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CS178  
Project #1

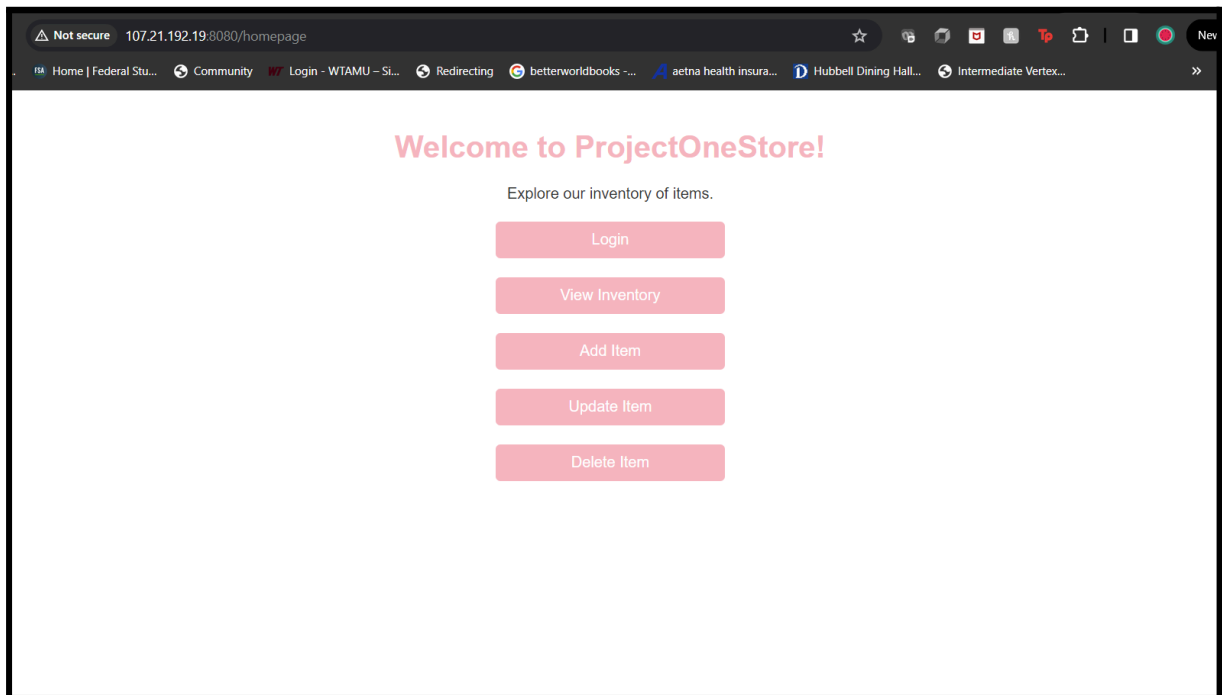
### **Project #1 Walk-through**

<b>Use Flask to create a website that incorporates a SQL database</b>	
<b>Incorporate a non-relational database</b>	
<b>Incorporate a JOIN in the project</b>	
<b>Good software management - code is divided in different files</b>	
<b>Implementation of CRUD functionality</b>	
<b>New IAM, New RDS, New Cloud9 Environment</b>	
<b>Using own RDS instance</b>	

### **A little bit about the Inventory Website**

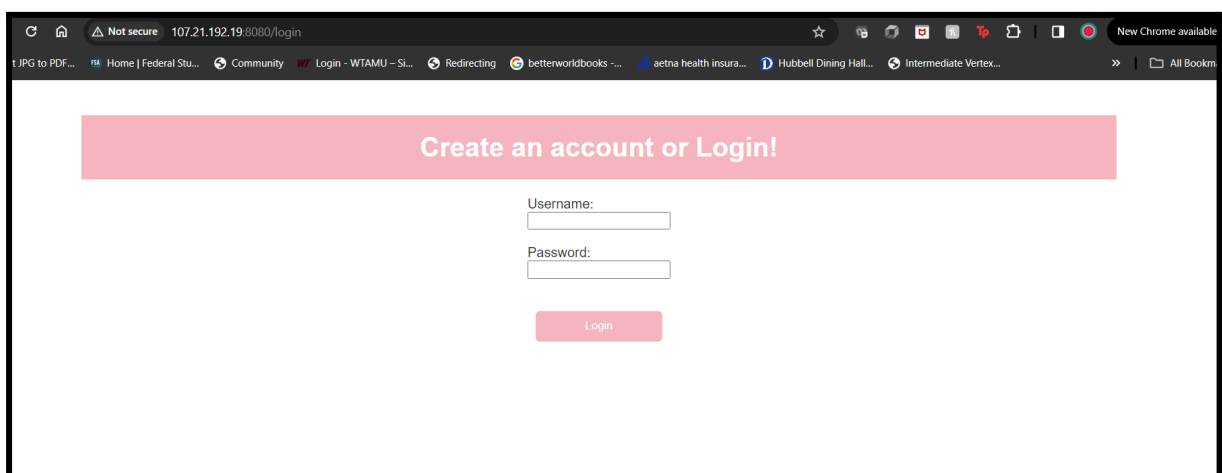
This inventory management website offers a range of functionalities tailored to make inventory management easier. Users can create personalised accounts with unique usernames and passwords, securely stored in a DynamoDB database. With CRUD (Create, Read, Update, Delete) capabilities, users can effortlessly navigate through the inventory, adding, updating, and removing items as needed.

## Homepage (/homepage)



This is the homepage of the website. It contains five buttons that allow the user to login to their account (or create one if they don't already have an account), view the inventory, add, update and delete an item from the database respectively.

## Login page (/login)



After clicking on the “Login” button, this is what the page that shows up looks like. There are two fields for a “username” and a “password”. Once the user types in the username and password, the website checks if the username already exists in the Dynamodb database, if it does then they are taken back to the homepage. If not, a new user is created using the credentials that were typed in.

**i. Using the login page as an existing user in the database -**

Create an account or Login!

Username:

ahana

Password:

\*\*\*\*\*

Login

After entering the username and password, and hitting login, the user is directed back to the homepage.

**ii. Using the login page as a new user -**

Create an account or Login!

Username:

newuser

Password:

\*\*\*\*\*

Login

Create an account or Login!

Account created successfully

Username:

Password:

Login

If the user enters a username that does not already exist in the database, then a new account will be created for them after they hit login. A success message will appear on the screen letting the user know that their account has been created and the text boxes become empty again. If the user types in their credentials in the boxes, they will be taken back to the homepage.

### iii. User enters incorrect password / the username is already taken -

### Create an account or Login!

Username:  
ahana

Password:  
\*\*\*\*\*

Login

### Create an account or Login!

Username already taken / Incorrect password

Username:

Password:

Login

If the user enters a username that is already taken, or has entered the wrong password, they will be informed through an error message and will be provided with blank text boxes to re-try.

## Viewing the inventory page (/viewdb)

Inventory			
ID	Description	Price	Category
3	LEGO Building Blocks	24.99	Toys
4	Kitchen Knife Set	29.99	Kitchen
5	Non-stick Pan	17.99	Kitchen
6	Blender	35.99	Kitchen
7	Dining Table	199.99	Furniture
8	Sofa	399.99	Furniture
9	Chair	49.99	Furniture
10	Bookshelf	89.99	Furniture
12	Puzzle Game	12.99	Toys
13	Remote Control Car	29.99	Toys
14	Coffee Maker	45.99	Kitchen
15	Toaster	19.99	Kitchen
16	Cutting Board	9.99	Kitchen
17	Desk	109.99	Furniture
18	Wardrobe	249.99	Furniture
19	Bed Frame	149.99	Furniture
20	Teddy Bear	15.99	Toys
22	Board Game	34.99	Toys
23	Jigsaw Puzzle	10.99	Toys
24	Play Kitchen	89.99	Toys
25	Microwave Oven	99.99	Kitchen
26	Mixing Bowl Set	24.99	Kitchen
27	Electric Kettle	29.99	Kitchen
28	Dish Rack	15.99	Kitchen

After clicking the “View Inventory” button on the homepage, the user is taken to a page where the ID numbers, Description, Price and Category of the items are stored. The inventory gives the user an idea of what items are available at the store. (Also, the reason why the inventory ID number starts with 3 is because I deleted entries 1 and 2 when I was testing the delete function).

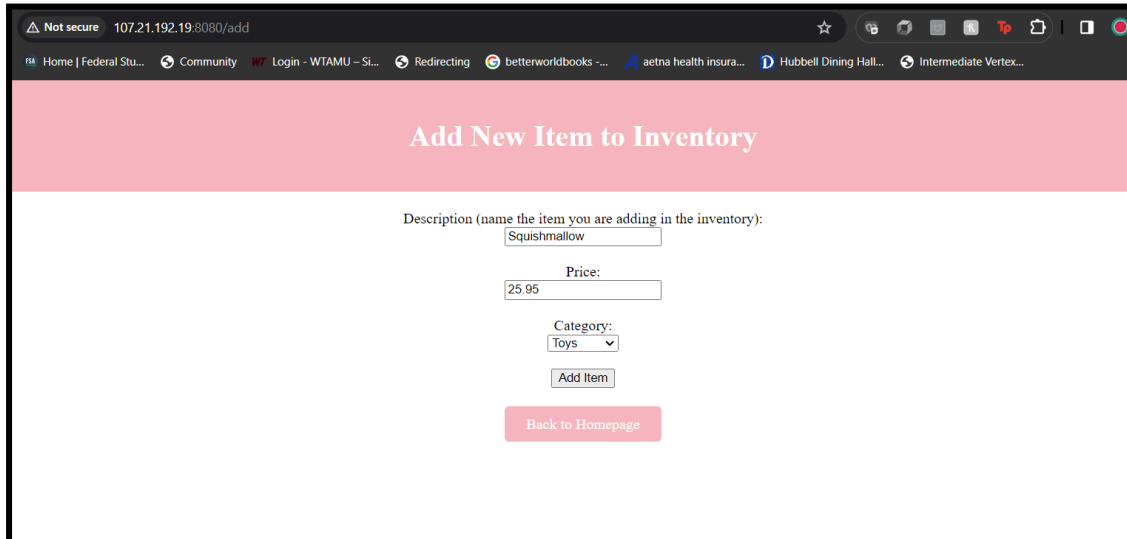
17	Desk	189.99	Furniture
18	Wardrobe	249.99	Furniture
19	Bed Frame	149.99	Furniture
20	Teddy Bear	15.99	Toys
22	Board Game	34.99	Toys
23	Jigsaw Puzzle	10.99	Toys
24	Play Kitchen	89.99	Toys
25	Microwave Oven	99.99	Kitchen
26	Mixing Bowl Set	24.99	Kitchen
27	Electric Kettle	29.99	Kitchen
28	Dish Rack	15.99	Kitchen
29	Spice Rack	20.99	Kitchen
30	Nightstand	39.99	Furniture
31	Office Chair	75.99	Furniture
32	Coffee Table	55.99	Furniture
33	Floor Lamp	42.99	Furniture

Back to Homepage

If you scroll down to the very end of the page, there is a button titled “Back to Homepage” which redirects the user back to the homepage.

## Adding a new item to the inventory (/add)

### i. Adding a new item to the inventory -



The screenshot shows a web browser window with the address bar displaying '107.21.192.19:8080/add'. The browser's tab bar includes several open tabs: 'Home | Federal Stu...', 'Community', 'Login - WTAMU - Si...', 'Redirecting', 'betterworldbooks ...', 'aetna health insura...', 'Hubbell Dining Hall...', and 'Intermediate Vertex...'. The main content area has a pink header with the text 'Add New Item to Inventory'. Below the header, there is a form with the following fields: 'Description (name the item you are adding in the inventory):' with a text input containing 'Squishmallow'; 'Price:' with a text input containing '25.95'; 'Category:' with a dropdown menu showing 'Toys'; an 'Add Item' button; and a 'Back to Homepage' button.

Here's a sample entry where I added a Squishmallow to the inventory.

27	Electric Kettle	29.99	2
28	Dish Rack	15.99	2
29	Spice Rack	20.99	2
30	Nightstand	39.99	3
31	Office Chair	75.99	3
32	Coffee Table	55.99	3
33	Floor Lamp	42.99	3
42	Squishmallow	25.95	1

After clicking on “Add Item”, the user is redirected to the inventory page where they can confirm that the item is added to the very end of the inventory list. (Also, the reason why the item has an ID of 42 instead of 33 is because I deleted entries 34-41 when I was testing the Delete function. The inventory retains old ID numbers and does not update to a new ID number when an item is deleted from the inventory).

## ii. Adding an item that already exists in the inventory -

What happens when the user attempts to add an item that is already in the list?

## Add New Item to Inventory

Description (name the item you are adding in the inventory):

Price:

Category:

Toys ▾

Add Item

Back to Homepage

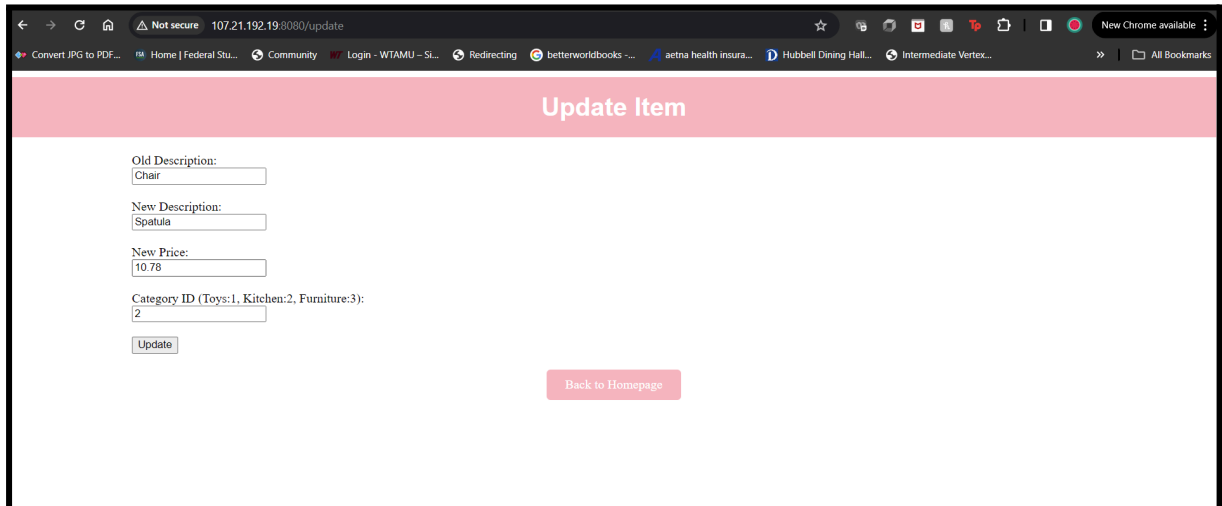
If the user attempts to add an item that already exists in the inventory, an error message will show up on the screen (I tried this with both lower and uppercase characters and it still throws error message if the item already exists in the inventory):

Inventory			
Sorry! We couldn't add the item to the list because it already exists! :(			
ID	Description	Price	Category
3	LEGO Building Blocks	24.99	1
4	Kitchen Knife Set	29.99	2
5	Non-stick Pan	17.99	2
6	Blender	35.99	2
7	Dining Table	199.99	3
8	Sofa	399.99	3
9	Chair	49.99	3
10	Bookshelf	89.99	3
12	Puzzle Game	12.99	1
13	Remote Control Car	29.99	1
14	Coffee Maker	45.99	2

## Updating an item in the Inventory (/update)

### i. Updating item information for an item that exists in the database -

To test the update feature, I will be updating the “Chair” item in the inventory. I added a new description (“Spatula”), a new price, and changed the category as well.



Update Item

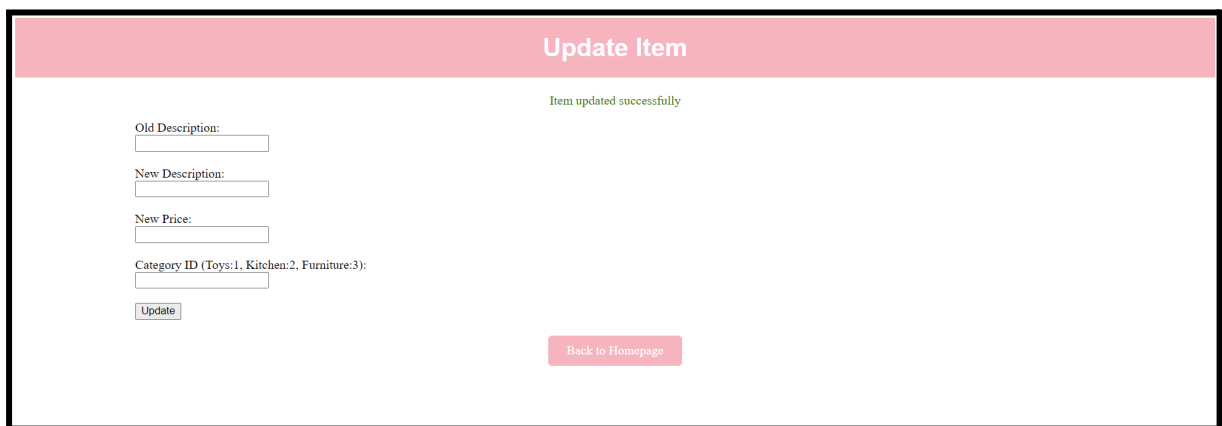
Old Description:

New Description:

New Price:

Category ID (Toys:1, Kitchen:2, Furniture:3):

After clicking the “Update” button, the user gets a success message informing them that the item was successfully updated.



Update Item

Item updated successfully

Old Description:

New Description:

New Price:

Category ID (Toys:1, Kitchen:2, Furniture:3):

The user can click on the “Back to Homepage” button to view if the item was successfully updated.



Inventory			
ID	Description	Price	Category
3	LEGO Building Blocks	24.99	Toys
4	Kitchen Knife Set	29.99	Kitchen
5	Non-stick Pan	17.99	Kitchen
6	Blender	33.99	Kitchen
7	Dining Table	199.99	Furniture
8	Sofa	399.99	Furniture
9	Spamla	10.78	Kitchen
10	Bookshelf	89.99	Furniture
12	Puzzle Game	12.99	Toys
13	Remote Control Car	29.99	Toys
14	Coffee Maker	45.99	Kitchen
15	Toaster	19.99	Kitchen
16	Cutting Board	9.99	Kitchen
17	Desk	109.99	Furniture
18	Wardrobe	249.99	Furniture
19	Bed Frame	149.99	Furniture
20	Teddy Bear	15.99	Toys
22	Board Game	14.99	Toys
23	Jigsaw Puzzle	10.99	Toys
24	Play Kitchen	89.99	Toys
25	Microwave Oven	99.99	Kitchen

## ii. Updating information for an item that does not exist in the database -

What happens when the user tries to update an item that does not exist in the database?

Here is a sample entry to update the “mirror” entry (There is no “mirror” item in the database)

Update Item

Old Description:

mirror

New Description:

bean bag

New Price:

56.78

Category ID (Toys:1, Kitchen:2, Furniture:3):

3

Update

Back to Homepage

We get an error message informing us that this update is not possible because the “mirror” item does not exist in the inventory.

Update Item

Item does not exist in the inventory

Old Description:

New Description:

New Price:

Category ID (Toys:1, Kitchen:2, Furniture:3):

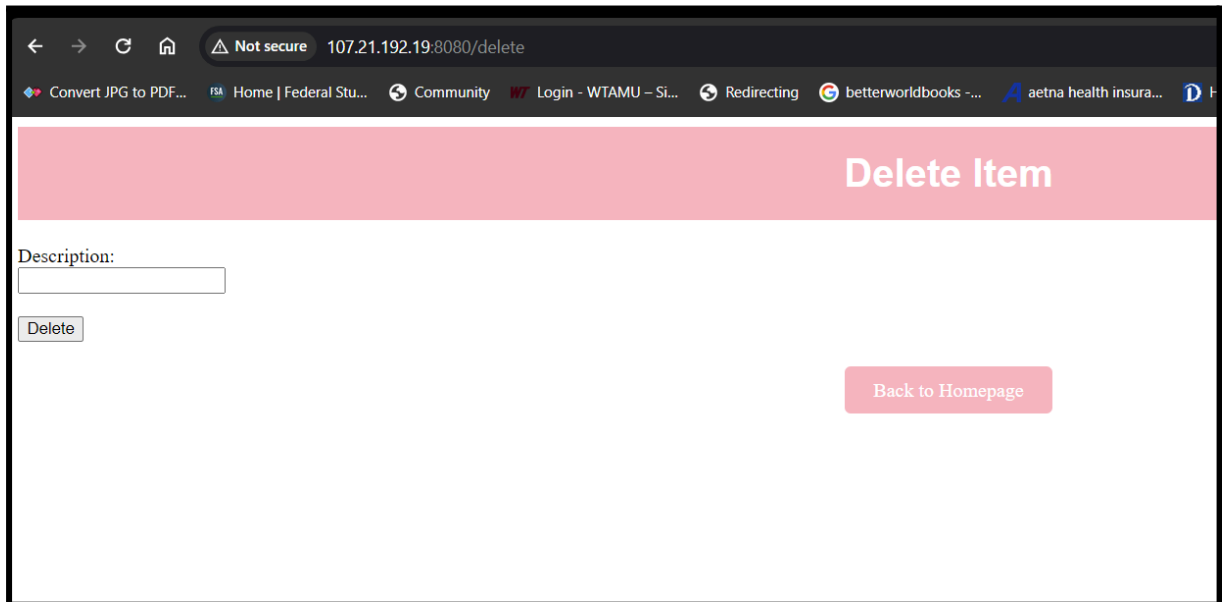
Update

Back to Homepage

## Deleting an item from the Inventory (/delete)

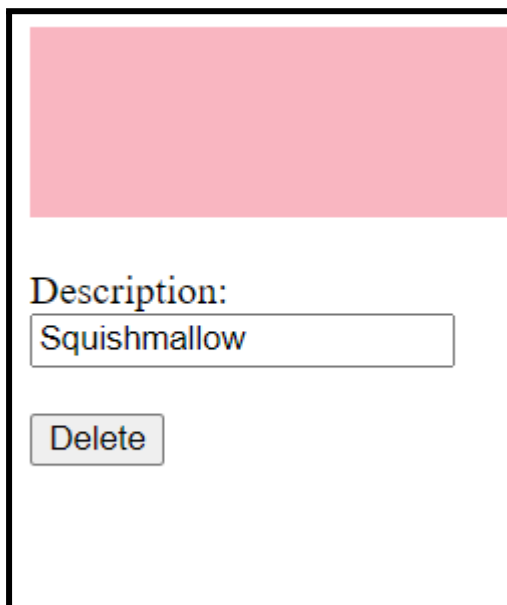
### i. Deleting an item that exists in the inventory -

After clicking on the “Delete Item” button the homepage, we are redirected to the following page:



A screenshot of a web browser showing the 'Delete Item' page. The browser's address bar displays '107.21.192.19:8080/delete'. The page has a pink header with the title 'Delete Item'. Below the header, there is a form with a label 'Description:' and an empty text input field. A 'Delete' button is positioned below the input field. To the right of the form, there is a pink button labeled 'Back to Homepage'.

To test it out, let's delete the “Squishmallow” item that I added to the inventory earlier.



A screenshot of the 'Delete Item' web page, similar to the previous one, but with the text 'Squishmallow' entered into the 'Description:' input field. The 'Delete' button remains below the input field.

After clicking the “Delete” button, we get a success message that informs the user that the item was successfully deleted

Delete Item

Item deleted successfully

Description:

Delete

Back to Homepage

We can go back to the “View Inventory” page to check if the item got deleted -

31	Office Chair	75.99	Furniture
32	Coffee Table	55.99	Furniture
33	Floor Lamp	42.99	Furniture

Back to Homepage

## ii. Attempting to delete an item that does not exist in the inventory -

Supposing I try to delete an item that does not exist in the inventory, here, “eggs”,

Description:

Delete

After clicking on the Delete button, we get an error message informing the user that the item does not exist in the inventory.

# Delete Item

Item does not exist in the inventory

Description:

Delete

Back to Homepage