ESP8266 – Updating the SDK to the latest version

So version 1.0 of the ESP8266 SDK as been released: https://espressif.com/new-sdk-release-2/.
This means that I need to update my cross compiling tools for the ESP8266 to the latest version.
I've installed and configured my environment according to this post: https://primalcortex.wordpress.com/2015/01/09/esp8266-setting-up-native-sdks-on-linux-and-exploring-some-applications/ and this post documents how I've updated my environment.

Updating the crosstools

This is quite easy, just go to the crosstool-NG directory and execute **git pull**. This will bring into your machine the latest release of the cross compiling tools.

Downloading and installing the Espressif ESP8266 SDK

At the date of this post I've downloaded this SDK version: http://bbs.espressif.com/viewtopic.php?f=5&t=321 This post refers to version 1.0.1_b1_15_04_02. At the bottom of this post there is a link for downloading the SDK. Just download the SDK: http://bbs.espressif.com/download/file.php?id=276

On my configuration, my SDK is on the directory ESP8266_SDK at /opt/Espressif. So I just make a backup of this SDK version and expand the new one:

```
cd /opt/Espressif
mv ESP8266_SDK ESP8266_SDK_old
```

```
unzip ~/Downloads/esp_iot_sdk_v1.0.1_b1_15_04_02.zip
mv esp_iot_sdk_v1.0.1_b1/ ESP8266_SDK
mv License ESP8266_SDK
```

We need finally to install some libraries:

```
cd /opt/Espressif/ESP8266_SDK
wget -O lib/libc.a
https://github.com/esp8266/esp8266-
wiki/raw/master/libs/libc.a
wget -O lib/libhal.a
https://github.com/esp8266/esp8266-
wiki/raw/master/libs/libhal.a
wget -O include.tgz
https://github.com/esp8266/esp8266-
wiki/raw/master/include.tgz
tar -xvzf include.tgz
```

And that's it.

Compiling application and demos.

For compiling the IoT_Demo sample:

```
cd /opt/Espressif/ESP8266_SDK
mv example/IoT_Demo .
sed -i -e 's/xt-ar/xtensa-lx106-elf-ar/' -e 's/xt-
xcc/xtensa-lx106-elf-gcc/' -e 's/xt-objcopy/xtensa-
lx106-elf-objcopy/' -e 's/xt-objdump/xtensa-lx106-
elf-objdump/' -e 's/xt-nm/xtensa-lx106-elf-nm/'
Makefile
export COMPILE=GCC
```

```
export PATH=/opt/Espressif/crosstool-
NG/builds/xtensa-lx106-elf/bin/:$PATH
```

But before running make, check what version of python is the default:

```
python -V
```

If it is version 3, then the python scripts run only on python 2, and we need a workaround:

```
cd /opt/Espressif/ESP8266_SDK/bin
ln -s /usr/bin/python2 python
export
PATH=/opt/Espressif/ESP8266_SDK/bin:/opt/Espressif/cr
osstool-NG/builds/xtensa-lx106-elf/bin/:$PATH
```

Running now the python -V command should report version 2.7.

We can now run make:

```
...
...
...
make[2]: Entering directory
'/opt/Espressif/ESP8266_SDK/IoT_Demo/driver'
make[2]: Leaving directory
'/opt/Espressif/ESP8266_SDK/IoT_Demo/driver'

!!!
No boot needed.
Generate eagle.flash.bin and eagle.irom0text.bin
successfully in folder bin.
```

```
eagle.flash.bin-------->0x00000
eagle.irom0text.bin---->0x40000
!!!
make[1]: Leaving directory
'/opt/Espressif/ESP8266_SDK/IoT_Demo'
```

Success. We can now flash the IoTDemo.