

TASK 01 | Create the **Users** table in the MySQL database

- 1) Create a **Users** table in MySQL containing 9 columns as shown on the logical ERD (see logical ERD file on Blackboard) and according to the specifications below.

Field	Type	Length/values	Default	Default value	Null	Index	Auto Increment (A_I)
userId	int	4	None		NOT NULL	PRIMARY	Yes
userType	varchar	1	None		NOT NULL	--	No
userFName	varchar	50	None		NOT NULL	--	No
userSName	varchar	50	None		NOT NULL	--	No
userAddress	varchar	50	None		NOT NULL	--	No
userPostCode	varchar	50	None		NOT NULL	--	No
userTelNo	varchar	50	None		NOT NULL	--	No
userEmail	varchar	50	None		NOT NULL	--	No
userPassword	varchar	50	None		NOT NULL	--	No

1ST METHOD: Write SQL Code (if you have prior experience in SQL and/or taken the 5COSC002W Database Systems module in semester 1)

- Open the file on the H:\Drive called **homteq_db_tables.sql** where you previously stored your SQL scripts.
- Type the SQL DDL code to create the **Users** table as specified above. Remember to create a primary key constraint.

```
CREATE TABLE Users
```



Make sure you name your table **Users** and not **User** as is a reserved keyword in SQL.

```
(
```

```
);
```

- Paste the code in the SQL window in PHPMyAdmin and run it.

2ND METHOD: Use the PHPMyAdmin GUI (if you have no prior experience in SQL and not taken the 5COSC002W Database Systems module in semester 1)

- Select your database **w1234567_0** on the left hand-side. Under **Create new table on database** type in the name **Users** and enter number of columns **9** and click **Go**.
- Create your **Users** table fields by entering the information specified above.
- In order to ensure referential integrity, make sure that **Storage Engine** is **InnoDB**.

d) Click *Save*.

TASK 02 Create the **SIGNUP** page to prompt the user to enter their personal details so that they can sign up and create an account

- 1) Go to your H:\homteq folder and, in the same folder, copy and paste your **template.php** file and rename the copy to **signup.php**
- 2) Open **signup.php** in Notepad++, change the content of the **\$pagename** variable to “Sign Up”.
- 3) Right at the top of **signup.php**, right under the PHP opening tag, add the following instruction to initiate the session: `session_start();`
- 4) Under the display of the page name in the <h4> tag, create a registration form to allow the user to enter their personal details in the users table.
 - a) The form should direct the user to a **signup_process.php** file (specify this file in the action attribute) and post the values to that file (use the post method).
 - b) The form should be made of 7 text fields to capture the personal details (it excludes the User Id and the User Type as they are automatically entered).
 - c) The form should appear within a HTML table for greater readability.

Hint: For any help creating the form, please refer to Tutorial 03 Task 03 where a small form was created.

- 5) Upload the **signup.php** file using WinSCP. Access your INDEX page and click on the “Sign Up” link on the navigation bar to view the SIGNUP page.

You should be able to see a display similar to this:

TASK 03 | Create the **SIGNUP PROCESS** page to capture the user's personal details as entered in the form and store them in the **Users** table in the database

- 1) Go to your H:\homteq folder and, in the same folder, copy and paste your **template.php** file and rename the copy to **signup_process.php**
- 2) Open **signup_process.php** in Notepad++, change the content of the **\$pagename** variable to "Your Sign Up Results".
- 3) Right at the top of **signup_process.php**, right under the PHP opening tag, add the following instruction to initiate the session: `session_start();`
- 4) Right under the initiation of the session, add the following instruction to connect to the database: `include("db.php");`
- 5) Under the display of the name of the page in the <h4> tag, write the code that will capture the values entered in the form using the **\$_POST** superglobal variable and that will insert these values in the users database table, as shown on the pseudocode below.

PSEUDOCODE

```
//Capture the 7 inputs entered in the 7 fields of the form using the $_POST superglobal variable
//Store these details into a set of 7 new local variables

//Write a SQL query to insert a new user into users table
//The SQL code for inserting a new record is
//INSERT INTO table_name (field1, field2, field3) VALUES (value1, value2, value3)
//Execute the INSERT INTO SQL query
```

- 6) Access your SIGNUP page, enter a customer's personal details in the form and click the "Sign Up" submit button.
 - a) When clicking on the submit button you should be displayed an empty registration confirmation page (for now).
 - b) When viewing the content of the **Users** table in MySQL you should be able to see a display similar to this (assuming that you have entered the details of Mr Donald Duck in your form).

Users Table in MySQL

Show: 30 row(s) starting from record # 0

in horizontal

mode and repeat headers after 100 cells

↔T↔	userId	userType	userFName	userSName	userAddress	userPostcode	userTelNo	userEmail	userPassword
<input type="checkbox"/> <input type="text"/> <input type="text"/>	2		Donald	Duck	2 Disney Rd	N2 5DY	02079115000	donald@disney.com	123

TASK 04 | Modify the **SIGNUP PROCESS** page to verify the validity of the user's details entered in the form before storing them in the **Users** table in the database

1) Modify **signup_process.php** so that it checks the following things:

a) No fields in the form should be left empty.

(hint: use the empty function)

b) The 2 entered passwords should match.

(hint: compare the 2 password variables using the == operator)

c) The email address should be in the right format.

(hint: define a regular expression and use the preg_match function)

d) The email address should be unique and should not have been used before.

(hint: use the mysqli_errno function and the error number 1062)

e) No invalid characters such as apostrophes like ['] and backslashes like [\] should be accepted.

(hint: use the mysqli_errno function and the error number 1064)

Your code should reflect the following pseudo-code:

PSEUDOCODE

```
//if the mandatory fields in the form (all fields) are not empty (hint: use the empty function)
{
    //if the 2 entered passwords do not match
    {
        //Display error passwords not matching message
        //Display a link back to register page
    }
    //else
    {
        //define regular expression
        //if email matches the regular expression (hint: use preg_match)
        {
            //Write SQL query to insert a new user into users table and execute SQL query
            //Execute INSERT INTO SQL query

            //Return the SQL execution error number using the error detector (hint: use mysqli_errno($conn))

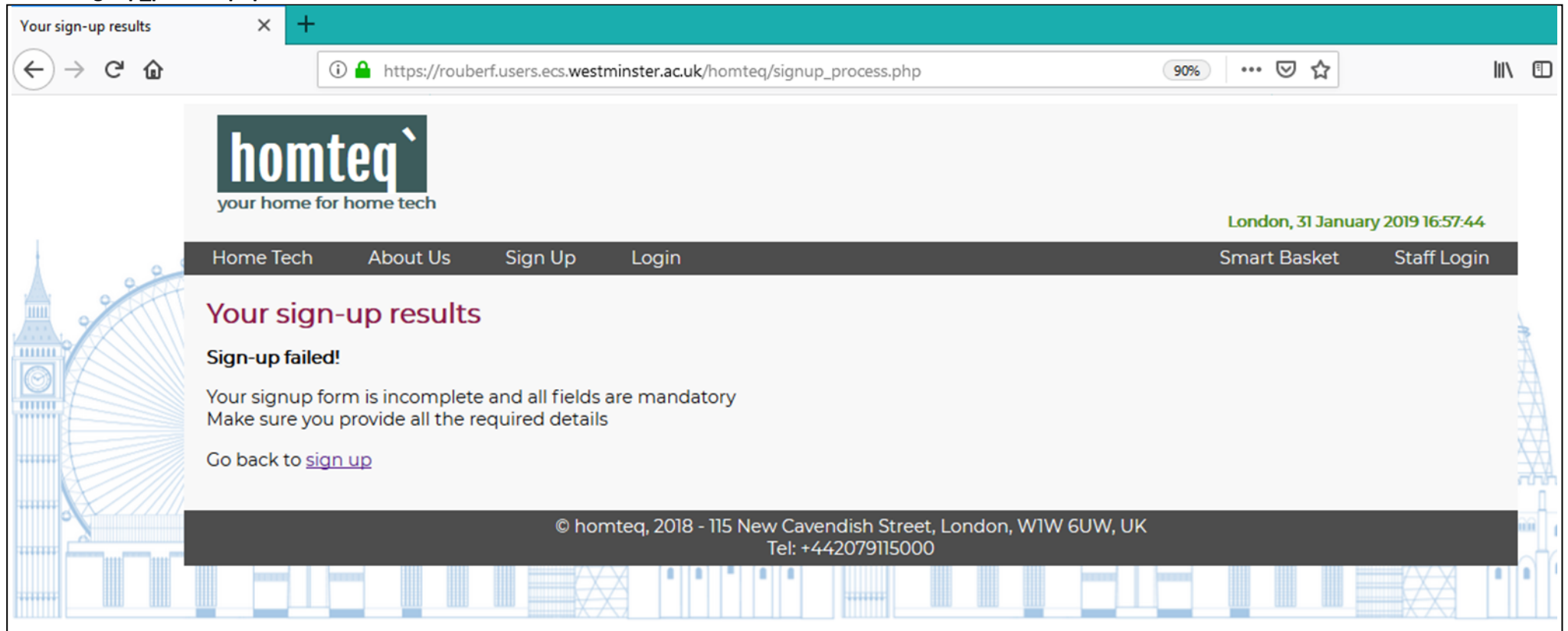
            //if the error detector returns the number 0, everything is fine
            {
                //Display registration confirmation message
                //Display a link to login page
            }
            //else, which means if the error detector does not return the number 0, there is a problem
            {
                //Display generic error message
                //if error detector returned number 1062 i.e. unique constraint on the email is breached
                //(meaning that the user entered an email which already existed)
                {
                    //Display email already taken error message & display a link back to signup page
                }
                //if error detector returned number 1064 i.e. invalid characters such as ' and \ have been entered
                {
                    //Display invalid characters error message & display a link back to signup page
                }
            }
        }
        //else
        {
            //Display "email not in the right format" message and link back to signup page
        }
    }
}
//else
{
    //Display "all mandatory fields need to be filled in " message and link back to signup page
}
```

TASK 05 | Test the **SIGNUP** and the **SIGNUP PROCESS** pages to check that the user's inputs are validated before being stored in the **Users** table in the database

- 1) Access the **SIGNUP** page, enter the details for a new user but leave blank at least one field in the form.

When clicking on the "Sign Up" submit button, you should get a display similar to this:

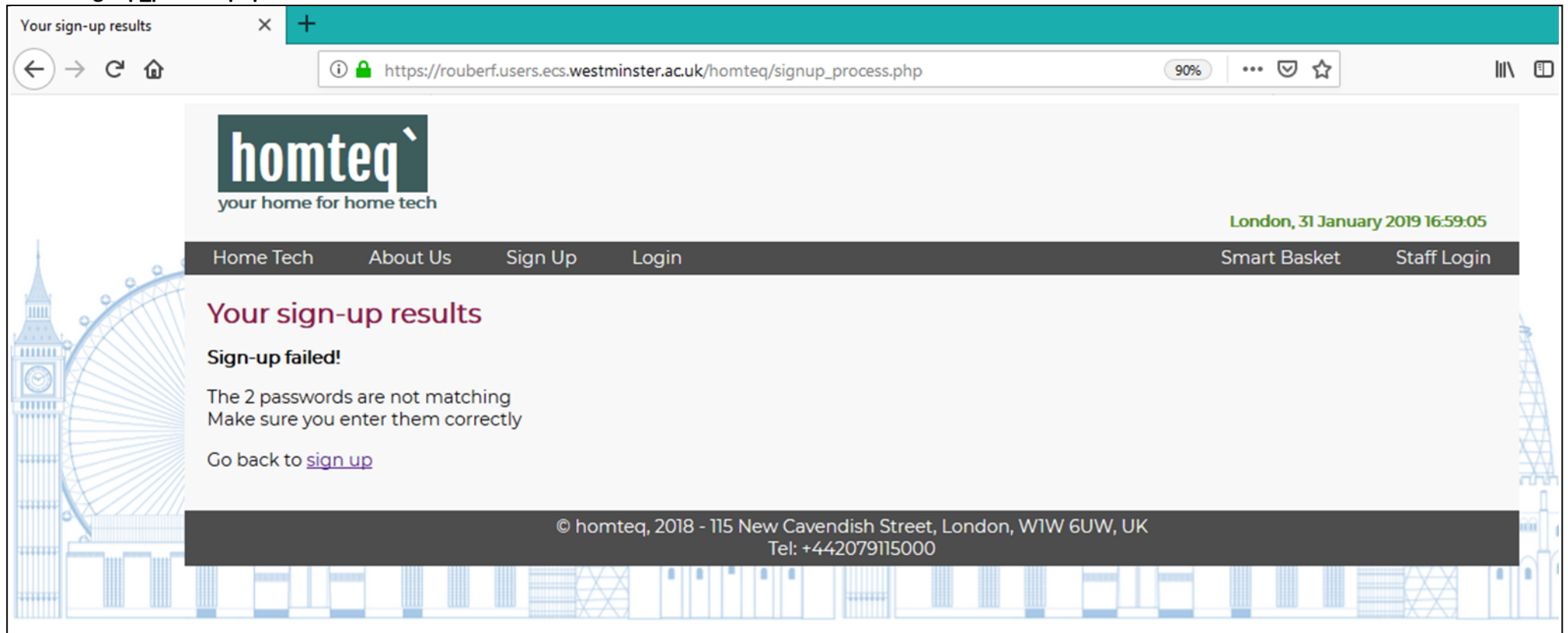
signup_process.php



2) Access the **SIGNUP** page and enter the details for a new user but enter 2 passwords that do not match.

When clicking on the “Sign Up” submit button, you should get a display similar to this:

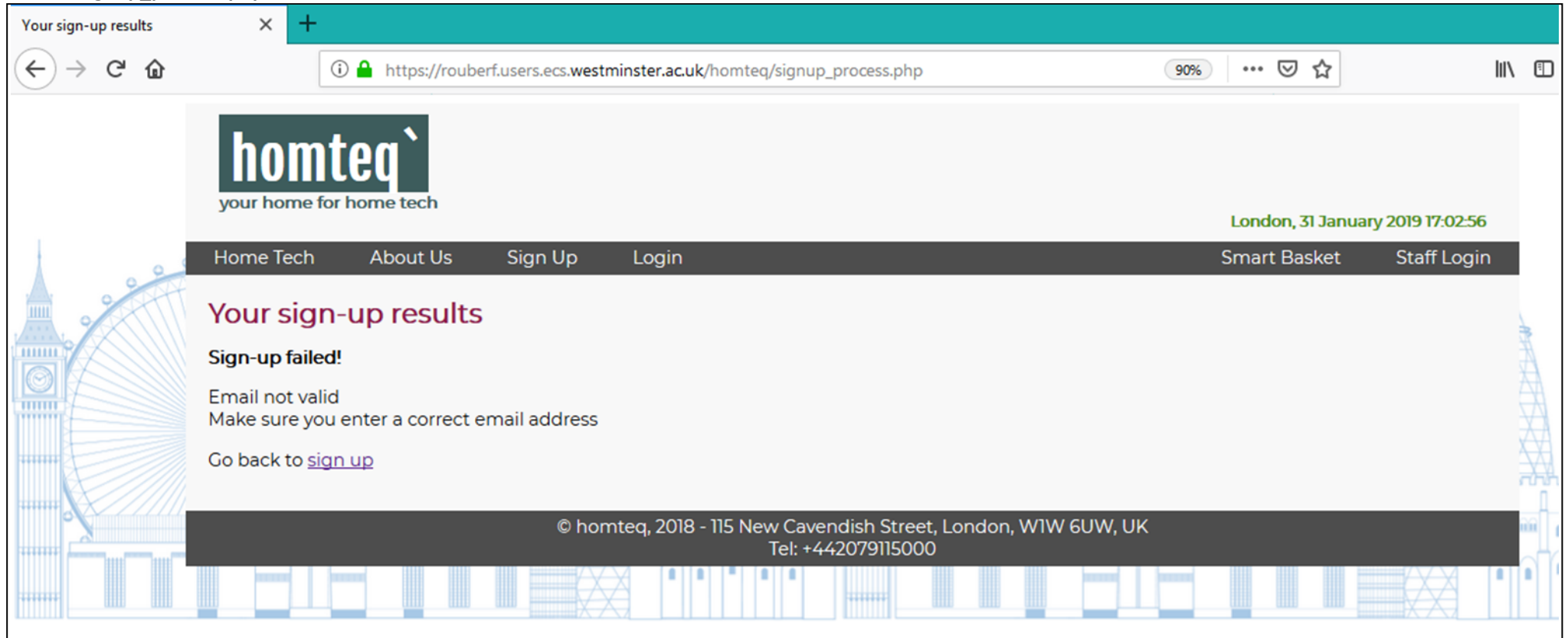
signup_process.php



3) Access the **SIGNUP** page and enter the details for a new user but enter an email that is not in the correct format (no @ sign, no . sign, or incorrect order).

When clicking on the “Sign Up” submit button, you should get a display similar to this:

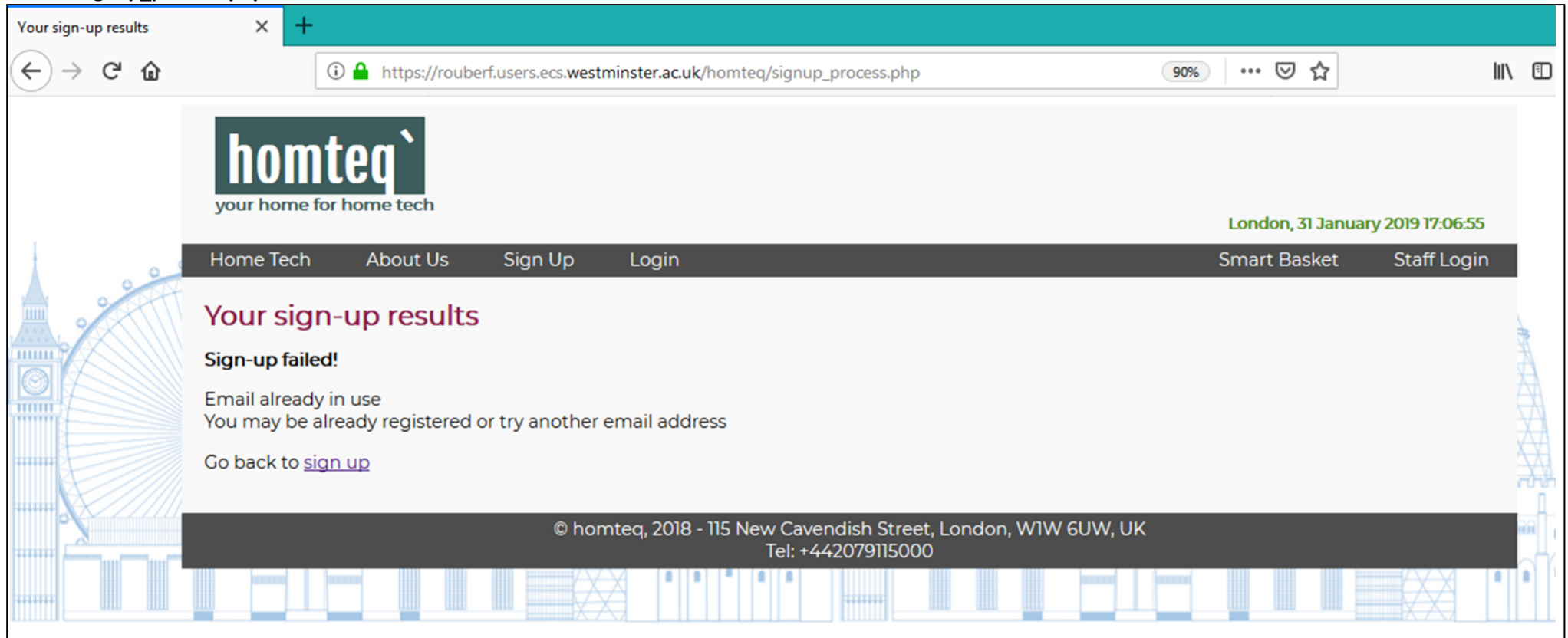
signup_process.php



- 4) Access the **SIGNUP** page and enter the details for a new user but enter an email that already exists in the Users table in the database (i.e. an email that was already entered by someone else).

When clicking on the “Sign Up” you should get a display similar to this:

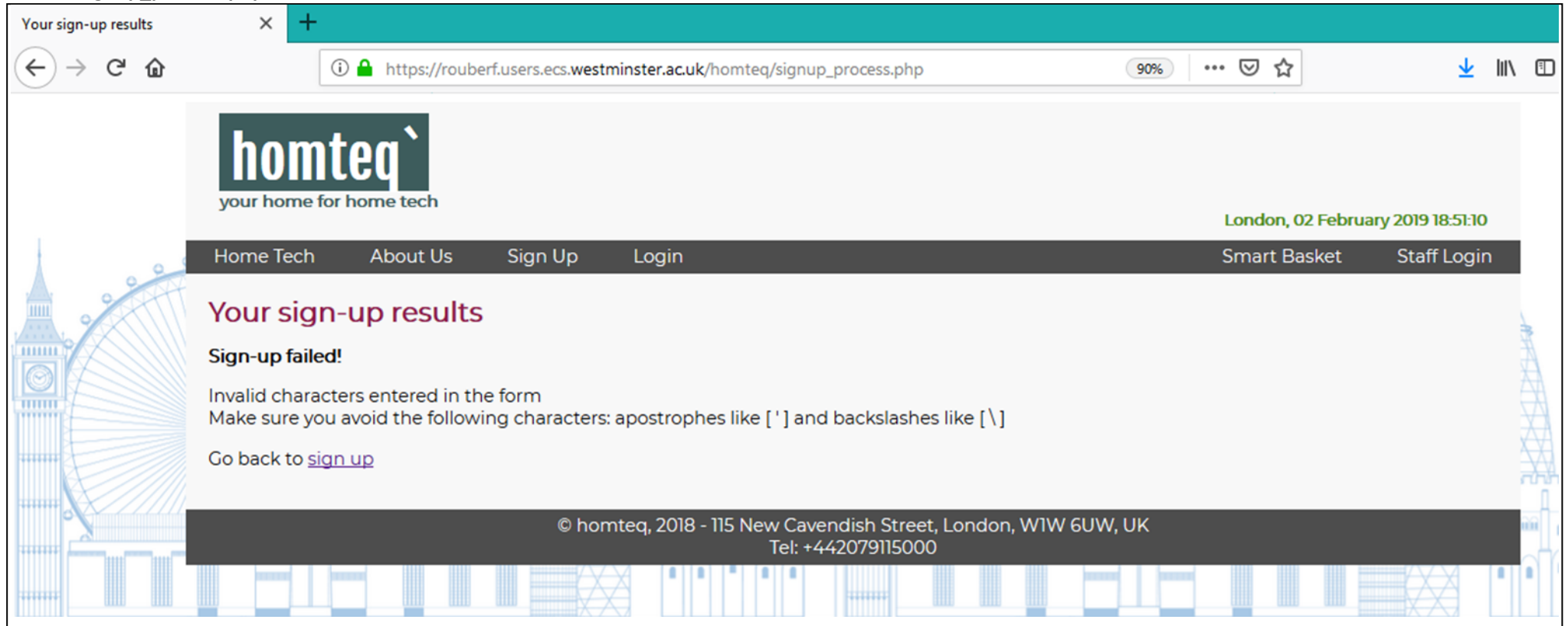
signup_process.php



5) Access the **SIGNUP** page and enter the details for a new user but enter an invalid character in the form e.g. an apostrophe like ['] or a backslash like [\].

When clicking on the “Sign Up” you should get a display similar to this:

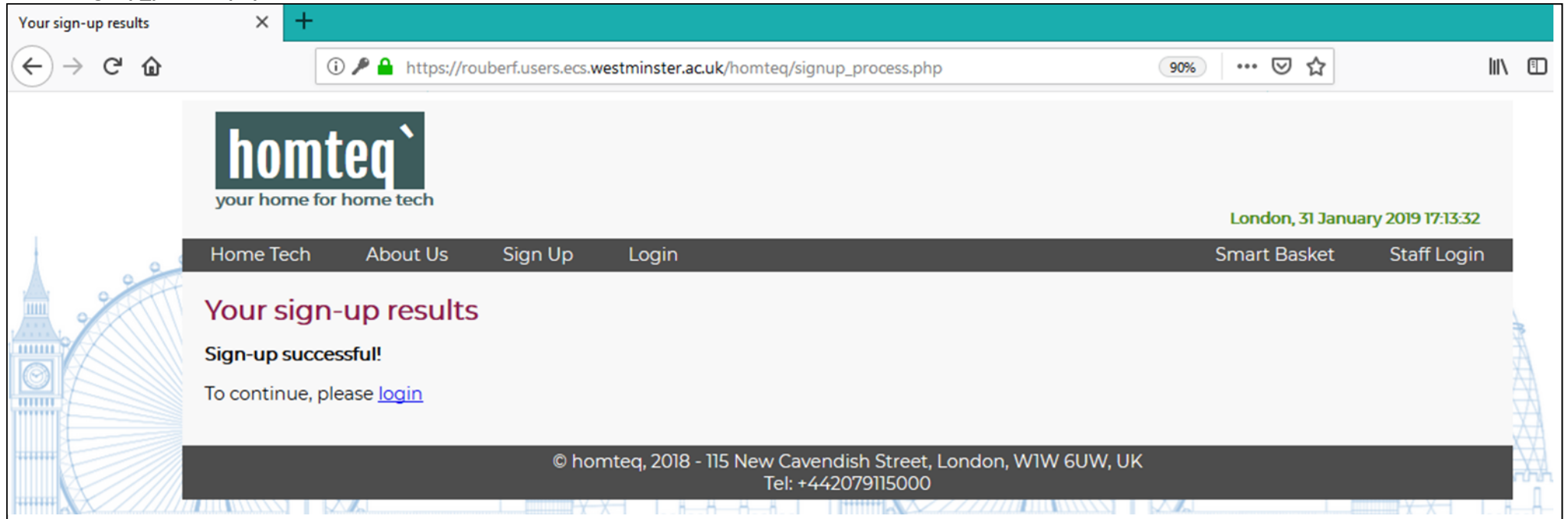
signup_process.php



6) Access the **SIGNUP** page and enter the details for a new user correctly.









When clicking on the “Sign Up”, submit button you should get a display similar to this:

signup_process.php



When viewing the content of the **Users** table in MySQL you should be able to see a display similar to this:
(assuming that you have entered the details of Mr Darth Vader in your form).

Users Table in MySQL

<div>← T →</div>				userId	userType	userFName	userSName	userAddress	userPostCode	userTelNo	userEmail	userPassword
<input type="checkbox"/>	 Edit	 Inline Edit	 Copy  Delete	46	C	Donald	Duck	2 Disney Rd	N2 6RD	02079115000	dd@d.com	123
<input type="checkbox"/>	 Edit	 Inline Edit	 Copy  Delete	48	C	Darth	Vader	32 Death Star, Endor	EN2 4RD	02079115002	dv@empire.com	123