Challenge 1

Whom are we talking to?

- *adsafeprotected.com, pagead2.googlesyndication.com, adservice.google.com, crwdcntrl.net*
- *securepubads.g.doubleclick.net*
- *csi.gstatic.com*, both GET and POST
- *bbc.co.uk / bbci.co.uk*
- *ampproject.org*

after while:

- ping.chartbeat.net

The URL-requests for *bbc.co.uk* and *bbci.co.uk* mostly refer to images and stylesheets, which most likely are used to present the website‘s visible layout and structure,e.g. the images for the presented articles.
The hosts *adsafeprotected, pagead2.googlesyndication, adservice.google* are, referring to their names only, most likely responsible for advertisements shown on the website.
There seems to exist an adware connected to the host *securepubads.g.doubleclick.net,* but the host name also is mentioned together with *googleadservices. Crwdcntrl* also seems to provide some ad-related service.
ampproject is an open-source project which can be used to optimize websites for fast loading and especially mobile use.
Csi.gstatic contains static scripts provided by Google.

Hiding your browser‘s identity
You can hide which browser you use and your operating system by removing the User-Agent request header. This also works for *whatbrowser.org and other similar service-websites.*
While checking other websites, we discovered that deleting the User-Agent header leads to problems on *amazon.com.* We then decided to replace its information with „anonymous“, so that our identity is still hidden, which fixed the problem with *amazon.*

The BBC
In some requests cookies are sent to partners such as *crwdcntrl.* These could contain personal information, however, completely suppressing sending cookies will most likely worsen the user experience or limit the functionality of websites. For example, shopping carts on websites like *amazon* use cookies to store session information. Since you cannot see the information hidden in the cookie, we decided to allow sending and receiving cookies.

We also found the the fields **via** and **forwarded**, which contain information about the proxy path the user went. We decided not to delete these, since we cannot be sure whether the information in these fields is needed to transport the request to the server or back to the client successfully.

We thought about completely blocking requests to certain hosts, such as *adservice.google.com* or *securepubads.g.doubleclick.net,* because these external websites for advertisement most likely will collect information about the client, but in order to have a real impact, we would need a very extensive of such ad-related services which we then could block.

Conclusion: We were surprised how little information we could hold back by modifying the http-requests. We think this may have two reasons. First, we think that most user-related information is stored and sent in cookies, which we cannot look into, and second we think that maybe the DSGVO could have limited the amount of personal information sent to public websites.