



IBM Research Research Integrated Solutions

```
var tj = new TJBot([], {}, {  
    language_translator: {  
        a}  
    }  
});
```

Hour of Code Workshop

```
tj.translate("Hello", "en", "fr")  
.then((response) => console.log(response.translations[0].translation));
```

Mercy Bodarky, Carlos Fonseca, Lorraine Herger, Alexandra Guffey,
Shekeba Moshref, Michael Santos, Mark Sobierajski, Nikita SufiaKarim

March 29, 2019



Meet our Workshop Team



Carlos Fonseca



Lorraine Herger



Michael Santos



Shekeba Moshref



Alexandra Guffey



Mercy Bodarky



Nikita Karim



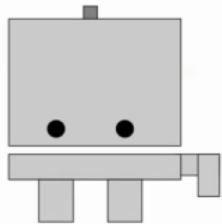
Mark Sobierajski



Agenda



TJ Bots Demos



Coding Exercise



Supplies for TJ Bot



Q & A, Raffle

JavaScript Overview

- Variables
 - Strings, `var name = "Johnny";`
 - integers , `var age = 24;`
- Functions , `function myFunction(a, b) { // do something }`
 - Function variables
 - Function returns

`var x = myFunction(4, 3); // Function is called, return value will end up in x`

```
function myFunction(a, b){  
    return a * b;           // Function returns the product of a and b  
}
```

- Objects
 - Variables
 - Functions
- Formatting and Semicolon ;;;;;;;;;;

IBM Watson Services

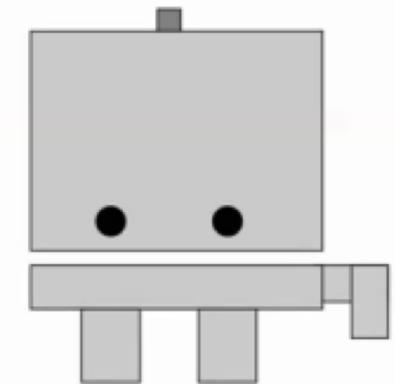
- Sign up for a free IBM Cloud Account

<https://console.bluemix.net>

- Speech to text
- Text to speech
- Assistant (conversation)
- Translator

Activity Instructions

1. Launch Chrome Browser and go to <https://my-tjbot.mybluemix.net>
2. Click on the .env tab on the upper left. Copy the API keys from the api-keys.txt file on your desktop and paste it in the code box in the simulator
3. Click on the app.js tab in the upper left and then click on the Docs tab in the upper right.
4. Scroll to **shine(color)** function. Double click on the box below the function to copy the JavaScript code to the editor box
5. Click on the TJBot tab in the upper middle/left.
6. Click on the Run button to see what happens to the robot
7. Clear the editor and try different functions
8. Try combining functions



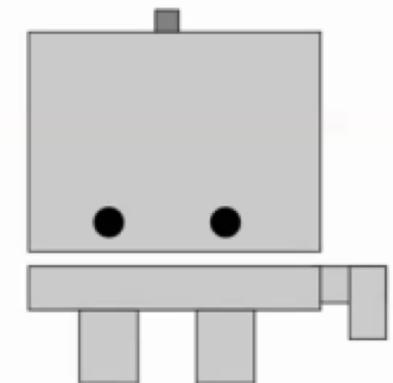
Activity Instructions

- What are all the functions you need to code a TJBot like Johnny?

✓ Listen

✓ Speak

✓ Converse



- Copy the content from the tjbot-example.js on github to the simulator editor and then run it.

TJ Bot Supply List

Raspberry Pi 3 + SD card preloaded with NOOBS.

This is a required component to make TJBot work! 

USB Microphone.

Other brands of USB microphones should also work.

Mini Bluetooth Speaker.

Any small speaker with either a 3.5mm audio jack or Bluetooth will work. Note that if you are using the 3.5mm audio jack, you may wish to add a USB Audio Adapter to avoid audio interference with the LED.

Servo Motor.

Note that the red (middle) wire is 5v, the brown wire is ground, and the orange wire is data.

NeoPixel RGB LED (8mm).

If you are using other kinds of LEDs, you may need to add a resistor; this LED doesn't require one.

Female-to-female + female-to-male jumper wires.

TJBot will only need 3 of each type, so you'll have extra.

Raspberry Pi Camera. Either the 5MP or 8MP camera will work.

Note: Not all of these are required for all recipes.

TJ Bot Watson Maker Kit



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IBM TJBot, a Watson Maker Kit

KIT-14515

3

\$125.00

Shipping outside of the US?
[Click here for info](#)

Please note that this product has shipping restrictions to certain countries.
[Which Countries?](#)

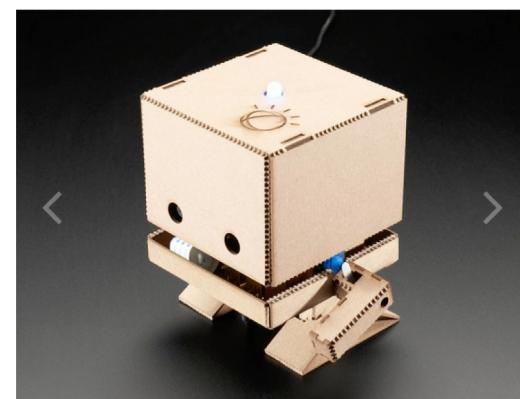
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Stock availability

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IBM TJBot – A Watson Maker Kit

PRODUCT ID: 3462

\$149.95

18 IN STOCK

1 **ADD TO CART**

ADD TO WISHLIST

[DESCRIPTION](#)

[TECHNICAL DETAILS](#)

<https://www.sparkfun.com/products/14515> \$125.00

<https://www.adafruit.com/product/3462>

Note: Not all of these are required for all recipes.

Links & Information

- [TJBot Hour of Code](#)



- [IBM TJ Bot](#) (3d Print TJ Bot, Code, recipes and more)



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