

CC32xx Info Center Get Weather Application

Overview

Get Weather application connects to "openweathermap.org" server, requests for weather details of the specified city, process data and displays it on the Hyperterminal.

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Application details

Application connects to a open AP with SSID "cc3200demo". In case the connection to this default AP is unsuccessful, the user is prompted to enter the AP details on the hyperterminal.

The AP details have to be entered in the format as specified below:

<ap_ssid>:<security_type>:<password>:<wep_key_id>:

- **ap_ssid** - ssid of the AP to be connected
- **security_type** - values 1(for Open) or 2(for WEP) or 3(for WPA)
- **password** - network password in case of 2(for WEP) or 3(for WPA)
- **wep_key_id** - key ID in case of 2(for WEP)

The RED LED continuously blinks as long as a connection with AP is not established. Once established, the RED LED stays continuously ON.

The user is prompted to enter the city name of interest to obtain the weather information.

The weather information is then requested from "openweathermap.org" server for the specified city. This is done by opening a TCP socket with server and sending a HTTP Get request. The response is parsed and the weather information displayed.

Source Files briefly explained

1. **network_if** - Common functions to handle connection to AP and FreeRTOS hook functions.
 2. **gpio_if** - Basic GPIO interface APIs. Used to control the RED LED.
 3. **main** - Initializes the device, connects to a AP, performs a DNS lookup, open a TCP socket, send a HTTP Get request and displays weather information
 4. **pinmux** - Assigns a personality to the pins at the device boundary
 5. **uart_if** - To display status information over the UART
 6. **udma_if** - Wrapper functions for uDMA module driver
 7. **timer_if** - Wrapper functions for timer module driver
 8. **startup_*** - Tool specific vector table implementation
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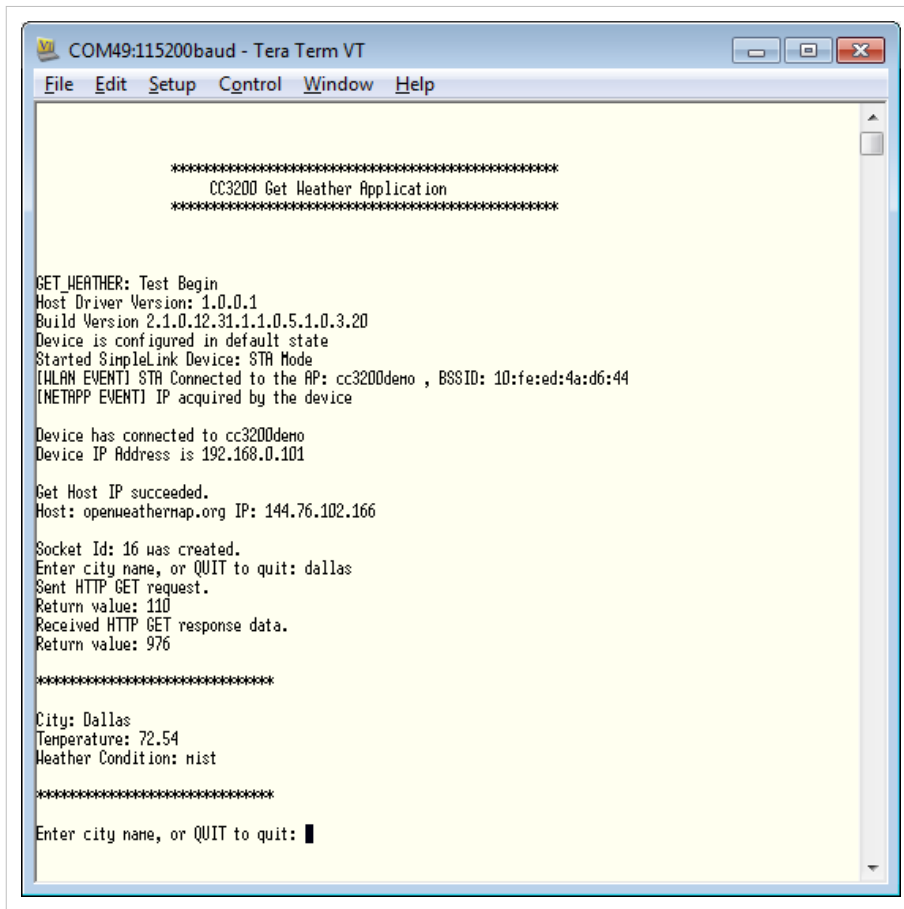
Usage

1. Setup a serial communication application (HyperTerminal/TeraTerm). For detail info visit CC31xx & CC32xx Terminal Setting

On the host PC, open a hyperterminal, with the following settings

- **Port:** Enumerated COM port
 - **Baud rate:** 115200
 - **Data:** 8 bit
 - **Parity:** None
 - **Stop:** 1 bit
 - **Flow control:** None
2. Run the reference application (Flashing the bin/IAR/CCS).
 - Open the Project as mentioned in the 'docs\CC3200-Getting Started Guide.pdf'.
 - Build and download the application to the board
 3. Application requires the AP to have the internet connectivity.
 4. On the Hyperterminal, in case the connection to this default AP is unsuccessful, the user is prompted to enter the AP details.
 5. The RED LED continuously blinks as long as a connection with AP is not established. Once established, the RED LED stays continuously ON.
 6. The user is prompted to enter the city name.
 7. The weather information of the specified city is displayed if obtained.
 8. When prompted, the user can enter quit to exit the application.

Terminal snapshot when application runs on device:



```
*****
CC3200 Get Heather Application
*****

GET_WEATHER: Test Begin
Host Driver Version: 1.0.0.1
Build Version 2.1.0.12.31.1.1.0.5.1.0.3.20
Device is configured in default state
Started SimpleLink Device: STA Mode
[HLAN EVENT] STA Connected to the AP: cc3200demo, BSSID: 10:fe:ed:4a:d6:44
[NETAPP EVENT] IP acquired by the device

Device has connected to cc3200demo
Device IP Address is 192.168.0.101

Get Host IP succeeded.
Host: openweathermap.org IP: 144.76.102.166

Socket Id: 16 was created.
Enter city name, or QUIT to quit: dallas
Sent HTTP GET request.
Return value: 110
Received HTTP GET response data.
Return value: 976

*****

City: Dallas
Temperature: 72.54
Weather Condition: mist

*****

Enter city name, or QUIT to quit: █
```

Limitations/Known Issues

WEP connectivity is not tested with this application.

Article Sources and Contributors

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