

How To: Python with Telit Evk2

Description

The Telit Easy Script Extension is a Telit feature that allows driving the Telit module via the Python language. The Python scripting environment provides a simplified framework for programming sequences directly on the Telit module thus eliminating the need of an external microcontroller. The kit includes a motherboard and an adapter board where the target module is connected.

This “How To” will provide the step-by-step details on how to use the Telit Python environment to publish the following data:

- Information Log Messages
- Location Data (Latitude, Longitude, etc.)
- Sample Attribute Information
- Simulated Property Data

This example will also demonstrate cloud methods to turn on/off the LEDs on the Telit EVK2.

Software Prototyping Platform

The Telit Easy Script in Python environment will be used within this example.

Requirements

The following items are requirements for a working Python EVK IoT:

- Telit EVK2 with HE910 or Python Compatible Telit Module
- Windows Compatible PC with Internet Access

Setup

Setup for the EVK2 IoT consist of these steps:

1. Signup for an M2M Account on the Management Portal
2. Download the getting started file from the Management Portal

3. Create a new “Thing” Definition on the Management Portal

- a) Open the downloaded file and extract the ‘PythonThingDef.json’ file to your PC’s desktop
- b) Select ‘Developer’ from the Management Portal
- c) Click on ‘Thing definitions’ and then click the ‘Import’ button
- d) Click the ‘Attach File’ button and select the JSON file copied in the previous step
- e) Press the ‘Import’ to import the thing definition into the ORG

4. Create an Application token for your thing definition

- a) Select ‘Developer’ from the Management Portal
- b) Click on ‘Applications’ and then click the ‘New Application’ button
- c) In the ‘Name’ field enter ‘PythonEvk2App’
- d) In the ‘Description’ field enter ‘Python Evk2 App’
- e) In the ‘Auto Registration Thing Definition ID’ select ‘Evk IoT’
- f) Check the ‘Org Admin’ checkbox and press the ‘Add’ button
- g) Record the ‘Token’ ID that is provided for a subsequent step – this is your Application token

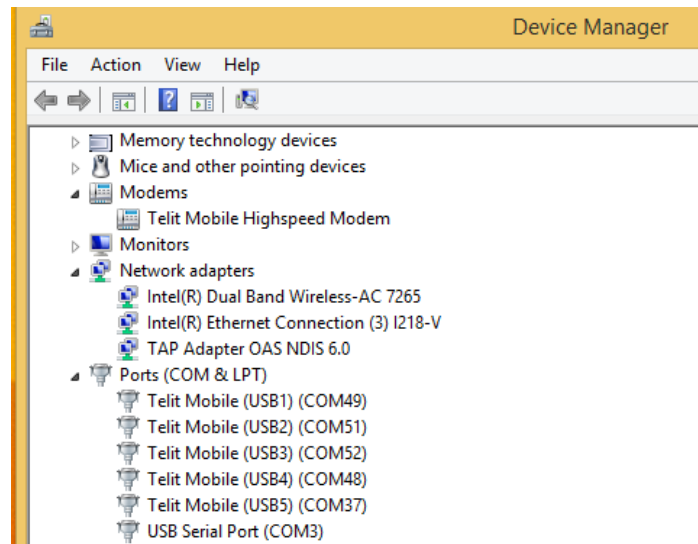
5. Download the Telit AT Controller

- a) Click on this [link](#).
- b) Login to the Download Zone or Register if you don’t have login credentials
- c) In the Search box enter “AT Controller” and press the “Search” button
- d) Expand the search result tree and click on the “ZIP” icon to download the Telit AT Controller Package

6. Download Python for windows

- a) Click on this [link](#).
- b) Download the latest Python 2.7.x Package
- c) Install Python using the installer that was downloaded

7. Connect your EVK2 to your PC's USB Port (Refer to the Telit EVK2 User Guide for details)
8. Power On your EVK2 (Refer to the Telit EVK2 User Guide for details)
9. Open the Windows "Device Manager" on your computer
10. Find the Telit Mobile Highspeed Modem and Telit Mobile (USB1-n) – If the ports are not listed, don't continue with the next steps and repeat starting from steps 7



11. Install 'Putty' – the terminal emulator program to be used within this demo
 - a) Download 'Putty' from [here](#).
 - b) Create a shortcut for 'Putty' on your Desktop
 - c) Launch 'Putty' by double clicking on your 'Putty' shortcut
 - d) Specify your 'Putty' configuration accordingly (Specify the 'Telit Mobile Highspeed Modem' COM port from the previous step) and then press 'Open'
12. From within the file downloaded in step 2, copy all the files into the C:\deviceWISE folder
13. From within the C:\deviceWISE folder, edit the 'dwPython.py' file

14. Scroll down to the 'myAppToken' line (line 40)

15. Assign the App Token obtained in step 4 to this 'myAppToken' variable and save the file

16. Open a Windows 'Command Prompt' window

17. Compile the sample dwOpen Python files by issuing these commands:

a) C:\Python\python.exe -v -S "C:\Python\Lib\compileall.py" -l -f dwPython.py

b) C:\Python\python.exe -v -S "C:\Python\Lib\compileall.py" -l -f dwOpenClient.py

18. Start the Telit AT Controller

19. Transfer the compiled Python scripts to the Telit Module by entering the commands below.

(Note '4985' & '5219' are the file size of the respective file – use your specific file size.)

a) AT#WSCRIPT="dwPython.pyc",**4985**

b) AT#WSCRIPT="dwOpenClient.pyc",**5219**

20. Enable the Python script by enter the command below in the AT Controller

a) AT#ESCRIP="dwPython.pyc"

21. Execute the enabled Python script by entering the command below from the AT Controller

a) AT#EXECSCR

22. After several seconds, the Python program will start outputting data to the Putty terminal emulator session.

23. Open the “Things” page on the Telit Management Portal to display your device

24. Open your ‘Thing’ device by clicking the ‘view’ icon (the eyeball) next to your device. The properties data will display accordingly.

25. Use the ‘Methods’ tab to turn ON and OFF the LED on the EVK2