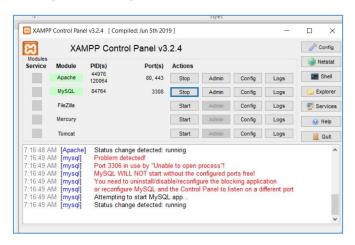
KH4065CEM Lab 8 (P2): CRUD Applicaation

Start Apache and MySQL

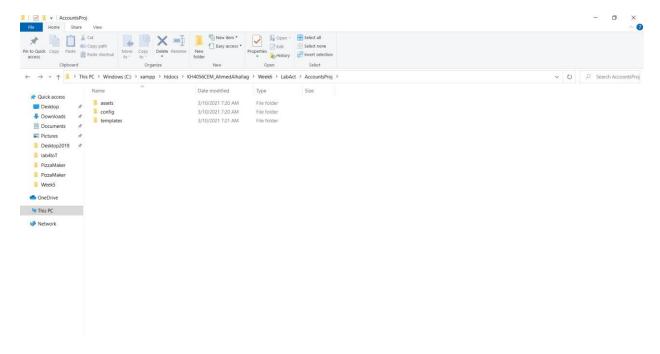


Make sure to have the following path as a project folder:

xampp → htdocs → KH4056CEM_<YourName> → Week 6 → LabAct → AccountsProj

Inside the **AccountsProj** folder create the project folders structure we discussed from before:

- assets
- templates
- config



Copy the css files from the "boiler_plate_w6" folder (after you extract) on Moodle's Week 6. Paste them in the assets folder you created.

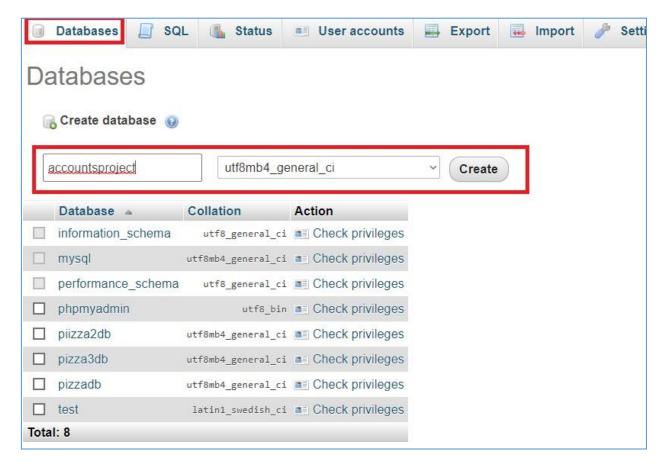
Open the project folder, **AccountsProj**, in Atom. Browse to its location in the xampp directory.

Open 'XAMPP Control Panel', start the Apache server to serve the php files for use in the browser.

Start the MySQL server to host our databases and tables.

Click on 'Admin' beside the MySQL channel to open the database management system (DBMS) interface, or 'phpmyadmin'.

From 'Databases', Create a database and call it "accountsproject"



Create a table and call it 'account' let it have 8 columns



Got the SQL tab and insert the following values:



SQL Query:

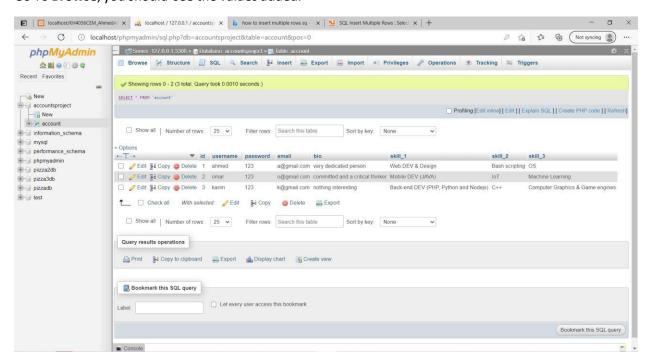
INSERT INTO account(username,password,email,bio,skill_1,skill_2,skill_3)
VALUES

("ahmed","123","a@gmail.com","very dedicated person", "Web DEV & Design", "Bash scripting","OS"),

("omar", "123", "o@gmail.com", "committed and a critical thinker", "Mobile DEV (JAVA)", "IoT", "Machine Learning"),

("karim", "123", "k@gmail.com", "nothing interesting", "Back-end DEV (PHP, Python and Nodejs)", "C++", "Computer Graphics & Game engines");

Go To **Browse**, you should see the values added.



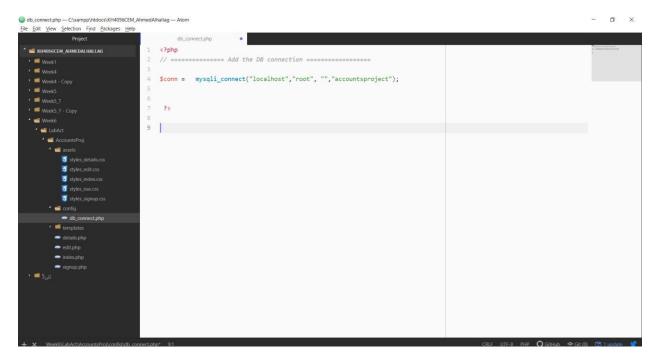
In Atom, inside the config folder, Create a file called db_connect.php



Write the following line to create the connection to the MySQL server and to the database we created.

PHP statement:

```
$conn = mysqli_connect("localhost","root", "","accountsproject");
```



Create an **index.php** directly under the project's folder directory. Create the php and html portions in the document.

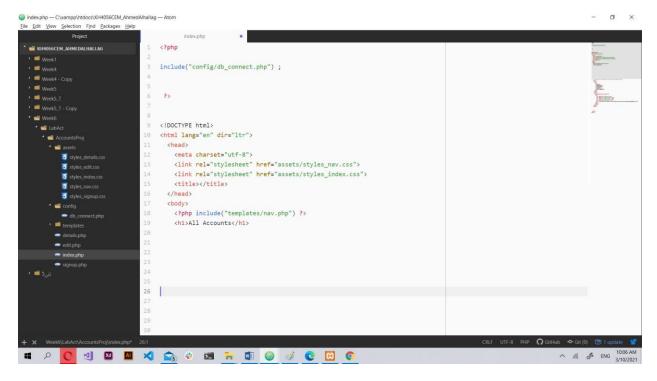


In the PHP portion, include the connection file from config.

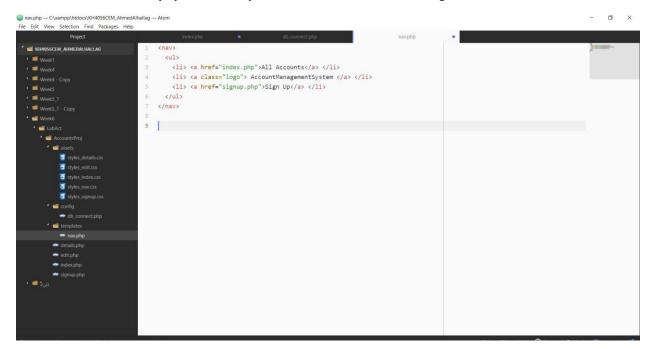
In the HTML portion, Include the navigation bar file, **nav.php** from the **templates** folder (will be created shortly).

Write down the links needed for styling from the assets folder.

Add a heading.



Create a file called 'nav.php' in the templates folder. Write the following lines in it:



Perform the Read operation from CRUD:

Go back to the **index.php**, And write the following lines. (You don't have to write down the comments)

```
index.php — C:\xampp\htdocs\KH4056CEM_AhmedAlhallag — Atom
File Edit View Selection Find Packages Help
                                             index.php
                                   4 include("config/db_connect.php");
                                  8 $sql = "SELECT * FROM account" ; // prepares query's body in a variable called sql
                                  9 $results = mysqli_query($conn,$sql) ; // send query to db and returns rows (selection)
                                  10 $rows = mysqli_fetch_all($results,MYSQLI_ASSOC) ;// transforms return results into an indexable format
                                  mysqli_free_result($results);//frees unneeded variables
                                  12 mysqli_close($conn);//closes connection to db
                                  16
                                       <!DOCTYPE html>
                                  18 <html lang="en" dir="ltr">
                                       <head>
                                         <meta charset="utf-8">
                                         <link rel="stylesheet" href="assets/styles_nav.css">
                                         <link rel="stylesheet" href="assets/styles_index.css">
                                         <title></title>
                                        </head>
                                        <body>
                                         <?php include("templates/nav.php") ?>
                                          <h1>All Accounts</h1>
```

In the HTML portion again, create a table with five headers or columns as follows:

```
<!DOCTYPE html>
<html lang="en" dir="ltr">
 <head>
   <meta charset="utf-8">
   <link rel="stylesheet" href="assets/styles_nav.css">
   <link rel="stylesheet" href="assets/styles_index.css">
 </head>
 <body>
   <?php include("templates/nav.php") ?>
   <h1>All Accounts</h1>
                   data retrieved (R from CRUD) from database's table -->
   <thead>
       ID
        username
        password
        email
        More Details
      </thead>
```

Check how the page looks so far on the browser.

To figure out the working path or URL, In Atom right click on the index.php and choose "Show in File Explorer"

Once the folder which the file is at has opened, copy the following path (NO WHITE SPACES SHOULD BE PRESENT IN ALL YOUR FILES OR FOLDERS NAMES)



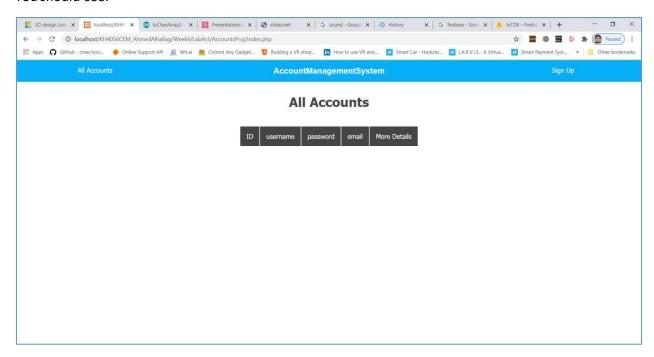
In your browser, paste the copied segment after localhost/.

Example:

localhost/KH4056CEM AhmedAlhallag\Week6\LabAct\AccountsProj/

And hit enter.

You should see:



Now Populate the data using a foreach loop. The loop should generate a table row (tr), every time It executes. Within every row created, we will create 5 data cells (td), respectively for every column.

The first 4 data cells, will map to the value under each column in the database's 'account' table. This fifth will be a link that will take us to each individual's account page.

```
<thead>
   ID
    username
    password
    email
    More Details
   </thead>
 Underlined in orange keys, maps
                                   exactly to the column names you
   <?php foreach ($rows as $row) { ?>
                                   created in the table. Any miss-
                                   spelling will cause an error
       <?php echo $row['id'] ?> 
       <?php echo $row['username'] ?> 
       <?php echo $row['password'] ?> 
       <?php echo $row['email'] ?> 
       <a class="button" href=""> View More Details</a> 
    <?php } ?>
```

Notice that the link for the anchor tag (href) is still empty. We need to create a details.php page for every account. It does not make sense to "literally" create a details.php for every account/row in database like this:

```
Details_id_1.php
Details_id_2.php
```

And so on ...

Instead, we will rely on "Query Strings", where only a dingle details page is created, and it has it's content rendered dynamically from a small attached parameter in from the URL. For example:

```
'AccountsProj/details.php?id=1

/AccountsProj/details.php?id=3
```

/AccountsProj/details.php<u>?id=2</u>

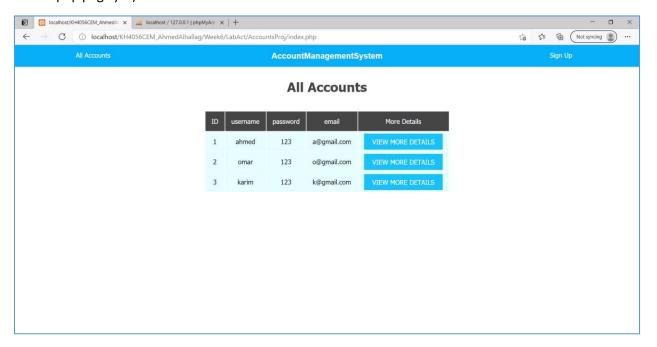
Notice how a query string is written:

/<filename>.php?<parameter of your choice> = <value>

The parameter name after the question mark, id, can be named to your liking, as long as it stays consistent across all pages/routes.

Since we already have access to ids retrieved from db, attach the value of the id grabbed from the database after the equal sign.

You Should see the following: (if you click on the links nothing will happen since we didn't create the details.php page yet)



Perform the Create operation from CRUD:

In the project's directory, create a signup.php page.

Create the php portion and html portions in the document like from before.

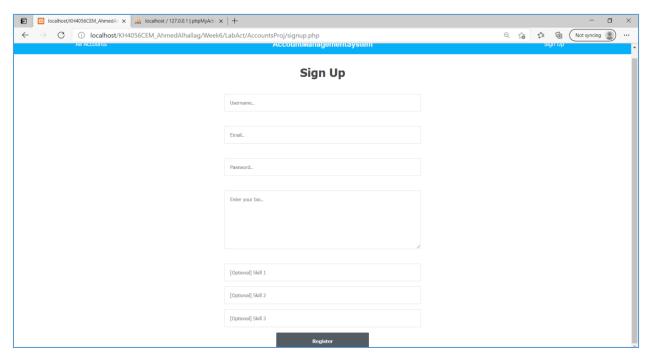
Add the db connections, nav bar, styles and a heading.

Create the following form.

Notice the name of every input field; these will be used to fetch the values from the HTML input fields which the user will enter.

Notice the name if the submit-type-input, 'signup', this is what will be used to send the data from all input fields values and redirect them back to the php portion of the same signup.php page (hence the action is set to the same page's name) that we are in once we click in the submit button.

You should see this if you refreshed in browser on the signup.php page:



In the php portion, check if the submit button that has the name 'signup' that we gave in the HTML part was clicked using the isset function. Note the protocol or the medium we are using to forward values from a page to the other is the POST method.

```
signup.php — C:\xampp\htdocs\KH4056CEM_AhmedAlhallag — Atom
                                                                                                                                                                               o ×
  KH4056CEM AHMEDALHALLAG
  → Week1
                                          include('config/db_connect.php');
                                          // ======== Check if submit button with name 'signup' was clicked ====
                                          if (isset($_POST['signup'])){
                                          <!DOCTYPE html>
                                          <html lang="en" dir="ltr">
                                              <meta charset="utf-8">
                                              <link rel="stylesheet" href="assets/styles_nav.css">
                                              <link rel="stylesheet" href="assets/styles_signup.css">
                                               <title></title>
                                             </head>
                                             <body>
                                               <?php include('templates/nav.php') ?>
                                               <h1>Sign Up </h1>
                                               <form class="" action="signup.php" method="post">
    <input type="text" name="username" value="" placeholder="Username..">
```

Since the insertion method used in the SQL languages inserts whole rows, we need to make sure that every value fetched from the post method by the page once we hit on the submit button, is valid.

Start by validating the username.

Validation used in this tutorial are for emptiness and existence. Elaborate validation levels based on your project.

What if it was not empty? Next validation check: User should not be already existent in database.

Remember we created our username column to have the 'UNIQUE' index, so inserting a redundant value will cause an error. We need to avoid that.

```
if (isset($ POST['signup'])){
 // ====== username: validate non-empty and non-existant ========
 if (empty($_POST['username'])){
   // failure
   $errors['username'] = "Field must not be blank!";
 else{
   // Store value
 $username = $_POST['username'];
 // check if exists
 $sq1 = "SELECT * FROM account WHERE username = '$username'";
 $found = mysqli_query($conn,$sql);
   if (mysqli_num_rows($found) > 0){
                                                   if user exists, update
     $errors['username'] = "Already Exists!";
                                                   error message under
                                                   'username' key
}
```

What If it was not empty and user is not in the database? Then the user value should be valid.

```
if (isset($_POST['signup'])){
 // ====== username: validate non-empty and non-existant =====
  if (empty($_POST['username'])){
   // failure
   $errors['username'] = "Field must not be blank!";
  }
  else{
   // Store value
  $username = $_POST['username'];
 // check if exists
  $sql = "SELECT * FROM account WHERE username = '$username'";
  $found = mysqli_query($conn,$sql);
   if (mysqli_num_rows($found) > 0){
     $errors['username'] = "Already Exists!";
   else{
   // success
    $username_isValid = true ;
```

Make sure to initialize the following variables at the start:

Next validate the email. Start by making sure the email value in the input field named "email" is not fetched by the post method when submit button is clicked is not empty.

```
- 0 ×
signup.php — C:\xampp\htdocs\KH4056CEM_AhmedAlhallag — Atom
File Edit View Selection Find Packages Help
  KH4056CEM AHMEDALHALLAG
                                             $errors['username'] = "Already Exists!";
  ▶ ■ Week1
                                           elsef
                                            $username_isValid = true ;
                                         // ======== email: validate non-empty & validity & non-existance ========
                                       if (empty($_POST['email'])){
                                         $errors['email'] = "Field must not be blank!";
                                  40 } else{
41 // Sto
                                         // Store Value
                                         $email = $_POST['email'];
                                   44
                                   46
                                        <!DOCTYPE html>
```

If not empty, then check if the pattern entered is valid:



If valid, lastly perform the same existence check since it has an index of "UNIQUE" as well in database.

```
- o ×
signup.php — C:\xampp\htdocs\KH4056CEM_AhmedAlhallag — Atom
                                                                        signup.php •
                                             // ========= email: validate non-empty & validity & non-existance =
   KH4056CEM AHMEDALHALLAG
                                       36 if (empty($_POST['email'])){
                                             $errors['email'] = "Field must not be blank!";
  → ■ Week5
→ ■ Week5_T
                                      38
                                       40 } else{
                                            // Store Value
$email = $_POST['email'];
                                              // check if valid
                                             if (!filter_var($email,FILTER_VALIDATE_EMAIL)){
         * 📹 assets
                                               $errors['email'] = "Email is invalid";
                                              } else{
                                       48
                                                // check if exists in db
$sql = "SELECT * FROM account WHERE email = '$email'";
            styles_signup.css
                                                $found = mysqli_query($conn,$sql);
if (mysqli_num_rows($found) > 0){
                                                // user exist
Serrors['email'] = "Already Exists!";
} else{
                                                // success
$email_isValid = true ;
                                       58
                                       60 }
```

For the password we need just to make sure that it is not empty:

```
signup.php — C\xampp\\\tdocs\KH4056CEM_A\text{hmedAlhallag} — Atom File Edit View Selection Find Packages Help
                                                                                                                                                                                      - o ×
               Project
                                        59
  → ■ Week4 - Copy
→ ■ Week5
                                       60 }
61
                                              // ========== password: validate non-empty ==========
     a 📹 LabAct
                                             if (empty($_POST['password'])){
          assets
                                               $errors['password'] = "Field must not be blank!";
                                        69
70
             styles_nav.css
                                                // Store value
                                               $password = $_POST['password'];
                                                $password_isValid = true ;
                                        77
                                        80
                                        81
```

Same for the bio:

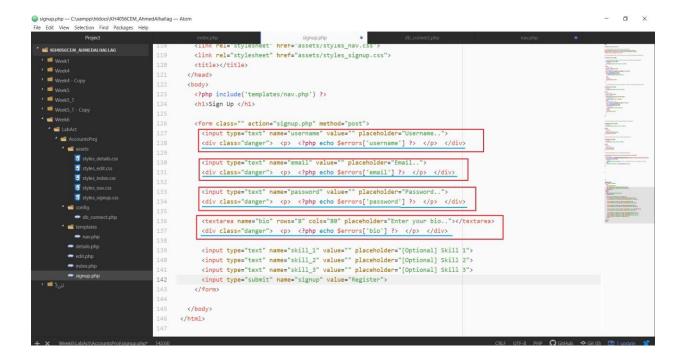
```
- 0 ×
                                                   signup.php •
massword: validate non-empty
  KH4056CEM AHMEDALHALLAG
                              if (empty($_POST['password'])){
                                $errors['password'] = "Field must not be blank!";
                                // Store value
                                $password = $_POST['password'];
                                $password_isValid = true ;
                                if (empty($_POST['bio'])){
                                $errors['bio'] = "Field must not be blank!";
                           82
                                // Store value
                                $bio = $_POST['bio'];
                                $bio_isValid = true ;
                           89
```

Now send to database:

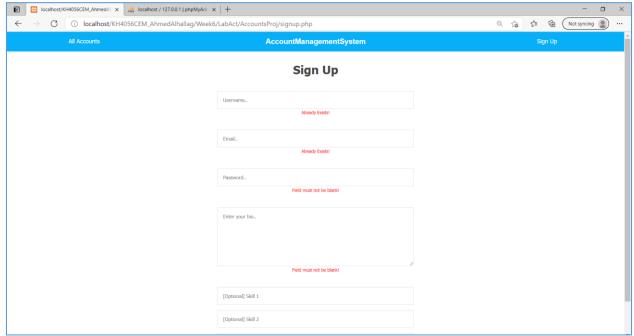


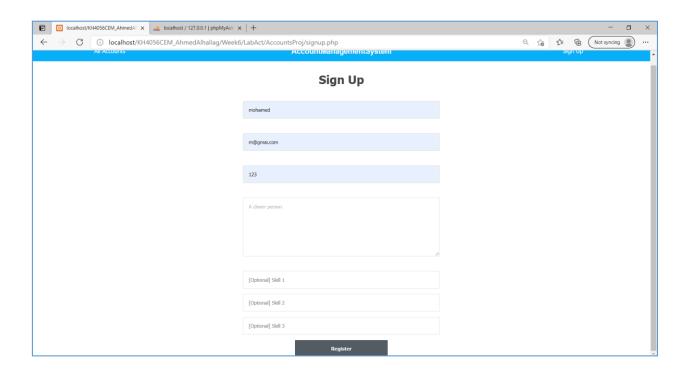
To see the error messages we created for each edge case, we need to display it in the HTML document.

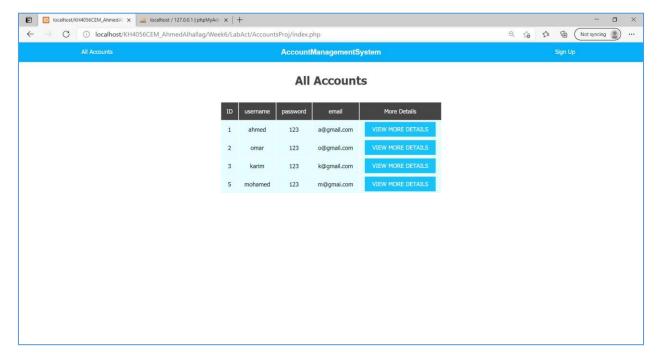
Under each input field from the 4 that cater for, create a div with a class of 'danger', then inside of it create a tag that holds the \$error key-value pair for each input



Check the validations you made on the sign up page and see if it works or not.







Now create the details.php page under your project directory so we can see each indivudual's personal data.

Set it up as follows:

So remember from the index.php we had each anchor tag's href having a format of:

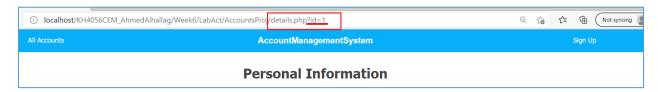
```
<
```

This means that the query string, ?id=<value>, will be sent to the detail.php page every time we visit it by clicking on that link.

Go to the home page and try clicking on the link now.

All Accounts				
ID	username	password	email	More Details
1	ahmed	123	a@gmail.com	VIEW MORE DETAILS
2	omar	123	o@gmail.com	VIEW MORE DETAILS
3	karim	123	k@gmail.com	VIEW MORE DETAILS
5	mohamed	123	m@gmai.com	VIEW MORE DETAILS

Check the URL:



If we can grab the id value from the url to our php portion in the details.php page, then we can easily query the db for the rest of information using the id.

The question is, how to fetch that id form the query string?

Using the \$_GET['id'] array (entering and going to URLs or links are just GET requests by the end of the day!)

Note: the name you gave the query string parameter, id in this case, from the index page, should be the index used for the \$_GET associative array.

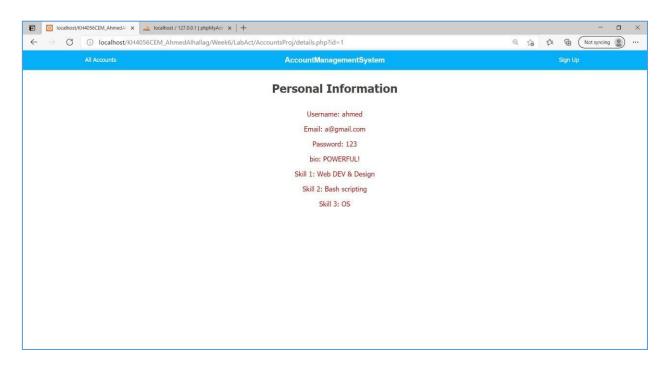
```
details.php — C\xampp\htdocs\KH4056CEM_AhmedAlhallag — Atom
File Edit View Selection Find Packages Help
Project
                                                                                                                                                                                                              - o ×
   include('config/db_connect.php');
                                             5  if (isset($_GET['id'])) {
6    $id = $_GET['id'];
7    $sql = "SELECT * FROM ac
                                                  $id = $_GET['id'];
$sql = "SELECT * FROM account WHERE id = $id";
                                                    $result = mysqli_query($conn,$sql);
                                                    $row = mysqli_fetch_assoc($result);
                                            12
               o styles_details.css
of styles_edit.css
of styles_index.css
of styles_nav.css
of styles_signup.css
                                            16
17
                                                   <!DOCTYPE html>
                                                   <html lang="en" dir="ltr">
                                                    <head>
                                                        <meta charset="utf-8">
                                                       <title></title>
                                                       k rel="stylesheet" href="assets/styles_nav.css">
                                                       <link rel="stylesheet" href="assets/styles_details.css">
                                                       <body>
                                                        <?php include("templates/nav.php") ?>
                                                         <h1>Personal Information</h1>
```

Render the values in h3 tags.

Notice the conditional, this is to make sure that the returned row actually in the database and actually contains something.

```
<body>
   <?php include("templates/nav.php") ?>
   <h1>Personal Information</h1>
   <?php if ($row) {?>
     <h3>Username: <?php echo $row['username']; ?></h3>
     <h3>Email: <?php echo $row['email']; ?></h3>
     <h3>Password: <?php echo $row['password']; ?></h3>
     <h3>bio: <?php echo $row['bio']; ?></h3>
     <h3>Skill 1: <?php echo $row['skill_1']; ?></h3>
     <h3>Skill 2: <?php echo $row['skill 2']; ?></h3>
     <h3>Skill 3: <?php echo $row['skill_3']; ?></h3>
     <div>
  <?php }else{ ?>
    <h2>No Information Found</h2>
  <?php } ?>
</body>
```

Refresh the page:



Perform the Delete operation from CRUD:

Create a form specifically for deleting as follows:

General Rule: the action should always be the page your at.

```
<!-- Display -->
<?php if ($row) {?>
  <h3>Username: <?php echo $row['username']; ?></h3>
  <h3>Email: <?php echo $row['email']; ?></h3>
  <h3>Password: <?php echo $row['password']; ?></h3>
  <h3>bio: <?php echo $row['bio']; ?></h3>
  <h3>Skill 1: <?php echo $row['skill_1']; ?></h3>
  <h3>Skill 2: <?php echo $row['skill_2']; ?></h3>
  <h3>Skill 3: <?php echo $row['skill_3']; ?></h3>
  <div>
                                                       extremely important!
  <form class="" action="details.php" method="post">
   <input type="hidden" name="id_to_delete" value="<?php echo $row['id']; ?>">
     <input type="submit" name="delete" value="DELETE">
   </form>
<?php }else{ ?>
 <h2>No Information Found</h2>
<?php } ?>
```

Since the details.php is not really good on it's own without a query string, it makes more sense to add the id parameter of the query string after the details.php right?

Answer is yes BUT when the purpose is to delete, then there is no value of adding the id to the details page, since the whole route of, for example ?id=2, would be eventually delete; so you don't really need to be specific in this case.

IMPORTANT:

- The id fetched from the get request and saved into the variable \$id will be used to populate the hidden input field value from the above image, because once you trigger the delete form by clicking the type submit button, that id will be needed again to be used to figure out which row is that row from the db.
- The id fetched from the get request and saved into the variable \$id, will eventually die due to scope. That's why we can no longer use it.
- So as we said, we populate it into the field, then we go back and fetch it once the post request is fired due to clicking the submit button named 'delete'

Now add the logic for sending the delete query on submission.

```
details.php — C:\xampp\htdocs\KH4056CEM_AhmedAlhallag — Atom
                                                                                                                                                                    - o ×
File Edit View Selection Find Packages Help

── KH4056CEM_AHMEDALHALLAG

                                        include('config/db_connect.php');
                                    5 if (isset($_GET['id'])) {
                                         $sql = "SELECT * FROM account WHERE id = $id" ;
                                         $result = mysqli_query($conn,$sql);
                                         $row = mysqli_fetch_assoc($result);
                                        if (isset($ POST['delete'])){
                                          $id_to_delete = $_POST['id_to_delete'];
                                          $sql = "DELETE FROM account WHERE id = $id_to_delete";
                                         if (mysqli_query($conn,$sql)){
                                            header('Location: index.php');
                                         } else{
                                            echo "ERROR DELETION: " . mysqli_error($conn) . "<br>";
                                   22
                                         <!DOCTYPE html>
                                         <html lang="en" dir="ltr">
                                             <meta charset="utf-8">
```

Go to the page and try to delete the last record. It should work.

Activity:

Add an "Edit" button that, using the same fashion, should to take you to an 'edit.php' page with the current accountid you are using in the for the details.php?id=2.

So the href in that edit button should be as follows:

Hint: put it inside a div.

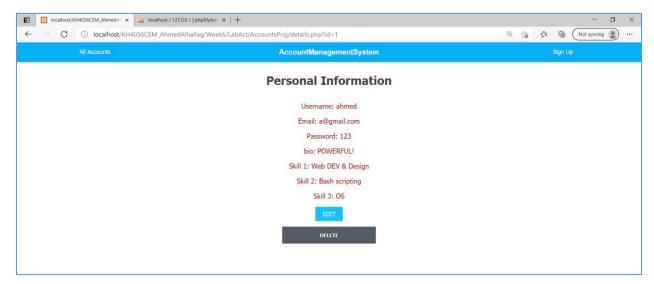
```
<h1>Personal Information</h1>
          <!-- Display -->
            <h3>Username: <?php echo <pre>$row['username']; ?></h3>
            <h3>Email: <?php echo $row['email']; ?></h3>
            <h3>Password: <?php echo $row['password']; ?></h3>
            <h3>bio: <?php echo $row['bio']; ?></h3>
            <h3>Skill 1: <?php echo $row['skill_1']; ?></h3>
            <h3>Skill 2: <?php echo $row['skill_2']; ?></h3>
<h3>Skill 3: <?php echo $row['skill_3']; ?></h3>
              <a class="button" href="edit.php?id=<?php echo $row['id']; ?>">EDIT</a>
          </div>
50
            <form class="" action="details.php" method="post">
             <input type="hidden" name="id_to_delete" value="<?php echo $row['id']; ?>">
              <input type="submit" name="delete" value="DELETE">
            </form>
55
         <?php }else{ ?>
```

Create the edit.php page accordingly.

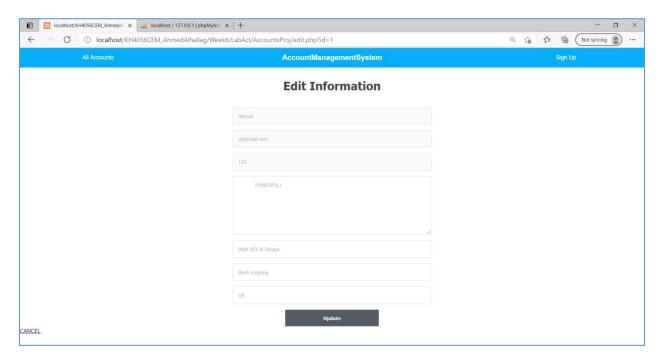
- The edit page should display username, email, password as disabled inputfields.
- User should be able to update ANY of the following fields: bio, skill_1, skill_2, skill_3 and hit
 on update.
- The edit page should have a cancel button that take you back to index.php when clicked.

The pages should look likes this:

- details.php (notice the edit button)

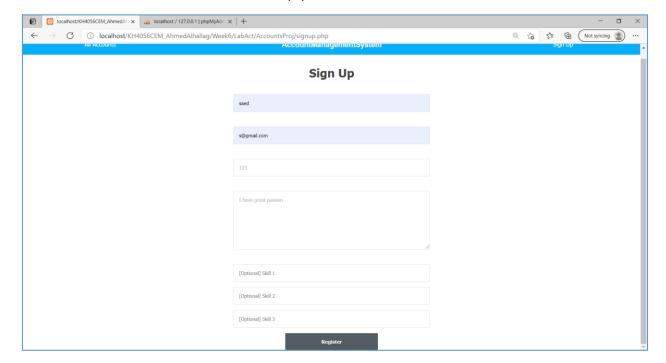


edit.php

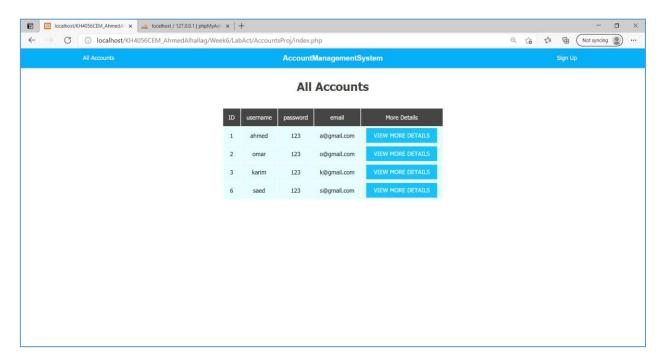


Testing:

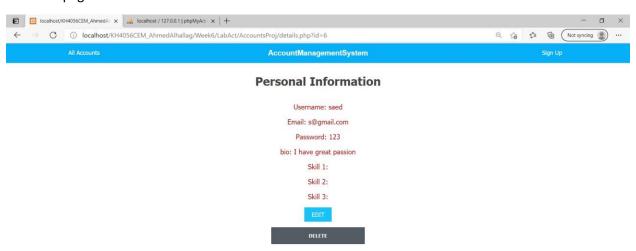
Create a new account and leave the skills empty.



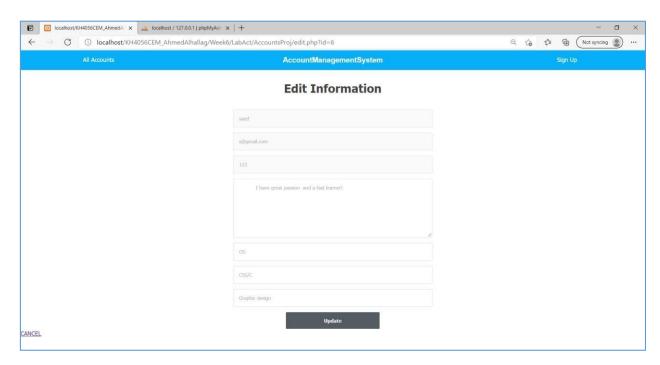
You should see the entry



Go to his page details.



Click on Edit, enter any new values and hot update:



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