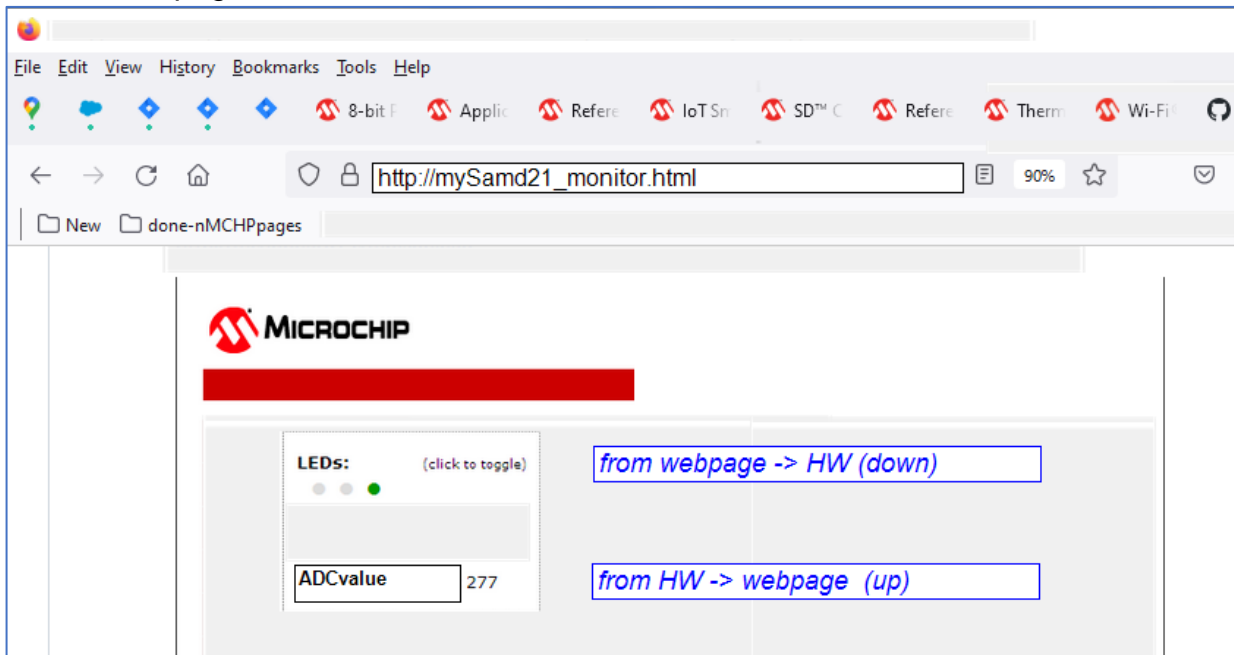


LabManual used for FHDortmund-session Nov.2022 on how to create a FW with webServer that hosts a webpage like this



which provides a two-way communication

1. downLink: web->phyHW: push-button on webpage to toggleLED
2. upLink: phyHW->web: continuously/dynamically read value of extPoti that simulates an analog value which could also be the engine-rpm

## TOC

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### History

v1.0: first version (SL, 31.10.22)

## first version of webserver 'L1basic\_telnet\_0-1-?'

to run step1 of webserver-demo

## 1. base-prj

The base prj is <h3>\wireless\_apps\_winc1500\apps\wifi\_tcp\_server\_in\_softap

All that was not needed was removed

## 2. Get prj from git

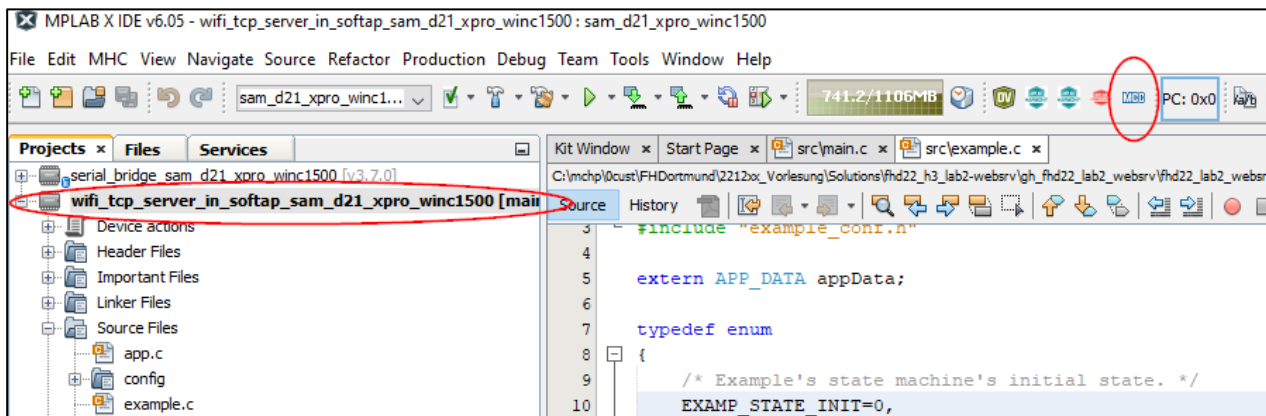
Get prj from git with

```
(dos)> cd <yourPath>
```

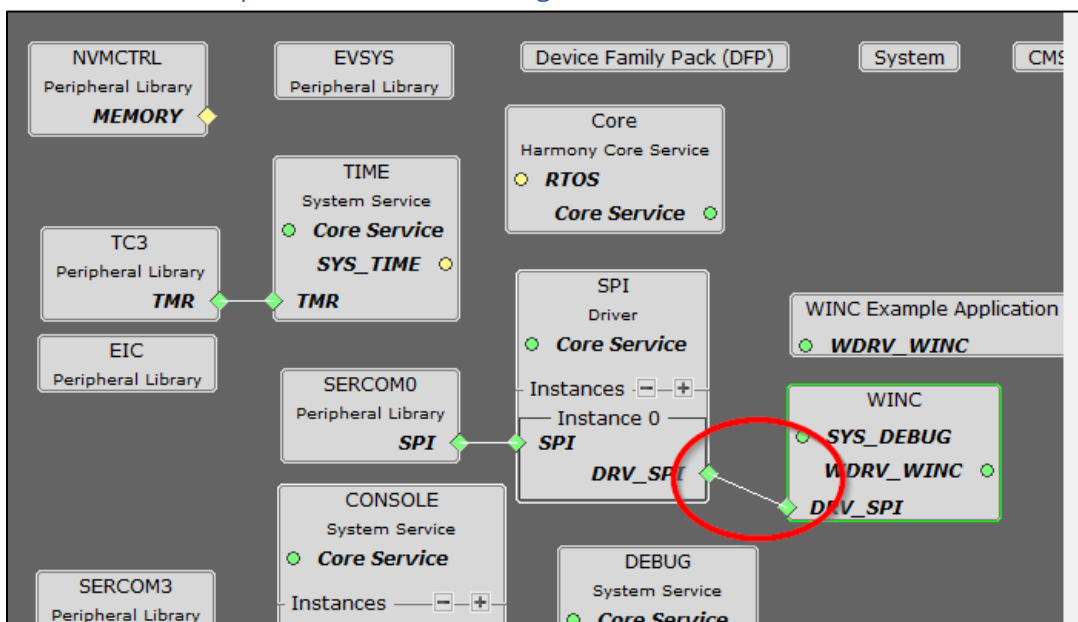
```
(dos: yourPath\)> git clone \
    https://github.com/stefanluethin-microchip/gh_fhd22_lab2_websrv
```

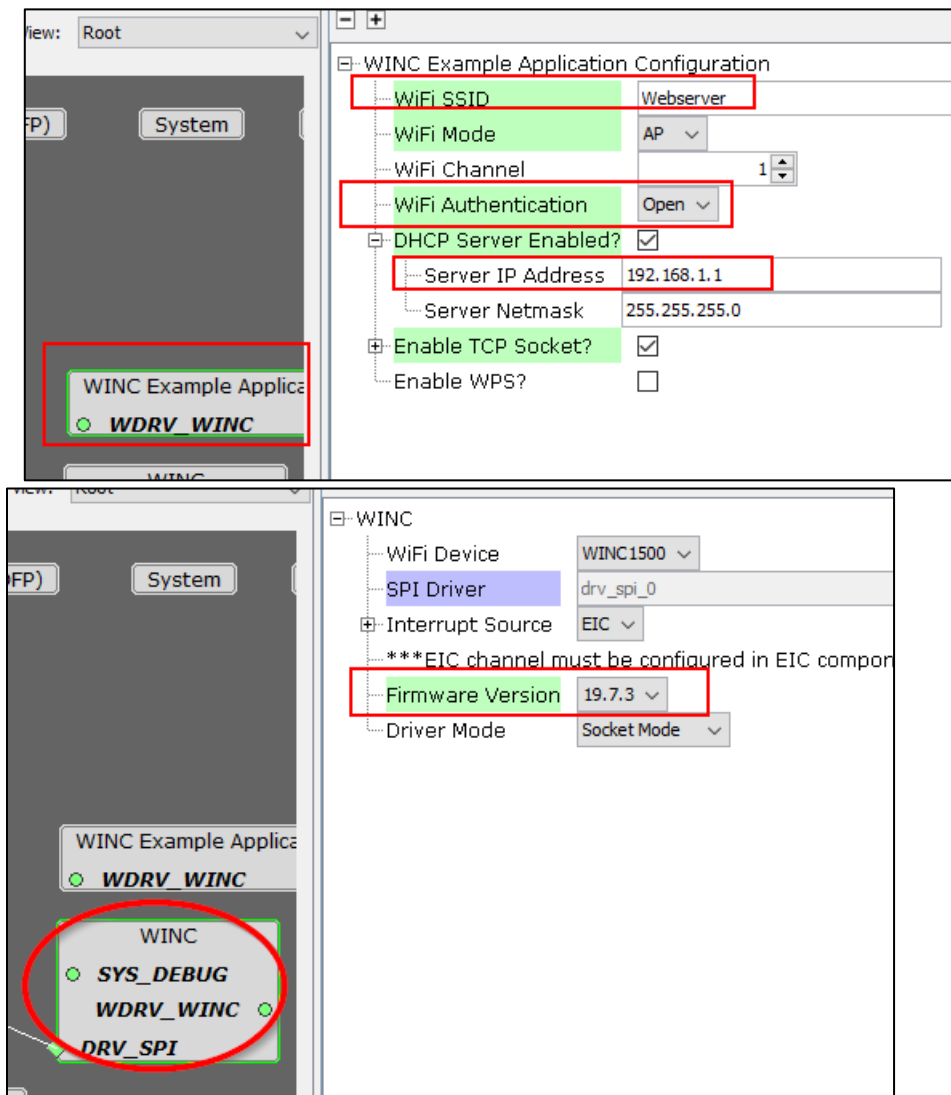
## 3. MPLABX

Load prj '<repo>\fhd22\_lab2\_websrv\firmware\sam\_d21\_xpro\_winc1500.X'



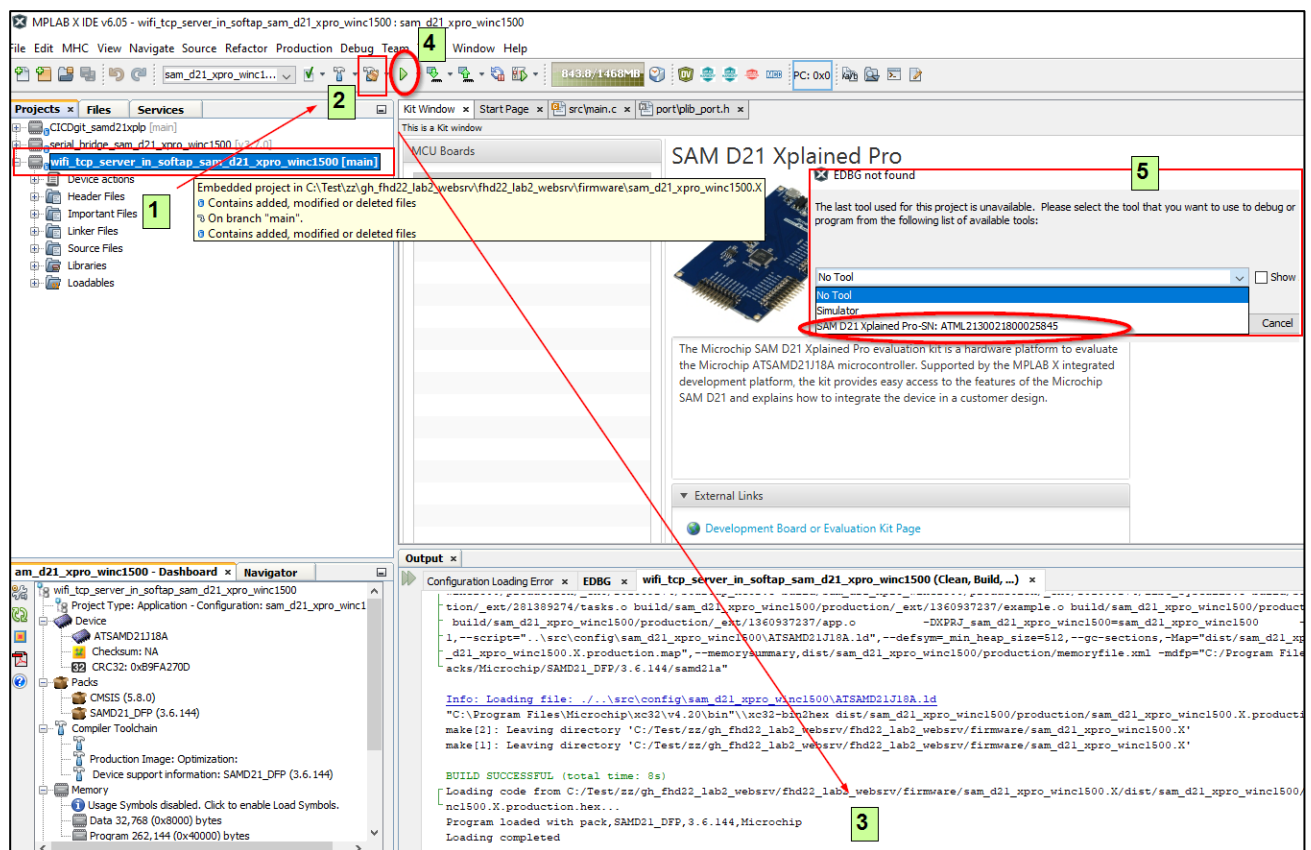
## 4. Start MCC check that you have these settings correct





## 5. download+run prj

Next download and run



If all works fine, you should see 'loading completed'

## 6. vCOM

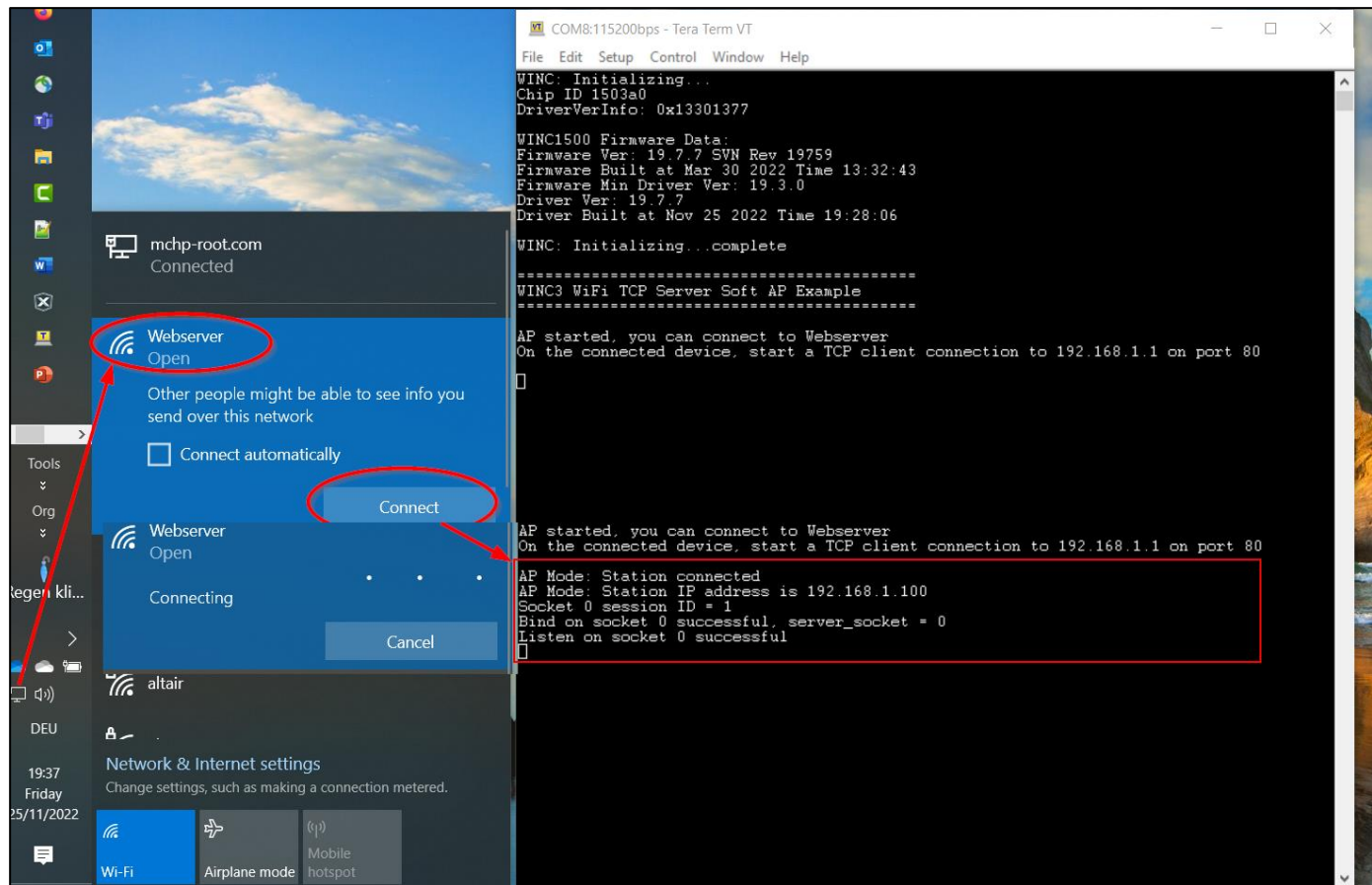
Now open a console and connect to the vCOM and press HW-reset

```
COM8:115200bps - Tera Term VT
File Edit Setup Control Window Help
WINC: Initializing...
Chip ID 1503a0
DriverVerInfo: 0x13301377
WINC1500 Firmware Data:
Firmware Ver: 19.7.7 SVN Rev 19759
Firmware Built at Mar 30 2022 Time 13:32:43
Firmware Min Driver Ver: 19.3.0
Driver Ver: 19.7.7
Driver Built at Nov 25 2022 Time 19:28:06
WINC: Initializing...complete
=====
WINC3 WiFi TCP Server Soft AP Example
=====
AP started, you can connect to Webserver
On the connected device, start a TCP client connection to 192.168.1.1 on port 80
[]
```

You should see something like above. Now you're winc1500/webserver is ready to be connected to -&gt; next

## 7. Connect to winc1500

In the H3-settings you specified the SSID=Webserver so connect from your PC to it now



## 8. telnet

once your connected to your 'Webserver' you can now connect via telnet to communicate with it via telnet.

In the H3-settings you assigned the IPaddress 192.168.1.1 to it and start tcp-port '80' so open a dos-shell (telnet comes with win10, but must be activated -> search web / alternatively you can use putty, Terraterm which include telnet-clients).

A successful connect via telnet to 192.168.1.1:80 is confirmed with the msg 'Hello, here is winc1500' -> see below screenshot

## 9. Use webserver

Once connected you can now use the webserver - in this first version it provides these features:

- '0' to turn onboard LED0=off
- '1' to turn onboard LED0=on
- Press SW0-button and send '?' -> current button-state is reflected
- Release SW0-button and send '?' -> current button-state is reflected

```

COM8:115200bps - Tera Term VT
File Edit Setup Control Window Help
WINC: Initializing...
Chip ID 1503a0
DriverVerInfo: 0x13301377
WINC1500 Firmware Data:
Firmware Ver: 19.7.7 SVN Rev 19759
Firmware Built at Mar 30 2022 Time 13:32:43
Firmware Min Driver Ver: 19.3.0
Driver Ver: 19.7.7
Driver Built at Nov 25 2022 Time 19:28:06
WINC: Initializing...complete
=====
WINC3 WiFi TCP Server Soft AP Example
=====
AP started, you can connect to Webserver
On the connected device, start a TCP client connection to 192.168.1.1 on port 80
AP Mode: Station connected
AP Mode: Station IP address is 192.168.1.100
Socket 0 session ID = 1
Bind on socket 0 successful, server_socket = 0
Listen on socket 0 successful
Connection from 192.168.1.100:15107
Received something on socket 1 [0]
] ceived something on socket 1 [
Received something on socket 1 [
Received something on socket 1 [
Received something on socket 1 [1]
] ceived something on socket 1 [
Received something on socket 1 [
Received something on socket 1 [0]
] ceived something on socket 1 [
Received something on socket 1 [
Received something on socket 1 [?]
] ceived something on socket 1 [
Received something on socket 1 [
Received something on socket 1 [?]
] ceived something on socket 1 [
Received something on socket 1 [
]

C:\Windows\System32\cmd.exe - telnet 192.168.1.1 80
C:\Test\zz\gh_fhd22_lab2_websrv>telnet 192.168.1.1 80
Trying 192.168.1.1...
Connected to 192.168.1.1.
Escape character is '^H'.
Hello, here is WINC1500 ;-)
0 0=LEDon
1 1=LEDOff
0
?
[PRESSED]? press/release SW0 and send '?'
[RELEASED]? and current status is reflected
  
```

## 10. End 'L1basic\_telnet\_0-1-?'

Next step to follow...

#eof