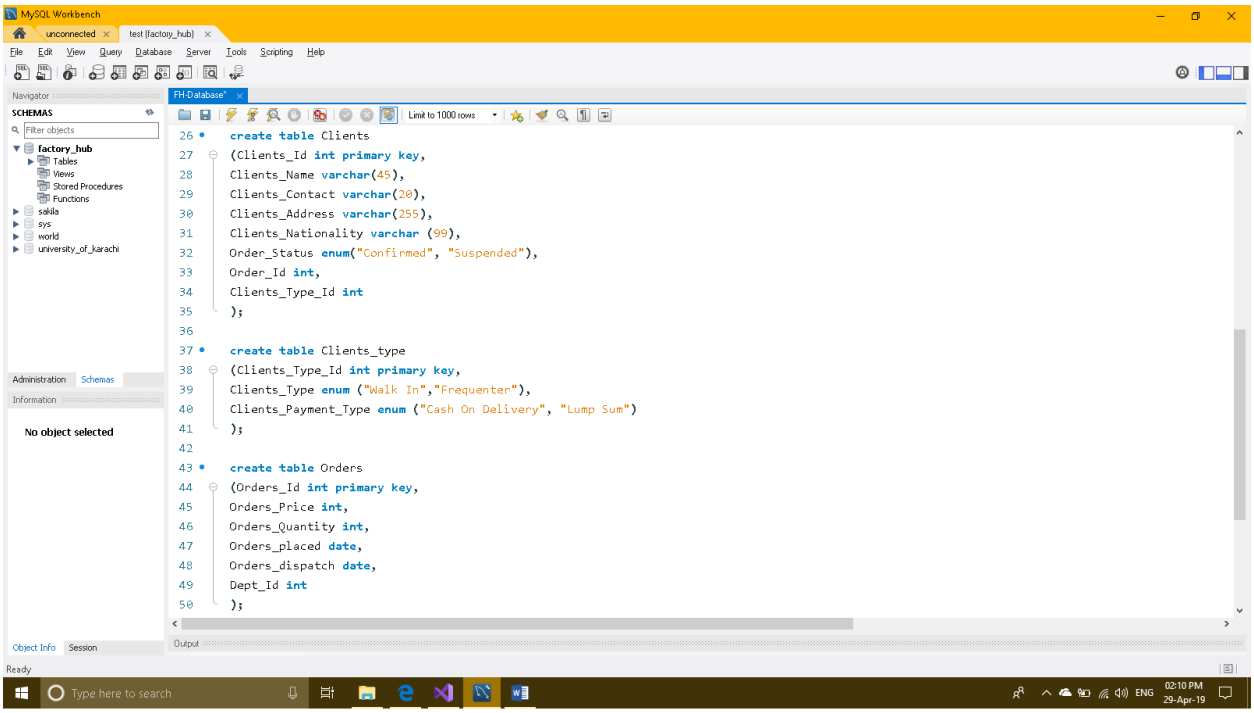


Database Creation Queries



```
create database Factory_hub;
use Factory_hub;

create table Department
(Dept_Id int primary key,
Dept_Name varchar(50),
Dept_loc varchar(100)
);
create table Employee
(Emp_Id int primary key,
Emp_Name varchar(50),
Emp_Salary int,
Emp_Joining_date date,
Emp_Phone_no varchar(20),
Emp_E_mail varchar (45),
Emp_Nationality varchar(30),
Emp_Type_Id Int,
Dept_Id Int
);
create table Emp_Type
(Emp_Type_Id int primary key,
Emp_Type_Name enum("part time", "full time", "contract based"),
Emp_Type_Duration enum("shift based","9 to 5","pre defined")
);
```



```
create table Clients
(Clients_Id int primary key,
Clients_Name varchar(45),
Clients_Contact varchar(20),
Clients_Address varchar(255),
Clients_Nationality varchar (99),
Order_Status enum("Confirmed", "Suspended"),
Order_Id int,
Clients_Type_Id int
);

create table Clients_type
(Clients_Type_Id int primary key,
Clients_Type enum ("Walk In","Frequenter"),
Clients_Payment_Type enum ("Cash On Delivery", "Lump Sum")
);

create table Orders
(Orders_Id int primary key,
Orders_Price int,
Orders_Quantity int,
Orders_placed date,
Orders_dispatch date,
Dept_Id int
);
```

Extra Queries:

Alter table Orders Add Foreign Key (Dept_Id) references Department (Dept_Id);

Alter table Clients Add Foreign Key (Clients_Type_ID) references Clients_type (Clients_Type_Id);

Alter table Clients Add Foreign Key (Order_Id) references Orders (Orders_Id);

Alter table employee add foreign key (Emp_Type_Id) references Emp_Type (Emp_Type_Id);

Alter table employee add foreign key (Dept_Id) references Department (Dept_Id);