

# SQL

## Create a free SQL database:

Create a new database by login into free SQL database(<https://www.freesqldatabase.com/> ).

The free Database that has been created has a limit of 5MB.

### Account Details

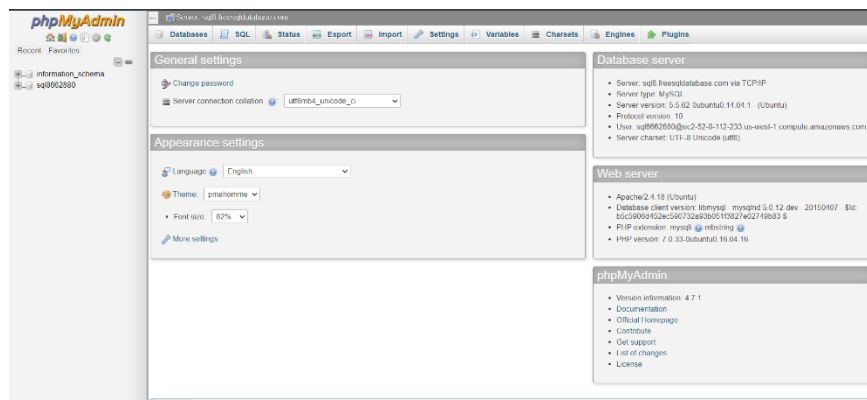
Account Number	Available Databases	Available Space
837148	0 of 1	0% of 5.00MB

After creating the database login into the phpMyAdmin for database administration (<http://www.phpmyadmin.co/> ). The login is done with database host, database name and username and password.

Database Host	Database Name	Database Username	Database Password	Size	Status	Delete
sql8.freesqldatabase.com	sql8662880	sql8662880	Check your emails	0.00MB	Live	<input type="checkbox"/>

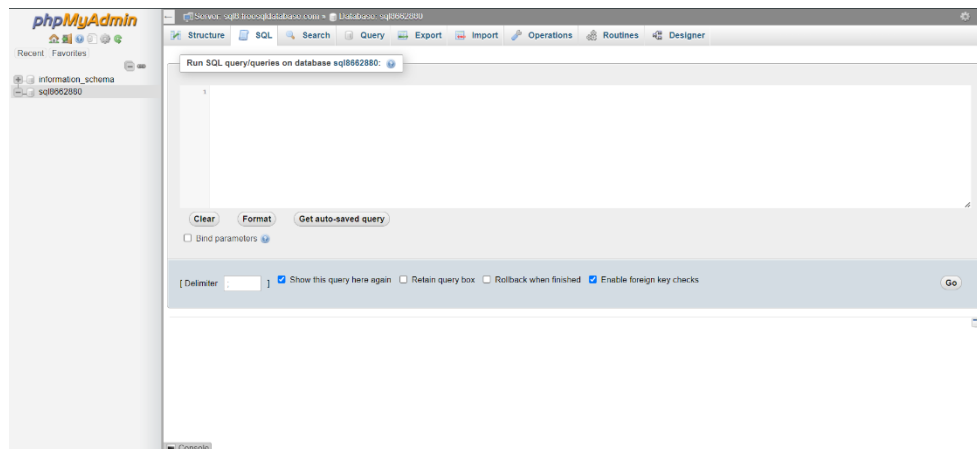
Delete database

## Php my Admin interface:

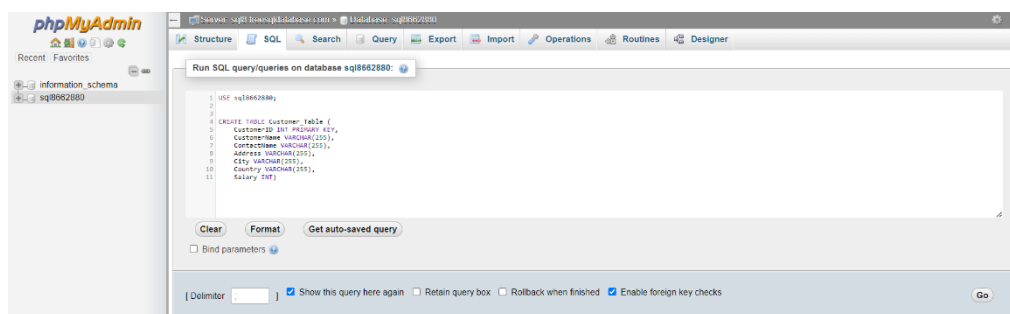


Executing the SQL Commands:

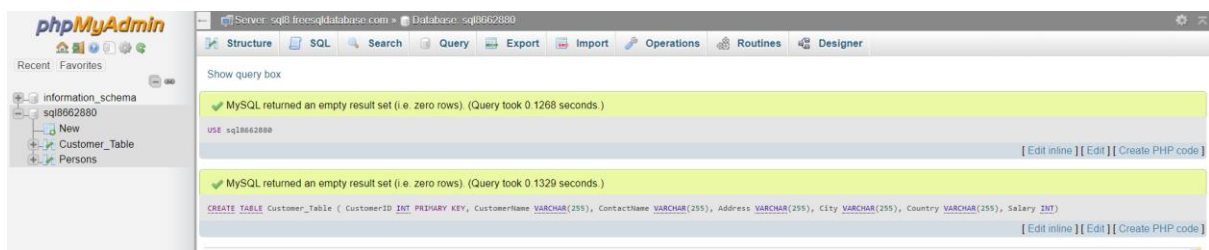
Switch to the SQL option in the Tab menu for executing SQL commands:



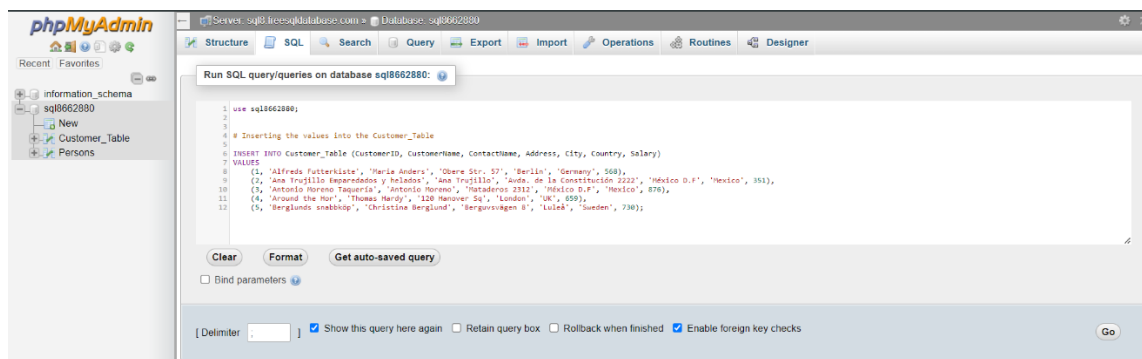
Use the database and create a Table



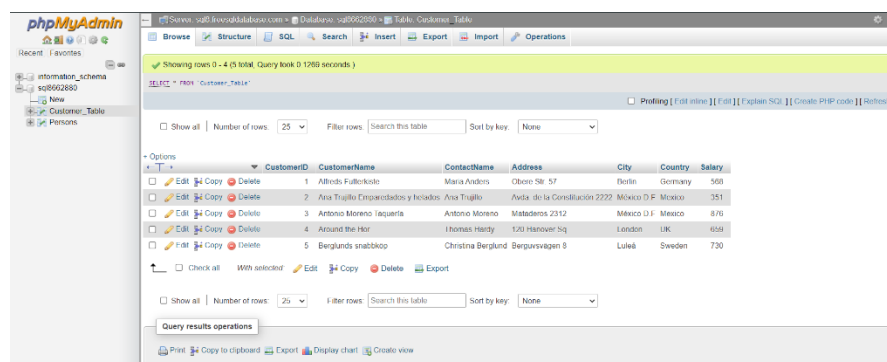
Click the Go button and the table has been created with given column names. Now see the Table has been created.



Inserting the values into the Table:



Tables with values:



## 1.Select operation

#Query



#Output:

+ Options

CustomerName	Country
Alfreds Futterkiste	Germany
Ana Trujillo Emparedados y helados	Mexico
Antonio Moreno Taquería	Mexico
Around the Hor	UK
Berglunds snabbköp	Sweden

## 2.Where

#query

```
1  
2  
3 SELECT * FROM Customer_Table  
4 WHERE Country='Mexico';
```

#Output:

+ Options

	CustomerID	CustomerName	ContactName	Address	City	Country	Salary
<input type="checkbox"/> Edit  Copy  Delete	2	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitución 2222	México D.F	Mexico	351
<input type="checkbox"/> Edit  Copy  Delete	3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F	Mexico	876

↑ ☐ Check all With selected: Edit Copy Delete Export

## 3.Order

#Query

```
1 SELECT * FROM Customer_Table  
2 ORDER BY Salary;
```

# Output

CustomerID	CustomerName	ContactName	Address	City	Country	Salary
2	Ana Trujillo Emparedados y helados	Ana Trujillo	Avda. de la Constitución 2222	México D.F	Mexico	351
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin	Germany	568
4	Around the Hor	Thomas Hardy	120 Hanover Sq	London	UK	659
5	Berglunds snabbköp	Christina Berglund	Berguvsvägen 8	Luleå	Sweden	730
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F	Mexico	876

## 4.AND and OR

# Query:

```
1 SELECT * FROM Customer_Table  
2 WHERE Country = 'Mexico'  
3 AND Salary > 500;
```

#Output:

CustomerID	CustomerName	ContactName	Address	City	Country	Salary
3	Antonio Moreno Taquería	Antonio Moreno	Mataderos 2312	México D.F	Mexico	876

## 5.Update:

#Query:

```
1 UPDATE Customer_Table  
2 SET ContactName='Juan'  
3 WHERE Country='Mexico';
```

## #Output:

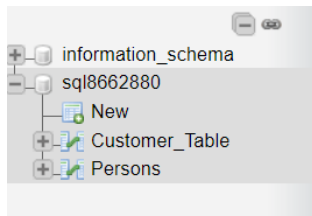
CustomerID	CustomerName	ContactName	Address	City	Country	Salary
1	Alfreds Futterkiste	Maria Anders	Obere Str. 57	Berlin	Germany	568
2	Ana Trujillo Emparedados y helados	Juan	Avda. de la Constitución 2222	México D.F.	Mexico	351
3	Antonio Moreno Taquería	Juan	Mataderos 2312	México D.F.	Mexico	876
4	Around the Hor	Thomas Hardy	120 Hanover Sq	London	UK	659
5	Berglunds snabbköp	Christina Berglund	Berguvsvägen 8	Luleå	Sweden	730

## 6.Drop Table

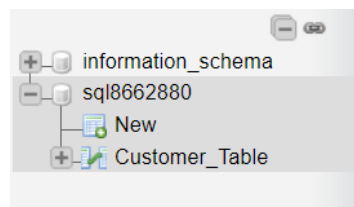
```
1 USE sql8662880;  
2 DROP TABLE Persons;
```

## #Output

Before Drop



After Drop



## 7.DELETE

### #Query

```
1 DELETE FROM Customers_Table WHERE CustomerName='Alfreds Futterkiste';
```

### #Output

CustomerID	CustomerName	ContactName	Address	City	Country	Salary
2	Ana Trujillo Emparedados y helados	Juan	Avda. de la Constitución 2222	México D.F.	Mexico	351
3	Antonio Moreno Taquería	Juan	Mataderos 2312	México D.F.	Mexico	876
4	Around the Hor	Thomas Hardy	120 Hanover Sq	London	UK	659
5	Berglunds snabbköp	Christina Berglund	Berguvsvägen 8	Luleå	Sweden	730

## Sample cancer csv dataset loaded:

### 8. Between and And

#### #Query

```
1 SELECT * FROM sample_cancer_dataset
2 WHERE Total patients BETWEEN 10 AND 20
3 AND Tumor == "carcinoid";
```

#### #Output:

Gene	Gene_name	Tumor	Level	Count_patients	Totalpatients	Expression_type
ENSG00000002586	CD99	breast cancer	Medium	3	11	Staining
ENSG00000002586	CD99	breast cancer	Low	2	11	Staining
ENSG00000002586	CD99	breast cancer	Not detected	6	11	Staining
ENSG00000000457	SCYL3	breast cancer	Not detected	8	12	Staining
ENSG00000000460	C1orf112	breast cancer	High	1	12	Staining
ENSG00000000460	C1orf112	breast cancer	Medium	8	12	Staining
ENSG00000000460	C1orf112	breast cancer	Low	1	12	Staining
ENSG00000000460	C1orf112	breast cancer	Not detected	2	12	Staining
ENSG00000000938	FGR	breast cancer	High	0	12	Staining
ENSG00000000938	FGR	breast cancer	Medium	1	12	Staining
ENSG00000000938	FGR	breast cancer	Low	11	12	Staining
ENSG00000000938	FGR	breast cancer	Not detected	0	12	Staining
ENSG00000004777	ARHGAP33	cervical cancer	High	0	12	Staining
ENSG00000004777	ARHGAP33	cervical cancer	Medium	2	12	Staining
ENSG00000004777	ARHGAP33	cervical cancer	Low	5	12	Staining
ENSG00000004777	ARHGAP33	cervical cancer	Not detected	5	12	Staining

### 9. INNER Join Query:

#### #Query:

```
1 SELECT sample_subcellular_Data.Gene
2 FROM sample_subcellular_Data
3 INNER JOIN sample_cancer_dataset ON sample_subcellular_Data.Gene = sample_cancer_dataset.Gene;
```

#### #output

```
Gene
ne
ENSG00000000457
ENSG00000000457
ENSG00000000457
ENSG00000000457
ENSG00000000457
ENSG00000000460
ENSG00000000460
ENSG00000000460
ENSG00000000460
ENSG00000000460
ENSG00000000938
ENSG00000000938
ENSG00000000938
ENSG00000000938
ENSG00000004777
ENSG00000004777
ENSG00000004777
ENSG00000004777
ENSG00000004777
ENSG00000004777
```

## 10. Left Join:

#Query:

```
1 SELECT Tumor,Level,Count_patients
2 FROM sample_cancer_dataset
3 LEFT JOIN sample_subcellular_Data
4 ON sample_subcellular_Data.Gene = sample_cancer_dataset.Gene;
5
```

Output

+ Options		
Tumor	Level	Count_patients
Tumor	Level	0
breast cancer	Medium	3
breast cancer	Low	2
breast cancer	Not detected	6
carcinoid	High	0
carcinoid	Medium	3
breast cancer	Not detected	8
carcinoid	High	0
carcinoid	Medium	0
carcinoid	Low	3
carcinoid	Not detected	1
breast cancer	High	1
breast cancer	Medium	8
breast cancer	Low	1
breast cancer	Not detected	2
breast cancer	High	0
breast cancer	Medium	1
breast cancer	Low	11
breast cancer	Not detected	0
carcinoid	Medium	2
carcinoid	Low	2
carcinoid	Not detected	0
cervical cancer	High	0
cervical cancer	Medium	2
cervical cancer	Low	5

## 11.Groupby

# Query

```
1 SELECT Level, Tumor, COUNT(*) AS Count
2 FROM sample_cancer_dataset
3 GROUP BY Level, Tumor;
```

# output

+ Options		
Level	Tumor	Count
High	breast cancer	2
High	carcinoid	2
High	cervical cancer	1
Level	Tumor	1
Low	breast cancer	3
Low	carcinoid	2
Low	cervical cancer	1
Medium	breast cancer	3
Medium	carcinoid	3
Medium	cervical cancer	1
Not detected	breast cancer	4
Not detected	carcinoid	2
Not detected	cervical cancer	1

## 12.Joining Two Tables

### #Query

```
1 SELECT *
2 FROM sample_subcellular_Data
3 LEFT JOIN sample_cancer_dataset ON sample_cancer_dataset.Gene = sample_subcellular_Data.Gene
4
5 UNION
6
7 SELECT *
8 FROM sample_cancer_dataset
9 LEFT JOIN sample_subcellular_Data ON sample_cancer_dataset.Gene = sample_subcellular_Data.Gene
10 LIMIT 0, 25;
```

### #Output

Gene	Gene_name	Main_location	Other_location	Expression_type	Reliability	Main_location_GO_id	Other_location_GO_id	Gene	Gene_name	Tumor	Level	Count_patients	Totalpatients	Expression_type
ENSG00000000003	TSPAN6	Cytoplasm		APE	Uncertain	GO:0005737		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000000047	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000047	SCYL3	breast cancer	Not detected	0	12	Staining
ENSG00000000047	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000047	SCYL3	carcinoid	High	0	4	Staining
ENSG00000000047	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000047	SCYL3	carcinoid	Medium	0	4	Staining
ENSG00000000047	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000047	SCYL3	carcinoid	Low	3	4	Staining
ENSG00000000047	SCYL3	Cytoskeleton (Microtubules)	Nucleus but not nucleoli Golgi apparatus	APE	Uncertain	GO:0015630		ENSG00000000047	SCYL3	carcinoid	Not detected	1	4	Staining
ENSG00000000040	C1orf112	Nucleus but not nucleoli Mitochondria		APE	Uncertain	GO:0005654 GO:0005739		ENSG00000000040	C1orf112	breast cancer	High	1	12	Staining
ENSG00000000040	C1orf112	Nucleus but not nucleoli Mitochondria		APE	Uncertain	GO:0005654 GO:0005739		ENSG00000000040	C1orf112	breast cancer	Medium	0	12	Staining
ENSG00000000040	C1orf112	Nucleus but not nucleoli Mitochondria		APE	Uncertain	GO:0005654 GO:0005739		ENSG00000000040	C1orf112	breast cancer	Low	1	12	Staining
ENSG00000000040	C1orf112	Nucleus but not nucleoli Mitochondria		APE	Uncertain	GO:0005654 GO:0005739		ENSG00000000040	C1orf112	breast cancer	Not detected	2	12	Staining
ENSG00000000038	FGR	Plasma membrane	Aggresome	APE	Uncertain	GO:0005886		ENSG00000000038	FGR	breast cancer	High	0	12	Staining
ENSG00000000038	FGR	Plasma membrane	Aggresome	APE	Uncertain	GO:0005886		ENSG00000000038	FGR	breast cancer	Medium	1	12	Staining
ENSG00000000038	FGR	Plasma membrane	Aggresome	APE	Uncertain	GO:0005886		ENSG00000000038	FGR	breast cancer	Low	11	12	Staining
ENSG00000000038	FGR	Plasma membrane	Aggresome	APE	Uncertain	GO:0005886		ENSG00000000038	FGR	breast cancer	Not detected	0	12	Staining
ENSG00000001036	FUC42	Nucleus but not nucleoli Mitochondria		APE	Uncertain	GO:0005654 GO:0005739		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000001084	GCLC	Nucleus Nucleoli Cytoplasm		APE	Supportive	GO:0005634 GO:0005739 GO:0005737		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000001167	NFYA	Nucleus but not nucleoli		APE	Supportive	GO:0005654		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000004660	CAMK1	Cytoplasm		APE	Supportive	GO:0005737		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000004700	RECOL	Nucleus but not nucleoli		APE	Supportive	GO:0005654		NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000004706	CDC42L2	Cytoplasm	Plasma membrane	APE	Uncertain	GO:0005737	GO:0005886	NULL	NULL	NULL	NULL	NULL	NULL	NULL
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737 GO:0015629	ENSG00000004777	ARHGAP33	carcinoid	Medium	2	4	Staining
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737 GO:0015629	ENSG00000004777	ARHGAP33	carcinoid	Low	2	4	Staining
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737 GO:0015629	ENSG00000004777	ARHGAP33	carcinoid	Not detected	0	4	Staining
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737 GO:0015629	ENSG00000004777	ARHGAP33	cervical cancer	High	0	12	Staining
ENSG00000004777	ARHGAP33	Plasma membrane	Cytoplasm Cytoskeleton (Actin filaments)	APE	Uncertain	GO:0005886	GO:0005737 GO:0015629	ENSG00000004777	ARHGAP33	cervical cancer	Medium	2	12	Staining