ESP-IDF Installation

STEP-1: Python dependencies

1. sudo python -V
    a. If the result is shown as the python version above 3. Skip **STEP-1**
2. sudo python3 -V
    a. If the result is shown as python not installed. use following command: sudo apt install -y python
3. Make python3 as default interpreter:
    sudo update-alternatives --install /usr/bin/python python /usr/bin/python3 1
4. Now check version of python you will get python3 as default
    sudo python -V

STEP-2: PIP3 (python package manager)

1. sudo apt install -y python3-pip
2. check version: pip3 -V
3. sudo update-alternatives --install /usr/bin/pip pip /usr/bin/pip3 1
4. Now check the version of pip you will get pip3 as default.
    sudo pip -V

STEP-3: Required packages for esp-idf

sudo apt install -y git wget flex bison gperf python3 python3-venv python3-setuptools cmake ninja-build ccache libffi-dev libssl-dev dfu-util

STEP-4: Open Terminal, and run the following commands:

```
mkdir -p ~/esp
cd ~/esp
git clone --recursive https://github.com/espressif/esp-idf.git
cd esp-idf
. ./install.sh      //if you get any warning at end for pip version
                        (pip install --upgrade pip)
```

```
. ./export.sh
printenv              //esp-idf environment variables
```

STEP-5: Making ESP-IDF environment variables set for every terminal session

NOTE: if this step is not done you have to run . ./export.sh for every terminal session to set ESP-IDF environment variables.

```
nano ~/.profile   //open profile script
. $HOME/esp/esp-idf/export.sh  //append this line at the bottom of the script
```

Giving permission to access the serial interface to the user:

```
sudo usermod -a -G dialout,tty $USER
```

STEP-6: build and flash hello world example code to the esp32 board to verify installation.

1. Connect the board and verify it is identified by the system
2. ls /dev/ttyUSB* //usually shown as ttyUSB0.
3. Copy hello world program from examples to Desktop:

```
cp -r $IDF_PATH/examples/get-started/hello_world .
idf.py menuconfig  //leave everything as default save and exit.
idf.py build          //Compiler builds our code
idf.py flash          //before executing put esp32 in programming
                        mode(press and hold boot).
Idf.py monitor        //open serial monitor to see the output
```