Setting up Offdanet

Website http://twict.net

Videos Youtube channel

Training sites Blackboard (better), Udemy (older)

Download
Minimum Download

- Template folder structure   http://fs.50webs.com/files/offdanet-root.zip
- USBwebserver   http://www.usbwebserver.net/en/

Optional extra downloads

- PortableApps   http://portableapps.com/
    - Komposer (use for editing HTML pages such as LiveWrite)
    - Audacity (use to create and edit Podcasts and other audio material)
- Balabolka portable (use to create text to speech recordings for podcasts)
  http://www.cross-plus-a.com/balabolka.htm → place into PortableApps
- iSpring Converter (free PPTX to HTML5 converter)
  https://www.ispringsolutions.com/ispring-free/download.html → loads into PowerPoint
- iSpring QuizMaker (free quiz creation program exporting as HTML5)
  https://www.ispringsolutions.com/free-quiz-maker/download.html
- BGinfo (shows the IP address of the teacher's computer on the desktop)
  https://technet.microsoft.com/en-us/sysinternals/bginfo.aspx

Installation
Create a directory called '**server**' on the lowest level of a drive on your computer or on a USB memory stick (recommended 16GB+) e.g "D:\server"

Install USBwebserver into the created folder. It will then contain a set of folders.

Extract the template files into the root directory.

"D:\server\root" You will delete/overwrite any files put into root by the USBwebserver creation.

Figure 1 USBWebserver located at D:\server

Create a shortcut to usbwebserver.exe on your desktop or in a location convenient to you.
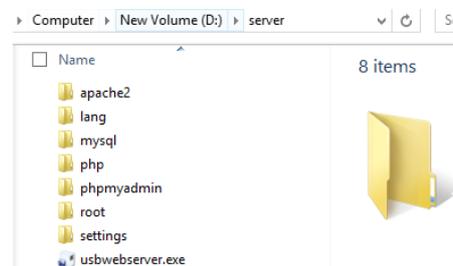
This will now give you the following file structure.

If you just click on index.html the main page will open in your browser. However, while you can navigate the pages like this we need the webserver software running to distribute the access and determine correct functionality.

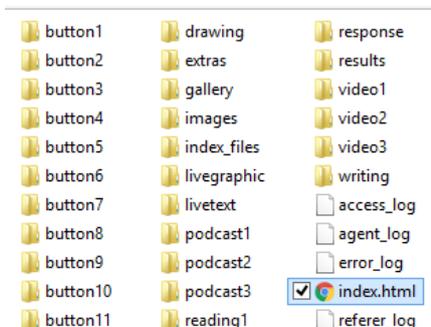We are now ready to start the server and test it out.

*Figure 2 Offdanet template extracted into D:\server\root*

Offdanet is provided for free. Please use it wisely to expand the teaching and learning in your classes.

Run the usbwebserver.exe (or short shortcut). At this stage we will only make one small change.

When you first run the usbwebserver.exe you will be asked to choose a language and then it will start. You will also get two security messages from the firewall. You will need to allow access to private networks, however you can untick public.
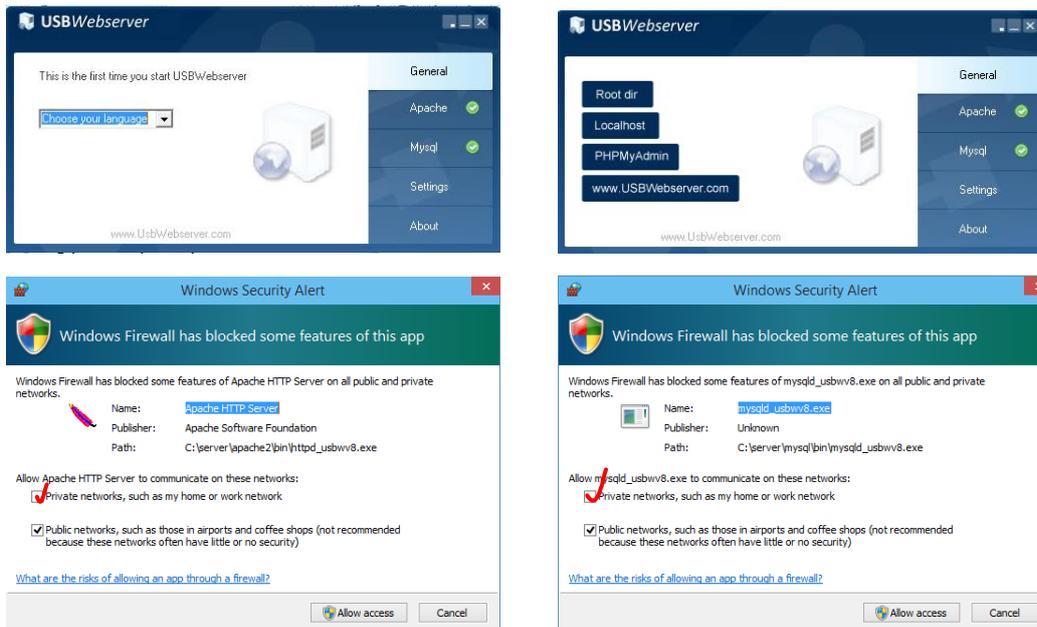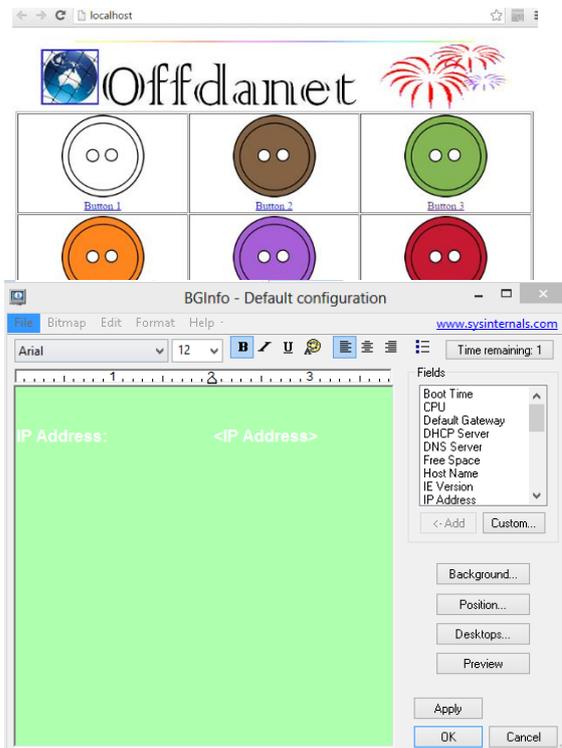

NB the Apache server will not run if Skype is running first. Exit Skype, start the server, then re-open Skype afterwards if it is needed.
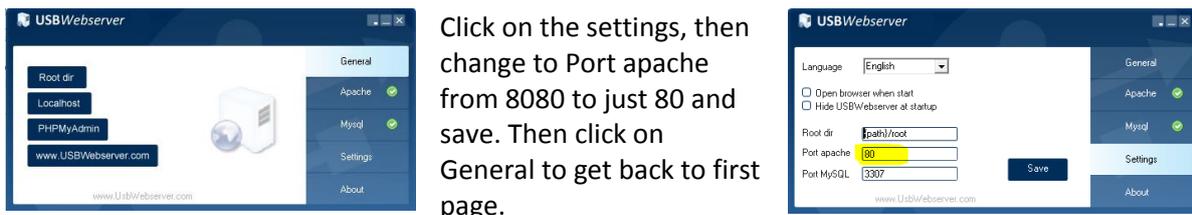
Click on the settings, then change to Port apache from 8080 to just 80 and save. Then click on General to get back to first page.

Now click on Localhost. Your default browser should now open with the Offdanet start page (index.html)

The next step is to be able to access this page from a different computer. For this you will need to be connected to a network. Later we will set up our own WiFi router to offer that network. For the moment we can test our service with another computer or device that is on the same network, either WiFi or Ethernet. If your computer and the other device are both on the same network, we need to point to your computer with an IP address. *Localhost* is only relevant to itself, so localhost on the other device will only find itself, not the Offdanet webserver. So we need to know what the IP address is for the webserver.

The best program to help us regularly find our IP address is BGinfo. This places a lot of information on our desktop including our IP address(es). We can

Offdanet is provided for free. Please use it wisely to expand the teaching and learning in your classes.
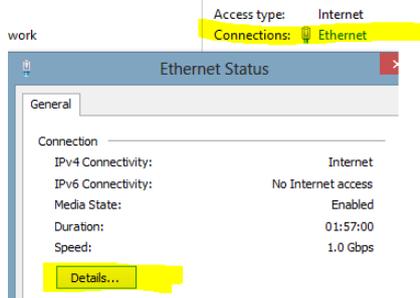
customise BGinfo so that it only shows just that address.

Just delete all the other items so that you are only left with the IP address.

We don't want to know our public IP address, which is what is facing the Internet. We should see one that begins with something like 192.168.x.x or 10.x.x.x which are intranet ones.
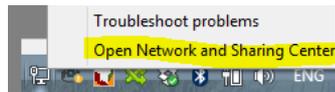
Another way to find your IP address is to open the Network setting. Either right click on the icon in the taskbar or open via the control panel. Click on the connection that is operating and look for the details button. And look for the address listed as your IPv4 address. Make a note of it.
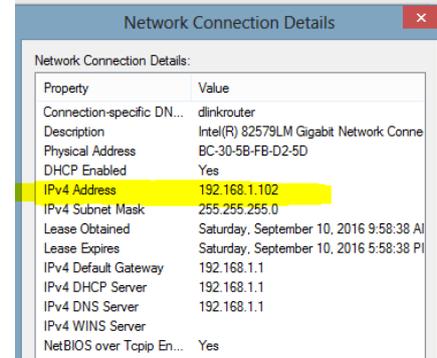
It will be subject to change, but is what we need now for our other device.

Open a browser on your other device, and in the browser address window, type in the address you found, e.g. 192.168.1.102

NB the address you use will be similar but different from this example.

On your second device you should now see the Offdanet webpage.

Troubleshooting.

If you don't see the webpage there are a few possible reasons

- The network you are using is a Work/School domain which is blocking connections.
- The network has a segmentation, perhaps separating Ethernet (wired) from Wifi connections.
- Check that you changed the Apache port to 80 from 8080. You can do this from the second device by putting in the IP address xxx.xxx.xxx.xxx:8080 eg 192.168.1.102:8080 If the page then works, remember to go back to the server and change the default from 8080 to 80.
- The IP address has not been typed in correctly – look again and ensure you are typing it exactly. Check that it hasn't changed – If your computer is rebooted it may change.
- Open a new browser on your teacher's (main) computer and type in the IP address, instead of Localhost, and confirm that it shows Offdanet.
- The webserver is not running – check that Apache has a green tick beside it. If not click on Apache and try to start it manually. Alternatively close USBWebserver and reopen it.

Setting up your WiFi router.

Much of what happens with your router will depend on the brand and model of router that you have. You will need to make some modifications based on the principles that are illustrated here but customised by the instructions provided by your manufacture. First let us consider the principles we are attempting.

We want the Router to give the BYODevices an IP address for our private service. This uses DHCP, which creates an IP address range, usually in the realm of 192.168.x.x

We need the router to offer a WiFi connection with a name (SSID). We choose a name, such as Offdanet or TeacherX, such that the BYODevices can easily identify which WiFi to connect to.

Offdanet is provided for free. Please use it wisely to expand the teaching and learning in your classes.

We configure the router to have either no security for connections, or a password that you share with your class. If there are likely to be frequent changes to which devices will be trying to connect you may opt for open, however, it is better to have a WPA2 password based system.

Your teacher's computer should be connected to the router by an Ethernet cable. This will allow devices to access your webpages quicker than if you used WiFi. Your Teacher's computer can still be connected to school infrastructure by their WiFi if you need school network access. To have two simultaneous connects like that will require some extra set up but is possible. Normally you would unplug the Ethernet cable from the school and replace it with the router cable for the duration of your lesson. **Do not plug the school network cable into your router.**

First level test.

1. Plug in the router – if this is a brand new router you should have information with it about its starting default IP address, WiFi SSID and password, and Administrator login and Password. Make a note of all of these.
2. Connect the computer by Ethernet cable to one of the Ethernet ports (not the WAN port).
3. Find out your new IP address, and note it down.
4. Run USBWebserver.
5. Start a second device, and connect to the router WiFi. (refer to default SSID and password)
6. You will probably get a warning that the connection doesn't have Internet connectivity (which is correct, it doesn't ☺).
7. Open a browser and put in the IP address of the computer.

This is the barebones of the system. It is flawed because the address of the teacher's computer can change, the SSID of the router is not customised and we don't have the router secure.

What we want now:

- Change the router administrator password – for security
- Change the SSID to a custom name – for ease of use
- Set the WiFi security password
- If possible set the IP address of the teacher's computer such that it will always be the same.

Log onto the router. In a browser type in the router IP address, such as 192.168.xxx.**1** You will then need to enter the administrator username and password, which should be given with the new router. Once logged in, search for the Change password option and create a new administrator password. Remember it! Don't use the same one as the SSID password!

Find the WiFi settings menu (perhaps under Advanced). Change the SSID to a meaningful name. Choose WPA2 as a security system and create a simple password. Remember children will need to type it in the first time they connect.

One of the most useful features is to have the teacher's computer always have the same IP address. This makes it much simpler for BYOD to find the webserver when they connect each time. They can save the page as a favourite. As the teacher's computer, which is connected to the router by Ethernet cable, is likely to be the first device to receive an IP address (from the DHCP service of the router) then it is likely to be offered the same lowest number each time. But that may not work always. Most routers will let you set an IP address as *reserved* for a particular computer, based on the MAC address of the computer's network adapter. That is what we would like to set up. Unfortunately, that is very different between different routers. When a reserved address is set, whenever that particular computer is connected to the router it will get the same reserved IP address and BYODevices will be able to find it from a favourite or bookmark easily. It can be permanently written up somewhere. If a reservation is not used, then you should confirm your teacher's IP address (use BGinfo.exe) each time you start a session.

Having a reserved IP address can also make it easier to have some programs in the template exit correctly back to the main start page based on that address. My preference is to also change the IP address range too. I use 192.168.3.1 as my router address, 192.168.3.3 as my reserved teacher's computer address and 192.168.5~100 as the available addresses for client BYODevices. If you are not sure about changing the DHCP range of your particular router, then seek help first as you can inadvertently loose access to the admin console.

Loading the buttons

Now we need some content in the buttons. First click on the buttons to check that they are finding the default under-construction image.

To have something display in standard button areas, all we need, is to have the material start with an index.html file and it (together with any data files) to be placed into that button's folder area. It just replaces the existing index file. To convert material to html will be looked at further below.

The Reading button was initially set up to run PDF's but they caused too much trouble between different devices so now I recommend avoiding PDF's altogether and just using HTML. The Book icon is just use to emphasize that it is pointing specifically to written work.

The audio/podcasts area is different. In these three buttons you should not change the HTML file. Instead you will be loading in a narration file. You should make both an MP3 version and an OGG version to be compatible with most devices and browsers. If you have recorded in Audacity then just export twice, once for each format and both with same name narration.mp3/narration.ogg. Use lowercase letters for the filenames. Depending on the device, some will play automatically on opening and some will need to have a play button clicked to start them. Try to keep file sizes small by adjusting your recording parameters. Remember these will be streamed from your computer so you don't want it working too hard.

To change the picture used in Live Image, go into the folder and replace image1.jpg with your choice. You may need to experiment with the best dimension size for your devices (resize the file) and again try to keep the file bit size small to speed up distribution.
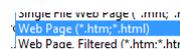
To set up the You Write function we must make a table with the USBWebserver PHPmyadmin tool. There is a configuration video available on YouTube to walk you through this. However, the simplest method would be for you to copy the entire mysql folder from TWICT.net and replace the contents of the *mysql* area of USBWebserver. That will create a student writing area, and six groups with writing areas. You will still need to learn how to use the PHPmyadmin area to clear and delete entries but it will give you the links readymade.
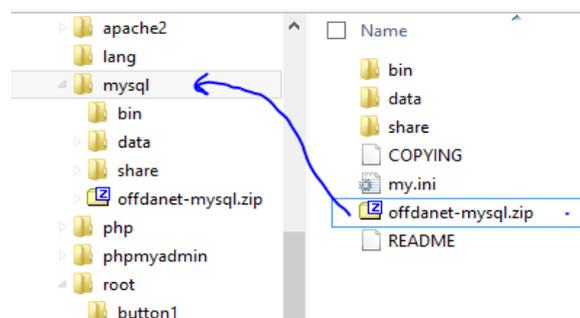
3 Unzip the mysql.zip and replace the contents

Creating material for use in the template:

Word documents. Save as, choose file type html.   Name the file index, and make sure you put an 'l' at the end of the extension so that it is index.html not index.htm for it to work. Drag the file into a button folder.

Excel documents. Save as, choose file type html.   Name the file index, and make sure you put an 'l' at the end of the extension so that it is index.html not index.htm for it to work. Drag the file into a button folder.

Offdanet is provided for free. Please use it wisely to expand the teaching and learning in your classes.

PowerPoint. To make the PowerPoint interactive don't use the Save as method. Instead convert it to html with iSpring converter or upload it to an online conversion site such as zamzar.com. With iSpring converter installed you have a tab in PowerPoint for doing conversions. Once selected just click Publish and specify the mobile option for HTML5. iSpring will create an index.html file and a data folder. Copy both into a button and test.

Quizzes can be made in a variety of programs. Choose one that will export as html5. iSpring QuizMaker free is a good choice. QuizFaber is another good program for creating quizzes in.

Audio content can be played but needs to be made as both an MP3 version and an OGG version to be compatible with most devices and browsers. If you have recorded in Audacity then just export twice, once for each format and both with same name narration.mp3/narration.ogg. Replace the existing narration files to update. Don't change the html file.

Videos can be shown but we must be very careful about overloading the system with the bandwidth demands that they could make on your computer. Watch file sizes. For compatibility you should save videos as both MP4 and OGG file types in a similar way to audio. Save as video.mp4 and video.ogg

Images can be placed in the gallery area for easy display. Every image has the same name which is *image.jpg* and is dropped into one of 16 gallery folders.

Hotpotatoes is a great older program for producing HTML content such as crosswords, fill-in-the-gaps etc. The only problem with Hotpotatoes is that the shape and size of the creations are not particularly suited to smaller devices. Hotpotatoes was designed for desktops and keyboards.

Internet Webpage. Whilst we are not on the Internet it is still possible to show a webpage to the BYOD devices. Saving a webpage from an Internet session into one of the buttons will let students access it off-line. Of course any links from it won't work, but the raw content will display. Fuller multiple page websites can be downloaded with programs such as Getleft or HTTrack and placed inside a button too. Before you start your session, while connected to the Internet, download the page and save it to a button. Switch Ethernet cables and start the router. The page should now be available from your computer.