WX_SPIN_Val-From-Micro Iss1

The objective of this project is to assist SPIN coders to access the WX ESP8266 module. Please refer to Parallax Learn tutorials for comprehensive resources and tutorials.

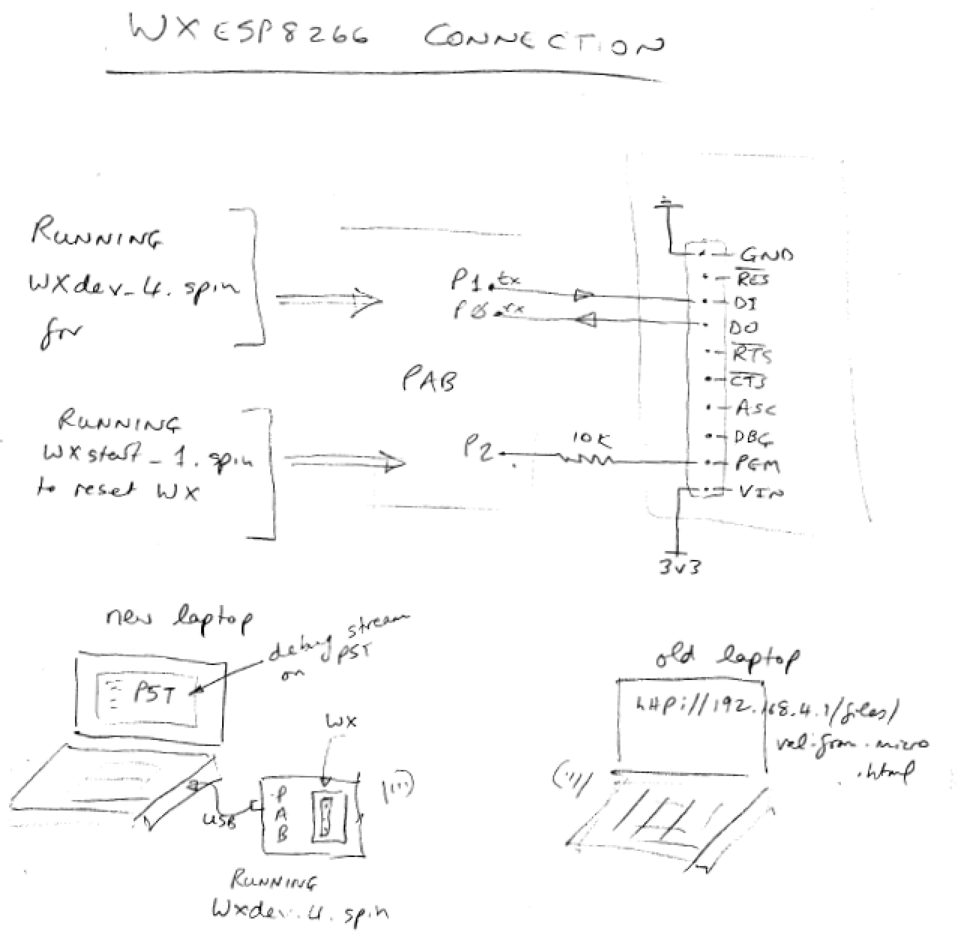
1. Schematic

Prop-connected Laptop “new laptop” run Val_From_Micro_1.SPIN with PST activated.

Browser Laptop “old laptop” connect to WX wi-fi and load webpage

http://192.168.4.1/files/val-from-micro.html

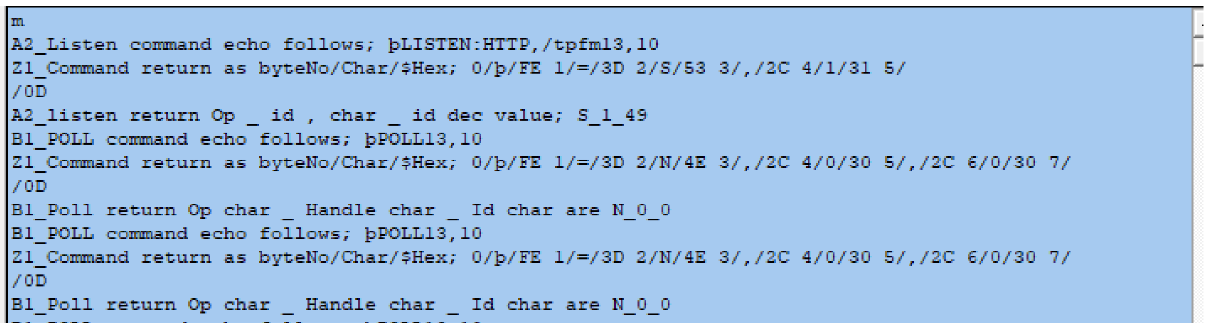
as below



2. Prop-connected Laptop run Val_From_Micro_1.SPIN

- Connected to PAB with WX as per schematic above
- First of all reset PAB on/off. Especially if previously running (otherwise it will open listener/handle 2)
- Run Val_From_Macro_1.SPIN -> F10/F12 -> to load PST, then “m” or any key to kick off the listen command

- First of all, the LISTEN command with some API snippets;



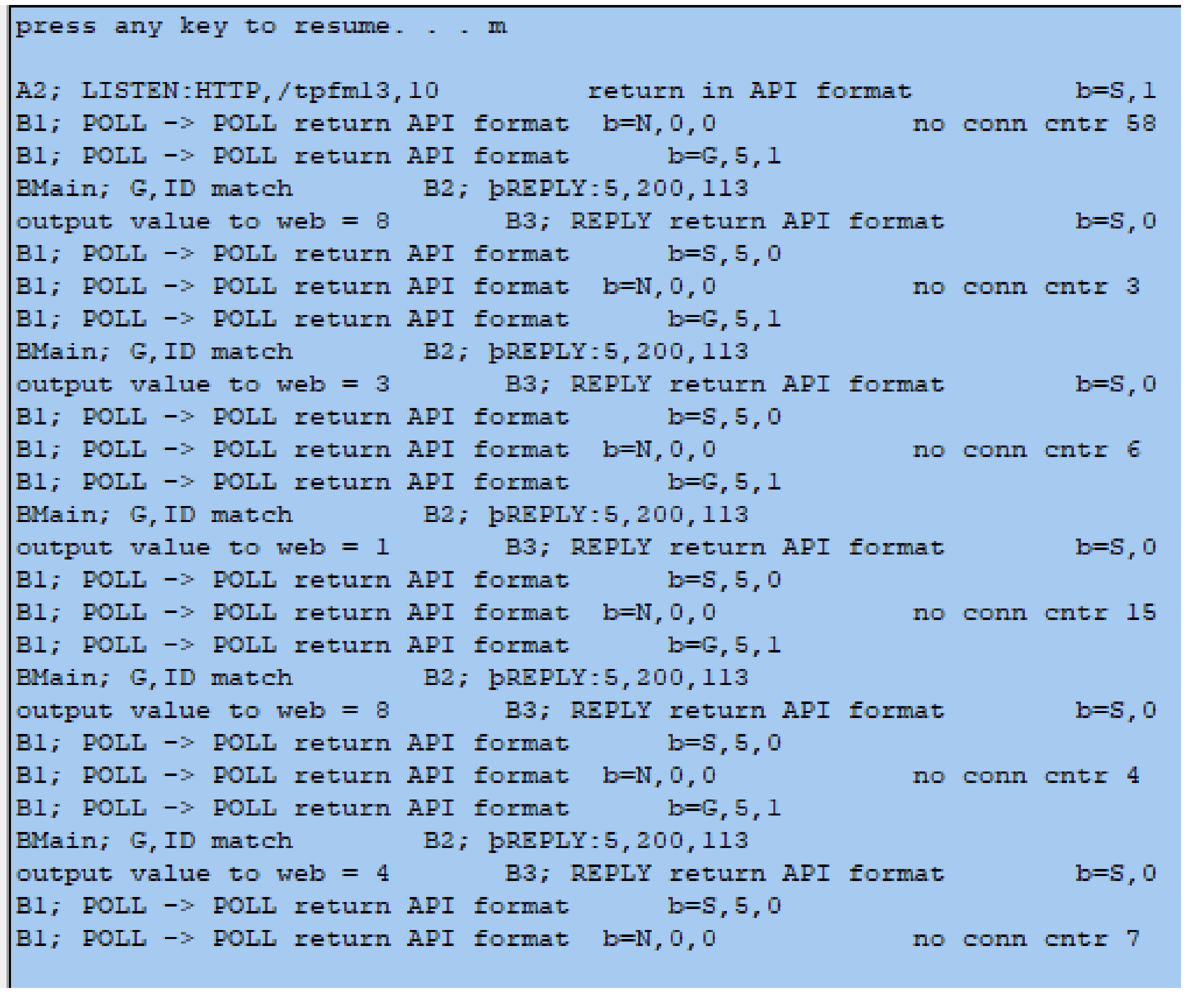
```
m
A2_Listen command echo follows; þLISTEN:HTTP,/tpfml3,10
Z1_Command return as byteNo/Char/$Hex; 0/þ/FE 1/=/3D 2/S/53 3/,/2C 4/1/31 5/
/0D
A2_listen return Op _ id , char _ id dec value; S_1_49
B1_POLL command echo follows; þPOLL13,10
Z1_Command return as byteNo/Char/$Hex; 0/þ/FE 1/=/3D 2/N/4E 3/,/2C 4/0/30 5/,/2C 6/0/30 7/
/0D
B1_Poll return Op char _ Handle char _ Id char are N_0_0
B1_POLL command echo follows; þPOLL13,10
Z1_Command return as byteNo/Char/$Hex; 0/þ/FE 1/=/3D 2/N/4E 3/,/2C 4/0/30 5/,/2C 6/0/30 7/
/0D
B1_Poll return Op char _ Handle char _ Id char are N_0_0
```

Returns b = S,id E on success, or b = E,code E on error; see Error Codes. Use the returned listener id with PATH or CLOSE commands.

There are a maximum of four listeners available. Issuing additional LISTEN commands when all four listeners are already established will result in a response of b = E,4 E (NO_FREE_LISTENER) until a CLOSE command is used to free a listener.

- Thereafter it loops through PollEvents, with POLL command;

The PST output for webpage single digit values entered into the webpage is given below with some API snippets



```
press any key to resume. . . m

A2; LISTEN:HTTP,/tpfml3,10          return in API format          b=S,1
B1; POLL -> POLL return API format  b=N,0,0            no conn cntr 58
B1; POLL -> POLL return API format      b=G,5,1
BMain; G,ID match           B2; þREPLY:5,200,113
output value to web = 8          B3; REPLY return API format          b=S,0
B1; POLL -> POLL return API format      b=S,5,0
B1; POLL -> POLL return API format  b=N,0,0            no conn cntr 3
B1; POLL -> POLL return API format      b=G,5,1
BMain; G,ID match           B2; þREPLY:5,200,113
output value to web = 3          B3; REPLY return API format          b=S,0
B1; POLL -> POLL return API format      b=S,5,0
B1; POLL -> POLL return API format  b=N,0,0            no conn cntr 6
B1; POLL -> POLL return API format      b=G,5,1
BMain; G,ID match           B2; þREPLY:5,200,113
output value to web = 1          B3; REPLY return API format          b=S,0
B1; POLL -> POLL return API format      b=S,5,0
B1; POLL -> POLL return API format  b=N,0,0            no conn cntr 15
B1; POLL -> POLL return API format      b=G,5,1
BMain; G,ID match           B2; þREPLY:5,200,113
output value to web = 8          B3; REPLY return API format          b=S,0
B1; POLL -> POLL return API format      b=S,5,0
B1; POLL -> POLL return API format  b=N,0,0            no conn cntr 4
B1; POLL -> POLL return API format      b=G,5,1
BMain; G,ID match           B2; þREPLY:5,200,113
output value to web = 4          B3; REPLY return API format          b=S,0
B1; POLL -> POLL return API format      b=S,5,0
B1; POLL -> POLL return API format  b=N,0,0            no conn cntr 7
```

b POLL[:filtermask] E

Check for activity like incoming HTTP GET/POST requests, HTTP/WebSocket/TCP connections/disconnections, and incoming WebSocket/TCP data.

b = N:0,0 E
No connection activity has occurred since the last POLL command.

b = G:handle,id E
Received HTTP GET request that matched a listener id's path and is now assigned to the connection handle for processing.
Handle; The connection identifier to use for this request

Id; The identifier of the listener that matched the request

We get G,5,1
This means listener id 1 matches the assigned listener id 1 and handle 5 is now assigned.

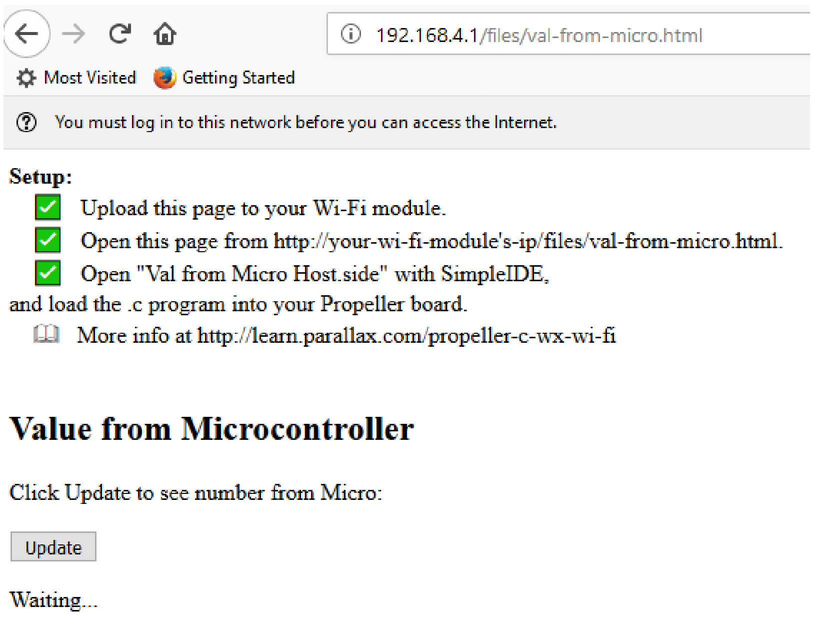
Use; ● PATH:handle to get the associated connection path
● PATH:id to get the associated listener path (which may end in '')*
● Id as a unique identifier of the associated listener; alternative of using PATH:id or PATH:handle and parsing the path
● ARG:handle,... to retrieve HTTP GET query arguments
● REPLY:handle,... [+ SEND:handle,...] to respond to GET request

In this program we use GetReqSrt / REPLY, -> output value to web -> GetReqAck
b = S:handle,0 E ; A REPLY or SEND operation completed successfully
b REPLY:handle,rcode,[total_count[,count]] E [<data>]
Transmit HTTP <data> in response to a GET or POST request

GetReqSrt/ REPLY	output value to web	GetReqAck
REPLY:5,200,113	6	S_0_48
Handle is 5 from POLL - 5 Rcode is 200 for http - 200 Total count is 1 byte- 1 E is 13 - 13	This is <data>, immediately follows REPLY	S,0 completed successfully 0D=13(48) is end

3. Wi-Fi connected Laptop load webpage http://192.168.4.1/files/val-from-micro.html

- Join wxde09bc on the wireless connection -> connected
- It either requests "additional logon information required"
- Launch Firefox. It defaults to Configuration Page
- Or look up http://esp8266.nonet/index.html
- Make sure that val-from-micro.html is loaded into wx files at configuration page
- New tab -> http://192.168.4.1/files/val-from-micro.html
- Starts out with page, Update button and Waiting. . .
- Click Update button -> Value: 3
- Continue clicking Update button. It takes 4 sec with the main loop on 3 sec delay



192.168.4.1/files/val-from-micro.html

Most Visited Getting Started

You must log in to this network before you can access the Internet.

Setup:

✓ Upload this page to your Wi-Fi module.

✓ Open this page from http://your-wi-fi-module's-ip/files/val-from-micro.html.

✓ Open "Val from Micro Host.side" with SimpleIDE,

and load the .c program into your Propeller board.

More info at http://learn.parallax.com/propeller-c-wx-wi-fi

Value from Microcontroller

Click Update to see number from Micro:

Waiting...