Passing variables to templates and back-end

Welcome to this Lab activity

In this lab activity you will be exploring how to pass different variables to your application templates and back-end by modifying the"search" page. For the purpose of this lab activity you will be working on the *topic6/expressDynamicApp*.

Start the Lab environment application

It is simple to launch a lab exercise. You only need to click on the button "Start" below the activity title to enter a lab environment.

Let's explore this lab activity. Go ahead and click on the "Start" button!

Task 1: Modify your existing "search" structure in your web application

The folder structure has already been partially constructed for you and organised into different topics. For the purpose of this lab, you will be making changes inside the *topic6/ expressDynamicApp* folder structure. Let's get started!

Please do not delete or move any existing folders/files inside the lab environment.

In this lab activity you will be expected to create part of the application code yourself in preparation for your mid-term assignment.

Your task is to modify your “search.html” page . The new version of the webpage should ask the user to enter a search “keyword”. Hitting the submit button will redirect the user to the “/list” webpage, showing only the books which meet the search “keyword”.

Modify the “search.html” inside the *topic6/expressDynamicApp/views* folder with the following code:

```
<!doctype html>
<html>
  <head>
    <title>This is the title of the webpage!</title>
  </head>
  <body>
    <h1> This is Search page </h1>
    <p>This is an example paragraph.</p>
    <form action="/search-result-db" method="GET">
    <input id="search-box" type="text" name="keyword" value="Default">
    <input type="submit" value="Submit" >
    </form>
  </body>
</html>
```

Add one new route inside the *topic6/expressDynamicApp/routes/main.js* file as show below. I have added a couple of steps at the end of the code for debugging purposes. You can comment out each step and comment others to check whether the form data is collected correctly: what is the result and so on. These steps are important for when you are debugging your program and can be removed when debugging is finished. **console.log()** is also a good command to be used in debugging to check the content of each variable.

Add the following code to the *topic6/expressDynamicApp/routes/main.js* file:

```
app.get("/search-result-db", function (req, res) {
  //searching in the database
  let word = [req.query.keyword];
  let sqlquery = "SELECT * FROM `books` WHERE name like ?";

  // execute sql query
  db.query(sqlquery,word, (err, result) => {
    if (err) {
      return console.error("No book found with the keyword you have entered"
      + req.query.keyword + "error: "+ err.message);
      //res.redirect("./search"); this can also be used in case of an error instead of
      the above line
    }else{
      //step 1:(this will only shows the collected form-data) for debugging purpose
      only
      // res.send(req.query);
      //step 2: (this shows keyword in collected form-data) for debugging purpose only
      //res.send("This is the keyword you entered: "+ req.query.keyword+
      ".<br><br>This is the result of the search:<br>");
      //step3: (this will show the result of the search) for debugging purpose only
      //res.send(result);
      //step4: (this will show the result of the search using an ejs template file, list.ejs can be used
      here)
      res.render ('list.html',{availableBooks:result});
     }
  });
});
```

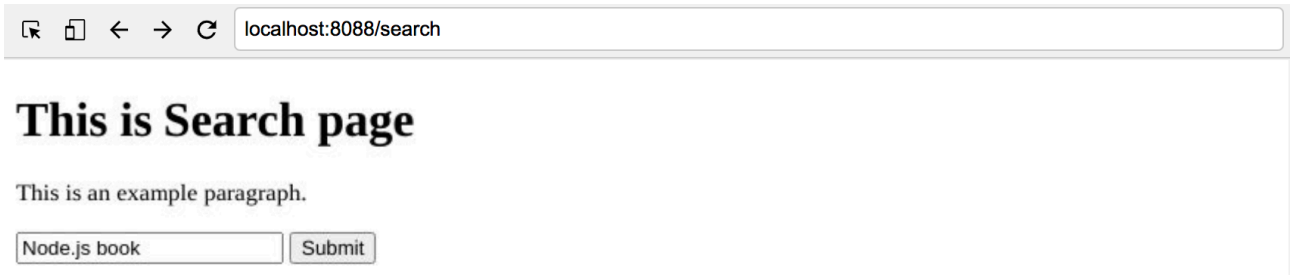
Task 2: Access your server via HTTP

Now that your code is running, serving your application on port 8088, you can access your web page from a browser!

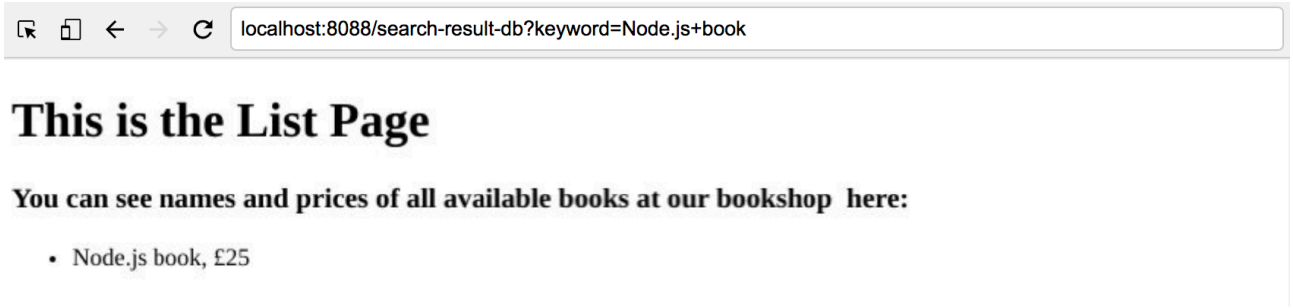
Use the “Browser Preview” plugin to visualise your web application.

If you do not remember how to use the “Browser Preview” plugin, please refer to the “Creating my first Node.js web server” lab instructions.

Type *localhost:8088/search* on the "Browser Preview" tab and press *Enter* on your keyboard to visualise your web application:



If you click the "Submit" button and you search a book in your database, you should see the following page:



Just a reminder that you will have different data in your database.

End of Section

Congratulations for completing this section. As long as you have saved your work, your files will remain when you close this lab activity so do not worry about losing your data. You have successfully created a web application that connects to a database and passes variables to it in order to search for items. In the next lab activity you will be working on your mid-term assignment.