Spring 2020 CSCI 4131 – Internet Programming
Homework Assignment 7 – *version 3 Updated 4/23/20*

Due Friday, May 1, at 3 pm

Late Submissions, with Penalty, accepted through Saturday May 2, 6pm

1 Description

In this assignment, you will continue to add more functionality to the website developed in the last assignment. Your task is to upgrade the previous assignment to add a new user administration page with user management features that enable you to add new users, deleting users, or update information on existing users of your website. Adding this functionality will require you to compose and submit delete and update SQL queries to the MySQL database from your node.js/Express server with information gathered from the user via HTML pages that you will create.

You will also work with XML (Extensible Markup Language) in this assignment. To enable flexibility and increase security, the database configuration will be saved in an XML file. Your server will read the configuration information from the XML file, and that information (which is the same information that you used in assignment 6) to connect to your MySQL database.

2 Preparation and Provided Files

1. The setup for Node.js and MySQL remains the same as the last assignment.
2. The code for this assignment should be placed in a directory named: ***yourx500id_hw07***
3. The code from the last assignment can serve as a base for this assignment. Copy the code from the last assignment and place it in ***yourx500id_hw07*** directory.
4. You can use any *npm* module that require for this assignment. You should use the modules you used in previous assignments, and you will need a module for parsing XML, Thus, you might find the following *npm* module useful: ***xml2js***
5. You should determine the project structure (where you will store the various html, css and JavaScript files) for this assignment on your own.

Note: *We have provided the following sample XML file which stores database configuration:*

`sample_dbconfig.xml`

*Replace the values in the user, password, and database tags with the user/database id and numeric password that was provided via Canvas assignment (**MYSQL Database Account and Password**)*

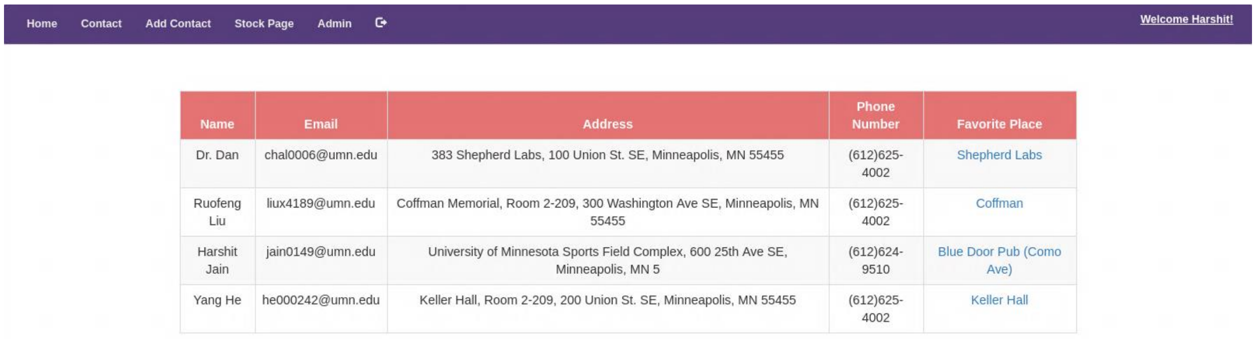
We have also the following html file that you have permission to use as your admin page:
adminpage.html
Each student enrolled in this course (Csci 4131 Spring 2020) has permission to use the page for this assignment, and for their optional project for the course – make sure to adhere to the copyright statement on in the file, which is displayed when the page is rendered by a browser.

3 Functionality

Your solution should retain all functionality from Homework assignment 6, and add the functionality discussed in the following pages (build on your existing code).

The existing navigation bar should now also provide a link to the **Admin page** and **logged in User.** Check the following screenshots:

Notice that the navigation bar in the pages listed above and shown below has a link to the ***Admin page.***



Name	Email	Address	Phone Number	Favorite Place
Dr. Dan	chal0006@umn.edu	383 Shepherd Labs, 100 Union St. SE, Minneapolis, MN 55455	(612)625-4002	Shepherd Labs
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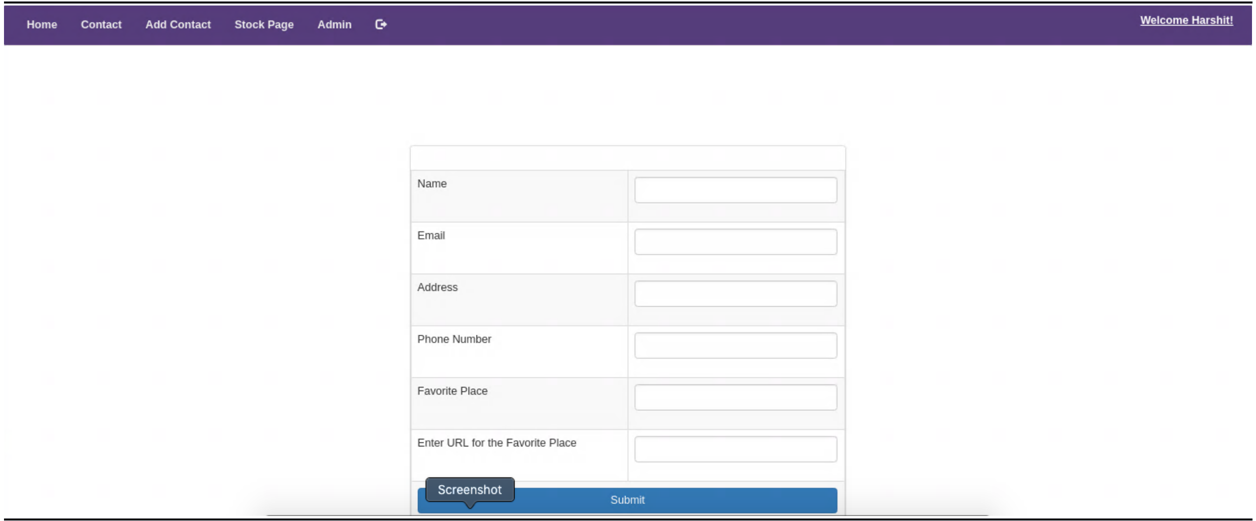
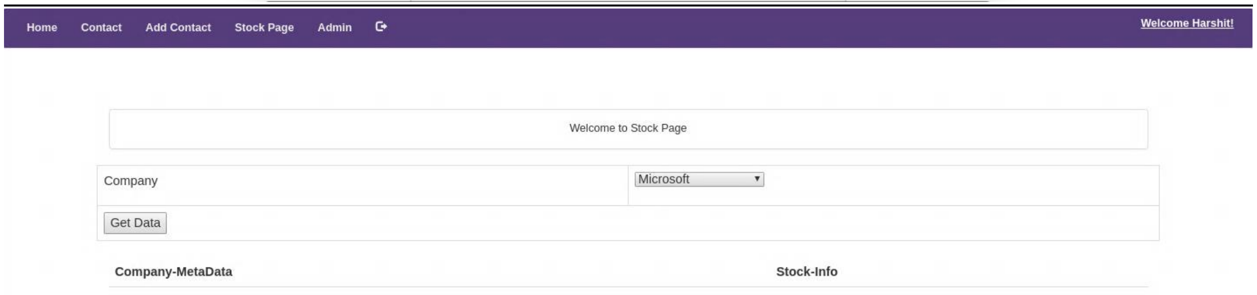
Harshit Jain	jain0149@umn.edu	University of Minnesota Sports Field Complex, 600 25th Ave SE, Minneapolis, MN 5	(612)624-9510	Blue Door Pub (Como Ave)
Yang He	he000242@umn.edu	Keller Hall, Room 2-209, 200 Union St. SE, Minneapolis, MN 55455	(612)625-4002	Keller Hall





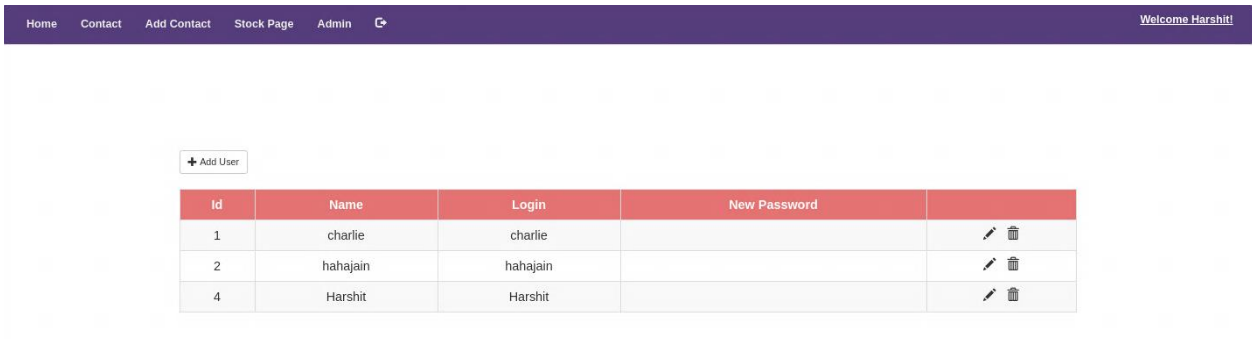
Welcome to Stock Page

Company	Microsoft
Get Data	

Admin page – you can create this page or use the one we have provided (subject to the copyright)

- If a user tries to access this page without a valid login, the user should be routed to "Login" page.
- The page should have a navigation bar with a logout button.
- The table in this page should be dynamically populated with the list of users along with their corresponding Id, Name, and Login (illustrated in the following screen-shot).
- To achieve this, the server could provide a GET API which returns the list of users. The mapping between the table headers and columns in tbl_accounts is as follows:
  - Id: acc_id
  - Name: acc_name
  - Login: acc_login
  - New Password: acc_password

- The client (the page you will construct) could call the API (using AJAX) and populate the table using the data received from the server.



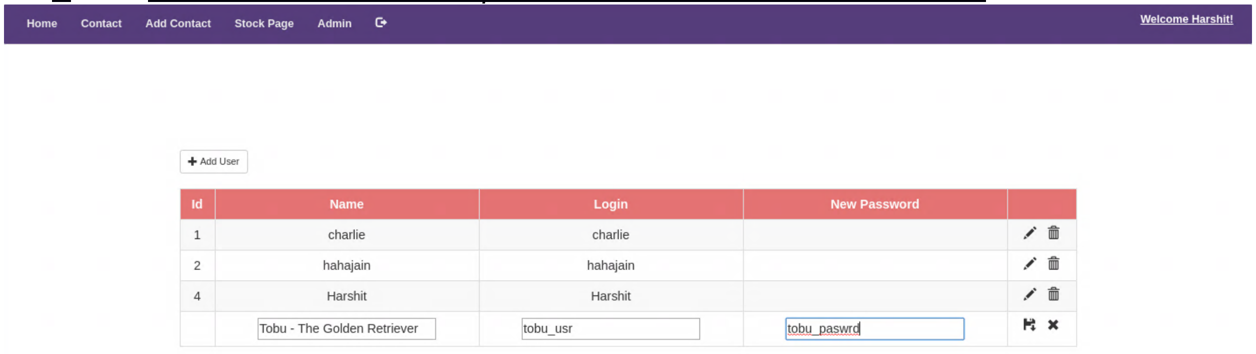
Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		

Admin page - Add User functionality

- As displayed in the picture on the above, the Admin page should have a button to add a new user.
- Upon pressing the **Add User** button, a new row with blank fields (should be added to the table) as shown in the screenshot I on next page.
- **Name**, **Login**, and **New Password** columns of this new row should be editable.
- A user has the option to enter the details of the new user and then click either **Save** or **Cancel** button.
- If the user clicks **Save**, the data entered by the user should be posted to the server.
  - The server should validate that no other user in the database has the same login.
  - In case the validation passes, the information about the new user should be inserted in the following table: ***tbl_accounts***.
  - The new user should also be added to the HTML table.
  - In case the validation fails, the following error message should be displayed: This login is used by another user
- If user clicks **Cancel**, the new row should be removed and display should revert back to the state before **Add User** button was pressed

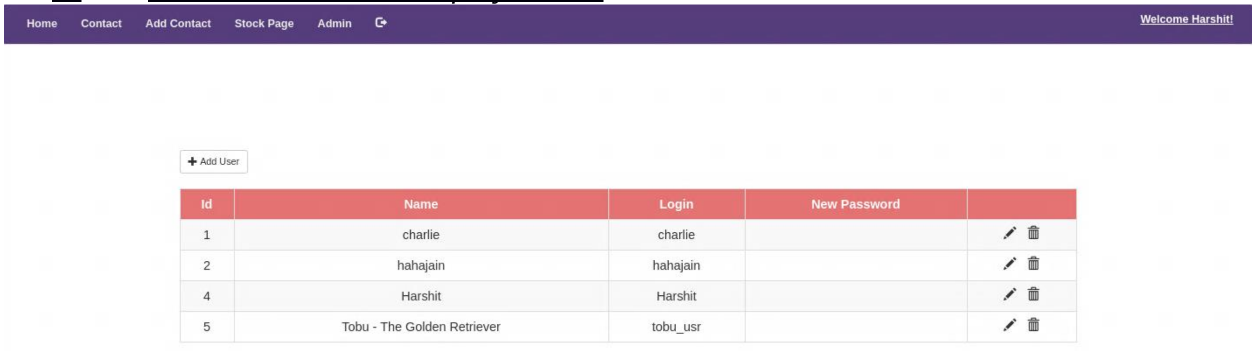
- **Note**: Review screenshots I. and II below for an indication of how the **Add User** functionality should operate.

*I. Admin enters the details of a new user and clicks the **Save button***



Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		
	Tobu - The Golden Retriever	tobu_usr	tobu_paswrd	

II. The new user is successfully added.



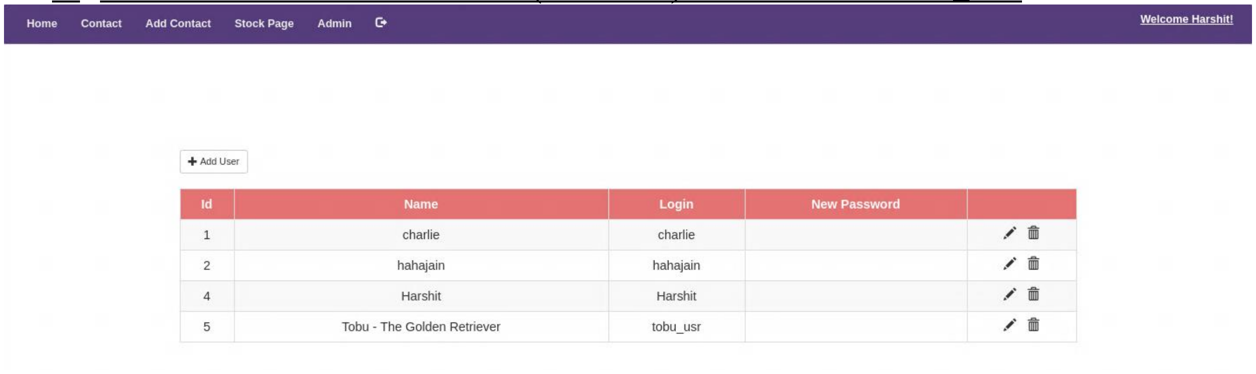
Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		
5	Tobu - The Golden Retriever	tobu_usr		

Admin page - Delete User functionality

- Each row in the table should have **Delete** button (icon) associated with it (see the garbage can in the rightmost column).
- The **Delete** button should delete the user from the database and from the HTML table only if the user being deleted is not the one currently logged in. To achieve this, server should provide a delete API which can be used by the client.
- The server should not allow the user to delete the currently logged user. The following error message should be displayed on the Admin page in the event that a user attempts to do this: Error : Cannot delete logged in User!

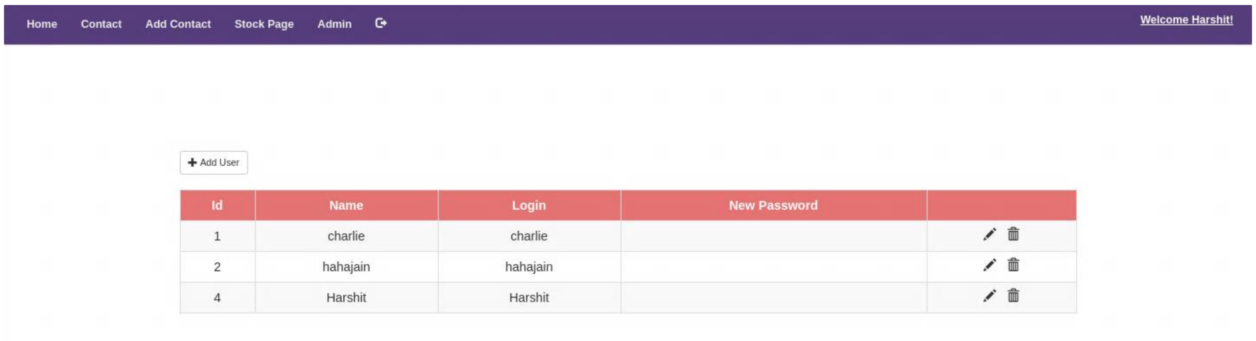
Note: Review screenshots A, B, and C below depicting the **Delete User** functionality.

A. *Admin clicks on the delete button (trash icon) next to the user* ***tobu_usr****.*



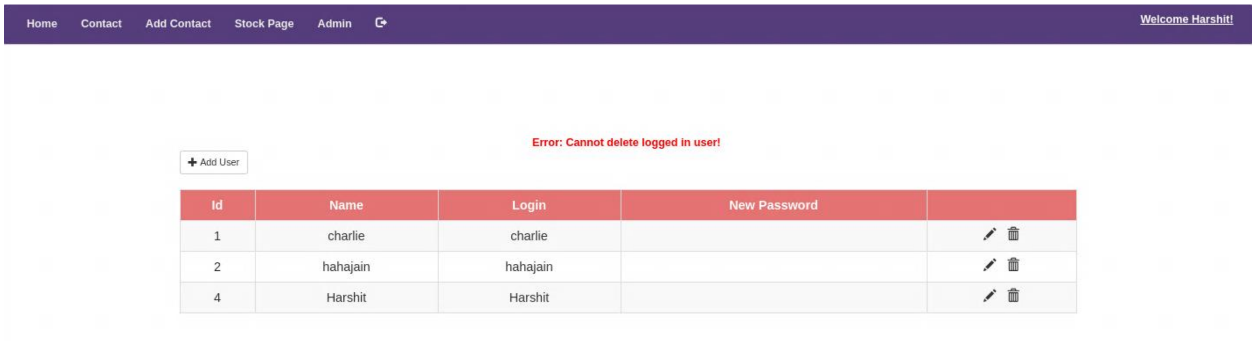
Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		
5	Tobu - The Golden Retriever	tobu_usr		

B. ***tobu_usr*** *is deleted from the database and from HTML table.*



Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		

C. *Admin tries to delete the user Harshit which is currently logged in. The user is not deleted and an error message is displayed.*



Error: Cannot delete logged in user!

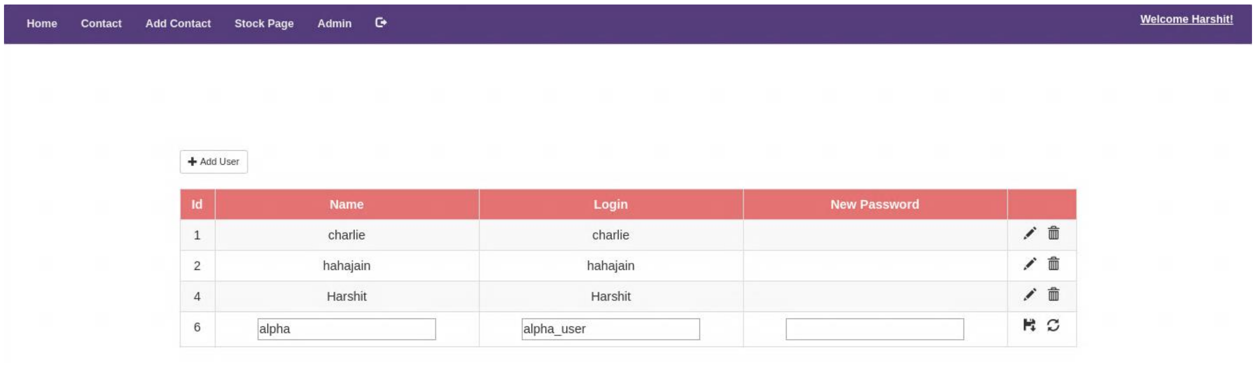
Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		

Admin page - Edit User functionality

- Each row in the table should have edit button associated with it (see the pencil icon in the just to the left of the garbage can).
- Clicking **Edit** button should activate edit mode and display it in the list of users table.
- You should be able to update the **Name**, **Login**, and **New Password** in edit mode.
- Edit mode will have two different buttons: **Update** and **Cancel**.
- **Cancel** should discard the changes and exit edit mode.
- Upon clicking the **Update** button, the data entered by the user should be posted to the server.
    - The server should validate that no other user in the database (other than the one being edited) has the same login.
    - In case the validation passes, the information about the edited user should be updated in the following table: ***tbl_accounts***. The updated information should also reflect in the HTML table.
    - In case the validation fails, the following error message should be displayed: Error: This login is used by another user.

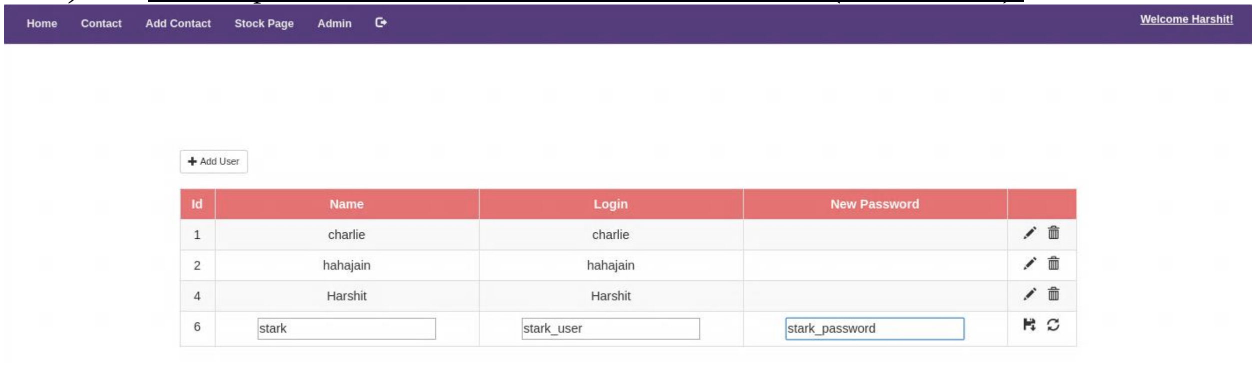
Note: Review the screenshots i, ii, ii, iv, and v depicting the **Edit User** functionality.

i) *Admin clicks on the edit button next to the user **alpha**.*



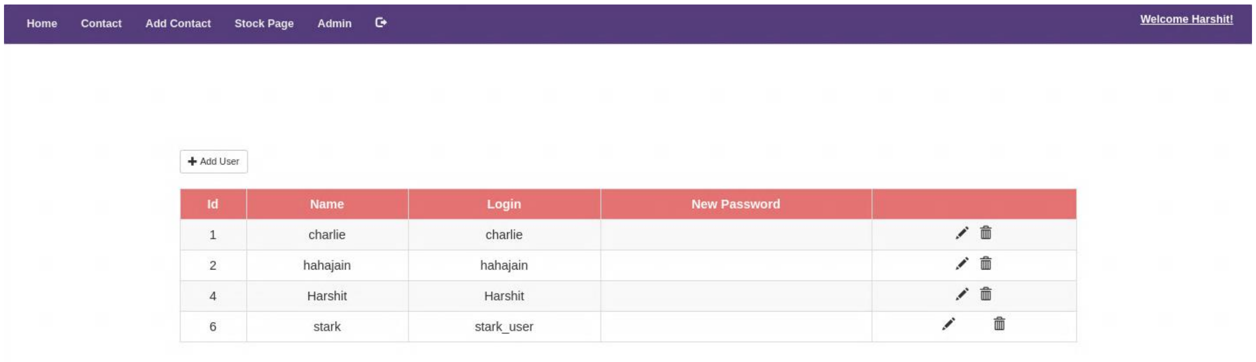
Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		
6	alpha	alpha_user		

ii) *Admin updates the values to **stark** and clicks on save (the disk icon).*



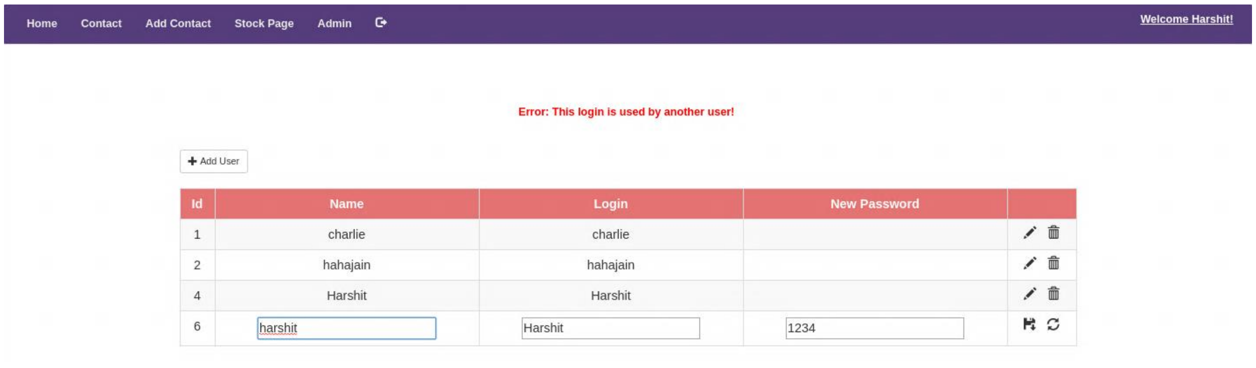
Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		
6	stark	stark_user	stark_password	

iii) *The values are successfully updated in database and displayed in the user table.*



Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		
6	stark	stark_user		

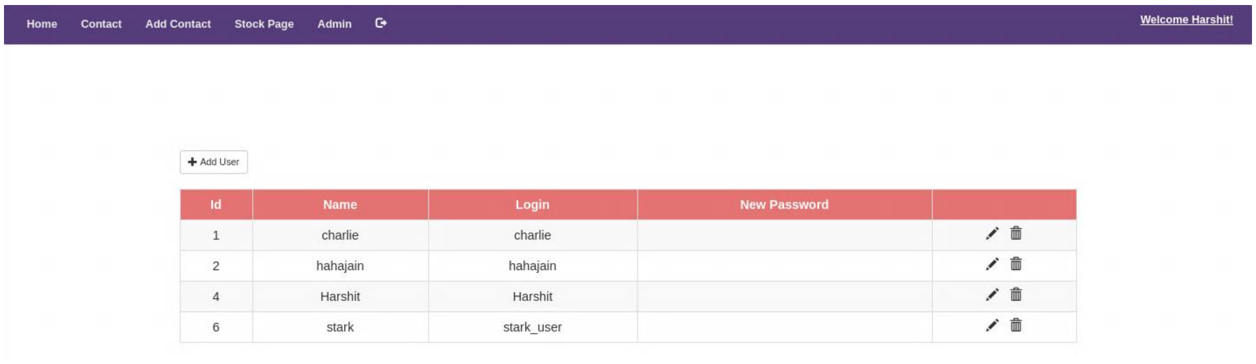
iv) *The user edits the details of user* ***stark*** *and updates the login to* ***Harshit.*** *Error message is displayed because a user with login* ***Harshit*** *already exists.*



Error: This login is used by another user!

Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		
6	harshit	Harshit	1234	

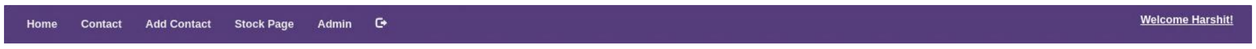
v) *Admin clicks on* ***Cancel*** *button to discard the changes (the circular icon next to the disk icon).*



Id	Name	Login	New Password	
1	charlie	charlie		
2	hahajain	hahajain		
4	Harshit	Harshit		
6	stark	stark_user		

Navigation bar

- The navigation bar displays the user which is currently logged in.



Database Configuration

- Your server should read the values in the file: `sample_dbconfig.xml` (***which was provided, and YOU MUST UPDATE***) and use them to establish a database connection. Note, you can only run the parser from node.js/Express, so make sure to insert ample calls to console.log to check to make sure your server is functioning as you expected as you develop your solution.

4 Submission Instructions

PLEASE ENSURE TO TEST YOUR CODE ON CSE LAB MACHINES.

You will need to submit all the files used to develop the website. This includes all the HTML, CSS, JavaScript, package.json, index.js and any other files.

** **Make sure you have this account information in your accounts table. Violation to this will result in penalty. (-10 points, at a minimum)**

Login: admin
Password: admin

We will use this login and password values to login to your website. Your assignment should be submitted in a single compressed file with name ***yourx500id_hw07.*** The server file should be named as ***index.js***.

5 Evaluation

Your submission will be graded out of 100 points on the following items:

- **Submission instructions are met** (5 points).
- Navigation bar in all the pages displays the currently logged user. (5 points)
- Admin page displays the correct list of users in the system. The Admin page should display at least two other users besides the admin user. (10 points)
- In Admin page, the DELETE button works for every row and displays error messages correctly. (10 points)
- In Admin page, the EDIT button works for every row and switches the view to EDIT mode. (10 points)
- In Admin page, UPDATE button works in EDIT mode. It validates the input, and updates the name, login, password accordingly. All the test cases should work (10 points)
- In Admin page, CANCEL button works in EDIT mode. (5 points)
- In Admin page, ADD USER works and switches the view to ADD mode. (10 points)
- In Admin page, SAVE button works in ADD mode. It validates the input, and saves the name, login, password accordingly. (10 points)
- In Admin page, CANCEL button works in ADD mode. (5 points)
- Server reads database configuration from XML file and establishes connection to database. (10 points)
- All functionality from assignment 6 works. (10 points)

6 Assignment Guidelines and Penalties – we reserve the right to grade subjectively.

1. The illustrations in the lab assignments and demos, though not stated, are implied requirements - though the style can differ, it shouldn't cause your output to look worse than the example given. Therefore, though the CSS and page elements can vary but they should function the same as illustrated in the assignment write-up and demos, and by our judgment, they should not negatively impact the functionality described in the write-up and demos.

2. Unless stated otherwise, for assignments that build on other assignments, the functionality developed in the previous assignment(s) **should** still work. Some examples are as follows (**note, this is not a complete list**):

a. The addcontact page should still accept the values for name, email, url, etc. required by previous assignments and no null values should be accepted or displayed once the contact is added.
b. The favorite place url and text should be the same field and not two different columns on the contacts page.

You should follow these guidelines while working on your assignments. Failure to do so may result in penalties assessed against your score that are not explicitly stated in the rubric.