ARDUINO
DAY 2017

UFABC

Arduíno + NodeJS

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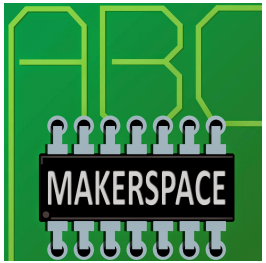
github.com/marcosdeoliveira/ArduinoDay_2017

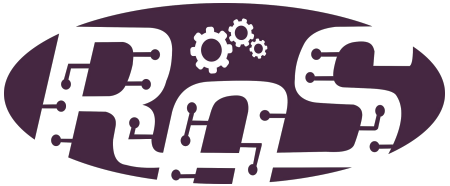
Arduíno + NodeJS

deixe seu projetinho mais...

BLINDÃO!!!

Apoio:





E vai ter o que???


ARDUINO


node


J5

johnny-five

http://johnny-five.io/api/

johnny-five

"Johnny-Five is the JavaScript Robotics & IoT Platform"

http://johnny-five.io

Hello Word!

mão na massa!

```
var five = require("johnny-five");
var board = new five.Board();

board.on("ready", function() {

  // Create a standard `led`
component instance
  var led = new five.Led(13);

  // "blink" the led in 500ms
  // on-off phase periods
  led.blink(500);
});
```

five.Sensor( );

http://johnny-five.io/api/sensor/

```
var five = require("johnny-five");
var board = new five.Board();

board.on("ready", function() {
  var mysensor = new
five.Sensor({pin: "A0"});

  mysensor.on("data", function() {
    console.log(mysensor.value);
  });
});
```

Coisas legais para fazer!

Property	Type	Value/Description	Default	Required
pin	Number, String	Analog Pin. The Number or String address of the pin the sensor is attached to, ie. “A0” or “I1”		yes
freq	Number	Milliseconds. The frequency in ms of data events.	25ms	no
threshold	Number	Any. The change threshold (+/- value).	1	no

Coisas legais para fazer!

```
var temp = new five.Sensor({
  pin: "A0",
  freq: 250,
  threshold: 5
});
```

Coisas legais para fazer!

Property Name	Description	Read Only
`id`	A user definable id value. Defaults to a generated uid	No
`pin`	The pin address that the Sensor is attached to	No
`threshold`	The change threshold (+/- value). Defaults to 1	No
`boolean`	ADC value scaled to a boolean.	Yes
`raw`	ADC value (0-1023).	Yes
`analog`	ADC reading *scaled* to 8 bit values (0-255).	Yes
`constrained`	ADC reading *constrained* to 8 bit values (0-255).	Yes
`value`	ADC reading, scaled.	Yes

Google Apps Script

https://developers.google.com/apps-script/

Google Apps Script

"JavaScript cloud scripting language that provides easy ways to automate tasks across Google products and third party services and build web applications"

https://google.com/script/start

Google Apps Script

- criar planilha
- ferramentas>editor de scripts
- function doPost()
- function parseToSheet()

- variáveis importantes:
  - var param =;
  - var param2 =;
  - var ss_id =;
  - var sheet_name =;

Google Apps Script

function doPost(){}

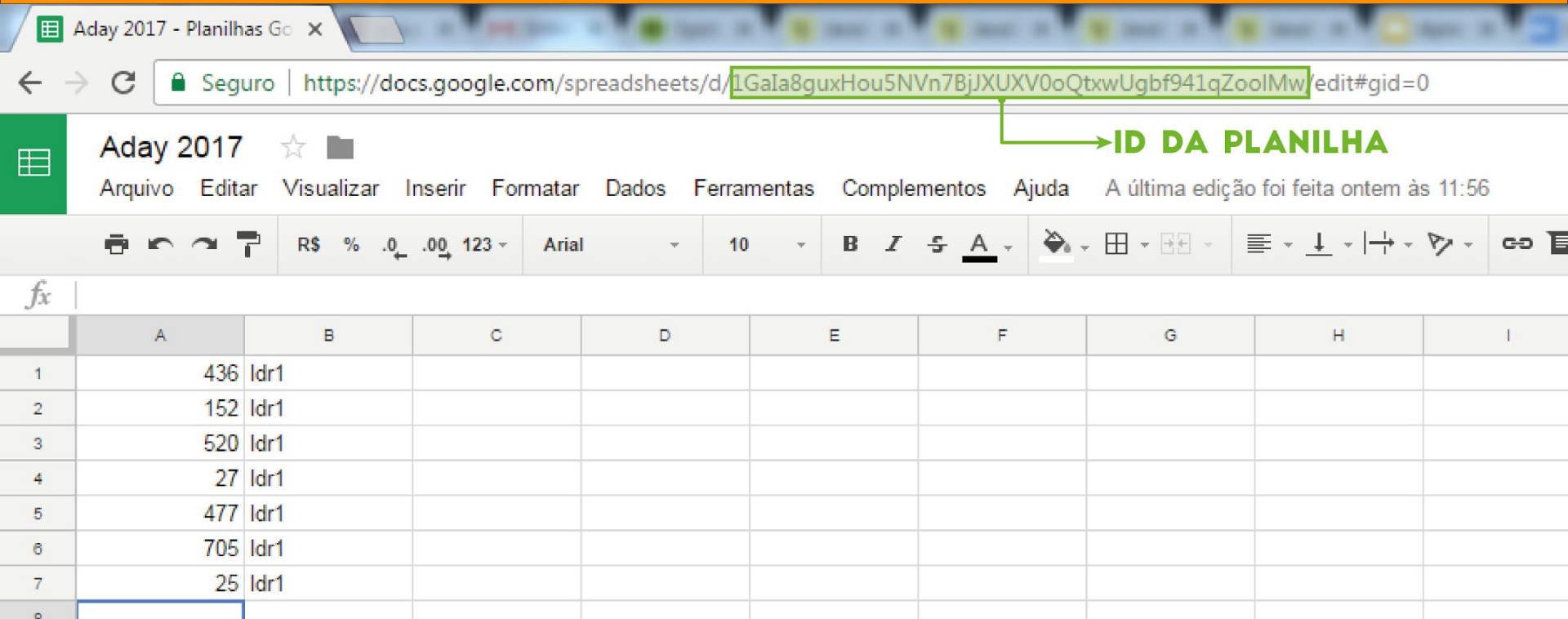
```
function doPost(request_post){

var value = request_post.parameter[param];

var value2 =
request_post.parameter[param2];

if( value == undefined || value2 ==
undefined){
    return;
}
else{
    parseToSheet(value, value2);
}

}
```

Google Apps Script

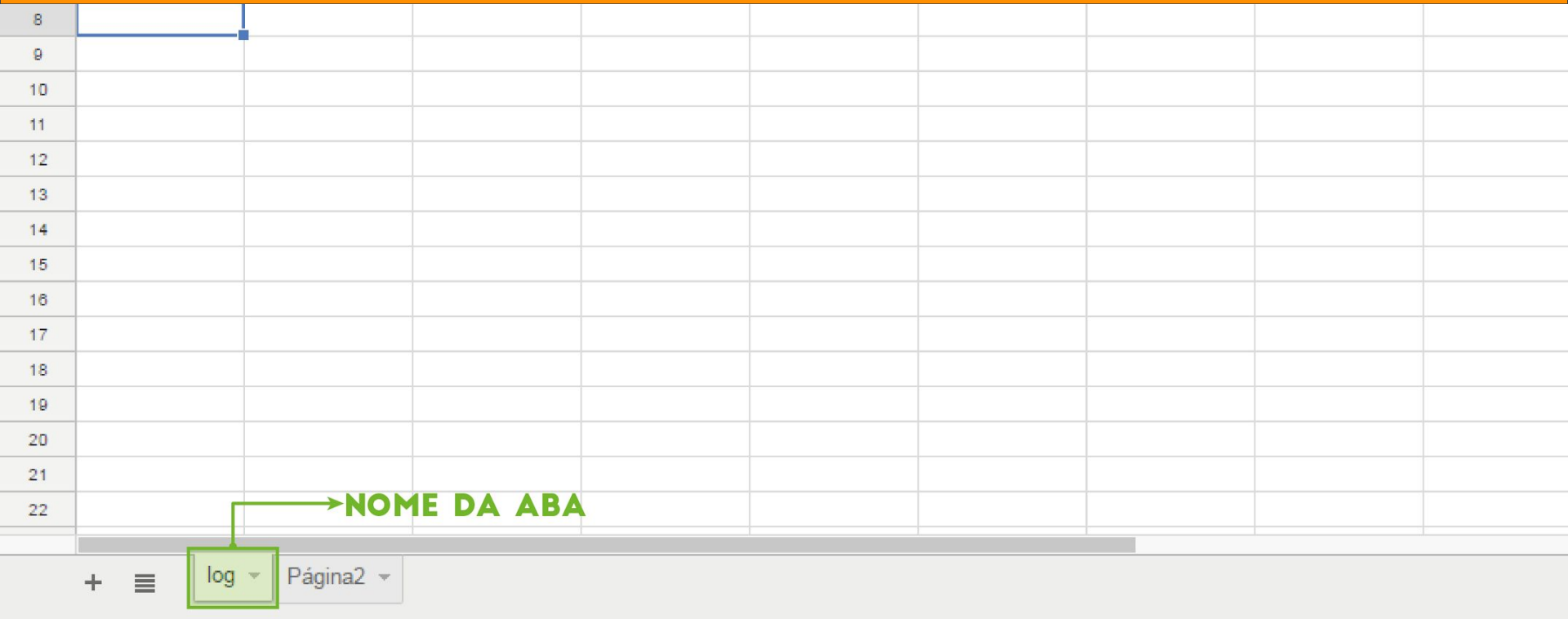
```
function parseToSheet(){}
```

- identificar a planilha pelo ID
- Identificar aba pelo nome
- identificar range que queremos usar
- preencher valores recebidos

Onde encontrar o ID da sua planilha



Onde encontrar o nome da sua aba



Google Apps Script

function parseToSheet(){}

```
var ss =SpreadsheetApp.openById(ss_id)
```

```
var sheet
=ss.getSheetByName(sheet_name)
```

```
var output_cell = sheet.getRange(
    lastRow+1,
    start.x,
    1,
    end.x)

output_cell.setValues(values)
```

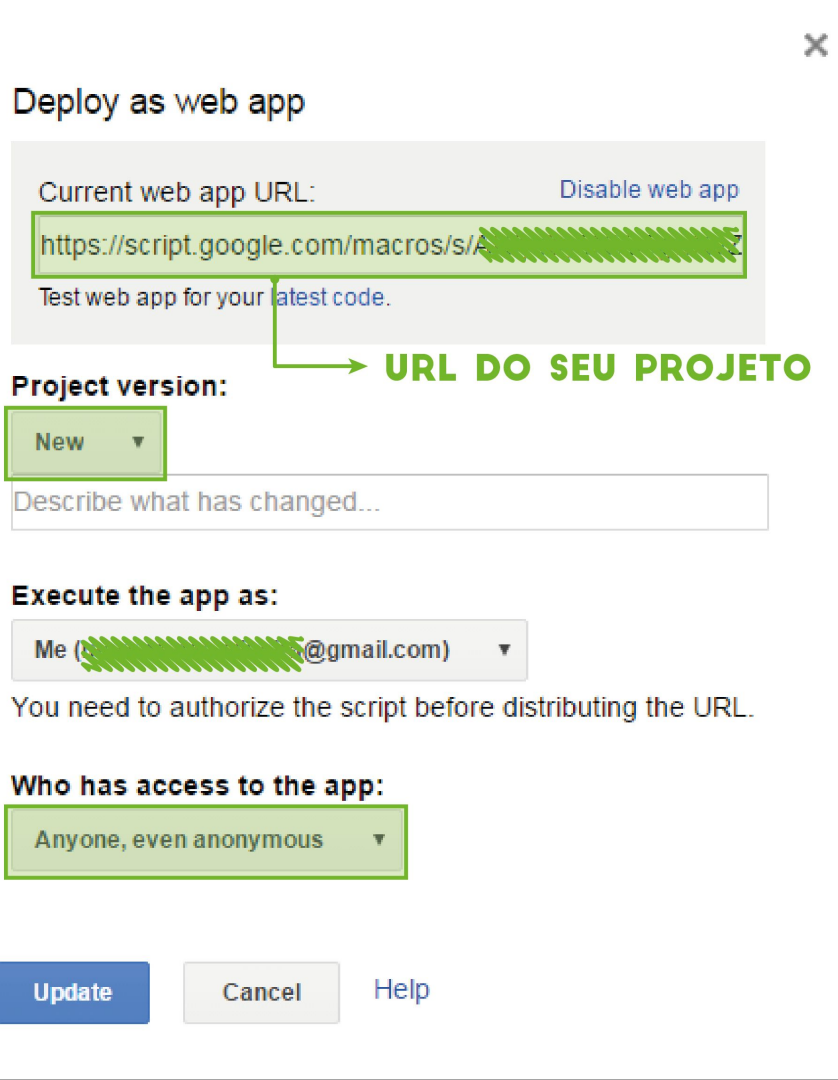
Google Apps Script

function parseToSheet(){}

```
function parseToSheet(value, value2){
  // -- Set output spreadsheet
  var ss = SpreadsheetApp.openById(ss_id);
  var sheet = ss.getSheetByName(sheet_name);


  // -- Hold info
  var output_cell; //output cells
  var out;         //a two-dimensional array of
values

  // -- Setup the start cell on sheet
  var start_offset = { x: 1,y: 1};
  var end_offset = { x: 2, y: 2 };
  //if ( sheet.getLastRow() < 1)
//sheet.getRange("A1").setValue('start');

  // -- Write info
  out = [ [value,value2] ];
  //sheet.getRange(start_row, start_column, numRows,
//numColumns)
  output_cell =sheet.getRange(
     sheet.getLastRow()+1,start_offset.x,
     1, end_offset.x);

  output_cell.setValues(out);
}
```

Google Apps Script

`Publicar>Deploy as web app...`



Vamos juntar tudo!

main.js

```
var request = require('request');
```

https://www.npmjs.com/package/request

```
var five = require('johnny-five');
```

```
var board = new five.Board();
```

```
var url ='[sua URL]';
```

main.js

```
board.on(
  "ready",
  function(){}
);
```

```
board.on("ready",function() {

 // Create an Sensor on pin "A0"
 var ldr = new five.Sensor(
  { pin: "A0",
    freq: 250,
    threshold: 300 });

  ldr.on("data", function(){
    console.log("value: " + ldr.value);
  });

  ldr.on("change", function(){
    googleSubmit(ldr.value, 'ldr1');
  });

});
```

main.js

function googleSubmit(){}

```
function googleSubmit(numero, nome){
 request.post(
    url,
    {form: {numero:numero, nome:nome} },
    function(error, response, body){
       if(!error && response.statusCode
== 200){
        console.log(response.statusCode);
         }
       else
console.log(response.statusCode);
    }
 );
}
```