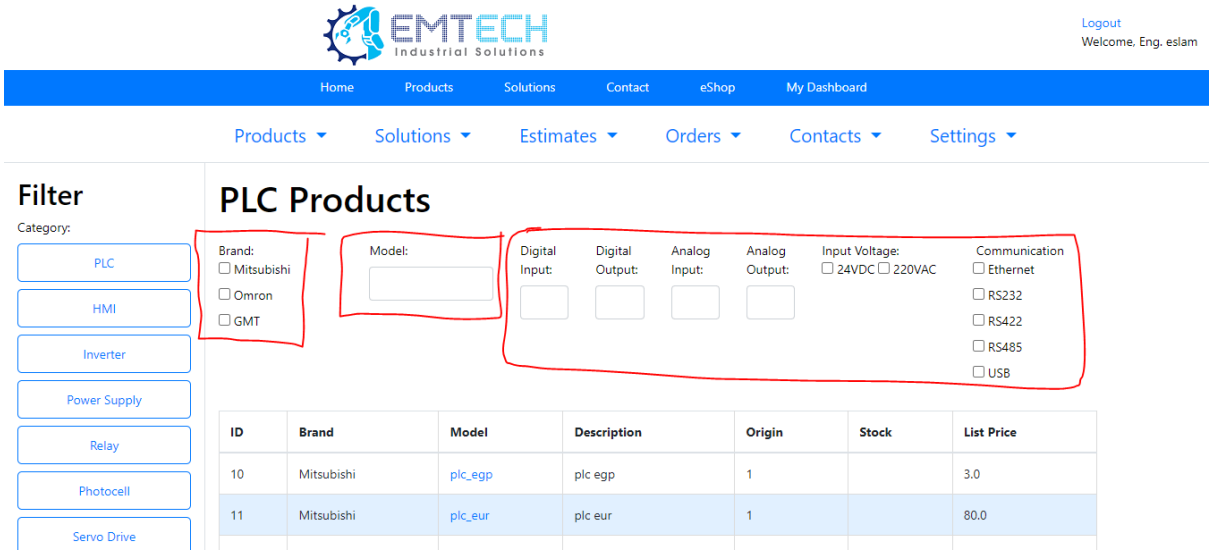
Case study for search in inventory system

here in inventory system we will perform search for products in plc page

prerequisites:

1. you should know working with python
2. flask framework
3. basic routes and ajax requests in flask
4. html basic
5. javascript

first here the page that want to perform the search on it



here we have 8 parameters to apply on it

- brand
- model
- digital input
- digital output
- analog input
- analog output
- input voltage
- communication

the code content:

HTML Form (Search Inputs):

- The code starts with an HTML form containing various input fields such as checkboxes for brand, text input for model, and number inputs for digital/analog values.

JavaScript (jQuery):

- jQuery is used to add an event listener to the form inputs (`change` event).
- When any input field changes, it collects the values of the selected checkboxes and input fields related to the search parameters.
- It then sends an asynchronous AJAX request to the Flask server (`/view_products`) with the collected search parameters.
- The success function of the AJAX request logs the search values and updates the content of the table body (`#productTableBody`) with the received data.

Flask (Python):

- The Flask server has a route `/view_products` that handles the AJAX request.
- The route retrieves the search parameters from the request form.
- It then calls the `retrieve_data2` function with these parameters to perform the search on the database.
- The function constructs a SQL query based on the search parameters and executes it.
- The results are returned as a list of dictionaries (products) and passed to the `view_products.html` template.

Search Function (`retrieve_data2`):

- This function takes various search parameters and constructs a dynamic SQL query.
- It includes conditions for each parameter (e.g., brand, model, digital input) based on whether they are provided in the search.
- The constructed query is then executed on the database, and the results are returned.

HTML Template (`view_products.html`):

- The template receives the list of products from the Flask route and displays them in a table.

Overall, this code creates a dynamic search form that interacts with a Flask server to retrieve and display products based on user-defined search criteria. The search is performed on a SQL database, and the results are updated in real-time on the web page.

the link for html html java script

https://drive.google.com/file/d/1B3VbG1FpXxH1hGAla2lX_Xymq6RapSoj/view?usp=sharing

the link for python

https://drive.google.com/file/d/1_B9Cb0KM9Z1x-mgSJk43p0sElOI9SmEN/view?usp=drive_link

here the links of code with explanation in comments