FEO in Joomla!, how to speed up your website

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REASONS AND BENEFITS OF THE USE OPTIMIZATION

- users are more likely to be on the site, which translates into profit

- transfer savings

- higher positions in the search engines

WHY OPTIMIZATION IS SO COOL ?

We can get great results with little effort!

USEFUL TOOLS - YSLOW

USEFUL TOOLS - YSLOW

Site scoring and suggestions

USEFUL TOOLS - YSLOW

Detailed presentation of web page elements

USEFUL TOOLS - YSLOW

Pie charts with web site elements
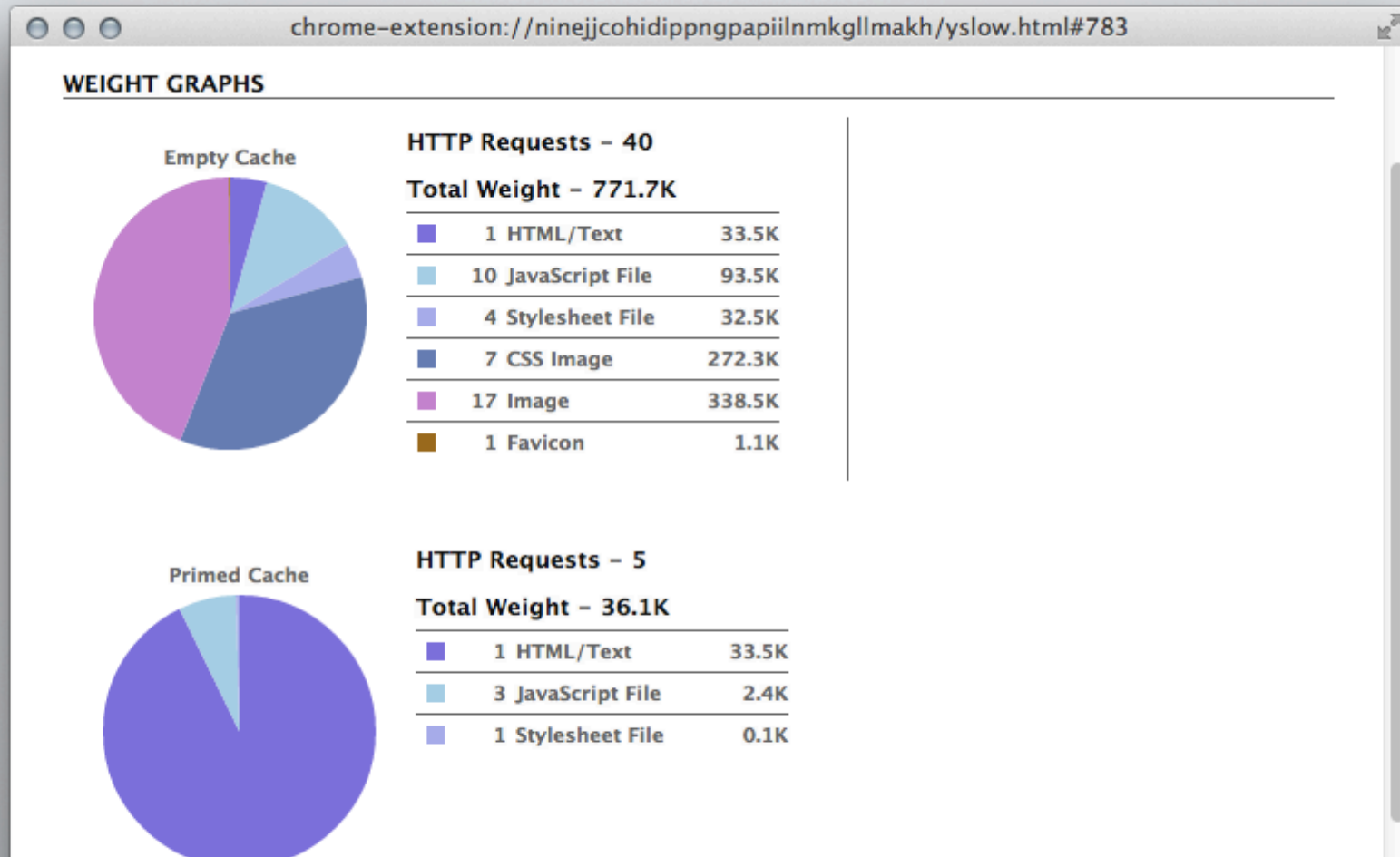
USEFUL TOOLS - STRONA WEBPAGETEST.ORG
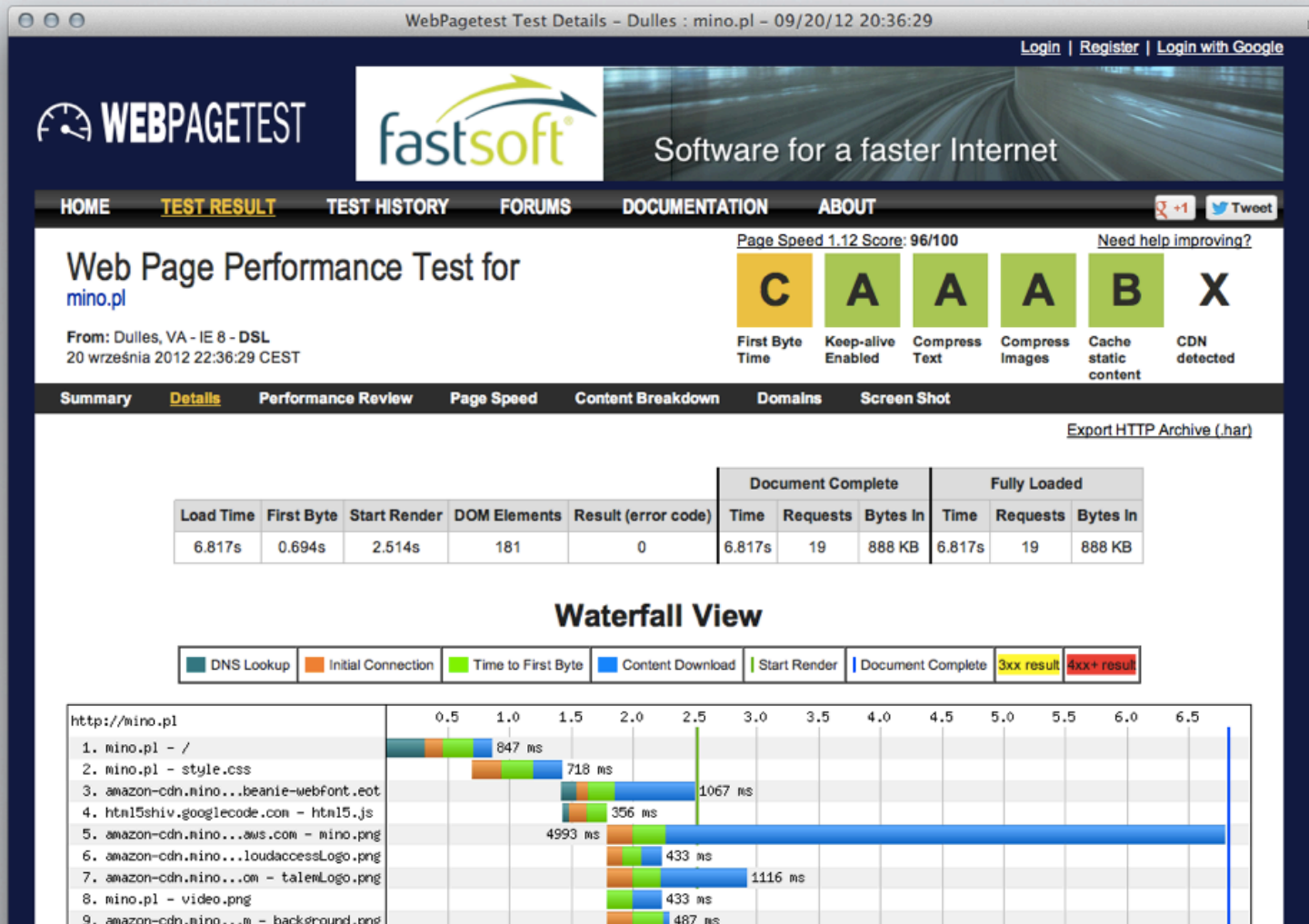
USEFUL TOOLS - NETWORK TAB IN CHROME WEB INSPECTOR
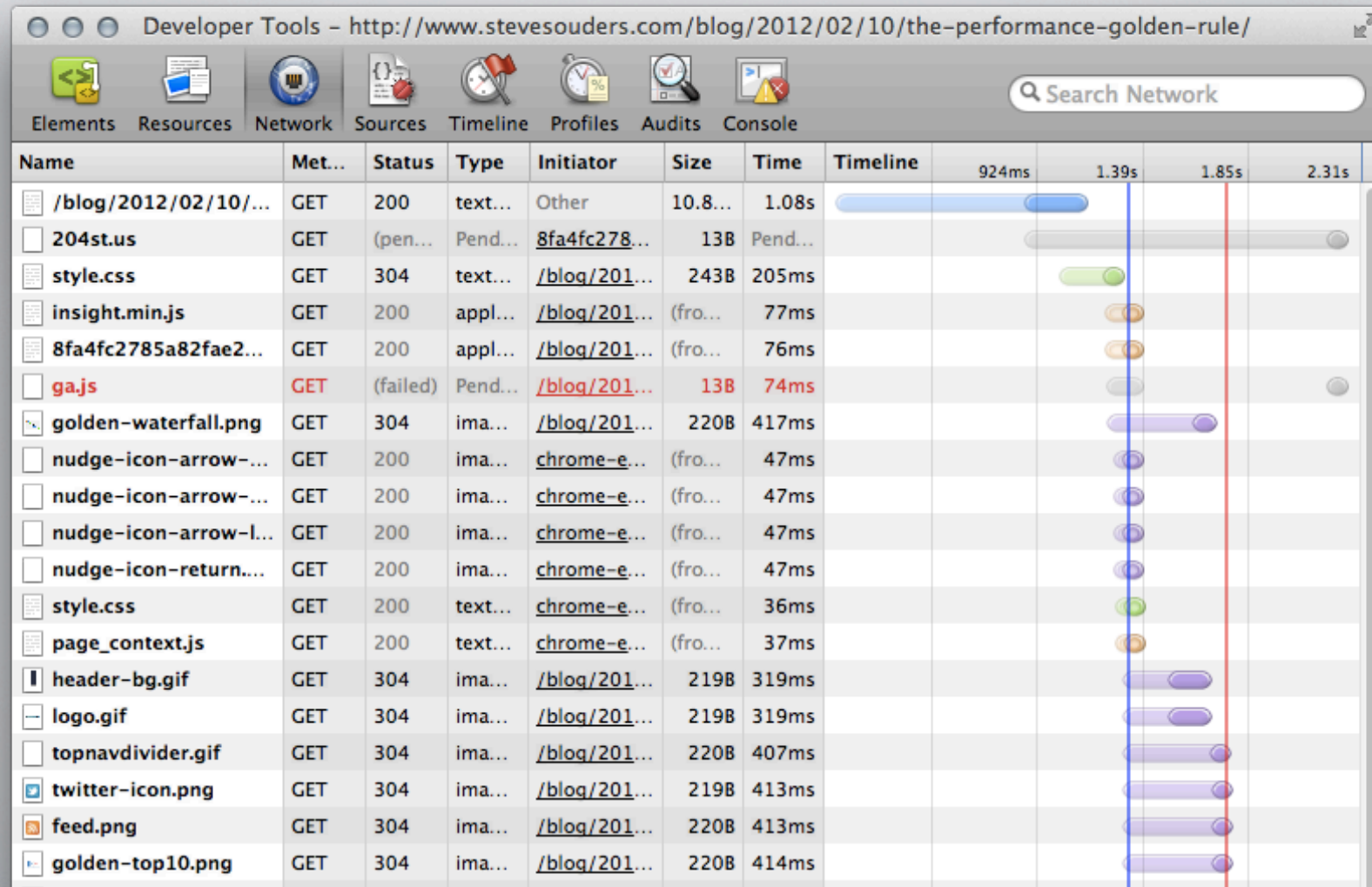
INTRODUCTION TO WEB OPTIMIZATION - 80/20 RULE

On average, **80%** of the page load time is devoted to the frontend.
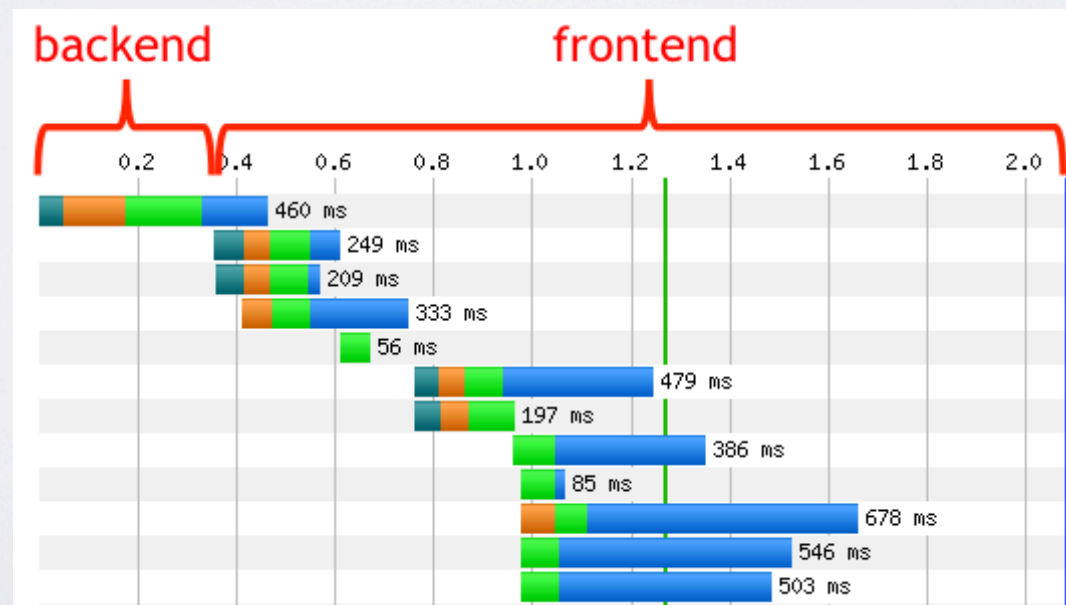
INTRODUCTION TO WEB OPTIMIZATION WWW

Most of the principles of optimization based on simple conclusions:

1. Smaller file copies faster than the larger

2. Large file copies faster than many smaller

I PART OF THE OPTIMIZATION - REDUCING THE SIZE OF THE WEBSITE

LOSSLESS IMAGE COMPRESSION

Good tools for compression:

For Mac OS:

- ImageOptim

- CodeKit

For Windows:

- PNGGauntlet

LOSSLESS IMAGE COMPRESSION - JOOMLA!

Compress all image files in folders:

- **/templates/your_template/images/**

- **/images/**

LOSSLESS IMAGE COMPRESSION - JOOMLA!

GZIP COMPRESSION

Gzip compression reduces file size by up to 70%
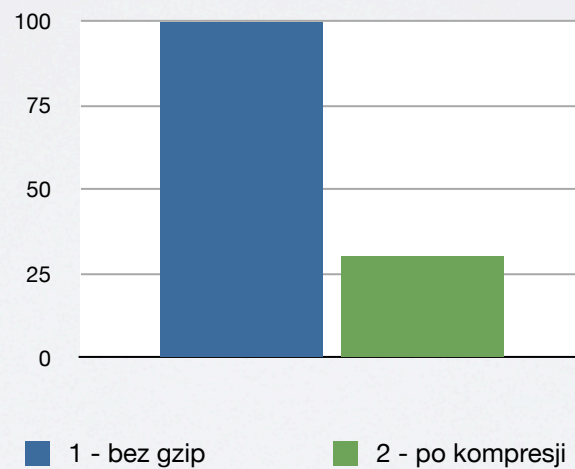
GZIP COMPRESSION - HOW IT WORKS
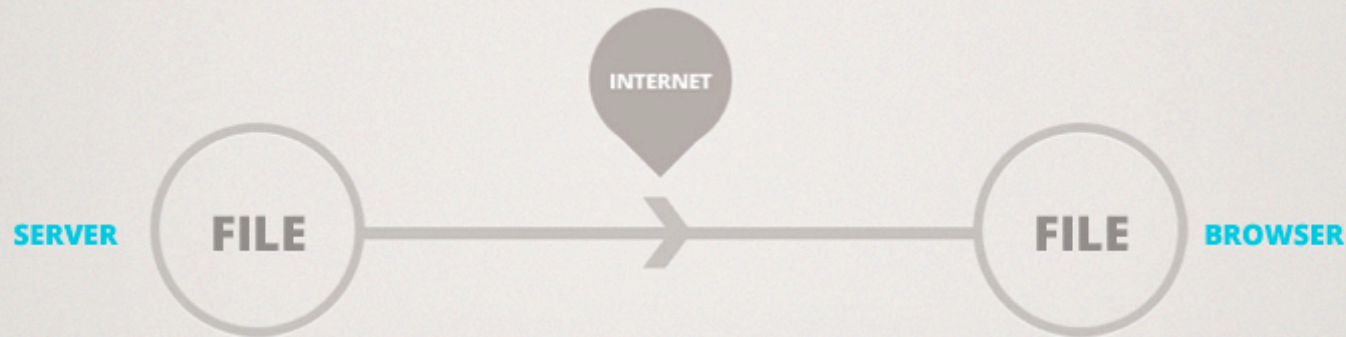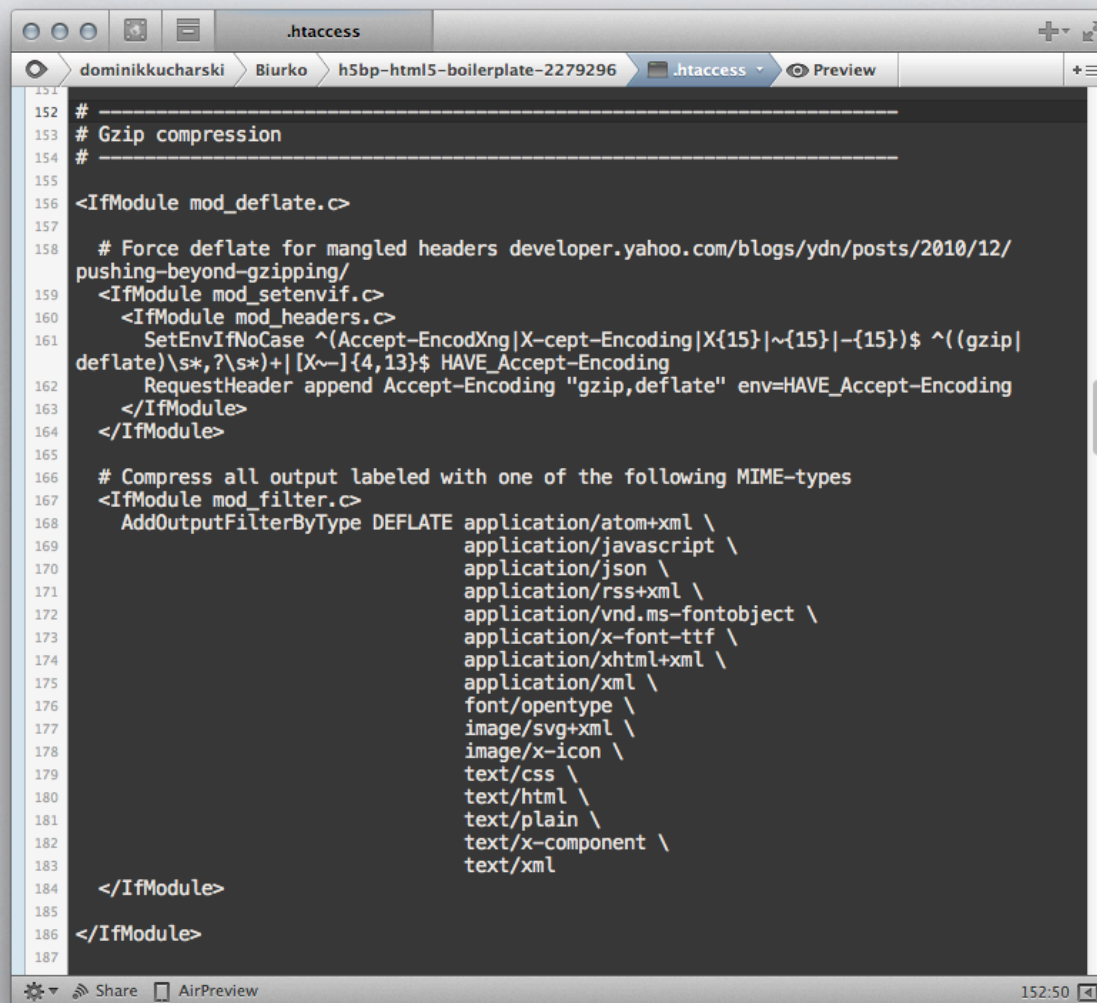
GZIP COMPRESSION - HOW IT WORKS
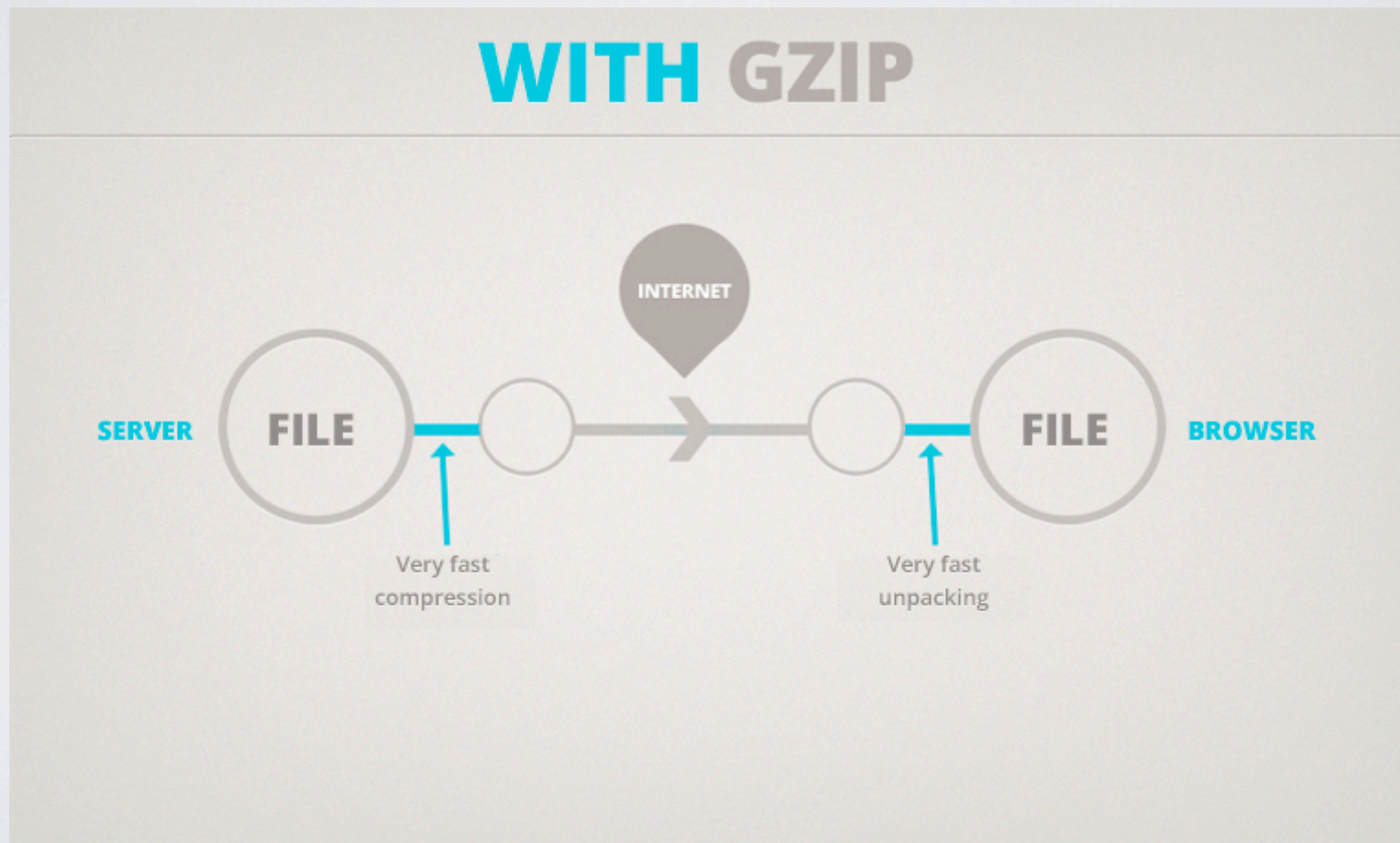
GZIP COMPRESSION - IMPLEMENTATION IN JOOMLA!

1.Download a HTML5 Boilerplate from html5boilerplate.com

2.Copy part of the code responsible for the gzip compression from .htaccess file in Boilerplate to .htaccess file in Joomla!

GZIP COMPRESSION - IMPLEMENTATION IN

JAVASCRIPT I CSS CODE COMPRESSION

Code Compression involves removing unnecessary characters from code (spaces, tabs, move to a new line).

The best effects gives a combination of gzip compression with code compression.

CODE COMPRESSION IN JOOMLA!

- Template Framework options (Warp, Gantry etc.)

- Separate extension for Joomla!:

  - JCH Optimize

  - jbetolo

  - JS CSS Control

  - RokBooster

CODE COMPRESSION IN JOOMLA! - JCH OPTIMIZE

II PART OF THE OPTIMIZATION - REDUCING THE NUMBER OF REQUESTS TO THE SERVER

REDUCING THE NUMBER OF REQUESTS TO THE SERVER

COMBINING JAVASCRIPT AND CSS FILES

JCH Optimize

CSS SPRITES

- CSS Sprites is a technique for saving many of the graphical elements in a single file and display it by manipulating the background-position parameter.

  Example code:

```css
#logo { background: url(/images/sprite.png) 0 -100px no-repeat; }
```

CSS SPRITES - EXAMPLE

CSS SPRITES IN JOOMLA!

JCH Optimize

▶ **Opcje podstawowe**

▶ **Rozszerzone**

▼ **Sprite generator**

Enable sprite generator	◉ Nie ○ Tak
Image file type	PNG ▾
Amount of images in sprite	Minimum ▾
Sprite build direction	Vertical ▾
Wrap images	◉ Nie ○ Tak
Include additional images in sprite	
Exclude images from sprite	

EMBEDDING IMAGES

Embedding images involves using the code in base64 instead of the standard graphics file.

```
background: url(data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAAEAAAAZCAIAAAB/
8tMoAAAACXBIWXMAABv9AAAb/QGX0Qc2AAAAMUlEQVR42kWLuREAIAzDdN6JRZiE/YuIgnCpLH+sfYJGeKqRGtZY31dno3T/
t/R/mAtRMDvkNuHCUwAAAABJRU5ErkJggg==) repeat-x;
```

III PART OF THE OPTIMIZATION - USEFUL TIPS

USING THE EXPIRES HEADERS AND REMOVING ETAG

- The Expires header tells the web browser How long can keep the item on your hard drive and use it instead of downloading it from the server.

- ETag is a mechanism to verify the cached page elements. ETag is unfortunately unreliable, so better to turn it off and rely on Expires Headers

EXPIRES I ETAG IN PRACTICE

Just re-copy the code from the .htaccess file from HTML5 Boilerplate to Joomla! .htaccess file.

- Code for Expires starting from:

```
# ----------------------------------------------------------------------
# Expires headers (for better cache control)
# ----------------------------------------------------------------------
```

- Code for ETag starting from:

```
# ----------------------------------------------------------------------
# ETag removal
# ----------------------------------------------------------------------
```

EXPIRES | ETAG IN PRACTICE
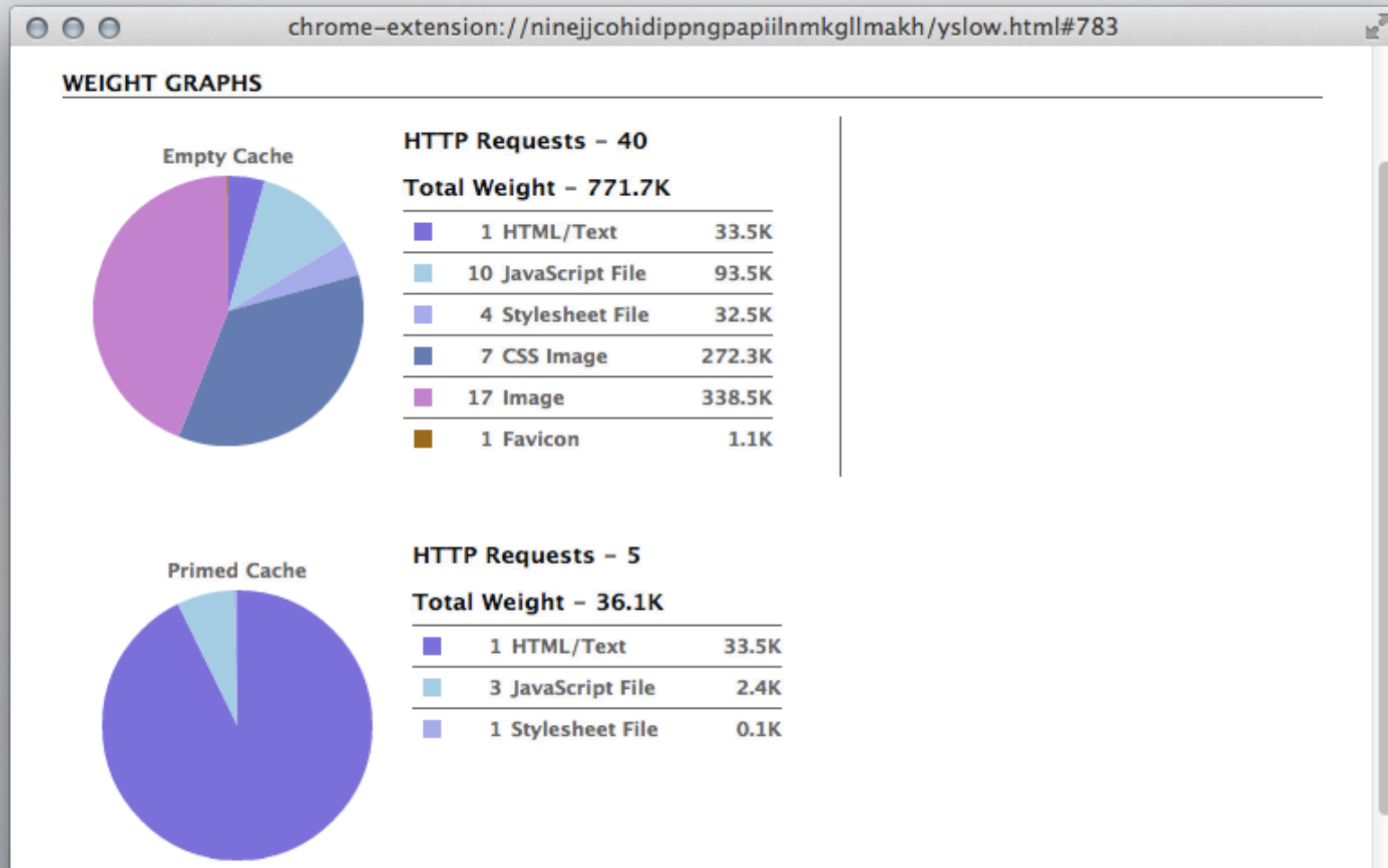
PLACING SCRIPTS AT THE END OF THE DOCUMENT

When your web browser is loading JavaScript file then it stops downloading other files from the server, so page loads much more slowly.

PLACING SCRIPTS AT THE END OF THE DOCUMENT
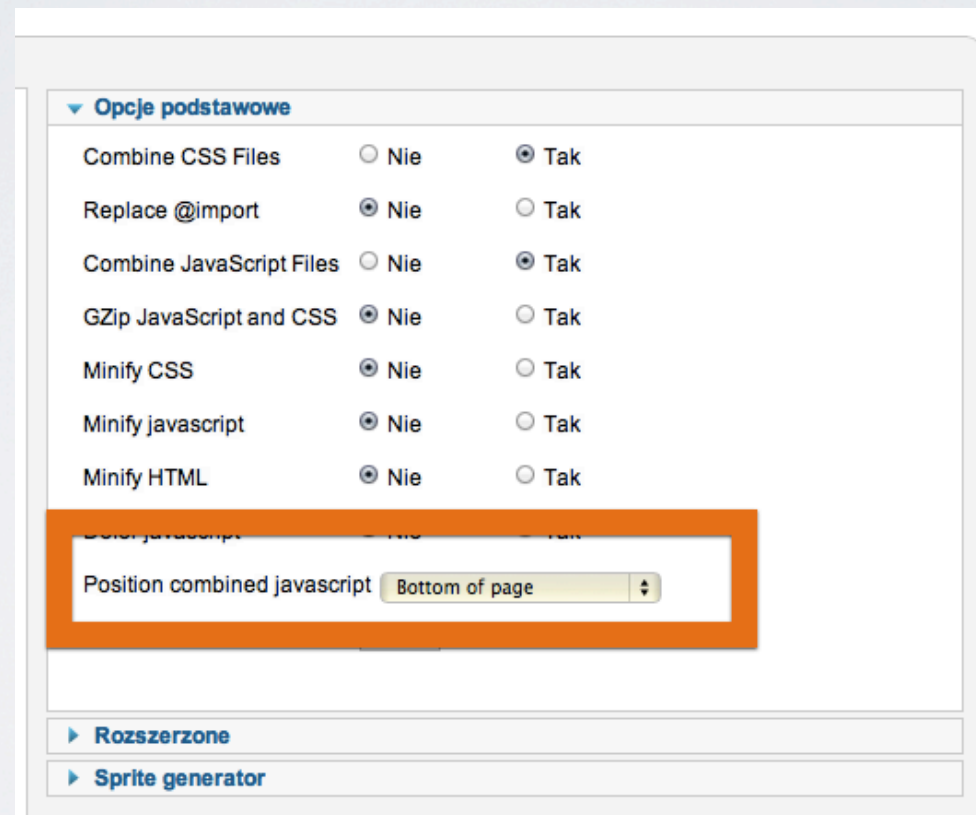
Script at the end

Script in the middle
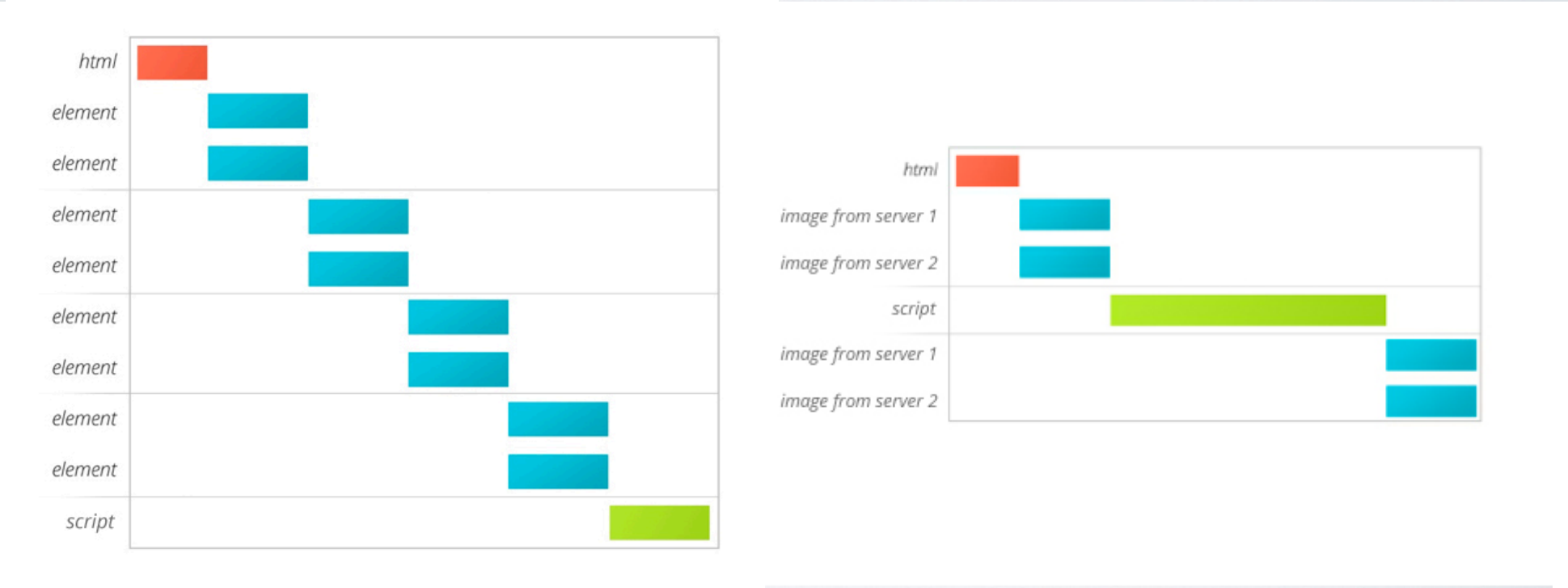
PLACING SCRIPTS AT THE END OF THE DOCUMENT - JOOMLA!

JCH Optimize

REMOVING UNNECESSARY AND DUPLICATE FILES

Depending of the project part of the Joomla! files can not be useful to us.

When web site uses only Mootools core capabilities we can delete mootools-more.js (227KB) file.

Sometimes we rely only on jQuery and we an completely remove Mootools.

REMOVING UNNECESSARY AND DUPLICATE FILES

The ideal extension to do this is InterEXT.

PLACING STYLE SHEETS AT THE BEGINNING OF THE DOCUMENT

Browser does not format the appearance of the page until you download all CSS files.

If the file is attached to the end of the document the browser will load the unformatted text on white background.

CONTENT DELIVERY NETWORK

A content delivery network (CDN) is a large distributed system of servers deployed in multiple data centers in the Internet. The goal of a CDN is to serve content to end-users with high availability and high performance.

CONTENT DELIVERY NETWORK

Example of MaxCDN network

CONTENT DELIVERY NETWORK

- CDN Integration with Joomla! is very simple thanks to the "CDN for Joomla!" extension

- Just buy CDN services and fill in a few fields in the Joomla! extension

CONTENT DELIVERY NETWORK

Plugin view

CDN for Joomla! v2.1.2 [FREE]
Use a Content Delivery Network in Joomla!

Please make sure this plugin is ordered as late as possible (after any other system plugins, but before the cache and SEO plugins)

Więcej informacji...

CDN for Joomla!

Save 25% on these CDN services with coupon code: nonumber

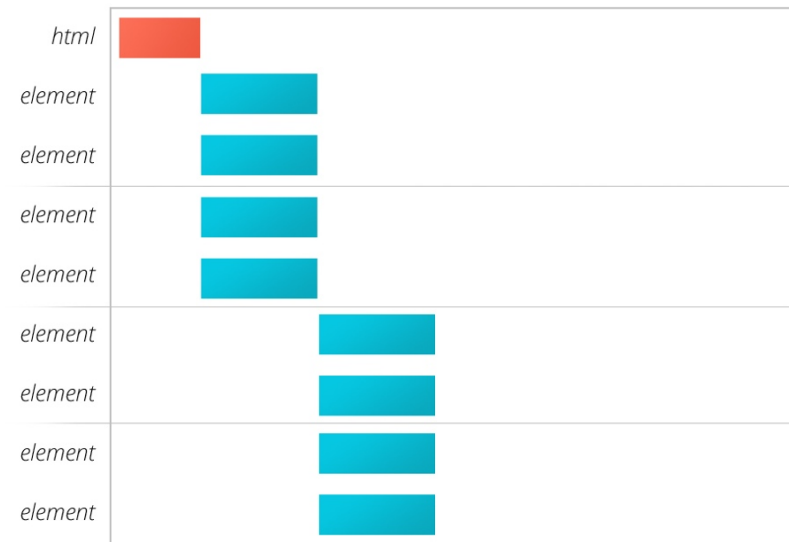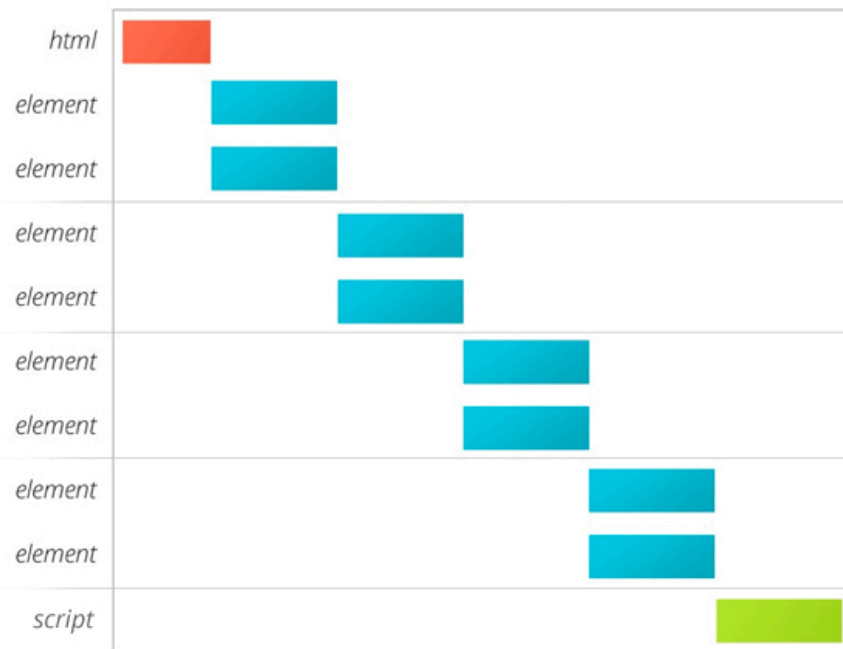| Site Root | / |
CDN Domain	
Handle HTTPS urls	*Only available in PRO version!*
File Types	☑ Wszystkie
	Images
	☑ bmp
	☑ gif
	☑ jpg / jpeg
	☑ ico
	☑ png
	☑ tif / tiff
	Documents

SPLIT FILES BETWEEN MULTIPLE SERVERS

Split files between multiple servers allows the browser to download simultaneously larger amounts of files.

SUMMARY

If you want to get <u>very good</u> results with <u>little effort</u> (up to several hours):

- compress images

- turn on gzip, Expires Headers and turn off Etags using .htaccess file

- turn on code compression by using Joomla! extension

SUMMARY

If you have bigger ambitions I recommend trying the rest of the advices presented in this presentation with an emphasis on reducing the number of requests.

SUMMARY

Materials:

- Book ,,High Performance Web Sites: Essential Knowledge for Front-End Engineers'', Steve Sounders

- stevesaunders.com - Steve Sounders blog

- zoompf.com/blog

- webperformancetoday.com

ANY QUESTIONS?

THANK YOU FOR YOUR ATTENTION :-)