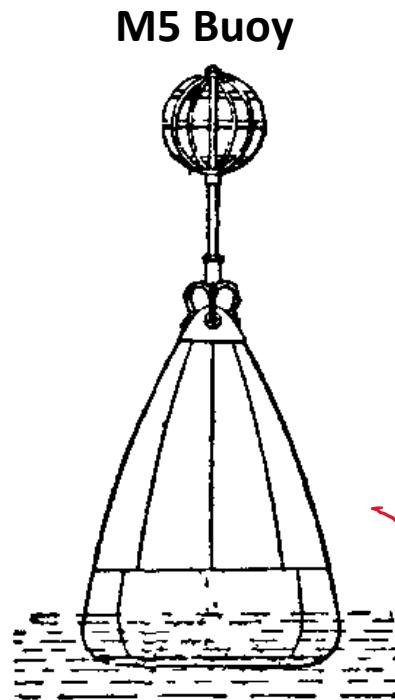


Magic Mirror Module

Basic Set up for ServerOnly operation

What we'll make...



M5 Buoy

Magic Mirror



The image shows a digital display interface titled "Magic Mirror". At the top left, it displays the date "Thursday, March 26, 2020" and the time "17:32²⁰". Below this is a section titled "US HOLIDAYS" with a list of events and their estimated time until they occur:

Holiday	Time Until
Good Friday	In 15 days
Easter Sunday	In 17 days
Mother's Day	In a month
Memorial Day	In 2 months
Father's Day	In 3 months
Independence Day Holiday	In 3 months
Independence Day	In 3 months
Labor Day	In 5 months
Columbus Day	In 7 months
Halloween	In 7 months

On the right side of the screen, there is a large red arrow pointing upwards towards a circular callout box. Inside the box, the text "SEA TEMPERATURE" is at the top, followed by a wavy icon and the number "9.17°". Below the callout, the text "You look nice!" is displayed in a large, white, sans-serif font.

1. Clone and Install Magic Mirror

```
pi@raspberrypi4:~ $ git clone https://github.com/MichMich/MagicMirror.git
Cloning into 'MagicMirror'...
remote: Enumerating objects: 13943, done.
remote: Total 13943 (delta 0), reused 0 (delta 0), pack-reused 13943
Receiving objects: 100% (13943/13943), 14.18 MiB | 1.26 MiB/s, done.
Resolving deltas: 100% (8098/8098), done.
```

```
pi@raspberrypi4:~ $ cd MagicMirror
pi@raspberrypi4:~/MagicMirror $ npm install
npm WARN deprecated time-grunt@2.0.0: Deprecated because Grunt is practically unmaintained. Move on to something better. This package will continue to work with Grunt v1, but it will not receive any updates.
npm WARN deprecated @types/vfile-message@2.0.0: This is a stub types definition. vfile-message provides its own type definitions, so you do not need this installed.

> electron-chromedriver@1.8.0 install /home/pi/MagicMirror/node_modules/electron-chromedriver
> node ./download-chromedriver.js

successfully dowloaded and extracted!

> core-js@2.6.11 postinstall /home/pi/MagicMirror/node_modules/core-js
> node -e "try{require('./postinstall')}catch(e){}"

Thank you for using core-js ( https://github.com/zloirock/core-js ) for polyfilling JavaScript standard library!
```

Update /config.config.js

```
var config = {  
  address: "0.0.0.0", //  
  port: 8888,  
  ipWhitelist: [], // Se
```

Allows all IPs
Can limit it to
your own network
e.g. 192.168.1/24



nodemon reload, automatically.

Nodemon is a utility that will monitor for any changes in your source and automatically restart your server. Perfect for development. Install it using [npm](#).

Install Nodemon

Saves you having to restart
every time you change
code

Create Simple Module

The image shows a terminal window and a code editor side-by-side.

Terminal View:

- OPEN EDITORS: JS sea-temp.js \home\pi\MagicMirror\mo...
- UNTITLED (WORKSPACE) tree view:
 - MagicMirror
 - .github
 - clientonly
 - config
 - css
 - fonts
 - installers
 - js
 - modules
 - default
 - sea-temp

Code Editor View:

SSH FS - pi4 > home > pi > MagicMirror > modules > sea-temp > JS sea-temp.js

```
1  Module.register("sea-temp", {  
2      // Default module config.  
3      defaults: {  
4          text: "Hello IoT Year2"  
5      },  
6  
7      // Override dom generator.  
8      getDom: function() {  
9          var wrapper = document.createElement("div");  
10         wrapper.innerHTML = this.config.text;  
11         return wrapper;  
12     }  
13});
```

Handwritten annotations in red:

- A red circle highlights the word "sea-temp" in the terminal's file list.
- A red circle highlights the word "sea-temp" in the code editor's file path.
- A red arrow points from the terminal's "sea-temp" folder entry to the code editor's "sea-temp" in the file path.
- A red arrow points from the terminal's "sea-temp.js" entry to the code editor's "sea-temp.js".
- A red circle highlights the word "sea-temp" in the code editor's code at line 1.
- A red arrow points from the terminal's "sea-temp" folder entry to the handwritten "New folder" note.
- A red arrow points from the terminal's "sea-temp.js" entry to the handwritten "New file" note.

Update /config/config.js

The image shows a code editor interface with a dark theme. On the left, the file structure is displayed under 'UNTITLED (WORKSPACE)'. It includes a 'MagicMirror' folder containing '.github', 'clientonly', 'config' (which contains '.gitignore' and 'config.js'), 'css', and 'fonts'. The 'config.js' file is currently selected and highlighted in blue. In the main editor area, the code for 'config.js' is shown:

```
32
33
34
35
36
37
38
39
40
41
42
modules: [
  {
    module: "sea-temp",
    position: "top_right"
  },
  {
    module: "alert",
  },
  {
  }
]
```

A red annotation has been added to the code. The word 'addthis' is written in red above the opening brace of the first object in the 'modules' array. A red arrow points from the start of the line 'addthis' to the opening brace '{' of the first object. Another red curly brace encloses the entire 'modules' array.

Test It!

Thursday, March 26, 2020

16:20³⁹

US HOLIDAYS

<input checked="" type="checkbox"/> Good Friday	In 15 days
<input checked="" type="checkbox"/> Easter Sunday	In 17 days
<input checked="" type="checkbox"/> Mother's Day	In a month
<input checked="" type="checkbox"/> Memorial Day	In 2 months
<input checked="" type="checkbox"/> Father's Day	In 3 months
<input type="checkbox"/> Independence Day Holiday	In 3 months

Hello IoT Year2

Enhance the Module: Get data from M5 buoy

- Include URL and pull in css style sheet

```
Module.register("sea-temp", {
  // Default module config.
  defaults: {
    URL: 'https://erddap.marine.ie//erddap/tabledap/IWBNetw',
  },
  getStyles: function() {
    return [
      'font-awesome.css' // this file is available in the
    ]
  },
});
```

Enhance the Module: Get data from M5 buoy

- Specify Start function that requests M5 data every 5 seconds

```
start: function() {
  var self = this;
  setInterval(function() {
    var xmlhttp = new XMLHttpRequest();
    xmlhttp.onreadystatechange = function() {
      if (xmlhttp.readyState == 4 && xmlhttp.status == 200) {
        var results = JSON.parse(xmlhttp.responseText);
        self.temperature= results.table.rows[0][10]
      }
    };
    xmlhttp.open("GET", self.config.URL, true);
    xmlhttp.send();
    self.updateDom(); // no speed defined, so it updates instantly.
  }, 5000); //perform every 1000 milliseconds.
},
```

Enhance the Module: Get data from M5 buoy

- Update getDom function to check for temperature and display

```
// Override dom generator.  
getDom: function() {  
  
    var wrapper = document.createElement("div");  
  
    if (!this.temperature) {  
        wrapper.innerHTML = "No data";  
        wrapper.className = "dimmed light small";  
        return wrapper;  
    }  
  
    wrapper.innerHTML = '<i class="fas fa-water"></i>' + this.temperature + '&deg;';  
  
    return wrapper;  
}
```