CC32xx HTTP Server

Overview

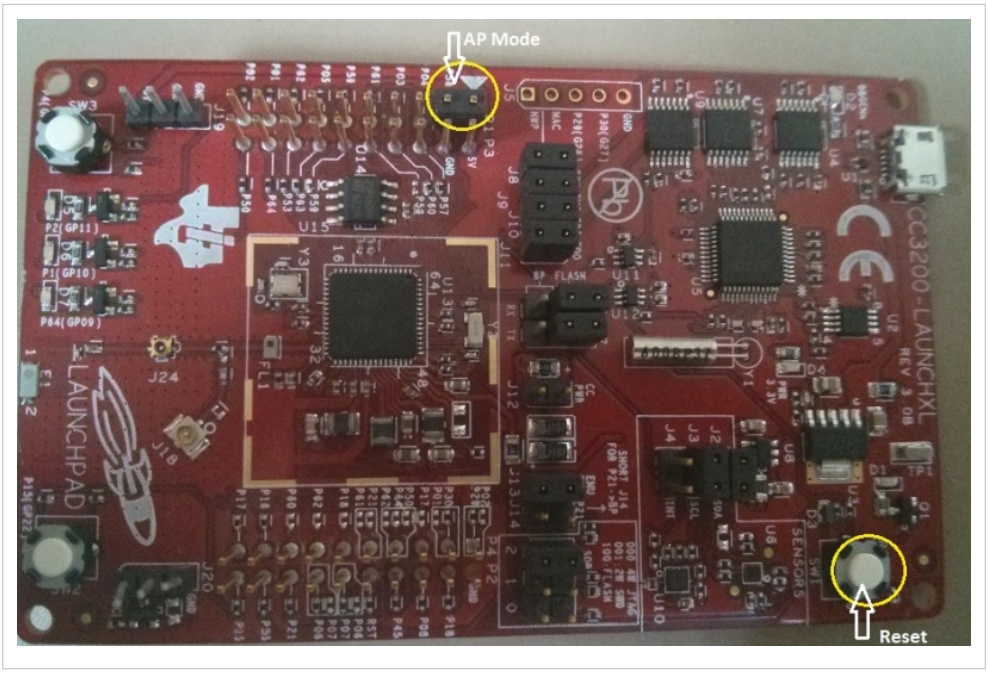
HTTP Server Application demonstrates interaction between HTTP Client(Browser) and SimpleLink Device. The SimpleLink device runs an HTTP Server and user can interact with the device using a Web Browser. User Can interact using Simple HTTP GET and POST Command

Using HTTP Server, User can do below:

1. Get Static Pages Stored on ROM/SFLash
2. Update Device Settings by filling Forms on Static HTML pages
3. Get Dynamic Data such as Device status etc using Tokens in HTML pages.
4. Send Command to Device using Tokens in HTML pages. For e.g User controls the LED on the Device.

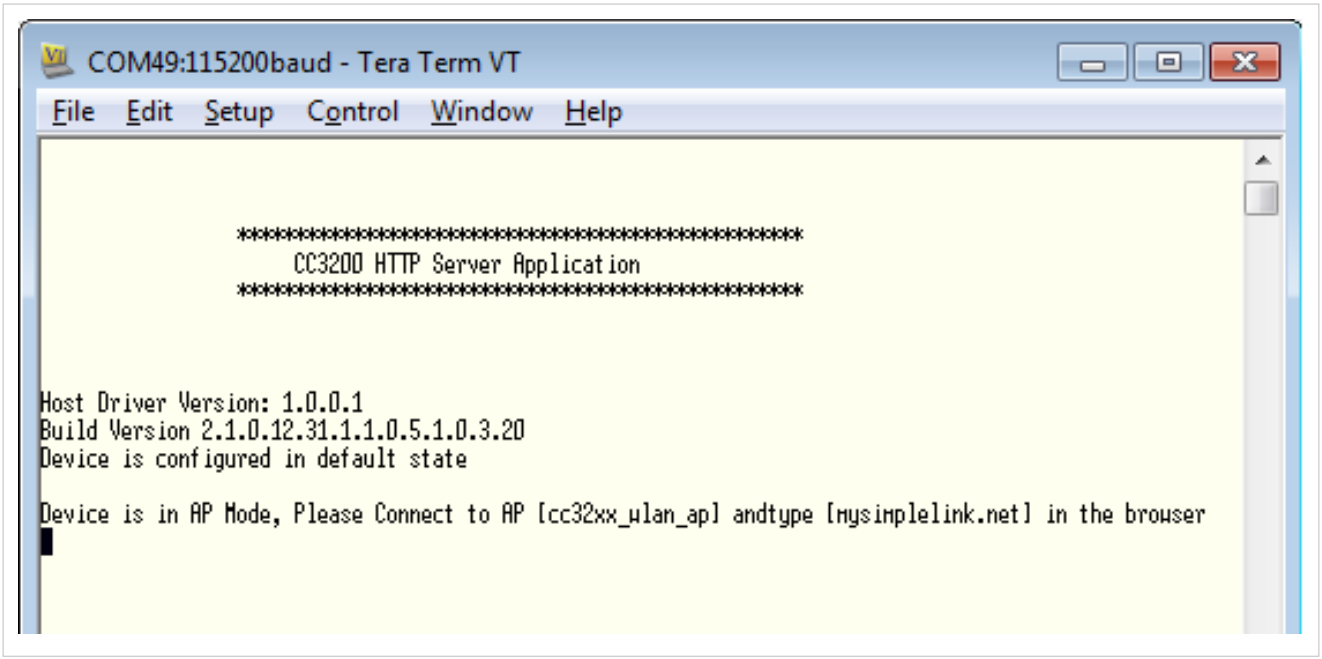
Usage

- Flash Example Content(html,image,Application binary)on serial flash by following below steps.
  - Open **<cc3200-sdk>\examples\httpserver\html\httpserver.ucf** session file in Uniflash.
  - Flash the files to the device. Detailed instructions at Uniflash User Guide.
- Run the reference application
  1. Run From IDE (IAR/CCS)
     - Open the Project as mentioned in the <cc3200-sdk>\docs\CC3200-Getting Started Guide.pdf
     - Build and download the application to the board
  2. Run Flashed Binary
     - Remove SOP-2 Jumper on Board and Press Reset. Refer <cc3200-sdk>\docs\CC3200-Getting Started Guide.pdf for detailed Information
- Device starts and check for Force AP Jumper as shown below. If Jumper is placed, It starts in AP Mode

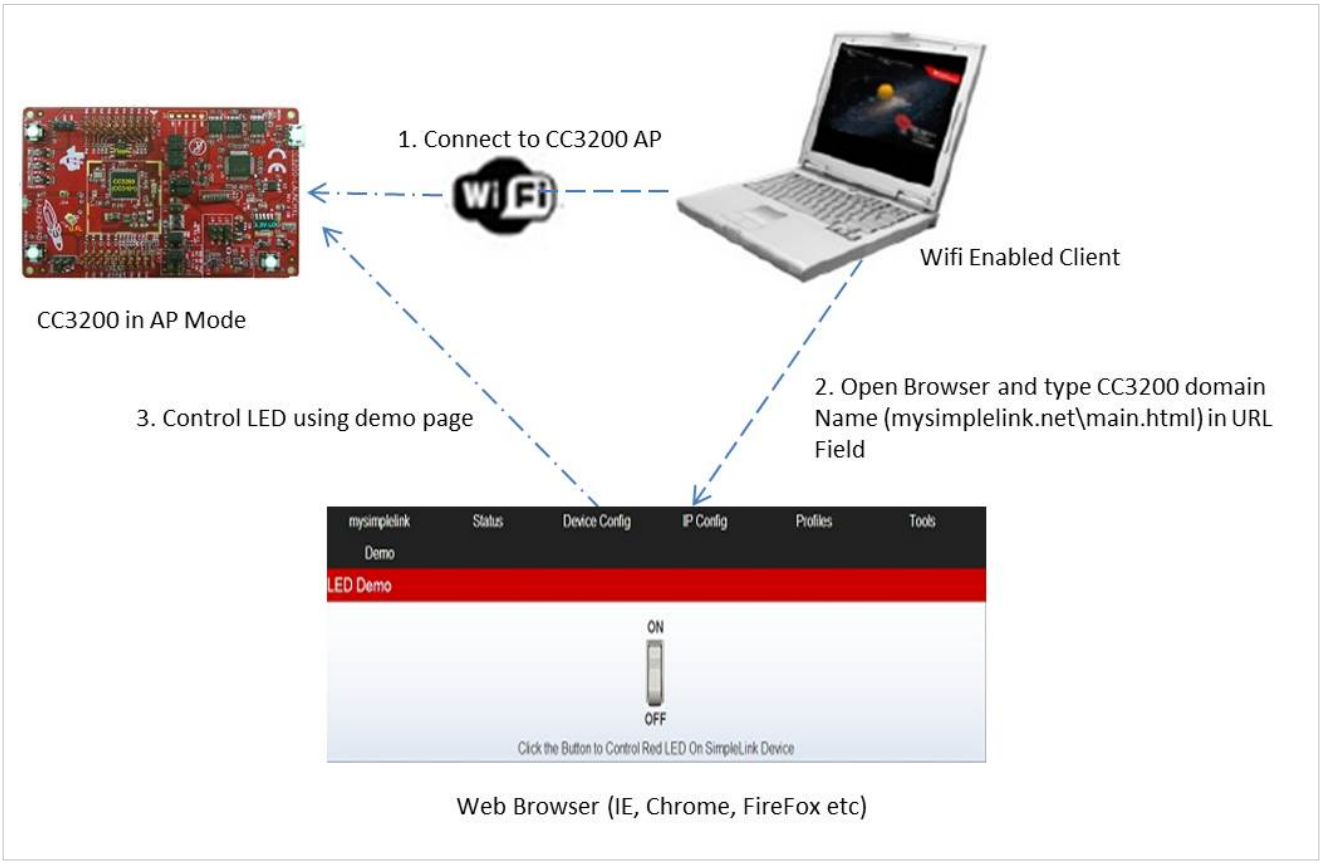


Case 1 - AP Mode

- CC3200 device will boot in AP Mode. It will print its SSID and HTTP Server domain name in UART Terminal



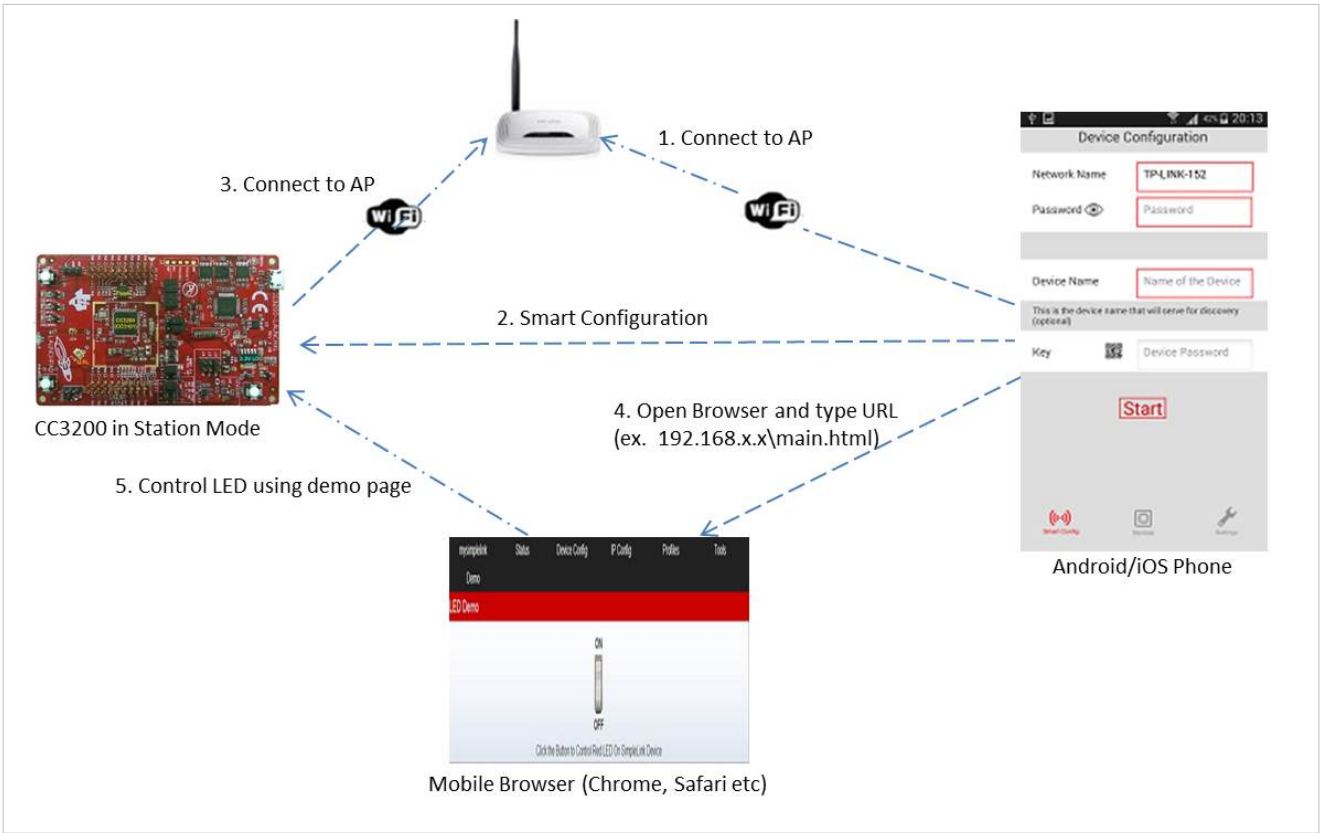
- User needs to connect its WIFI enabled device PC/MAC/Smartphone to the device AP(Default SSID: mysimplelink-MACAddr)
- User Opens the browser and type **mysimplelink.net\main.html** in browser URL field
- Browser displays the main page. User selects Demo Tab as shown below
- Browser displays the demo web page as shown below



- User clicks on ON/OFF Switch button to control RED LED on the Device

Case 2 - STA Mode

- Install TI SmartConfig [1] Application on your Smartphone.
- CC3200 Device will try to Connect to AP(If already Configured using SmartConfig Application).
- For the First time when the AP is not configured, User needs to connect using SmartConfig Application
  1. Connect your Smartphone to the selected AP
  2. Launch TI SmartConfig Application
  3. The name of the network will automatically show up in **Network Name** field. Enter **Password** of the network. For open network leave the 'Password' field blank.
  4. Enter a **Device Name**. This will be used to identify your device.
  5. Press 'Start' button.
  6. Once the smartconfig process is completed, a pop-up windows shows up to indicate that the new device is connected to the network.
- Once SmartConfig is Successful, CC3200 device will connect to AP and print its IP address on UART Terminal
- User Opens the browser and type **<ipaddr>\led_demo.html** e.g. **192.168.1.100\main.html** in browser URL field
- Browser displays the main page. User selects Demo Tab as shown below
- Browser displays the demo web page



- User clicks on ON/OFF Switch button to control RED LED on the Device

Source Files briefly explained

- main.c - Handles HTTP Request, Controls LED and Send HTTP Response with LED Status
- gpio_if.c - Handles GPIO related operations
- pinmux.c - Generated by Pinmux utility pin out LED GPIOs.
- smartconfig.c - Implements Smart Configuration Interface For Access Point Provisioning
- uart_if.c - Implements the UART terminal.
- startup_*.c - Implements tools specific interrupt vector table

Limitations/Known Issues

None.

References

[1] http://www.ti.com/tool/wifistarter

Article Sources and Contributors

CC32xx HTTP Server *Source*: http://processors.wiki.ti.com/index.php?oldid=184840 *Contributors*: A0221015, Codycooke, Jitgupta, Kaushal, Malokykle, Malokyle

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