

PHP and MySQL

Part 1

The recipe

On every webpage that touches the database...

1. Create a Database Connection
2. Perform a Database Query*
3. Use Returned Data or Result (if any)
4. Release returned data (if any) - reset pointers
5. Close the Connection to the Database - for efficiency and security

* In SQL-speak: a *query* can both fetch or put data into a database

1. Create a Database Connection

- The first step is to open a connection to a database server.
- Do this with the `mysqli_connect()` function*
 - Usually "localhost" but database can run on a different host
 - This function *returns* a connection (an object) to the database
 - Best practice: move login info to a separate PHP Include file, not in the web root

```
$dbhost = "localhost";  
$dbuser = "dbuser";  
$dbpass = "coffee";  
$dbname = "mydatabase";
```

```
$connection = mysqli_connect($dbhost, $dbuser, $dbpass, $dbname);
```

*we use "mysqli" ...not "mysql"

2. Perform a Database Query

- In SQL create a database query
- In PHP use the `mysqli_query()` function to send the query to the open connection

```
$query = "SELECT * FROM myTable";
```

...or...

```
$query = "INSERT INTO myTable (myColumn) VALUES ('Hi World!')";
```

```
$result = mysqli_query($connection, $query);
```

3. Use Returned Data (if any)

- There are several functions available for retrieving the results of the query, or information *about* the results of the query. Three of the most commonly used are:
 - `mysqli_fetch_assoc()`
 - `mysqli_fetch_array()`
 - `mysqli_num_rows()` or `mysqli_affected_rows()`
- The result will end up in PHP as an array which can be looped and turned into HTML

```
while($data = mysqli_fetch_assoc($result)) {  
    echo $data["myColumn"];  
}
```

4. Release returned data (if any)

- The data is being held in memory so when you're done using it, it's good practice to release it so the memory can be used for other processing and the pointers in the database will be reset to their initial positions.

```
mysqli_free_result($result);
```

5. Closing the connection

- Although the connection to the database will be closed automatically when the script ends, it is a good idea to close it explicitly so that the connection is not tied up any longer than needed.

```
mysqli_close($connection);
```