MySQL INSERT INTO Query: How to add Row in Table (Example)

What is INSERT INTO?

INSERT INTO is used to store data in the tables. The INSERT command creates a new row in the table to store data. The data is usually supplied by application programs that run on top of the database.

Basic syntax

Let's look at the basic syntax of the INSERT INTO MySQL command:

```
INSERT INTO `table_name`(column_1,column_2,...) VALUES
(value_1,value_2,...);
```

HERE

- INSERT INTO `table_name` is the command that tells MySQL server to add a new row into a table named `table_name.`
- (column_1,column_2,...) specifies the columns to be updated in the new MySQL row
- VALUES (value_1,value_2,...) specifies the values to be added into the new row

When supplying the data values to be inserted into the new table, the following should be considered:

- String data types - all the string values should be enclosed in single quotes.
- Numeric data types- all numeric values should be supplied directly without enclosing them in single or double-quotes.
- Date data types - enclose date values in single quotes in the format 'YYYY-MM-DD'.

Example:

Suppose that we have the following list of new library members that need to be added to the database.

Full names	Date of Birth	gender	Physical address	Postal address	Contact number	Email Address
Leonard Hofstadter		Male	Woodcrest		0845738767	
Sheldon Cooper		Male	Woodcrest		0976736763	
Rajesh Koothrappali		Male	Fairview		0938867763	
Leslie Winkle	14/02/1984	Male			0987636553	
Howard Wolowitz	24/08/1981	Male	South Park	P.O. Box 4563	0987786553	lwolowitz@email.me

Let's INSERT data one by one. We will start with Leonard Hofstadter. We will treat the contact number as a numeric data type and not enclose the number in single quotes.

```
INSERT INTO `members` (`full_names`,`gender`,`physical_address`,`contact_number`) VALUES ('Leonard Hofstadter','Male','Woodcrest',0845738767);
```

Executing the above script drops the 0 from Leonard's contact number. This is because the value will be treated as a numeric value, and the zero (0) at the beginning is dropped since it's not significant.

To avoid such problems, the value must be enclosed in single quotes as shown below -

```
INSERT INTO `members` (`full_names`,`gender`,`physical_address`,`contact_number`)  VALUES ('Sheldon Cooper','Male','Woodcrest', '0976736763');
```

In the above case, zero(0) will not be dropped

Changing the order of the columns has no effect on the INSERT query in MySQL as long as the correct values have been mapped to the correct columns.

The query shown below demonstrates the above point.

```
INSERT INTO `members` (`contact_number`,`gender`,`full_names`,`physical_address`)  VALUES ('0938867763','Male','Rajesh Koothrappali','Woodcrest');
```

The above queries skipped the date of birth column. By default, MySQL will insert NULL values in columns that are omitted in the INSERT query.

Let's now insert the record for Leslie, which has the date of birth supplied. The date value should be enclosed in single quotes using the format 'YYYY-MM-DD'.

```
INSERT INTO `members` (`full_names`,`date_of_birth`,`gender`,`physical_address`,`contact_number`)  VALUES ('Leslie Winkle','1984-02-14','Male','Woodcrest', '0987636553');
```

All of the above queries specified the columns and mapped them to values in the MySQL insert statement. If we are supplying values for ALL the columns in the table, then we can omit the columns from the MySQL insert query.

Example:-

```
INSERT INTO `members`  VALUES (9,'Howard
Wolowitz','Male','1981-08-24',
'SouthPark','P.O. Box 4563', '0987786553',
'lwolowitz[at]email.me');
```

Let's now use the SELECT statement to view all the rows in the member's table.

```
SELECT * FROM `members`;
```

membership_number	full_names	gender	date_of_birth	physical_address	postal_address	contct_number	email
1	Janet Jones	Female	21-07-1980	First Street Plot No 4	Private Bag	0759 253 542	janetjones@yagoo.cm
2	Janet Smith Jones	Female	23-06-1980	Melrose 123	NULL	NULL	jj@fstreet.com
3	Robert Phil	Male	12-07-1989	3rd Street 34	NULL	12345	rm@tstreet.com
4	Gloria Williams	Female	14-02-1984	2nd Street 23	NULL	NULL	NULL
5	Leonard Hofstadter	Male	NULL	Woodcrest	NULL	84573 8767	NULL
6	Sheldon Cooper	Male	NULL	Woodcrest	NULL	97673 6763	NULL

7	Rajesh Koothrappali	Male	NULL	Woodcrest	NULL	938867763	NULL
8	Leslie Winkle	Male	14-02-1984	Woodcrest	NULL	987636553	NULL
9	Howard Wolowitz	Male	24-08-1981	SouthPark	P.O. Box 4563	987786553	lwolowitz@email.me

Notice the contact number for Leonard Hofstadter has dropped the zero (0) from the contact number. The other contact numbers have not dropped the zero (0) at the beginning.

Inserting into a Table from another Table

The INSERT command can also be used to insert data into a table from another table. The basic syntax is as shown below.

```
INSERT INTO table_1 SELECT * FROM table_2;
```

Let's now look at a practical example. We will create a dummy table for movie categories for demonstration purposes. We will call the new categories table categories_archive. The script shown below creates the table.

```
CREATE TABLE `categories_archive` (  `category_id` int(11) AUTO_INCREMENT,  `category_name` varchar(150)  DEFAULT NULL,  `remarks` varchar(500) DEFAULT NULL,  PRIMARY KEY (`category_id`)  )
```

Execute the above script to create the table.

Let's now insert all the rows from the categories table into the categories archive table. The script shown below helps us to achieve that.

```
INSERT INTO `categories_archive` SELECT * FROM `categories`;
```

Executing the above script inserts all the rows from the categories table into the categories archive table. Note the table structures will have to be the same for the script to work. A more robust script is one that maps the column names in the insert table to the ones in the table containing the data.

The query shown below demonstrates its usage.

```
INSERT INTO
`categories_archive`(category_id,category_name,remarks)
SELECT category_id,category_name,remarks FROM
`categories`;
```

Executing the SELECT query

```
SELECT * FROM `categories_archive`
```

gives the following results shown below.

category_id	category_name	remarks
1	Comedy	Movies with humour
2	Romantic	Love stories
3	Epic	Story ancient movies
4	Horror	NULL
5	Science Fiction	NULL
6	Thriller	NULL
7	Action	NULL
8	Romantic Comedy	NULL

9	Cartoons	NULL
10	Cartoons	NULL

PHP Example: Insert into MySQL Table

The mysqli_query function is used to execute SQL queries.

The function can be used to execute the following query types;

- Insert
- Select
- Update
- delete

It has the following syntax.

```
mysqli_query($db_handle,$query);
```
HERE,

"mysqli_query(…)" is the function that executes the SQL queries.

"$query" is the SQL query to be executed

"$link_identifier" is optional, it can be used to pass in the server connection link

Example

```
$servername = "localhost";
$username = "alex";
$password = "yPXuPT";
$dbname = "afmznf";

// Create connection
```

```
$conn = mysqli_connect($servername, $username, $password,
$dbname);

// Check connection
if (!$conn) {
die("Connection failed: " . mysqli_connect_error());
}

$sql= "INSERT INTO addkeyworddata(link, keyword)VALUES
('https://www.guru99.com/','1000')";
         if (mysqli_query($conn, $sql)) {
              echo "New record created
successfully".'<br>';
         } else {
         echo "Error: " . $sql. "<br>" .
mysqli_error($conn);
     }
}
```

Summary

- The INSERT command is used to add new data into a table. MySql will add a new row, once the command is executed.
- The date and string values should be enclosed in single quotes.
- The numeric values do not need to be enclosed in quotes.
- The INSERT command can also be used to insert data from one table into another