

# Javascript test

## 1. Pure Javascript

Create a `StringParser` class that takes a string as constructor argument.

A `StringParser` instance must provide the following :

- Get the number of occurrences of a given character
- Get the characters with the most/least occurrences
- Be able to work in case insensitive mode (if needed).

Bonus points if:

- The methods can also be called directly without building a `StringParser` object (eg by calling `StringParser.prototype.xxx...`)
- The methods can somehow also work on other array-like objects (eg arrays, arguments object, DOM collections, etc)
- A `StringParser` instance can be constructed using a promise (that will eventually be resolved to a string), feel free to adapt the interface for other methods (arguments, return values, callbacks...) for this case

You should also provide documentation for your class (any format - doesn't matter)

## 2. API & server side

Write a middleware for express (or similar) that performs authentication. It should be able to:

- Check the session for a logged in user, if not send a login screen view instead of the requested controller
- After filling the user/pass, the user must see the page they originally requested
- You can have a static list of credentials, or even just have a placeholder function that just accepts anything (better yet if it's async)

Write a web service providing basically the same functionality:

- a call to log in (credentials provided in clear in the call)
- a call to retrieve the current status (logged in/out) and information about the current user (if any)
- status can either be preserved in the session (like the middleware), or by returning a token that has to be provided in other calls (no need to bother with token expiry, etc)

### 3. Front end

The goal of this exercise is simple. Given the following JSON, generate a list of elements that looks like the screenshot.

It doesn't have to look exactly the same you'll have to respect a few rules:

- you should be using Javascript to organize the data and display it using HTML + CSS.
- all containers should have the same width ( 200px )
- all pictures should be in the middle in their container (vertically and horizontally)
- Item names should be "ellipsed" if too long
- the design should be responsive (display as many columns as possible, centered on the screen)

You are free to use plain Javascript or jQuery.

(JSON and screenshot on last page)

### 4. Testing

Write a testing suite for your the pure JS and server code (parts 1 and 2) that test for all functionalities implemented (The second part can be challenging, you don't have to test every possible case, implement as much as you can).

I suggest using mocha (since that's what we are using), but feel free to use whatever you are comfortable with.

The tests should be runnable on a node environment, and optionally on a browser page.






Bonus points if the test files are written in CoffeeScript

## Front end test data

```
{
  "items": [
    {
      "Id": "54b52ea0b924ef3433491c2d",
      "OSS": {
        "Name": "Rowe Moran",
        "Company": "TALENDULA",
        "Image": "http://lorempixel.com/100/100/sports/"
      }
    },
    {
      "Id": "54b52ea0ca3b0ae85e780ad2",
      "OSS": {
        "Name": "Lorena Warren",
        "Company": "CYTREK",
        "Image": "http://lorempixel.com/100/100/sports/"
      }
    },
    {
      "Id": "54b52ea033a2c0b90c63d4f1",
      "OSS": {
        "Name": "Guthrie Howard",
        "Company": "BICOL",
        "Image": "http://lorempixel.com/100/100/sports/"
      }
    },
    {
      "Id": "54b52ea0ac080a7ea68023f4",
      "OSS": {
        "Name": "Cheri Sawyer",
        "Company": "ORGANICA",
        "Image": "http://lorempixel.com/100/100/sports/"
      }
    },
    {
      "Id": "54b52ea03063c4c95edd015d",
      "OSS": {
        "Name": "Kelly Vinson",
        "Company": "ZEPITOPE",
        "Image": "http://lorempixel.com/100/100/sports/"
      }
    }
  ]
}
```

## Front end screenshot

# Results

 Leonor Glover from APPLICA	 Sheryl Larson from CABLAM	 Cummings Vargas from XUMONK
 Nellie Everett from MAKINGWAY	 Montgomery Miller from OULU	