

# 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



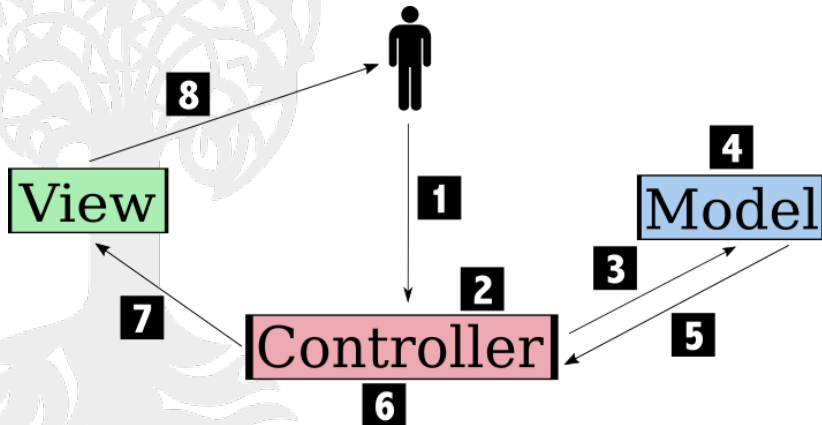
# MVC

**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 with web-form), trigger from link in view 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="controller.php" method="post" target="_self"
10     >
11     <fieldset>
12       <legend>Login</legend>
13       <label for="uNameId">Username:</label>
14       <input type="text" id="uNameId" name="uName"><br><br>
15       <label for="passwId">Password:</label>
16       <input type="password" id="passwId" name="uPassw"><br>
17       <input type="submit" value="Login">
18     </fieldset>
19   </form>
20 </body>
21 </html>
```



# 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="controller.php" method="post" target="_self"
12   >
13   <fieldset>
14     <legend>User</legend>
15     <input type="hidden" name="logout">
16     <input type="submit" value="Logout">
17   </fieldset>
18 </form>
19 </body>
20 </html>
```

Listing: view – mvc/view\_logged\_in.php

