



Universität
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JavaScript in Web Applications / Backend

Language Technology and Web Applications

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Topics

1. JavaScript in Web Applications

2. HTTP

3. Connect Frontend and Backend

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Why to use JavaScript?

- Interactivity
- Real-Time Feedback
- Performance Optimization – take off load from the server
- Cross-Platform Development

Why to use JavaScript?

Sign Up

Username:

js

Username must be between 3 and 25 characters.

Email:

hello@example.com

Password:

...

Password must has at least 8 characters that include at least 1 lowercase character, 1 uppercase characters, 1 number, and 1 special character in (!@#\$%^&*)

Confirm Password:

Reenter your password

Please enter the password again

SIGN UP

What is a DOM?

- The Document Object Model (DOM) is a central concept in web development
- Represents a document as a tree
- Element Manipulation (create, remove, style, ...)

Our Application - Tokenizer

- Develop a web application that will tokenize sentences using an external API

```
[  
  "What a beautiful sunset!",  
  "Don't forget to water the plants.",  
  "Take your time on the project."  
]
```

Element Manipulation

```
let entries = document.getElementById("entries")  
  
let item = document.createElement("div")  
  
item.innerText = "Text test"  
  
entries.appendChild(item)  
  
item.style.color = "red"
```

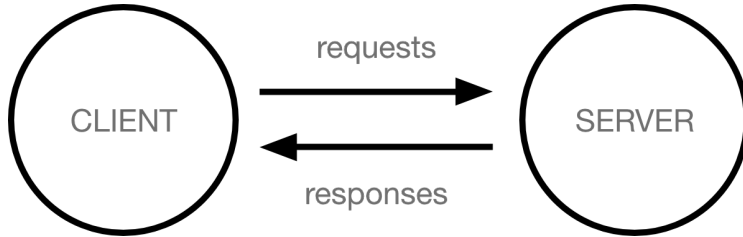

Topics

1. JavaScript in Web Applications

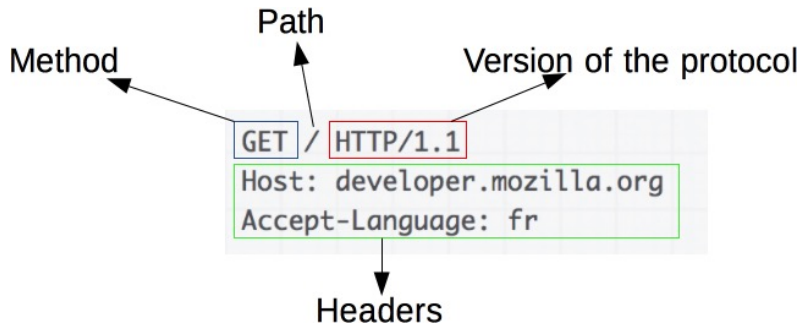
2. HTTP

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Clients and Servers



Metadata of an HTTP Request



Examples of a Host

- example.com
- subdomain.example.com

- example.com:80
- 172.23.49.21:8000

- localhost
- 127.0.0.1

Examples of a Path

- /
- /index.html
- /shop/

“Query Parameters”:

- /shop/?key1=value1
- /shop/?key1=value1&key2=value2

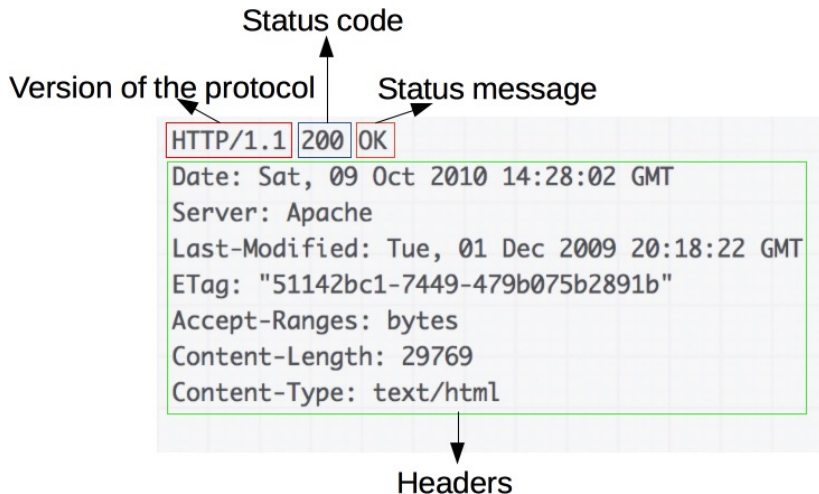
Encoding of Query Parameters

`{ 'q': 'hello' } → q=hello`

`{ 'q': 'foo bar' } → q=foo%20bar` **or** `q=foo+bar`

`{ 'q': 'grüezi' } → q=gr%C3%BCezi`

Metadata of an HTTP Response



Examples of HTTP Status Codes

- 200 OK
- 302 Found (=a redirect)
- 403 Forbidden
- 404 Not Found
- 500 Internal Server Error

Examples of Response Headers

- `Content-Type: text/html; charset=utf-8`
Media type of the resource
- `Last-Modified: Mon, 18 Jul 2016 02:36:04 GMT`
The last modification date of the resource

Examples of Content Types ("MIME Types")

- `text/html`
- `text/css`
- `text/javascript`
- `image/png`
- `image/gif`
- `application/zip`
- `application/pdf`
- `application/json`

Content of an HTTP Message

Also called: *body, payload*

Content of **responses**:

- A file of the specified content type (e.g. `text/html`)

Content of **requests**:

- Form data
- Uploaded file(s)

Difference between GET and POST

GET

- "Read": Retrieve data from the server
- No request body

POST

- "Write": Submit data to the server
- Request body ("payload")

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Goal

- Enhance the web application and allow visitors to add entries
- Store the data in the database