# Arduino for ODROID-GO - Hello World



> - Make sure that you've followed the **Arduino setup** guide.

You will write code to display "**Hello, ODROID-GO**" on your ODROID-GO by following this guide.

## Basic code structure for Arduino

When you first run the Arduino IDE, you will see a screen like below.



That editor is called **sketch**, and this is your playground.

The default source code is:

```
void setup() {
  // put your setup code here, to run once:

}

void loop() {
  // put your main code here, to run repeatedly:

}
```

```
}
```

There are 2 functions with some comments that let you know what it performs in the code.
We will use this simple structure.

# Arduino for ODROID-GO

We're providing a library for Arduino development: **odroid_go.h**.
The library helps you **to control the components** on the board such as LCD, a lot of buttons,
speaker, etc.
This library should be included first.

To prepare the board for use, it should be initialized. **To initialize the board**, use the **GO.begin()**
function.
If you want to control the buttons or the speaker on the board, you have to use the **GO.update()**
function to apply the changes from the code.
The **GO.update()** function isn't used in this guide since only the LCD will be used to display a simple
string.

Okay, let's see the code.

```
#include <odroid_go.h>

void setup() {
  // put your setup code here, to run once:
  GO.begin();
}

void loop() {
  // put your main code here, to run repeatedly:

}
```

The **GO.begin()** function has to be in the **setup()** function since its called only once.

The **GO** instance has not only the 2 core functions but also a lot of helper functions that let you
control the components on the board.
Now, let's use the **GO.lcd** functions to show "**Hello, ODROID-GO**".

# Hello World

We will use the **GO.lcd.print** function to show a string.

```
#include <odroid_go.h>

void setup() {
  // put your setup code here, to run once:
```

```
  GO.begin();

  GO.lcd.print("Hello, ODROID-GO");
}

void loop() {
  // put your main code here, to run repeatedly:

}
```

The sketch looks fine, but the text on the LCD will be too small to see.
Let's increase the font size to 2 by using the **GO.lcd.setTextSize()** function.

```
#include <odroid_go.h>

void setup() {
  // put your setup code here, to run once:
  GO.begin();

  GO.lcd.setTextSize(2);
  GO.lcd.print("Hello, ODROID-GO");
}

void loop() {
  // put your main code here, to run repeatedly:

}
```

You can also change the text color with **GO.lcd.setTextColor()**. Change the text to green.

```
#include <odroid_go.h>

void setup() {
  // put your setup code here, to run once:
  GO.begin();

  GO.lcd.setTextSize(2);
  GO.lcd.setTextColor(GREEN);
  GO.lcd.print("Hello, ODROID-GO");
}

void loop() {
  // put your main code here, to run repeatedly:

}
```

Additionally, as an advanced feature, we've added a function called **displayGO()** which includes using several effects.
New functions introduced:

- **GO.lcd.setRotation()**: rotates output screen. The rotation parameter can be 0 to 7.

- **GO.lcd.clearDisplay()**: resets all texts on the screen.
- **GO.lcd.setTextFont()**: sets font style after calling this. A given font names in number.

```c
#include <odroid_go.h>

uint8_t idx;
uint8_t rotate;

void setup() {
  // put your setup code here, to run once:
  GO.begin();

  GO.lcd.println("Hello, ODROID-GO");
  delay(1000);
}

void displayGO() {
  GO.lcd.clearDisplay();
  GO.lcd.setRotation(rotate + 4);
  GO.lcd.setCursor(30, 40);

  if (idx) {
    GO.lcd.setTextSize(1);
    GO.lcd.setTextFont(4);
    GO.lcd.setTextColor(MAGENTA);
  } else {
    GO.lcd.setTextSize(2);
    GO.lcd.setTextFont(1);
    GO.lcd.setTextColor(GREEN);
  }
  GO.lcd.print("Hello, ODROID-GO");

  idx = !idx;
  rotate++;
  rotate %= 4;

  delay(1000);
}

void loop() {
  // put your main code here, to run repeatedly:
  displayGO();
}
```

You can verify/compile or upload a sketch from the **toolbar** or **Sketch** menu.
Also, you can use helpful **shortcuts**.

- **CTRL-R**: Verify and compile.
- **CTRL-U**: Upload.

Before uploading the binary, you have to select the **proper port** at the **Tools - Port** menu.

If the procedure goes well, you can see **"Hello, ODROID-GO"** on your device.



# A completed example

The complete example is available as follows:

Click the **Files → Examples → ODROID-GO → Hello_World** menu to import and press **CTRL-U** to compile/upload.



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Last update: **2018/06/18 10:27**