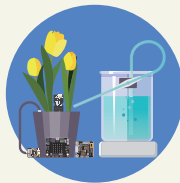


Gravity IoT Starter Kit for micro:bit | Quickstart Guide |



What is OBLOQ ?

OBLOQ is an extension module that allows micro:bit to connect to a Wi-Fi network. With MakeCode block editor, even a beginner can setup the connection to then send and receive data via EasyIoT platform.



Electronic Device

Link



Micro:bit

Link



OBLOQ Module

WIFI



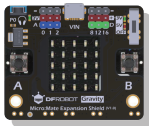
Internet

GET READY!

To start your first IoT project, you will need the following things



OBLOQ Module



micro:bit + Micro:Mate
expansion shield



Gravity Module



A Computer with
USB port and
internet connection.



USB power bank as
external power supply
(optional)

Now, we will walk you through the process to setup connection between a micro:bit and a web browser on your smart device.

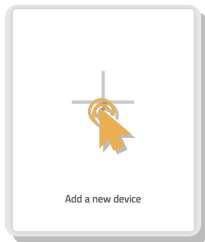
Register your device on EasyIoT dashboard

1



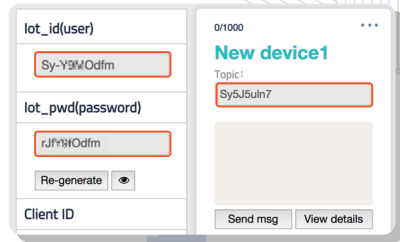
Visit <http://iot.dfrobot.com/>, create an account and login.

2



Go to "workshop" and add a new device.

3

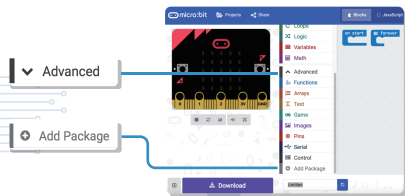


Take down "lot_id", "lot_pwd" and "topic" for future steps.

OPEN MAKECODE EDITOR

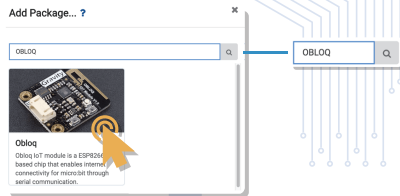
Add OBLOQ module to the block list

1



Visit makecode.microbit.org/v0 to open the online block editor.
Click "Add Package" under "Advanced".

2

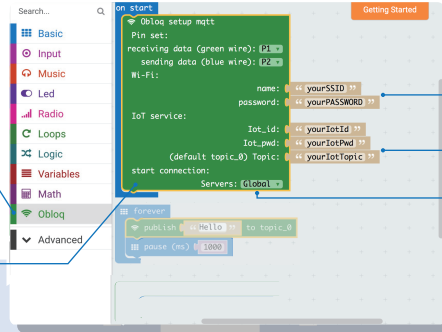


Search for "OBLOQ" and add it to the block list.

Configure network connection

1 Click "Obloq" to expand the block list

2 Drag "Obloq setup mqtt" into the "on start" loop.



3 Fill in Wi-Fi name and password

4 Fill in Iot_id, Iot_pwd and topic code

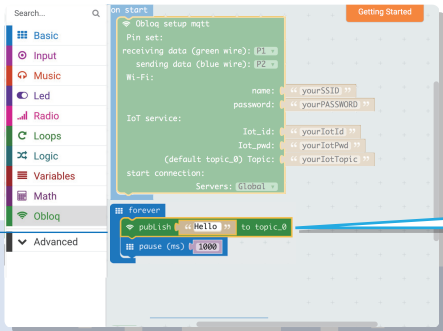
5 Select "Global" server

SAY HELLO TO EASYIOT

Send message “Hello” to EasyIoT in every 1 second.

publish “mess” to topic_0

The “publish” block sends out a message “Hello” to devices registered at topic_0. Meanwhile, it will be displayed and recorded on EasyIoT platform.



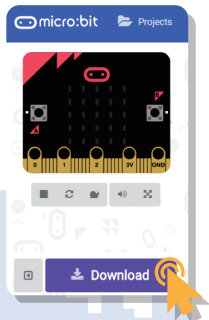
Latest news

Time	Message
2018/12/7 17:7:17	Hello
2018/12/7 17:7:16	Hello
2018/12/7 17:7:15	Hello
2018/12/7 17:7:14	Hello
2018/12/7 17:7:13	Hello

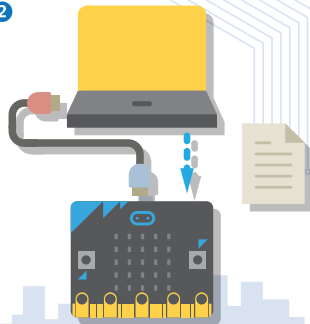
The message “Hello” will eventually show up on EasyIoT dash board for every 1 second.

Connect micro:bit to your computer and move the .hex file to MICROBIT drive

1

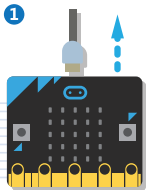


2

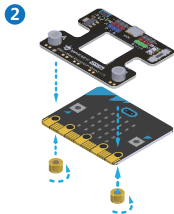


WIRE UP

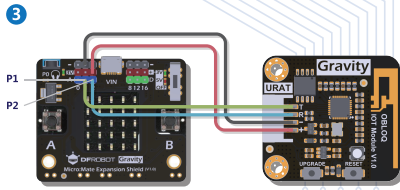
Connect the circuit and switch on power



To prevent short circuit, unplug the USB cable from micro:bit



Install Micro:Mate expansion board onto micro:bit (make sure the screws are securely tightened)

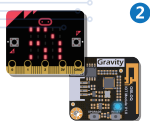


Connect the circuit

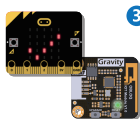
Power cable (red)	Red pin
Ground cable (black)	Black pin
TX (Green)	P1 pin
RX (Blue)	P2 pin

START CONNECTION

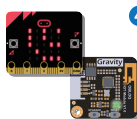
1
Connect the USB cable to the Micro:Mate expansion board, internet connection will start automatically.



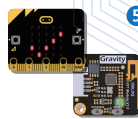
Connecting Wi-Fi



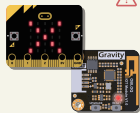
Wi-Fi connected



Connecting EasyIoT

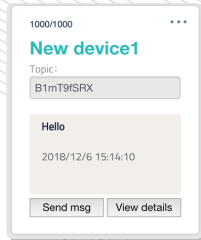


EasyIoT connected



Connection Problem Diagnosis

1. Check your Wi-Fi name and password.
2. Make sure the wires are correctly and securely connected.
3. Power up the device from the MicroUSB port of the Micro:Mate expansion board.

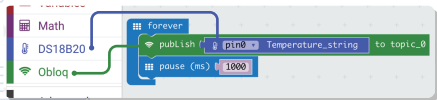


When successfully connected, the message "Hello" will show up on the EasyIoT dash board.

MORE APPLICATIONS

Sample 1: Publish temperature data to EasyIoT

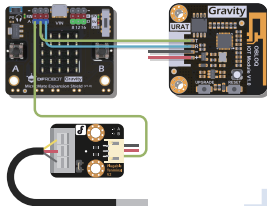
• Program



Add Package... ?

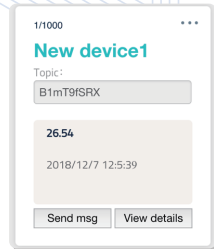
Note: to use water-proof temperature sensor, you will need to add following package to MakeCode Editor.
github.com/DFRobot/pxt-ds18b20

• Wiring Diagram



Power cable (red) — Red pin
Ground cable (black) — Black pin
TX (Green) — P1 pin
RX (Blue) — P2 pin

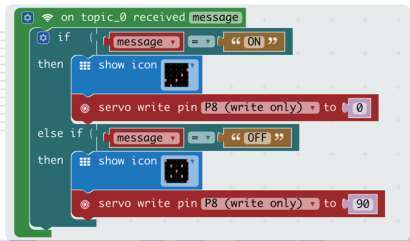
• Result



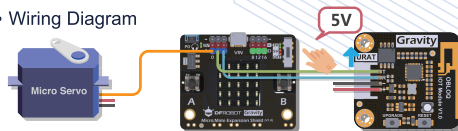
Temperature data will be updated to EasyIoT in every second.

Sample 2: Control a servo via EasyIoT

• Program



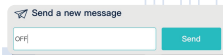
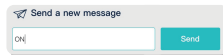
• Wiring Diagram



Note: Servo only works under 5V.

Put the switch on middle to set P8, P12, P16 to 5V (LED turns red)

• Result



Control the servo by sending "ON" and "OFF" from EasyIoT



We are all set!

Now, add more Gravity modules to your project to bring IoT into your real life.

To learn more about this kit and Gravity series modules, go to [DFRobot.com](https://www.dfrobot.com) and search for their name or SKU number.

