Lab: Asynchronous Programming

Problems for exercises and homework for the ["JavaScript Apps" course @ SoftUni.](https://softuni.org)
The following tasks do not have tests in the Judge system. They are for practice.

Working with Remote Data

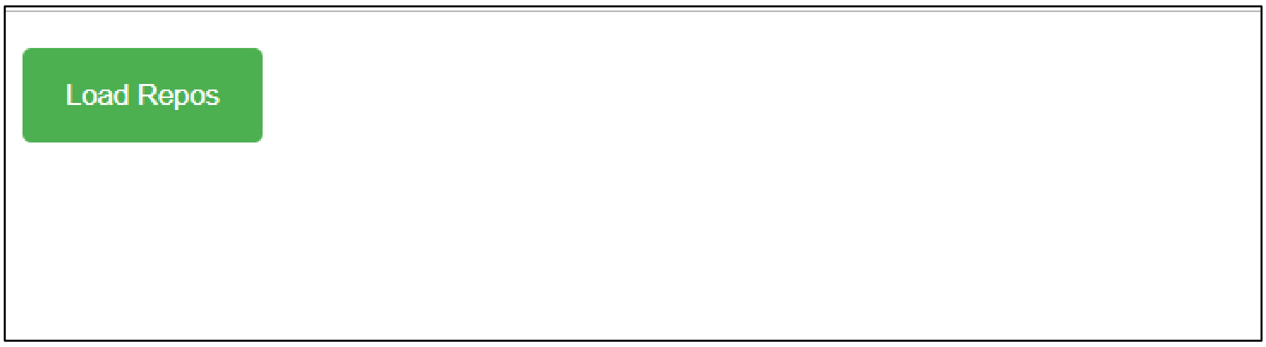
For the solution of some of the following tasks, you will need to use an up-to-date version of the **local REST service**, provided in the lesson's resources archive. You can read the documentation here.

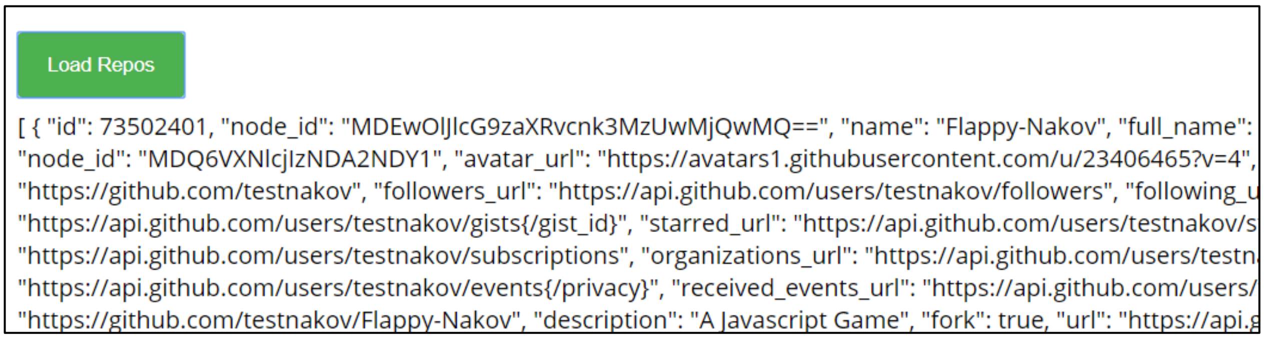
1. XHR (XmlHttpRequest)

Your task is to **write** a JS function that **loads** a github repository **asynchronously with AJAX**. You should **create** an instance of **XmlHttpRequest** and attach an **onreadystatechange** event to it. (An EventHandler that is called whenever the readyState attribute changes). Obtain the data by making a GET request to the following URL: **`https://api.github.com/users/testnakov/repos.`** In your event handler, when the **readyState** attribute reaches a value of **4** (it is ready), replace the text content of a **div** element with **id "res"** with the value of the **responseText** property of the request. **Do not format** the response in any way.

More on XmlHttpRequest.open()

Examples



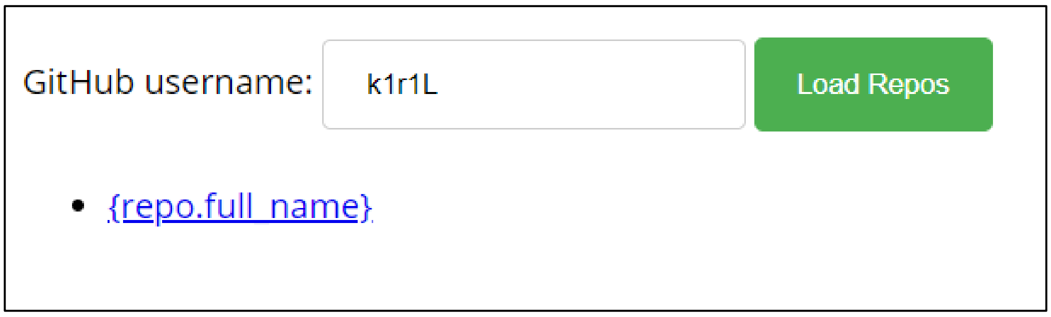


```
[ { "id": 73502401, "node_id": "MDEwOlJlcG9zaXRvcnk3MzUwMjQwMQ==", "name": "Flappy-Nakov", "full_name":
"node_id": "MDQ6VXNlcjIzNDA2NDY1", "avatar_url": "https://avatars1.githubusercontent.com/u/23406465?v=4",
"https://github.com/testnakov", "followers_url": "https://api.github.com/users/testnakov/followers", "following_u
"https://api.github.com/users/testnakov/gists{/gist_id}", "starred_url": "https://api.github.com/users/testnakov/s
"https://api.github.com/users/testnakov/subscriptions", "organizations_url": "https://api.github.com/users/testn
"https://api.github.com/users/testnakov/events{/privacy}", "received_events_url": "https://api.github.com/users/
"https://github.com/testnakov/Flappy-Nakov", "description": "A Javascript Game", "fork": true, "url": "https://api.g
```

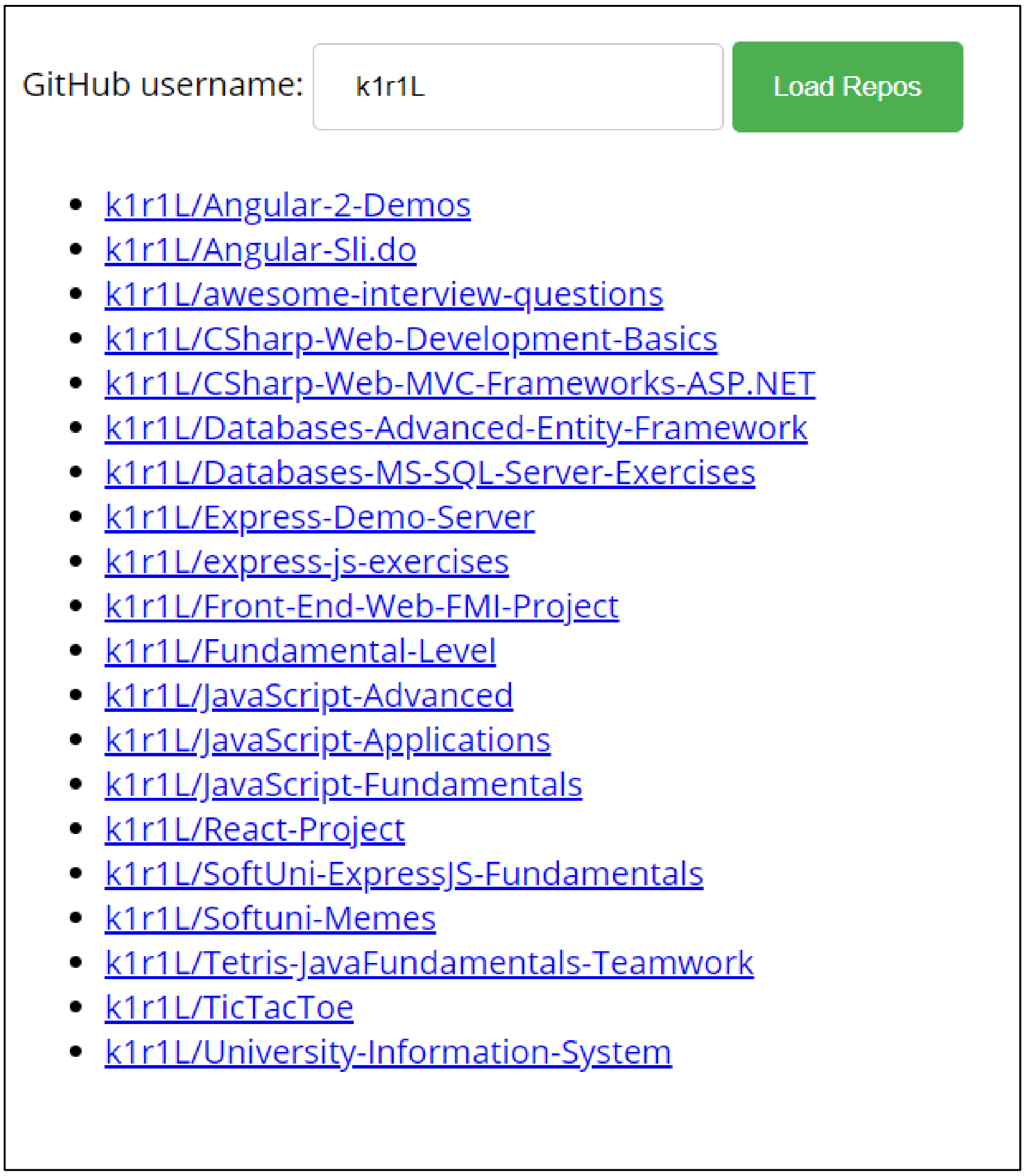
2. Github Repos

Your task is to **write** a JS function that **executes** an **AJAX** request with **Fetch API** and loads all user **github repositories** by a given username (taken from an input field with **id "username"**) into a **list** (each repository as a **list-item**) with **id** "**repos**". Use the properties **full_name** and **html_url** of the returned objects to create a link to each repo's GitHub page. If an **error** occurs (like 404 "Not Found"), **append** to the list a list-item with **text** the current instead. Clear the contents of the list before any new content is appended. See the **highlighted lines** of the skeleton for formatting details of each list item.

Examples


GitHub username: k1r1L Load Repos

- {repo.full_name}


GitHub username: k1r1L Load Repos

- k1r1L/Angular-2-Demos
- k1r1L/Angular-Sli.do
- k1r1L/awesome-interview-questions
- k1r1L/CSharp-Web-Development-Basics
- k1r1L/CSharp-Web-MVC-Frameworks-ASP.NET
- k1r1L/Databases-Advanced-Entity-Framework
- k1r1L/Databases-MS-SQL-Server-Exercises
- k1r1L/Express-Demo-Server
- k1r1L/express-js-exercises
- k1r1L/Front-End-Web-FMI-Project
- k1r1L/Fundamental-Level
- k1r1L/JavaScript-Advanced
- k1r1L/JavaScript-Applications
- k1r1L/JavaScript-Fundamentals
- k1r1L/React-Project
- k1r1L/SoftUni-ExpressJS-Fundamentals
- k1r1L/Softuni-Memes
- k1r1L/Tetris-JavaFundamentals-Teamwork
- k1r1L/TicTacToe
- k1r1L/University-Information-System

3. Github Commits

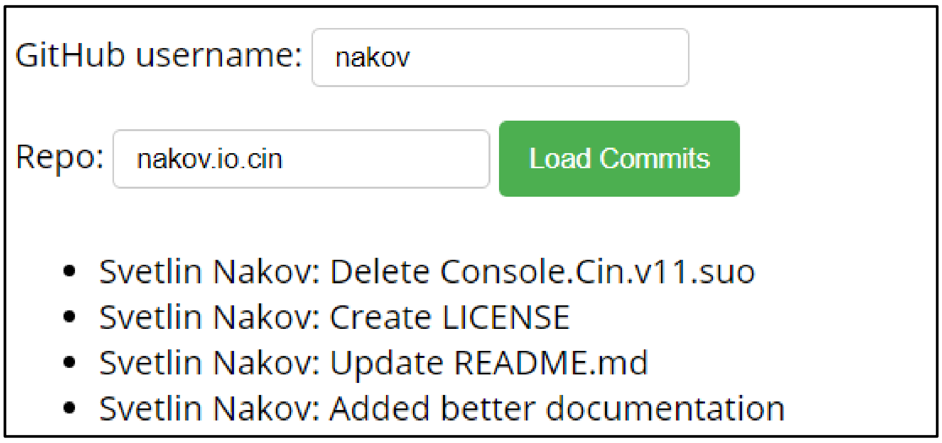
Write a JS program that loads all commit messages and their authors from a github repository using a given HTML.

The **`loadCommits()`** function should get the **username** and **repository** from the HTML textboxes with IDs **`"username"`** and **`"repo"`** and make a **GET** request to the **Github API**:
`https://api.github.com/repos/<username>/<repository>/commits`

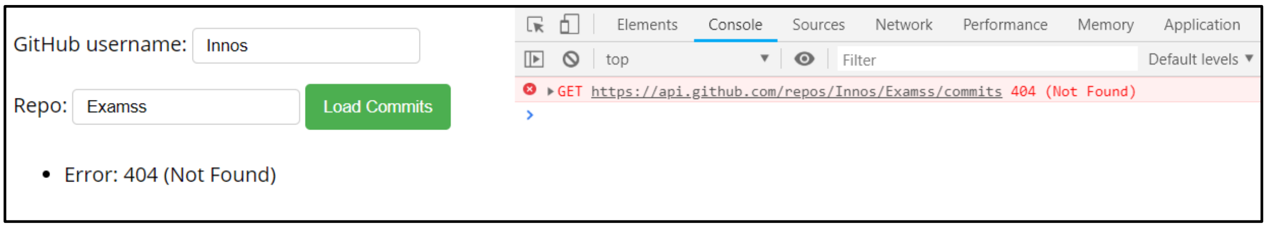
Swap **`<username>`** and **`<repository>`** with the ones from the HTML:

- In case of **success**, for **each** entry add a **list item** (**`<li>`**) in the **unordered list** (**`<ul>`**) with **id** **`"commits"`** with text in the following format:
  `"<commit.author.name>: <commit.message>"`
- In case of an **error**, add a single **list item** (**`<li>`**) with text in the following format:
  `"Error: <error.status> (Not Found)"`

Screenshots:



- Svetlin Nakov: Delete Console.Cin.v11.suo
- Svetlin Nakov: Create LICENSE
- Svetlin Nakov: Update README.md
- Svetlin Nakov: Added better documentation



- Error: 404 (Not Found)

```
GET https://api.github.com/repos/Innos/Examss/commits 404 (Not Found)
```

4. Cookbook – Part 1

The resources for this task are available in the following GitHub repository:

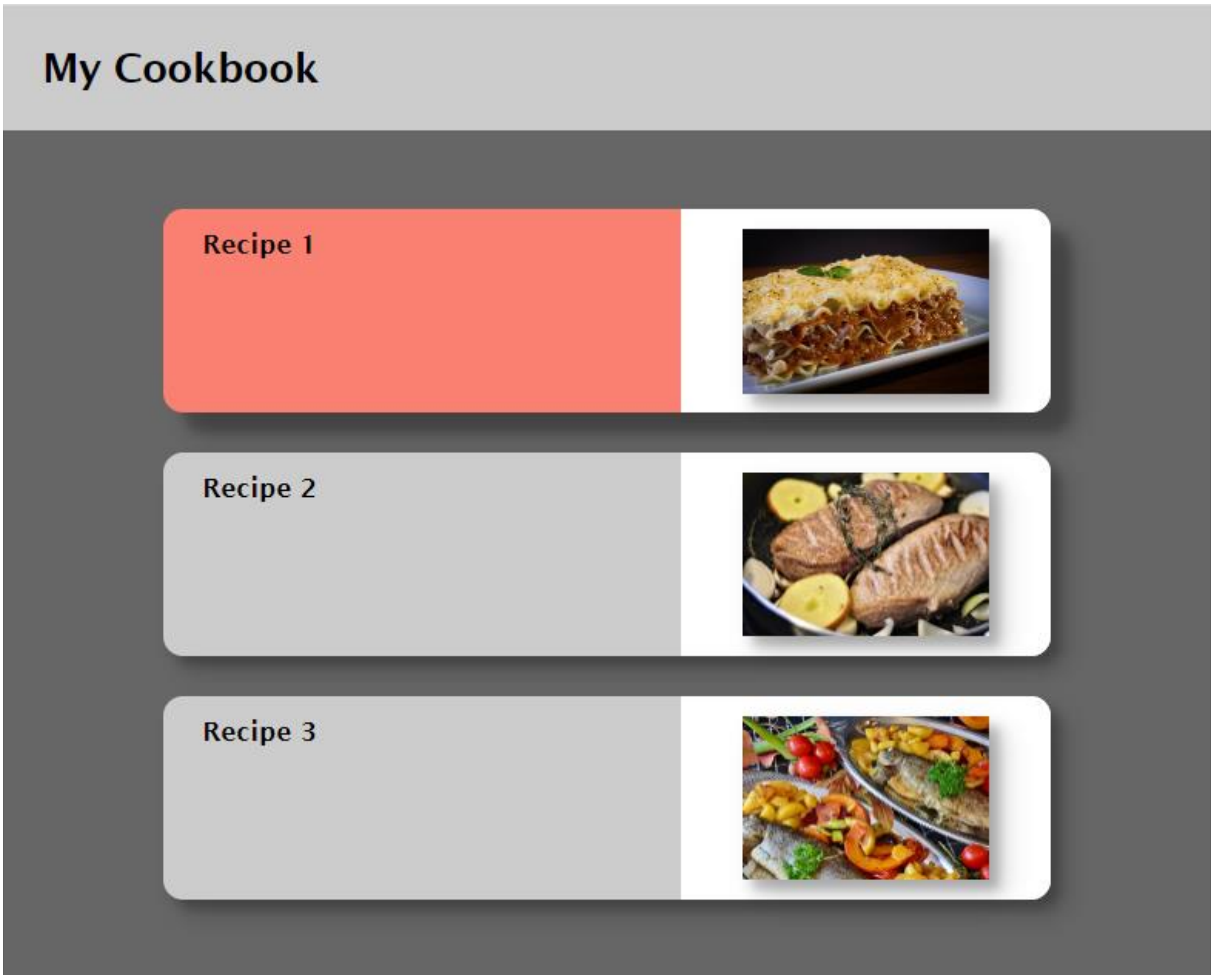
https://github.com/viktorpts/js-apps-workshop

You may check-out the repository or download the files via the green button labeled "Code" in the upper-right corner. Use the files located in **`lesson-02/base`** to begin the task. Before starting, make sure you have the most recent version of the repository. To see the solution, check the files inside **`lesson-02/finished`**.

Write a JS program that loads all recipies from the provided local server. You are **provided with skeleton** (**HTML & CSS**) for this task, also with **server**, which you will use as localhost. You will be able to load from the server "database" the needed recipies and other details.

Load all recipies

When the app is started, you need to **load all the recipies** from the server:



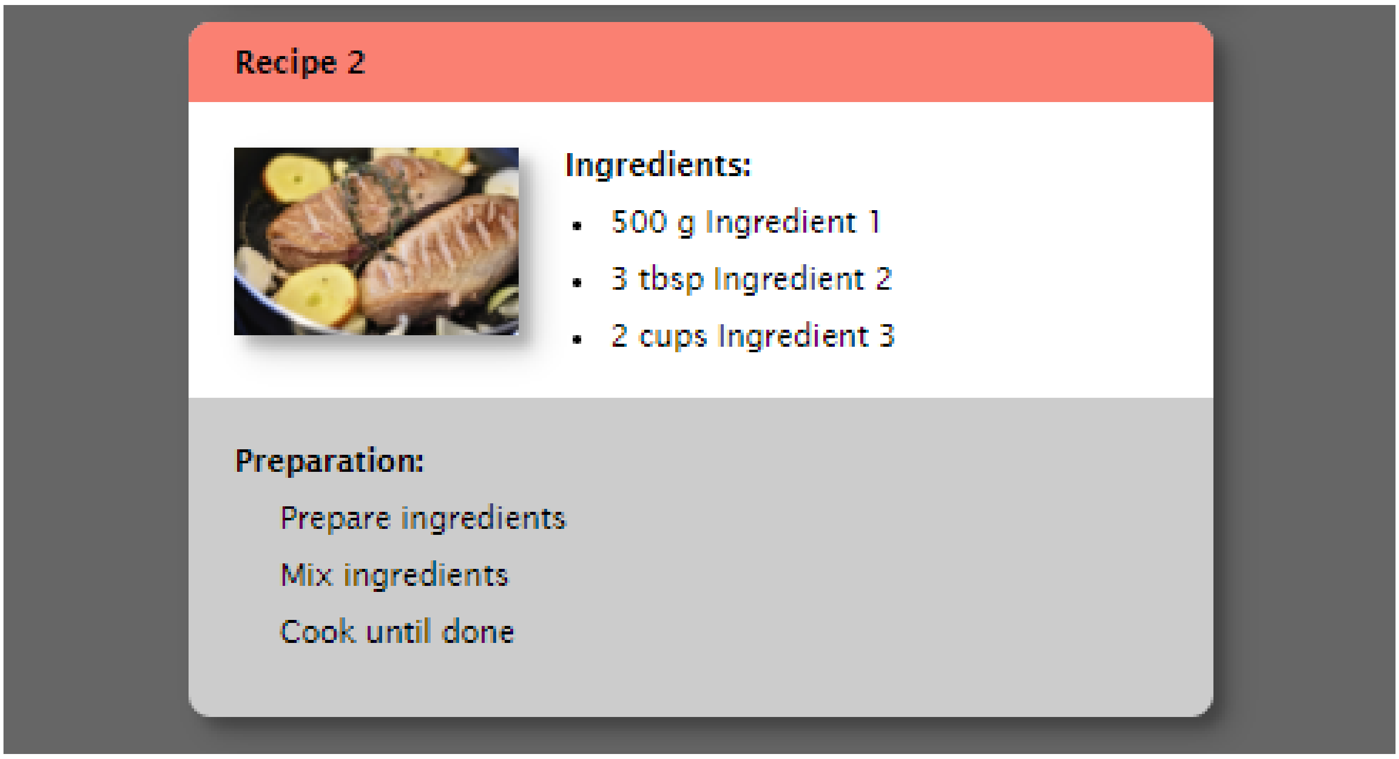
You have to make **"GET" request** to the server on this **URL**: http://localhost:3030/jsonstore/cookbook/recipes

Load selected recipe

By **clicking on a card** with recipe you need to make a **"GET" request** to the server, and **toggle the information** only for the **selected recipe**.

The **URL** for the details is: http://localhost:3030/jsonstore/cookbook/details/**:id**

Where **":id"** is the id of the selected recipe.



Recipe 2

Ingredients:

- 500 g Ingredient 1
- 3 tbsp Ingredient 2
- 2 cups Ingredient 3

Preparation:

Prepare ingredients

Mix ingredients

Cook until done