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WEB

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Internet VS Web

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Internet

- Hardware infrastructure
- Global network of devices
- Protocols allow communication
- How internet is born
  - 1960
  - ARPAnet

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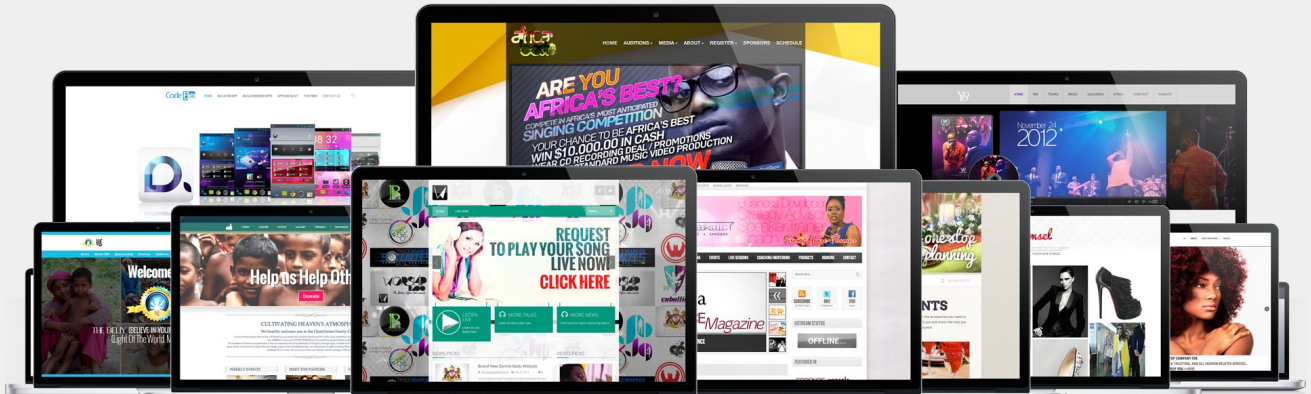
Web (World Wide Web or WWW)

- World Wide Web or just WWW
- Uses Internet
- Provides documents (sites)
- Documents can be located via URL
- Uses HTTP protocol
- Created in 1990 at CERN
  - Tim Berners-Lee
  - Robert Cailliau



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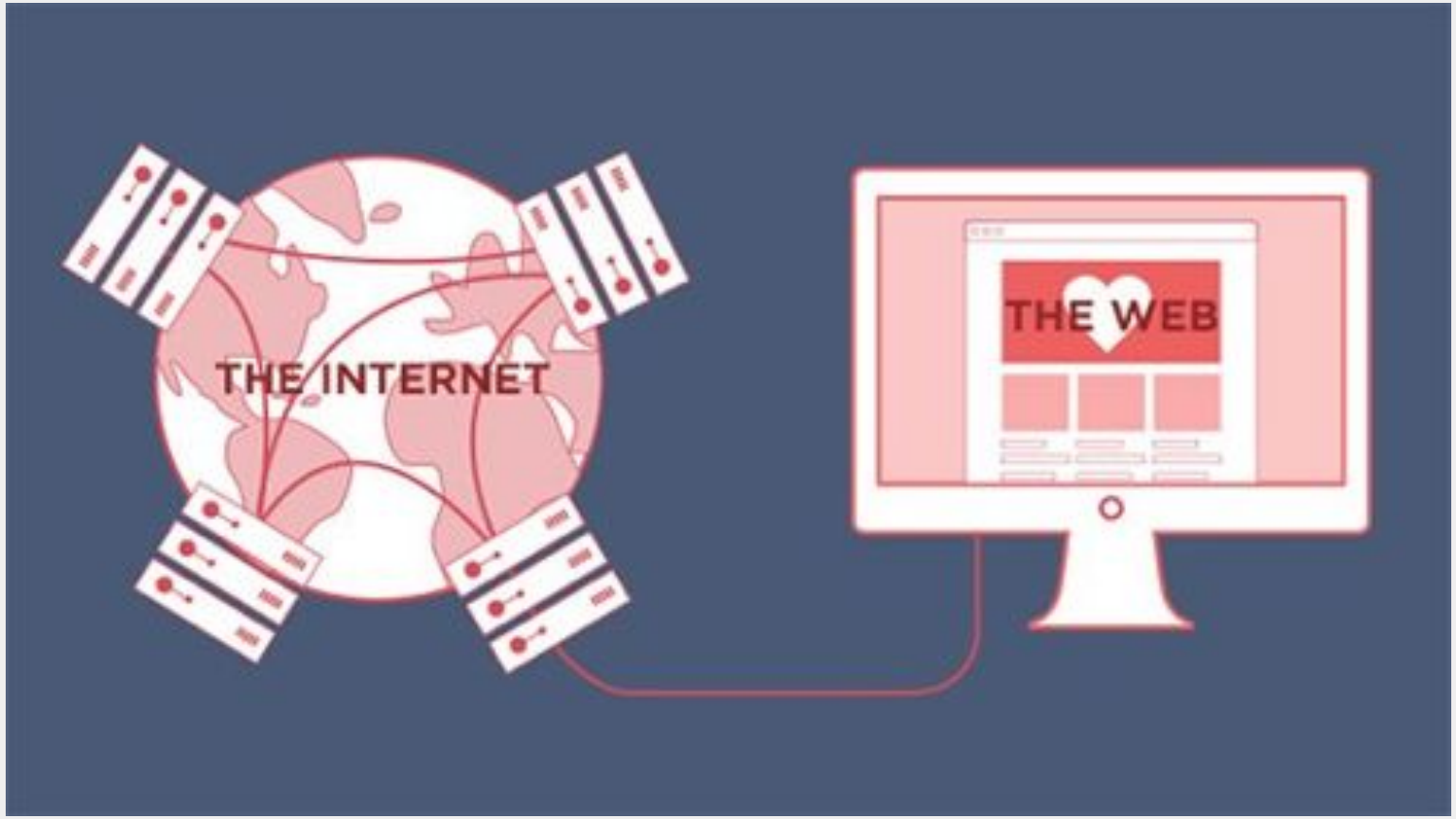
Internet AND Web



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References

- Internet vs Web - https://goo.gl/YbEVN5
- Web - https://goo.gl/u5HvGE
- History of Web - https://goo.gl/MXnbxM

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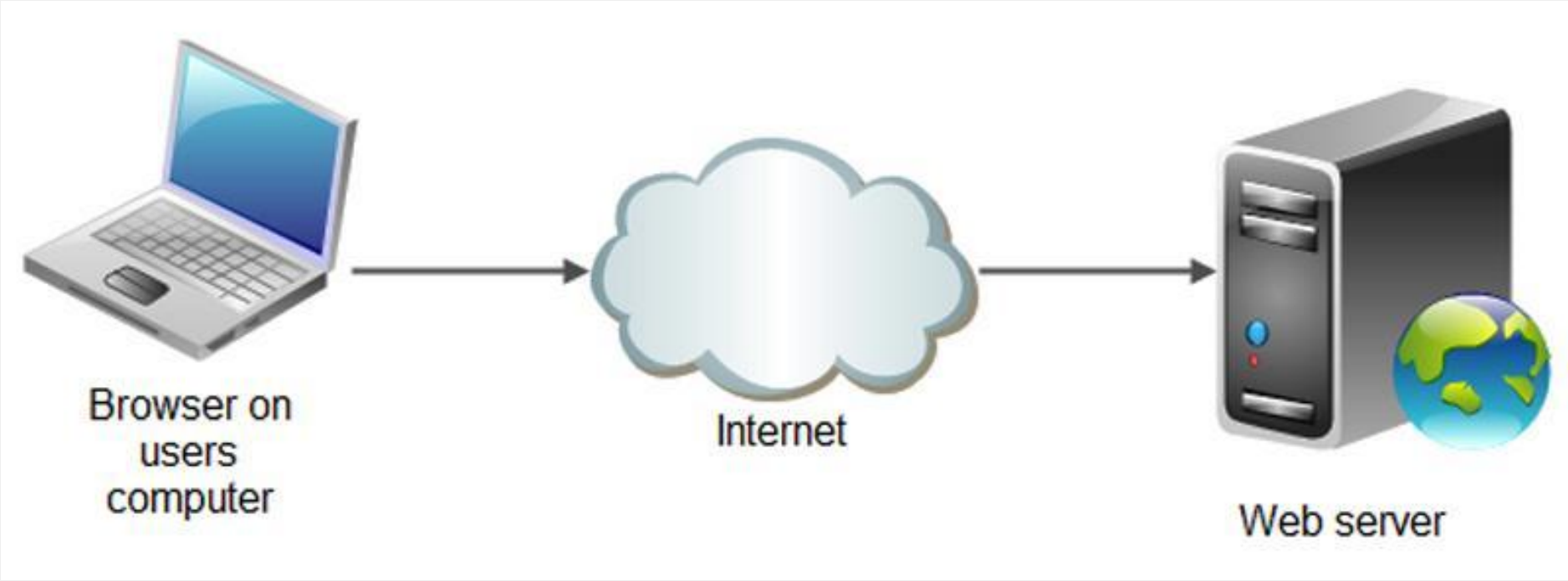
How People Access The Web

- Client (initiates request)
- Server (serves document)
- Web Browser
- URL



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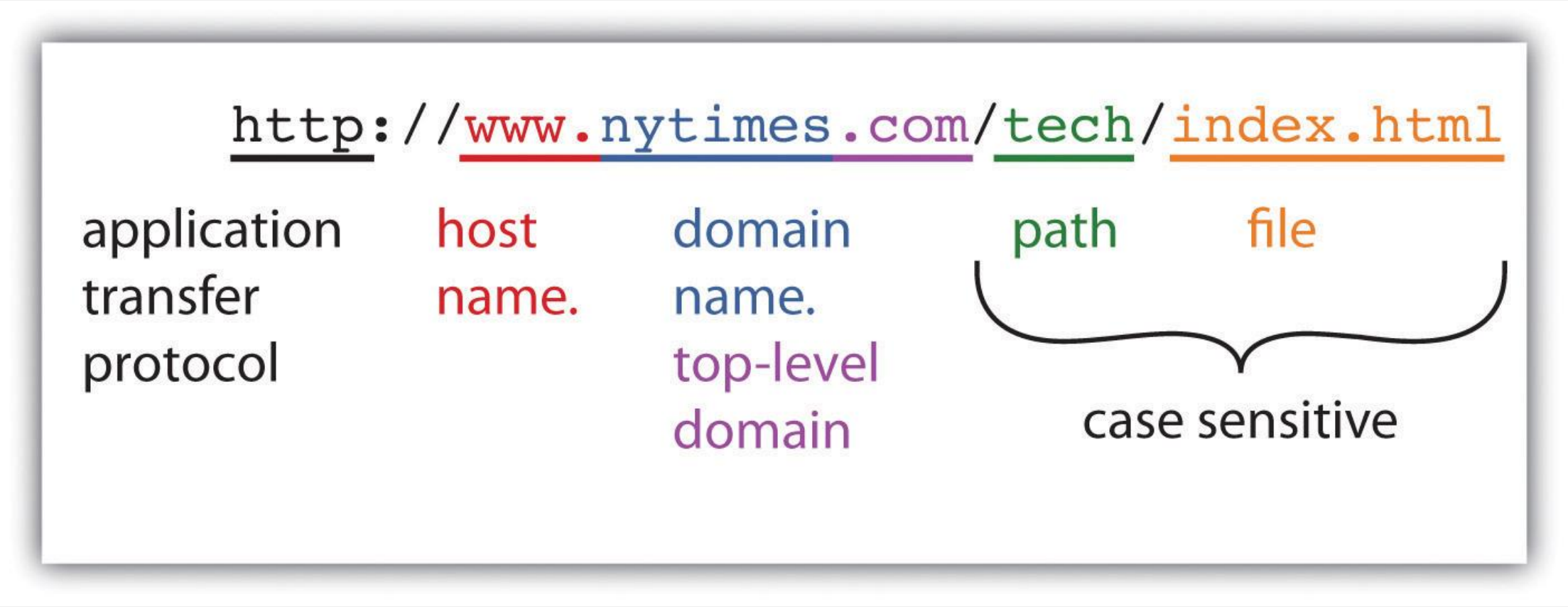
URL

Uniform Resource Locator



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References

- Web Browser - https://goo.gl/3iiAhm
- URL - https://goo.gl/u5HvGE

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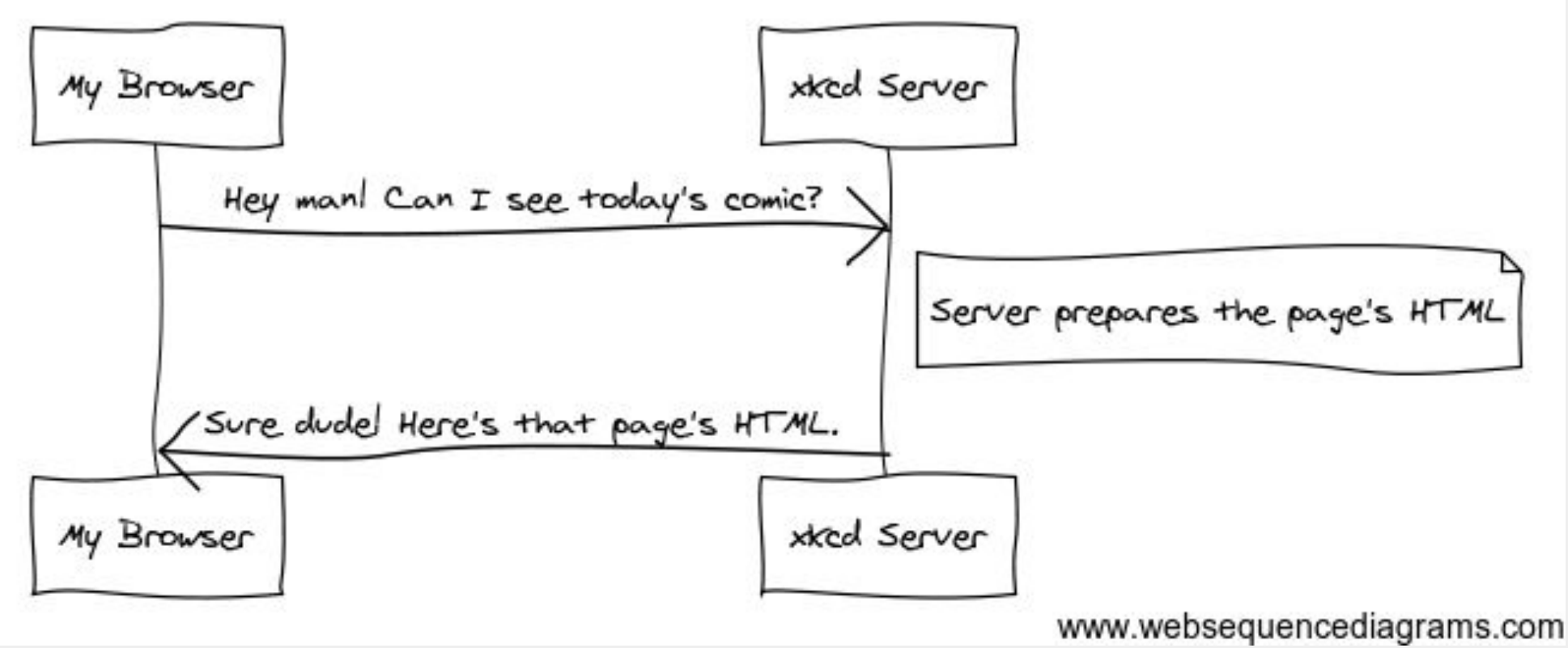
How Web Page Is Served

- HTTP (HyperText Transfer Protocol)
- Request - Response



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How Web Page Is Constructed

- Server provides (text) code to the browser
  - HTML
  - CSS
  - JavaScript

- Browser interprets received code and shows the page

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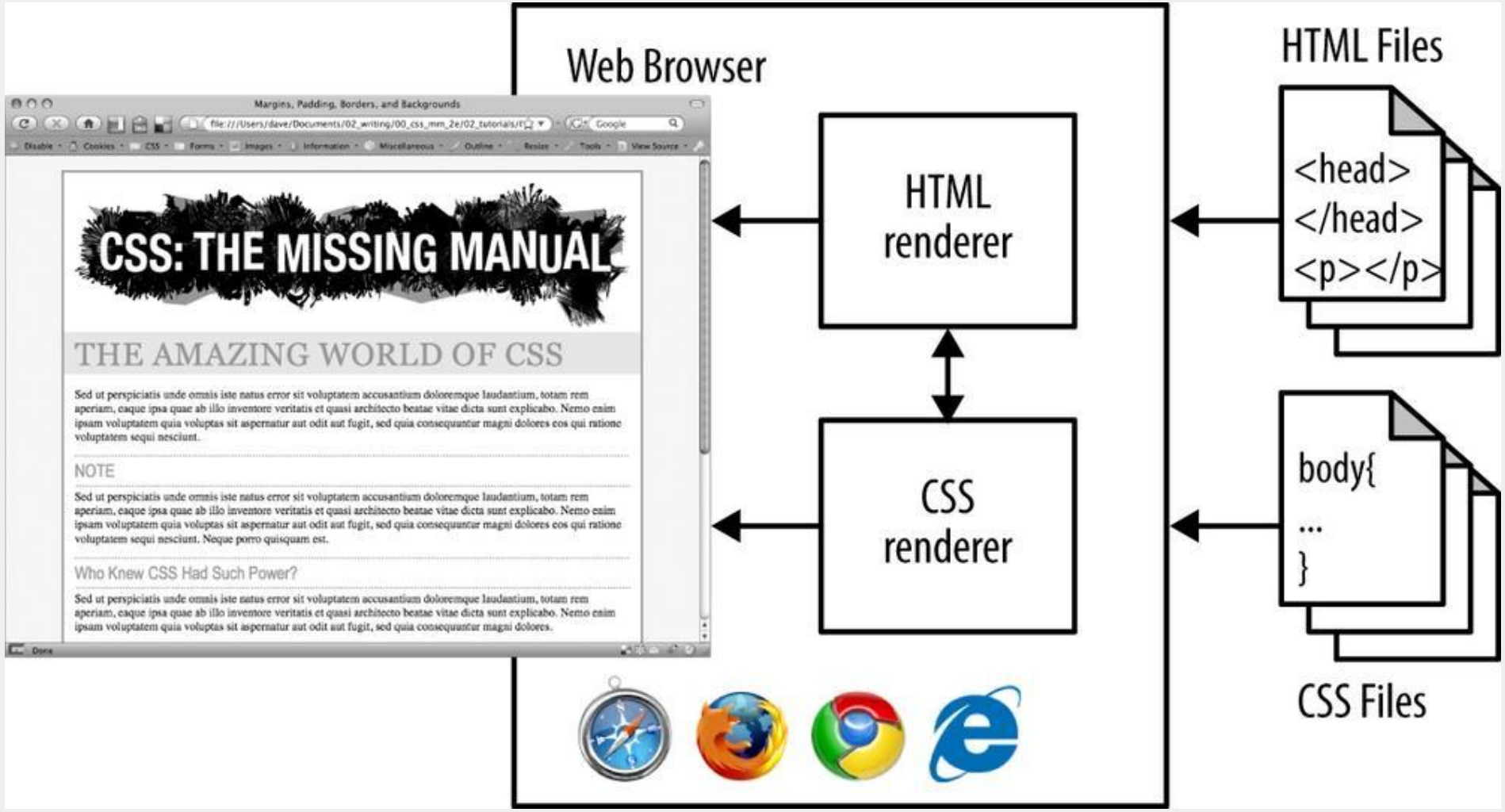
How Web Page Is Constructed II



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How Web Page Is Constructed III

- How server gets HTML code
  - Native HTML document
  - Dynamically created HTML

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Web Page Structure

Every written document has some structure

Newspapers

- Titles
- Subtitles
- Paragraphs

Bank Form

- Sections
- Question with response area

Glavni Naslov

Tekst koji je uvod u temu o kojoj je rač na ovoj stranici. I ako zamislimo da je ovo dosta veliki članak njega bi trebalo podeliti na više sekcija.

Ovo je podnaslov

A ovo je tekst paragrafa koji se nalazi ispod podnaslova. I ako je slučaj da je i ovaj paragrav dosta kompleksna tema, i on može imati svoje podnaslove.

Još jedan podnaslov

Tekst koji govori o nekoj super bitnoj temi.

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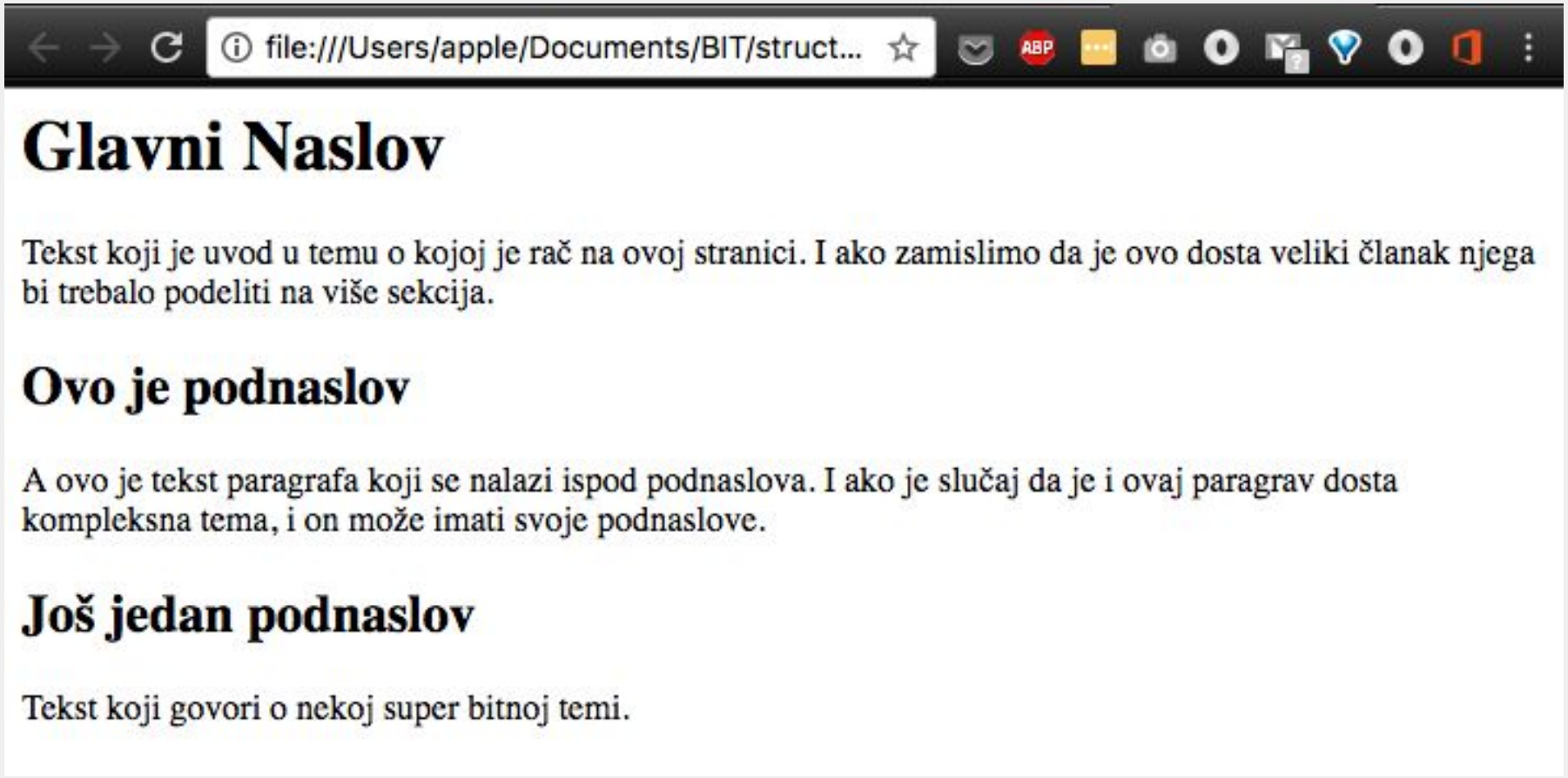
What is HTML used for

HTML is used for specifying page structure



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Basic HTML page

```
<html>
    <body>
        <h1>Glavni Naslov</h1>
        <p> Tekst koji je uvod u temu o kojoj je rač na ovoj stranici.
            I ako zamislimo da je ovo dosta veliki članak njega bi
            trebalo podeliti na više sekcija.<p>
        <h2>Ovo je podnaslov</h2>
        <p>A ovo je tekst paragrafa koji se nalazi ispod podnaslova.
            I ako je slučaj da je i ovaj paragrav dosta kompleksna tema,
            i on može imati svoje podnaslove.</p>
        <h2>Još jedan podnaslov</h2>
        <p>Tekst koji govori o nekoj super bitnoj temi.</p>
    </body>
</html>
```

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Page structure

- Element
  - Opening tag **<tag>**
  - Closing tag **</tag>**
  - Attributes

- **<html>** - HTML page (root)
- **<body>** - content
- **<h1>** - title
- **<p>** - paragraph

```
<html>
  <body>
    <h1>This a heading</h1>
    <p>This is a paragraph.</p>
    <p>This is another paragraph.</p>
  </body>
</html>
```

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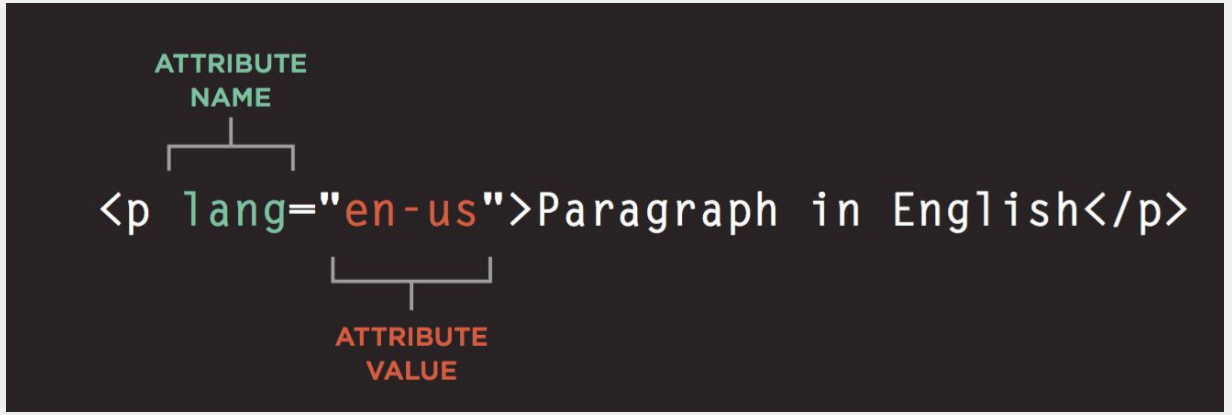
Element attributes

- Part of an opening tag
- They consist of a name/value pair



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Head and Title elements

<head>

- Before the <body> element
- Content is not visible to the user
- Contains web page information

<title>

- Defines title of the window
- Part of the **<head>** element

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Head and Title example

```
<html>
    <head>
        <title>This is the Title of the Page</title>
    </head>
    <body>
        <h1>This is the Body of the Page</h1>
        <p>Anything within the body of a web page is
            displayed in the main browser window.</p>
    </body>
</html>
```

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Creating Web Page

- HTML is a **text document**
- Open some text editor (Notepad)
- Create some HTML
- Save file with **.html** extension
- Find and open saved file

```
<html>
    <head>
        <title>Hello World Page Title</title>
    </head>
    <body>
        <h1>Hello World</h1>
    </body>
</html>
```

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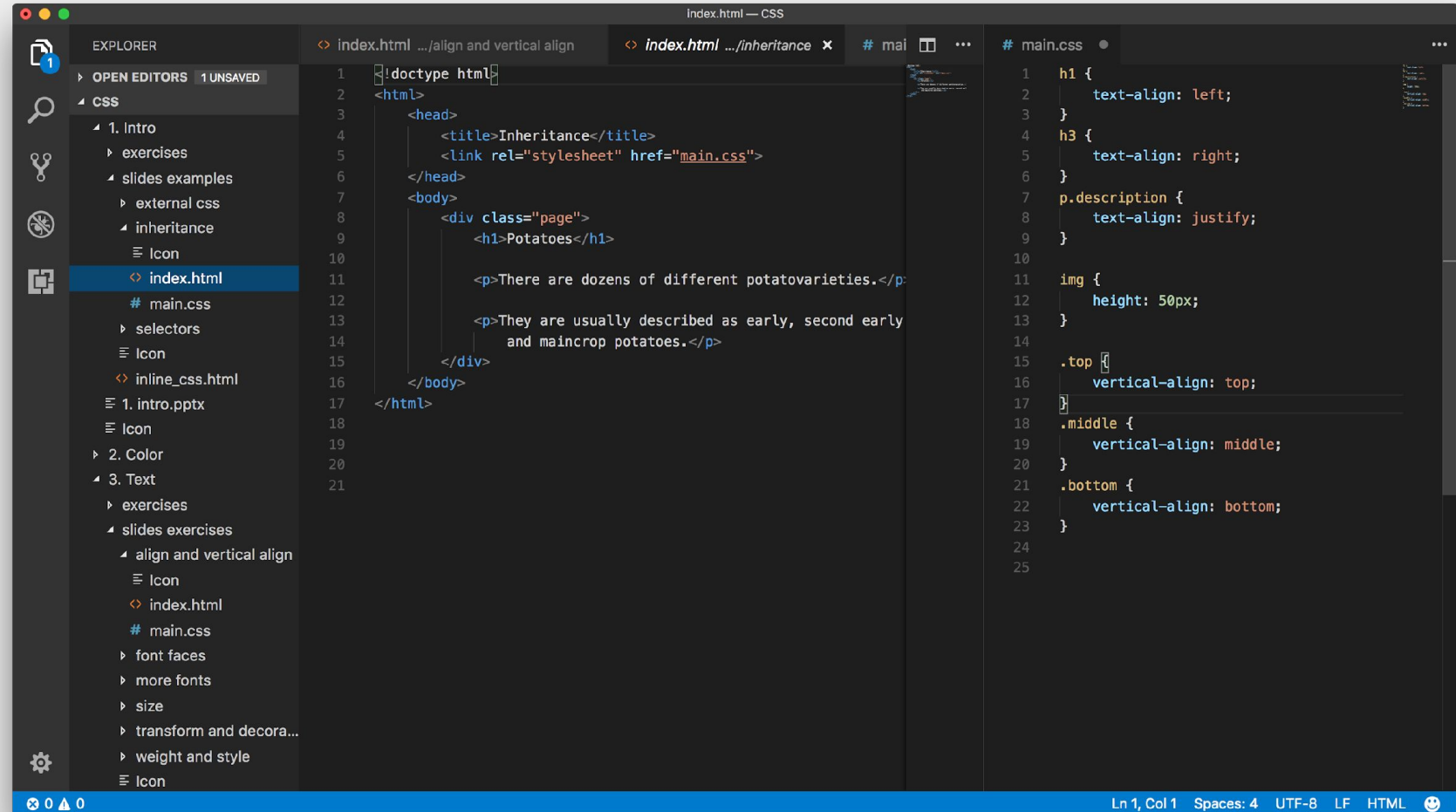
Visual Studio Code IDE

- **IDE** - Integrated Development Environment
- Frontend IDE's
  - VS Code
  - Sublime Text
  - Atom
  - WebStorm
  - ...



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What is DOCTYPE

- There were multiple versions of HTML
  - HTML 4
  - XHTML
  - HTML 5
- Browser can interpret code incorrectly
- Information to the browser about the used HTML version
- Placed in the first line of an HTML document

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Doctype examples

- HTML 4.01

```
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01//EN"
        "http://www.w3.org/TR/html4/strict.dtd">
<html>
    ...
</html>
```

- XHTML

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
        "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
    ...
</html>
```

- HTML 5

```
<!doctype html>
<html>
    ...
</html>
```

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Comments

- Explanation for developer
- Ignored by browser
- Starts with <!--
- Ends with -->

```
<html>
    <!-- This is commented text/code -->
    <h1>Some Title</h1>

    <!-- Everything inside comment
        tags is comment. And it can be
        also across multiple lines -->
</html>
```

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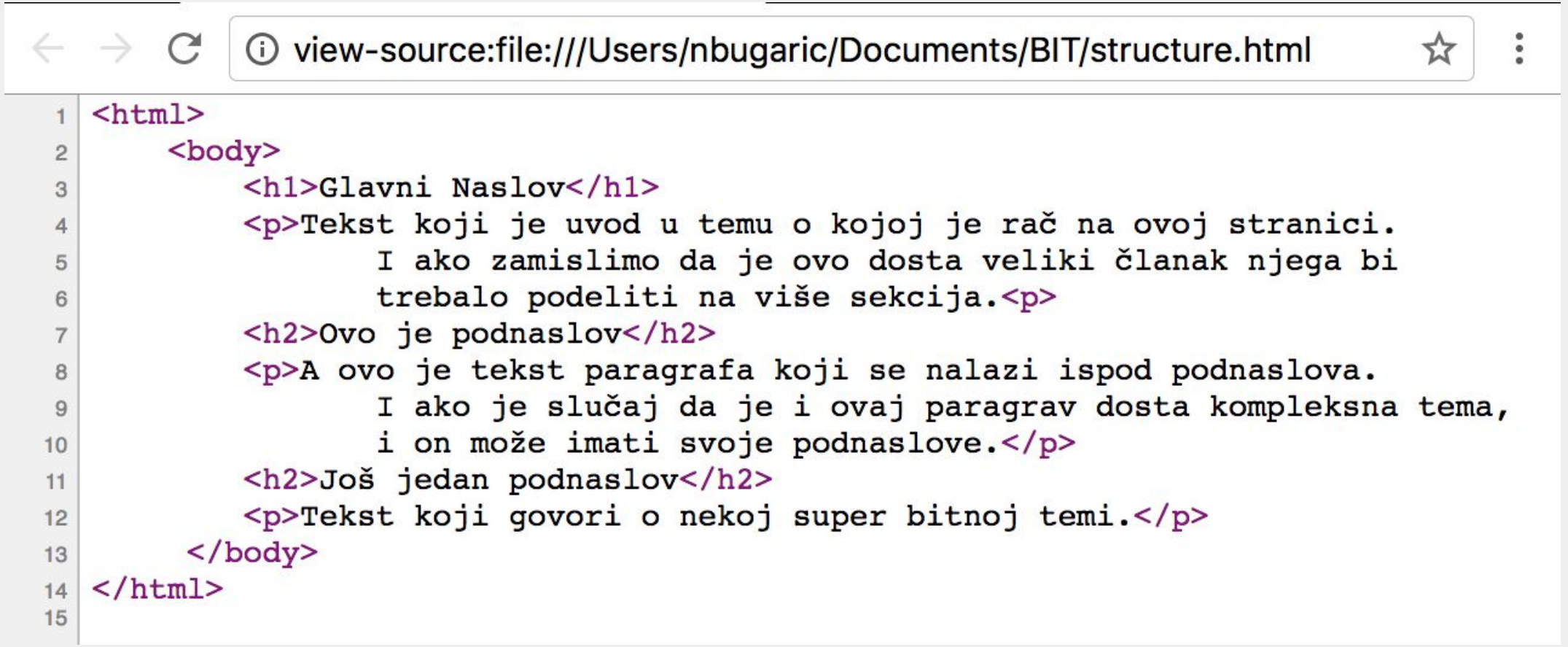
How To Check Page Source

Ctrl + U



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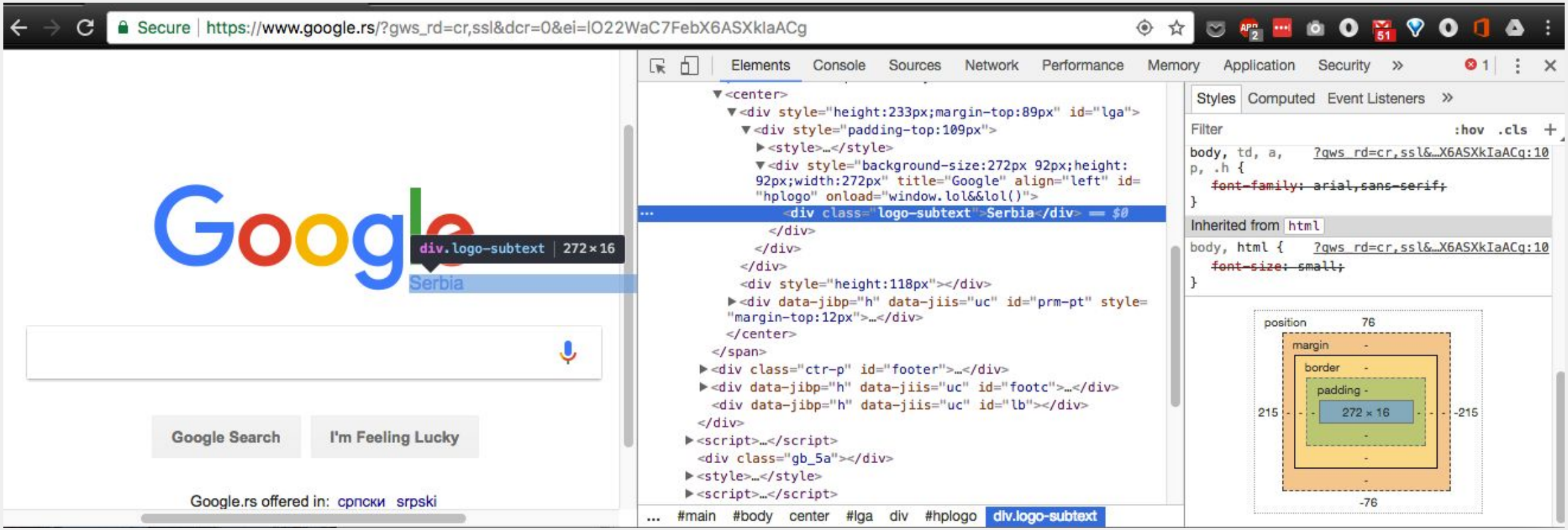
Inspect Web Page

- Inspecting page (**Ctrl + Shift + I**)
- Mobile view



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References

- Request/Response - https://goo.gl/gXMZJV
- How browser displays page - https://goo.gl/txgWDa
- Structure: https://goo.gl/k3YAsx
- HTML history: https://goo.gl/XDh7xi
- Doctype: https://goo.gl/Q8WmVb
- Comments: https://goo.gl/JwxsNh
- Page source: https://goo.gl/GVUiZh
- Developer tools: https://goo.gl/69asdc

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