

# Lesson 11

## Programming of RPi board GPIO Pins using the eclipses Pi4J implementation

## Example 9.10

- RPi board as embedded device platform
- Eclipse Pi4J software development platform
- GEN0 to GEN6 used as GPIO dedicated pins on RPi board.
- Program for port GEN\_1 LED setting GPIO pins
- Program for GPIO\_02, GPIO\_03 and GPIO\_04 connected traffic RED, YELLOW and GREEN lights

# Step 1: Statements for import, constructor and GPIO method

- `import // Import Pi4J from www.eclipse.org`
- `/* Specify a gpio object */`
- `GpioController gpio = GpioFactory.getInstance ();`
- `/* gpio object method for RPi pin GPIO_01 named status LED setting in state HIGH. */`

Step 1: Statements for GPIO method, thread sleep,  
pin 01 state and return

```
GpioPinDigitalOutputPin pin01 =  
    gpio.provisionDigitalOutputPin (RaspiPin, GPIO_01,  
    "statusLED", PinState.HIGH);  
  
/* pin01 to be set LOW after 2000 ms */  
Thread.sleep (2000); pin01.low ( );  
  
/* Return */ gpio.shutdown ( );
```

## Step 2: Statements for gpio object specification

- `/* Four gpio pin objects, pin02, pin03 and pin04 specified. */`
- `GpioController gpio = GpioFactory.getInstance ();`

# GPIO object constructor method for RPi pin 02 in High Initial State

```
/* GPIO_02, named as REDLED setting in state HIGH  
and Other two in LOW states at the start. */
```

```
GpioPinDigitalOutputPin pin02 =  
    gpio.provisionDigitalOutputPin (RaspiPin, GPIO_02,  
    "REDLED", PinState.HIGH);
```

# Statements for GPIO object constructor method Pins 03 and 04 Low

```
GpioPinDigitalOutputPin pin03 =  
    gpio.provisionDigitalOutputPin (RaspiPin,  
GPIO_03, "YELLOWLED", PinState.LOW);  
GpioPinDigitalOutputPin pin04 =  
    gpio.provisionDigitalOutputPin (RaspiPin,  
GPIO_04, "REDLED", PinState.LOW);
```

# Statements for GPIO object constructor method Pin 02 Low after 30 s and Pins 03 High

```
/* pin02 to be set LOW after 30000 ms and pin03 to be  
set HIGH) */
```

```
Thread.sleep (30000);
```

```
pin02.low ( );
```

```
pin03.high ( );
```

Statements for GPIO object constructor method Pins 03  
low and 04 High after 5 s

```
/* pin03 to be set LOW after 5000 ms and pin04 to be  
set HIGH) */
```

```
Thread.sleep (5000);
```

```
pin03.low ( );
```

```
pin04.high ( );
```

# Summary

We learnt

- Eclipse Pi4J software development platform
- GEN0 to GEN6 used as GPIO dedicated pins on RPi board.
- Program for port GEN\_1 LED setting GPIO pin for status
- Program for GPIO\_02, GPIO\_03 and GPIO\_04 connected to Red, Yellow and Green LEDs

End of Lesson 11 on  
Programming of RPi board GPIO Pins using the  
eclipses Pi4J implementation