Arduino SD Card Web Server – Displaying Images

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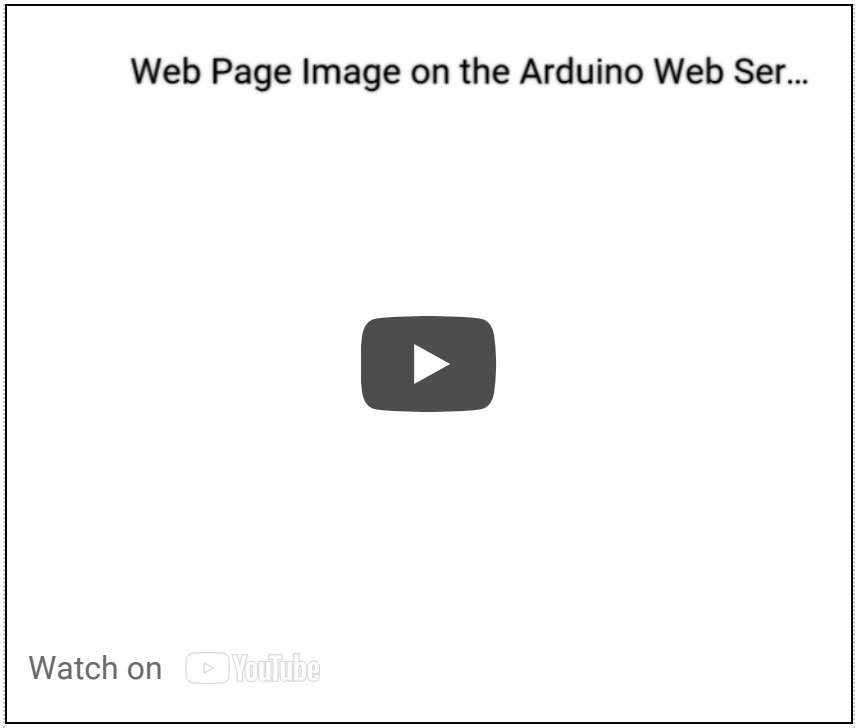
Part 11 of the Arduino Ethernet Shield Web Server Tutorial

A page hosted by the Arduino web server on the SD card contains an image. This tutorial shows how to insert a JPEG image into a HTML web page and how to send the image to the web browser when an HTTP request for the image is received by the web server.

Uses the Arduino Uno with Ethernet shield and micro SD card.

This video shows the example for this part of the tutorial in operation:



Can't see the video? View on YouTube →

HTML for Displaying an Image

The HTML **<img>** tag is used to insert an image into a web page. The web pages from the previous part of this tutorial series are used again. The **index.htm** file is modified to add an image – the HTML for this file is shown below.

```
<!DOCTYPE html>
<html>
    <head>
        <title>Arduino SD Card Web Page</title>
    </head>
    <body>
        <h1>Arduino SD Card Page with Image and Link</
        <img src="pic.jpg" />
        <p>Go to <a href="page2.htm">page 2</a>.</p>
    </body>
</html>
```

In the above HTML code, an image called **pic.jpg** is inserted into the web page using the following line of HTML code:

```
<img src="pic.jpg" />
```

The **src** attribute is used to specify the name of the image to display.

Source Code

The three files for this example can be downloaded and copied to a micro SD card that will be inserted into the card slot of the Arduino Ethernet shield.

SD_card_image.zip (8.2 kB) – contains index.htm, page2.htm and pic.jpg used in this part of the tutorial.

HTTP Requests

When connecting to the Arduino web server in this example, the web browser will first send an HTTP request to the server as normal. After the web browser has received the web page, it will find that the web page contains an image. It will then send a second HTTP request for the image.

Arduino Sketch

The Arduino sketch for this example is called **eth_websrv_SD_image** and is shown below. It is a modified version of the sketch from the previous part of this tutorial series.

```
/*-----------------------------------------------------
  Program:      eth_websrv_SD_image

  Description:  Arduino web server that serves up a ba
                page that displays an image.

  Hardware:     Arduino Uno and official Arduino Ether
```

The sketch works the same way as the sketch from the previous part of this tutorial, except for the following code which handles the JPEG image:

```
  else if (StrContains(HTTP_req, "GET /pic.jpg")) {
     webFile = SD.open("pic.jpg");
     if (webFile) {
          client.println("HTTP/1.1 200 OK");
          client.println();
     }
}
```

This code checks to see if the HTTP request from the web browser is requesting the JPEG image pic.jpg.

If the request for the image is received and it can be opened from the SD card, a OK response is sent back to the web browser. The JPEG file is then sent using the same code that sends back an HTML page.

Again, as in the previous part of this tutorial, the code was made very basic for teaching purposes. It does not handle cases where the resource (HTML file or image file) can't be found on the SD card. It also specifically only handles an image with the name "pic.jpg".

For practical use, it would be better to obtain the requested HTML page name or image file name from the HTTP request and then try to find it on the SD card. Code should be in place to handle the case where the file can not be found on the SD card.

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Did you (maybe) ever show *.svg file on web page. That is what I need.

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