### Appendix 2

Debugging & Inspecting

Shadi Lahham - Programmazione web - Frontend - Javascript

## Dev tools

#### Dev tools

- Web authoring and debugging tools
- Built into the browser
- Provide developers deeper access into web applications

#### Dev tools

- Modify the DOM and CSS on the fly
- Understand and debug code
- Monitor network requests
- Simulate a mobile device viewport
- Measure performance
- A lot more ...

We will look at the Chrome Developer Tools

### Try the Chrome devtools

- Open the Javascript console
  - Mac: command + option + j
  - Windows/Linux: control + shift + j
  - Windows alternative: press F12 and select the console tab

#### • Type:

```
console.log('Testing the console');
console.error('this is an error');
```

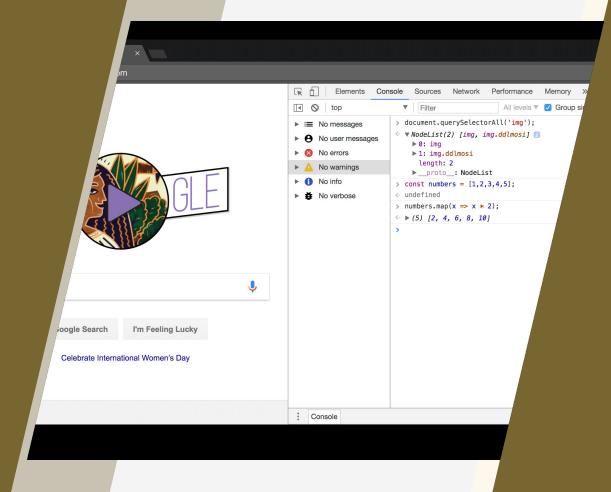
## **Dev tools Elements panel**

View and change the DOM and CSS Edit the HTML Modify and add CSS properties

```
eloper Tools - https://developers.google.com/web/tools/chrome-devtools/
                     Console
                               Sources
                                         Network
                                                   Performance
                                                                           Application
                                                                 Memory
                                                                                       Security
                class="chekov">
               devsite-doc-page
                devsite-header-no-lower-tabs no-touch" id="top_of_page"> == $0
           iss="devsite-wrapper" style="margin-top: 48px;">...</div>
           d="devsite-request-elapsed" data-request-elapsed="214.869976044"></span>
            src="https://clients5.google.com/pagead/drt/dn/" aria-hidden="true" style="dis
          </iframe>
          body#top_of_page.devsite-doc-page.devsite-header-no-lower-tabs.no-touch
        ent Listeners DOM Breakpoints Properties
                                    :hov .cls +
      style {
                                                                   margin
                                                                      border
                        devsite-google-blue.css:1
      tml {
                                                                        padding -
    br: #212121;
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    t: ▶ 400 16px/24px Roboto.sans-serif:
   oz-osx-font-smoothing: grayscale:
   /ebkit-font-smoothing: antialiased;
  argin: ▶ 0;
  webkit-text-size-adjust: 100%:
 -ms-text-size-adjust: 100%;
 text-size-adjust: 100%;
                                                    Filter
bdy div dl dd
                         deveite-google-blue css:1
```

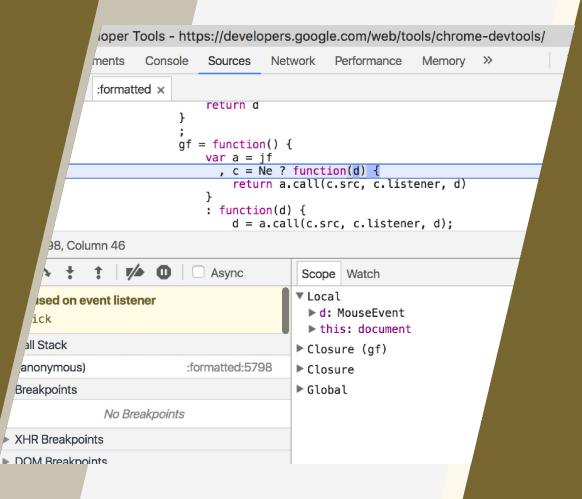
# **Dev tools**Console panel

See error and warning messages View the console output Write Javascript directly



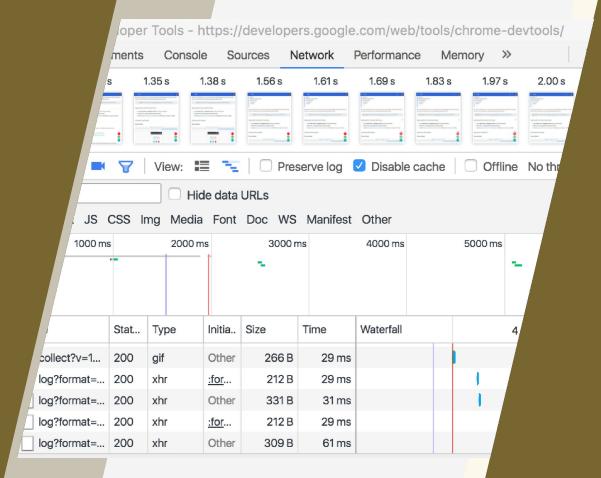
# **Dev tools**Sources panel

Debug and edit JavaScript
Save and run snippets
Pause execution using breakpoints



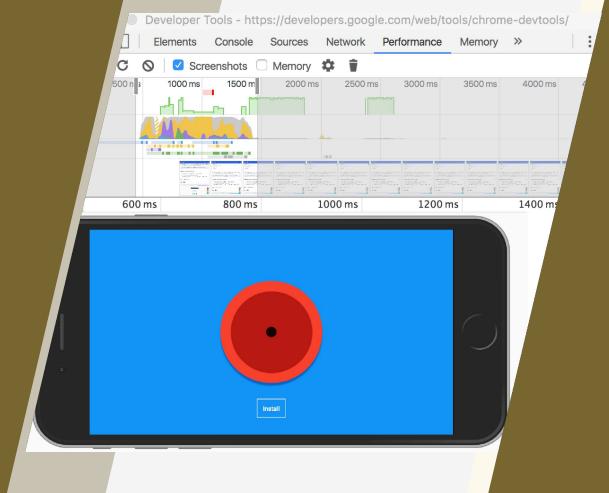
# **Dev tools**Network panel

Monitor downloaded resources
Monitor HTTP requests
Inspect request headers, content, etc



# **Dev tools**Other panels

Many tools are available Learn how to use them They are very useful



### Further reading

The DOM in Chrome DevTools

Get Started With Viewing And Changing The DOM

CSS in Chrome DevTools

Get Started With Viewing And Changing CSS

### Further reading

Javascript Debugging in Chrome DevTools

Get Started with Debugging JavaScript in Chrome DevTools

Console Overview | Tools for Web Developers

**JavaScript Debugging** 

### Further reading

Videos

<u>Chrome Developer Tools (Devtools) Tutorial Introduction for Beginners</u>

<u>Debugging JavaScript - Chrome DevTools 101</u>

### Your turn

#### 1.Inspect the www

- Choose one or more websites that you know
  - Choose websites that have a complex HTML structure and many Included Javascript files (in the head and body)
- Use the devtools to
  - inspect and modify the page (HTML, CSS, Javascript)
  - Check the responsiveness of the page for various mobile devices (breakpoints)
  - Console output (errors, warnings, etc)
  - Examine the Javascript code, try to stop it at different points and examine the variables
  - Check network requests and resources that are downloading
    - If the site has the possibility to upload files, also check uploading of resources

#### 1.Inspect the www

- Document your findings in a markdown .md file
- The file should be well formatted, divided into sections, and contain all links and relevant references
- The file should at least contain the names of participants, your approach and findings.

### 2.Inspect your code

- Create an HTML page with an included Javascript file
  - The HTML page should include some content describing what you are doing
  - The Javascript file should do something useful and contain at least 3 functions and many of the language features that you have learned so far
  - The project should also include a readme.md file
- Inspect your page
  - Inspect your page with devtools
  - In particular try to use the Javascript debug tools in the 'source' panel
  - Document any findings in the readme.md file