

AJAX and jQuery AJAX

AJAX Concepts, jQuery AJAX:
\$.ajax(), \$.get(), \$.post()



SoftUni Team
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Software University

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JavaScript
for Front-End

XMLHttpRequest



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Have a Question?

sli.do

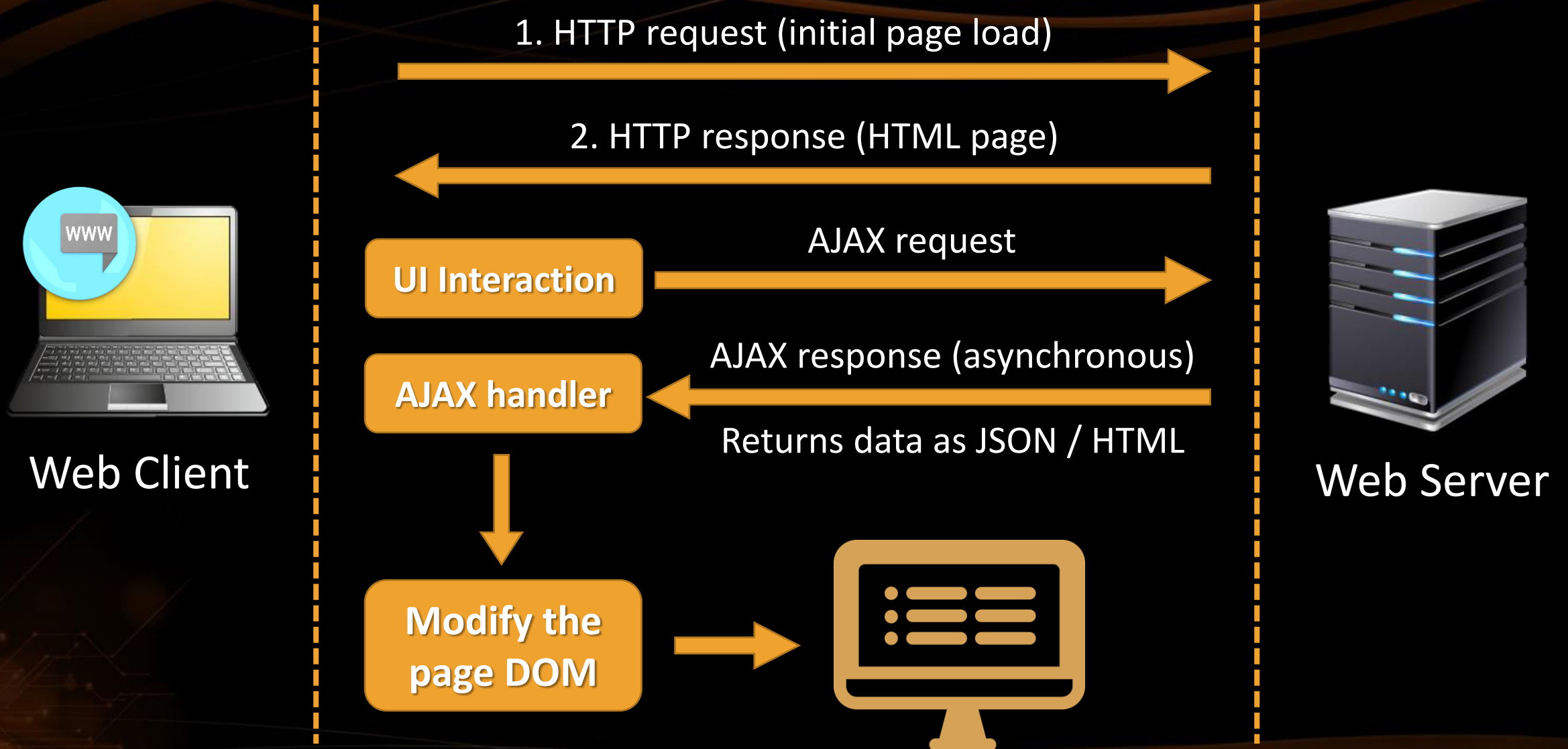
#front-end

What is AJAX?

- AJAX == **Asynchronous JavaScript And XML**
 - Technique for background loading of dynamic content / data
 - Web pages / apps load data from the Web server and render it
- Two types of AJAX
 - **Partial page rendering**
 - Load HTML fragment + show it in a **<div>**
 - **JSON service**
 - Load JSON object and display it with JavaScript / jQuery



AJAX: Workflow



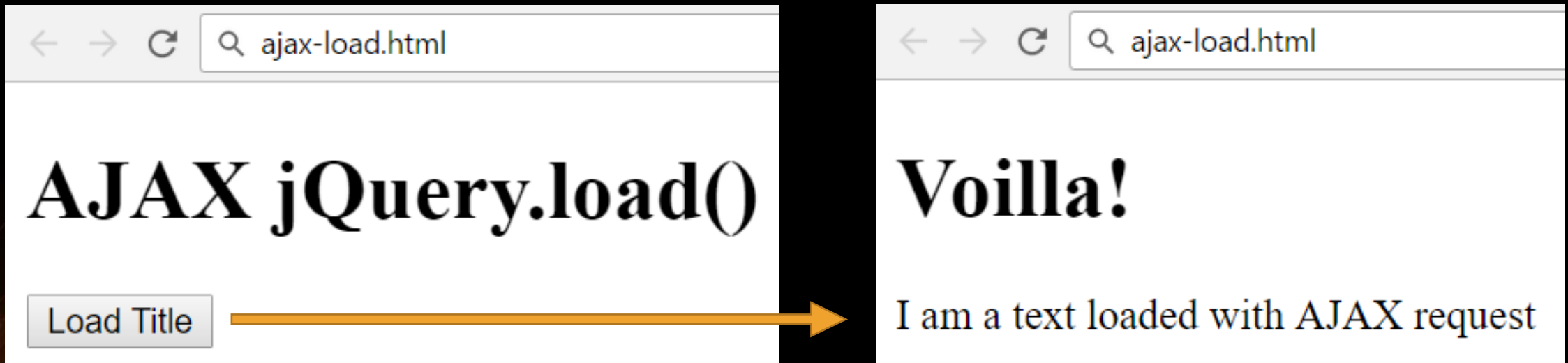


jQuery AJAX

Simplified AJAX Calls with jQuery

jQuery AJAX

- **jQuery** dramatically simplifies how developer make AJAX calls
- Problem: create a **page** holding a **button**
 - Clicking the button should **load a html fragment** and display it inside a **div**



Solution: jQuery.load()

ajax-load.html

```
<div id="text">  
  <h1>AJAX jQuery.load()</h1>  
  <button onclick="loadTitle()">Load Title</button>  
</div>
```

ajax-load.js

```
function loadTitle() {  
  $('#text').load("text.html");  
}
```

text.html

```
<h1>Voilla!</h1>  
<p>I am a text loaded  
with AJAX request</p>
```


Problem: Load GitHub Repos with AJAX

GitHub username:

```
<input type="text" id="username" value="testnakov" />
```

```
<button onclick="loadRepos()">Load Repos</button>
```

```
<ul id="repos"></ul>
```

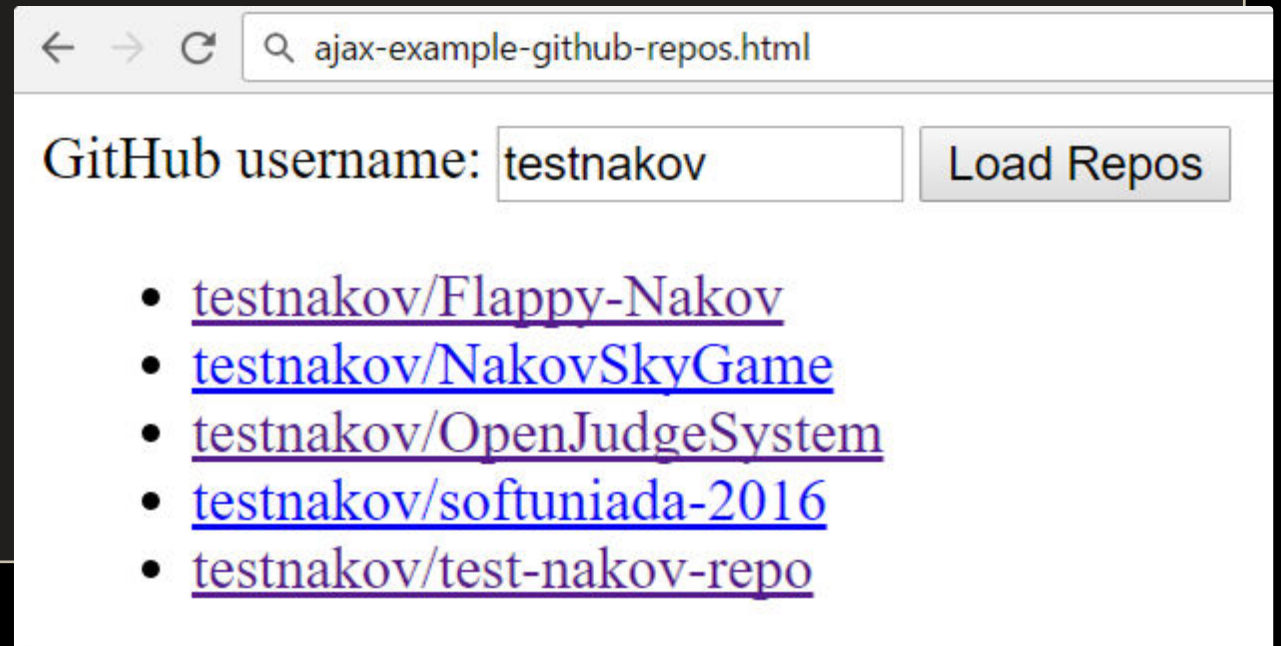
```
<script>
```

```
    function loadRepos() {
```

```
        // AJAX call ...
```

```
    }
```

```
</script>
```



Solution: Load GitHub Repos with AJAX

```
function loadRepos() {  
    $("#repos").empty();  
    let url = "https://api.github.com/users/" +  
        $("#username").val() + "/repos";  
    $.ajax({ url,  
        success: displayRepos,  
        error: displayError  
    });  
    function displayRepos(respos) { ... }  
    function displayError(err) { ... }  
}
```

Solution: Load GitHub Repos with AJAX (2)

```
function displayRepos(respos) {  
  for (let repo of respos) {  
    let link = $('<a>').text(repo.full_name);  
    link.attr('href', repo.html_url);  
    $("#repos").append($('<li>').append(link));  
  }  
}  
  
function displayError(err) {  
  $("#repos").append("<li>Error</li>");  
}
```

Check your solution here: <https://judge.softuni.bg/Contests/357>

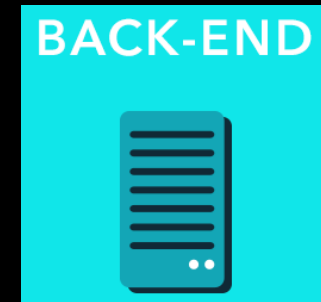


Firebase

Mobile Back-End as a Service

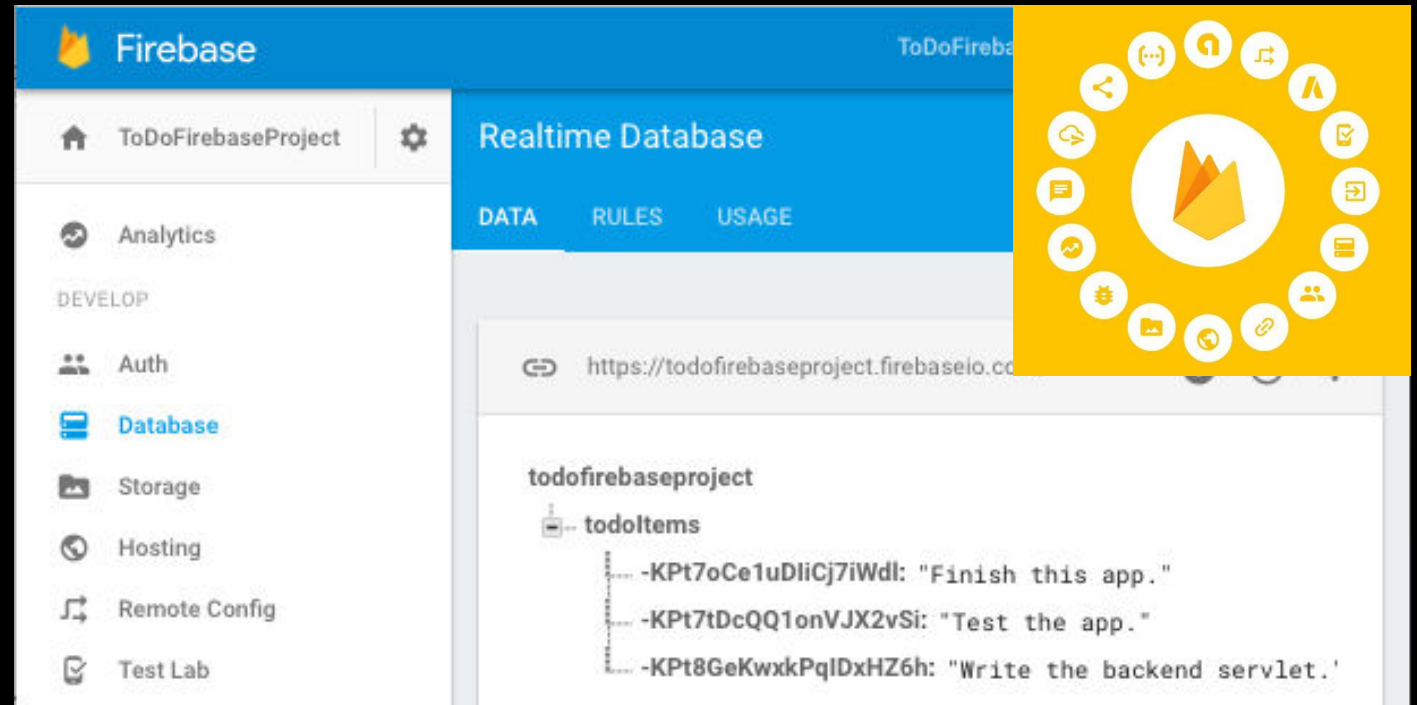
Introduction to Firebase

- A web application always has a **Front-End part** and a **Back-End part**.
 - Each side may be simulated depending on the application.
- **MBaaS** helps simulate the **Back-End** part of an application.
 - Offers a back-end platform which you can consume.
 - Offers a data storage service.
 - Offers implemented functionality and security.



Introduction to Firebase

- Firebase is a mobile and web application development platform.
- Offers many services that make application development smooth and easy:
 - Analytics
 - Cloud Messaging
 - Authorization
 - Database & Storage
 - Hosting



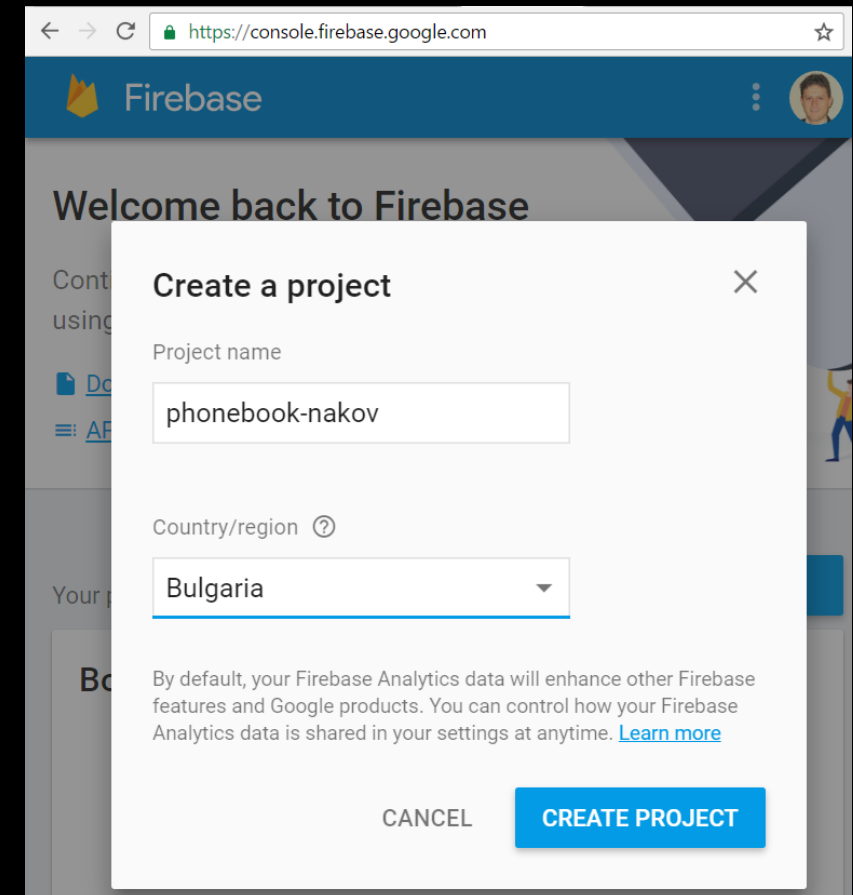
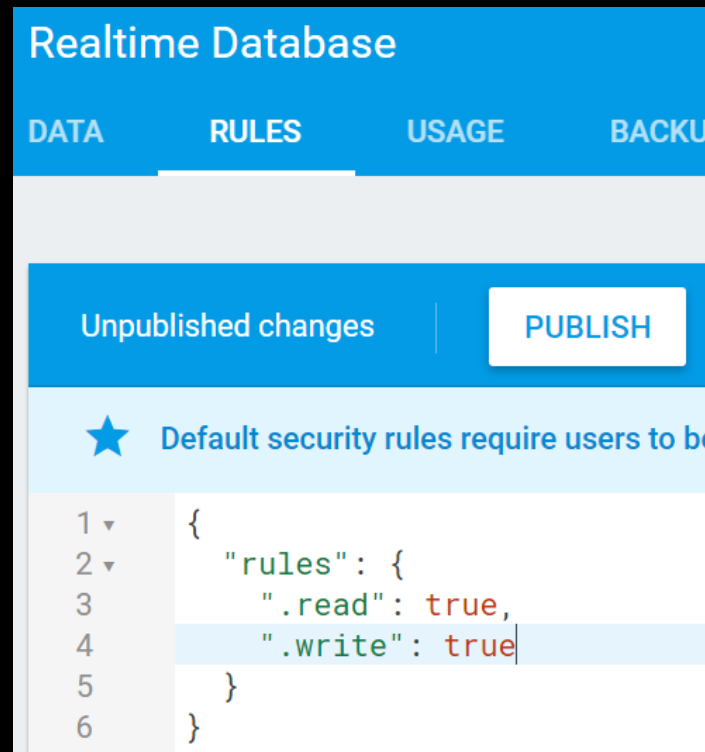


Firestore

Demo. Firestore Playground


Solution: Setup a Firebase DB

- Open <https://console.firebase.google.com/>
- Create a new project
- Enable public read / write access



Solution: Add Sample Data in Firebase

← → ↻ <https://console.firebase.google.com/project/phonebook-nakov/database/data/>

 **Firebase**

🏠 phonebook-nakov ⚙️

📊 Analytics

DEVELOP

👤 Authentication

🗄️ **Database**

📁 Storage

🌐 Hosting

🔍 Test Lab

🐛 Crash Reporting

GROW

💬 Notifications

🔗 Remote Config

Spark
Free \$0/month [UPGRADE](#)

Realtime Database

DATA RULES USAGE BACKUPS

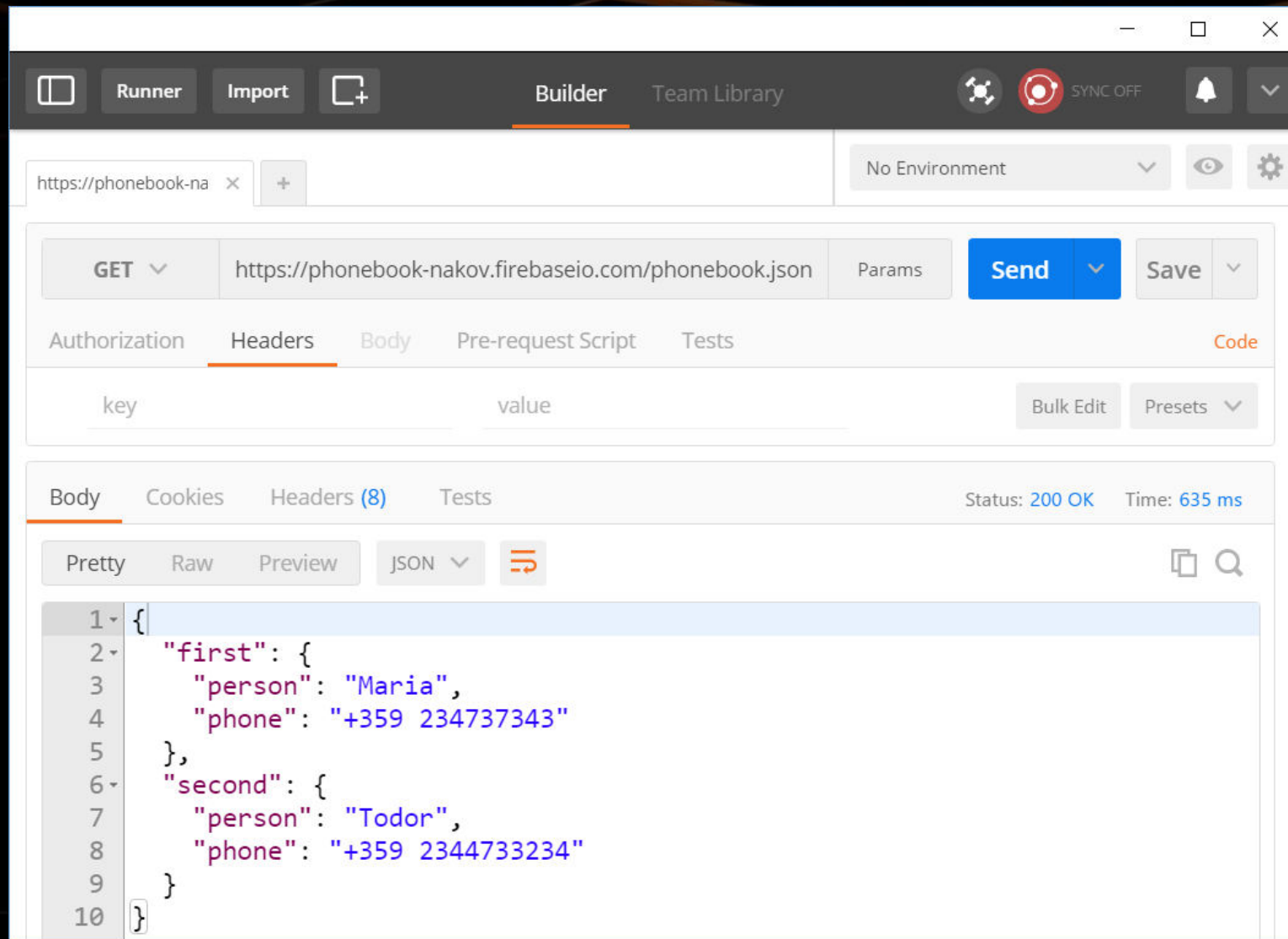
<https://phonebook-nakov.firebaseio.com/>

phonebook-nakov: null ✕

- Name phonebook + ✕
 - Name first + ✕
 - Name person Value Maria ✕
 - Name phone Value +359 234737343 ✕
 - Name second + ✕
 - Name person Value Todor ✕
 - Name phone Value +359 2344733234 ✕

CANCEL **ADD**

Solution: Test Your REST Service



The screenshot displays the REST Client application interface. The top toolbar includes buttons for Runner, Import, and Builder, along with a Team Library section and a SYNC OFF indicator. The main workspace shows a GET request to the URL `https://phonebook-nakov.firebaseio.com/phonebook.json`. The Headers tab is active, showing a table with columns for key and value. Below the headers, the Body tab is selected, displaying the response in JSON format. The response status is 200 OK, and the time taken is 635 ms. The JSON response is as follows:

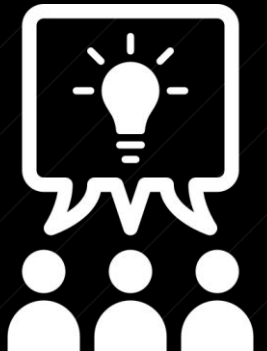
```
1 {  
2   "first": {  
3     "person": "Maria",  
4     "phone": "+359 234737343"  
5   },  
6   "second": {  
7     "person": "Todor",  
8     "phone": "+359 2344733234"  
9   }  
10 }
```

Summary

- AJAX sends asynchronous HTTP requests from JS
- jQuery simplifies how developers use AJAX

```
$.ajax({ url, method: 'GET',  
  success: displayRepos,  
  error: displayError  
});  
function displayRepos(respos) { ... }  
function displayError(err) { ... }  
}
```

Summary



JS for Front-End – Introduction to AJAX



Questions?



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