

07 Adding dynamic HTML to your Express server

Welcome to this lab activity

In this lab activity, you will learn how to make your HTML pages dynamic. Dynamic web pages have a very similar structure to static web pages, but they have the ability to change their content while your web application is running.

Reflection point

Imagine that you would like to change the title of your HTML page dynamically. For the purpose of this lab activity, you will use the EJS templating engine introduced in the previous lab.

Task 1: Make a copy of your previous lab

Start with your previous lab code.

1. Make a copy of the folder `06_html_express` from your previous lab and call it `07_dynamic_html`.
2. Open up the new folder in Visual Studio Code.
3. Run the code and confirm that you can see the home page and about page (refer to the previous lab if you need a reminder of how to do this).

Task 2: Change the title of the home page to be dynamic

Look at the HTML code in `index.ejs` (which you should find in your views folder):

```
<!doctype html>
<html>
  <head>
    <title>This is the title of the webpage!</title>
  </head>
  <body>
    <h1> This is home page </h1>
```

```
<p>Homepage This is an example paragraph. Anything in the
<strong>body</strong> tag will appear on the page, just like this
<strong>p</strong> tag and its contents.</p>
</body>
</html>
```

The title is currently static, which means that it will always say 'This is the title of the webpage!'. Let's make it dynamic, so it changes according to some data passed to the page.

4. Change the title line in `index.ejs` so that it looks like this:

```
<title><%= title %></title>
```

Note that the HTML `<title></title>` tag remains in place but inside the tag, instead of static text, you have an EJS expression:

```
<%= title %>
```

The markers `<%` and `%>` denote the start and end of the EJS expression. The `=` sign signifies that you want the value of an expression inserted into the HTML at this point. The remainder of the EJS expression is a JavaScript expression that provides the data to be inserted. In this case, the data will come from a JavaScript variable called `title`.

In essence, you can read the EJS expression `<%= title %>` as saying 'insert the value of the JavaScript object called `title` into the HTML here'.

But, you may well ask, where does the `title` object come from? Let's look at this next...

Task 3: Pass the title to the homepage from your route handler

Look at the code in `main.js` (which you can find in the `routes` folder):

```
router.get("/", (req, res) => {
  res.render("index.ejs")
});
```

This is the code that responds to an HTTP request for the homepage (the `/` route) and responds by rendering the `index.ejs` file. You need to change this code so that it passes a `title` object to `index.ejs`.

5. Change the homepage route handler as follows:

```
router.get("/", (req, res) => {
  res.render("index.ejs", {title: "Dynamic title"})
});
```

```
});
```

Here, you are passing an object {title: "Dynamic title"} to index.ejs, which inserts the value of title into the HTML rendered.

Task 4: Run the code

6. Run the index.js file with the following Terminal command:

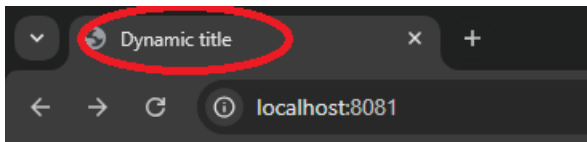
```
node index.js
```

The above command will start a web server running on port 8081.

7. Browse to the homepage route:

```
http://localhost:8081/
```

You should see the dynamic title in the browser tab:



This is home page

Homepage This is an example paragraph. Anything in tl

Task 5: Explore further

When tackling these lab activities, it's always good to stretch yourself by doing some research and attempting some changes on your own.

Can you make the header in the homepage that says 'This is home page' change to show text based on an object called header passed from main.js?

Hint: You will need to pass another property from the route handler to the EJS for that page:

```
router.get("/", (req, res) => {  
  res.render("index.ejs", {title: "Dynamic title", **ADD PROPERTY HERE**})  
});
```

Then in the EJS page, you will need to add an EJS expression to insert the value of the property in place of the 'This is home page' text.

Can you make the 'about' page operate in a dynamic way as well?

End of lab

Congratulations on completing this lab. You have successfully created a web application that serves dynamic HTML files!