**Tree**

We want to store some information about trees. For every tree, we keep some important information for better understanding of green environment situation. This information can be id, type, age, type. For Tree types also we have a lookup table with fields typeId, typeName. Then we try to join them using typeId fileds in both tables.

We want to implement an html page for getting and presenting the information. A mysql database for storing and retrieving the data. We implement some webAPIs to handle the transaction in a multi layer approach. For simplicity, we develop all of routs for tree table, but none of them for treeType table and we insert and delete on it using mysql workbench. In addition, we introduce a model as ExTree to handle the joined data.

We have some routs in our controller to handle CRUD operation:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Row | Operation | Method | Rout | purpose | @Body | @Path | postman | UI |
| 1 | Create | Post | /tree | addTree | {tree} |  | \* | \* |
| 2 | Read | Get | /tree | getTrees |  |  | \* | \* |
| 3 | Read | Get | /tree/{id} | getTreeById |  | Id | \* | \* |
| 4 | Update | Put | /tree/{id} | updateTree | {tree} | Id | \* | \* |
| 5 | Delete | Delete | /tree/{id} | deleteTree |  | Id | \* | \* |

Using postman we check functionality of all routs.

In frontend we use html and javascript with jQuery, ajax for the operations.

* When user enter name and age and type Id of a tree and press save, we gather information in json format and pass them using post method to backend. At the end write the information in mysql and clear the fileds, ready for next record.
* When user insert id code of a tree and press the Search button, we send the id to backend and search for that id in database. If we found the record, propagate the information in fields. In this time, we use ExTree that show the typeName, not typeId.
* When user press showAll button we display all tree information in a textarea
* For updating, user enter id for old record that they choose for update. Also provide new complete information for updating
* For delete user enter the id of the record that they want to delete.

Alireza Boroumandyar

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