

# **Technical Manual**

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## Getting Started:

1. Download the provided zip file containing several .php files, database, and instruction text files.
2. If Mersey extract the zip file to public\_html directory.
3. Laysrr\_CW2\_cover.txt has the hostname, username, password and database information required to alter config.php to connect the database to the server.
4. Then navigate to <http://mersey.cs.nott.ac.uk/~laysrr/login.php> to start the website.
5. If XAMPP then select Apache, phpMyAdmin, MySQL, php when installing the latest version at <https://www.apachefriends.org/index.html>
6. Extract the zip files to C:\xampp\htdocs and navigate to C:\xampp\htdocs to view database.
7. Navigate to <http://localhost/police/login.php> to start the website.
8. To view source code, use your chose IDE e.g., VSCode to open the .php files in the folder extracted.

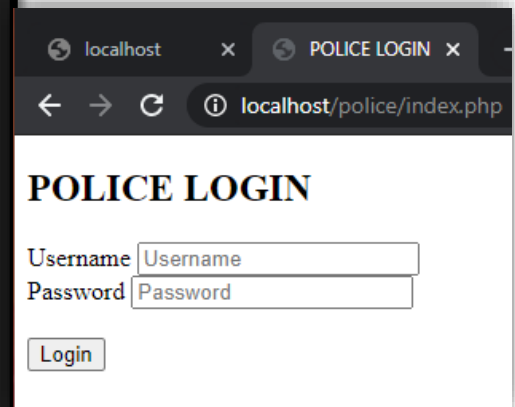
## Q1: Connecting the database (config.php<sup>[1]</sup>)

```
config.php > ...
1  <?php
2  // PHP script in order to connect to the MySQL database server
3
4  $sname= "localhost";
5  $uname= "root";
6  $password = "";
7  $db = "dis_cw2";
8
9  // Attempt to connect to MySQL database
10 $conn = mysqli_connect($sname, $uname, $password, $db);
11
12 // Check connection
13 if (!$conn) {
14     echo "Connection failed!";
15 }
```

Frontend (html) for the Police login website design (backend is on the next page). CSS not implemented to

```
index.php > ...
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>POLICE LOGIN</title>
5  </head>
6  <body>
7      <form action="login.php" method="post">
8          <h2>POLICE LOGIN</h2>
9          <?php if (isset($_GET['error'])) { ?>
10             <p class="error"><?php echo $_GET['error']; ?></p>
11             <?php } ?>
12             <label>Username</label>
13             <input type="text" name="uname" placeholder="Username"><br>
14             <label>Password</label>
15             <input type="password" name="password" placeholder="Password"><br>
16             <br><button type="submit">Login</button></br>
17         </form>
18     </body>
19 </html>
```

achieve a minimalistic look.



Logout backend (comments explain the php code)

```
logout.php
1  <?php
2  // Initialise the session
3  session_start();
4
5  // Unset all of the session variables
6  session_unset();
7  // Destroy the session.
8  session_destroy();
9
10 // Redirect user
11 header("Location: index.php");
```

Session variables stores user information to be used across multiple web pages. **session.start()** creates a session or resumes the current one based on session identifier passed via POST requests (more info further down the manual)<sup>[6]</sup>.

## 1.1 Login.php<sup>[1]</sup>

```
login.php > ...
1  <?php
2  session_start();
3  include "config.php";    // Include config file
4
5  // Validate form data when form is entered
6  if (isset($_POST['uname']) && isset($_POST['password'])) {
7
8      // Validate credentials
9      function validate($data){
10         $data = trim($data);           //whitespace removed
11         $data = stripslashes($data);  //backslash removed
12         $data = htmlspecialchars($data); //convert special chars to HTML entities
13         return $data;
14     }
15     $uname = validate($_POST['uname']);
16     $pass = validate($_POST['password']);
17
18     // Check if username or password is empty
19     if (empty($uname)) {
20         header("Location: index.php?error=Username is required!");
21         exit();
22     }else if(empty($pass)){
23         header("Location: index.php?error=Password is required!");
24         exit();
25     }else{
26
27         // police database select statement for username and password
28         $sql = "SELECT * FROM police WHERE username='$uname' AND password='$pass'";
29
30         $result = mysqli_query($conn, $sql);
31
32         // Check if username exists, if yes then verify password
33         if (mysqli_num_rows($result) === 1) {
34             $row = mysqli_fetch_assoc($result);
35             if ($row['username'] === $uname && $row['password'] === $pass) {
36                 $_SESSION['username'] = $row['username'];
37                 $_SESSION['id'] = $row['id'];
38                 header("Location: home.php");
39                 exit();
40             }else{
41                 // Incorrect username or password, the user will see this
42                 header("Location: index.php?error=Incorrect username or password please t");
43                 exit();
44             }
45         }else{
46             // Incorrect username or password, the user will see this
47             header("Location: index.php?error=Incorrect username or password please try a");
48             exit();
49         }
50     }
51 }
52 }else{
53     // Redirect user
54     header("Location: index.php");
55     exit();
56 }
```

## 1.2 Home.php

```
home.php > ...
1  <?php
2  session_start();
3  // Validate user is logged in
4  if (isset($_SESSION['id']) && isset($_SESSION['username'])) {
5
6  }
7  <!DOCTYPE html>
8  <html>
9  <head>
10     <title>POLICE HUB</title>
11 </head>
12 <body>
13     <h1>POLICE HUB </h1>
14     <h2>Hello <?php echo $_SESSION['username']; ?></h2>
15     <h3> People database: </h3>
16
17     <form method="post" action="search.php">
18
19         <input type="text" name="keywords" placeholder="People name or licence...">
20         <input type="submit" name="submit" value="Search">
21         <br><br>
22     </form>
23
24     <h3> Vehicle database: </h3>
25
26     <form method="post" action="vehicle.php">
27
28         <input type="text" name="keywords" placeholder="Vehicle licence plate...">
29         <input type="submit" name="submit" value="Search">
30
31     </form>
32
33     <h4> Insert new vehicle and people data:</h4>
34
35     <form method="post" action="insert.php">
36
37         <input type="text" name="type" placeholder="Vehicle Type..."> <br>
38         <input type="text" name="colour" placeholder="Vehicle Colour..."> <br>
39         <input type="text" name="licence" placeholder="Vehicle licence number..."> <br>
40         <input type="text" name="people" placeholder="People name..."> <br>
41         <input type="text" name="address" placeholder="People address..."> <br>
42         <input type="text" name="peoplelicence" placeholder="People licence..."> <br>
43
44         <br> <input type="submit" name="submit" value="Insert data">
45
46     </form>
47
48     <nav class="incident-nav">
49
50         <br> <h3> Report an incident: </h3>
51
52         <a href="incident.php">File a Report for an Incident</a><br>
53
54     </nav>
55
56     <nav class="home-nav">
57
58         <br><br><br><a href="changePass.php">Change Password</a><br>
59         <br><a href="logout.php">Logout</a><br>
60
61     </nav>
62 </body>
63 </html>
64
65 <?php
66 }else{
67     // redirect user
68     header("Location: index.php");
69     exit();

```

localhost x POLICE HUB x

localhost/police/home.php

# POLICE HUB

Hello Regan

People database:

People name or licence... Search

Vehicle database:

Vehicle licence plate... Search

Insert new vehicle and people data:

Vehicle Type...
Vehicle Colour...
Vehicle licence number...
People name...
People address...
People licence...

Insert data

Report an incident:

[File a Report for an Incident](#)

[Change Password](#)

[Logout](#)

### 1.3 changepassword.php<sup>[1]</sup>

```
changePass.php > ...
1  <?php
2  session_start();
3
4  // Validate form data when form is entered
5  if (isset($_SESSION['id']) && isset($_SESSION['username'])) {
6
7      ?>
8  <!DOCTYPE html>
9  <html>
10 <head>
11     <title>Change Password</title>
12
13 </head>
14 <body>
15     <form action="changePw.php" method="post">
16         <h2>Change Password</h2>
17         <?php if (isset($_GET['error'])) { ?>
18             <p class="error"><?php echo $_GET['error']; ?></p>
19         <?php } ?>
20
21         <?php if (isset($_GET['success'])) { ?>
22             <p class="success"><?php echo $_GET['success']; ?></p>
23         <?php } ?>
24
25         <label>Old Password</label>
26         <input type="password"
27             name="op"
28             placeholder="Old Password">
29         <br>
30
31         <label>New Password</label>
32         <input type="password"
33             name="np"
34             placeholder="New Password">
35         <br>
36
37         <label>Confirm New Password</label>
38         <input type="password"
39             name="c_np"
40             placeholder="Confirm New Password">
41         <br>
42
43         <br><button type="submit">CHANGE</button></br>
44         <br><a href="home.php" class="ca">HOME</a></br>
45     </form>
46 </body>
47 </html>
48
49 <?php
50 }else
51     exit( int $status ): void
52     exit();
53 }
54 ?>
```

localhost Change Passv x + - □ ×

localhost/police/changePass.php ☆ ⓘ

## Change Password

Old Password

New Password

Confirm New Password

[HOME](#)

```

changePw.php > ...
1  <?php
2  //session store information (in variables) to be used across multiple pages.
3  session_start();
4
5  if (isset($_SESSION['id']) && isset($_SESSION['username'])) {
6
7      include "config.php";
8
9  if (isset($_POST['op']) && isset($_POST['np'])
10     && isset($_POST['c_np'])) {
11
12     function validate($data){
13         $data = trim($data);           //whitespace removed
14         $data = stripslashes($data);   //backslash removed
15         $data = htmlspecialchars($data); //convert special chars to HTML entities
16         return $data;
17     }
18     // collect form data after submitting an HTML form with method="post" refer to changePass.php
19     $op = validate($_POST['op']);
20     $np = validate($_POST['np']);
21     $c_np = validate($_POST['c_np']);
22
23     if(empty($op)){ // if this field is empty
24         header("Location: changePass.php?error=Old Password is required");
25         exit();
26     }else if(empty($np)){ // if this field is empty
27         header("Location: changePass.php?error=New Password is required");
28         exit();
29     }else if($np != $c_np){ // if new password does not match new password confirmation
30         header("Location: changePass.php?error=The new passwords does not match");
31         exit();
32     }else {
33         $id = $_SESSION['id'];
34
35         // police database select query for username and password
36         $sql = "SELECT password FROM police WHERE id='$id' AND password='$op'";
37         $result = mysqli_query($conn, $sql);
38         if(mysqli_num_rows($result) == 1){
39
40             // police database UPDATE query for password
41             $sql_2 = "UPDATE police SET password='$np' WHERE id='$id'";
42             mysqli_query($conn, $sql_2);
43             header("Location: changePass.php?success=Your password has been changed successfully");
44             exit();
45
46         }else { // if password is incorrect
47             header("Location: changePass.php?error=Incorrect password");
48             exit();
49         }
50     }
51 }else{ // redirect user to changePass.php
52     header("Location: changePass.php");
53     exit();
54 }
55 }else{ // redirect user to index.php
56     header("Location: index.php");
57     exit();
58 }

```

## Change Password

Old Password is required

Old Password

New Password

Confirm New Password

[HOME](#)

## Change Password

The new passwords does not match

Old Password

New Password

Confirm New Password

[HOME](#)

## Change Password

Your password has been changed successfully

Old Password

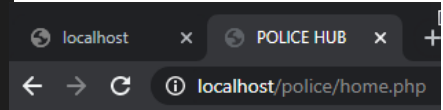
New Password

Confirm New Password

[HOME](#)

Q2: search.php<sup>[2]</sup> (looks up people in the database) | Q3:vehicle.php<sup>[2,3]</sup>

```
search.php > ...
1  <?php
2  include "config.php";
3
4  // Validate form data when form is entered
5  if (isset($_POST['keywords'])) {
6
7      $keywords = $conn->escape_string($_POST['keywords']);
8
9      // construct the SELECT query
10     $query = $conn->query("SELECT * FROM people WHERE People_name LIKE '%$keywords%'
11     OR People_licence LIKE '$keywords%'");
12
13
14     if($query->num_rows) {
15         while($r = $query->fetch_object()) {
16
17             // output people_name, people_address, people_licence
18             echo "<tr><td>". $r->People_name . "</td><td> <br>" .
19             $r->People_address . "</td><td> <br> " .
20             $r->People_licence . "</td><td> <br><br>";
21         }
22     } else // if query result is empty
23     {
24         echo "Database is empty";
25     }
26
27     mysqli_close($conn);
28 }
```



## POLICE HUB

Hello Regan

People database:

Vehicle database:

Insert new vehicle and people data:

Vehicle Type...
Vehicle Colour...
Vehicle licence number...
People name...
People address...
People licence...

Report an incident:

[File a Report for an Incident](#)

[Change Password](#)

[Logout](#)

```
vehicle.php > ...
1  <?php
2  include "config.php";
3
4  // Validate form data when form is entered
5  if (isset($_POST['keywords'])) {
6
7      $keywords = $conn->escape_string($_POST['keywords']);
8
9      // construct the SELECT query by joining tables through ownership
10     $query = "SELECT ownership.People_ID, ownership.Vehicle_ID,
11     people.People_name, people.People_licence,
12     vehicle.Vehicle_type, vehicle.Vehicle_colour, vehicle.Vehicle_licence
13     FROM ownership JOIN people ON ownership.People_ID = people.People_ID
14     JOIN vehicle ON ownership.Vehicle_ID = vehicle.Vehicle_ID
15     WHERE Vehicle_licence LIKE '%$keywords%'";
16
17     $result = $conn->query($query);
18
19     if($result->num_rows) {
20         while($r = $result->fetch_object()) {
21
22             // output Vehicle type, colour and licence, people_name, people_licence
23             echo "<tr><td>". $r->People_name . "</td><td> <br>" .
24             $r->People_licence . "</td><td> <br>" .
25             "<tr><td>". "Vehicle Type: " . $r->Vehicle_type .
26             "</td><td> <br>". "Vehicle Colour: " . $r->Vehicle_colour .
27             "</td><td> <br>". "Vehicle Licence: " . $r->Vehicle_licence . "</td><td>
28         }
29     } else // if query result is empty
30     {
31         echo "Database is empty";
32     }
33     mysqli_close($conn);
34 }
```

Check User manual provided  
for further information on  
features.



#### Q4: Insert.php<sup>[3]</sup>

```
insert.php > ...
1  <?php
2  include "config.php";
3
4  $type = $_POST['type'];
5  $colour = $_POST['colour'];
6  $licence = $_POST['licence'];
7  $people = $_POST['people'];
8  $address = $_POST['address'];
9  $peoplelicence = $_POST['peoplelicence'];
10
11 //Insert new data into two different tables
12 $sql = "INSERT INTO vehicle (Vehicle_type, Vehicle_colour, Vehicle_licence)
13 VALUES ('$type', '$colour', '$licence') ;
14 INSERT INTO people (People_name, People_address, People_licence)
15 | VALUES ('$people', '$address', '$peoplelicence') ";
16
17 mysqli_multi_query($conn, $sql);
18
19 header("Location: home.php?Insertion=success!");
20
```

\$\_POST is a PHP super global variable used to collect form data after clicking the submit button on an HTML form with method="post". \$\_POST is also widely used to pass variables.

The query statement joins multiple tables by matching the People\_ID and Vehicle\_ID through the ownership table in the "Dis\_cw2" database.

```
report.php > ...
1  <?php
2  include "config.php";
3
4  $report = $_POST['report'];
5  $time = $_POST['time'];
6  $description = $_POST['description'];
7
8  $type = $_POST['type'];
9  $colour = $_POST['colour'];
10 $licence = $_POST['licence'];
11 $people = $_POST['people'];
12 $address = $_POST['address'];
13 $peoplelicence = $_POST['peoplelicence'];
14
15 $sql = "INSERT INTO incident (Incident_Report, Incident_Date)
16 VALUES ('$report', '$time') ;
17 INSERT INTO offence (Offence_description)
18 VALUES ('$description') ;
19 INSERT INTO vehicle (Vehicle_type, Vehicle_colour, Vehicle_licence)
20 VALUES ('$type', '$colour', '$licence') ;
21 INSERT INTO people (People_name, People_address, People_licence)
22 | VALUES ('$people', '$address', '$peoplelicence');
23 ";
24
25 mysqli_multi_query($conn, $sql);
26
27 header("Location: incident.php?Insertion=success!");
28
29 ?>
```

mysqli\_multi\_query can perform on multiple queries with the same variable assigned (queries separated with semi colons) on the database.

successfully inserting new data changes the link for the user to visually confirm the change.

## Q5. Incident.php

```
incident.php > ...
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5  <h1>File Incident</h1>
6
7  <form method="post" action="report.php">
8
9      <h3> Report Incident </h3>
10     <textarea cols="40" rows="5" name="report" placeholder="Incident Statement..."></textarea>
11     <h4> Time of incident </h4>
12     <input type="text" name="time" placeholder="YYYY-MM-DD"> <br>
13
14     <h4> Type of Offence </h4>
15     <select name="Offence">
16         <option value="">List of offences:</option>
17         <option value="1">Speeding</option>
18         <option value="2">Speeding on a motorway</option>
19         <option value="3">Seatbelt offence</option>
20         <option value="4">Illegal parking</option>
21         <option value="5">Drink driving</option>
22         <option value="6">Driving without a licence</option>
23         <option value="7">Driving without a licence</option>
24         <option value="8">Traffic light offences</option>
25         <option value="9">Cycling on pavement</option>
26         <option value="10">Failure to have control of vehicle</option>
27         <option value="11">Dangerous driving</option>
28         <option value="12">Careless driving</option>
29         <option value="12">Dangerous cycling</option>
30     </select> <br>
31
32     <br><input type="text" name="description" placeholder="State the Offence selected"> <br>
33
34     <h4> Vehicle </h4>
35     <input type="text" name="type" placeholder="Vehicle Type..."> <br>
36     <input type="text" name="colour" placeholder="Vehicle Colour..."> <br>
37     <input type="text" name="licence" placeholder="Vehicle licence number..."> <br>
38
39
40     <h4> Person details </h4>
41     <input type="text" name="people" placeholder="People name..."> <br>
42     <input type="text" name="address" placeholder="People address..."> <br>
43     <input type="text" name="peoplelicence" placeholder="People licence..."> <br>
44
45     <br> <input type="submit" name="submit" value="Insert data">
46
47 </form>
48
49
50
51 <nav class="home-nav">
52
53 <br><br><br><a href="edit.php">Retrieve and Edit Reports</a></br>
54
55 </nav>
56
57 </body>
58 </html>
```

localhost x localhost/pol x +

localhost/police/incident.php

# File Incident

## Report Incident

Incident Statement...

### Time of incident

YYYY-MM-DD

### Type of Offence

List of offences: ▼

State the Offence selected

### Vehicle

Vehicle Type...

Vehicle Colour...

Vehicle licence number...

### Person details

People name...

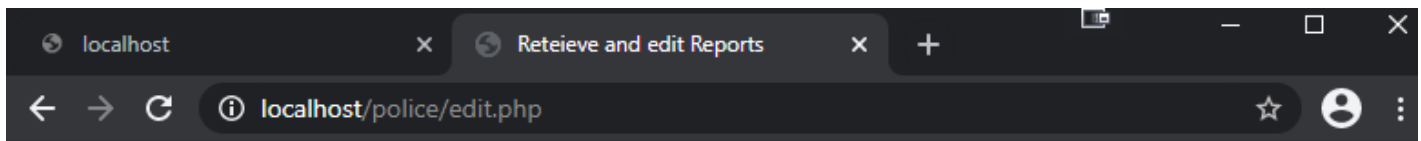
People address...

People licence...

Insert data

[Retrieve and Edit Reports](#)

## 5.1 edit.php<sup>[4]</sup>



### List of Incidents

Incident_ID	Vehicle ID	People ID	Date of incident	Report statement	Offence ID	Edit
4	14	2	2017-08-22	Failure to stop at a red light - travelling 25mph	8	<a href="#">Edit</a>
3	13	4	2017-09-17	110mph on motorway	1	<a href="#">Edit</a>
5	13	4	2017-10-17	Not wearing a seatbelt on the M1	3	<a href="#">Edit</a>
2	20	8	2017-11-01	Double parked	4	<a href="#">Edit</a>
1	15	4	2017-12-01	40mph in a 30 limit	1	<a href="#">Edit</a>

## 5.2

```
edit.php > ...
1  <!DOCTYPE html>
2  <html>
3  <head>
4  |   <title>Reteieve and edit Reports</title>
5  </head>
6  <body>
7
8  <h2>List of Incidents</h2>
9
10 <table border="1">
11 |   <tr>
12 |     <td>Incident_ID</td>
13 |     <td>Vehicle ID</td>
14 |     <td>People ID</td>
15 |     <td>Date of incident</td>
16 |     <td>Report statement</td>
17 |     <td>Offence ID</td>
18 |     <td>Edit</td>
19 |   </tr>
20 </table>
21
22 <?php
23
24 include "config.php"; // Using database connection file here
25
26 $records = mysqli_query($conn,"SELECT * FROM incident ORDER BY Incident_Date"); // fetch data from database
27
28 while($data = mysqli_fetch_array($records))
29 {
30   ?>
31   <tr>
32 |     <td><?php echo $data['Incident_ID']; ?></td>
33 |     <td><?php echo $data['Vehicle_ID']; ?></td>
34 |     <td><?php echo $data['People_ID']; ?></td>
35 |     <td><?php echo $data['Incident_Date']; ?></td>
36 |     <td><?php echo $data['Incident_Report']; ?></td>
37 |     <td><?php echo $data['Offence_ID']; ?></td>
38 |     <td><a href="editcode.php?id=<?php echo $data['Incident_ID']; ?>">Edit</a></td>
39 |   </tr>
40 </table>
41 }
42 ?>
43 </table>
44 </body>
45 </html>
```

## Editcode.php<sup>[4]</sup>

```
editcode.php > ...
1
2 <html>
3 <head>
4 <title>Edit Report statements</title>
5 <h1>Edit Report statements</h1>
6 </head>
7 <body>
8 <?php
9 if(isset($_POST['update'])) {
10
11     include "config.php";
12
13     $id = $_POST['Incident_ID'];
14     $report = $_POST['Incident_Report'];
15     $date = $_POST['Incident_Date'];
16
17     $sql = mysqli_query($conn,"UPDATE incident SET Incident_Report = '$report',
18 Incident_Date='$date' WHERE Incident_ID = $id");
19
20     if(! $sql ) {
21         die('Could not update data: ' . mysqli_error($conn));
22     }
23     // redirect user
24     header("Location: edit.php");
25
26 }else {
27     ?>
28     <form method = "post" action = "<?php $_PHP_SELF ?>">
29         <tr>
30             <td width = "100">Incident ID</td>
31             <td><input name = "Incident_ID" type = "text"
32                 id = "Incident_ID"></td><br><br>
33         </tr>
34         <tr>
35             <td width = "100">Incident Report</td>
36             <td><input name = "Incident_Report" type = "text"
37                 id = "Incident_Report" placeholder="Incident Statement..."></td><br><br>
38         </tr>
39         <tr>
40             <td width = "100">Date of Incident</td>
41             <td><input name = "Incident_Date" type = "text"
42                 id = "Incident_Date" placeholder="YYYY-MM-DD"> </td><br><br>
43         </tr>
44         <tr>
45             <td>
46                 <input name = "update" type = "submit"
47                     id = "update" value = "Update">
48             </td><br><br><br>
49         </tr>
50     </form>
51     <a href="edit.php">Back to retrieve and edit reports</a></br>
52 <?php
53 }
54 ?>
55 </body>
56 </html>
```

localhost Edit Report statements

localhost/police/editcode.php?id=4

### Edit Report statements

Incident ID

Incident Report

Date of Incident

[Back to retrieve and edit reports](#)

## References (Inspiration of code – modified to suit the needs of this coursework)

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