


# How to use mysqli properly

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One of the worst delusions that PHP folks ever shared, is one that reads "*mysqli is as simple as old mysql\_query, and the transition is as simple as just adding 'i' to the function names*".

Unfortunately, almost every word in this statement is a dangerous mistake. In fact, there are **a lot** of essential differences, that make the proper use of mysqli completely different from the old stuff.

## Connection

There is a dedicated article on the connection alone, as it turns to be a complex matter, if you want a robust production-ready programmer friendly application. Here it goes: [Mysqli connect](https://phpdelusions.net/mysqli/mysqli_connect) ([https://phpdelusions.net/mysqli/mysqli\\_connect](https://phpdelusions.net/mysqli/mysqli_connect)).

## Prepared statements

The main reason why you were deprived from your familiar `mysql_query()` is the fact this honest function doesn't support prepared statements. And **there is absolutely no point in continuing this dangerous practice with mysqli**. Means you ought to use prepared statements with mysqli, which makes the transition a complete rewrite of the every database interaction.

Therefore, all your database interactions that involve a variable should be performed using a prepared statement. In order to do so you have to follow three simple steps:

1. Prepare your sql query, adding `?` marks where a variable would have been used
2. Bind these variables to the previously prepared statement
3. Execute the statement

Here is a simple example:

```
$stmt = $mysqli->prepare("SELECT * FROM users WHERE email = ?");
$stmt->bind_param("s", $email);
$stmt->execute();
$user = $stmt->get_result()->fetch_assoc();
```

Like it was described before, first we are preparing a query with question marks, then bind variables, then execute the statement and then getting the result.

Here are examples for all basic queries using prepared statements:

- Mysqli SELECT ([https://phpdelusions.net/mysqli\\_examples/select](https://phpdelusions.net/mysqli_examples/select))
- Mysqli INSERT ([https://phpdelusions.net/mysqli\\_examples/insert](https://phpdelusions.net/mysqli_examples/insert))
- Mysqli UPDATE ([https://phpdelusions.net/mysqli\\_examples/update](https://phpdelusions.net/mysqli_examples/update))

## The alleged simplicity of the old mysql code

Some people would complain prepared statements are more complex. Let me show you that it is simply not true. In fact, nowhere your old code was simple. Let's take a typical example:

```
$color = mysql_real_escape_string($_POST['color']);
$qty   = intval($_POST['qty']);

$sql = "SELECT * FROM goods WHERE color='$color' AND qty > '$qty'";
$res = mysql_query($sql) or trigger_error(mysql_error());

$data = array();
while ($row = mysql_fetch_assoc()) {
    $data[] = $row;
}
```

Still calling this code simple? check the following code then:

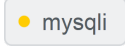
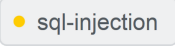
```
$sql = "SELECT * FROM goods WHERE color=? AND qty > ?";
$stmt = mysqli_prepare($sql);
$stmt->bind_param("ss", $_POST['color'], $_POST['qty']);
$stmt->execute();
$data = $stmt->get_result()->fetch_all();
```

As you can see, the proper usage of mysqli is not only 100% *safe* but also more tidy than the old approach.

### RELATED ARTICLES:

- > [How to use mysqli properly \(/mysqli\)](/mysqli/)
- > [How to check whether a value exists in a database using mysqli prepared statements \(/mysqli/check\\_value\)](/mysqli/check_value/)
- > [Warning: mysqli\\_fetch\\_assoc\(\) expects parameter 1 to be mysqli\\_result, boolean given. \(/mysqli/expects\\_parameter\\_1\\_to\\_be\\_mysqli\\_result\\_boolean\\_given\)](/mysqli/expects_parameter_1_to_be_mysqli_result_boolean_given/)
- > [How to report errors in mysqli \(/mysqli/error\\_reporting\)](/mysqli/error_reporting/)
- > [Why mysqli prepared statemens are so hard to use? \(/mysqli/wtf\)](/mysqli/wtf/)
- > [How to get the number rows that has been actually changed \(/mysqli/affected\\_rows\)](/mysqli/affected_rows/)
- > [Mysqli helper function \(/mysqli/simple\)](/mysqli/simple/)
- > [Authenticating a user using mysqli and password\\_verify\(\) \(/mysqli/password\\_hash\)](/mysqli/password_hash/)
- > [How to connect properly using mysqli \(/mysqli/mysqli\\_connect\)](/mysqli/mysqli_connect/)
- > [Mysqli examples \(/mysqli/examples\)](/mysqli/examples/)
- > [How to run INSERT query using Mysqli \(/mysqli/insert\)](/mysqli/insert/)

## GOT A QUESTION?

I am the only person to hold a gold badge in ,  and  (http://stackoverflow.com/help/badges/4220/pdo), (http://stackoverflow.com/help/badges/6342/mysqli) and (http://stackoverflow.com/help/badges/5981/sql-injection) on Stack Overflow and I am eager to show the right way for PHP developers.

Besides, your questions let me make my articles even better, so you are more than welcome to ask any question you got.

[Click here to ask!](#)

## LATEST ARTICLE:

PHP Error Reporting (/articles/error\_reporting)

## SEE ALSO:

- > Top 10 PHP delusions (/top)
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- > How to check whether a value exists in a database using mysqli prepared statements (/mysqli/check\_value)
- > Warning: mysqli\_fetch\_assoc() expects parameter 1 to be mysqli\_result, boolean given. (/mysqli/expects\_parameter\_1\_to\_be\_mysqli\_result\_boolean\_given)
- > How to report errors in mysqli (/mysqli/error\_reporting)
- > Why mysqli prepared statements are so hard to use? (/mysqli/wtf)
- > How to get the number rows that has been actually changed (/mysqli/affected\_rows)
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- > How to run INSERT query using Mysqli (/mysqli/insert)

## LATEST COMMENTS:

18.04.20 00:46

**Lonestar Jack** for How to connect to MySQL using PDO:

(/pdo\_examples/connect\_to\_mysql#comment-846)

What is the best coding to use two queries on one page? One connection and then close it and do...

[read more \(/pdo\\_examples/connect\\_to\\_mysql#comment-846\)](#)

17.04.20 19:02

**Gregory Stathes** for How to use mysqli properly: (/mysqli#comment-845)

My issue is this, been trying to solve for days. And I am more than happy to pay for a solution,...

[read more \(/mysqli#comment-845\)](#)

16.04.20 20:47

**Phil** for How to use mysqli properly: (/mysqli#comment-844)

Which is better for performance mysqli or PDO?

[read more \(/mysqli#comment-844\)](#)

12.04.20 04:28

**eljaydee** for Mysqli examples: (/mysqli\_examples#comment-843)

I cannot make this work: I have been told a million times to "review your query" but cannot find...

[read more \(/mysqli\\_examples#comment-843\)](#)

12.04.20 04:27

**Elizabeth** for PDO Examples: (/pdo\_examples#comment-842)

Hi, my php programs which worked fine on my local server are now no longer passing through...

[read more \(/pdo\\_examples#comment-842\)](#)

Tweets by @ShrapnelCol (<https://twitter.com/ShrapnelCol>)

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### Markdown is now supported:

- > before and an empty line after for a quote
- four spaces to mark a block of code

Your name

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If you want to get a reply from admin, you may enter your E—mail address above

Send

## Comments:

Gregory Stathes, 17.04.20 19:02

My issue is this, been trying to solve for days. And I am more than happy to pay for a solution, its really holding me back.

I have a procedure, with many lines. When I put in the params in on phpMyAdmin, it returns 3 rows, great.

However, when I call from PHP, it only returns me 1. However, I have tons of other procedures that work with multi row responses.

I think it has something to do with `mysqli_stmt_next_result` being false, but `mysqli_stmt_more_results` being true.

Do you have any idea, and would you be willing to help me for some cash?

Thank you so much, you are definitely the best PHP guy on the web, given your gold stars, site, and presence on stack.

Thank you again!

- Greg

Phil, 16.04.20 20:47

Which is better for performance `mysqli` or `PDO`?

Tao, 03.08.19 14:50

Hi! Love how you easily explain how MySQL works, but I have a question, what is "s" and "ss"? Didn't understand why did you add that on bind\_param. Thanks!

Dharman, 26.06.19 02:00

Is `$stmt->get_result->fetch_assoc()`; an intentional typo to fight plagiarism or an honest mistake? I have seen few typos in your articles, but I assumed that if they were in a paragraph they were intentional to combat plagiarism, however if it is a code sample it could be accidental. Would it be possible to fix this one?

REPLY:

Hello Dharman, nice to see you here!

No, all typos are not intentional, so I'll be grateful if you drop a line if you see one. Usually I test the code before posting it but sometimes I neglect this rule and so the outcome :(

Thank you for this, it is fixed now.

Heather, 16.11.18 02:13

My server folks recently upgraded the mysql engine from MyISAM to InnoDB. I have a PHP script that queries the database, pulls a value, and passes it through a form to a script that updates the database. Now, `$_POST` will pass the correct value for older data, but will pass a blank value for anything that was put into the database since the switch, Any ideas why this would be happening?

REPLY:

Hello Heather!

The issue probably has nothing to do with the database engine (InnoDB) but I would say it does something to do with encodings.

You have to debug your process and spot the exact point where the value becomes empty. You should check every step, including all operations before and after saving the value in the database.

I could only guess the possible cause. Judging by symptoms, it could be `htmlspecialchars()` without the encoding parameter - it will silently make an empty string.

Feel free to check back if you won't find an answer, I'll try to think of something else

Dhananjay Kumar Yadav, 17.09.18 10:05

Well explained the concept of mysqli prepare statement. This blog is very specific and tells us the exact thing without beating around the bush.

R2D2, 25.05.18 16:22

Hi, i found a dead link in <https://phpdelusions.net/mysqli> (<https://phpdelusions.net/mysqli>) , called "database wrapper" and linking to <https://phpdelusions.net/pdo/wrapper> (<https://phpdelusions.net/pdo/wrapper>) Cheers Marty

luckyme, 04.04.18 08:10

Invalid argument supplied for foreach() can u solve this plz...

REPLY:

Hello luckyme

You need to check a variable passed to foreach. It should be an array but looks like it isn't