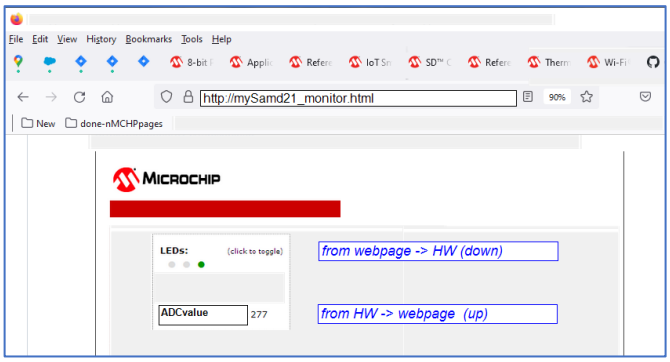
LabManual used for FHdortmund-session Nov.2022 on how to create a FW with webServer that hosts a webpage like this



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

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Contents

History

v1.0: first version (SL, 31.10.22)

first version of webserver 'L1basic_ telnet_0-1-Q'

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

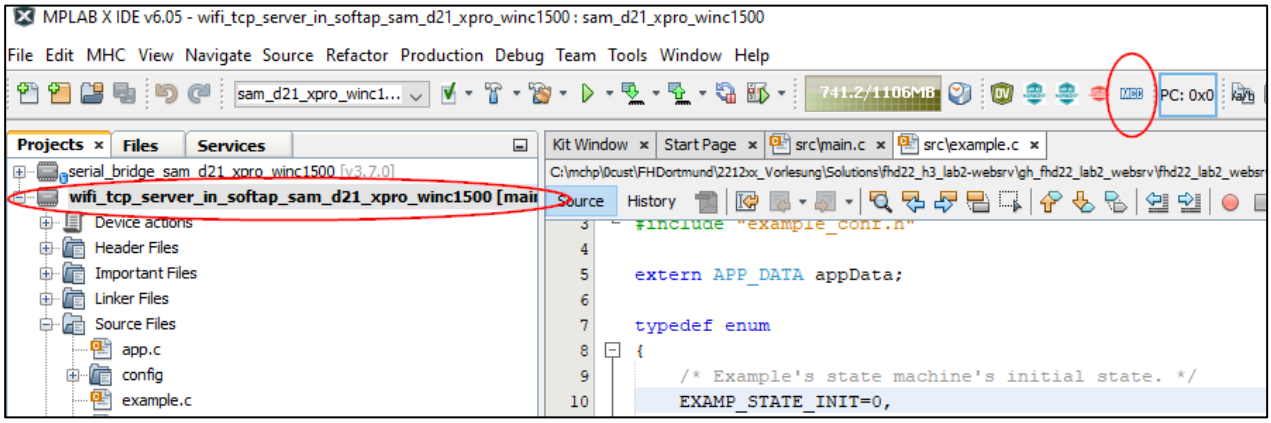
2. Get prj from git

Get prj from git with

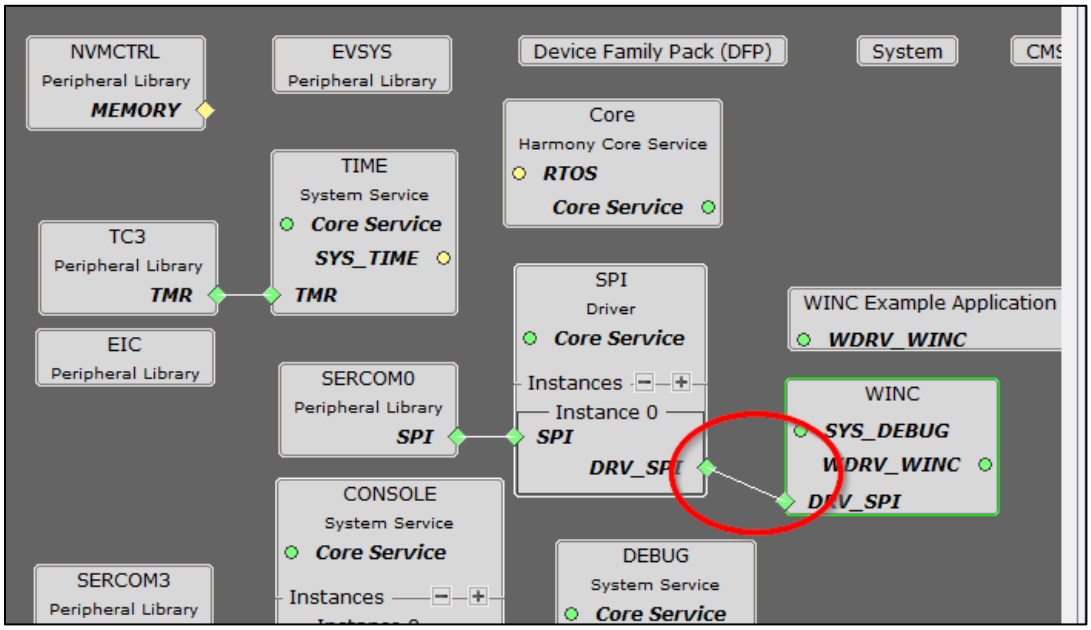
```
(dos)> cd <yourPath>

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

(dos: yourPath\)> git checkout L1basic_telnet_0-1-Q
```

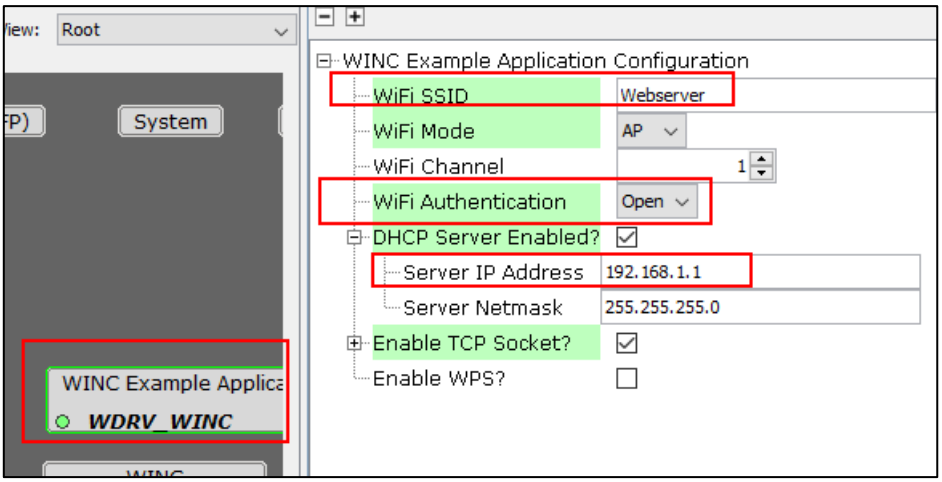
3. MPLABX

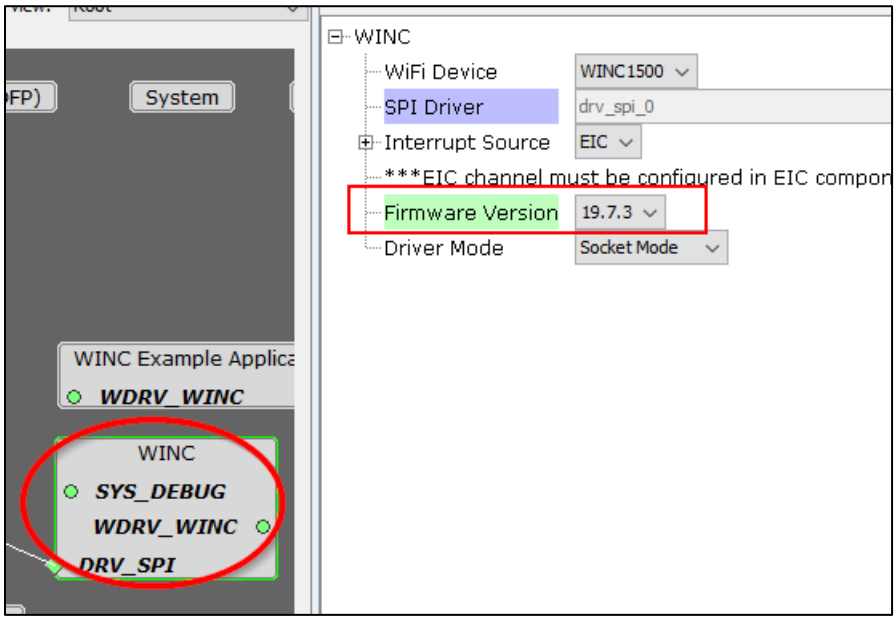
Load prj '<repo>\fhd22_lab2_websrv\firmware\sam_d21_xpro_winc1500.X'



4. Start MCC check that you have these settings correct

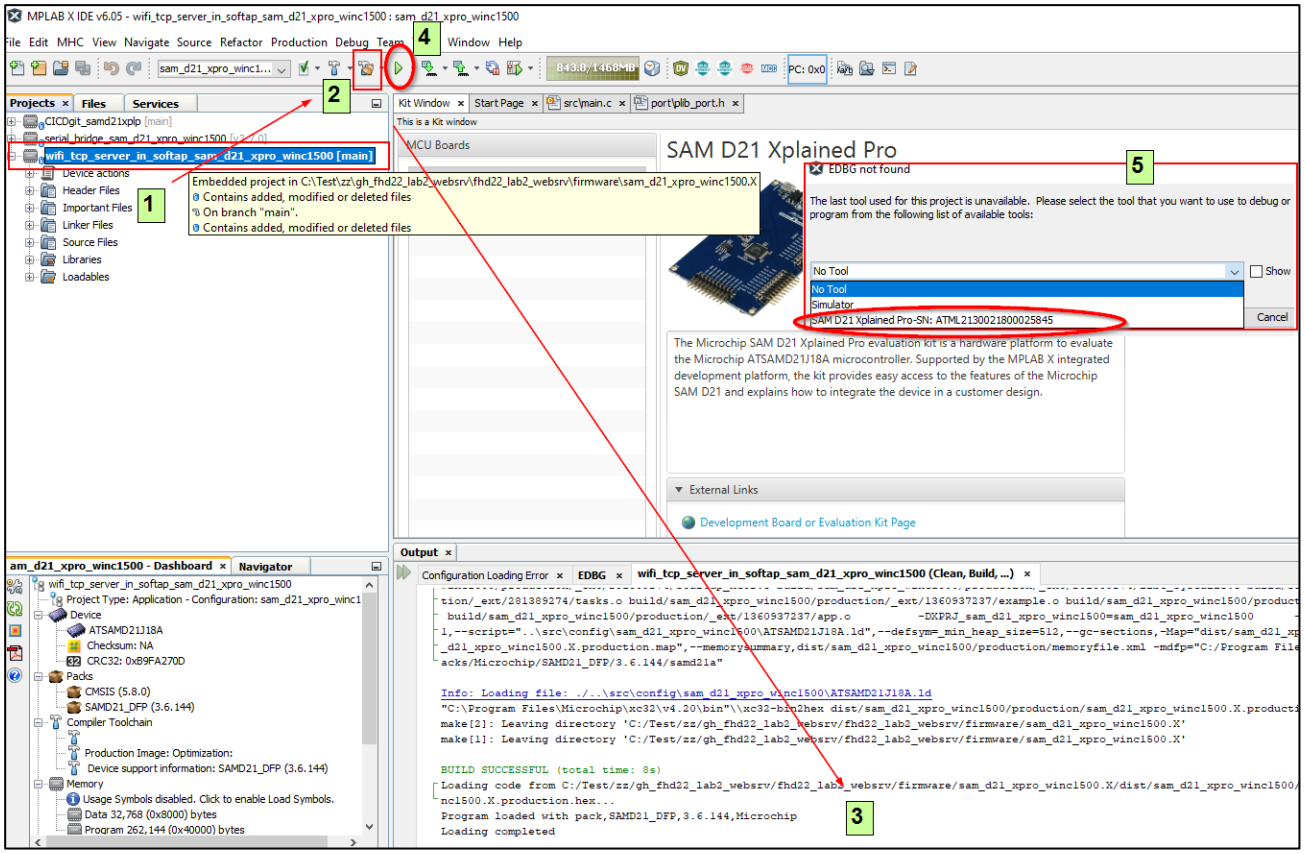



Root
System
WINC Example Applica
WDRV_WINC
WINC Example Application Configuration
WiFi SSID
Webserver
WiFi Mode
AP
WiFi Channel
1
WiFi Authentication
Open
DHCP Server Enabled?
Server IP Address
192.168.1.1
Server Netmask
255.255.255.0
Enable TCP Socket?
Enable WPS?


System
WINC Example Applica
WDRV_WINC
WINC
SYS_DEBUG
WDRV_WINC
DRV_SPI
WINC
WiFi Device
WINC1500
SPI Driver
drv_spi_0
Interrupt Source
EIC
***EIC channel must be configured in EIC compon
Firmware Version
19.7.3
Driver Mode
Socket Mode

5. download+run prj

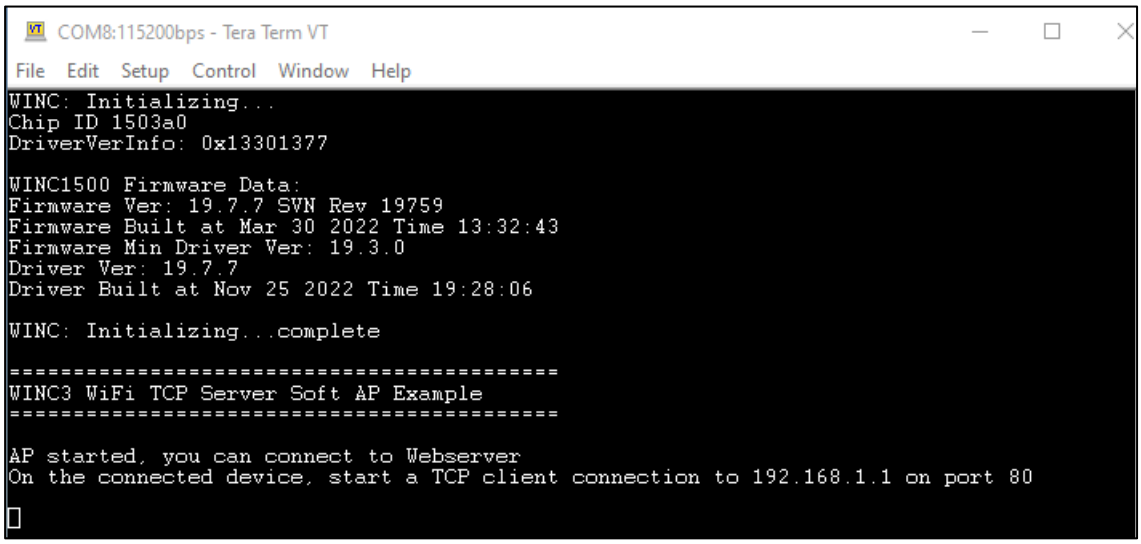
Next download and run



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

6. vCOM

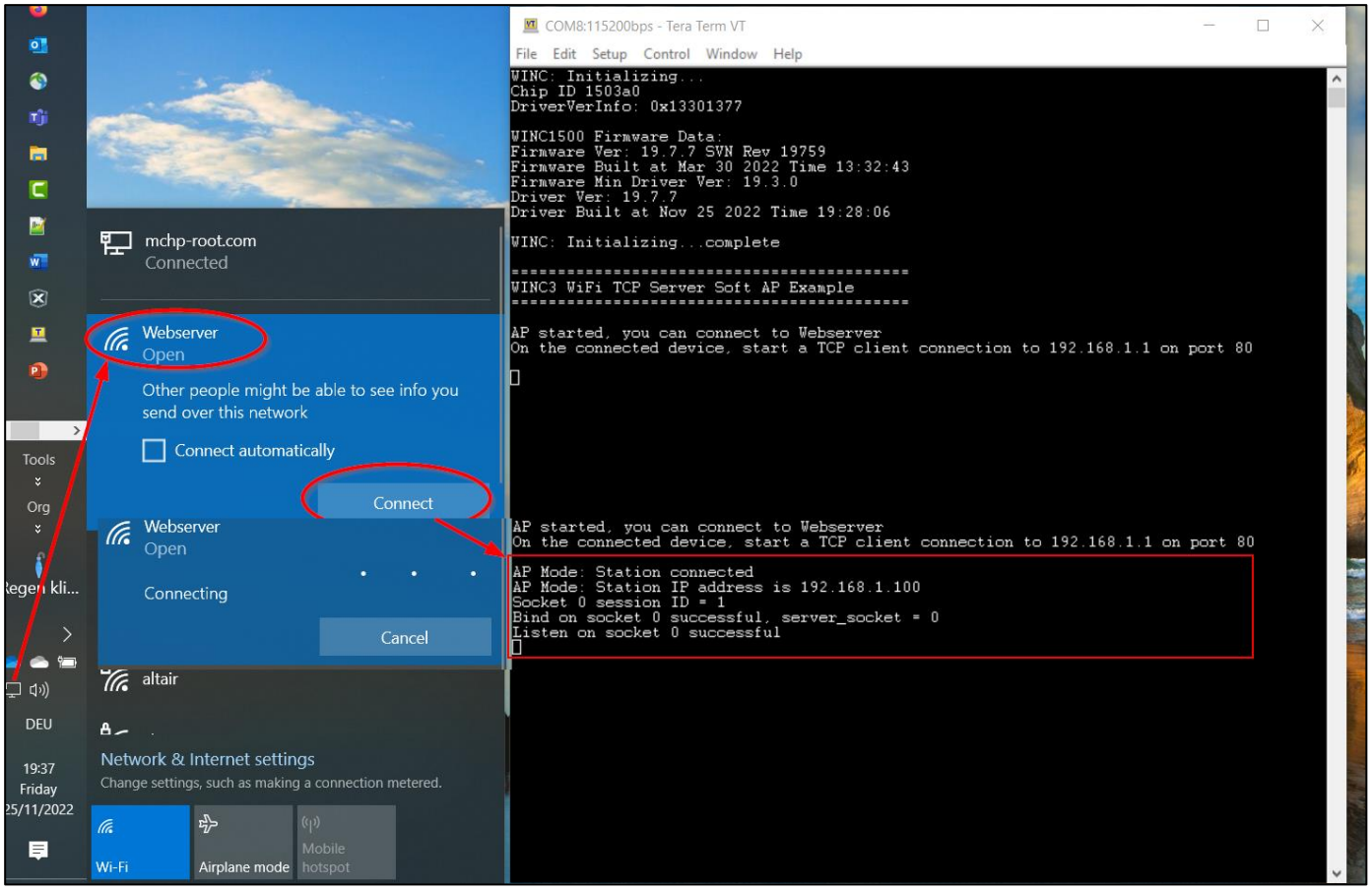
Now open a console and connect to the vCOM and press HW-reset



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

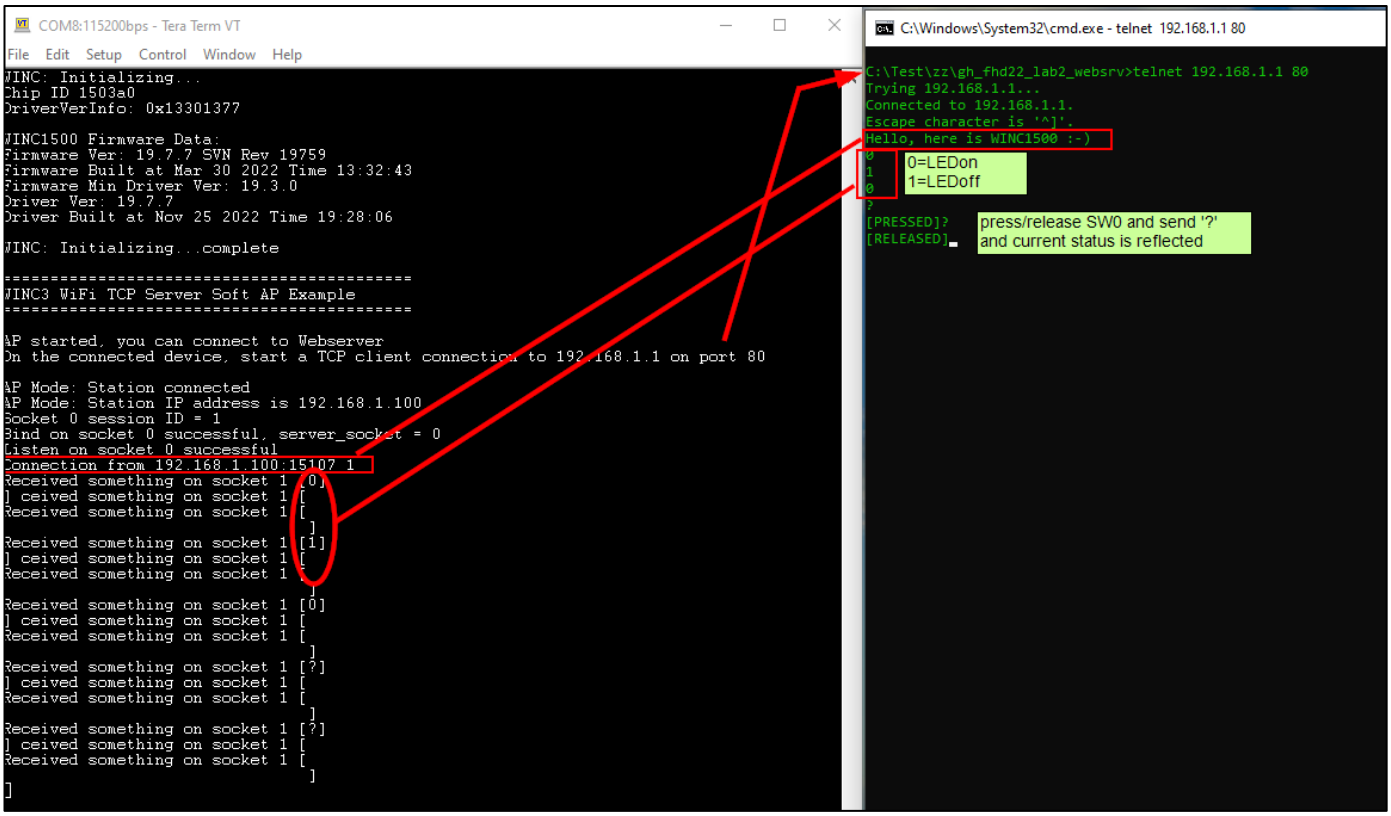
In the H3-settings you assigned the IPaddress 192.168.1.1 to it and start tcp-port '80' so open a dos-shell (telnet comes with win10, but must be activated -> search web / alternatively you can use putty,Terraterm which include telnet-clients).

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=off
- Press SW0-button and send '?' -> current button-state is reflected
- Release SW0-button and send '?' -> current button-state is reflected



10. End 'L1basic_ telnet_0-1-?'

Next step to follow…

#eof