Uploading New Content to Shelter WIFI Information System

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INTRODUCTORY BACKGROUND

Alachua County ARES has created a prototype Shelter WIFI information system in response to an identified "situational awareness" problem during the 2017 Hurricane IRMA experience. Using an inexpensive Raspberry Pi to operate a simple web server, shelterees as well as shelter management can view updated information and bulletins through a normal home wifi router. (Extenders can be utilized as needed to cover larger areas.)

To access the web server, shelterees would connect to the "SHELTER" wifi server, which requires no password. Either a smartphone or a laptop or notebook computer or iPad can connect.

Once connected, the browser is directed to a very simple URL such as 10.10.10.10, or to a special name, "hamradioband.com" which our group has purchased for the purpose. The home router provides IP names, and the Raspberry Pi not only provides web content services, but also provides name-server services --- enabling the system to continue to function when all other cell phone, internet and other information services have failed.

The web server is pre-loaded with scores of helpful files, manuals and forms for the ham radio shelter radio communications volunteer --- but can also accept updates with late-breaking weather or other news (such as damage assessments, utility information, food / water / fuel availability, etc).

Ham radio communications volunteers can receive updated .html files as WINLINK email attachments,

or using the FLMSG system or even through YAPP packet protocol.   Once received, the amateur radio operator then uploads the new file to the Raspberry Pi web server

This document is written to explain how to do that upload process.

EXPLANATION: FILE TRANSFER PROTOCOL

Long before the beginning of graphical operating systems such as Windows, early users of the Internet in 1971 created a protocol for the error-free transfer of computer files from one computer to another, known as "file transfer protocol" (ftp) document in RFC 114 on April 16, 1971. (https://en.wikipedia.org/wiki/File_Transfer_Protocol)   The technical details of exactly how this works aren't that complicated, basically a connection on port 21, the two computers involved establishing which port will be used to transfer the file, and the error-corrected transfer of the file. A wrinkle is the "Passive" mode used to deal with obstructing firewalls, but none of this has to concern the volunteer radio amateur.

Instead of the early command-line ftp programs, Windows users can now use an easy point-and-click graphical FTP program. Alachua ARES will be using a free **Coffee Cup FTP** program.

Download this free file here: https://www.coffeecup.com/free-ftp/   choose the free version.

This program has a standard menu structure at the top.   In the upper left half is a display of the contents of the Windows' computer's files (very similar to how Windows Explorer and almost all word processors and other file-oriented programs work).   In the upper right half is a similar display of the contents of the Raspberry Pi's folders and files.
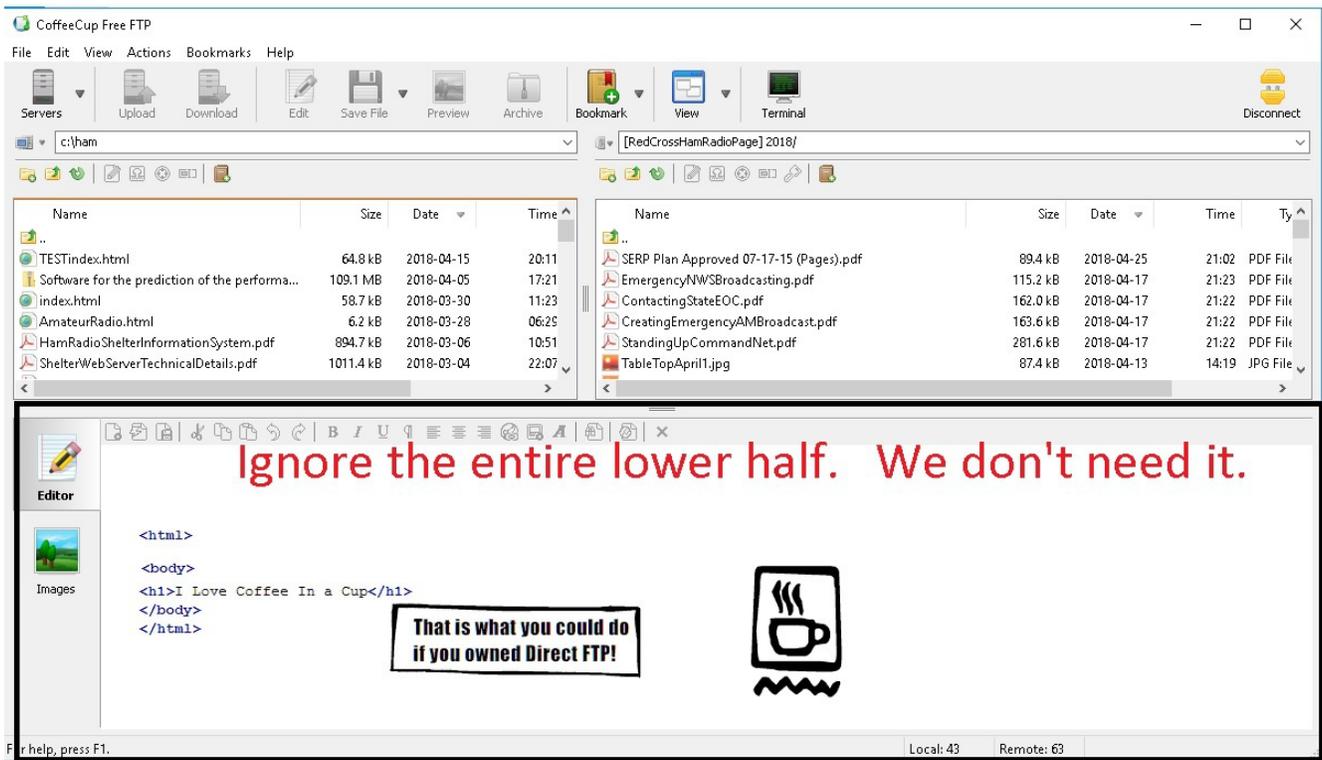
       LEFT   RIGHT
       Windows computer   Raspberry Pi

The lower half of the screen is advertising and other information from Coffee Cup that can be ignored.

ONE TIME INITIAL SETUP

The very first time the system is set up the user has to configure to allow a connection to the Raspberry Pi. This is easy, and basically involves storing the required *username* and *password*.

1.   In the Menu Bar, click   FILE | MANAGE SERVERS (the Raspberry Pi is your "server"), then click the green "+" button below the list where servers go, and add SHELTER to the nickhame list.

2.   Fill in the required information:

SERVER: hamradioband.com
Username: ARESHAM
Password: (will be released at a training meeting)

choose REMEMBER PASSWORD and then **OK**.   You should now have the Raspberry Pi server configured, and it will work for ALL of our prototypes.   Use CONNECT to make the connection.
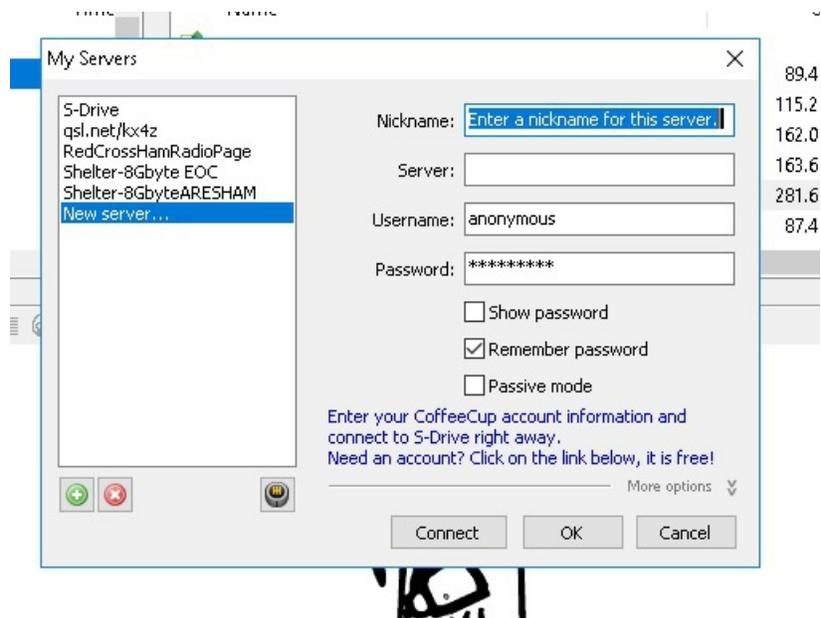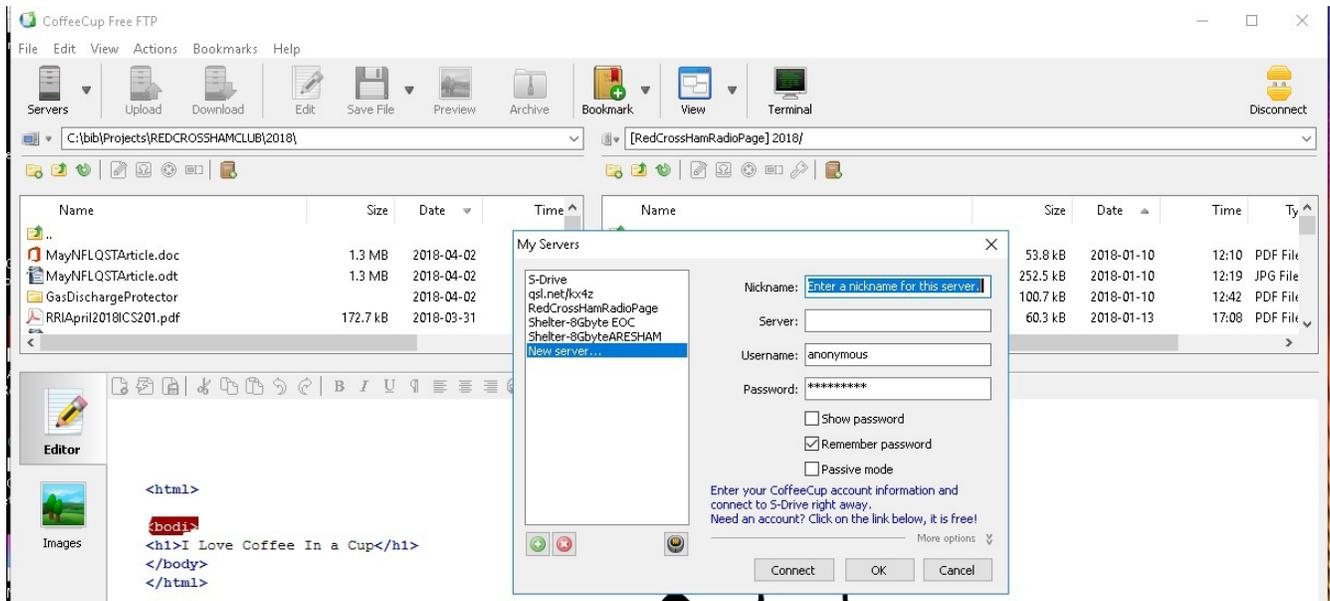
3. In your LEFT (windows) directory pane, navigate to c:\Ham directory on your computer.   Create this with Windows Explorer if it hasn't already been created --- we'll use this for all files on the Raspberry Pi.

4.   On your RIGHT (Raspberry) directory pane, it should automatically come up to the directory that already has a lot of files.

ACTUALLY TRANSFERRING A NEW FILE

1. Over WINLINK or by any other means, you are likely to receive a replacement copy of a file such as

    `AmateurRadio.html`

2. Store that file in [c:\Ham](c:\Ham)

3. Make sure you are connected to the SHELTER wifi.   (This won't work if you aren't!)

4. Bring up Coffee Cup FTP and it will automatically connect to the Raspberry Pi web server.

5. Double click the new file `AmateurRadio.html` in the LEFT pane, and it will almost instantly transfer and overwrite any previous such file on the Raspberry.

6. If you want to check, just look for the date/time on the file in the Right hand Pane (there's a circular "refresh" icon to refresh the information).

You're done.