

# Internet II

Welchen Weg nehmen die Daten ?



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## Agenda

1. IP Adresse
2. Weg der Daten
3. Datenübertragen beim Aufruf einer Webseite
4. Videostream speichern
5. Sicherheit im Internet

Was lernen Sie?

Entwicklerwerkzeuge zu verschiedenen Zwecken nutzen

Your public IP Address is **212.51.149.126**.**Hide IP with VPN**

## Wie lautet meine IP-Adresse ?

<https://www.iplocation.net/>

<http://www.findmyip.org/>

<https://www.ip-adress.com/ip-address/lookup>

<https://db-ip.com/>

### Your Public IP Address

<b>IP Address</b>	212.51.149.126
<b>Decimal Representation</b>	3560150398
<b>PTR Resource Record</b>	212-51-149-126.fiber7.init7.net
<b>ASN</b>	AS13030
<b>City</b>	Basel
<b>Country</b>	Switzerland
<b>Country Code</b>	CH
<b>ISP</b>	Init7 (Switzerland) Ltd.
<b>Latitude</b>	47.5584° (47° 33' 30" N)
<b>Longitude</b>	7.5733° (7° 34' 23" E)
<b>Organization</b>	Init7 (Switzerland) Ltd.
<b>Postal Code</b>	4057
<b>Network Speed</b>	high

## Von wo wurde eine email gesendet ?



Received: from mxnra111.fhnw.ch ([127.0.0.1])  
by localhost (mxnra111.fhnw.ch [127.0.0.1]) (amavisd-new, port 10040)  
with LMTP id y3DjPekUans2 for <martin.guggisberg@fhnw.ch>;  
Wed, 30 Oct 2019 01:16:45 +0100 (CET)  
Received: from mail.siemens-its.com (mail.siemens-its.com [103.213.115.201])  
by mxnra111.fhnw.ch (Postfix) with ESMTP id EF3F11E1F06  
for <martin.guggisberg@fhnw.ch>; Wed, 30 Oct 2019 01:16:44 +0100 (CET)  
Received: from siemens-its.com ([177.86.0.213]) by siemens-its.com with  
MailEnable ESMTPA; Tue, 29 Oct 2019 16:27:27 +0500  
To: Guggisberg Martin <martin.guggisberg@fhnw.ch>  
From: Rogi <shaista.siddique@siemens-its.com>  
Subject: =?UTF-8?Q?Fw=3AGr=C3=BC=C3=9F\_dich.\_alles\_gut\_=?= =?UTF-8?Q?bei\_dir=3F?=

Message-ID: <c938d900-2ede-4b37-b556-e947b27a442f@siemens-its.com>

## Verknüpfung von ORT mit IP Adresse

Geolocation data from [IP2Location](#) (Product: DB6, updated on 2019-11-1)

IP Address	Country	Region	City
177.86.0.213	Brazil 	Parana	Toledo
ISP	Organization	Latitude	Longitude
Thielke & Cia Ltda.	Not Available	-24.7136	-53.7431

Geolocation data from [ipinfo.io](#) (Product: API, real-time)

IP Address	Country	Region	City
177.86.0.213	Brazil 	Paraná	Toledo
ISP	Organization	Latitude	Longitude
Thielke & Cia Ltda.	Thielke & Cia Ltda. ( <a href="http://toledonet.com.br">toledonet.com.br</a> )	-24.7136	-53.7431

Geolocation data from [DB-IP](#) (Product: Full, 2019-11-1)

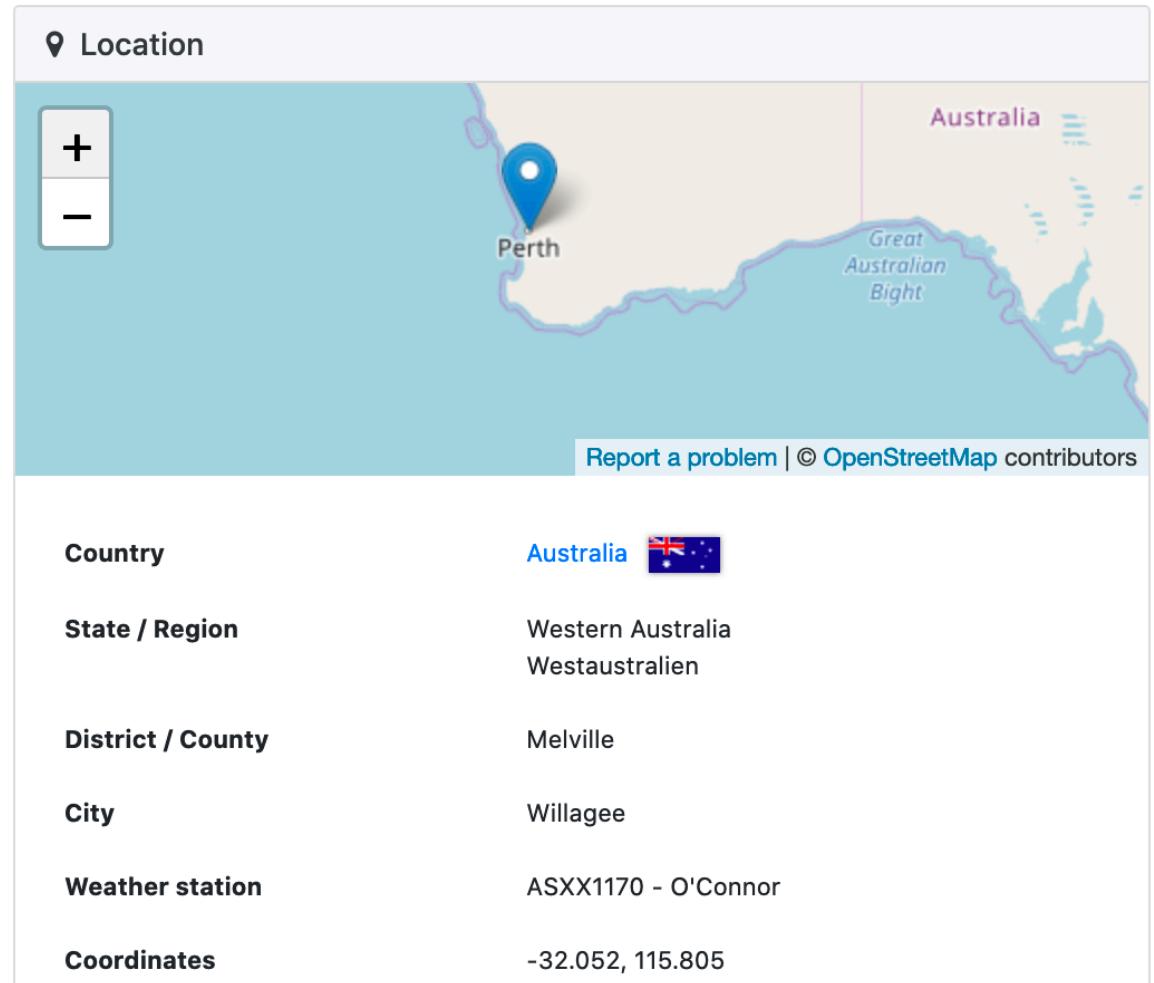
IP Address	Country	Region	City
177.86.0.213	Brazil 	Paraná	Curitiba
ISP	Organization	Latitude	Longitude
Thielke & Cia Ltda.	Thielke & Cia Ltda	-25.4809	-49.3044

<https://www.iplocation.net/>

## Computer in Australien

Standort von: 45.248.78.166

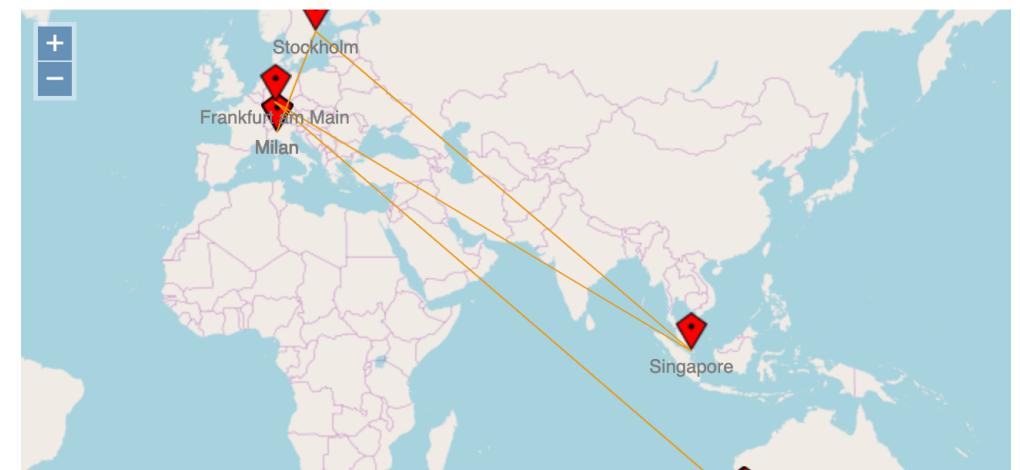
<https://db-ip.com/45.248.78.166>



## Weg der Daten nach Australien

<https://www.ip2location.com/free/traceroute>

Traceroute to 45.248.78.166 from Italy



Hop	IP Address	Hostname	Location	Time
1	149.154.157.1	gw.it.milano.edis.at	Italy, Lombardia, Milan	0.546 ms
2	178.249.188.2	178.249.188.2	Italy, Lombardia, Milan	0.583 ms
4	217.171.32.170	217.171.32.170	Italy, Lombardia, Milan	0.746 ms
5	213.248.84.128	mno-b2-link.telia.net	Italy, Lombardia, Milan	0.520 ms
6	62.115.112.247	mei-b1-link.telia.net	Sweden, Stockholms län, Stockholm	6.839 ms
7	62.115.141.147	snge-b1-link.telia.net	Singapore	144.330 ms
8	80.239.128.127	telia.sg3.sg.coloau.net.au	Germany, Hessen, Frankfurt am Main	144.422 ms
9	103.52.119.1	int.cr1.p1.wa.au.coloau.net.au	Australia, Western Australia, North Fremantle	266.385 ms
10	103.52.119.11	xe-4-0-0.cr1.p1.wa.au.coloau.net.au	Australia, Western Australia, North Fremantle	262.038 ms
11	45.248.78.166	45.248.78.166	Australia, Western Australia, Perth	274.225 ms

## Weg der Daten nach Australien

<https://geotraceroute.com/?node=0&host=45.248.78.166>

**GeoTraceroute to:**

 **45.248.78.166**

---

#1 CH - Berne (0 km)  
#2 CH - Luzern (67 km)  
#3 US - Denver (8329 km)  
#4 AU - Brisbane (12889 km)  
#5 AU - Hindmarsh (1602 km)

Path via:  
Path / real distance: 22887 / 15777 km  
Countries involved: 3  
View as: Google Maps - KML

Run another traceroute

Last 6 targets checked:  
45.248.78.166 (0m ago)  
cbeebies.com (0m ago)  
198.50.110.146 (0m ago)  
108.61.218.133 (0m ago)  
tche.br (0m ago)  
director.geo.parrotsec.org (0m ago)



## Auftrag

1. Suchen Sie nach einer IP Adresse auf einem anderen Kontinent
2. Finden Sie heraus auf welchen Weg die Datenpakete nehmen.
3. Bestimmen Sie den gesamten Weg in km
4. Wie lange dauert der Datentransport an diesen Ort?

 Afghanistan
 Algeria
 Angola
 Antigua and Barbuda
 Aruba

 Aland Islands
 American Samoa
 Anguilla
 Argentina
 Australia

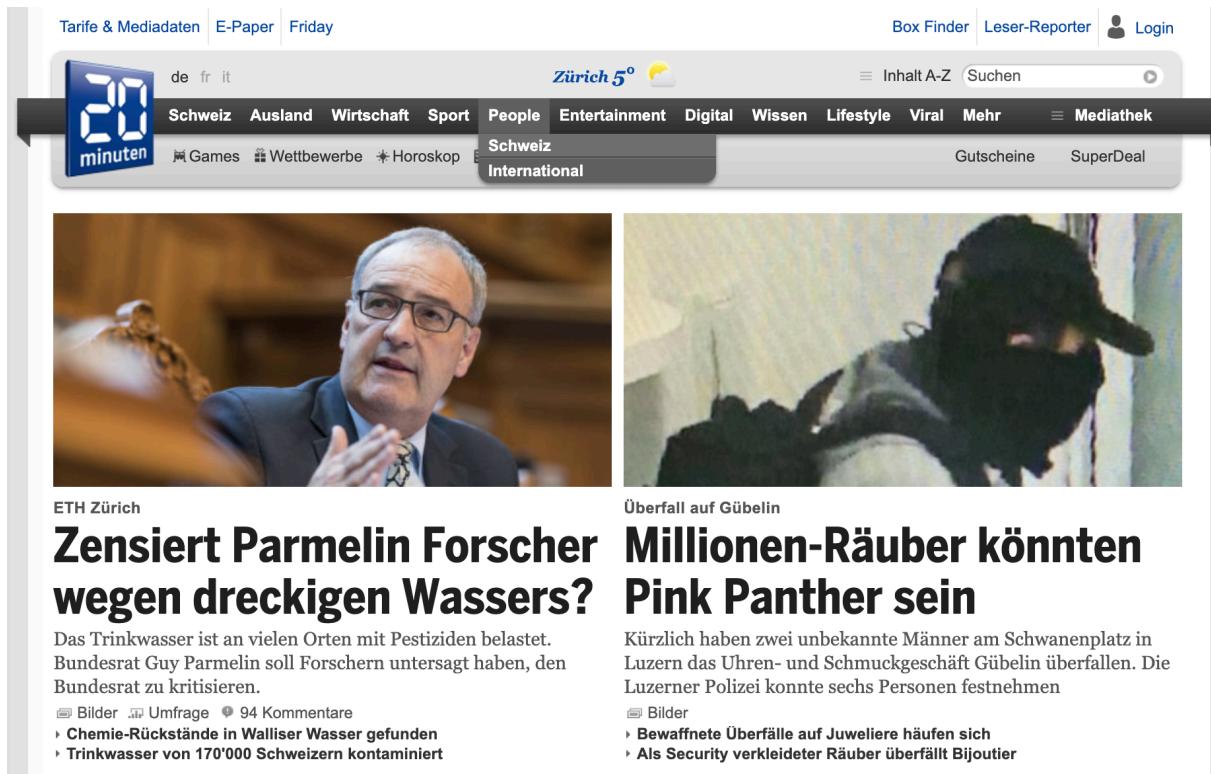
 Albania
 Andorra
 Antarctica
 Armenia
 Austria

<https://lite.ip2location.com/ip-address-ranges-by-country>

## Datenübertragung beim Aufruf einer Webseite

Welche Daten werden beim Aufruf einer Webseite zu meinem Computer übertragen ?

Welche durchschnittliche Datenmenge wird beim Aufruf einer Webseite übertragen ?



The screenshot shows the homepage of the Swiss newspaper 20 Minuten. At the top, there's a navigation bar with links for Tarife & Mediadaten, E-Paper, Friday, Box Finder, Leser-Reporter, Login, and language options (de, fr, it). Below the header, there's a large banner for 'Zürich 5°' with a weather icon. The main menu includes Schweiz, Ausland, Wirtschaft, Sport, People, Entertainment, Digital, Wissen, Lifestyle, Viral, Mehr, and Mediathek. A sub-menu for 'Schweiz International' is visible. Two news articles are displayed below the menu:

- ETH Zürich**: **Zensiert Parmelin Forscher wegen dreckigen Wassers?** This article features a photo of Guy Parmelin and discusses water contamination. It includes a sidebar with links to related news items.
- Überfall auf Gübelin**: **Millionen-Räuber könnten Pink Panther sein**. This article features a photo of a person wearing a mask and discusses a robbery at a jewelry store. It also includes a sidebar with related news items.

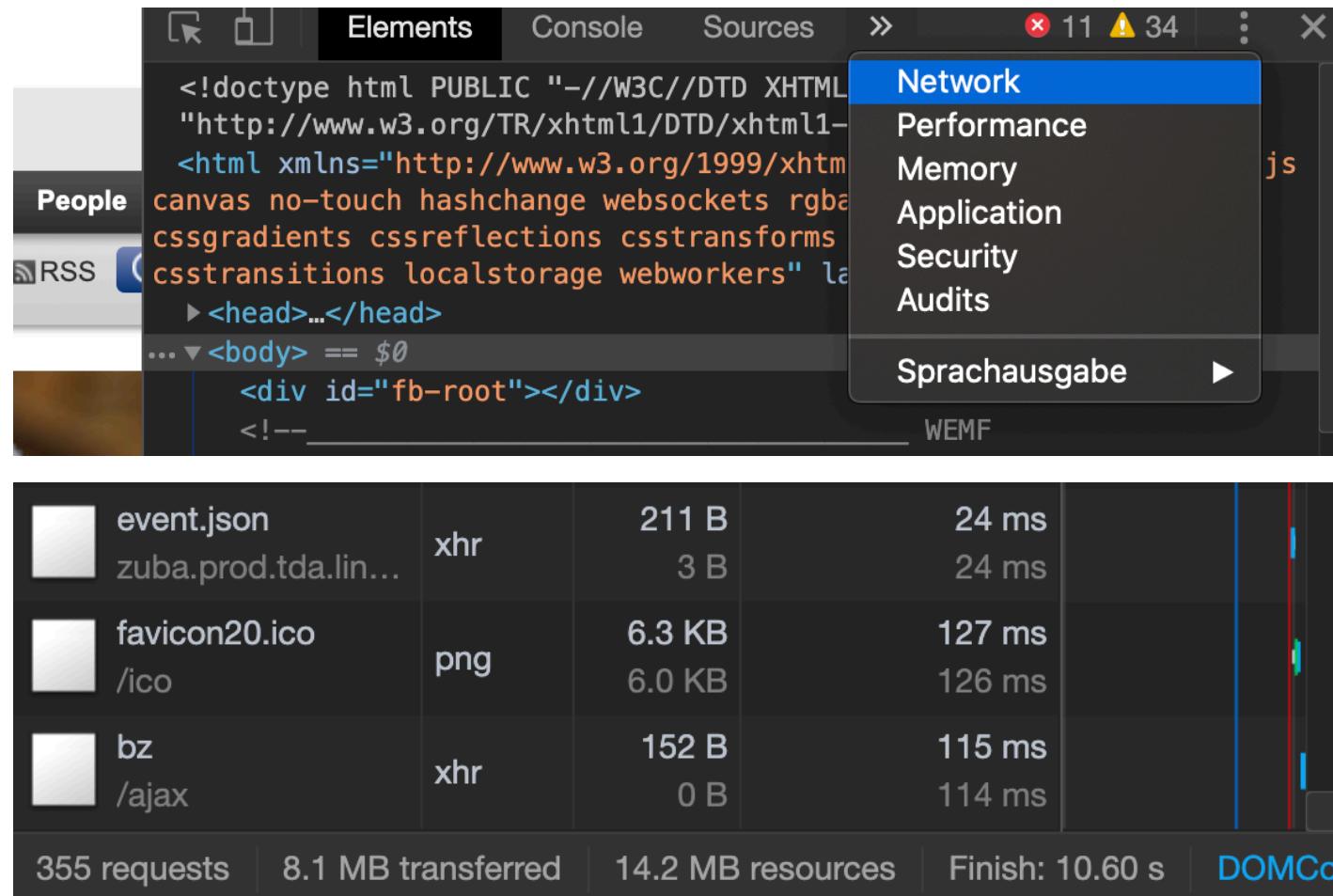
At the bottom of the page, there are links for 'Bilder', 'Umfrage', '94 Kommentare', and three news items: 'Chemie-Rückstände in Walliser Wasser gefunden', 'Trinkwasser von 170'000 Schweizern kontaminiert', and 'Bewaffnete Überfälle auf Juweliere häufen sich'.

<https://www.20min.ch/>

## Untersuchung mit den Entwicklerwerkzeugen

The screenshot shows a web browser window with the URL [20min.ch](https://www.20min.ch) in the address bar. The main content area displays a news article with a large image of a man wearing glasses. A context menu is open over this image, with the "Entwicklertools" (Developer Tools) option selected. This has triggered the opening of the browser's developer tools, which are overlaid on the page. The developer tools menu includes options like "Neuer Tab", "Neues Fenster", and "Zoomen". Below the menu is a toolbar with buttons for "Bearbeiten", "Ausschneiden", "Kopieren", and "Einfügen". At the bottom of the developer tools interface, there are links for "Einstellungen" and "Hilfe". The background of the browser window shows the rest of the news article and some navigation elements.

## Datenübertragung beim Aufruf einer Webseite



# Was für Daten sind das?

Name		Headers	Preview	Response	Cookies	Timing	
 www.20min.ch				<pre>1 &lt;!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/1999/xhtml" 2 &lt;html xmlns="http://www.w3.org/1999/xhtml" class="backgroundfill" lang="de"&gt; 3 &lt;head&gt; 4 &lt;!-- _____ Template Setup _____ 5 6 7 8 9 10 &lt;!-- _____ Head _____ 11 &lt;meta http-equiv="content-type" content="text/html; charset=iso-8859-1" 12 &lt;meta http-equiv="X-UA-Compatible" content="IE=Edge,chrome=IE8" /&gt; 13 &lt;meta name="keywords" content="20minuten.ch, www.20minuten.ch, 20 Minuten" 14 &lt;meta name="description" content="Das schnellste Newsportal - Die News" 15 &lt;meta http-equiv="expires" content="0" /&gt; 16 &lt;meta http-equiv="pragma" content="no-cache" /&gt;</pre>			
 20mindaily.html	/de						
 like.php?href=http%3A%2F%2Fwww.	/plugins						
 xd_arbiter.php?version=44	/connect						
 upload_image.html	/leserreporter						
 upload_video.html	/leserreporter						
 like.php?href=http%3A%2F%2Fwww.							

# HTML, Dokumente

A screenshot of the Chrome DevTools Network tab. The 'Font' checkbox is selected. The table shows a single entry for a font file named 'roboto-slab-v6-latin-regular.woff2' located at '/etc/designs/coop-culinaria-app/client/assets/fonts'. The file size is 1.1 MB and it was loaded from 'localhost:4200'. The 'Preview' tab is active, displaying the font's character set: uppercase letters ABCDEFGHIJKLMNOP and lowercase letters abcdefghijklm, along with numbers 1234567890. The font appears to be a bold, slab-serif typeface.

## Schriften

## Was für Daten sind das?

Filter  Hide data URLs All XHR JS CSS Img Media Font Doc WS Manifest Other

Name		Headers	Preview	Response	Cookies	Timing
weather_spikel.png	/2010/img/navigation					
friday.png	static01.20min.ch/2010/img/navigatio.					
teaserbreit.jpg	static01.20min.ch/dyim/cbf01d/T470..					
teaserbreit.jpg	static01.20min.ch/dyim/88c39a/T230..					
teaserbreit.jpg	static01.20min.ch/dyim/66ce5a/T230..					
teaserbreit.jpg	static01.20min.ch/dyim/2cc53f/T230..					
teaserbreit.jpg	static01.20min.ch/dyim/cb3ba5/T470..					



## Bilder

Filter  Hide data URLs All XHR JS CSS Img Media Font Doc WS Manifest Other

Name		Headers	Preview	Response	Cookies	Timing
css?family=Roboto:400,700&display=block	fonts.googleapis.com					
head_styles_desktop.css?v=2	/2010/CSS/main					
v3.football.opta-widgets.css	secure.widget.cloud.opta.net/v3/css					
opta-override.css	/2010/CSS/main					
sombox.css	/2010/CSS/main					
print.css?v=2	/2010/CSS/main					
leserreporter.css	/2010/CSS/main					
widget.css						

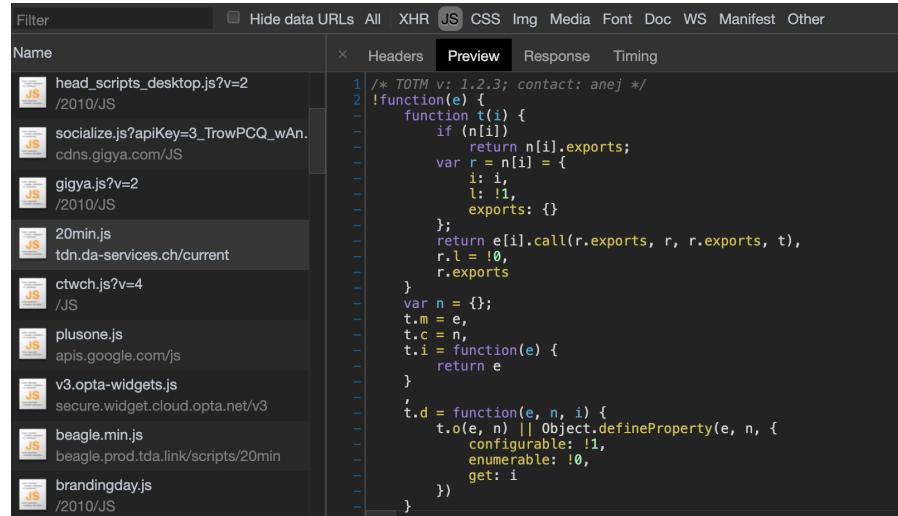
```
1 /*!
2  * leserreporter.css
3  * 20 Minuten AG */
4 .Leserreporter_endblock {
5   width: 950px;
6   margin: 10px 0px 10px 0px;
7   clear: both
8 }

9 .leserreporter_endblock .top {
10  width: 950px;
11  height: 10px;
12  background-image: url(/2010/img/leserreporter/leserreporter_endblock_top.png);
13  background-repeat: no-repeat;
14  margin: 0px
15 }

16 .leserreporter_endblock .header {
17  height: 20px;
18  line-height: 10px;
19  padding: 0px 10px 0px 10px;
20  background-color: #333333
21 }
```

## CSS (Darstellung)

## Was für Daten sind das?



The screenshot shows the Network tab of a browser developer tools interface. The 'JS' filter is selected, and the 'Preview' tab is active. A list of JavaScript files is shown:

- head\_scripts\_desktop.js?v=2 /2010/JS
- socialize.js?apiKey=3\_TrowPCQ\_wAn. cdns.gigya.com/JS
- gigya.js?v=2 /2010/JS
- 20min.js tdn.da-services.ch/current
- ctwch.js?v=4 /JS
- plusone.js apis.google.com/js
- v3.opta-widgets.js secure.widget.cloud.opta.net/v3
- beagle.min.js beagle.prod.tda.link/scripts/20min
- brandingday.js /2010/JS

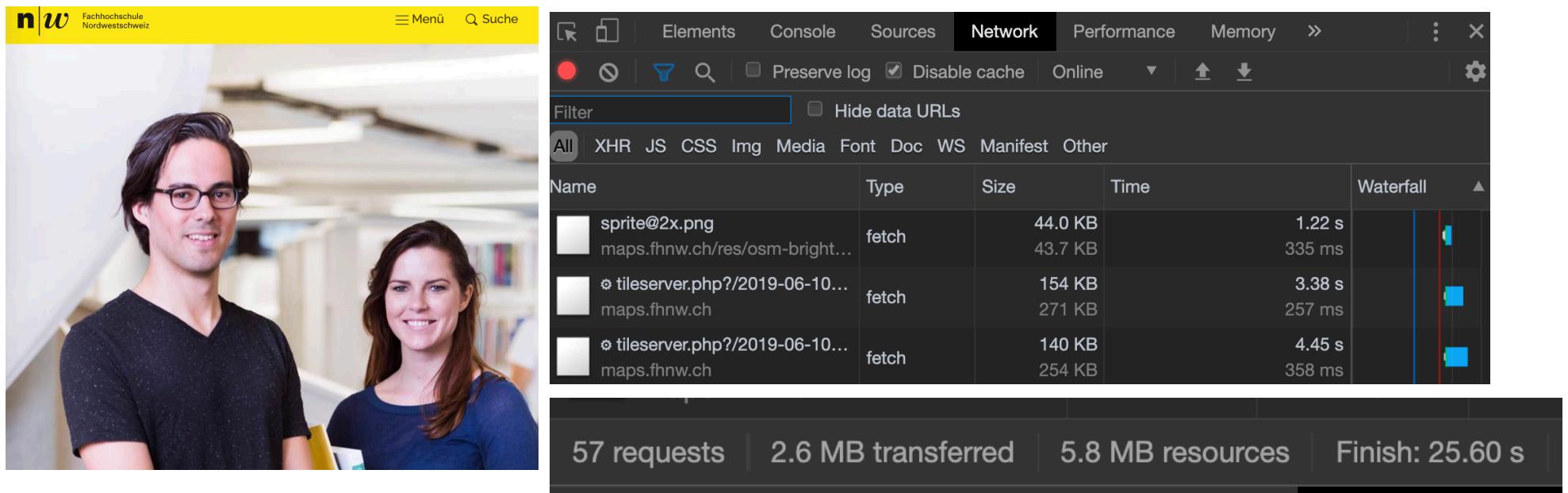
The '20min.js' file is currently selected, and its content is displayed in the preview pane:

```
/* TOTM v: 1.2.3; contact: anej */
!function(e) {
    function t(i) {
        if (!i[i])
            return n[i].exports;
        var r = n[i] = {
            i: i,
            l: !1,
            exports: {}
        };
        return e[i].call(r.exports, r, r.exports, t),
        r.l = !0,
        r.exports
    }
    var n = {};
    t.m = e,
    t.c = n,
    t.i = function(e) {
        return e
    }
    t.d = function(e, n, i) {
        t.o(e, n) || Object.defineProperty(e, n, {
            configurable: !1,
            enumerable: !0,
            get: i
        })
    }
}
```

## JavaScript / Programme

## Auftrag Webseite untersuchen:

1. Wählen Sie eine Webseite.
2. Wie lange dauert das Laden der gesamten Webseite ?
3. Welche Datenmenge wird insgesamt zu ihrem Browser geschickt ?
4. Wie viele Bilder enthält die Webseite ?



The screenshot shows a browser window with the FHNW logo at the top. The main content area displays two people smiling. To the right, the browser's developer tools Network tab is open, showing a list of resources loaded by the page. The table includes columns for Name, Type, Size, Time, and Waterfall chart. The Waterfall chart visualizes the sequence and duration of each request. At the bottom of the Network tab, summary statistics are displayed: 57 requests, 2.6 MB transferred, 5.8 MB resources, and a total finish time of 25.60 s.

Name	Type	Size	Time	Waterfall
sprite@2x.png	fetch	44.0 KB	1.22 s	
maps.fhnw.ch/res/osm-bright...		43.7 KB	335 ms	
tileserver.php?/2019-06-10...	fetch	154 KB	3.38 s	
maps.fhnw.ch		271 KB	257 ms	
tileserver.php?/2019-06-10...	fetch	140 KB	4.45 s	
maps.fhnw.ch		254 KB	358 ms	

57 requests | 2.6 MB transferred | 5.8 MB resources | Finish: 25.60 s

## Was geschieht beim Streaming ?



**Streaming** Media bezeichnet die gleichzeitige Übertragung und Wiedergabe von Video- und Audiodaten über ein Rechnernetz. Den Vorgang der Datenübertragung selbst nennt man **Streaming** und übertragene („gestreamte“) Programme werden als Livestream oder kurz **Stream** bezeichnet.

## Streaming bei srf.ch

The screenshot shows a live tennis match between Daniil Medvedev and Stefanos Tsitsipas at the ATP Finals London. The score is 6-7, 15-0. The page includes a video player, navigation buttons (TV/Radio, search), and a network traffic analysis tool (Fiddler) showing the request log for the stream.

Name	Type	Size	Time
segment4_0_av.ts?sta...	xhr	1.7 MB	107 ms
srfvodhd-vh.akamaih...		1.7 MB	20 ms
segment5_0_av.ts?sta...	xhr	1.8 MB	119 ms
srfvodhd-vh.akamaih...		1.8 MB	28 ms
segment6_0_av.ts?sta...	xhr	1.6 MB	130 ms
srfvodhd-vh.akamaih...		1.6 MB	54 ms
clicked.json	xhr	156 B	25 ms
il.srgssr.ch/integration...		2 B	25 ms
clicked.json	xhr	474 B	68 ms
il.srgssr.ch/integration...		514 B	67 ms
segment7_0_av.ts?sta...	xhr	1.7 MB	117 ms
srfvodhd-vh.akamaih...		1.7 MB	23 ms
segment8_0_av.ts?sta...	xhr	1.7 MB	95 ms
srfvodhd-vh.akamaih...		1.7 MB	25 ms
segment9_0_av.ts?sta...	xhr	1.6 MB	108 ms
srfvodhd-vh.akamaih...		1.6 MB	22 ms
segment10_0_av.ts?sta...	xhr	1.7 MB	105 ms
srfvodhd-vh.akamaih...		1.7 MB	21 ms
segment11_0_av.ts?sta...	xhr	1.6 MB	121 ms
srfvodhd-vh.akamaih...		1.6 MB	17 ms

## Stream von SRF lokal speichern

- 1.) Stream im Browser ansehen
- 2.) Entwickler Werkzeuge öffnen
- 3.) Daten mit dem Namen **master** finden
- 4.) **URL kopieren**

Die URL zum Film oder Video ist meist sehr lang:

[https://srfvodhd-vh.akamaihd.net/i/vod/sport\\_clip/2020/11/sport\\_clip\\_20201129\\_184328\\_23032873\\_v\\_webcast\\_h264\\_q40,q10,q20,q30,q50,q60,.mp4.csmil/index\\_0\\_av.m3u8?start=0.0&end=22.24](https://srfvodhd-vh.akamaihd.net/i/vod/sport_clip/2020/11/sport_clip_20201129_184328_23032873_v_webcast_h264_q40,q10,q20,q30,q50,q60,.mp4.csmil/index_0_av.m3u8?start=0.0&end=22.24)

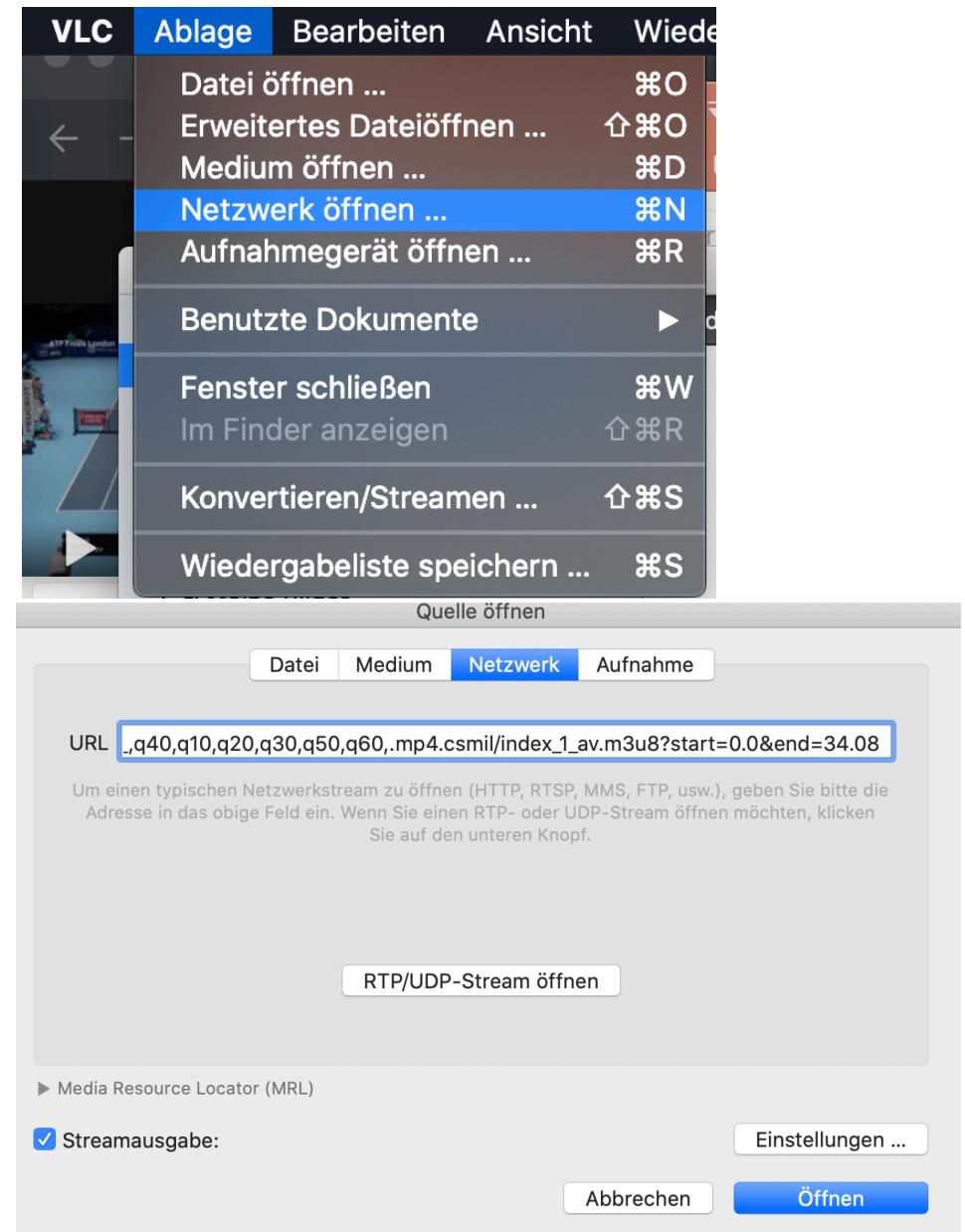
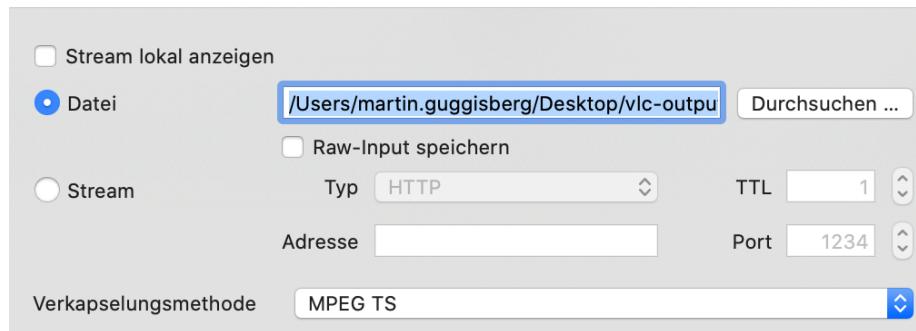
The screenshot shows the Network tab of developer tools with a search bar containing 'master'. It lists two requests: 'master.m3u8?start=0....' and 'srfvodhd-vh.akamaihd...'. The first is an 'xhr' request of 2.6 KB, and the second is a file of 2.0 KB. Below this, the Response tab displays the HLS manifest file content, which includes multiple URLs for different video segments.

Name	Type	Size	Time	Waterfall
master.m3u8?start=0....	xhr	2.6 KB	1.38 s	
srfvodhd-vh.akamaihd...		2.0 KB	1.38 s	

	Headers	Preview	Response	Cookies	Timing
1	#EXTM3U				
2	#EXT-X-STREAM-INF:PROGRAM-ID=1,BANDWIDTH=1343000,RESOLUTION=640x360,CODECS="				
3	https://srfvodhd-vh.akamaihd.net/i/vod/sportlive/2019/11/sportlive_20191111_				
4	#EXT-X-STREAM-INF:PROGRAM-ID=1,BANDWIDTH=148000,RESOLUTION=320x180,CODECS="a				
5	https://srfvodhd-vh.akamaihd.net/i/vod/sportlive/2019/11/sportlive_20191111_				
6	#EXT-X-STREAM-INF:PROGRAM-ID=1,BANDWIDTH=352000,RESOLUTION=480x272,CODECS="a				
7	https://srfvodhd-vh.akamaihd.net/i/vod/sportlive/2019/11/sportlive_20191111_				
8	#EXT-X-STREAM-INF:PROGRAM-ID=1,BANDWIDTH=703000,RESOLUTION=512x288,CODECS="a				
9	https://srfvodhd-vh.akamaihd.net/i/vod/sportlive/2019/11/sportlive_20191111_				
10	#EXT-X-STREAM-INF:PROGRAM-ID=1,BANDWIDTH=2143000,RESOLUTION=960x544,CODECS="				
11	https://srfvodhd-vh.akamaihd.net/i/vod/sportlive/2019/11/sportlive_20191111_				
12	#EXT-X-STREAM-INF:PROGRAM-ID=1,BANDWIDTH=3648000,RESOLUTION=1280x720,CODECS=				
13	https://srfvodhd-vh.akamaihd.net/i/vod/sportlive/2019/11/sportlive_20191111_				
14	#EXT-X-STREAM-INF:PROGRAM-ID=1,BANDWIDTH=46000,CODECS="mp4a.40.2",CLOSED-CAP				
15	https://srfvodhd-vh.akamaihd.net/i/vod/sportlive/2019/11/sportlive_20191111_				
16					

## Stream von SRF lokal speichern

- 1.) Stream im Browser ansehen
- 2.) Entwickler Werkzeuge öffnen
- 3.) Daten mit dem Namen **master** finden
- 4.) URL kopieren
- 5.) URL in VLC kopieren**
- 6.) mit VLC anschauen und abspeichern



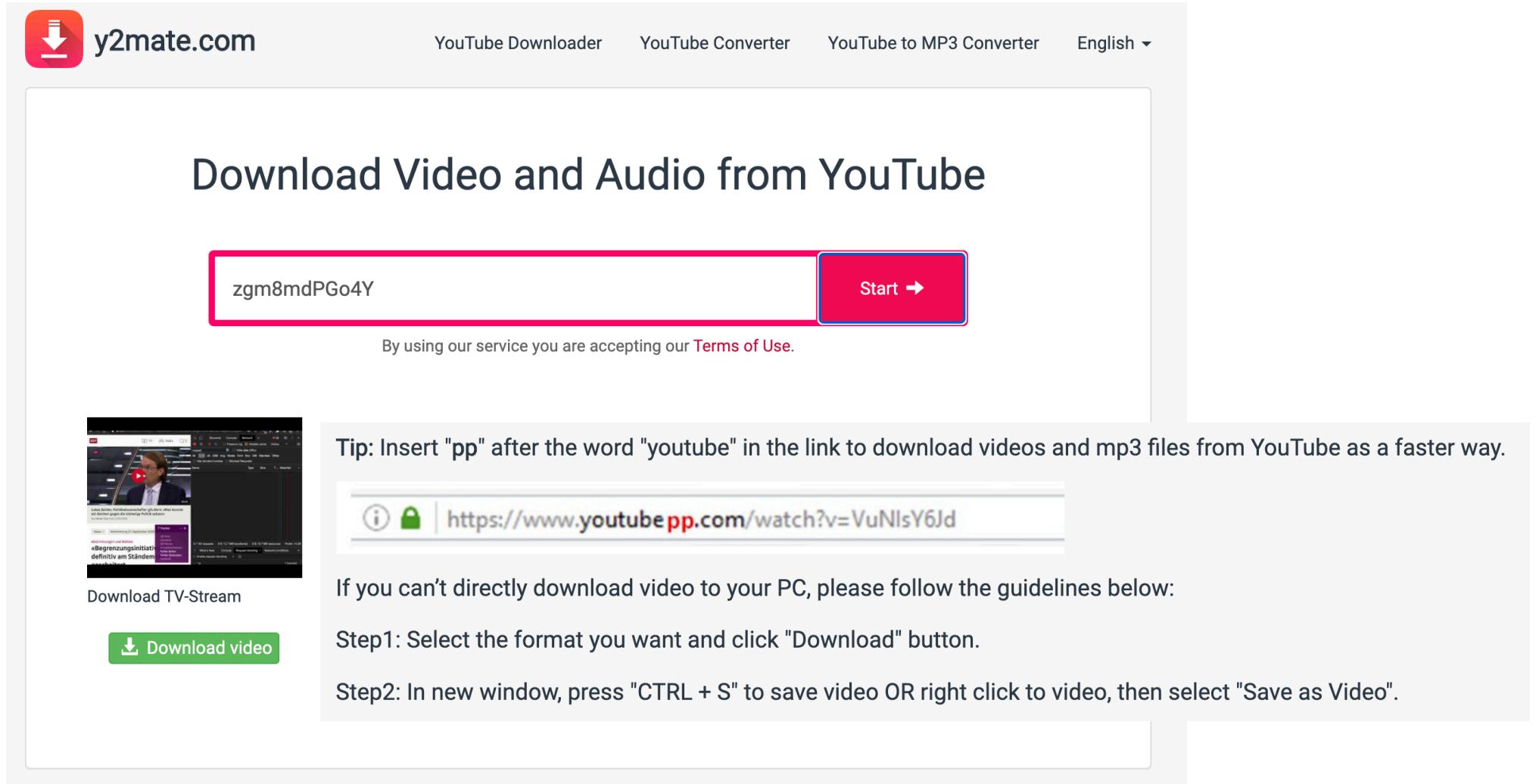
## Auftrag Beitrag von srf.ch mit VLC speichern

1. Installieren Sie VLC, falls Sie das Programm noch nicht haben.  
<https://www.videolan.org/vlc/index.de.html>
2. Wählen Sie einen kurzen Beitrag (2-10 Minuten auf srf.ch)
3. Speichern Sie diesen Beitrag lokal bei sich ab.



# YouTube abspeichern

<https://www.y2mate.com/>



The screenshot shows the y2mate.com homepage. At the top, there's a navigation bar with links for YouTube Downloader, YouTube Converter, YouTube to MP3 Converter, and a language dropdown set to English. The main heading is "Download Video and Audio from YouTube". Below it, a search bar contains the YouTube video ID "zgm8mdPGo4Y", which is highlighted with a red border. To the right of the search bar is a large red button labeled "Start ➔". Below the search bar, a note states: "By using our service you are accepting our [Terms of Use](#)".

**Tip:** Insert "pp" after the word "youtube" in the link to download videos and mp3 files from YouTube as a faster way.



If you can't directly download video to your PC, please follow the guidelines below:

Step1: Select the format you want and click "Download" button.

Step2: In new window, press "CTRL + S" to save video OR right click to video, then select "Save as Video".

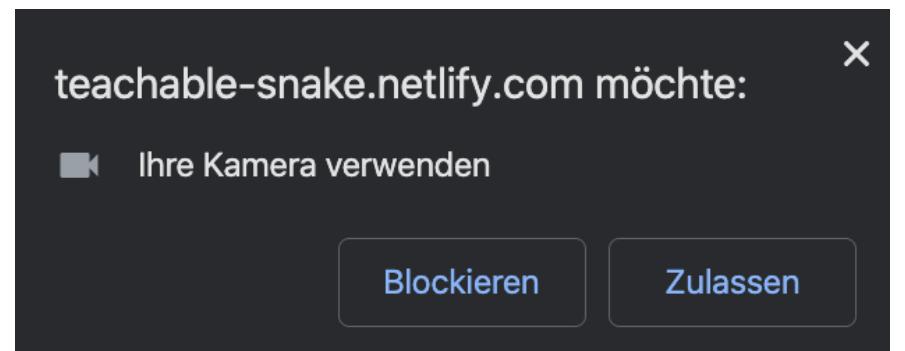
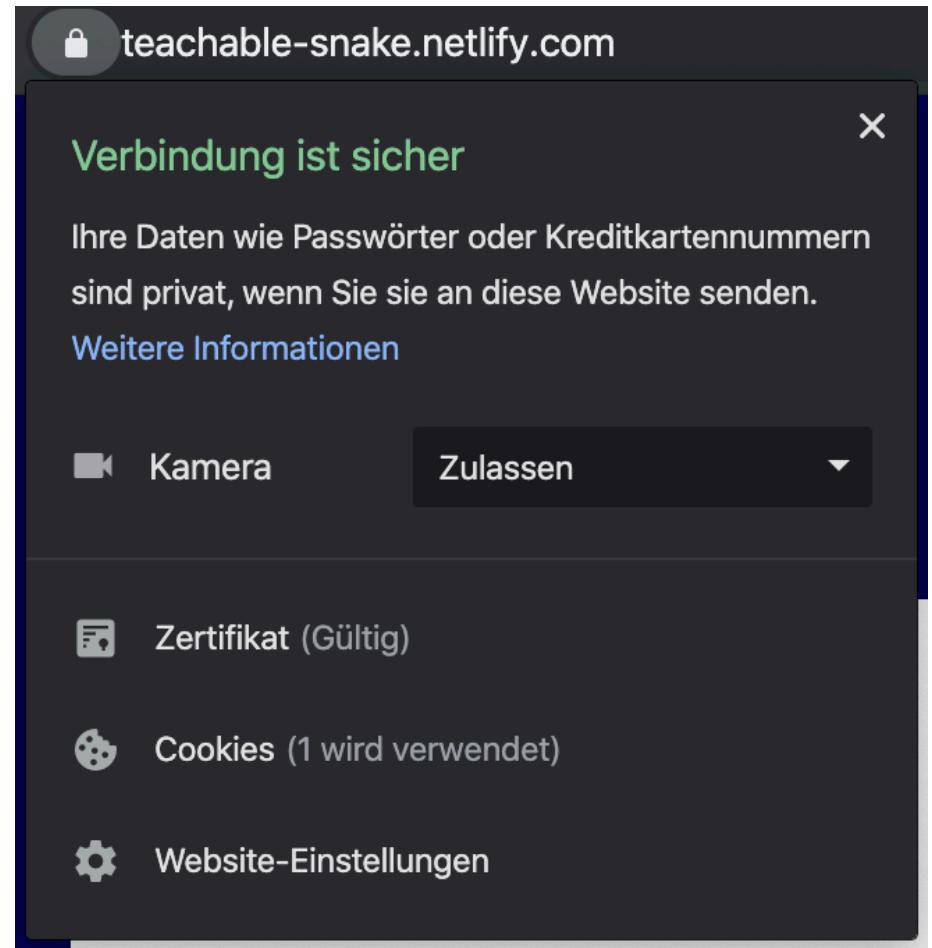
## Sicherheit

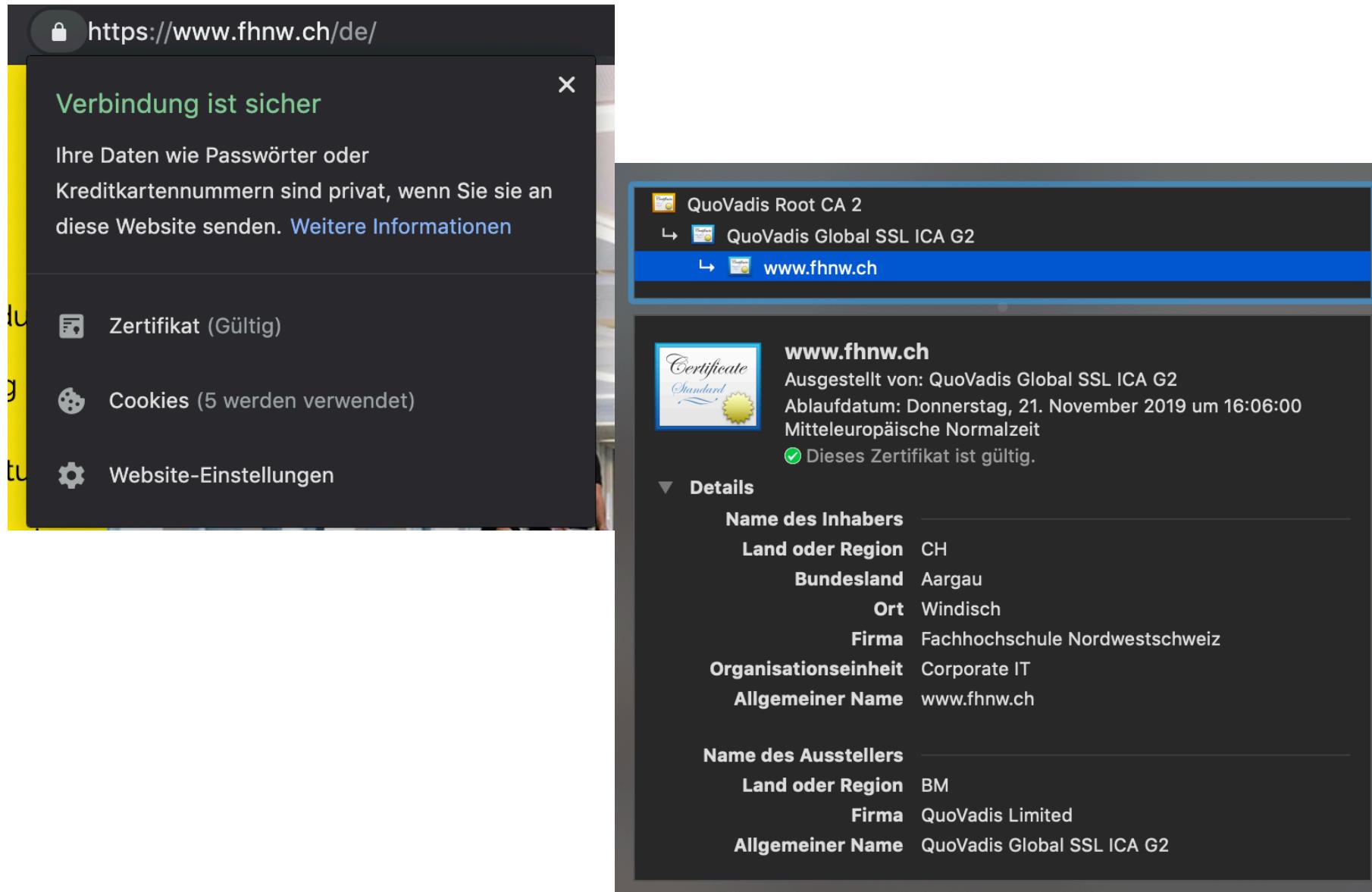
Von wem stammt eine Webseite ?

Was darf die Webseite auf meinem System tun ?

Kamera erlauben

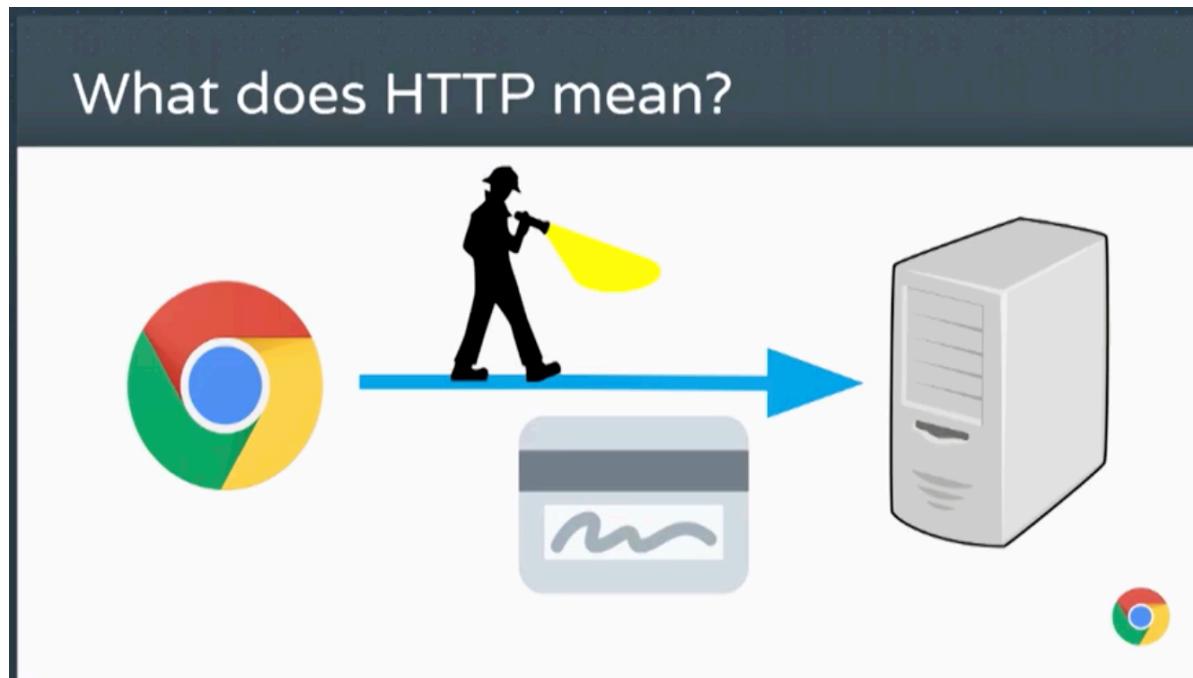
<https://teachable-snake.netlify.com/>





## Warum https ?

### Example Website



Nicht sicher example.com

Die Verbindung zu dieser Website ist nicht sicher

Sie sollten keine vertraulichen Informationen wie Passwörter oder Kreditkartennummern auf dieser Website eingeben, da sie von Angreifern gestohlen werden könnten. Weitere Informationen

Cookies (0 werden verwendet)

Website-Einstellungen

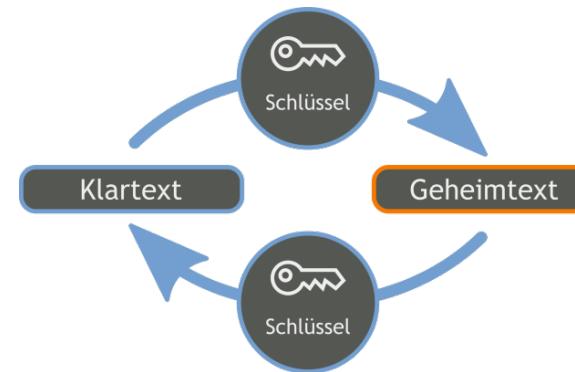
[https://www.youtube.com/watch?time\\_continue=92&v=iP75a1Y9saY](https://www.youtube.com/watch?time_continue=92&v=iP75a1Y9saY)

# Zusätzliche Materialien zur Sicherheit

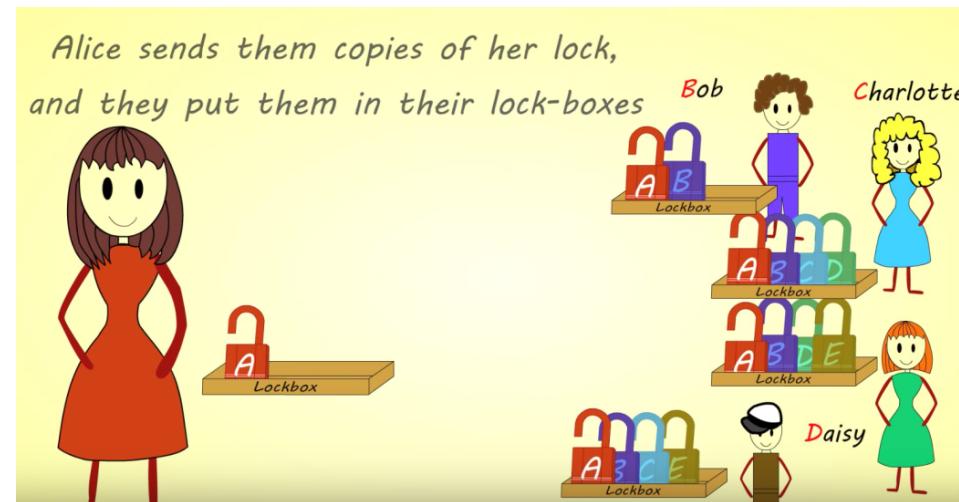


## Verfahren der Verschlüsselung

symmetrisch  
(gemeinsamer  
Schlüssel)



asymmetrisch  
(public key)



<https://www.youtube.com/watch?v=E5FEqGYLL0o>

## Weitere Informationen zur Verschlüsselung

### Public Key Encryption

- Uses a public key and private key



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<https://www.youtube.com/watch?v=ERp8420ucGs>

Interaktive Beispiele zu Chiffrierung und Dechiffrierung

<https://mgje.github.io/Crypto/>

Verschiedene Verfahren

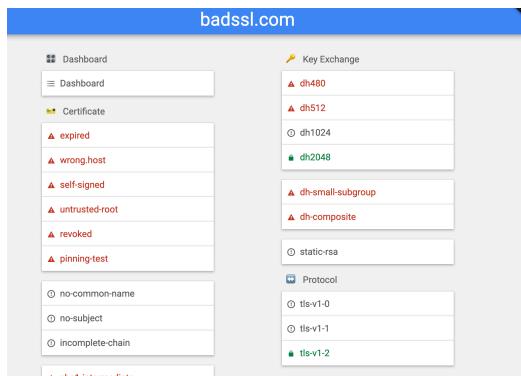
<http://www.cryptool-online.org/>

# Testen Sie ihren Browser !

## (Safe) Safe Browsing Testing Links

### Webpage Warnings

1. [A/W/M/L/C] Should show a phishing warning: [link](#)
2. [A/W/M/L/C/D] Should show a malware warning: [link](#)
3. [A/W/M/L/C/D] Should show a malware warning due to a bad subresource: [link](#)
4. [W/M/L/C] Should show a unwanted software warning: [link](#)
5. [W/M/L/C/D] Should show a malware warning due to bad assets: [ [small img](#), [medium img](#), [large img](#), [css](#), [js](#)]
6. [A/W/M/L/C] Should show a billing warning: [link](#)



<https://testsafebrowsing.appspot.com/>

<https://badssl.com/>

# Informationen über eine Webseite finden

Home Technologies Reports Sites Quality Users Blog Forum FAQ Search

**Featured products and services**

 Web Design Tips, Tutorials, and Guides  
- DesignBombs

lookup another site:  Site Info  
Get our [site info tools](#).

se here

## Site Info - Fhnw.ch

Overview of web technologies used by Fhnw.ch.

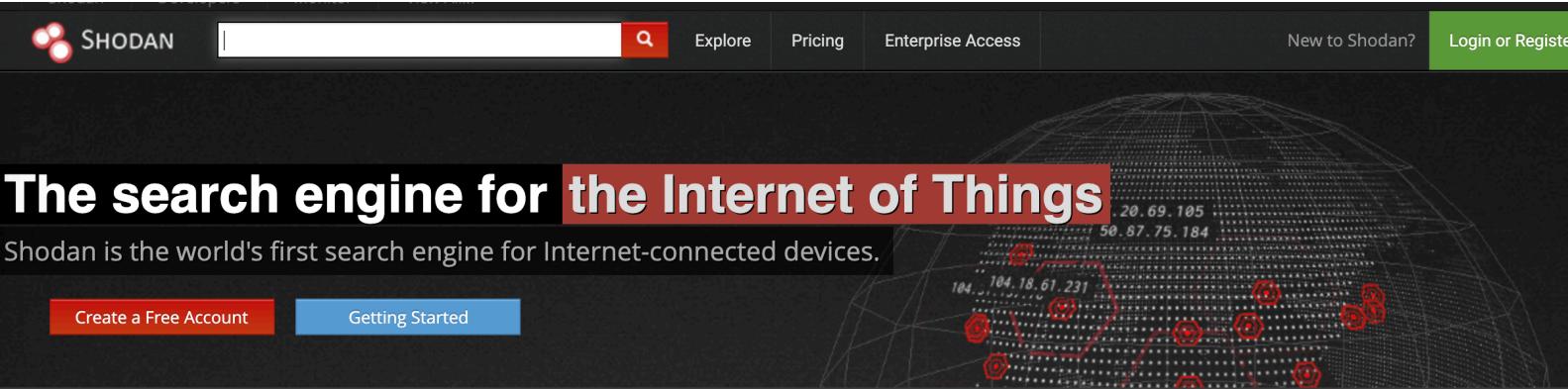
### Website Background

Description on Homepage	Fachhochschule Nordwestschweiz   FHNW  Die FHNW ist eine der führenden Fachhochschulen in der Schweiz und ist mit ihren neun Hochschulen in der Lehre, Forschung, Weiterbildung und Dienstleistung tätig – innovativ und praxisorientiert. Ihr breites Angebot an Studiengängen, ihre Nähe zur Praxis, ihre anwendungsorientierte und innovationsstarke Forschung sowie ihre weltweite Vernetzung machen die FHNW zu einer attraktiven und vielfältigen Bildungsstätte, zu einer nachgefragten Praxispartnerin und zu einer attraktiven Arbeitgeberin in der Nordwestschweiz.												
Popularity rank	Number 115,184 of all websites according to Alexa												
Main visitors locations	<table><thead><tr><th>Country</th><th>Visitors</th><th>Country Rank</th></tr></thead><tbody><tr><td>Switzerland</td><td>80.9%</td><td>258</td></tr><tr><td>France</td><td>3.3%</td><td>47,565</td></tr><tr><td>Germany</td><td>2.2%</td><td>102,304</td></tr></tbody></table>	Country	Visitors	Country Rank	Switzerland	80.9%	258	France	3.3%	47,565	Germany	2.2%	102,304
Country	Visitors	Country Rank											
Switzerland	80.9%	258											
France	3.3%	47,565											
Germany	2.2%	102,304											

### Content Management System

<https://w3techs.com/sites/info/fhnw.ch>

## Find Webcams



The search engine for the Internet of Things

Shodan is the world's first search engine for Internet-connected devices.

Create a Free Account      Getting Started

**Explore the Internet of Things**

Use Shodan to discover which of your devices are connected to the Internet, where they are located and who is using them.

**Monitor Network Security**

Keep track of all the computers on your network that are directly accessible from the Internet. Shodan lets you understand your digital footprint.

**See the Big Picture**

Websites are just one part of the Internet. There are power plants, Smart TVs, refrigerators and much more that can be found with Shodan!

**Get a Competitive Advantage**

Who is using your product? Where are they located? Use Shodan to perform empirical market intelligence.

<https://www.shodan.io/>