PHP and MySQL

Part 1

The recipe

In PHP, the steps to basic database access are:

1. Create a Database Connection
2. Perform a Database Query
3. Use Returned Data or Result (if any)
4. Release returned data (if any)
5. Close the Connection to the Database

(Note that in SQL-speak: a query can both fetch data from a database or put data into a database.)

1. Create a Database Connection

- The first step is to open a connection to a database server. We do this with the mysqli_connect() function.
  - This function returns a link to the database. We can optionally specify what host the database server is running on (need not be the same as the web server), the port, socket, user, and password.

```
$dbhost = "localhost";
$dbuser = "root";
$dbpass = "";
$dbname = "exercise9";

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

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 simple";
$result = mysqli_query($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($subject = mysqli_fetch_assoc($result)) {
    echo $data["sampleData"];
}
```

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);
```