ESE 2025 config-pin Report
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Introduction

The config-pin command in the Beaglebone machine is used to configure the mode operator of the pins on the board.

Discussion:

By following the BeagleboneBlackP9HeaderTable from Derek Molloy's Exploring Beaglebone, we can determine the pin number, GPIO, modes of them.

In this case, P_9 pin is modified

Before getting into the configuration. BBB is connected and log in by using:

```
$ssh 192.168.7.2 -l debian
```

After login, we can follow:

```
debian@beaglebone:~$ config-pin -l P9_13
```

This will show the valid mode for this pin

Then

```
debian@beaglebone:~$ config-pin P9_13 hi
```

This will set the pinmux to gpio and set gpio direction to output high

```
debian@beaglebone:~$ config-pin P9_13 hi-
```

This will enable the pull-down resistor.

```
debian@beaglebone:~$ config-pin P9_13 in+
```

This will enable the pull - up resistor and setup pin as per input

Between those commands. We can use

```
debian@beaglebone:~$ config-pin -q P9_13
```

Using the command below to return to default setting:

```
debian@beaglebone:~$ config-pin P9_13 default
```

To report the configuration details
Here is the result:

```
Pin is not modifiable: 0x870/070
debian@beaglebone:~$ config-pin -l P9_13
default gpio gpio_pu gpio_pd gpio_input uart
debian@beaglebone:~$ config-pin P9_13 hi
debian@beaglebone:~$ config-pin -q P9_13
P9_13 Mode: gpio Direction: out Value: 1
debian@beaglebone:~$ config-pin P9_13 default
debian@beaglebone:~$ config-pin -q P9_13
P9_13 Mode: default Direction: out Value: 1
debian@beaglebone:~$ config-pin P9_13 in+
debian@beaglebone:~$ config-pin -q p9_13
P9_13 Mode: gpio_pu Direction: in Value: 1
debian@beaglebone:~$ config-pin -i P9_13
Pin name: P9_13
Function if no cape loaded: gpio
Function if cape loaded: default gpio gpio_pu gpio_pd gpio_input uart
Function information: gpio0_31 default gpio0_31 gpio0_31 gpio0_31 gpio0_31 uart4_txd
Kernel GPIO id: 31
PRU GPIO id: 63
debian@beaglebone:~$ config-pin P9_13 hi-
debian@beaglebone:~$ config-pin -q P9_13
P9_13 Mode: gpio_pd Direction: out Value: 1
debian@beaglebone:~$ config-pin P9_13 default
debian@beaglebone:~$ config-pin -q P9_13
P9_13 Mode: default Direction: out Value: 1
```

Summary:

With config-pin, we can use it for setting up the GPIO pit that may be useful for various applications. Enable the pull-up and the pull-down resistors for these pins also help to protect the board.