

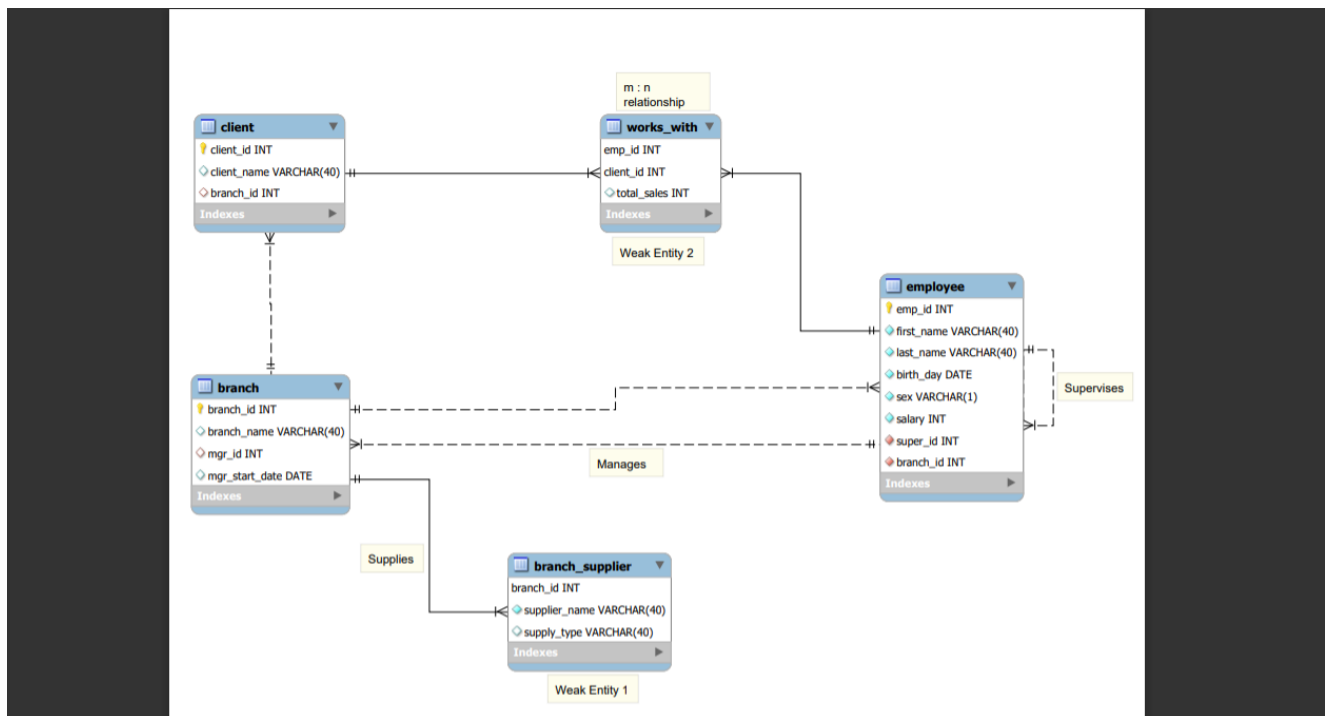
DBMS Assignment-2

1. Showcased a many-many relation between clients and employees using works_with entity.

2. Composite Keys :

In works_with entity : Primary Key (emp_id, cliend_id)

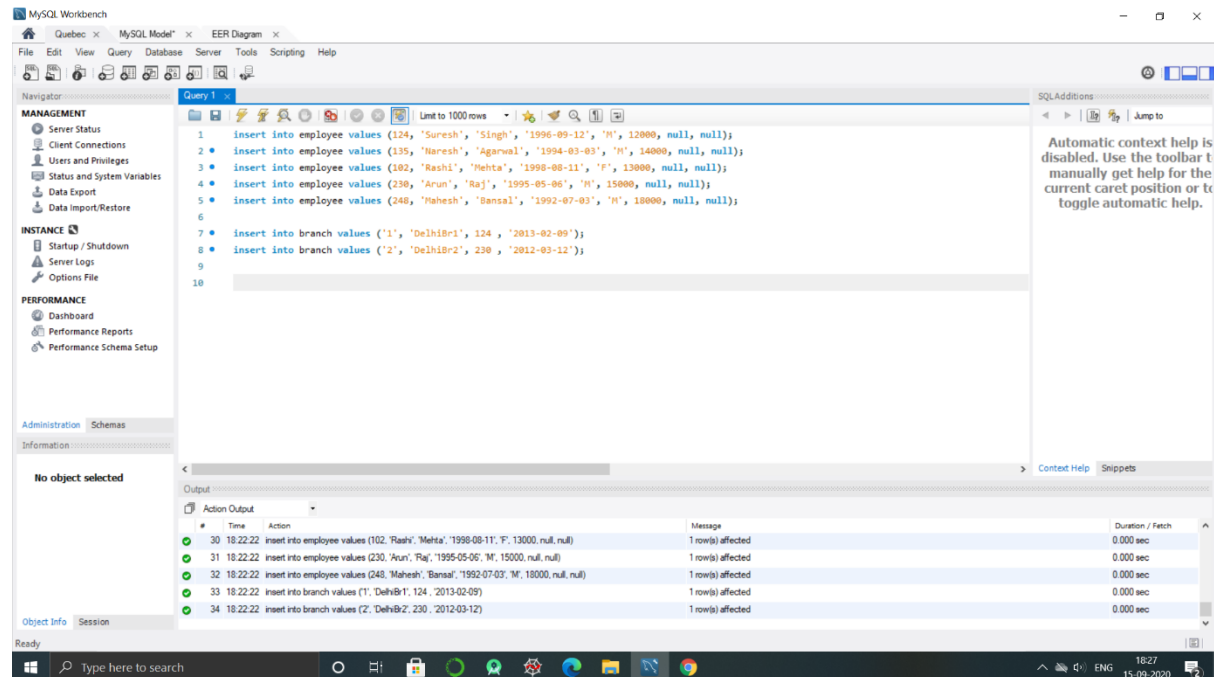
Weak Entity : branch_supplier , works_with



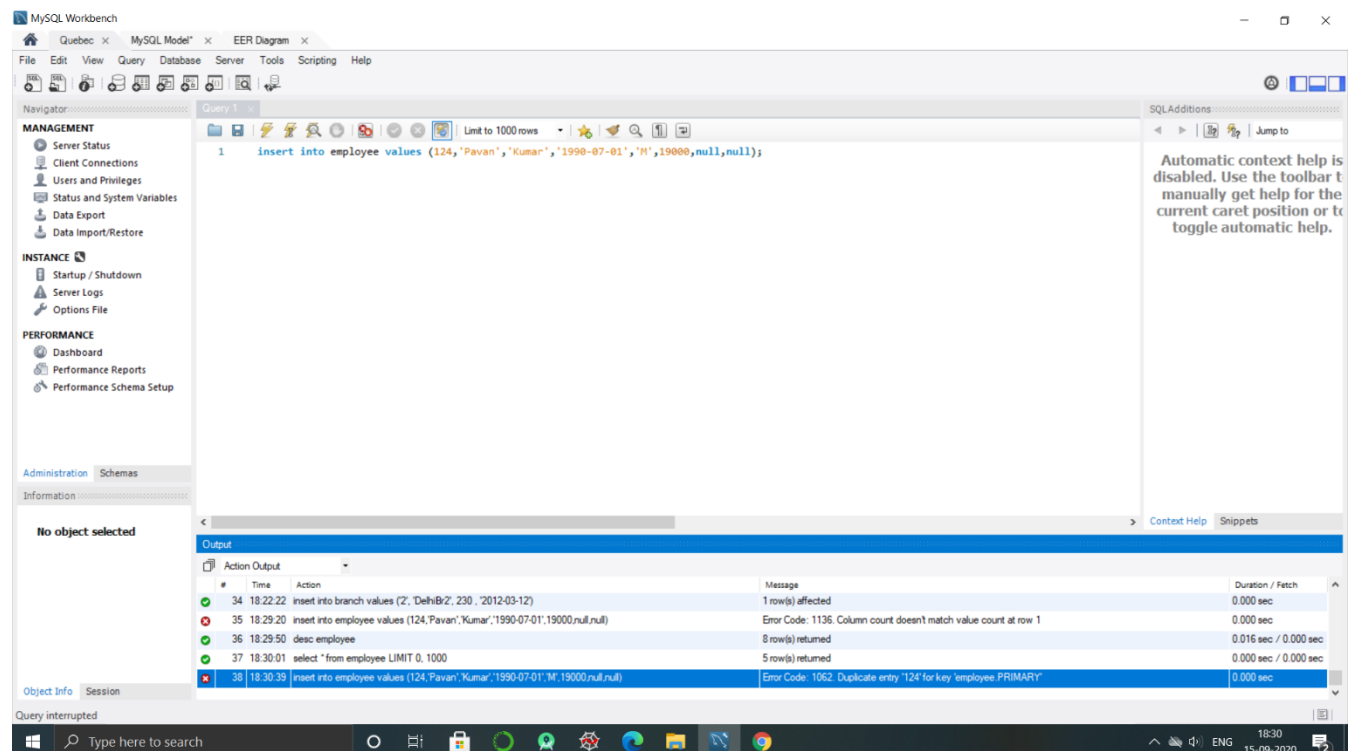
ER Diagram Of Company Database

3. a. Checking Primary Key and Unique Constraint :

Inserting Data into tables :

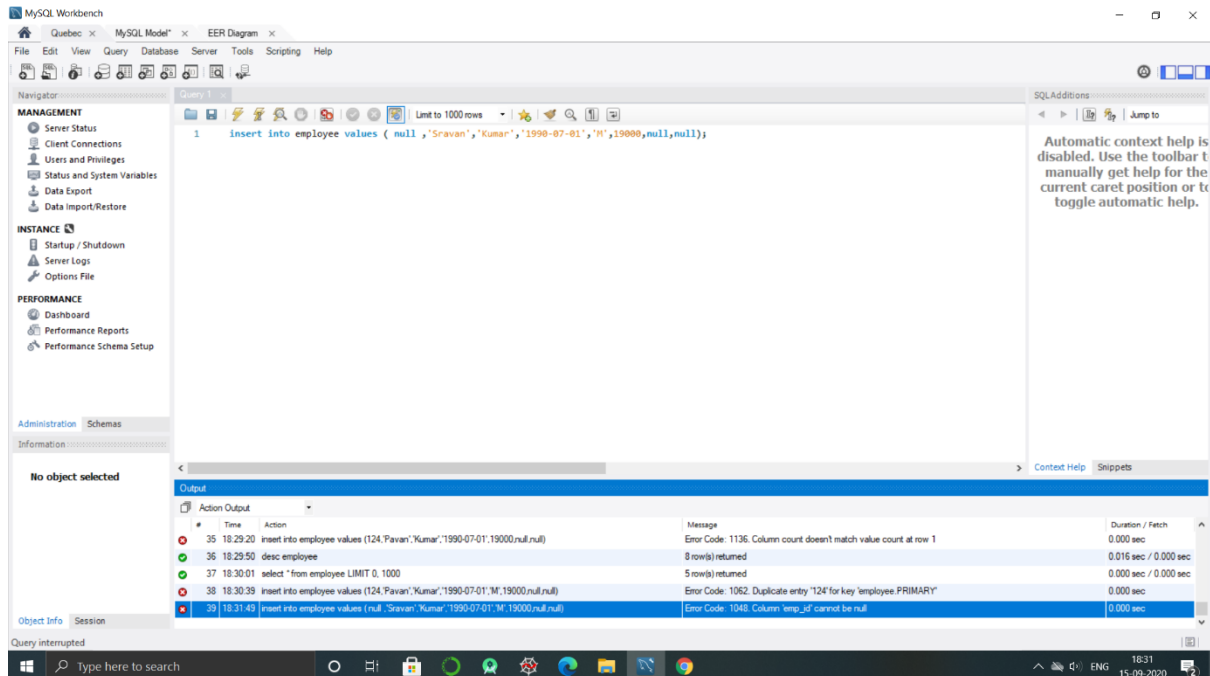


When Trying to insert duplicate value for attribute emp_id of employee table which is a primary key :

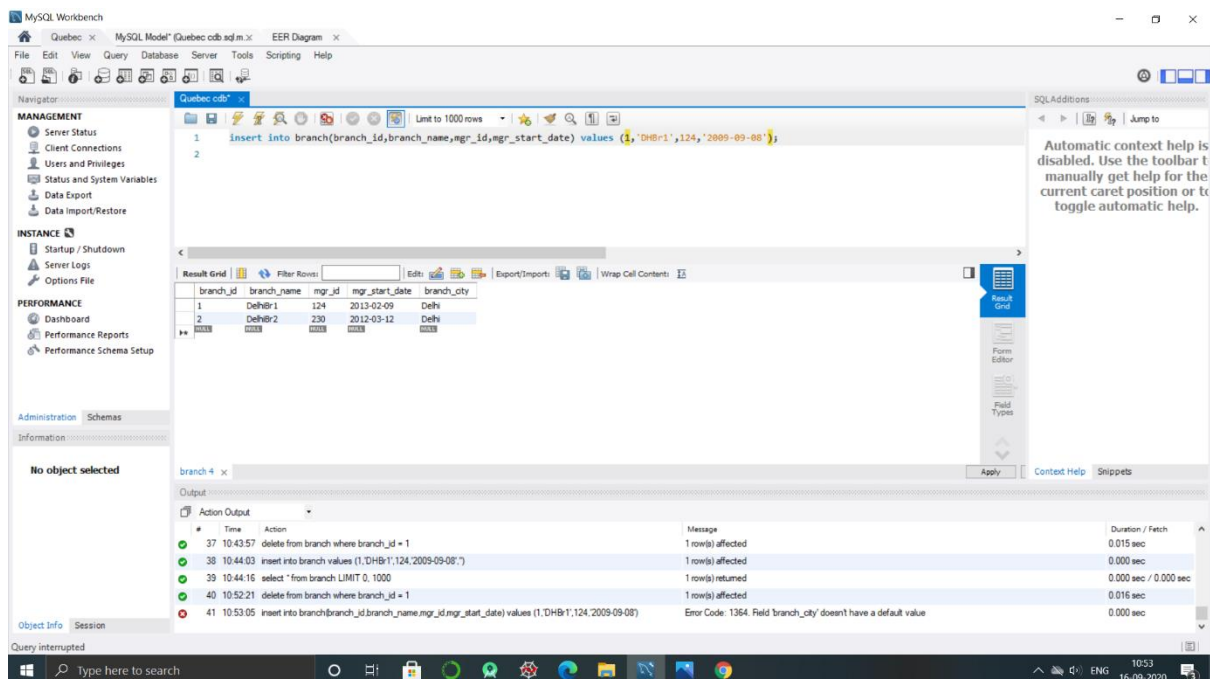


b. Checking Not Null and Default Constraint :

1. When Trying to insert null value for attribute emp_id of employee table which is specified as not null :



2. When Trying to insert values into branch table in which the attribute branch_city doesn't have any default value :



4. Derived Attributes :

a. full_name attribute of employee table :

Dependant on/Derived from concatenation of first_name and last_name attributes of employee table.

The screenshot shows the MySQL Workbench interface. In the SQL editor, the following queries are entered:

```
1 alter table employee add full_name varchar(40) as (concat(first_name, ' ', last_name));
2
3 select * from employee;
```

The 'Result Grid' displays the following data:

emp_id	first_name	last_name	birth_day	sex	salary	super_id	branch_id	full_name
102	Rashi	Mehta	1998-08-11	F	13000	0000	0000	Rashi Mehta
124	Suresh	Singh	1996-09-12	M	12000	0000	0000	Suresh Singh
135	Naresh	Agarwal	1994-03-03	M	14000	0000	0000	Naresh Agarwal
230	Arun	Raj	1995-05-06	M	15000	0000	0000	Arun Raj
248	Mahesh	Bansal	1992-07-03	M	18000	0000	0000	Mahesh Bansal

The 'Output' pane shows the execution log for the queries:

#	Time	Action	Message	Duration / Fetch
71	13.25.14	alter table employee add Age smallint as (datediff(birth_day,date())/365)	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
72	13.26.31	alter table employee add Age smallint as (datediff(birth_day,date())/365)	Error Code: 1064. You have an error in your SQL syntax; check the manual that corresponds to your MySQL se...	0.000 sec
73	15.07.06	desc employee	0 row(s) returned	0.015 sec / 0.000 sec
74	15.08.43	alter table employee add full_name varchar(40) as (concat(first_name, ' ', last_name))	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.078 sec
75	15.09.13	select * from employee LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec

b. Yearly_income attribute of employee table :

Dependant on / derived from salary column of the employee table as $\text{Yearly_income} = \text{salary} * 12$.

1.Query/Expression:

The screenshot shows the MySQL Workbench interface. In the SQL editor, the following queries are entered:

```
1 alter table employee add Yearly_income double as (salary*12);
2
```

The 'Result Grid' displays the following data:

emp_id	first_name	last_name	birth_day	sex	salary	super_id	branch_id	full_name
102	Rashi	Mehta	F	13000	0000	0000	Rashi Mehta	
124	Suresh	Singh	M	12000	0000	0000	Suresh Singh	
135	Naresh	Agarwal	M	14000	0000	0000	Naresh Agarwal	
230	Arun	Raj	M	15000	0000	0000	Arun Raj	
248	Mahesh	Bansal	M	18000	0000	0000	Mahesh Bansal	
301	Alankisha	Jain	F	20000	102	1	Alankisha Jain	

The 'Output' pane shows the execution log for the queries:

#	Time	Action	Message	Duration / Fetch
127	16.08.19	alter table employee drop column Age	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.187 sec
128	16.08.48	select * from employee LIMIT 0, 1000	0 row(s) returned	0.000 sec / 0.000 sec
129	16.09.45	alter table employee add Age int as (datediff(CURDATE(),birth_day)/365)	Error Code: 3763. Expression of generated column 'Age' contains a disallowed function: curdate.	0.000 sec
130	16.12.31	alter table employee add Age double as (datediff(CURDATE(),birth_day)/365)	Error Code: 3763. Expression of generated column 'Age' contains a disallowed function: curdate.	0.000 sec
131	16.24.21	alter table employee add Yearly_income double as (salary*12)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.078 sec

Insertion :

The screenshot shows the MySQL Workbench interface. The main editor contains the following SQL query:

```
1 insert into employee(emp_id,first_name,last_name,sex,salary,super_id,branch_id,birth_day) values (102,'Rashi','Mehta','F',20000,null,1,'1994-02-0
```

The right sidebar displays the "INSERT Syntax" documentation. The bottom panel shows the "Action Output" table with the following data:

#	Time	Action	Message	Duration / Fetch
129	16:09:45	alter table employee add Age int as (datediff(CURDATE(),birth_day)/365)	Error Code: 3763. Expression of generated column 'Age' contains a disallowed function: curdate.	0.000 sec
130	16:12:31	alter table employee add Age double as (datediff(CURDATE(),birth_day)/365)	Error Code: 3763. Expression of generated column 'Age' contains a disallowed function: curdate.	0.000 sec
131	16:24:31	alter table employee add 'Yearly_income double as (salary*12)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.078 sec
132	16:26:29	select * from employee LIMIT 0, 1000	0 row(s) returned	0.016 sec / 0.000 sec
133	16:32:57	insert into employee(emp_id,first_name,last_name,sex,salary,super_id,branch_id,birth_day) values (102,'Rashi',...	1 row(s) affected	0.000 sec

Result :

The screenshot shows the MySQL Workbench interface. The main editor contains the following SQL query:

```
1 select * from employee;
```

The right sidebar displays the "No Context Help" message. The bottom panel shows the "Action Output" table with the following data:

#	Time	Action	Message	Duration / Fetch
130	16:12:31	alter table employee add Age double as (datediff(CURDATE(),birth_day)/365)	Error Code: 3763. Expression of generated column 'Age' contains a disallowed function: curdate.	0.000 sec
131	16:24:31	alter table employee add 'Yearly_income double as (salary*12)	0 row(s) affected Records: 0 Duplicates: 0 Warnings: 0	0.078 sec
132	16:26:29	select * from employee LIMIT 0, 1000	0 row(s) returned	0.016 sec / 0.000 sec
133	16:32:57	insert into employee(emp_id,first_name,last_name,sex,salary,super_id,branch_id,birth_day) values (102,'Rashi',...	1 row(s) affected	0.000 sec
134	16:33:48	select * from employee LIMIT 0, 1000	1 row(s) returned	0.000 sec / 0.000 sec

The "Result Grid" shows the following data:

emp_id	first_name	last_name	sex	salary	super_id	branch_id	full_name	birth_day	Yearly_income
102	Rashi	Mehta	F	20000		1	Rashi Mehta	1994-02-03 05:36:23	240000

5. Inserting tuples into dependant table of a foreign key constraint first.

Employee table is dependant on branch table for getting branch_id which is the foreign key of the table. If we insert data into branch_id column of employee table without inserting any data into branch table then :

