Lesson2: Basic CRUD using Asp.net Core and Entity Framework

jquery+ jquery UI/bootstrap

jQuery is a JavaScript library developed to simplify client-side scripting, event handling, and animation on client side. jQuery is very powerful making its slogan very true "Write less do more".

Jquery UI is a curated set of user interface interactions, effects, widgets, and themes built on top of the jQuery JavaScript Library.

Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.

Bootstrap is currently the most popular web framework for developing responsive web applications. It offers a number of features and benefits that can improve your users' experience with your web site, whether you're a novice at front-end design and development or an expert. Bootstrap is deployed as a set of CSS and JavaScript files, and is designed to help your website or application scale efficiently from phones to tablets to desktops.

It has become a common necessily for web application to collect data and manage it properly. CRUD allows us to generate pages to list and edit database records. This tutorial will show you how to implement a CRUD DataGrid using jQuery EasyUI framework.

We will use following plugins:

- datagrid: show the user list data.
- dialog: create or edit a single user information.
- form: used to submit form data.
- messager: to show some operation messages.

Step 1: Prepare database

We will use MySql database to store user information. Create database and 'users' table.

id	firstname	lastname	phone	email
3	fname1	lname1	(000)000-0000	name1@gmail.com
4	fname2	lname2	(000)000-0000	name2@gmail.com
5	fname3	lname3	(000)000-0000	name3@gmail.com
7	fname4	lname4	(000)000-0000	name4@gmail.com
8	fname5	lname5	(000)000-0000	name5@gmail.com
9	fname6	lname6	(000)000-0000	name6@gmail.com
10	fname7	lname7	(000)000-0000	name7@gmail.com
11	fname8	lname8	(000)000-0000	name8@gmail.com
12	fname9	lname9	(000)000-0000	name9@gmail.com
13	fname10	lname10	(000)000-0000	name10@gmail.com

Step 2: Create DataGrid to display user information

Create the DataGrid with no javascript code.

```
1.  <table        id="dg"        title="My        Users"        class="easyui-datagrid"
       style="width:550px;height:250px"
2.        url="get_users.php"
3.        toolbar="#toolbar"
4.        rownumbers="true" fitColumns="true" singleSelect="true">
5.    <thead>
6.      <tr>
7.        <th field="firstname" width="50">First Name</th>
8.        <th field="lastname" width="50">Last Name</th>
9.        <th field="phone" width="50">Phone</th>
10.        <th field="email" width="50">Email</th>
11.      </tr>
12.    </thead>
13.</table>
```

14. `<div id="toolbar">`

15. `<a href="#" class="easyui-linkbutton" iconCls="icon-add" plain="true" onclick="newUser()">New User</a>`

16. `<a href="#" class="easyui-linkbutton" iconCls="icon-edit" plain="true" onclick="editUser()">Edit User</a>`

17. `<a href="#" class="easyui-linkbutton" iconCls="icon-remove" plain="true" onclick="destroyUser()">Remove User</a>`

18. `</div>`

We don't need to write any javascript code and we can show the user list as following image:

The DataGrid use the 'url' property that is assigned to 'get_users.php' to retrieve data from server.

Code of get_users.php file

```
1.  $rs = mysql_query('select * from users');
2.  $result = array();
3.  while($row = mysql_fetch_object($rs)){
4.      array_push($result, $row);
5.  }
```

6.

7. echo json_encode($result);

Step 3: Create form dialog

To create or edit a user, we use the same dialog.

1. `<div            id="dlg"            class="easyui-dialog"`
   `style="width:400px;height:280px;padding:10px 20px"`
2. `    closed="true" buttons="#dlg-buttons">`
3. `  <div class="ftitle">User Information</div>`
4. `  <form id="fm" method="post" novalidate>`
5. `    <div class="fitem">`
6. `      <label>First Name:</label>`
7. `      <input name="firstname" class="easyui-textbox" required="true">`
8. `    </div>`
9. `    <div class="fitem">`
10. `      <label>Last Name:</label>`
11. `      <input name="lastname" class="easyui-textbox" required="true">`
12. `    </div>`
13. `    <div class="fitem">`
14. `      <label>Phone:</label>`
15. `      <input name="phone" class="easyui-textbox">`
16. `    </div>`
17. `    <div class="fitem">`
18. `      <label>Email:</label>`
19. `      <input name="email" class="easyui-textbox" validType="email">`
20. `    </div>`
21. `  </form>`
22. `</div>`
23. `<div id="dlg-buttons">`

24. Save

25. Cancel

26. </div>

The dialog is created with no javascript code also.

Step 4: Implement creating and editing a user

When create a user, we open the dialog and clear form data.

1. function newUser(){
2. $('#dlg').dialog('open').dialog('setTitle','New User');
3. $('#fm').form('clear');
4.   url = 'save_user.php';
5. }

When edit a user, we open the dialog and load form data from the selected datagrid row.

```
1.  var row = $('#dg').datagrid('getSelected');
2.  if (row){
3.      $('#dlg').dialog('open').dialog('setTitle','Edit User');
4.      $('#fm').form('load',row);
5.      url = 'update_user.php?id='+row.id;
6.  }
```

The 'url' stores the URL address where the form will post to when save the user data.

Step 5: Save the user data

To save the user data we use the following code:

```
1.  function saveUser(){
2.      $('#fm').form('submit',{
3.          url: url,
4.          onSubmit: function(){
5.              return $(this).form('validate');
6.          },
7.          success: function(result){
8.              var result = eval('('+result+')');
9.              if (result.errorMsg){
10.                 $.messager.show({
11.                     title: 'Error',
12.                     msg: result.errorMsg
13.                 });
14.             } else {
15.                 $('#dlg').dialog('close');      // close the dialog
16.                 $('#dg').datagrid('reload');    // reload the user data
17.             }
```
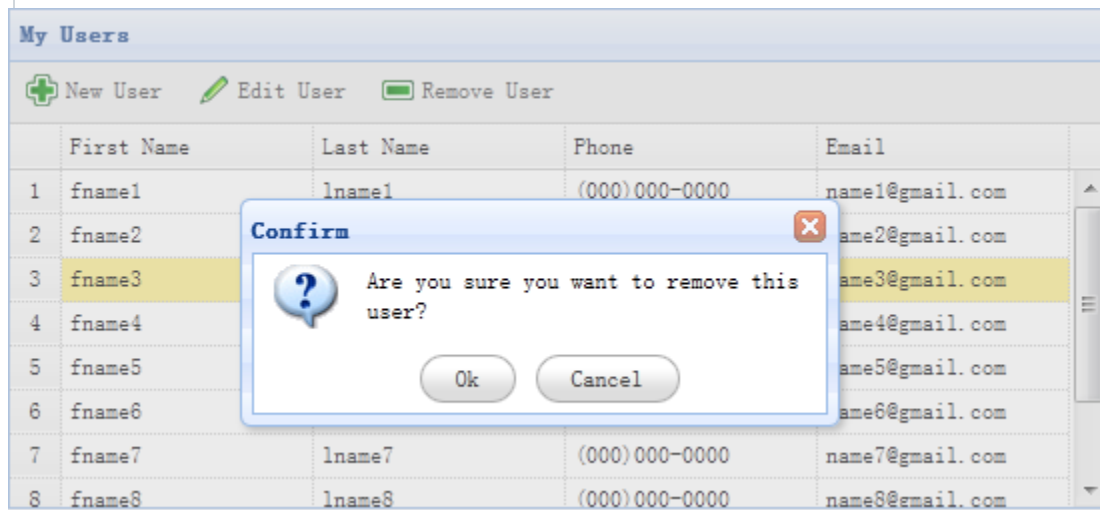
```
18.      }
19.   });
20.}
```

Before submit the form, the 'onSubmit' function will be called, in which we can validate the form field value. When the form field values are submited successfully, close the dialog and reload the datagrid data.

Step 6: Remove a user

To remove a user, we use the following code:

```
1.  function destroyUser(){
2.    var row = $('#dg').datagrid('getSelected');
3.    if (row){
4.      $.messager.confirm('Confirm','Are you sure you want to destroy this
       user?',function(r){
5.        if (r){
6.          $.post('destroy_user.php',{id:row.id},function(result){
7.            if (result.success){
8.              $('#dg').datagrid('reload');   // reload the user data
9.            } else {
10.              $.messager.show({   // show error message
11.                title: 'Error',
12.                msg: result.errorMsg
13.              });
14.            }
15.          },'json');
16.        }
17.      });
18.  }
```

19.}

Before remove a row, we will display a confirm dialog to let user to determine whether to really remove the row data. When remove data successfully, call 'reload' method to refresh the datagrid data.

Step 7: Run the Code

Run the code in your browser with MySQL started.

So, you now know the basics of CRUD in jQuery EasyUI framework. Press below link to start the demo application.