

Web Programming with The Laravel Framework

#4 - Model-View-Controller (MVC)

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Spaghetti Code

Spaghetti Code means mix all code in **one page**

```
1 <?php
2 session_start();
3 // act as persistence
4 $uName = "gerald";
5 // this is hash of "007" using md5;
6 $uPass = "9e94b15ed312fa42232fd87a55db0d39";
7
8 if(isset($_SESSION['login']) && ($_SESSION['login'] == true))
9     ){
10     if(isset($_POST['logout'])){
11         session_destroy();
12         header('Location: #');
13     }else{
14         ?>
15 <html>
16 <head>
17     <title>Welcome</title>
18 </head>
```

Listing: Form in login page – mvc/spaghetti.php



Spaghetti Code (cont.)

```
18 <body>
19 <h2>Welcome</h2>
20 <form action="#" method="post" target="_self">
21   <fieldset>
22     <legend>User</legend>
23     <input type="hidden" name="logout">
24     <input type="submit" value="Logout">
25   </fieldset>
26 </form>
27 </body>
28 </html>
29 <?php
30   }
31 }else{
32   if(isset($_POST["uName"]) && isset($_POST["uPassw"])){
33     if(($_POST["uName"] == $uName) && (md5($_POST["uPassw"])
34       == $uPass)){
35       $_SESSION['login'] = true;
```

Listing: Form in login page – mvc/spaghetti.php



Spaghetti Code (cont.)

```
35     header("Location: #");
36 }
37 }
38 ?>
39
40 <html>
41   <head>
42     <title>Login</title>
43   </head>
44   <body>
45     <h2>The Witcher</h2>
46     <form action="#" method="post" target="_self">
47       <fieldset>
48         <legend>Login</legend>
49         <label for="uNameId">Username:</label>
50         <input type="text" id="uNameId" name="uName"><br><br>
51         <label for="passwId">Password:</label>
```

Listing: Form in login page – mvc/spaghetti.php



Spaghetti Code (cont.)

```
52     <input type="password" id="passwId" name="uPassw"><br>
53     <input type="submit" value="Login">
54 </fieldset>
55 </form>
56 </body>
57 </html>
58
59 <?php
60 }
61 ?>
```

Listing: Form in login page – mvc/spaghetti.php



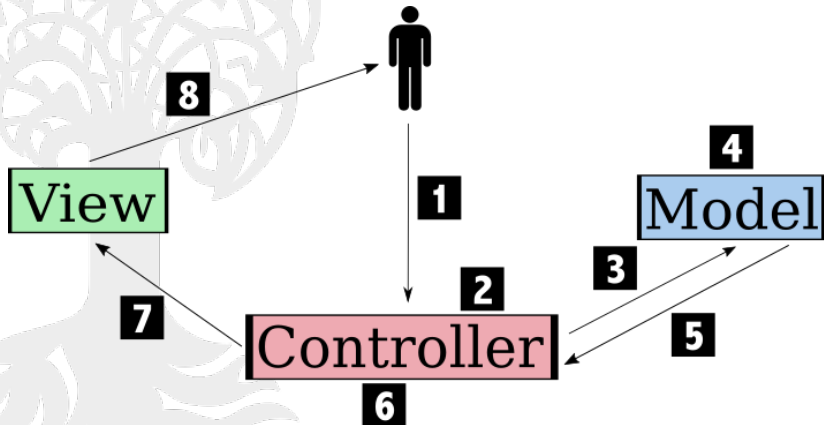
MVC

MVC, is a pattern in software design that split the code and group it into:

- **Model (M)**, business logic and manages data.
- **View (V)**, handles layout and display.
- **Controller**, routes commands to the model and view parts.



How it works



How it works

- 1 Request from user, ex. sending information view web-form, trigger view link or address to controller.
- 2 Processing data in controller.
- 3 C-Request, it can be get or update data.
- 4 M-Process, processing C-Request in model.
- 5 M-Response, sending information to controller.
- 6 C-Process, processing information.
- 7 C-Update, update view.
- 8 V-Response, display UI to user.



Splitting the Code

Let's design the application using the MVC pattern by splitting the code *mvc/spaghetti.php* into:

- 1 controller.php
- 2 model.php
- 3 view_login.html
- 4 view_logged_in.html



Controller

```
1 <?php
2 require_once "model.php";
3 if(isset($_SESSION['login']) && ($_SESSION['login'] == true))
4     ){
5     if(isset($_POST['logout'])){
6         session_destroy();
7         header('Location: #');
8     }else{
9         $uNameLogin = "Gerald";
10        require_once "view_logged_in.html";
11    }
12 }else{
13     if(isset($_POST["uName"]) && isset($_POST["uPassw"])){
14         if(checkUser($_POST["uName"], $_POST["uPassw"])){
15             $_SESSION['login'] = true;
16             header("Location: #");
17         }
18     }
19     require_once "view_login.html";
20 }
21 ?>
```

Listing: controller – mvc/controller.php



Model

```
1 <?php
2 session_start();
3
4 function checkUser($uname, $upass){
5     // act as persistence
6     $uName = "gerald";
7     // this is hash of "007" using md5;
8     $uPass = "9e94b15ed312fa42232fd87a55db0d39";
9
10    $check = false;
11
12    if(($uname == $uName) && (md5($upass) == $uPass)){
13        $check = true;
14    }
15    return $check;
16 }
17 ?>
```

Listing: model – mvc/model.php



View - Login

```
1 <html>
2
3 <head>
4   <title>Login</title>
5 </head>
6
7 <body>
8   <h2>The Witcher</h2>
9   <form action="#" method="post" target="_self">
10     <fieldset>
11       <legend>Login</legend>
12       <label for="uNameId">Username:</label>
13       <input type="text" id="uNameId" name="uName"><br><br>
14       <label for="passwId">Password:</label>
15       <input type="password" id="passwId" name="uPassw"><br>
16       <input type="submit" value="Login">
17     </fieldset>
18   </form>
19 </body>
20
21 </html>
```

Listing: view – mvc/view_login.php



View - Logged In

```
1 <html>
2
3 <head>
4   <title>Welcome</title>
5 </head>
6
7 <body>
8   <h2>Welcome ,
9     <?php echo $uNameLogin ; ?>
10 </h2>
11   <form action="#" method="post" target="_self">
12     <fieldset>
13       <legend>User</legend>
14       <input type="hidden" name="logout">
15       <input type="submit" value="Logout">
16     </fieldset>
17   </form>
18 </body>
19
20 </html>
```

Listing: view – mvc/view_logged_in.php

