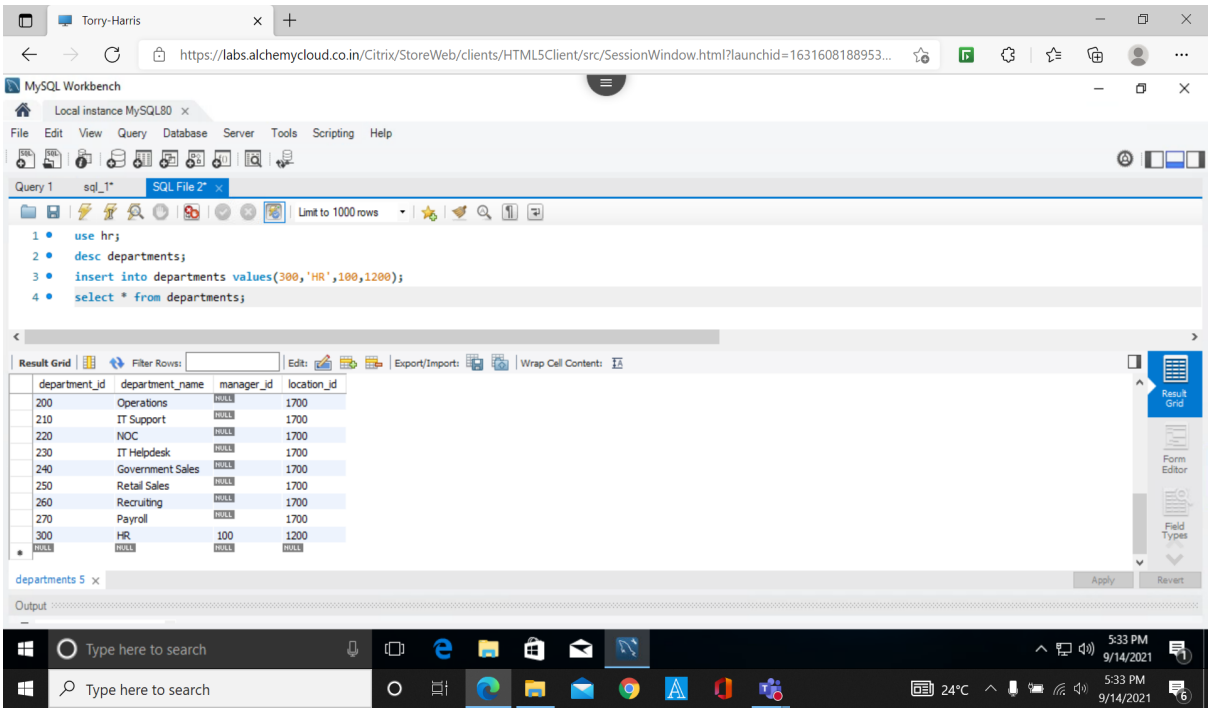
Overview

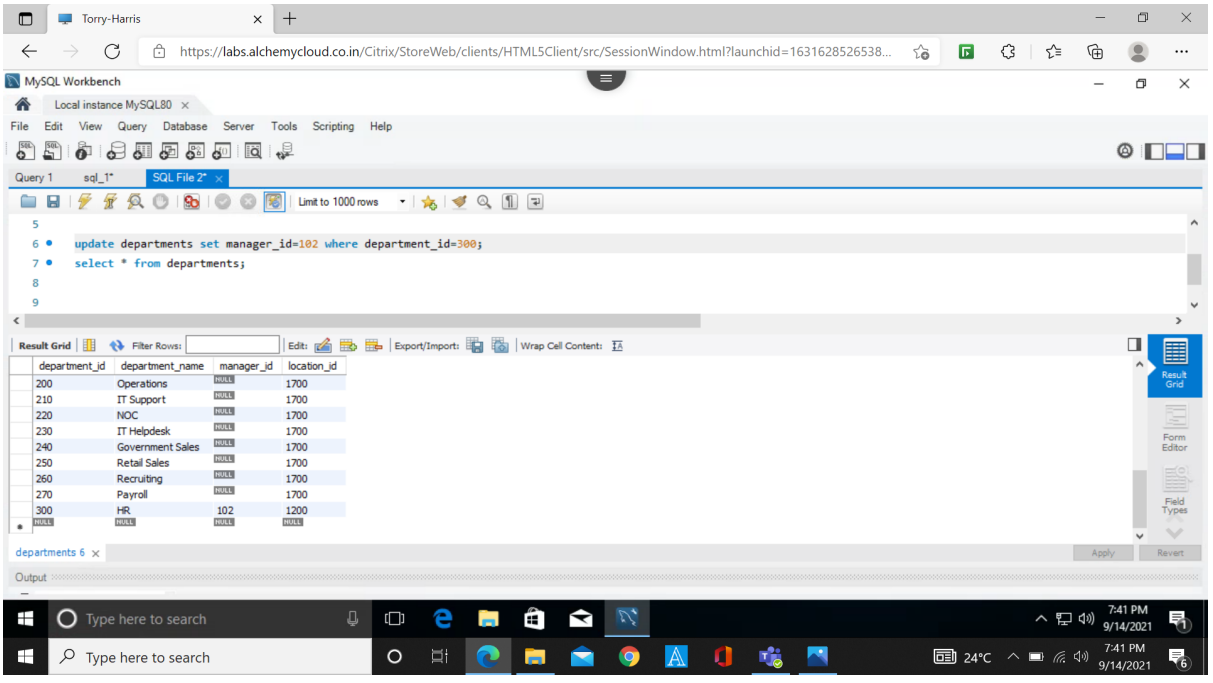
insert,delete,update

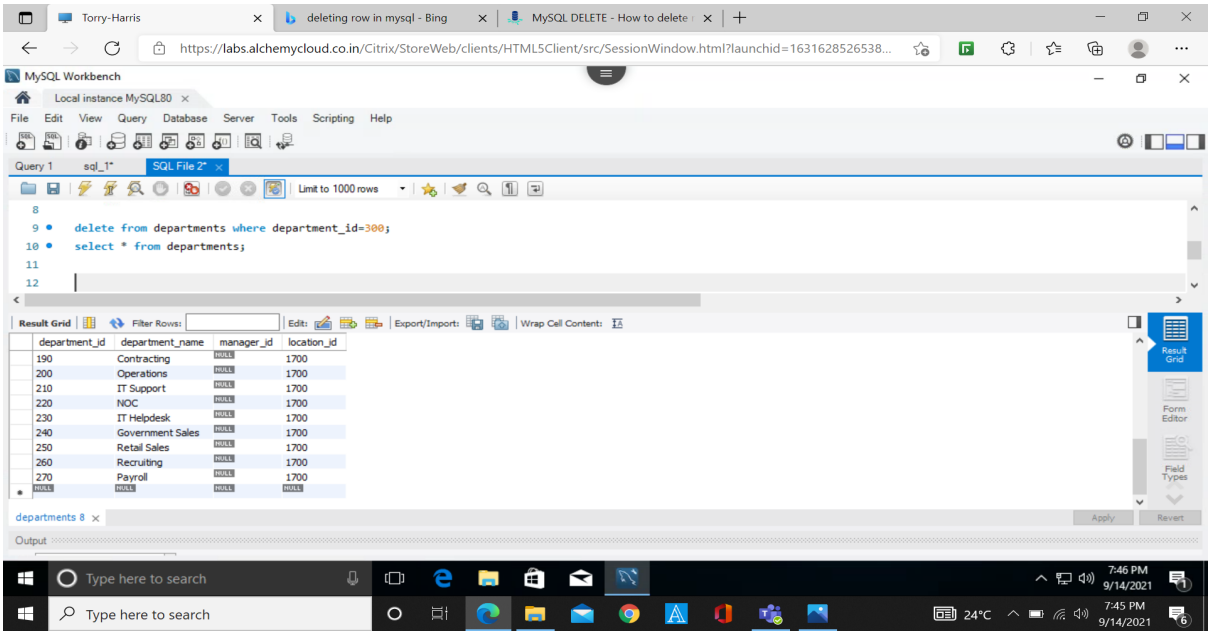
mysql constraints

sql data types(string,numeric,time and date)

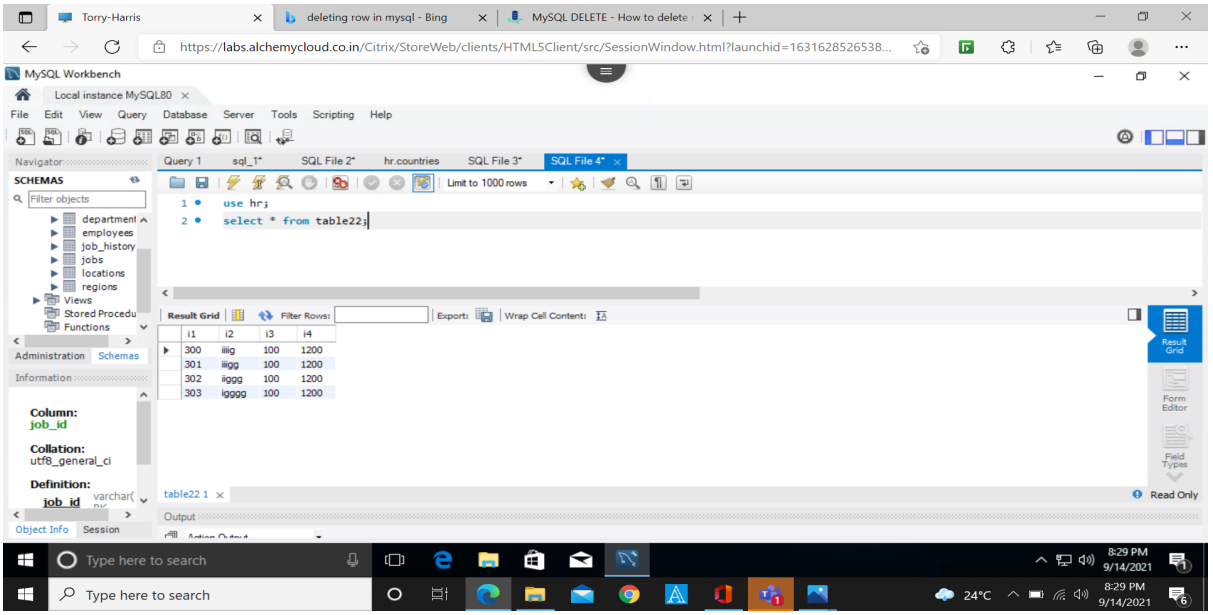
Insert,delete,update

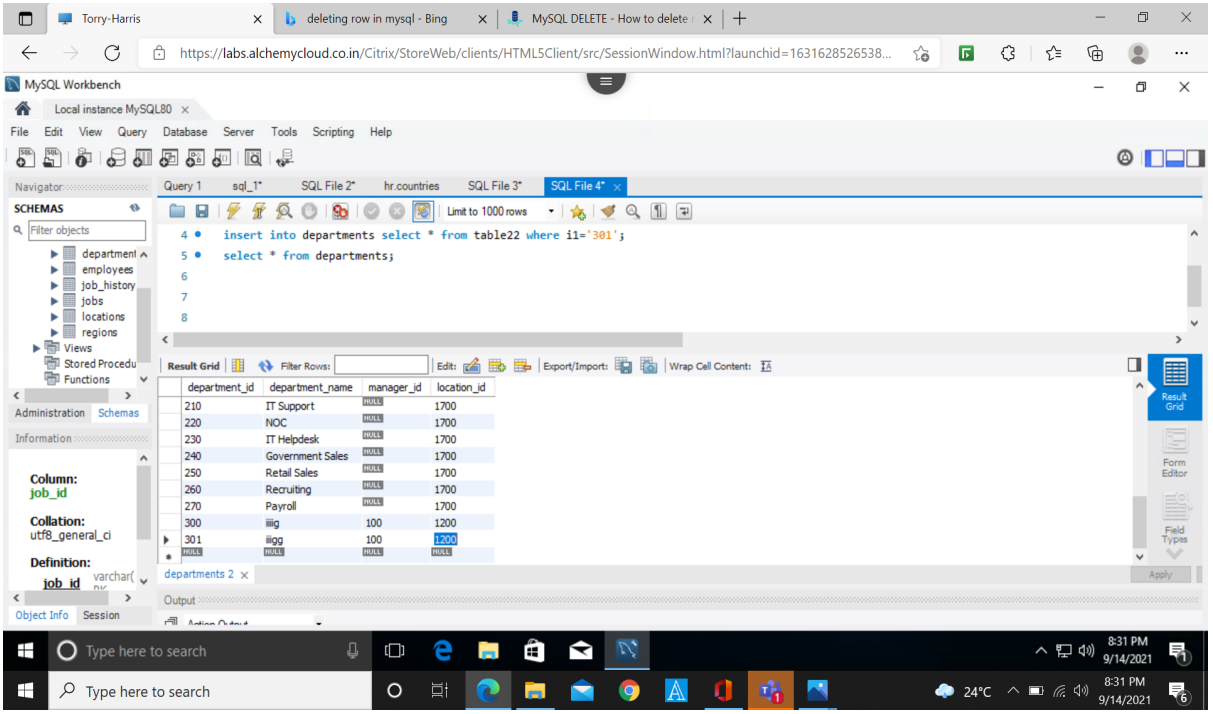






Inserting a row from one table to another





TEAM 5 - SELECT, UPDATE and DELETE Commands

use hr;
desc departments;

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Field	Type	Null	Key	Default	Extra
department_id	int unsigned	NO	PRI	NULL	
department_name	varchar(30)	NO		NULL	
manager_id	int unsigned	YES	MUL	NULL	
location_id	int unsigned	YES	MUL	NULL	

select * from departments :

department_id	department_name	manager_id	location_id
10	Administration	200	1700
20	Marketing	201	1800
30	Purchasing	114	1700
40	Human Resources	203	2400
50	Shipping	121	1500
60	IT	103	1400
70	Public Relations	204	2700
80	Sales	145	2500
90	Executive	100	1700
100	Finance	108	1700
110	Accounting	205	1700
120	Treasury	NULL	1700
130	Corporate Tax	NULL	1700
140	Control And Credit	NULL	1700
150	Shareholder Servi...	NULL	1700
160	Benefits	NULL	1700
170	Manufacturing	NULL	1700
180	Construction	NULL	1700
190	Contracting	NULL	1700
200	Operations	NULL	1700
210	IT Support	NULL	1700
220	NOC	NULL	1700
230	IT Helpdesk	NULL	1700
240	Government Sales	NULL	1700
250	Retail Sales	NULL	1700
260	Recruiting	NULL	1700
270	Payroll	NULL	1700
NULL	NULL	NULL	NULL

#INSERTING A NEW RECORD(ROW) TO THE TABLE :

insert into departments values(300, ‘HR’, 100, 1200);

department_id	department_name	manager_id	location_id
260	Recruiting	NULL	1700
270	Payroll	NULL	1700
300	HR	100	1200
NULL	NULL	NULL	NULL

#UPDATING THE TABLE VALUES :

update departments set manager_id=102 where department_id=300;

department_id	department_name	manager_id	location_id
260	Recruiting	NULL	1700
270	Payroll	NULL	1700
300	HR	102	1200
NULL	NULL	NULL	NULL

#DELETING A RECORD FROM THE TABLE :

delete from departments where department_id=300;

department_id	department_name	manager_id	location_id
240	Government Sales	NULL	1700
250	Retail Sales	NULL	1700
260	Recruiting	NULL	1700
270	Payroll	NULL	1700
NULL	NULL	NULL	NULL

#ADDING A NEW COLUMN TO THE TABLE :

alter table departments add(country_name VARCHAR(5));

department_id	department_name	manager_id	location_id	country_name
10	Administration	200	1700	NULL
20	Marketing	201	1800	NULL
30	Purchasing	114	1700	NULL
40	Human Resources	203	2400	NULL
50	Shipping	121	1500	NULL

#DELETING A COLUMN FROM THE TABLE :

alter table departments drop column country_name;

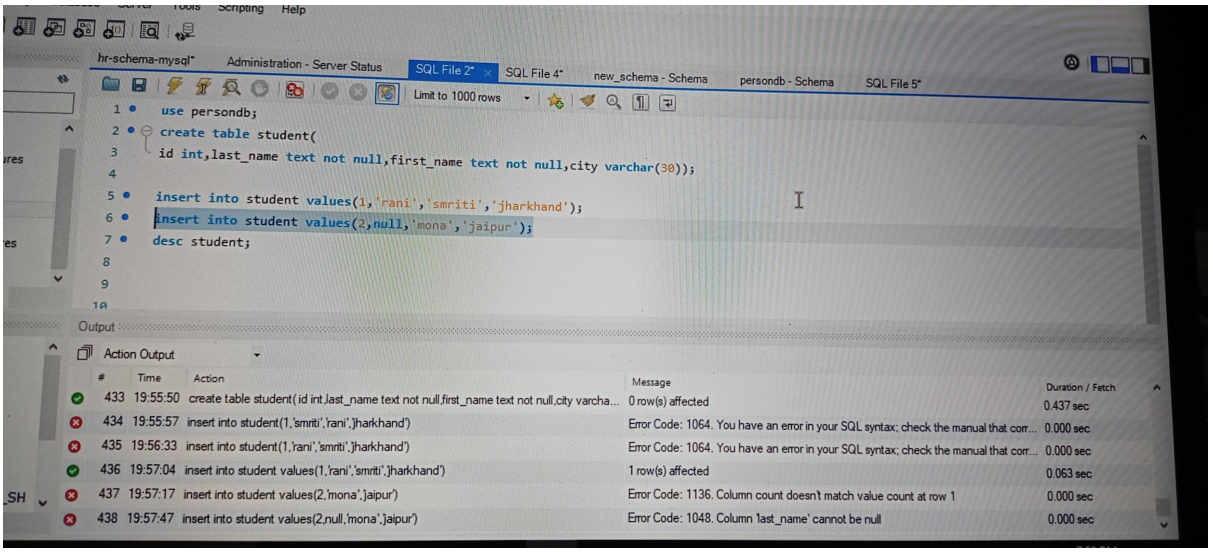
department_id	department_name	manager_id	location_id
10	Administration	200	1700
20	Marketing	201	1800
30	Purchasing	114	1700
40	Human Resources	203	2400
50	Shipping	121	1500

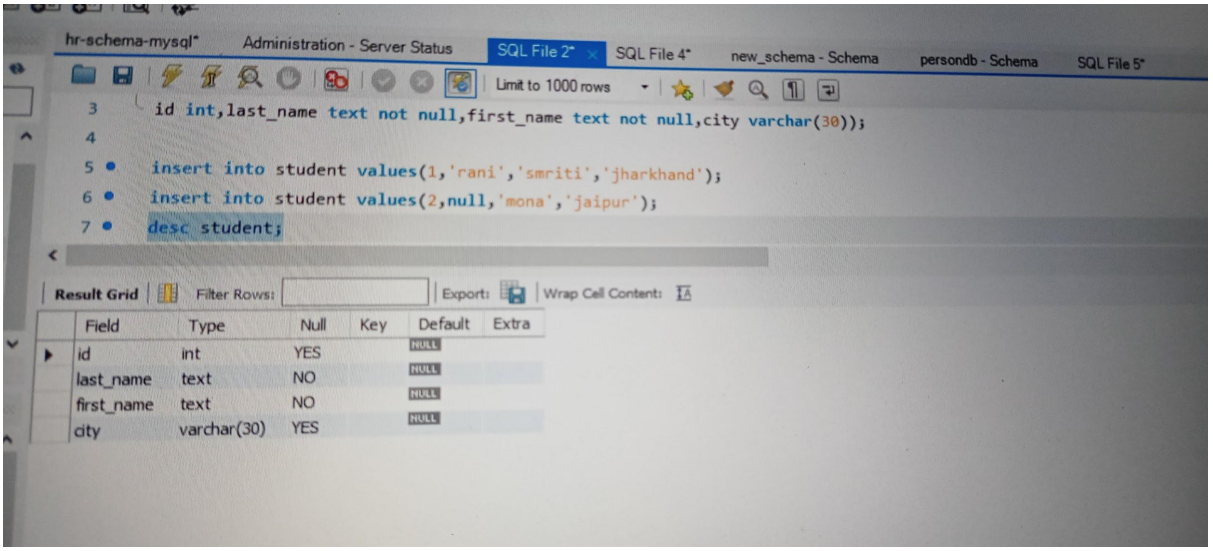
All Commands

```
use hr;
 desc departments;
 select * from departments;

#updating the table values
update departments set manager_id=102 where department_id=300;


#inserting a new row to the table
 insert into departments values(300,'HR',100,1200,'IN');

#adding a new column to the table
alter table departments add(country_name VARCHAR(5));

#deleting a row form the table
 delete from departments where department_id=300;

#deleting a column from a table
 alter table departments drop column country_name
```

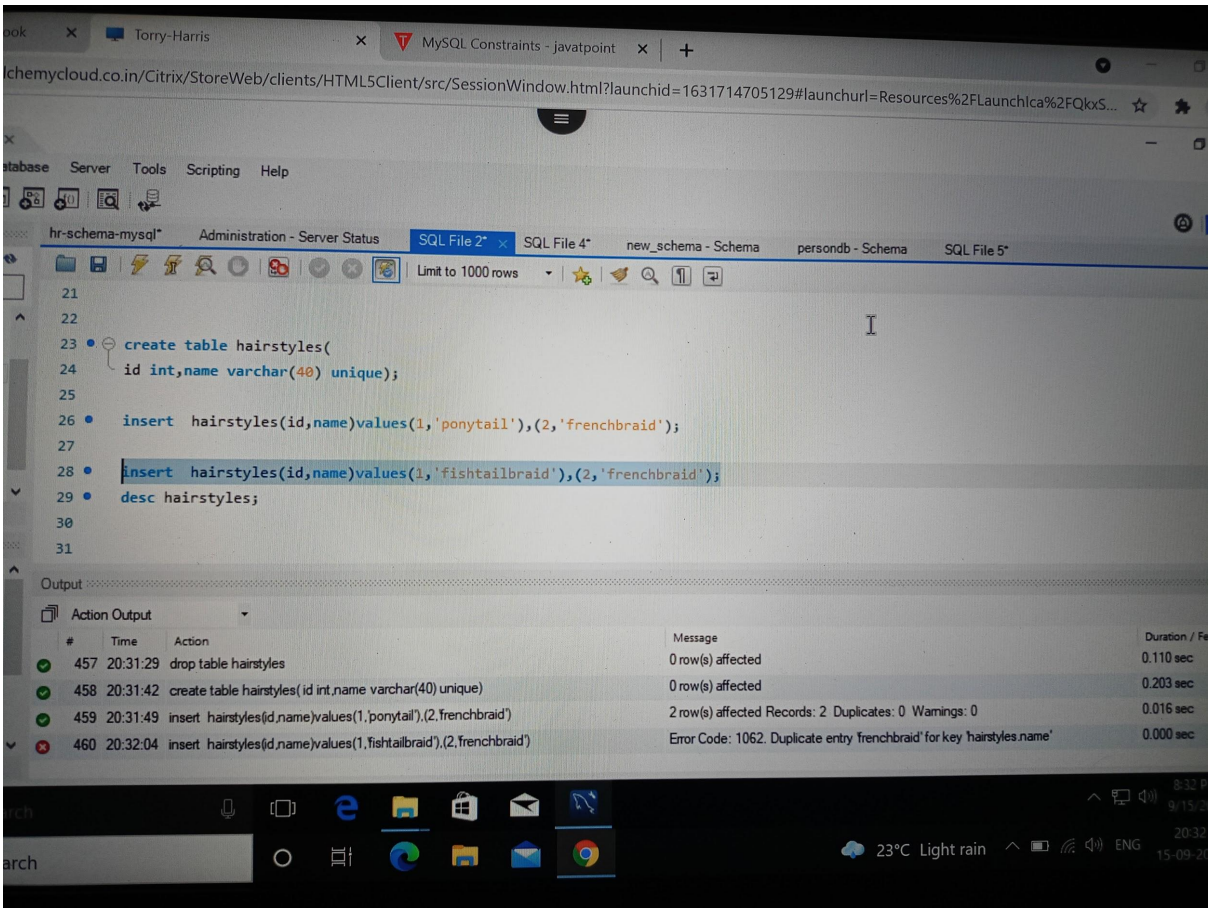
MYSQL CONSTRAINTS

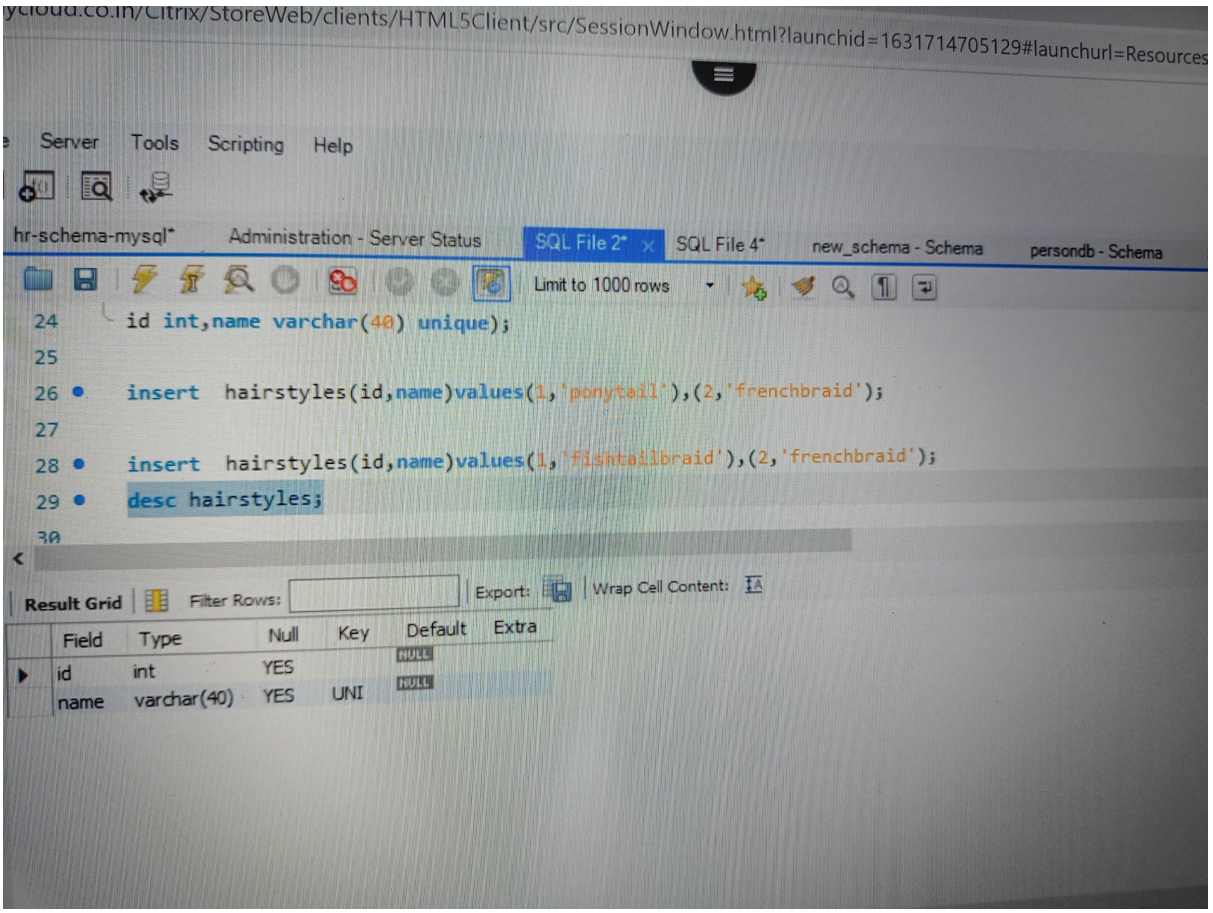
NOT NULL



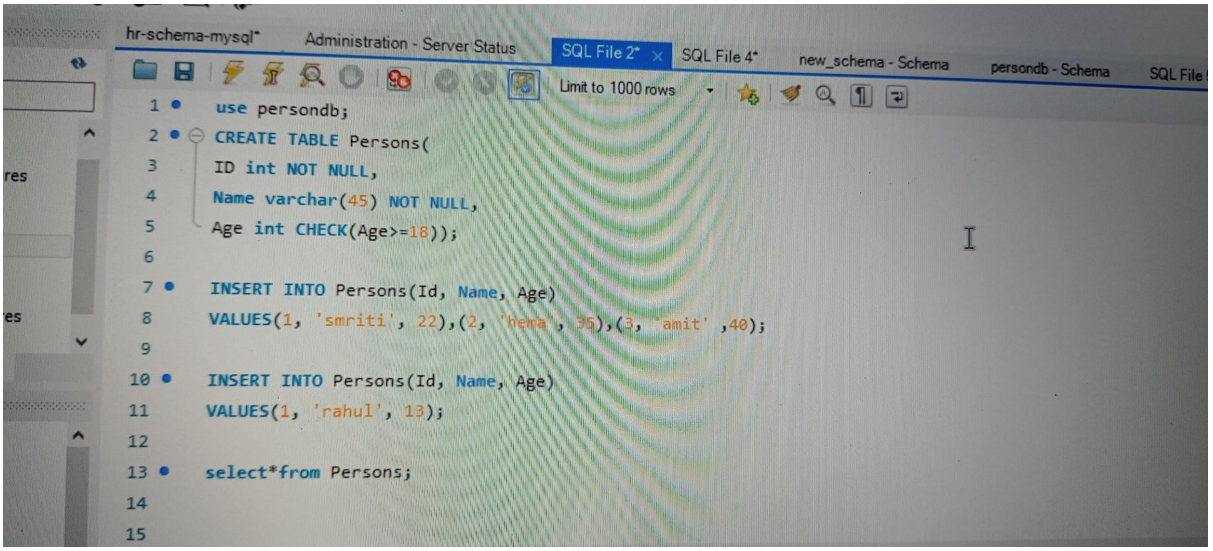

hr-schema-mysql*
Administration - Server Status
SQL File 2*
SQL File 4*
new_schema - Schema
persondb - Schema
SQL File 5*
Limit to 1000 rows
id int,last_name text not null,first_name text not null,city varchar(30));
insert into student values(1,'rani','smriti','jharkhand');
insert into student values(2,null,'mona','jaipur');
desc student;
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Field Type Null Key Default Extra
id int YES NULL
last_name text NO NULL
first_name text NO NULL
city varchar(30) YES NULL

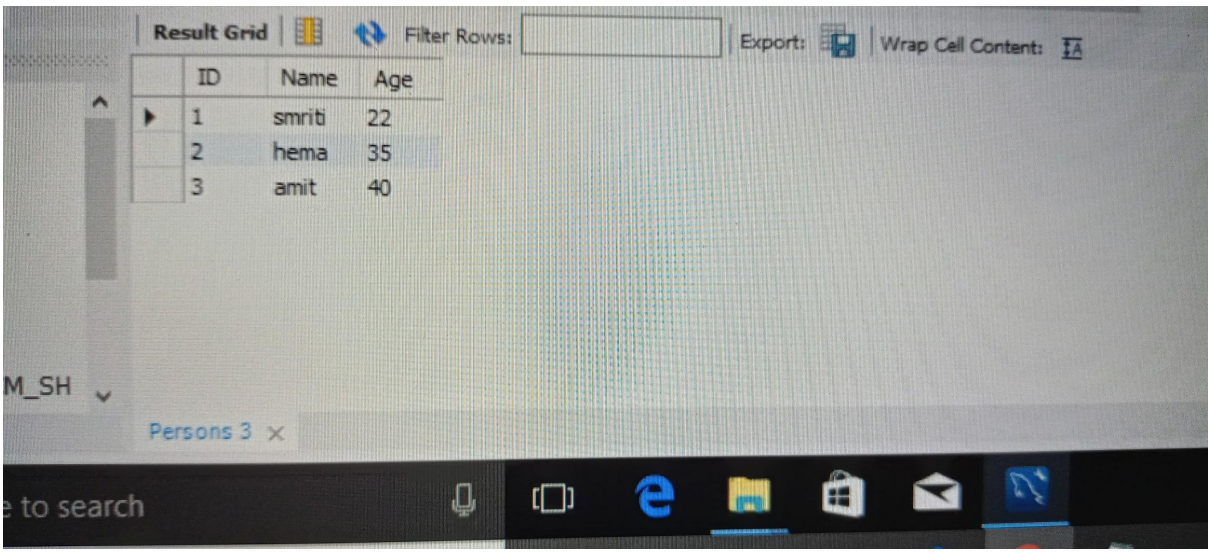
UNIQUE


Torry-Harris
MySQL Constraints - javatpoint
Server
Tools
Scripting
Help
hr-schema-mysql*
Administration - Server Status
SQL File 2*
SQL File 4*
new_schema - Schema
persondb - Schema
SQL File 5*
Limit to 1000 rows
create table hairstyles(
id int,name varchar(40) unique);
insert hairstyles(id,name)values(1,'ponytail'),(2,'frenchbraid');
insert hairstyles(id,name)values(1,'fishtailbraid'),(2,'frenchbraid');
desc hairstyles;
Output
Action Output
Time Action Message Duration / Fe
457 20:31:29 drop table hairstyles 0 row(s) affected 0.110 sec
458 20:31:42 create table hairstyles(id int,name varchar(40) unique) 0 row(s) affected 0.203 sec
459 20:31:49 insert hairstyles(id,name)values(1,'ponytail'),(2,'frenchbraid') 2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0 0.016 sec
460 20:32:04 insert hairstyles(id,name)values(1,'fishtailbraid'),(2,'frenchbraid') Error Code: 1062. Duplicate entry 'frenchbraid' for key 'hairstyles.name' 0.000 sec
23°C Light rain
ENG

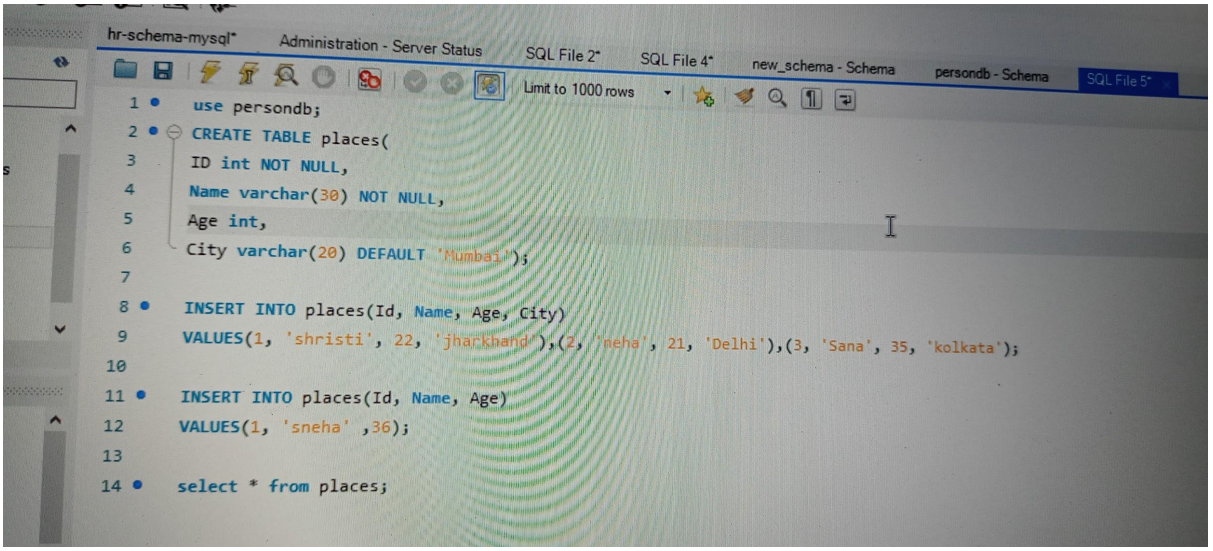

Server Tools Scripting Help
hr-schema-mysql* Administration - Server Status SQL File 2* SQL File 4* new_schema - Schema persondb - Schema
Limit to 1000 rows
id int,name varchar(40) unique);
insert hairstyles(id,name)values(1,'ponytail'),(2,'frenchbraid');
insert hairstyles(id,name)values(1,'fishtailbraid'),(2,'frenchbraid');
desc hairstyles;
Result Grid Filter Rows: Export: Wrap Cell Content:
Field Type Null Key Default Extra
id int YES NULL
name varchar(40) YES UNI NULL

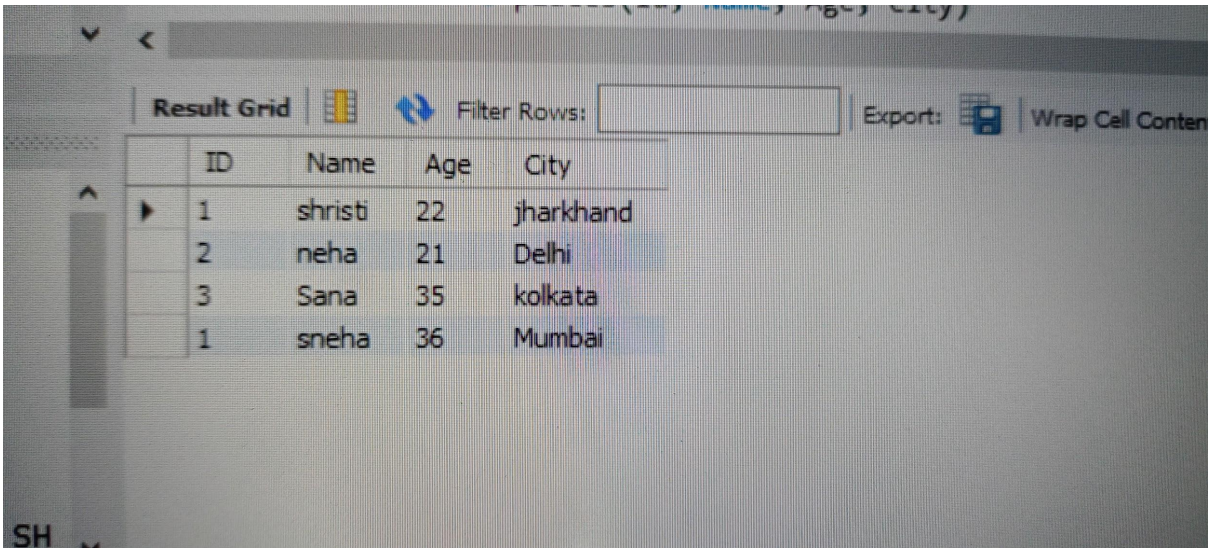
CHECK


hr-schema-mysql* Administration - Server Status SQL File 2* SQL File 4* new_schema - Schema persondb - Schema
Limit to 1000 rows
use persondb;
CREATE TABLE Persons(
ID int NOT NULL,
Name varchar(45) NOT NULL,
Age int CHECK(Age>=18));
INSERT INTO Persons(Id, Name, Age)
VALUES(1, 'smriti', 22),(2, 'hema', 35),(3, 'amit' ,40);
INSERT INTO Persons(Id, Name, Age)
VALUES(1, 'rahul', 13);
select*from Persons;

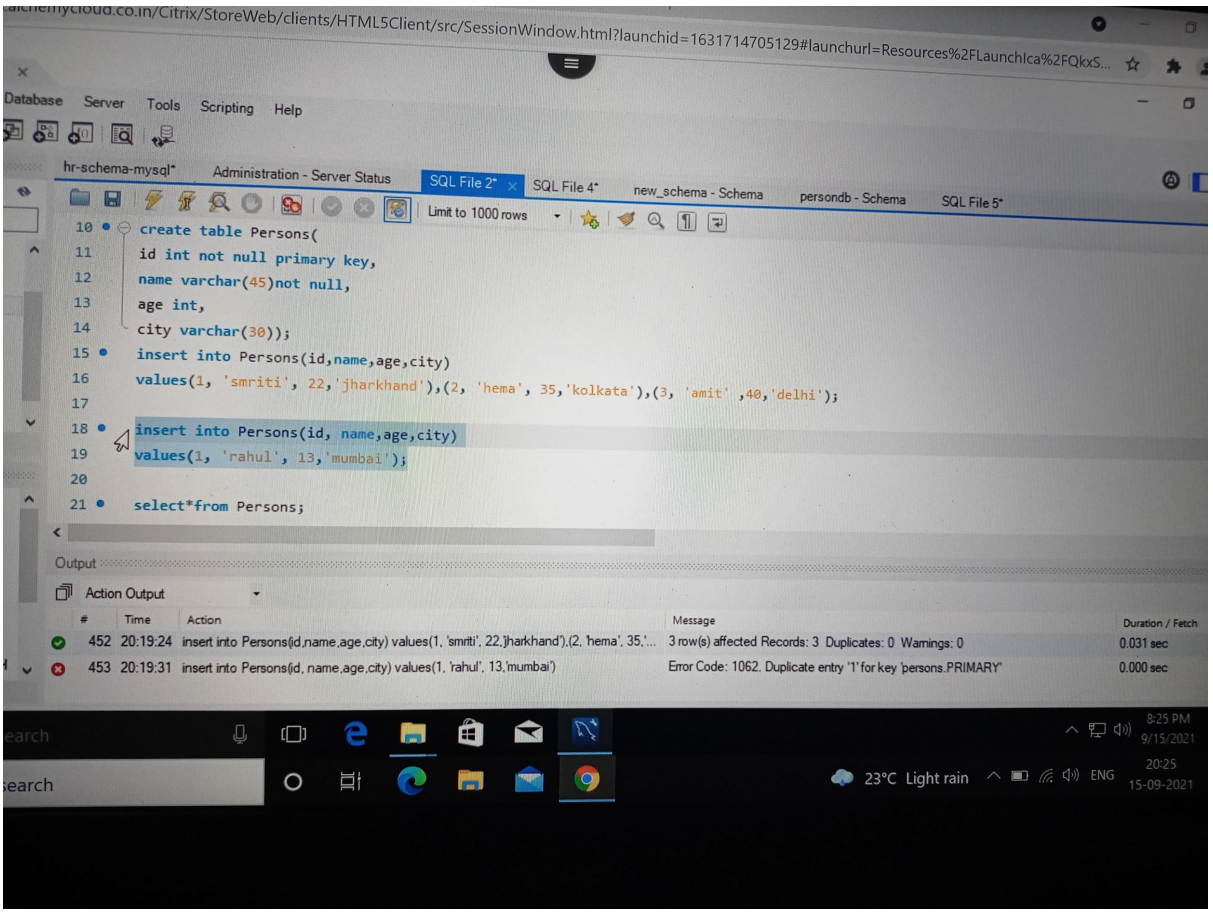


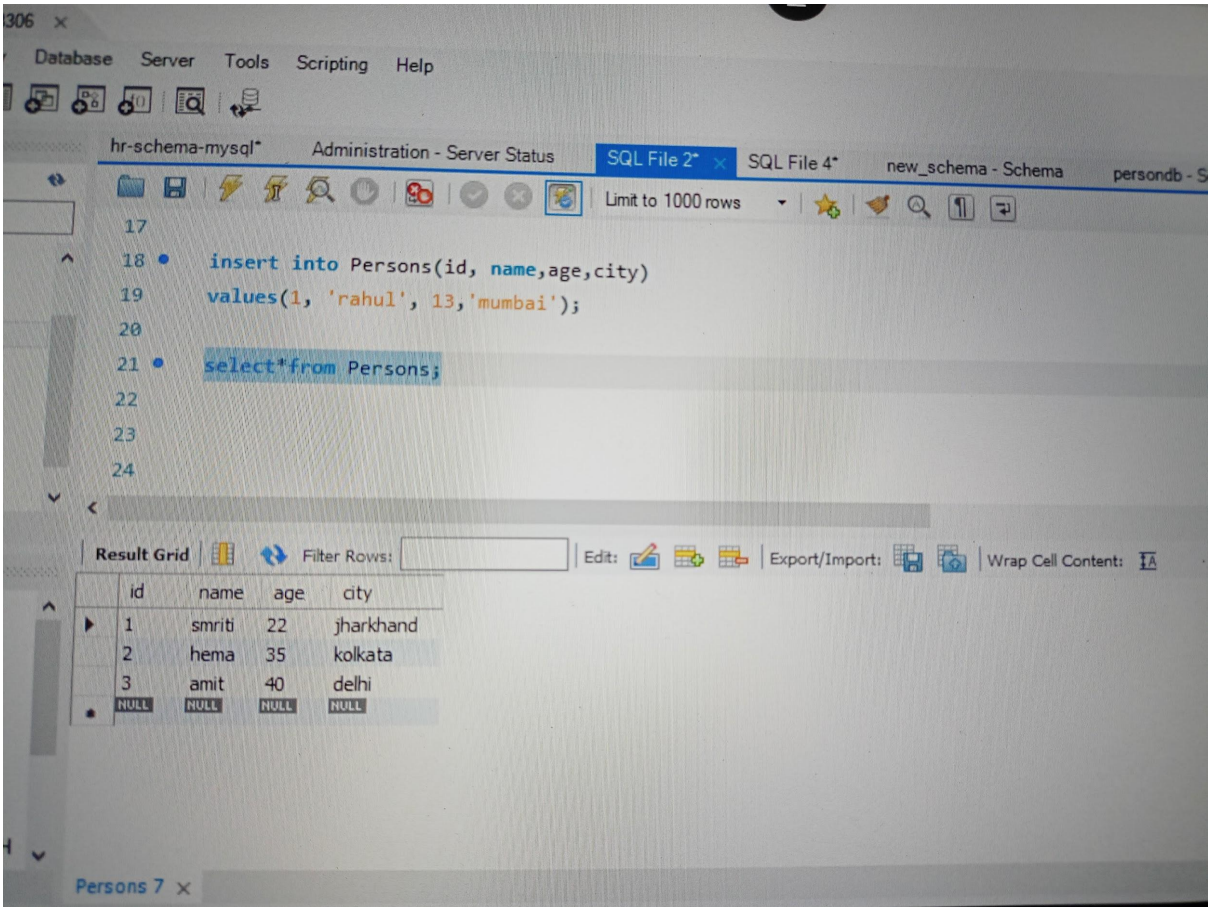
DEFAULT



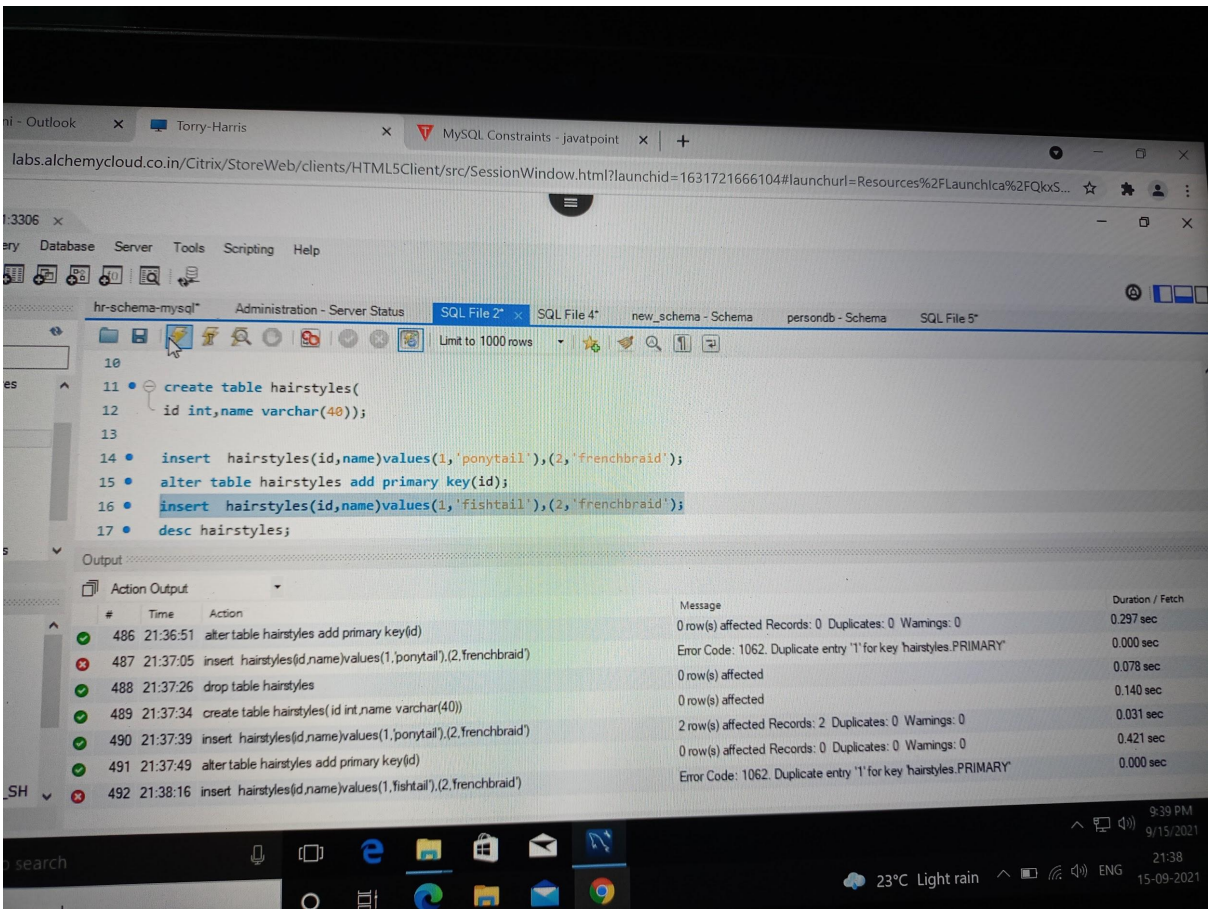


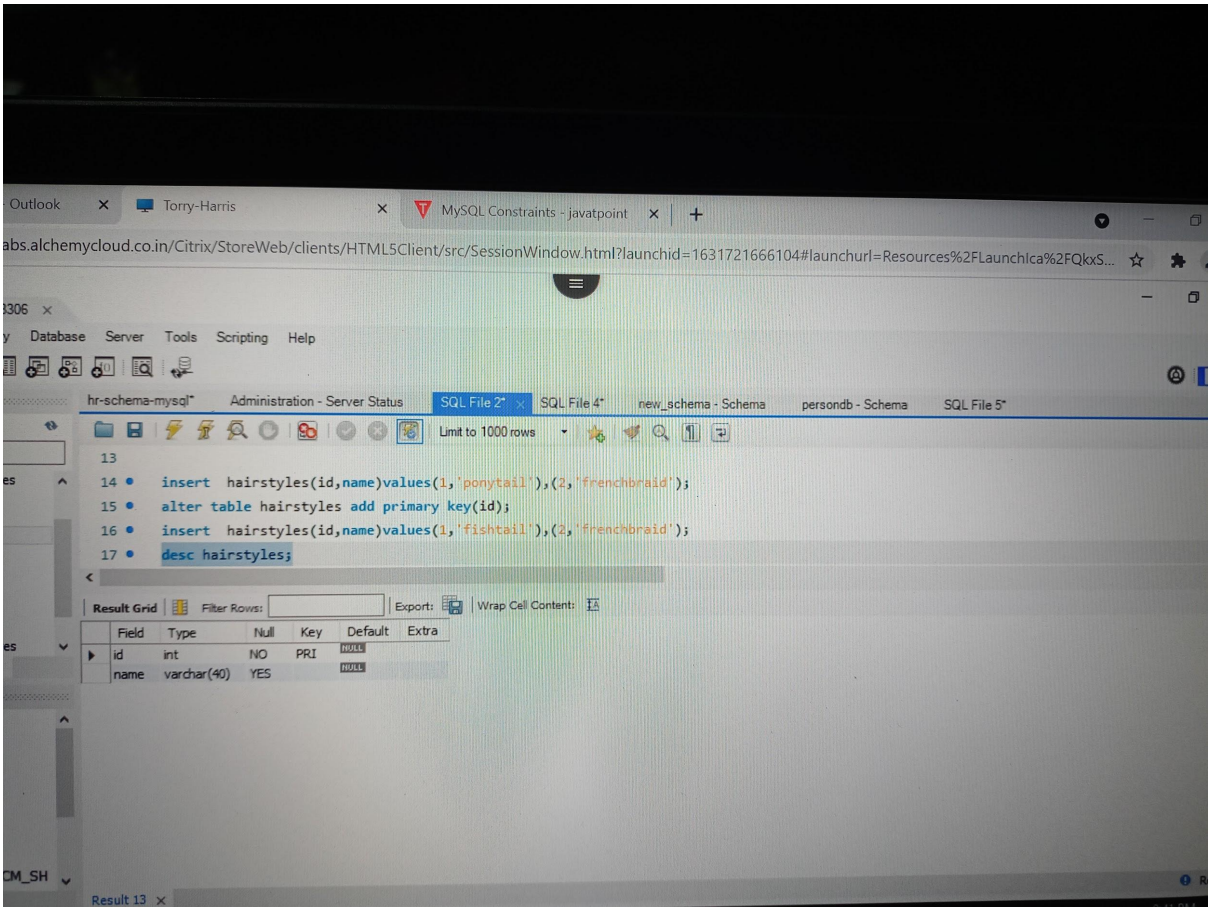
PRIMARY KEY


Database Server Tools Scripting Help
hr-schema-mysql* Administration - Server Status SQL File 2* SQL File 4* new_schema - Schema persondb - Schema SQL File 5*
Limit to 1000 rows
create table Persons(
id int not null primary key,
name varchar(45)not null,
age int,
city varchar(30));
insert into Persons(id,name,age,city)
values(1, 'smriti', 22,'jharkhand'),(2, 'hema', 35,'kolkata'),(3, 'amit' ,40,'delhi');
insert into Persons(id, name,age,city)
values(1, 'rahul', 13,'mumbai');
select*from Persons;
Output
Action Output
Time Action Message Duration / Fetch
452 20:19:24 insert into Persons(id,name,age,city) values(1, 'smriti', 22,'jharkhand'),(2, 'hema', 35,'... 3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0 0.031 sec
453 20:19:31 insert into Persons(id, name,age,city) values(1, 'rahul', 13,'mumbai') Error Code: 1062. Duplicate entry '1' for key 'persons.PRIMARY' 0.000 sec
8:25 PM 9/15/2021
23°C Light rain ENG 20:25 15-09-2021

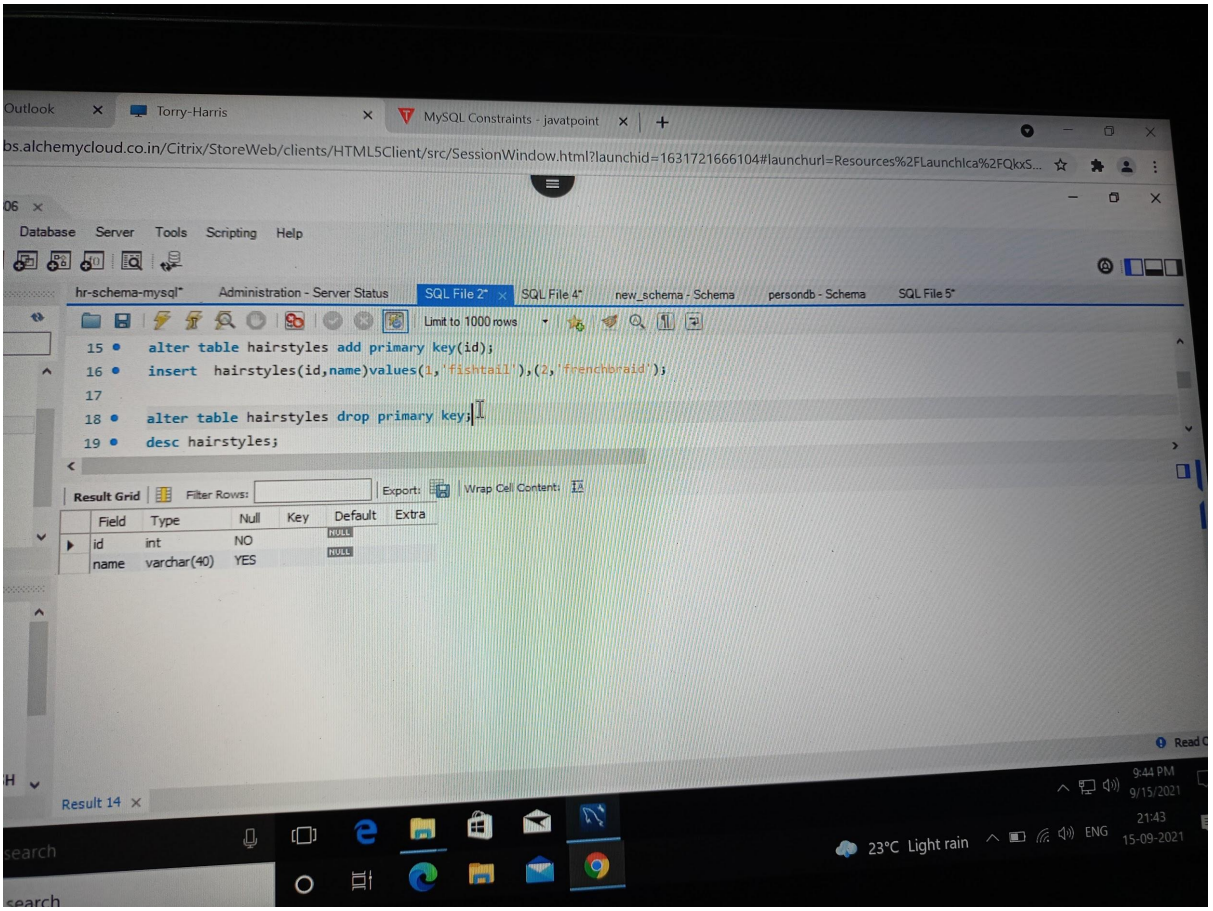

Database Server Tools Scripting Help
hr-schema-mysql* Administration - Server Status SQL File 2* SQL File 4* new_schema - Schema
Limit to 1000 rows
insert into Persons(id, name,age,city)
values(1, 'rahul', 13,'mumbai');
select*from Persons;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
id name age city
1 smriti 22 jharkhand
2 hema 35 kolkata
3 amit 40 delhi
NULL NULL NULL NULL
Persons 7

SQL PRIMARY KEY on ALTER TABLE

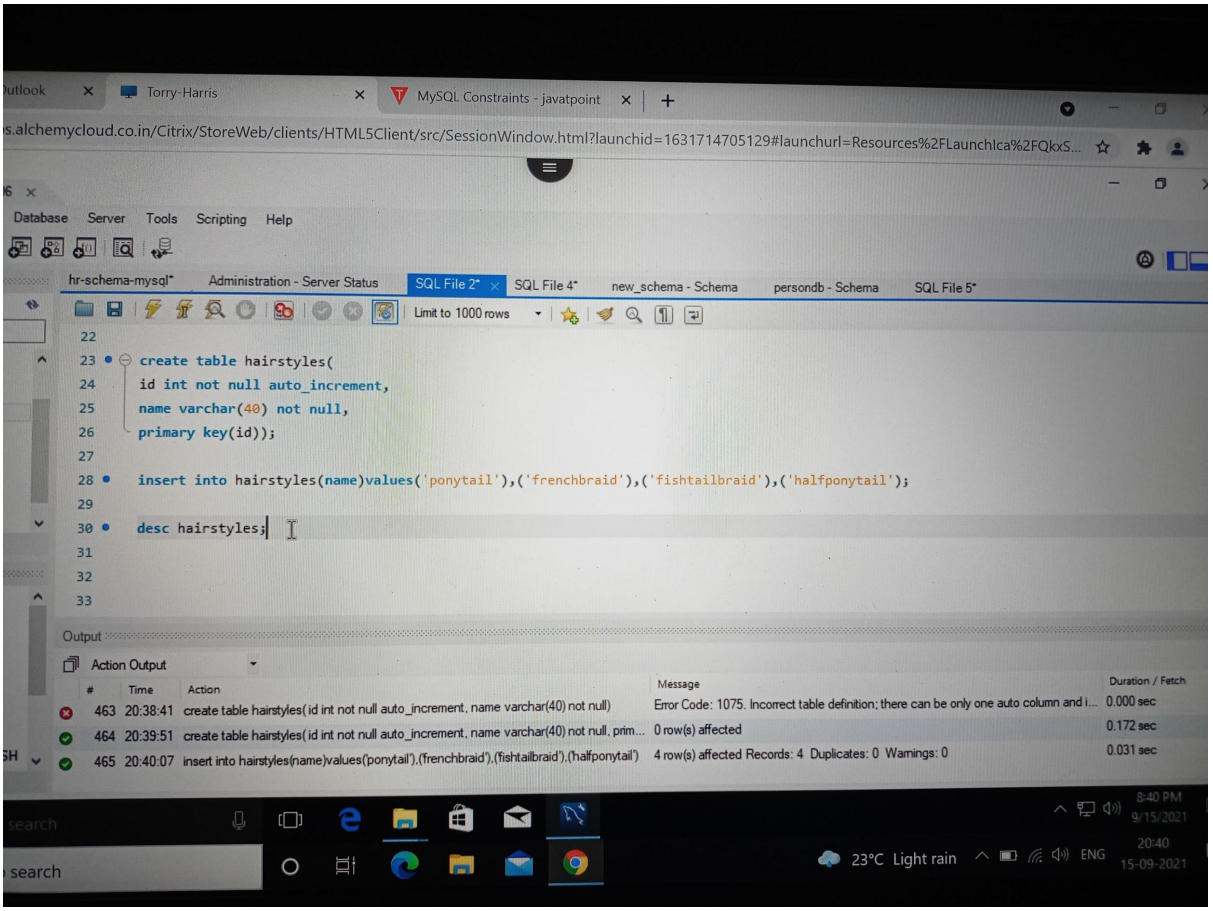


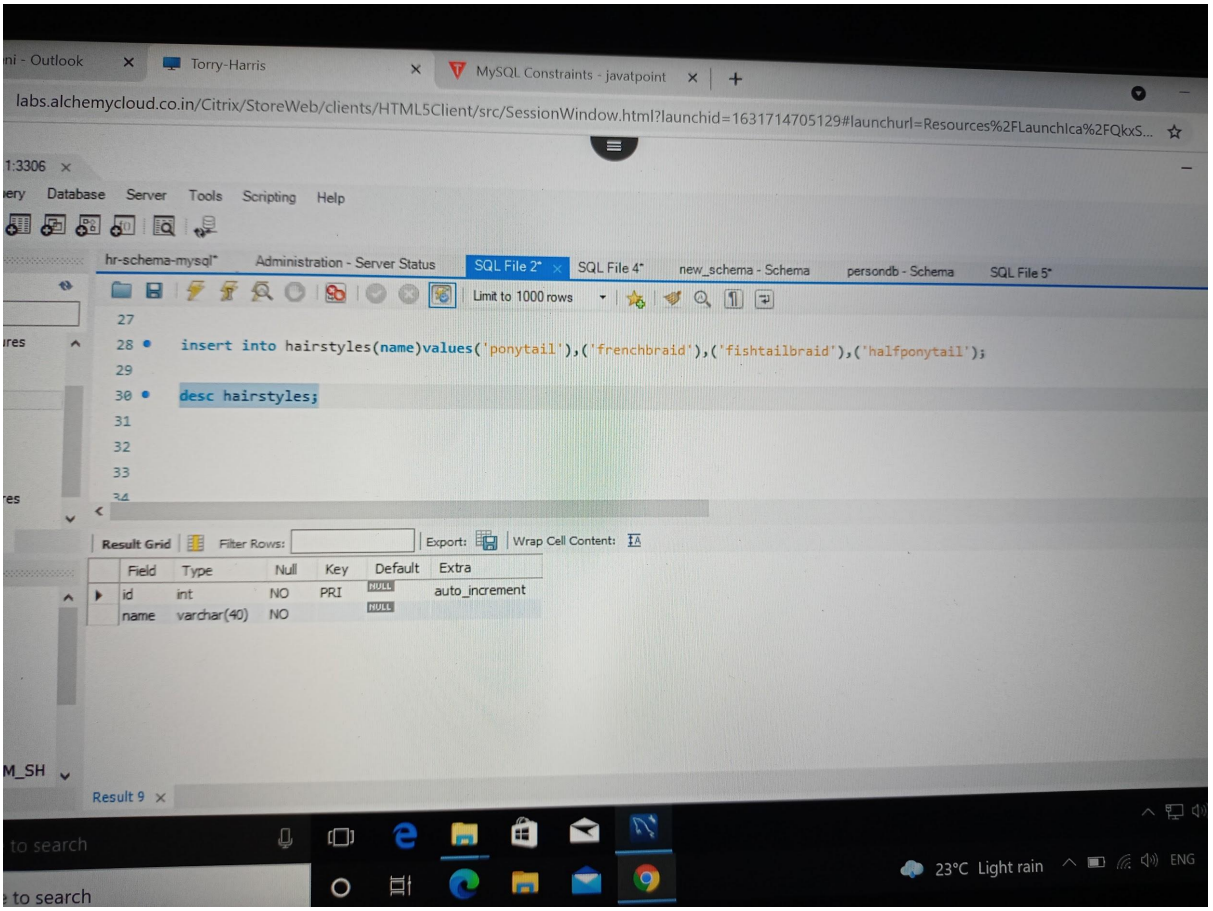


To drop a PRIMARY KEY constraint, use the following SQL:

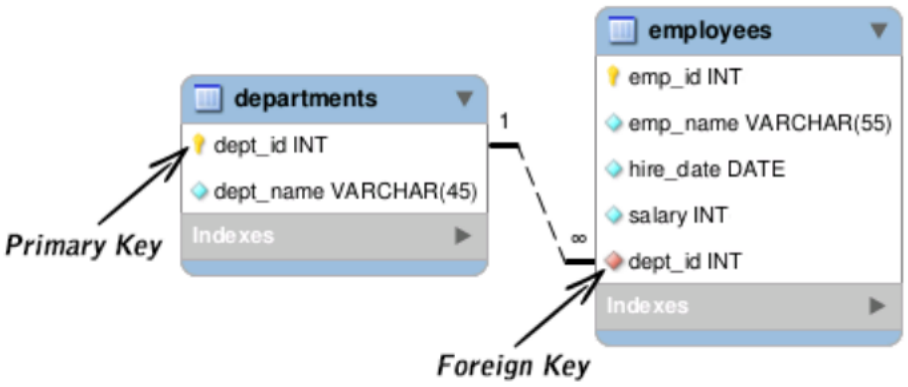


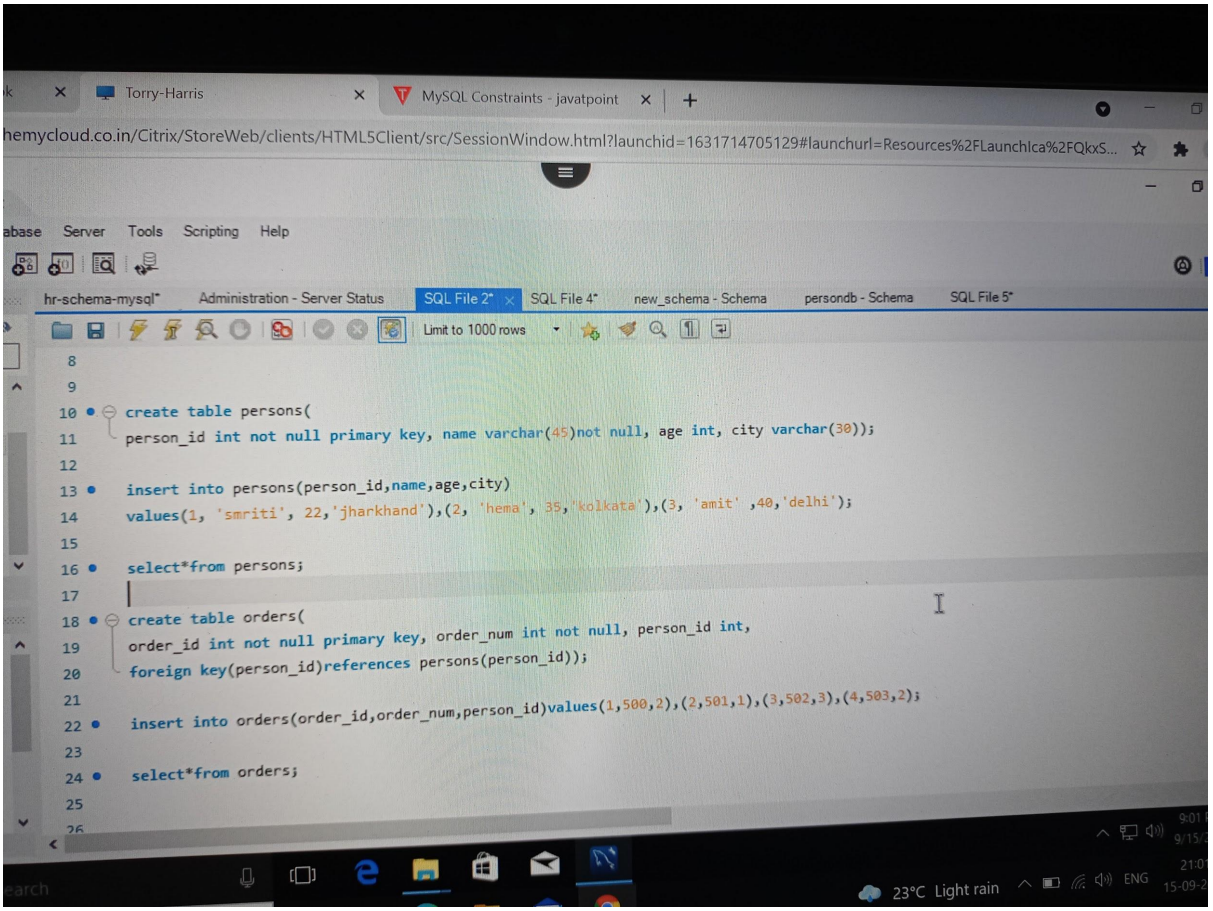
AUTO_INCREMENT

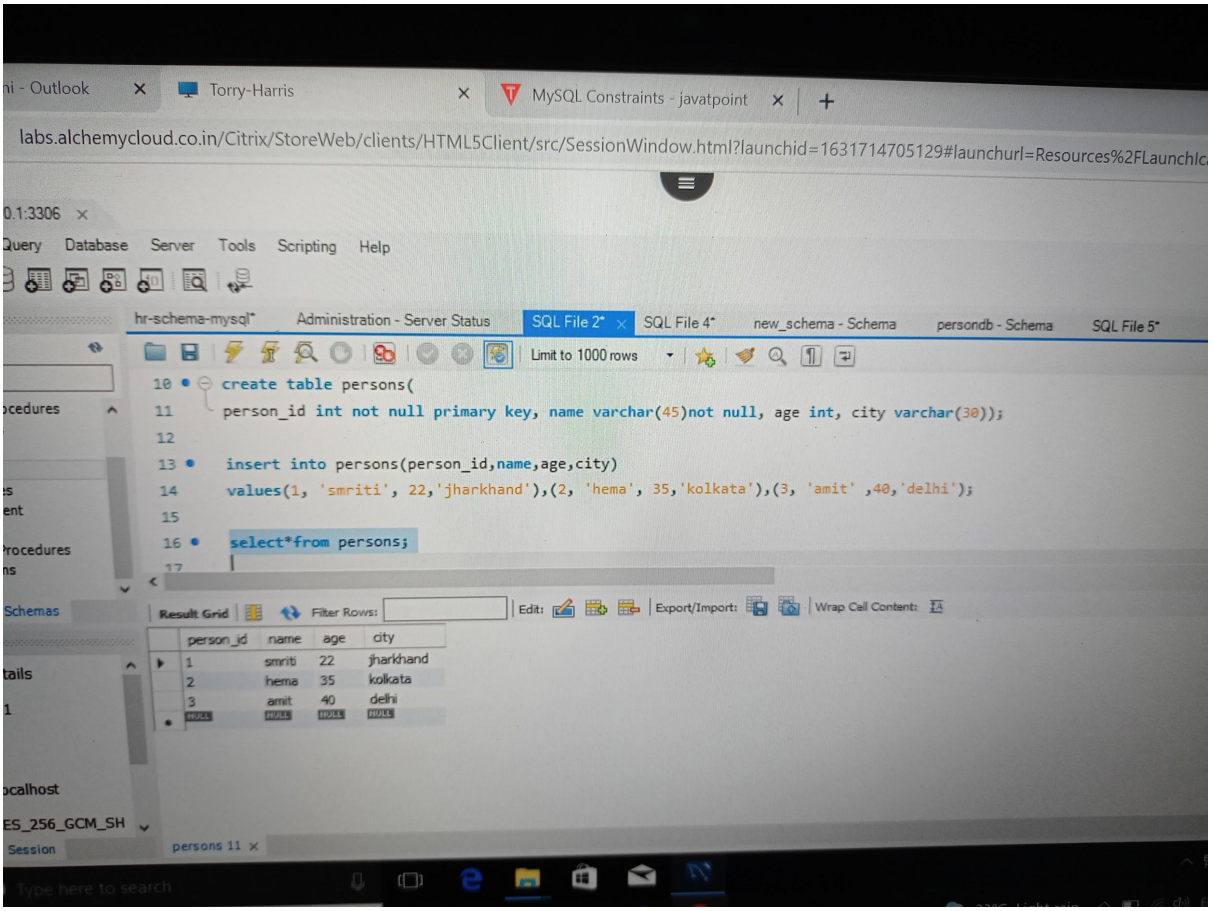

Torry-Harris
MySQL Constraints - javatpoint
Database Server Tools Scripting Help
hr-schema-mysql* Administration - Server Status SQL File 2* SQL File 4* new_schema - Schema persondb - Schema SQL File 5*
Limit to 1000 rows
create table hairstyles(
id int not null auto_increment,
name varchar(40) not null,
primary key(id));
insert into hairstyles(name)values('ponytail'),('frenchbraid'),('fishtailbraid'),('halfponytail');
desc hairstyles;
Output
Action Output
Time Action Message Duration / Fetch
463 20:38:41 create table hairstyles(id int not null auto_increment, name varchar(40) not null) Error Code: 1075. Incorrect table definition; there can be only one auto column and i... 0.000 sec
464 20:39:51 create table hairstyles(id int not null auto_increment, name varchar(40) not null, prim... 0 row(s) affected 0.172 sec
465 20:40:07 insert into hairstyles(name)values('ponytail'),(frenchbraid'),(fishtailbraid'),(halfponytail') 4 row(s) affected Records: 4 Duplicates: 0 Warnings: 0 0.031 sec
23°C Light rain
ENG
8:40 PM 9/15/2021
20:40 15-09-2021

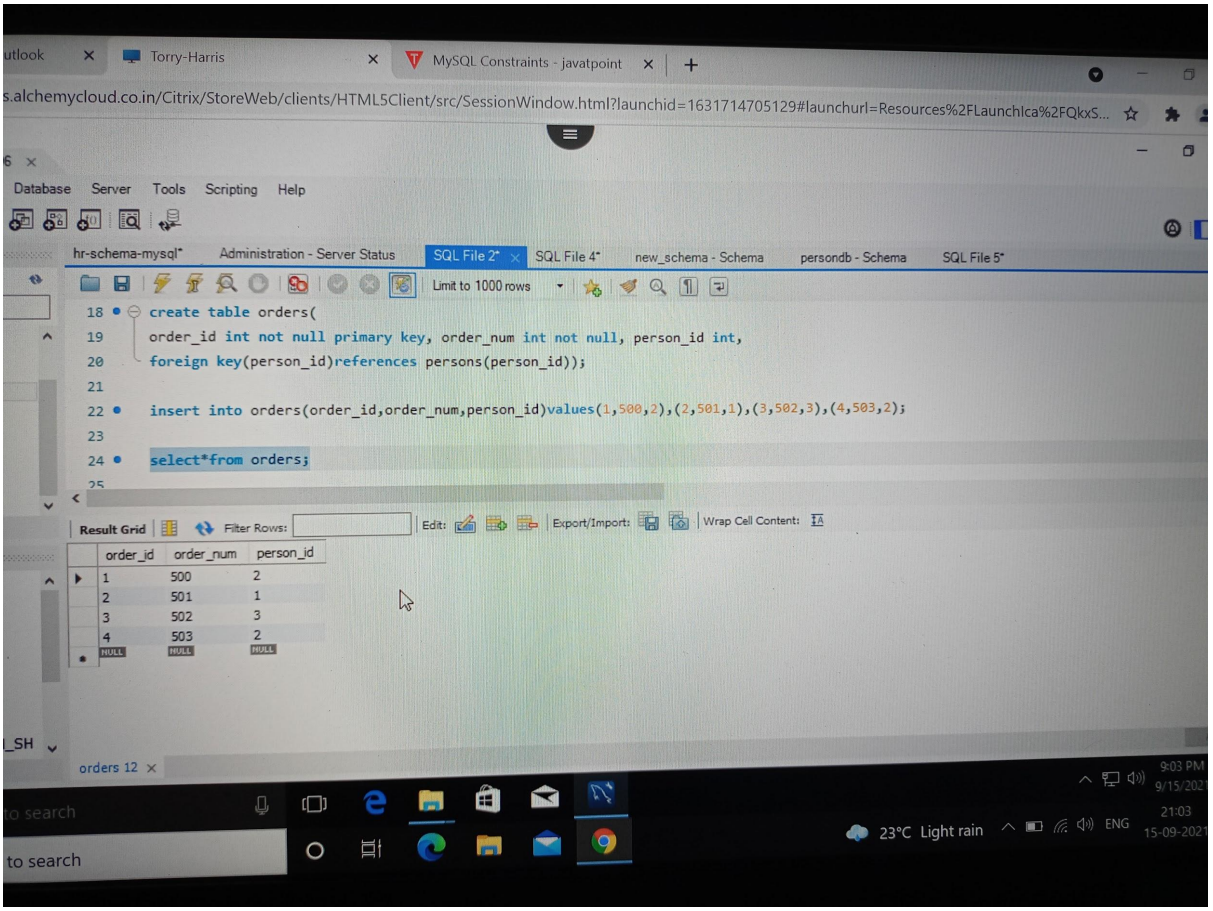

Torry-Harris
MySQL Constraints - javatpoint
labs.alchemycloud.co.in/Citrix/StoreWeb/clients/HTML5Client/src/SessionWindow.html?launchid=1631714705129#launchurl=Resources%2FLaunchIca%2FQkxS...
Database Server Tools Scripting Help
hr-schema-mysql* Administration - Server Status SQL File 2* SQL File 4* new_schema - Schema persondb - Schema SQL File 5*
Limit to 1000 rows
27
28 insert into hairstyles(name)values('ponytail'),('frenchbraid'),('fishtailbraid'),('halfponytail');
29
30 desc hairstyles;
31
32
33
Result Grid Filter Rows: Export: Wrap Cell Content:
Field Type Null Key Default Extra
id int NO PRI NULL auto_increment
name varchar(40) NO NULL
Result 9
to search
23°C Light rain
ENG

FOREIGN KEY


departments
dept_id INT
dept_name VARCHAR(45)
Indexes
Primary Key
1
∞
employees
emp_id INT
emp_name VARCHAR(55)
hire_date DATE
salary INT
dept_id INT
Indexes
Foreign Key


Torry-Harris
MySQL Constraints - javatpoint
hemycloud.co.in/Citrix/StoreWeb/clients/HTML5Client/src/SessionWindow.html?launchid=1631714705129#launchurl=Resources%2FLaunchIca%2FQkxS...
abase Server Tools Scripting Help
hr-schema-mysql* Administration - Server Status SQL File 2* SQL File 4* new_schema - Schema persondb - Schema SQL File 5*
Limit to 1000 rows
8
9
10 create table persons(
11 person_id int not null primary key, name varchar(45)not null, age int, city varchar(30));
12
13 insert into persons(person_id,name,age,city)
14 values(1, 'smriti', 22,'jharkhand'),(2, 'hema', 35,'kolkata'),(3, 'amit' ,40,'delhi');
15
16 select*from persons;
17
18 create table orders(
19 order_id int not null primary key, order_num int not null, person_id int,
20 foreign key(person_id)references persons(person_id));
21
22 insert into orders(order_id,order_num,person_id)values(1,500,2),(2,501,1),(3,502,3),(4,503,2);
23
24 select*from orders;
25
23°C Light rain
ENG


Torry-Harris
MySQL Constraints - javatpoint
labs.alchemycloud.co.in/Citrix/StoreWeb/clients/HTML5Client/src/SessionWindow.html?launchid=1631714705129#launchurl=Resources%2FLaunchIc
Query Database Server Tools Scripting Help
hr-schema-mysql* Administration - Server Status SQL File 2* SQL File 4* new_schema - Schema persondb - Schema SQL File 5*
Limit to 1000 rows
create table persons(
person_id int not null primary key, name varchar(45)not null, age int, city varchar(30));
insert into persons(person_id,name,age,city)
values(1, 'smriti', 22,'jharkhand'),(2, 'hema', 35,'kolkata'),(3, 'amit' ,40,'delhi');
select*from persons;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
person_id name age city
1 smriti 22 jharkhand
2 hema 35 kolkata
3 amit 40 delhi
Schemas
persons 11
Session



SQL FOREIGN KEY on ALTER TABLE

To create a FOREIGN KEY constraint on the "PersonID" column when the "Orders" table is already created, use the following SQL:

ALTER TABLE Orders

ADD FOREIGN KEY (PersonID) REFERENCES Persons(PersonID);

To allow naming of a FOREIGN KEY constraint, and for defining a FOREIGN KEY constraint on multiple columns, use the following SQL syntax:

ALTER TABLE Orders

MySQL:

ALTER TABLE Orders

DROP FOREIGN KEY FK_PersonOrder;

```
ALTER TABLE Orders

DROP CONSTRAINT FK_PersonOrder;
```

SQL Data Types

Data types are used to represent the nature of the data that can be stored in the database table. For example, in a particular column of a table, if we want to store a string type of data then we will have to declare a string data type of this column.

Data types mainly classified into three categories for every database.

String Data types

Numeric Data types

Date and time Data types

CHAR(Size)	It is used to specify a fixed length string that can contain numbers, letters, and special characters. Its size can be 0 to 255 characters. Default is 1.
VARCHAR(Size)	It is used to specify a variable length string that can contain numbers, letters, and special characters. Its size can be from 0 to 65535 characters.
BINARY(Size)	It is equal to CHAR() but stores binary byte strings. Its size parameter specifies the column length in the bytes. Default is 1.
VARBINARY(Size)	It is equal to VARCHAR() but stores binary byte strings. Its size parameter specifies the maximum column length in bytes.
TEXT(Size)	It holds a string that can contain a maximum length of 255 characters.
TINYTEXT	It holds a string with a maximum length of 255 characters.
MEDIUMTEXT	It holds a string with a maximum length of 16,777,215.
LONGTEXT	It holds a string with a maximum length of 4,294,967,295 characters.

BLOB(size)	It is used for BLOBs (Binary Large Objects). It can hold up to 65,535 bytes.

MySQL Numeric Data Types

BIT(Size)	It is used for a bit-value type. The number of bits per value is specified in size. Its size can be 1 to 64. The default value is 1.
INT(size)	It is used for the integer value. Its signed range varies from -2147483648 to 2147483647 and unsigned range varies from 0 to 4294967295. The size parameter specifies the max display width that is 255.
INTEGER (size)	It is equal to INT(size).
FLOAT(size, d)	It is used to specify a floating point number. Its size parameter specifies the total number of digits. The number of digits after the decimal point is specified by **d** parameter.
FLOAT(p)	It is used to specify a floating point number. MySQL used p parameter to determine whether to use FLOAT or DOUBLE. If p is between 0 to24, the data type becomes FLOAT (). If p is from 25 to 53, the data type becomes DOUBLE().
DOUBLE(size, d)	It is a normal size floating point number. Its size parameter specifies the total number of digits. The number of digits after the decimal is specified by d parameter.

DECIMAL (size, d)	It is used to specify a fixed point number. Its size parameter specifies the total number of digits. The number of digits after the decimal parameter is specified by **d** parameter. The maximum value for the size is 65, and the default value is 10. The maximum value for **d** is 30, and the default value is 0.
DEC(size, d)	It is equal to DECIMAL(size, d).
BOOL	It is used to specify Boolean values true and false. Zero is considered as false, and nonzero values are considered as true.

MySQL Date and Time Data Types

DATE	It is used to specify date format YYYY-MM-DD. Its supported range is from '1000-01-01' to '9999-12-31'.
DATETIME (fsp)	It is used to specify date and time combination. Its format is YYYY-MM-DD hh:mm:ss. Its supported range is from '1000-01-01 00:00:00' to 9999-12-31 23:59:59'.
TIMESTAMP(fsp)	It is used to specify the timestamp. Its value is stored as the number of seconds since the Unix epoch('1970-01-01 00:00:00' UTC). Its format is YYYY-MM-DD hh:mm:ss. Its supported range is from '1970-01-01 00:00:01' UTC to '2038-01-09 03:14:07' UTC.
TIME(fsp)	It is used to specify the time format. Its format is hh:mm:ss. Its supported range is from '-838:59:59' to '838:59:59'
YEAR	It is used to specify a year in four-digit format. Values allowed in four digit format from 1901 to 2155, and 0000.

SQL Server Data Types

SQL Server String Data Type

char(n)	It is a fixed width character string data type. Its size can be up to

	8000 characters.
varchar(n)	It is a variable width character string data type. Its size can be up to 8000 characters.
varchar(max)	It is a variable width character string data types. Its size can be up to 1,073,741,824 characters.
text	It is a variable width character string data type. Its size can be up to 2GB of text data.
nchar	It is a fixed width Unicode string data type. Its size can be up to 4000 characters.
nvarchar	It is a variable width Unicode string data type. Its size can be up to 4000 characters.
ntext	It is a variable width Unicode string data type. Its size can be up to 2GB of text data.
binary(n)	It is a fixed width Binary string data type. Its size can be up to 8000 bytes.
varbinary	It is a variable width Binary string data type. Its size can be up to 8000 bytes.
image	It is also a variable width Binary string data type. Its size can be up to 2GB.

SQL Server Numeric Data Types

bit	It is an integer that can be 0, 1 or null.

tinyint	It allows whole numbers from 0 to 255.
Smallint	It allows whole numbers between -32,768 and 32,767.
Int	It allows whole numbers between -2,147,483,648 and 2,147,483,647.
bigint	It allows whole numbers between -9,223,372,036,854,775,808 and 9,223,372,036,854,775,807.
float(n)	It is used to specify floating precision number data from -1.79E+308 to 1.79E+308. The n parameter indicates whether the field should hold the 4 or 8 bytes. Default value of n is 53.
real	It is a floating precision number data from -3.40E+38 to 3.40E+38.
money	It is used to specify monetary data from -922,337,233,685,477.5808 to 922,337,203,685,477.5807.

SQL Server Date and Time Data Type

datetime	It is used to specify date and time combination. It supports range from January 1, 1753, to December 31, 9999 with an accuracy of 3.33 milliseconds.
datetime2	It is used to specify date and time combination. It supports range from January 1, 0001 to December 31, 9999 with an accuracy of 100 nanoseconds
date	It is used to store date only. It supports range from January 1, 0001 to December 31, 9999
time	It stores time only to an accuracy of 100 nanoseconds
timestamp	It stores a unique number when a new row gets created or modified. The time stamp value is based upon an internal clock and does not correspond to real time. Each table

	may contain only one-time stamp variable.

SQL Server Other Data Types

Sql_variant	It is used for various data types except for text, timestamp, and ntext. It stores up to 8000 bytes of data.
XML	It stores XML formatted data. Maximum 2GB.
cursor	It stores a reference to a cursor used for database operations.