

# Crazyflie: Hands-on

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# Task 1

- Create a new custom deck, which prints “Hello World” at initialization.

Hint. Follow the guidelines here: <https://www.bitcraze.io/documentation/repository/crazyflie-firmware/master/development/howto/>

# Task 2

- In the Deck file created before, create a new task which displays “Hello ETH” in a loop, every one second.

# Task 2 Hint

**Create a task in this way:**

```
xTaskCreate(flyTask, "Vlad-fly", 2*configMINIMAL_STACK_SIZE, NULL, 1, NULL);
```

```
static void flyTask(void* parameters) {  
systemWaitStart();  
vTaskDelay(1000);  
while(1)  
{  
    vTaskDelay(1000);  
}  
}
```

# Task 3

- In the Deck file created before, load the current state value of position X and Y and display them in the debug console.

# Task 3 Hint

**Access the state information (or any logged variable) like this:**

```
int var_id;  
var_id = logGetVarId("kalman", "stateX");  
double varX = logGetFloat(var_id);
```

# Task 4

- In the Deck file created before, add a function which hovers the drone at 0.4m height for 10s.

# Task 4 Hint

```
static void positionSet(setpoint_t *setpoint, float x, float y, float z, float yaw)
{
    memset(setpoint, 0, sizeof(setpoint_t));

    setpoint->mode.x = modeAbs;
    setpoint->mode.y = modeAbs;
    setpoint->mode.z = modeAbs;

    setpoint->position.x = x;
    setpoint->position.y = y;
    setpoint->position.z = z;

    setpoint->mode.yaw = modeAbs;

    setpoint->attitude.yaw = yaw;

    setpoint->mode.roll = modeDisable;
    setpoint->mode.pitch = modeDisable;
    setpoint->mode.quat = modeDisable;
}
```

# Task 5

- Starting from Task 4, add a parameter variable which is initialized to 0. Command the drone to take off when the parameter value changes.