

PicoMiteWeb network course

Chapter 12

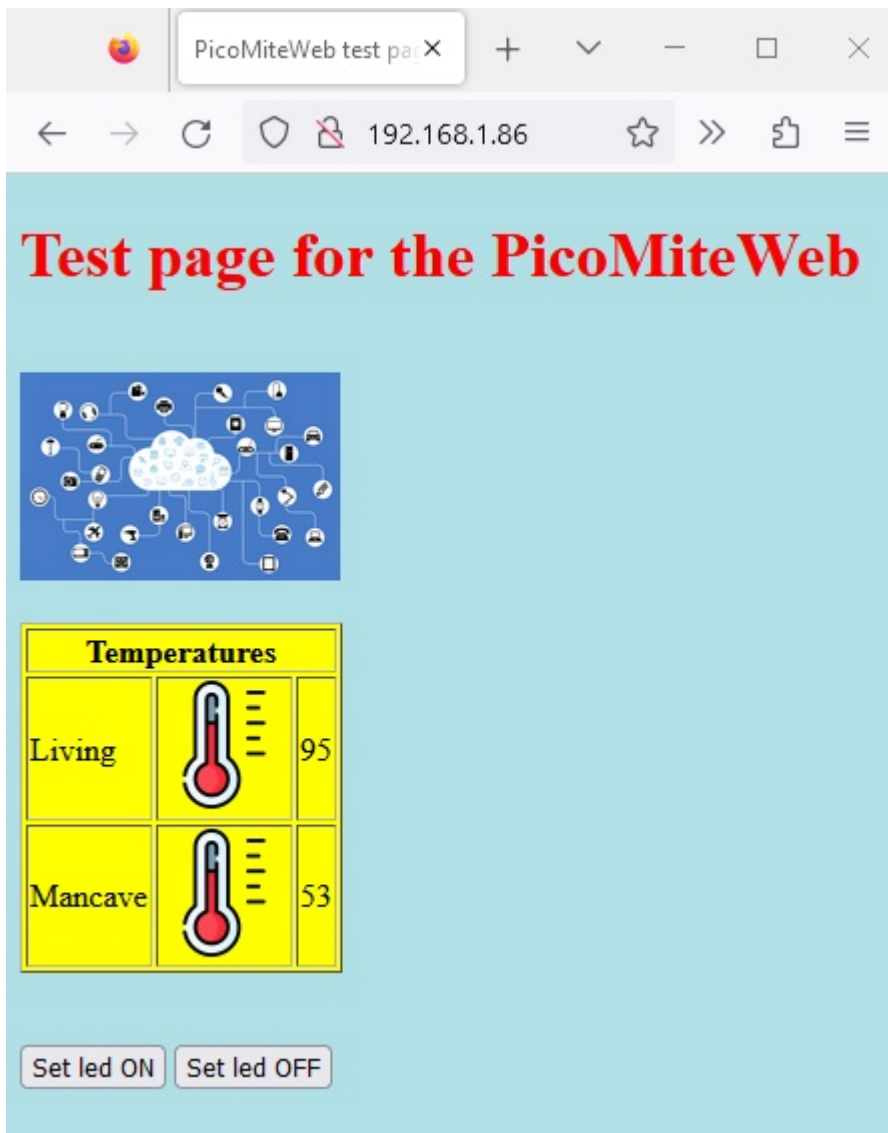
Goal.

In this chapter we are going to put some nice looking buttons on our webpage.

Save your files first !!!!

The previous chapter showed how to add buttons to a webpage. Those buttons would send a signal to the PicoWeb and that made a led go on or off.

The webpage that was generated by the PicoWeb looks like this:



For your convenience I hereby give you the server11.bas code:

```
Dim buff%(512)
WEB ntp 1
PRINT
PRINT "Your IP address is : " + MM.Info(ip address)
PRINT

SETPIN GP15, DOUT

WEB tcp interrupt serverstart

Do
  randomnum = Int(Rnd(100)*100)
  randomnum2 = INT(rnd(100)*100)
Loop

Sub serverstart
Local p%, t%
For a%=1 To MM.Info(MAX connections)
  LongString CLEAR buff%()
  WEB tcp READ a%,buff%()

  p%=LInStr(buff%(),"GET")
  t%=LInStr(buff%(),"HTTP")
  s$=""
  If (p%<>0) And (t%<>0) And (t%>p%) Then
    s%=LGetStr$(buff%(),p%,t%-p%+4)
    Print "String is ",s$
  EndIf
  IF INSTR(s$,"button1=ON") THEN
    PRINT "button1 ON is pressed"
    PIN (GP15) = 1
    WEB transmit PAGE a%,"eleven.html"
  ELSEIF INSTR(s$,"button2=OFF") THEN
    PRINT "button2 OFF is pressed"
    PIN (GP15) = 0
    WEB transmit PAGE a%,"eleven.html"
  ELSEIF Instr(s$,"HTTP") Then
    Print "sending page"
    WEB transmit PAGE a%,"eleven.html"
  EndIf
Next a%
End Sub
```

And the HTML file

```
<!DOCTYPE html>

<header>
<title>PicoMiteWeb test page</title>

<meta name="viewport" content="width=device-width,
initial-scale=1.0">

</header>

<body style="background-color: PowderBlue">

<h1 style = "color: red">Test page for the
PicoMiteWeb</h1>
<br>
  
<br>
<br>
<table border="1" style="height:75px; width:75px;
background-color: Yellow">
  <thead>
    <tr>
      <th colspan="3">Temperatures</th>
    </tr>
  </thead>

  <tbody>
    <tr>
      <td>Living</td>
      <td>
        
      </td>

      <td>{randomnum}</td>
    </tr>

    <tr>
      <td>Mancave</td>
```

```

        <td>
            
            </td>
        <td>{randomnum2}</td>
    </tr>
</tbody>
</table>
<br>
<br>
<FORM method = "GET">
<button type = "submit" name = "button1" value= "ON"
>Set led ON</button>
<button type = "submit" name = "button2" value=
"OFF">Set led OFF</button>
</FORM>
<body>

</html>

```

If you have followed these lessons these files are on your computer and on the Webmite. Please save them again now giving them the names server12.bas and twelve.html

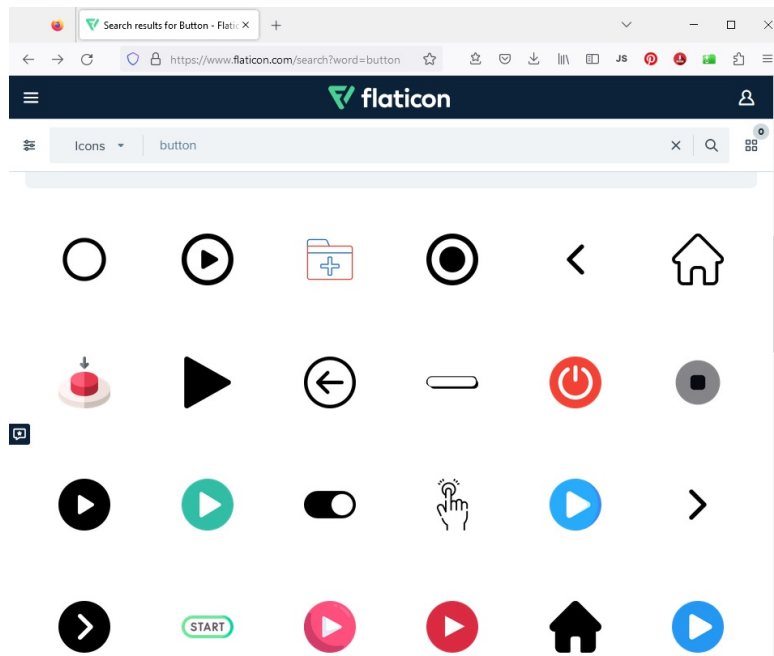
These are the files we are going to work with in this chapter.

Make sure you save them both on your computer and on the Webmite (the official new name for the PicoMiteWeb) as future updates erase your flash memory and then all files might be gone.

Revisit the free icons site.

First thing we are going to do is to revisit the flaticon website as we are going to search for some nice icons for our buttons.

So point your computers browser to: <https://www.flaticon.com/>



Search for button or buttons.



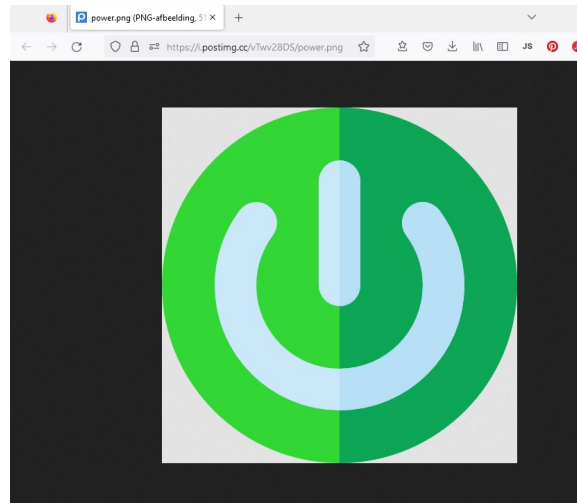
I found these two nice looking buttons. Download them to your computer. If you are not sure how do do that please re-read chapter 9.

And feel free do use other images/buttons. Use anything you like, just make sure do adjust the program and html codes later on accordingly. For simplicity I advise you first to follow the description in this chapter and later on adapt the graphics do your needs.

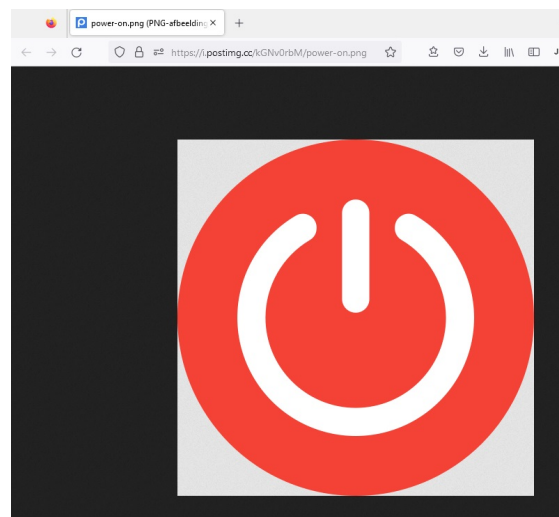
Revisit the postimage site

Like previous already discussed in chapter 9 we are going to upload the pictures of the buttons to the postimage site.

To make things easier I already have done that. So you can use them right away in this project and in your own projects.



The green button can be found using the following link:
<https://i.postimg.cc/vTwv28DS/power.png>



The red button can be found using the following link:
<https://i.postimg.cc/kGNv0rbM/power-on.png>

Putting the buttons on the webpage.

From the previous chapter you know that the code that puts the buttons on the webpage is in this section of the html file:

```
<FORM method = "GET">
<button type = "submit" name = "button1" value= "ON"
>Set led ON</button>
<button type = "submit" name = "button2" value=
"OFF">Set led OFF</button>
</FORM>
```

The information that is displayed on the buttons is Set led ON and Set led OFF. These are the texts that are put between the opening and closing tag.

To display the images in stead of the buttons we only need to change that text into the link to the button. Here is how that is done:

```
<FORM method = "GET">
<button type = "submit" name = "button1" value= "ON">
  
  </button>
<button type = "submit" name = "button2" value= "OFF">
  
  </button>
```

So we replaced the text for the button with the link to the images.

We are not putting a text in the button so we have to exactly define what we want to put in stead of the text. It is an image tag. Just like the image tag at the top of the page or the ones used for the thermometers.

The source of the image (src) needs to be put between quotation marks.



And this is how it looks.

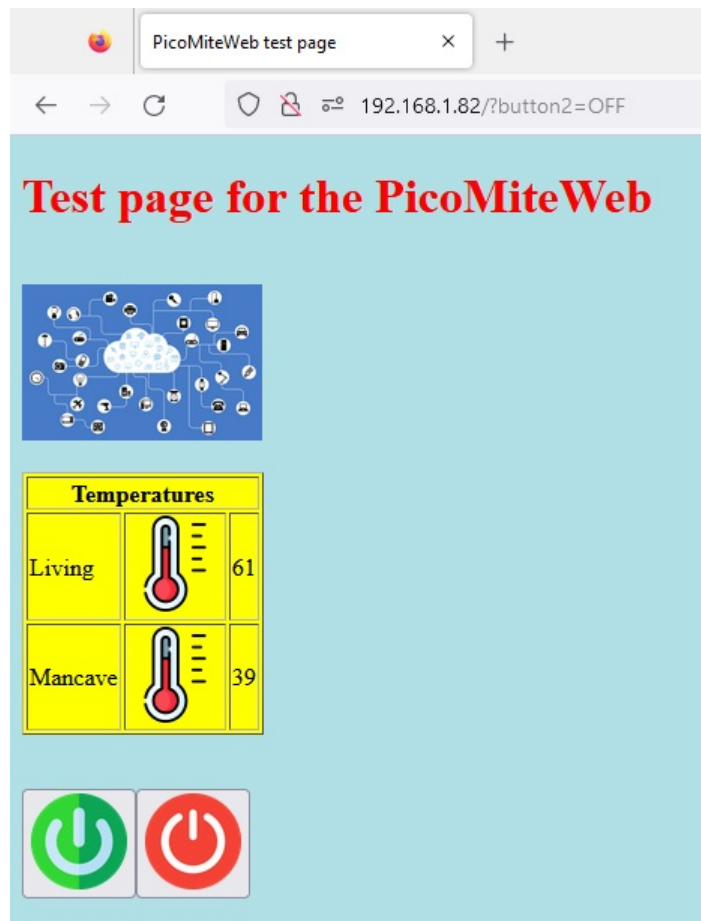
Understandably the images are far too large, so let us reduce them.

Just like we did with the thermometer we can reduce the images for the buttons with the width and height additions.

```
<FORM method = "GET">
<button type = "submit" name = "button1" value= "ON">
  
<button type = "submit" name = "button2" value= "OFF">
  

</FORM>
```

And this should give us some nice small buttons.



And there it is. And of course everything works like it should. Pressing the green button on your screen will set the led attached to the Webmite ON and pressing the red button on your screen will set the led off.

For completeness is here the full html code for the file twelve.html

```
<!DOCTYPE html>
```

```
<header>
```

```
<title>PicoMiteWeb test page</title>
```

```
<meta name="viewport" content="width=device-width,  
initial-scale=1.0">
```

```
</header>
```

```
<body style="background-color: PowderBlue">
```

```
<h1 style = "color: red">Test page for the  
PicoMiteWeb</h1>
```

```
<br>
```

```

<br>
<br>
<table border="1" style="height:75px; width:75px;
background-color: Yellow">
  <thead>
    <tr>
      <th colspan="3">Temperatures</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Living</td>
      <td>
        
        </td>

      <td>{randomnum}</td>
    </tr>

    <tr>
      <td>Mancave</td>
      <td>
        
        </td>
      <td>{randomnum2}</td>
    </tr>
  </tbody>
</table>
<br>
<br>
<FORM method = "GET">
<button type = "submit" name = "button1" value= "ON">
  
<button type = "submit" name = "button2" value= "OFF">
  

```

</FORM>

<body>

</html>

Setting the graphics by the program

Long time ago these lessons showed how to put data from the WebMite on a webpage.

To do so you need to put the data into a variable and then use that variable between brackets in the HTML file.

```
Do
  randomnum = Int(Rnd(100)*100)
  randomnum2 = INT(rnd(100)*100)
LOOP
```

In our webserver program we create a random number. That number is stored in the variable randomnum. And the same way a second random number is created with the name randomnum2

In the HTML file a table is created and in that table a graphic is shown and the randomnum:

```
<tr>
  <td>Living</td>
  <td>
    
  </td>
  <td>{randomnum}</td>
</tr>
```

This way {randomnum} is actually replaced by the random number we created in the loop.

This can be done with all variables or things we like to show on the webpage. So why not do this with the graphics for the button ????

The changes are simple.

Here is the change in the HTML code:

```
<FORM method = "GET">
<button type = "submit" name = "button1" value= "ON">
  <img src={img1$}
  width="64" height="64">
</button>
```

```
<button type = "submit" name = "button2" value= "OFF">
  <img src={img2$}
  width="64" height="64">
</button>
```

```
</FORM>
```

The link to the image is replaced by a variable with the name img1\$. To make things work the variuables name is put between brackets like this:

```
src={img1$}
```

What we now need to do is to define img1\$ and img2\$ in the webserver program.

Do

```
  randomnum = Int(Rnd(100)*100)
  randomnum2 = INT(rnd(100)*100)
  img1$=
chr$(34)+"https://i.postimg.cc/vTww28DS/power.png"+chr$(3
4)
  img2$= chr$(34)+"https://i.postimg.cc/kGNv0rbM/power-
on.png"+chr$(34)
  Loop
```

And this is how the lines in the loop should look.

There is something you really need to carefully look at.
The definition of the image is started with:

```
img1$= chr$(34)+
```

then follows the actual link:

```
"https://i.postimg.cc/vTww28DS/power.png"
```

and then again:

```
+chr$(34)
```

Why is that ???

Well it is a bit complicated.

suppose you would define the image like this:

```
img1$="https://i.postimg.cc/vTww28DS/power.png"
```

Then the variable img\$ would get as value the link which is fine. But HTML code needs the link between quotation marks. And quotation marks have the ASCII code number 34. So what we do is putting a quotation mark before and after the link and that is just what HTML needs.

For completeness I hereby give you the server12.bas source:

```
Dim buff%(512)
WEB ntp 1
PRINT
PRINT "Your IP address is : " + MM.Info(ip address)
PRINT

SETPIN GP15, DOUT

WEB tcp interrupt serverstart

Do
  randomnum = Int(Rnd(100)*100)
  randomnum2 = INT(rnd(100)*100)
  img1$=
chr$(34)+"https://i.postimg.cc/vTww28DS/power.png"+chr$(3
4)
  img2$= chr$(34)+"https://i.postimg.cc/kGNv0rbM/power-
on.png"+chr$(34)
Loop

Sub serverstart
Local p%, t%
For a%=1 To MM.Info(MAX connections)
  LongString CLEAR buff%()
  WEB tcp READ a%,buff%()

  p%=LInStr(buff%(),"GET")
  t%=LInStr(buff%(),"HTTP")
  s$=""
  If (p%<>0) And (t%<>0) And (t%>p%) Then
    s$=LGetStr$(buff%(),p%,t%-p%+4)
    Print "String is ",s$
  EndIf
  IF INSTR(s$,"button1=ON") THEN
    PRINT "button1 ON is pressed"
    PIN (GP15) = 1
    WEB transmit PAGE a%,"twelve.html"
  ELSEIF INSTR(s$,"button2=OFF") THEN
```

```

    PRINT "button2 OFF is pressed"
    PIN (GP15) = 0
    WEB transmit PAGE a%,"twelve.html"
ELSEIf Instr(s$,"HTTP") Then
    Print "sending page"
    WEB transmit PAGE a%,"twelve.html"
EndIf
Next a%
End Sub

```

And here is the code for the HTML file twelve.bas

```

<!DOCTYPE html>

<header>
<title>PicoMiteWeb test page</title>

<meta name="viewport" content="width=device-width,
initial-scale=1.0">

</header>

<body style="background-color: PowderBlue">

<h1 style = "color: red">Test page for the
PicoMiteWeb</h1>
<br>
  
<br>
<br>
<table border="1" style="height:75px; width:75px;
background-color: Yellow">
  <thead>
    <tr>
      <th colspan="3">Temperatures</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Living</td>
      <td>
        
    </td>

    <td>{randomnum}</td>
</tr>

<tr>
    <td>Mancave</td>
    <td>
        
        </td>

        <td>{randomnum2}</td>
</tr>
</tbody>
</table>
<br>
<br>
<FORM method = "GET">
<button type = "submit" name = "button1" value= "ON">
    <img src={img1$}
width="64" height="64">
</button>
<button type = "submit" name = "button2" value= "OFF">
    <img src={img2$}
width="64" height="64">
</button>

</FORM>
<body>

</html>
```


That concludes this lesson.

Here are some simple exercises you can do to practice the information from these chapters.

- Place some text on the screen between the table and the buttons. The text should be in larger letters in the color red just like the text on the top of the page.
- Place a text below the buttons that tells whether the led is on or off at the moment.