HelloServer Example Lab. October 2023

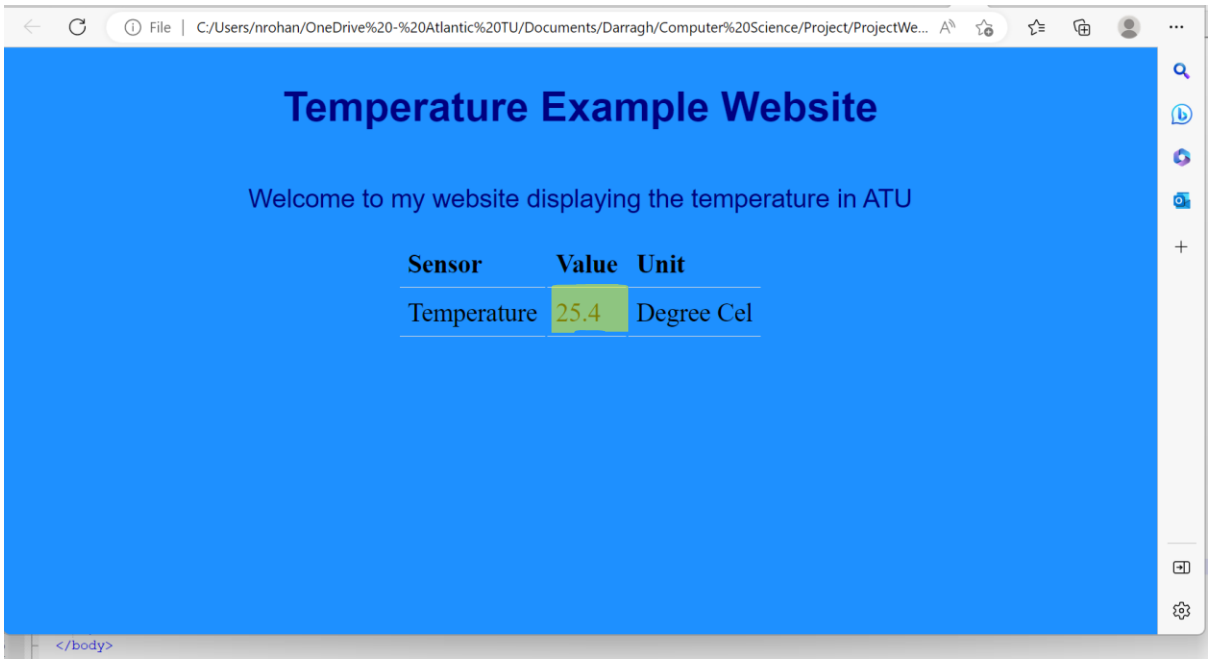
Instructions

1. Download the HelloServerEmptyWebPgEx ESP32 from Moodle code and open in the Arduino IDE.
2. Download the TempWebPage.txt (or copy it from the code below)
3. Open the TempWebPage.txt
   and view it as TempWebPage.html in W3Schools or your preferred IDE – Notepad++, VisualStudioCode etc

Code

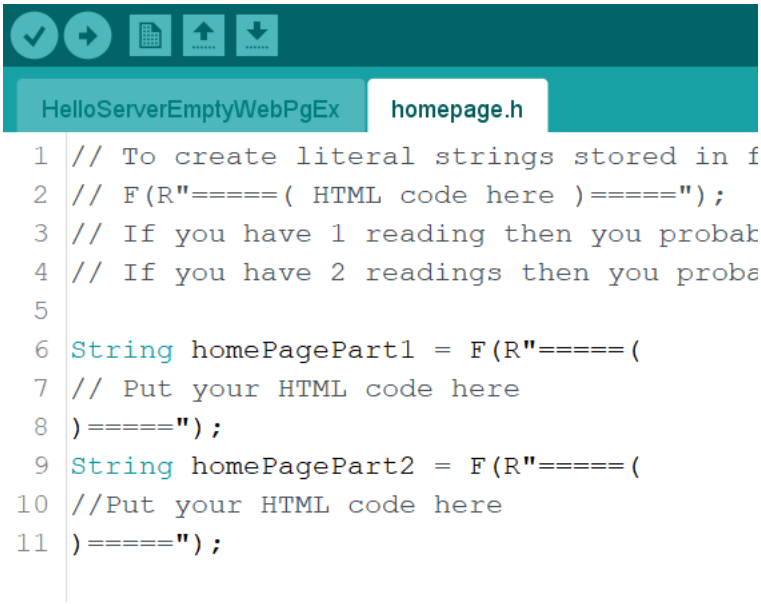
```
<!DOCTYPE html>
<html lang="en" > <!-- Needed for Screenreaders !-->
<head>
<!-- UTF-8 character set covers most characters in the world -->
 <meta charset="utf-8">
 <!-- Make page respond to screen size !-->
 <meta name="viewport" content="width=device-width, initial-scale=1, viewport-fit=cover">

<!--Include a Title. Used by Search Engines -->
<title> Temperature Reading WebServer </title>
<style>

  <!--choose good contrast between background and foreground colours -->
  body {
     background-color: DodgerBlue;
     }
     .flex-Container{
      display: flex;
      flex-direction: column;
      background-color: DodgerBlue;
      align-items: center;
     }
   h1{
   font: bold;
   font-size: 40px;
   font-family: Arial;
   color: navy;
      text-align: center;
  }
  p{
    font-size: 25px;
    font-family: Arial;
    color: navy;
      text-align: center;
   }
  th, td {
    font-size: 25px;
    padding: 8px;
    text-align: left;
```

```
   border-bottom: 1px solid #ddd;
}
</style>
</head>
    <body>
            <div class="flex-Container">
            <h1> Temperature Example Website </h1>

            <p>Welcome to my website displaying the temperature in ATU</p>

            <table>
     <tr>
      <th>Sensor</th>
      <th>Value</th>
      <th>Unit</th>
     </tr>
     <tr>
      <td>Temperature</td>
      <td> 25.4</td>
     <td>Degree Cel</td>
     </tr>
    </table>
   </div>
    </body>
</html>
```



4. Note that the webpage served will always be the same apart from the actual temperature reading highlighted here in green. This is a dummy reading.

5. Copy all html code above prior to 25.4 into the C++ String homepage Part1 in the homepage.h file in the ESP32 code.
   String homePagePart1 = F(R"=====(
   // Put your HTML code here
)=====");
   Copy all html code above after 25.4 into the C++ String homepage Part2 in the homepage.h file in the ESP32 code.
   String homePagePart2 = F(R"=====(
   // Put your HTML code here
)=====");

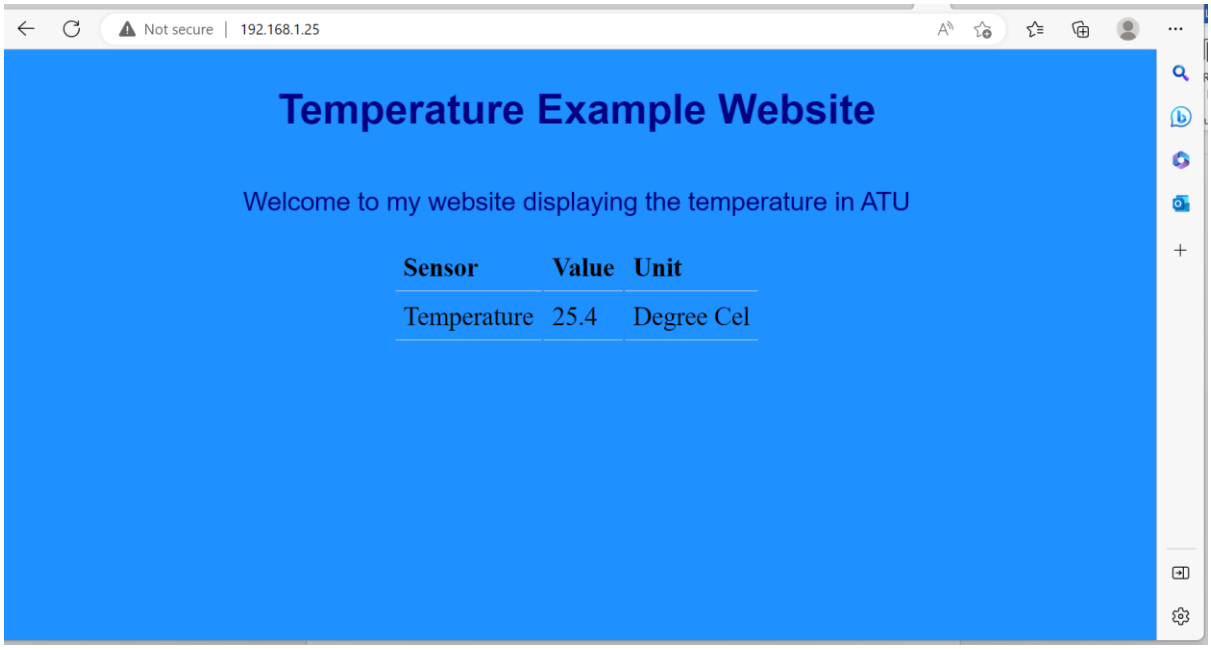



```
1  // To create literal strings stored in f
2  // F(R"=====( HTML code here )=====");
3  // If you have 1 reading then you probak
4  // If you have 2 readings then you proba
5
6  String homePagePart1 = F(R"=====(
7  // Put your HTML code here
8  )=====");
9  String homePagePart2 = F(R"=====(
10 //Put your HTML code here
11 )=====");
```

6. The handleRoot() function adds the webpage sections and the temperature reading together to build up a C++ String containing the webpage and then serves it. Note it's served as html code.

```
34  //temp function to simulate temp sensor
35  String getTemp() {
36    return "25.4";
37  }
38  void handleRoot() {
39    String message = homePagePart1 + getTemp() + homePagePart2;
40    server.send(200, "text/html", message);
41  }
```

7. Compile and run the ESP32 code. It should serve the following webpage



8. Replace the getTemp() function which reads an actual temperature using the DHT11.