Getting started with Feather Huzzah32

You can get general information about the Huzza32 board here (it's a must read!): Adafruit intro to Huzzah 32- ESP32

Serial terminal
Before you can use the serial REPL you need to Install the Serial-USB driver (for windows you should choose the default driver - without enumeration). Linux should not need any drivers.

For getting the serial REPL you can use serial terminal applications like following:

- Windows: TeraTerm or Putty (recommended)
- Mac OSX: Screen (`screen /dev/tty.SLAB_USBtoUART 115200`)
- Linux : Gtkterm or Screen

See more info about the serial REPL here:
http://docs.micropython.org/en/latest/esp8266/esp8266/tutorial/repl.html

How to use TeraTerm (Serial terminal recommended for Windows):

1. Setup the serial port (Top Menu => Setup => Serial port ....) Baud rate:115200
2. Select the font you prefer (Top Menu => Font...) Recommended font "Courier New" or "Consolas"
3. Connect to Feather Huzzah32. Use shortcut ALT+N select serial and the COM port that corresponds to Feather Huzzah. Click OK.
4. Disconnect from Feather Huzzah. Use shortcut ALT+I.

Workflows

Here we talk about how to setup the working environment and the steps to follow in order to program the Huzzah32 board.

Workflow 1
This is a simple workflow that involves only 2 windows that should be placed side by side:

- In the first window you have your text editor (for example PyCharm)
- The second window is a terminal application that allows you to connect to the Huzzah32 board and see the serial REPL.

For very little code you can write it directly in the serial REPL.
For larger code you follow these steps:

1. Write the code in text editor
2. Copy all code that you want to execute to the clipboard
3. Go to the terminal window and use the key combination CTRL+E to get into the edit mode.
4. Paste the code from the clipboard to the terminal window
5. Use the key combination CTRL+D to finish editing and executing the pasted code

Workflow 2
This is a more advanced workflow that is using also the ampy tool from Adafruit. You can read here how in install and use the ampy tool. The advantage of this workflow is that you can run

large programs and you can save your code on the microcontroller so that it can run also when not connected to the PC.

This workflow involves 3 windows:

- In the first window you have your text editor (for example PyCharm)
- The second window is a terminal application that allows you to connect to the Huzzah32 board and see the serial REPL.
- The third window is a command prompt where you can run the ampy tool.

You can follow these steps:

1. Write your code in the text editor and save it to a file with extension py.
2. Make sure that the serial terminal is not connected to the Huzzah32 board. This is necessary because the ampy tool is using the serial port in order to send and receive files from the Huzzah32 board. The serial port can be used exclusively by only one application at a time. In our case either by the ampy tool or by the serial terminal.
   Note: To disconnect on Mac computer from Screen you need to use the key combination 'CTRL+a' followed by 'k' and then 'y' (the quotes are not supposed to be typed).
3. Upload the code file that you've created to the Huzzah32 board by using the ampy tool. You should save the file on the Huzzah32 board using the name main.py. This way your code will run automatically next time the board is reset.
   Use the command:
   ```
   ampy --port /serial/port --baud 115200 put your_code.py
                                                        main.py
   ```
   Where:
   `/serial/port` is the name of the serial port that you are using to connect to the Huzzah32 board. This is dependent on the operating system and the configuration of your computer.
   `your_code.py` is the file name of the file where you have saved your code.
4. Reconnect the serial terminal application to the Huzzah 32 board.
5. Press the reset button on the board or perform a soft reset of the Huzzah32 board by using the key combination 'CTRL+d'. This will reboot the Huzzah32 board and will run the program main.py automatically.

Note: You can execute any file from the flash file system of the Huzzah32 by using the MicroPython command on the serial REPL:

```
>>> exec(open("./path/to/script.py").read(), globals())
```

Where **`"./path/to/script.py"`** is where the file you want to run is located. This allows you to run other python files not just the main.py file loaded automatically after each reset.

Note: Whenever you want to use ampy you need to disconnect from Feather Huzzah32 in TeraTerm.

Note: If it is not possible to remove the main file using ampy. The file can be deleted from the REPL Python shell:

```
import uos
uos.remove("main.py")
```