

Charles Proxy/ Android studio/ Browserstack



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

Meaning of the documentation in IT. BE self-taught
<https://www.charlesproxy.com/documentation/welcome/>

How To Configure And Use Charles Proxy On Windows And Android <https://www.softwaretestinghelp.com/charles-proxy-tutorial/>

Drag Charles to the Applications folder

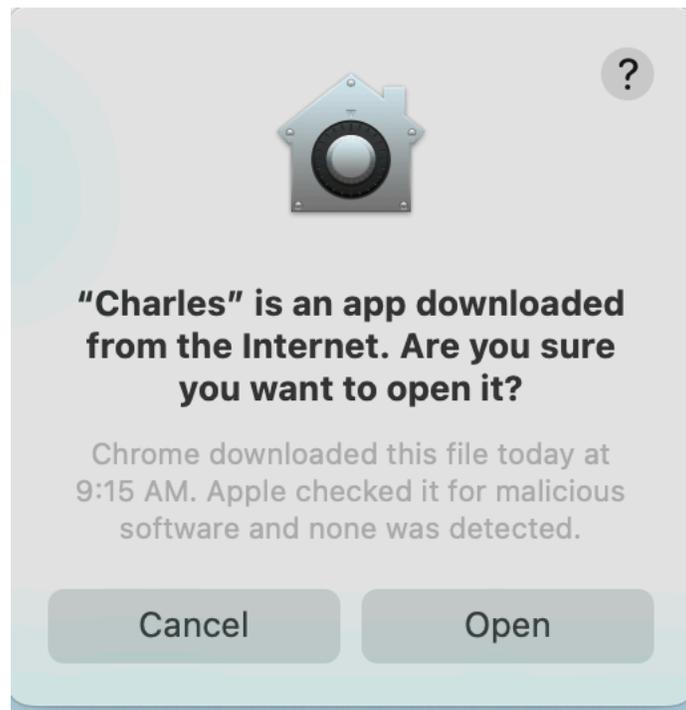


Charles

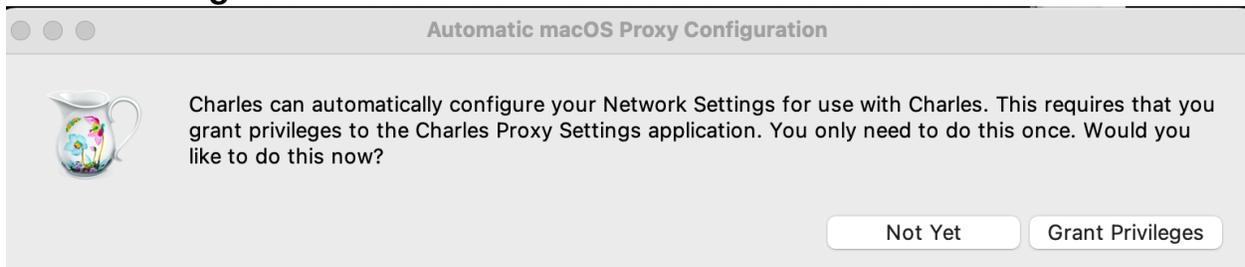


Applications

Don't worry about it. Open it :)

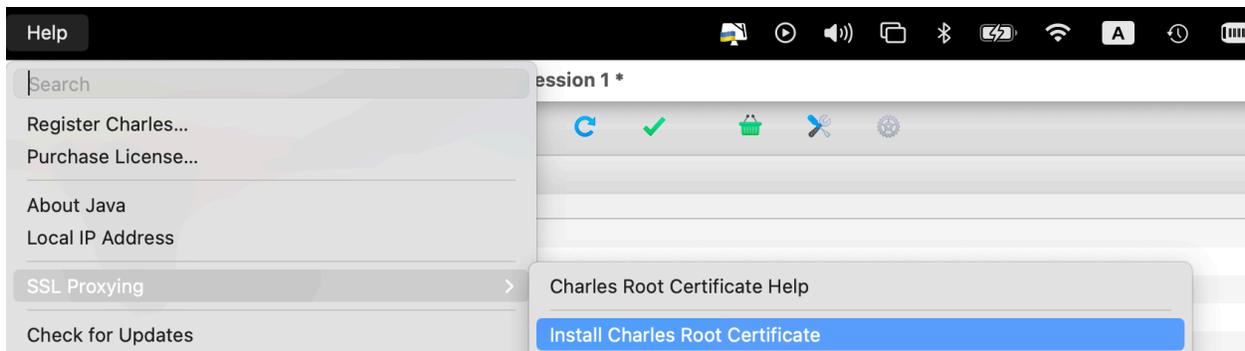


Grant Privileges



Install Charles Root Certificate:

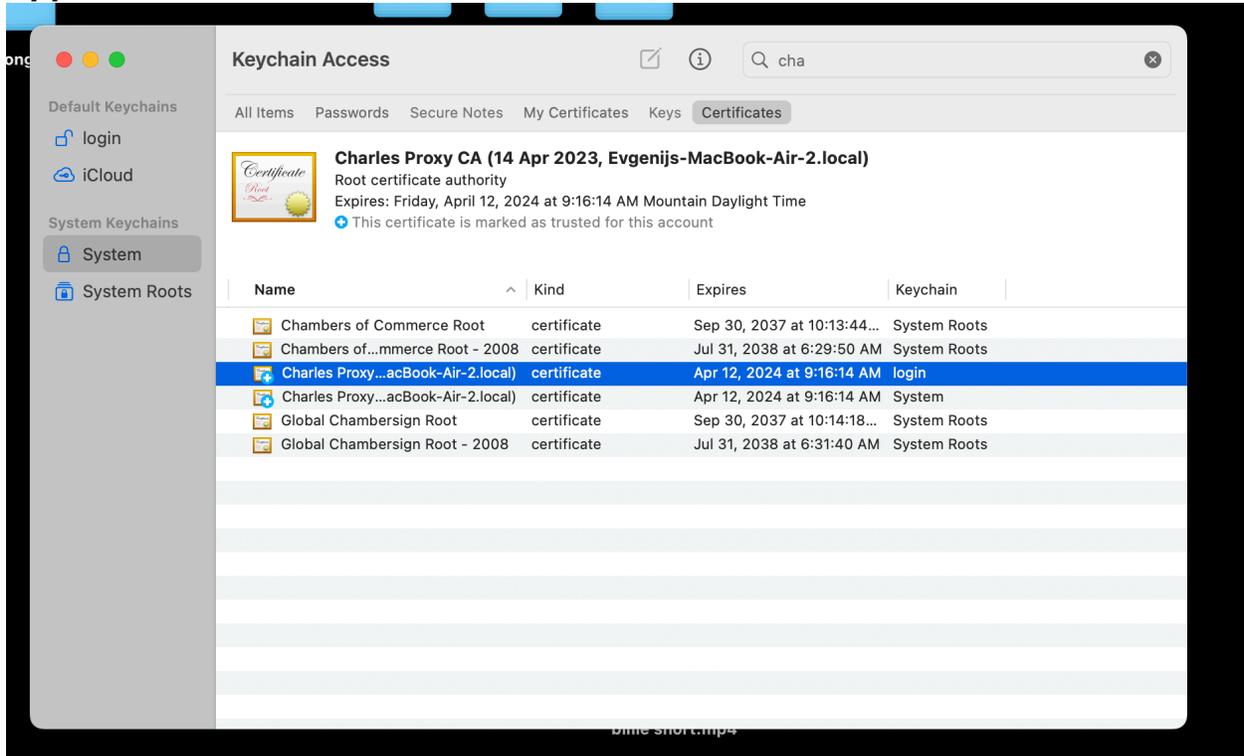
Help > SSL Proxying > Install Charles Root Certificate



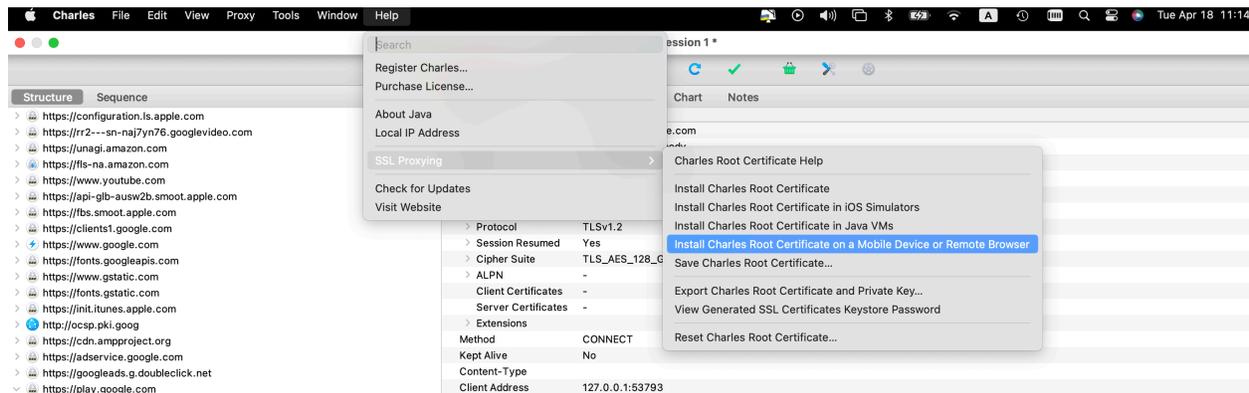
!!! Possible problem > Extra slide for Mac users !!!

There might be a problem with Certificate.
For Mac users: You will be prompted to go to Keychain access.

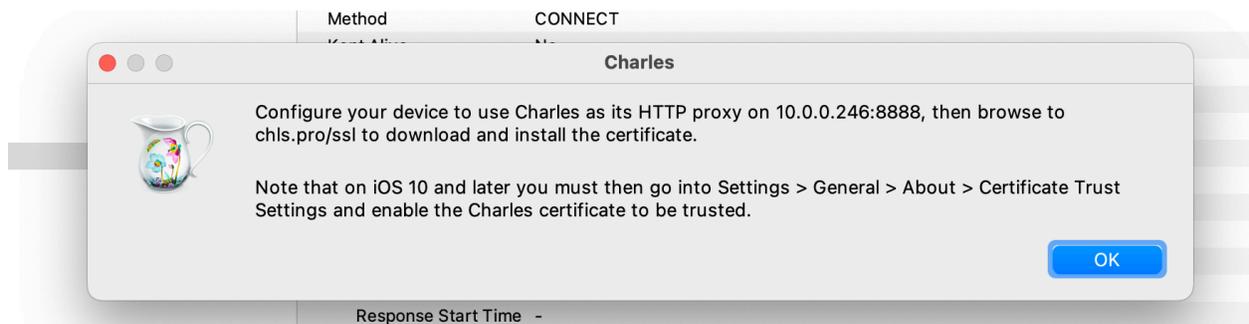
Approve certificate here.



Charles Proxy with Mobile devices



Make a screenshot of this message, cos your ip “10.0.0.???” will be different!!!



You can watch a video OR go through the screenshots

 Back

Configure Proxy

Save

Off

Manual



Automatic

Server

10.0.0.246

Port

8888

Authentication



Type the address > Allow

Charles SSL CA Certificate installation

Your browser should download and offer to install the Charles SSL CA Certificate in just a moment. If this doesn't work, please check that your OS, or browser, is configured to use Charles as its proxy.

□

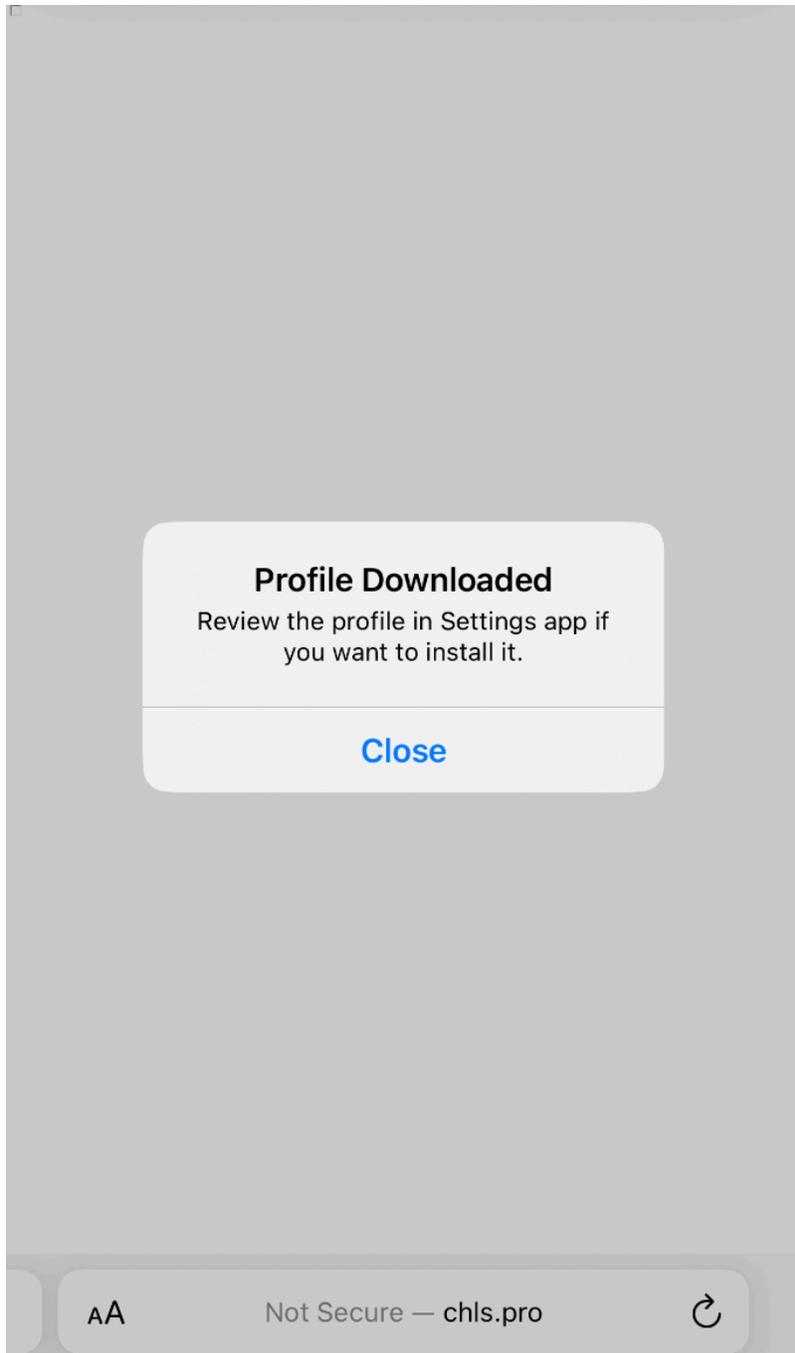
This website is trying to download a configuration profile. Do you want to allow this?

[Ignore](#) [Allow](#)

AA

Not Secure — chls.pro





Settings > Profile downloaded

Install

Cancel

Install Profile

Install



Charles Proxy CA (14 Apr 2023, Evgenijs-MacBook-Air-2.local)

Signed by Charles Proxy CA (14 Apr 2023, Evgenijs-MacBook-Air-2.local)

Not Verified

Contains Certificate

More Details



Remove Downloaded Profile

Cancel

Warning

Install

UNMANAGED ROOT CERTIFICATE

Installing the certificate "Charles Proxy CA (14 Apr 2023, Evgenijs-MacBook-Air-2.local)" will add it to the list of trusted certificates on your iPhone. This certificate will not be trusted for websites until you enable it in Certificate Trust Settings.

UNVERIFIED PROFILE

The authenticity of "Charles Proxy CA (14 Apr 2023, Evgenijs-MacBook-Air-2.local)" cannot be verified.

Green is good, right? :)

Profile Installed Done

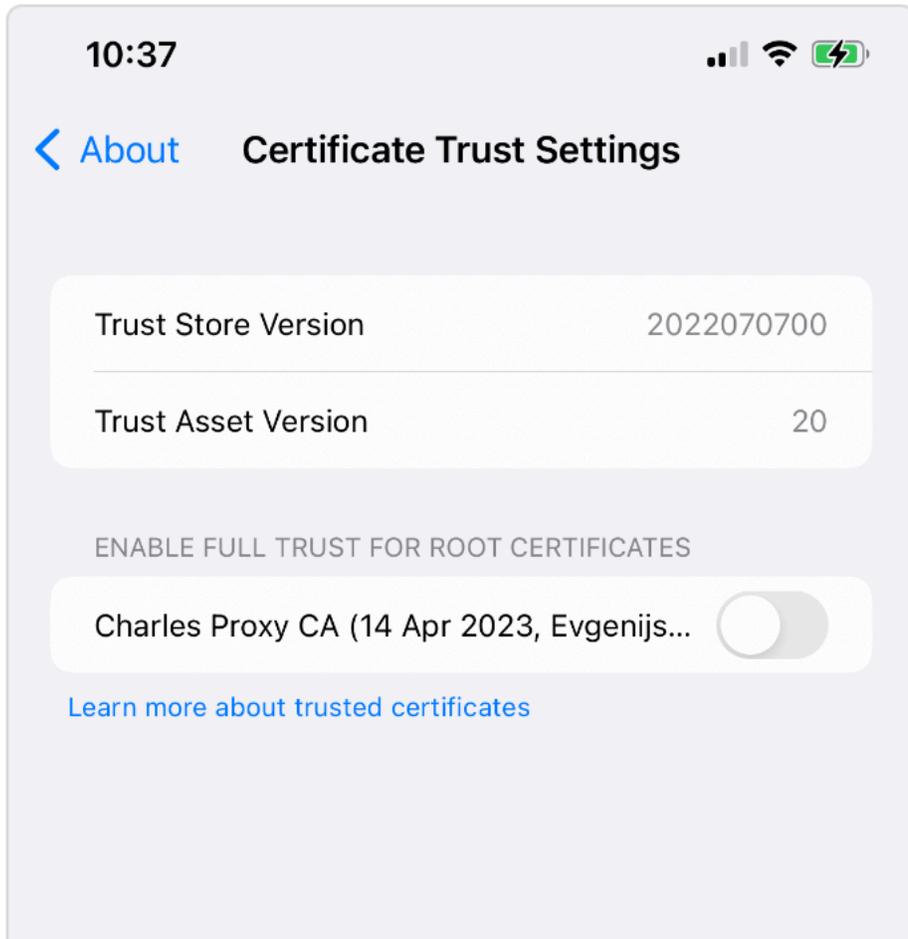
 Charles Proxy CA (14 Apr 2023, Evgenijs-MacBook-Air-2.local)

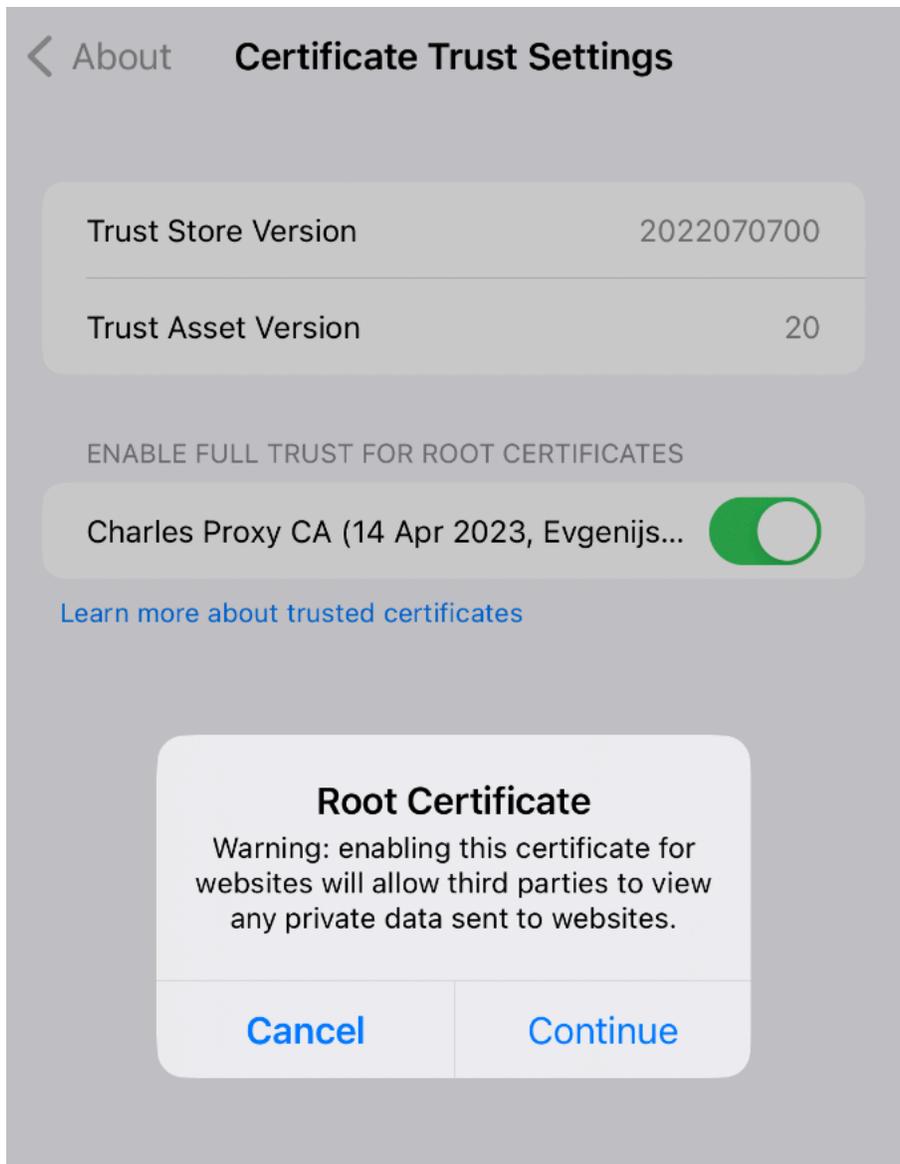
Signed by Charles Proxy CA (14 Apr 2023, Evgenijs-MacBook-Air-2.local)
Verified ✓

Contains Certificate

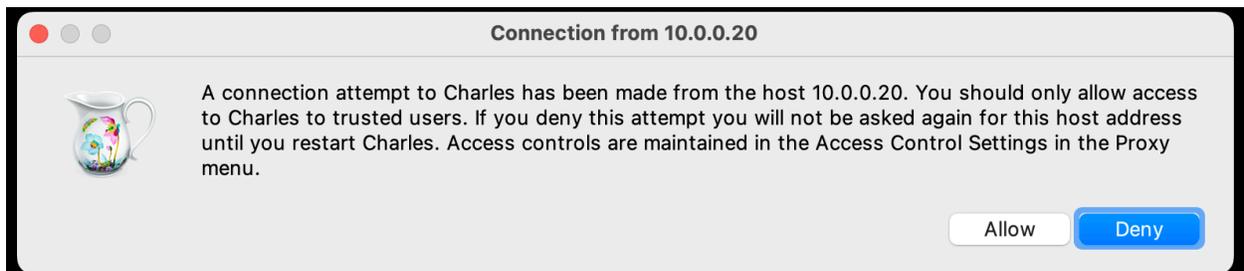
More Details >

Enable it > Switch the toggle





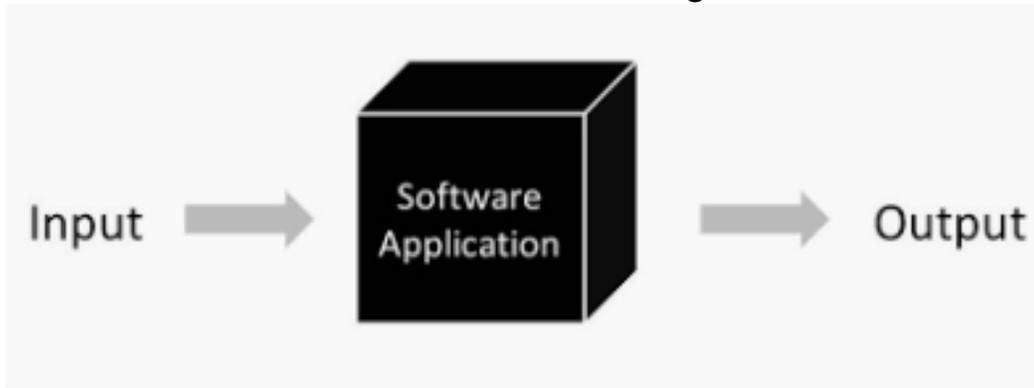
You computer > Allow



!!! This is free demo version which runs for 30 mins !!!

Before we start:
Interview Question > 3 main conceptions of manual testing:

Black box testing



White box testing



Gray box testing, Chrome dev tools, Postman, Charles etc



Useful skills:

Connect your iOS or Android device to your computer for presentation(screen sharing) and getting data.

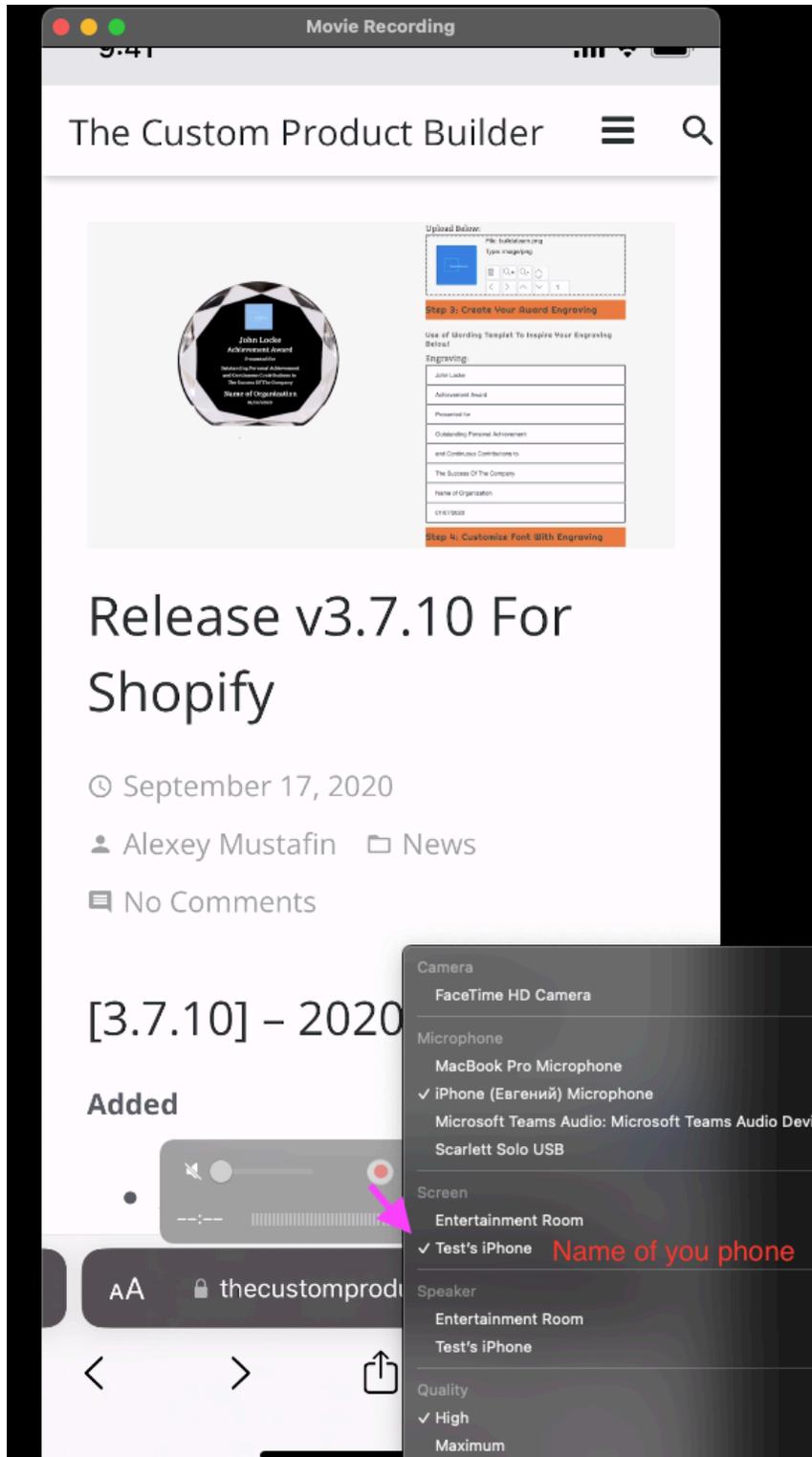
Another tips:

How to make a screenshot on any device.

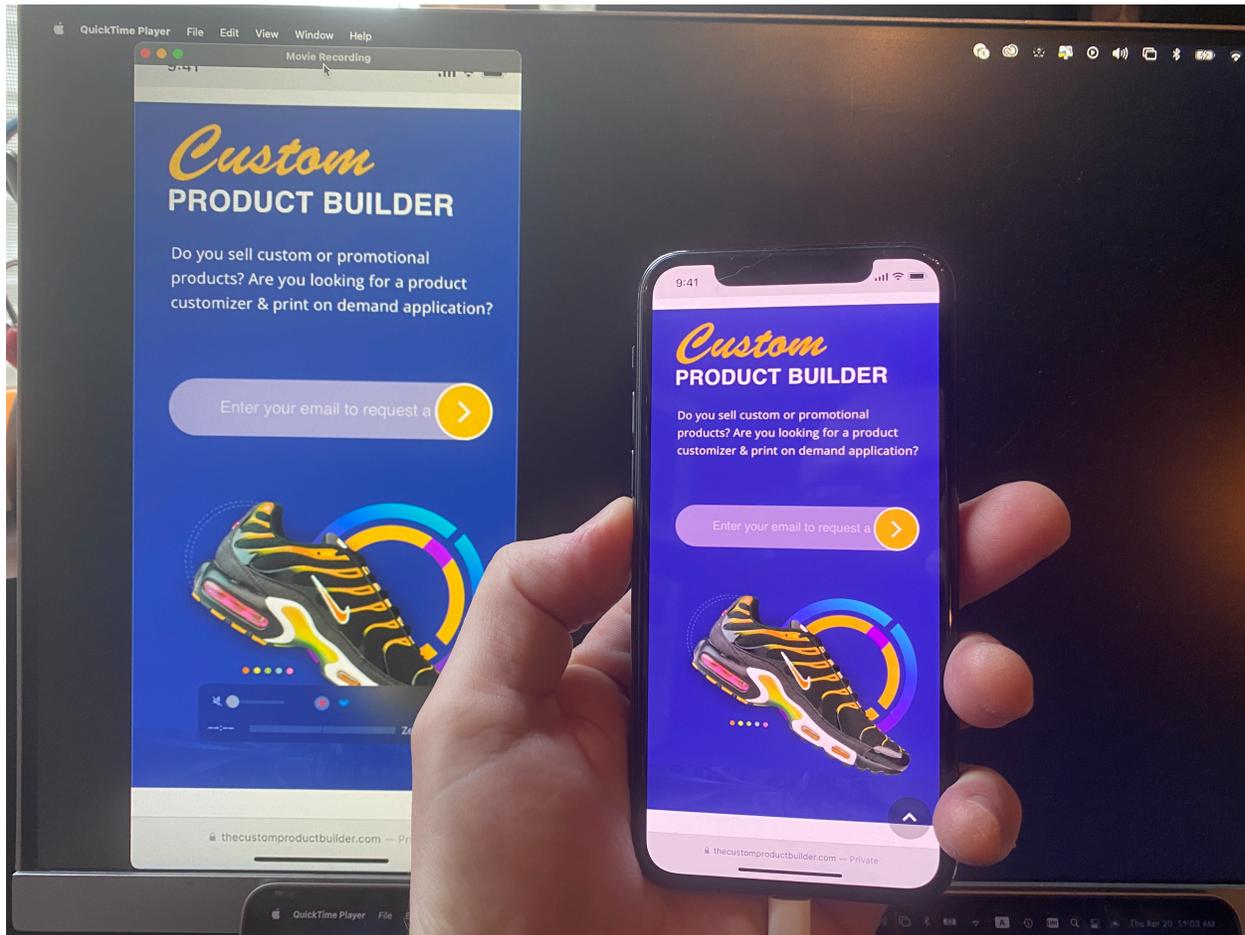
How to make a video from your screen and from your mobile device

It's not the interview questions. These are the must skills!

Share the screen of your phone. Use Quick Time player.



Let go though the app



Why do this?

- To understand more deeply what's going there under the hood
- Attach all the related information to your bug ticket (even if you don't understand what's going there). Every developer would REALLY APPRECIATE IT.

For proper debugging you need to grab all the related information > WHEN YOUR BUG IS HAPPENING!!!

- call/ request
- reply
- logs

Charles proxy is web proxy that can be run on your computer in order to record and display data which is sent and received.

Charles makes debugging quick, reliable and advanced; saving your time and frustration!

Interview question: What is debugging?

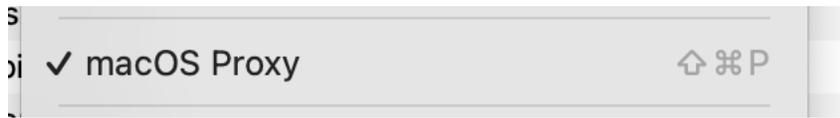
Testing is the process using which we find errors and bugs.

Debugging is the process using which we correct the bugs that we found during the testing process.

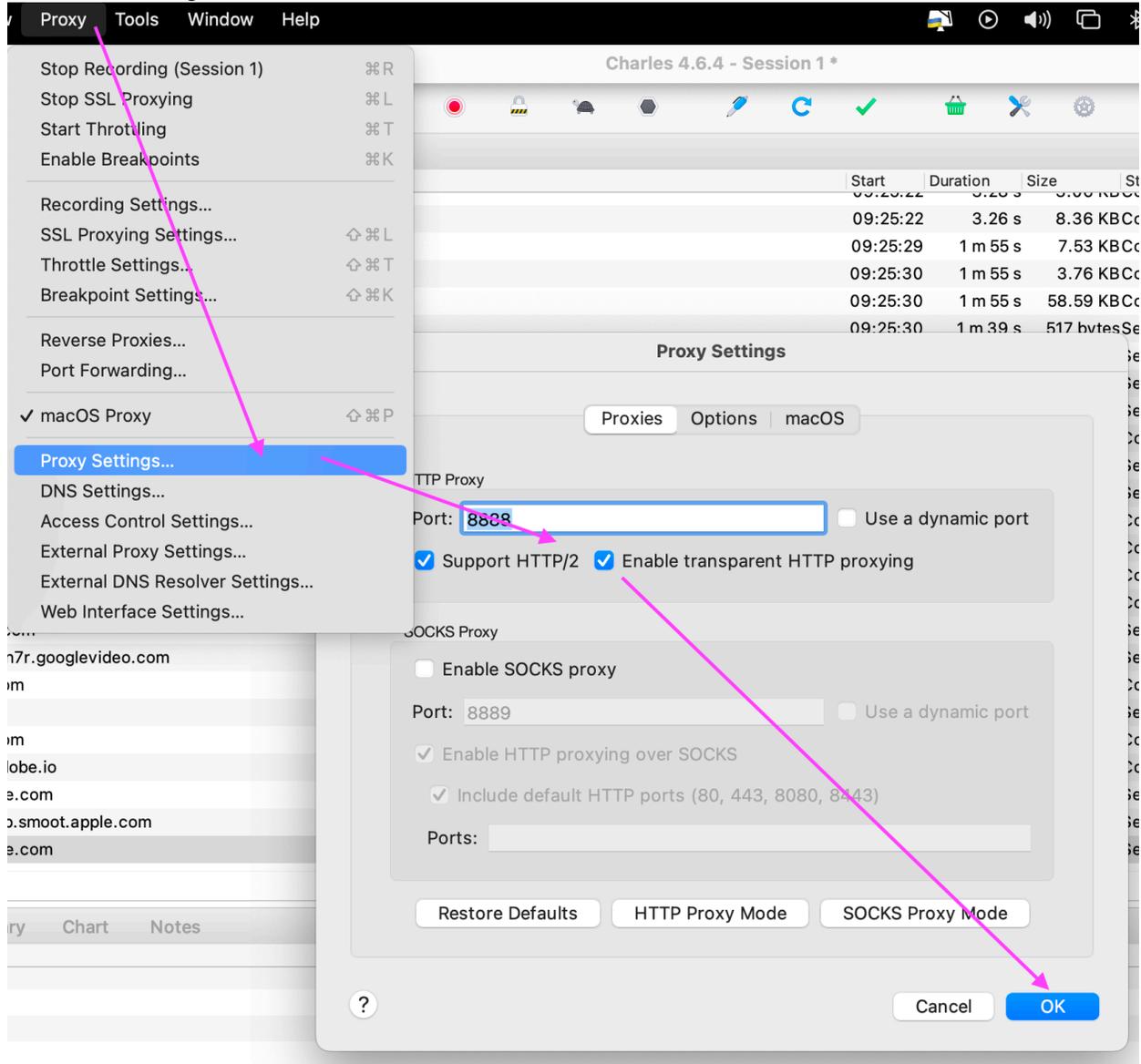
Charles Proxy Key Features:

- User-friendly UI > Easy to use
- Bandwidth Throttling to simulate slower Internet connections including latency
- SSL Proxying – view SSL (Secure sockets layer) requests and responses in plain text
- Repeat requests to test back-end changes
- Edit requests to test different inputs

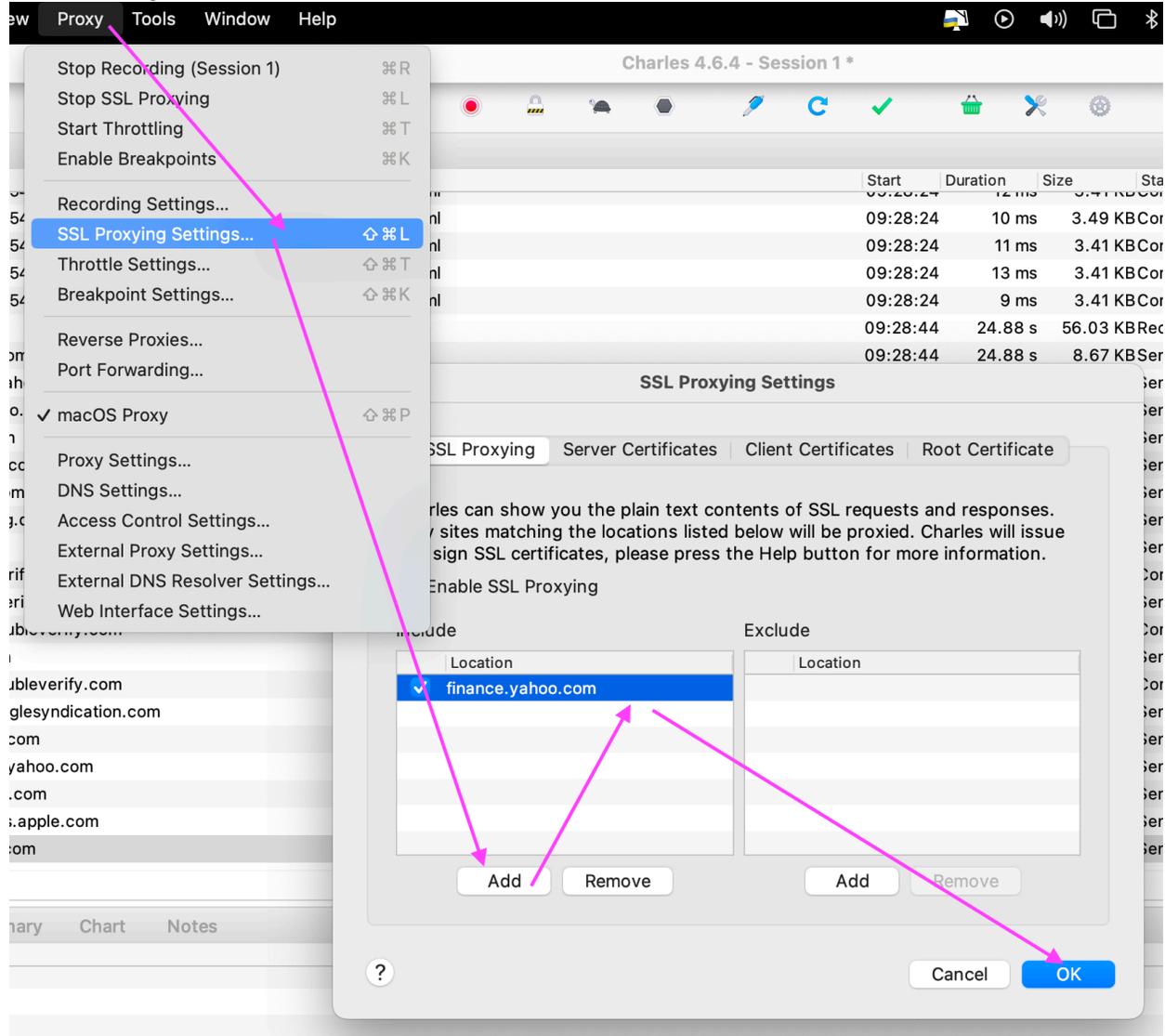
Start the program:



Enable Proxy



SSL Proxy



Record button. How it listens. Browser + Charles. Some sites might be blocked(!)



We need to filter request cos we need to take a look at application under the test

A screenshot of the Charles Proxy interface. The left pane shows a list of requests with columns for Structure, Sequence, and Overview. The right pane shows the details of the selected request, including Name, URL, Status, Failure, Notes, Response, Protocol, TLS, Pro, Aler, Ses, Cip, ALF, Clie, Ser, Exte, Methoc, Kept Al, Conten, Client /, Remote, Tags, > Conne, > WebSo, > Timing, Rec, Res, Dur, DN:, Cor, TLS, Rec, Res, Lat, Spe, Rec, Res, > Size, > Rec, > Res, and Tot. A pink arrow points from the filter box at the bottom to the selected request in the list. The filter box contains the text 'yahoo'.

Structure	Sequence	Overview
> https://uk.finance.yahoo.com		Name
> https://geo.yahoo.com		URL
> https://beap-bc.yahoo.com		Status
> https://finance.yahoo.com		Failure
> https://www.yahoo.com		Notes
> https://beap.gemini.yahoo.com		Respor
> https://video-api.yql.yahoo.com		Protoc
> https://yep.video.yahoo.com		> TLS
> https://search.yahoo.com		> Pro
> https://udc.yahoo.com		Aler
> https://edge-mcdn.secure.yahoo.com		> Ses
		> Cip
		> ALF
		Clie
		> Ser
		> Exte
		Methoc
		Kept Al
		Conten
		Client /
		Remote
		Tags
		> Conne
		> WebSo
		> Timing
		Rec
		Rec
		Res
		Res
		Dur
		DN:
		Cor
		TLS
		Rec
		Res
		Lat
		Spe
		Rec
		Res
		> Size
		> Rec
		> Res
		Tot

Filter:

CONNECT https://geo.yahoo.com

Otherwise we will see all the requests on our computer. Which is a mess and we can easily get lost.

Structure: Overview analytics

Structure	Sequence	Overview	Summary	Chart
>	https://finance.yahoo.com	Name	Value	
>	https://yep.video.yahoo.com	Host	https://geo.yahoo.com	
>	https://ads.yahoo.com	Path	/	
>	https://geo.yahoo.com	Notes	SSL Proxying not enabled for this host. Enable in the Proxy Menu, SSL Proxying Settings	
>	https://query1.finance.yahoo.com	Protocols	HTTP/1.1	
>	https://video-api.yql.yahoo.com	Requests	13	
>	https://udc.yahoo.com	Completed	12	
>	https://geo.query.yahoo.com	Incomplete	1	
>	https://guce.yahoo.com	Failed	0	
>	https://bats.video.yahoo.com	Blocked	0	
>	https://10.ras.yahoo.com	DNS	5	
>	https://opus.analytics.yahoo.com	Connects	13	
>	https://sp.analytics.yahoo.com	TLS Handshakes	12	
>	https://tag.idsync.analytics.yahoo.com	Kept Alive	0	
>	https://ups.analytics.yahoo.com	Timing		
>	https://cms.analytics.yahoo.com	Start	4/14/23 09:21:02	
>	https://service.idsync.analytics.yahoo.com	End	4/14/23 09:32:50	
>	https://query2.finance.yahoo.com	Timespan	11 m 47 s	
>	https://video.mobile.yahoo.com	Requests / sec	0.02	
>	https://streamer.finance.yahoo.com	Duration	6 m 21 s	
>	https://data.mail.yahoo.com	DNS	170 ms	
>	https://edge-mcdn.secure.yahoo.com	Connect	952 ms	
>	https://pn.ybp.yahoo.com	TLS Handshake	953 ms	
>	https://us-west-1-web-oao.ssp.yahoo.com	Latency	0 ms	
>	https://pr-bh.ybp.yahoo.com	Speed	389 B/s	
>	https://fc.yahoo.com	Request Speed	-	
>	https://6.ras.yahoo.com	Response Speed	-	
>	https://log.v.ssp.yahoo.com	Size		
>	https://5.ras.yahoo.com	Requests	80.67 KB	
>	https://finance.yahoo.com	Responses	64.50 KB	
>	https://beap-bc.yahoo.com	Combined	145.17 KB	
>	https://uk.finance.yahoo.com	Compression	-	
>	https://consent.yahoo.com			
>	https://iquery.finance.yahoo.com			
>	https://24.ras.yahoo.com			
>	https://web-oao.ssp.yahoo.com			

Sequence

Code	Method	Host	Path	Start	Duration	Size	Status	Info
200	CONNECT	www.google.com		09:32:35	11.80 s	611.73 KB	Complete	
200	CONNECT	fonts.gstatic.com		09:32:40	7.00 s	3.02 KB	Complete	
200	CONNECT	www.gstatic.com		09:32:40	7.21 s	3.00 KB	Complete	
200	CONNECT	uk.finance.yahoo.com		09:32:41	7.05 s	969.10 KB	Complete	
200	CONNECT	guce.yahoo.com		09:32:41	6.44 s	23.21 KB	Complete	
200	CONNECT	adservice.google.com		09:32:41	6.38 s	5.24 KB	Complete	
200	CONNECT	encrypted-tbn0.gstatic.com		09:32:41	6.40 s	23.77 KB	Complete	
200	CONNECT	play.google.com		09:32:41	6.35 s	5.65 KB	Complete	
200	CONNECT	consent.yahoo.com		09:32:41	5.61 s	40.39 KB	Complete	
200	CONNECT	s.yimg.com		09:32:41	5.81 s	560.38 KB	Complete	
200	CONNECT	www.youtube.com		09:32:45	2.55 s	6.55 KB	Complete	
200	CONNECT	consent.yahoo.com		09:32:45	1.61 s	15.23 KB	Complete	
200	CONNECT	yep.video.yahoo.com		09:32:46	1.07 s	3.79 KB	Complete	
200	CONNECT	consent.cmp.oath.com		09:32:46	1.07 s	8.48 KB	Complete	
200	CONNECT	l.yimg.com		09:32:46	1.04 s	1.91 KB	Complete	
200	CONNECT	fc.yahoo.com		09:32:46	834 ms	1.91 KB	Complete	
200	CONNECT	b.scorecardresearch.com		09:32:46	615 ms	7.28 KB	Complete	
200	CONNECT	lquery.finance.yahoo.com		09:32:46	1.06 s	6.92 KB	Complete	
200	CONNECT	geo.yahoo.com		09:32:46	1.07 s	16.01 KB	Complete	
200	CONNECT	geo.query.yahoo.com		09:32:46	864 ms	6.03 KB	Complete	
200	CONNECT	ads.yahoo.com		09:32:46	591 ms	1.92 KB	Complete	
200	CONNECT	video-api.yql.yahoo.com		09:32:46	1.04 s	1.93 KB	Complete	
200	CONNECT	s.yimg.com		09:32:46	1.06 s	116.01 KB	Complete	
200	CONNECT	udc.yahoo.com		09:32:47	596 ms	10.95 KB	Complete	

Filter: Focused Settings

Overview	Contents	Summary	Chart	Notes
Name	Value			
URL	https://www.google.com			
Status	Complete			
Notes	SSL Proxying not enabled for this host: enable in Proxy Settings, SSL locations			
Response Code	200 Connection established			
Protocol	HTTP/1.1			
▼ TLS	TLSv1.2 (TLS_AES_128_GCM_SHA256)			
> Protocol	TLSv1.2			
> Session Resumed	Yes			
> Cipher Suite	TLS_AES_128_GCM_SHA256			
> ALPN	-			
Client Certificates	-			
Server Certificates	-			
> Extensions	-			

Overview

Code	Method	Host	Path	Start	Duration	Size	Status	Info
200	CONNECT	fc.yahoo.com		09:36:27	559 ms	9.66 KB	Complete	
200	CONNECT	24.ras.yahoo.com		09:36:28	1.84 s	5.21 KB	Complete	

Filter: Focused Settings

Overview	Contents	Summary	Chart	Notes
Name	Value			
URL	https://fc.yahoo.com			
Status	Complete			
Notes	SSL Proxying not enabled for this host: enable in Proxy Settings, SSL locations			
Response Code	200 Connection established			
Protocol	HTTP/1.1			
▼ TLS	TLSv1.2 (TLS_AES_128_GCM_SHA256)			
> Protocol	TLSv1.2			
> Session Resumed	Yes			
> Cipher Suite	TLS_AES_128_GCM_SHA256			
> ALPN	-			
Client Certificates	-			
Server Certificates	-			
> Extensions	-			
Method	CONNECT			
Kept Alive	No			
Content-Type	-			
Client Address	127.0.0.1:59313			
Remote Address	fc.yahoo.com/69.147.71.247:443			
Tags	-			
> Connection	-			
> WebSockets	-			
▼ Timing	-			
Request Start Time	4/14/23 09:36:27			
Request End Time	-			
Response Start Time	-			
Response End Time	4/14/23 09:36:28			
Duration	559 ms			
DNS	2 ms			
Connect	34 ms			
TLS Handshake	33 ms			
Request	-			
Response	-			
Latency	-			
Speed	17.29 KB/s			
Request Speed	-			
Response Speed	-			

When something bad is happening we want to know “why?”

The screenshot shows a network monitoring interface with a list of requests and a detailed view of a failed connection. A pink oval highlights the failed request in the list, and a pink arrow points from it to the detailed view below.

Status	Method	URL	Time	Size	Result
200	CONNECT	finance.yahoo.com	09:50:14	1.27 KB	Failed
200	CONNECT	finance.yahoo.com	09:50:18	1.27 KB	Failed
200	CONNECT	adservice.google.com	09:50:18	777 bytes	Sending request b...
200	CONNECT	ogs.google.com	09:50:22	765 bytes	Sending request b...
200	CONNECT	ssl.gstatic.com	09:50:23	767 bytes	Sending request b...
200	CONNECT	www.yahoo.com	09:50:23	378.26 KB	Sending request b...
200	CONNECT	www.yahoo.com	09:50:24	598 bytes	Sending request b...
200	CONNECT	s.yimg.com	09:50:24	595 bytes	Sending request b...
200	CONNECT	beap.gemini.yahoo.com	09:50:24	218 ms	29.06 KB Complete
200	CONNECT	search.yahoo.com	09:50:24	517 bytes	Sending request b...
200	CONNECT	video-api.yql.yahoo.com	09:50:24	608 bytes	Sending request b...
200	CONNECT	yep.video.yahoo.com	09:50:24	604 bytes	Sending request b...
200	CONNECT	udc.yahoo.com	09:50:24	598 bytes	Sending request b...
200	CONNECT	edge-mcdn.secure.yahoo.com	09:50:24	517 bytes	Sending request b...
200	CONNECT	edge-mcdn.secure.yahoo.com	09:50:24	627 bytes	Sending request b...
200	CONNECT	sb.scorecardresearch.com	09:50:24	517 bytes	Sending request b...
200	CONNECT	content-autofill.googleapis.com	09:50:24	799 bytes	Sending request b...

Filter: Focused

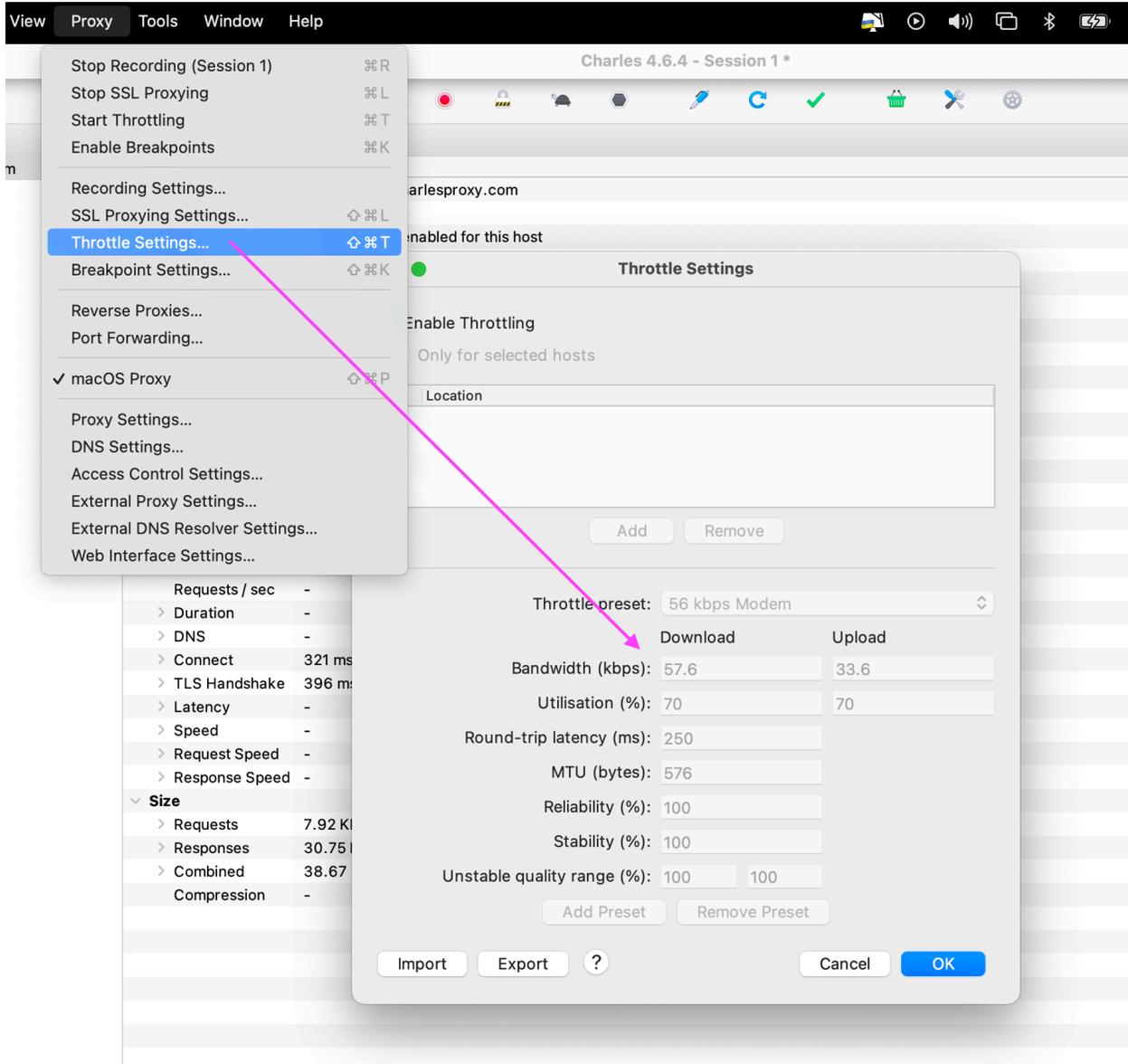
Overview Contents Summary Chart Notes

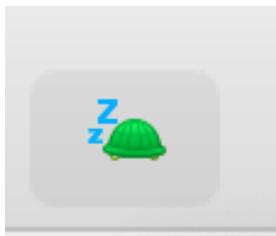
Name	Value
URL	https://finance.yahoo.com
Status	Failed
Failure	SSL handshake with client failed: An unknown issue occurred processing the certificate (certificate_unknown)
Notes	You may need to configure your browser or application to trust the Charles Root Certificate. See SSL Proxying in the Help menu.
Response Code	200 Connection established
Protocol	HTTP/1.1
TL S	TLSv1.2 (TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256)
> Protocol	TLSv1.2
Alert Code	certificate_unknown (46) - An unknown issue occurred processing the certificate
> Session Resumed	Yes
> Cipher Suite	TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256
> ALPN	h2
Client Certificates	-
> Server Certificates	2
> Extensions	
Method	CONNECT
Kept Alive	No
Content-Type	
Client Address	127.0.0.1:59917

CONNECT https://beap-bc.yahoo.com

Analyze codes from your requests. The same in Postman/ JMeter/ Dev tools.

Throttling testing





SSL Proxying enabled for this host

HTTP/1

3

)

)

3

)

)

3

3

)

1/14/20

321 ms

396 ms

7.92 K

30.75

38.67

Throttle Settings

Enable Throttling
 Only for selected hosts

Location

Add Remove

Throttle preset: **56 kbps Modem**
256 kbps ISDN/DSL
512 kbps ISDN/DSL
Bandwidth (kbps): 2 Mbps ADSL
8 Mbps ADSL2
Utilisation (%): 16 Mbps ADSL2+
Round-trip latency (ms): 32 Mbps VDSL
32 Mbps Fibre
MTU (bytes): 100 Mbps Fibre
3G
Reliability (%): 4G

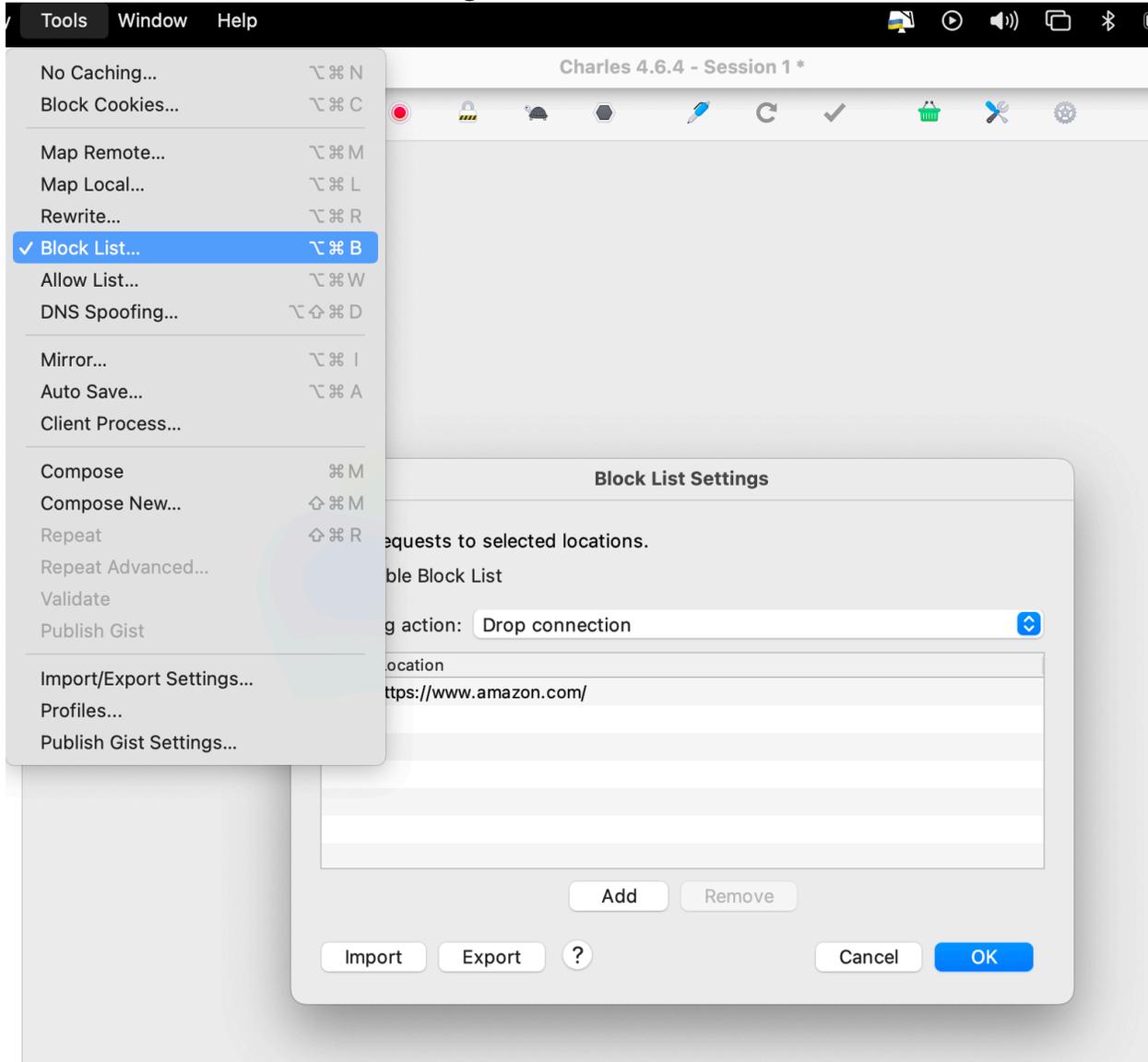
Stability (%): 100

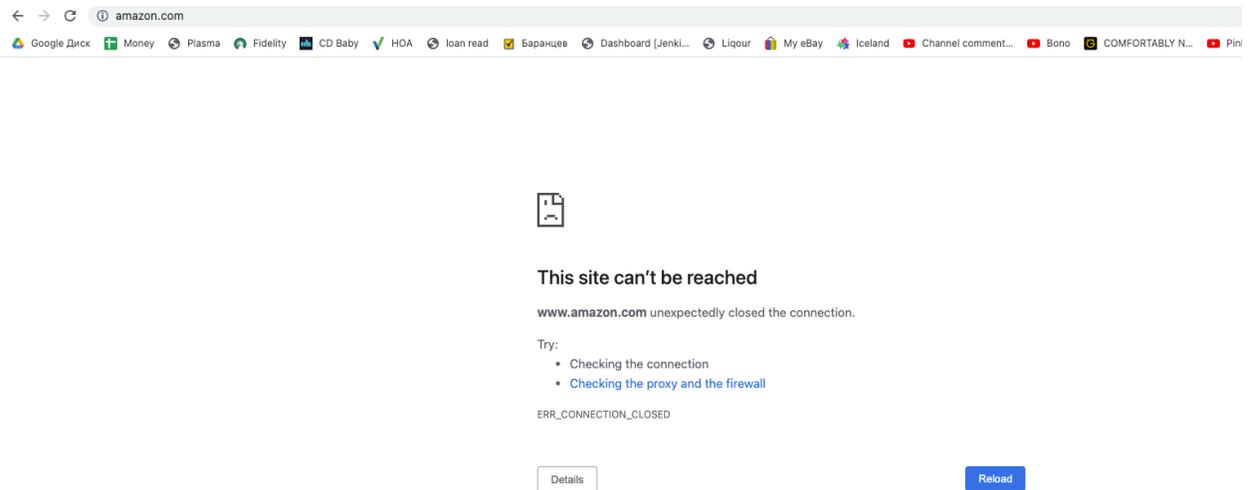
Unstable quality range (%): 100 100

Add Preset Remove Preset

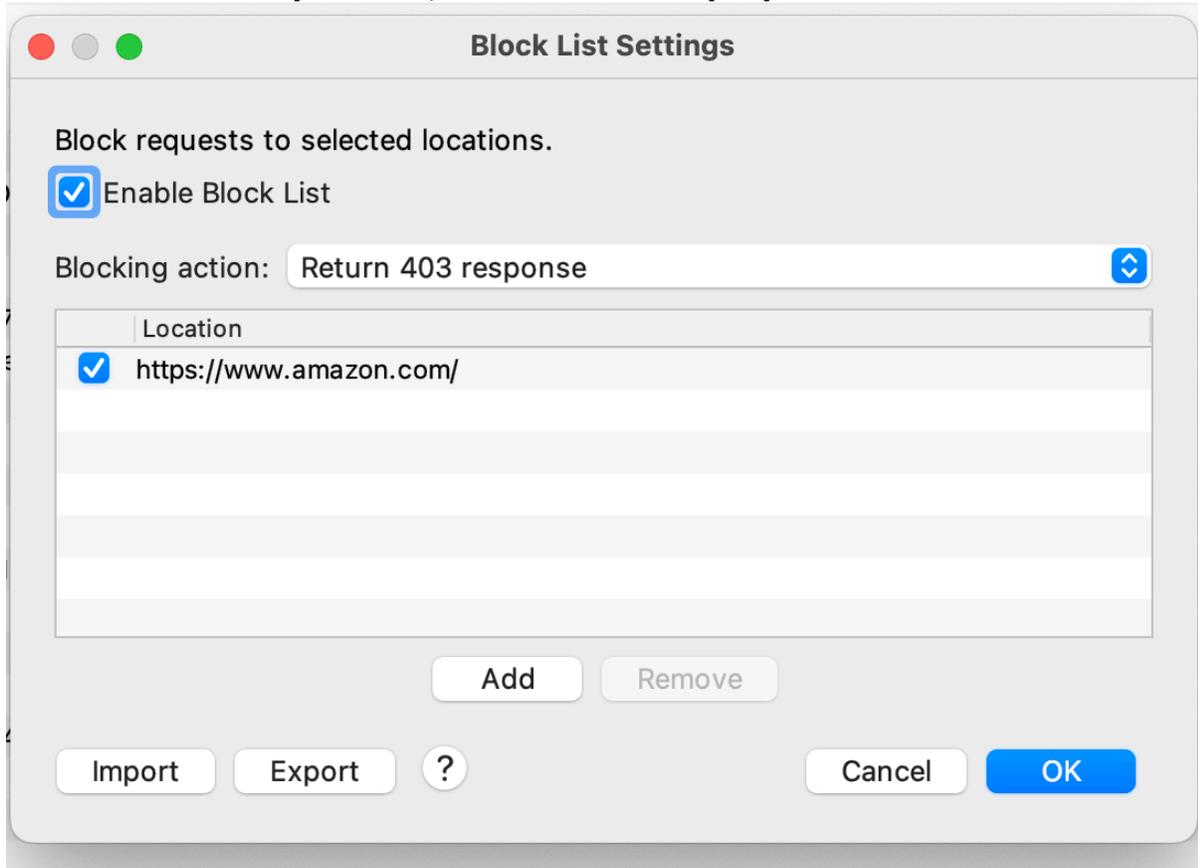
Import Export ? Cancel OK

Block connection for some negative test cases. Amazon.



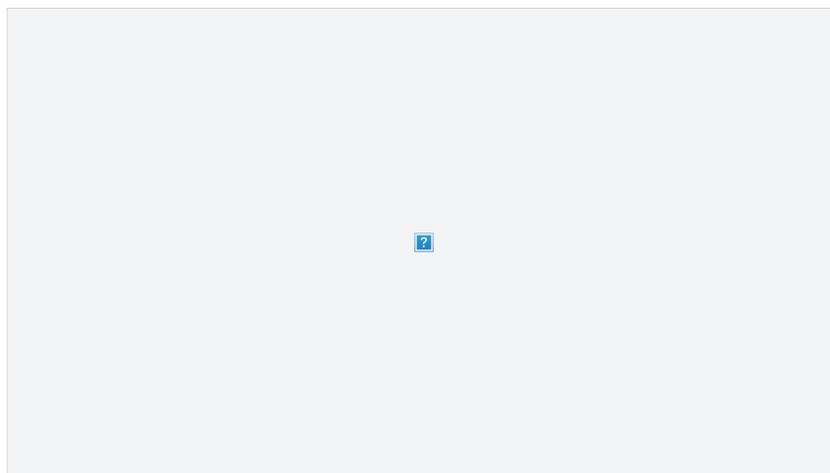
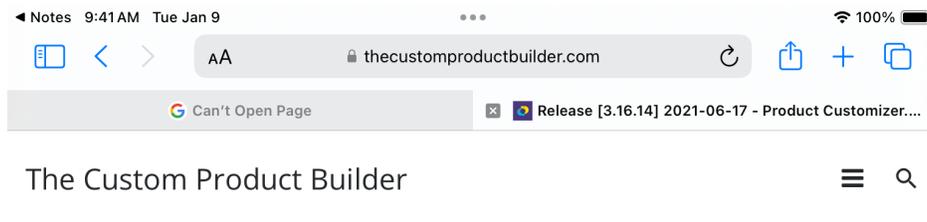


403 error Access problem, what we did on purpose



Structure	Sequence	Overview	Contents	Summary	Chart	Notes
>	https://news-edge.apple.com	Name		Value		
∨	https://www.amazon.com	URL		https://www.amazon.com		
	<unknown>	Status		Blocked		
	<unknown>	Failure		Blocked CONNECT https://www.amazon.com - returned error response		
	<unknown>	Notes		SSL Proxying not enabled for this host: enable in Proxy Settings, SSL locations		
	<unknown>	Response Code		403 Forbidden		
	<unknown>	Protocol		HTTP/1.1		
	<unknown>	∨ TLS		TLSv1.2		
	<unknown>	> Protocol		TLSv1.2		
	<unknown>	> Session Resumed		-		
	<unknown>	> Cipher Suite		-		
∨	https://www.apple.com					

Example > Our bug from the news page



Release [3.16.14] 2021-06-17

🕒 June 29, 2021 👤 Alexey Mustafin 📁 News 💬 No Comments

Added

- Added ability to change thumbnails slider position (vertical/horizontal)
- Added cart properties to config.json
- Added new "Screen" color blending mode for Image custom layer

Changed

- Fixed summary red screen

Icon	Status	Method	Host	Path	Time	Duration	Size	State
🔍	404	GET	www.thecustomproductbuilder.com	/wp-includes/js/wp-emoji-release.min.js?ver=5.1/	11:44:55	110 ms	4.35 KB	Complete
🔍	404	GET	www.thecustomproductbuilder.com	/wp-content/uploads/sites/8/2021/06/screenshot-of-all-customization-types.jpg	11:44:55	102 ms	180 bytes	Complete
🔍	200	CONNECT	www.google.com		11:44:55		21.67 KB	Failed
🔍	200	GET	www.thecustomproductbuilder.com	/wp-json/contact-form-7/v1/contact-forms/7152/refill	11:44:56	160 ms	189 bytes	Complete
🔍	200	POST	chat.google.com	/u/0/webchannel/events?VER=8&SID=RTQDmqzUbyPQuH-HKSIVt4&RID=8253...	11:44:59	79 ms	2.73 KB	Complete
🔍	200	CONNECT	play.google.com		11:44:59	28.13 s	20.79 KB	Sending request b...

Filter:

Overview Contents Summary Chart Notes

Name Value

URL https://www.thecustomproductbuilder.com/wp-content/uploads/sites/8/2021/06/screenshot-of-all-customization-types.jpg

Status Complete

Response Code 404

Protocol HTTP/2.0

▼ **TLS** TLSv1.2 (TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256)

- > Protocol TLSv1.2
- > Session Resumed N/A (Connection kept alive)
- > Cipher Suite TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
- > ALPN h2
- Client Certificates -
- > Server Certificates 3
- > Extensions

Method GET

Kept Alive Yes

Content-Type text/html

Client Address 10.0.0.118:62922

Remote Address www.thecustomproductbuilder.com/35.241.33.94:443

Tags -

> Connection

CONNECT https://gateway.icloud.com

No caching tool:

Learn the proper spelling. I have seen “cashing problems” from non-native speakers.



Use the latest data from site not cached data. In web we use Incognito mode for this purposes.

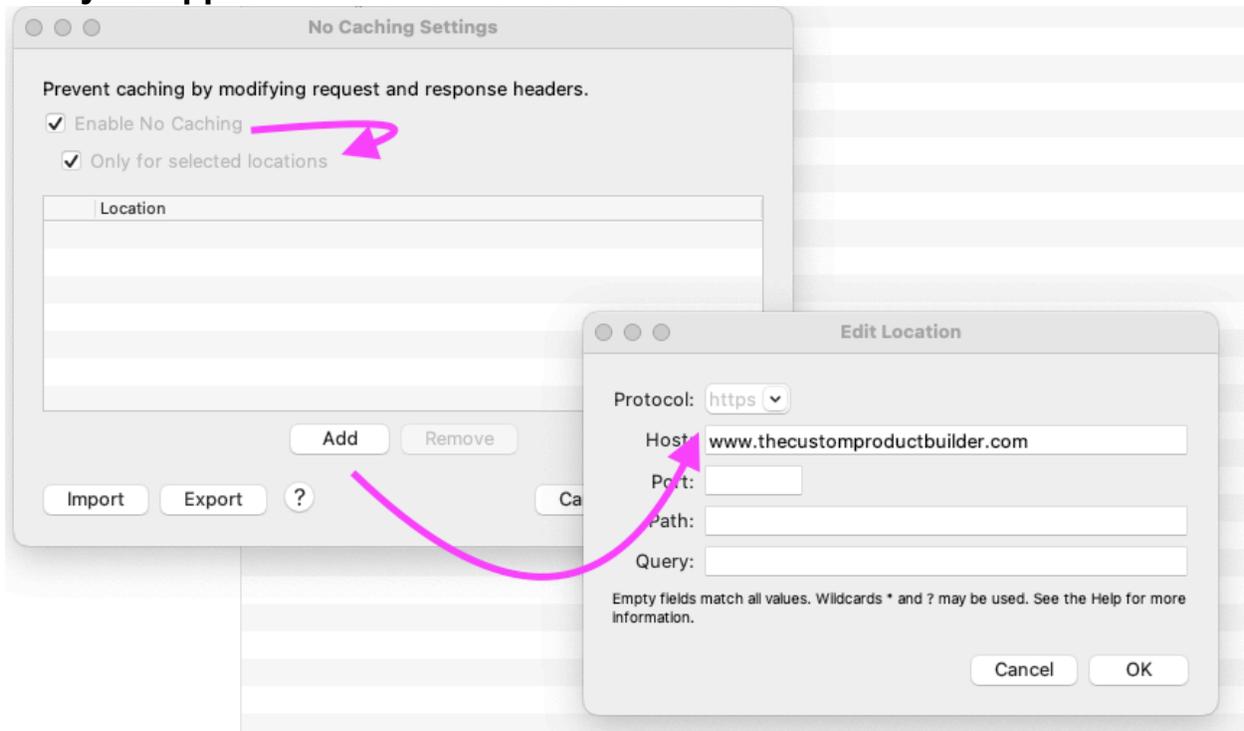
Remember my example with google and speeding testing. Site might be down but you still can see it because of the cached data.

Tools > No caching

A screenshot of the Charles Proxy application interface. The 'Tools' menu is open, showing the 'No Caching...' option. A pink arrow points from this menu item to a 'No Caching Settings' dialog box. The dialog box has a checkbox for 'Enable No Caching' which is currently unchecked. Below it, there is a section for 'Only for selected locations' with a 'Location' text field and 'Add' and 'Remove' buttons. At the bottom of the dialog are 'Import', 'Export', 'Cancel', and 'OK' buttons. In the background, the Charles Proxy interface shows a list of intercepted requests, with details for a request to 'https://stocks-data-service.apple.com'. The status is 'Complete' and the response code is '200 Connection established'. The TLS section shows 'Protocol: TLSv1.2 (TLS_AES_256_GCM_SHA384)'.

Name	Value
URL	https://stocks-data-service.apple.com
Status	Complete
Notes	SSL Proxying not enabled for this host: enable in Proxy Settings,
Response Code	200 Connection established
Protocol	HTTP/1.1
TLSTLS	TLSTLSv1.2 (TLS_AES_256_GCM_SHA384)
Protocol	TLSTLSv1.2
Session Resumed	Yes
Cipher Suite	TLSTLS_AES_256_GCM_SHA384
ALPN	-
Client Certificates	-
Server Certificates	-

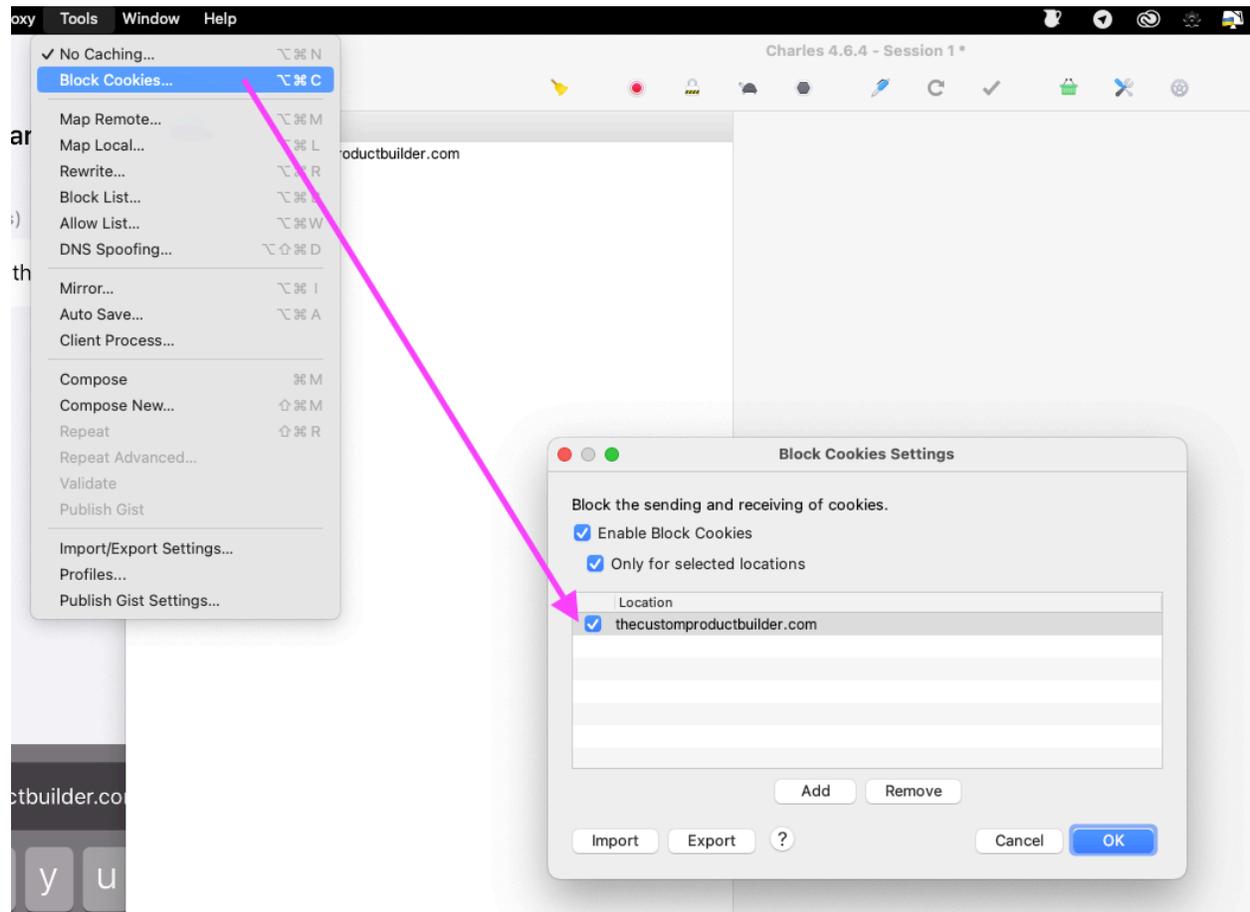
Add your application



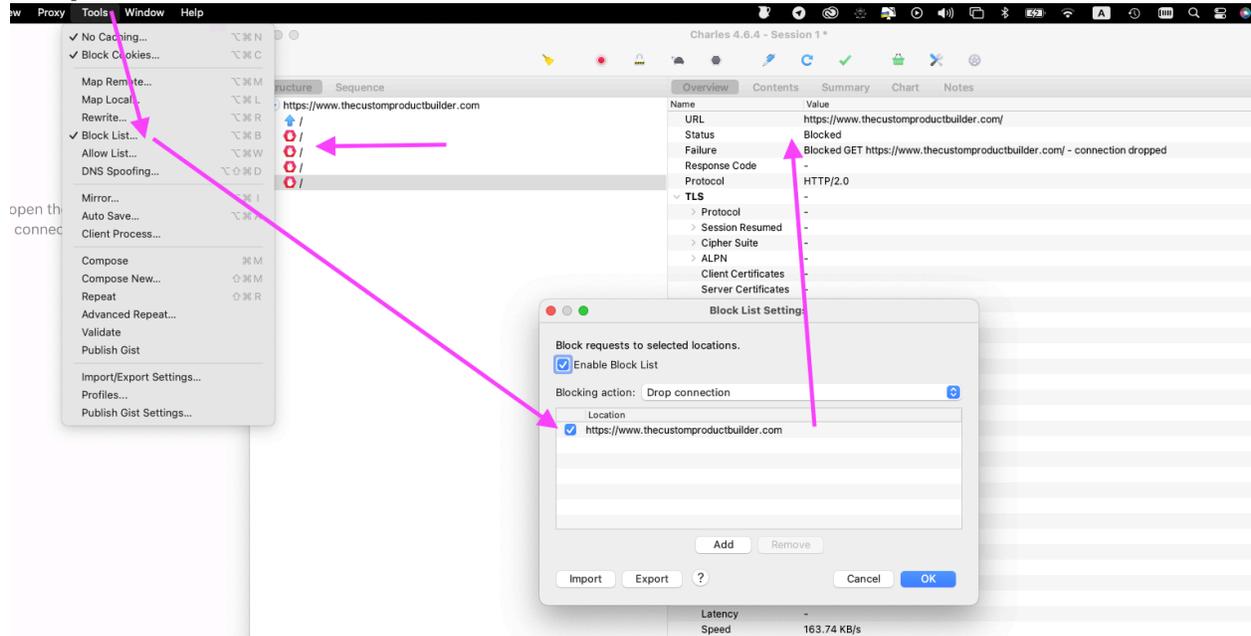
“I would say it’s not possible to validate visually. Just believe it.”

Block Cookies:

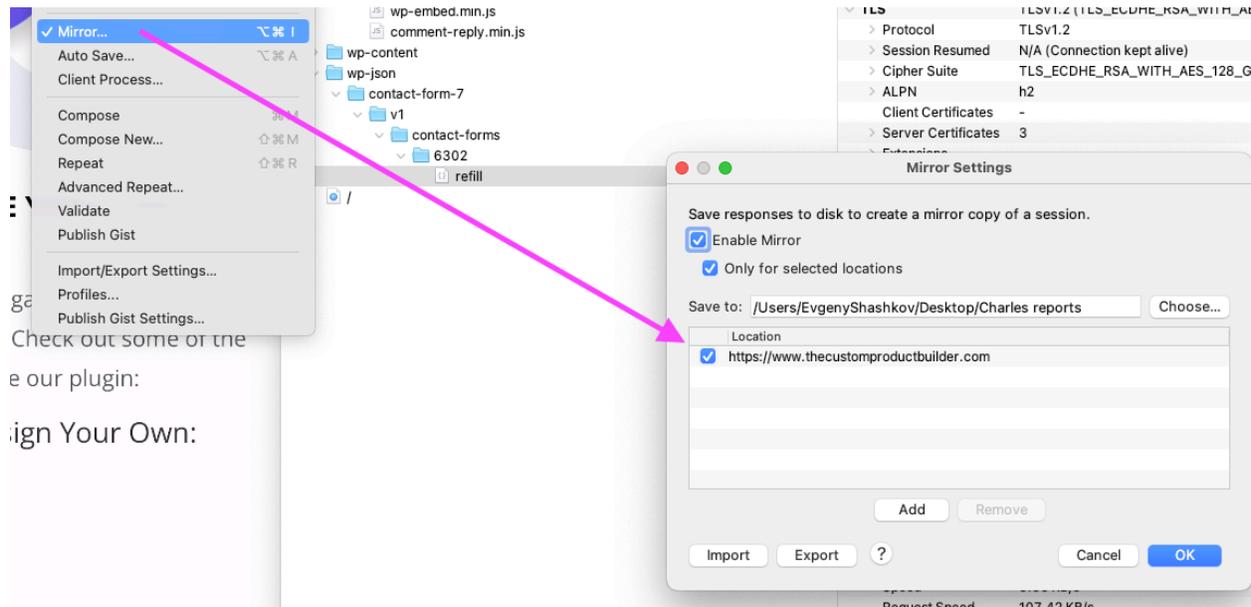
Interview question: What are cookies? > Cookies are small text files containing unique data (like username and password) to identify your computer to the network



Drop connection Block/ 403:

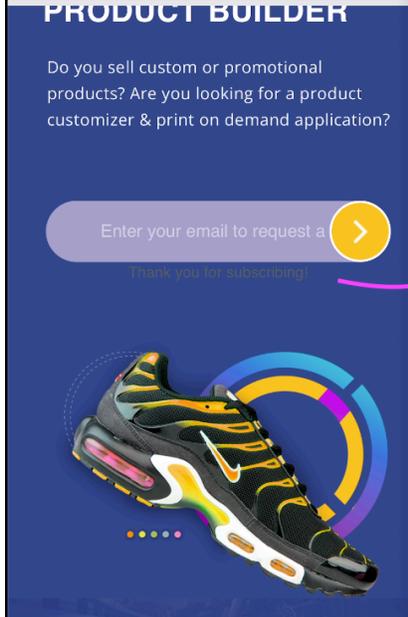


Mirror (Save) option



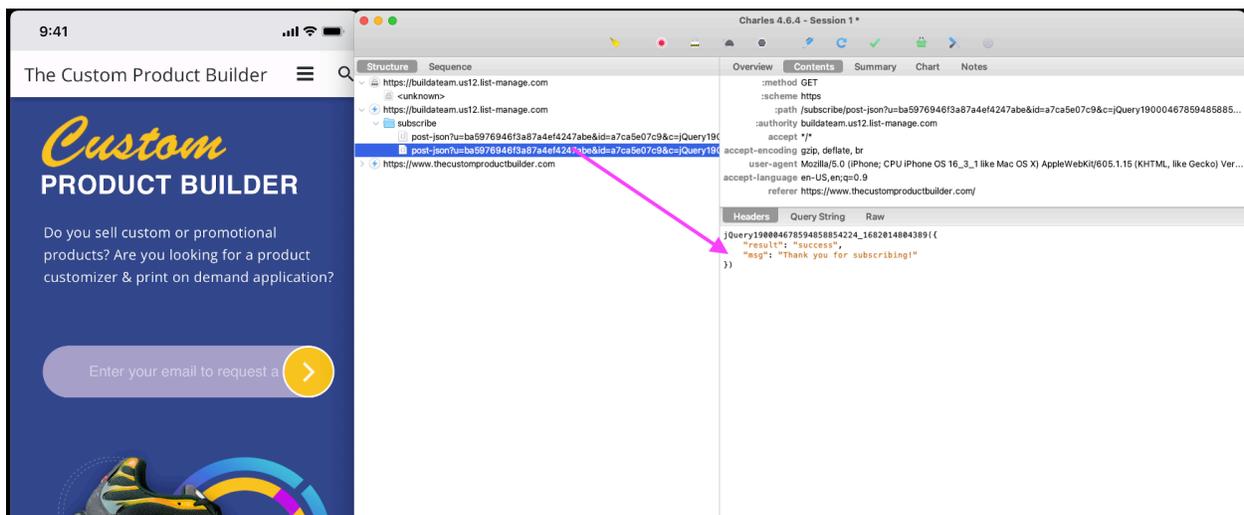
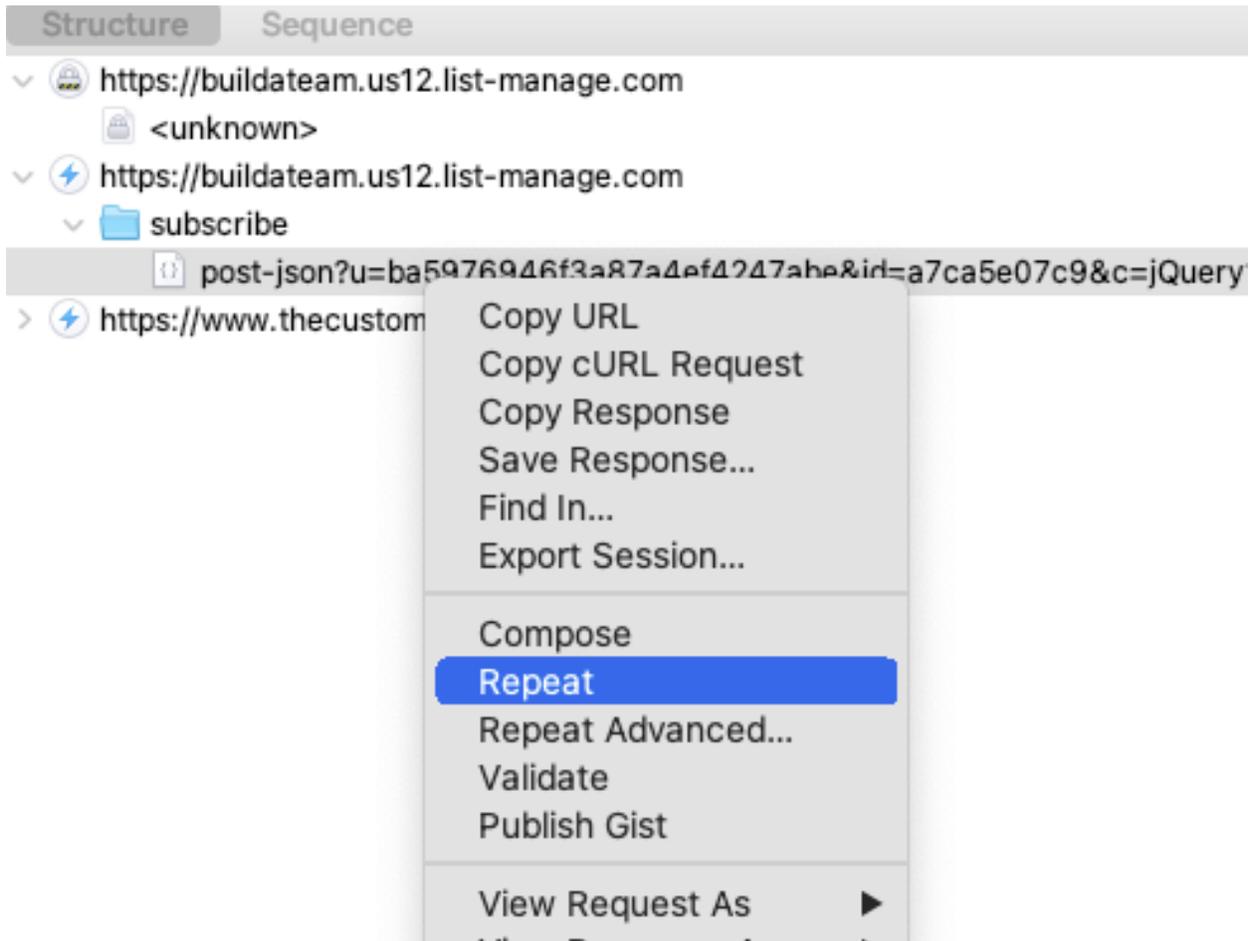
Repeat:

Provide email



Structure		Sequence		Overview		Summary		Chart	
Name	Value	Name	Value	Name	Value	Name	Value	Name	Value
>	https://d.adroll.com	>	https://buildteam.us12.list-manage.com	Host	https://buildteam.us12.list-manage.com				
>	<unknown>	>	<unknown>	Path	/				
>	https://www.youtube.com	>	https://10.0.0.1:49153	Notes	SSL Proxying enabled for this host				
>	https://www.recaptcha.net	>	https://buildteam.us12.list-manage.com	Protocols	HTTP/2.0				
>	https://buildteam.us12.list-manage.com	>	subscribe	Requests	1				
>	https://www.google.com	>	https://www.google.com	Completed	1				
>	https://configuration.is.apple.com	>	https://configuration.is.apple.com	Incomplete	0				
				Failed	0				
				Blocked	0				
				DNS	1				
				Connects	1				
				TLS Handshakes	1				
				Kept Alive	0				
				Timing					
				Start	4/20/23 12:25:12				
				End	4/20/23 12:25:12				
				Timespan	467 ms				
				Requests / sec	2.14				
				Duration	638 ms				
				DNS	33 ms				
				Connect	36 ms				
				TLS Handshake	115 ms				
				Latency	435 ms				
				Speed	42.12 KB/s				
				Request Speed	217.90 KB/s				
				Response Speed	2.23 MB/s				
				Size					
				Requests	1.74 KB				
				Responses	25.13 KB				
				Combined	26.87 KB				
				Compression	-0.1%				

Without providing any information



Advance repeat “mini JMeter”

The screenshot shows the JMeter GUI with a test plan structure on the left. The selected request is a 'post-json' request with the following details:

- Method: GET
- Scheme: https
- Path: /subscribe/post-json?u=ba5976946f3a87a4ef4247abe&id=a7ca5e07c9&c=jQuery1900046785948581
- Authority: buildteam.us12.list-manage.com
- Accept-encoding: gzip, deflate, br
- User-agent: Mozilla/5.0 (iPhone; CPU iPhone OS 16_3_1 like Mac OS X) AppleWebKit/605.1.15 (KHTML, like Gecko)
- Accept-language: en-US,en;q=0.9
- Referer: https://www.thecustomproductbuilder.com/

The 'Advanced Repeat' dialog box is open, showing the following configuration:

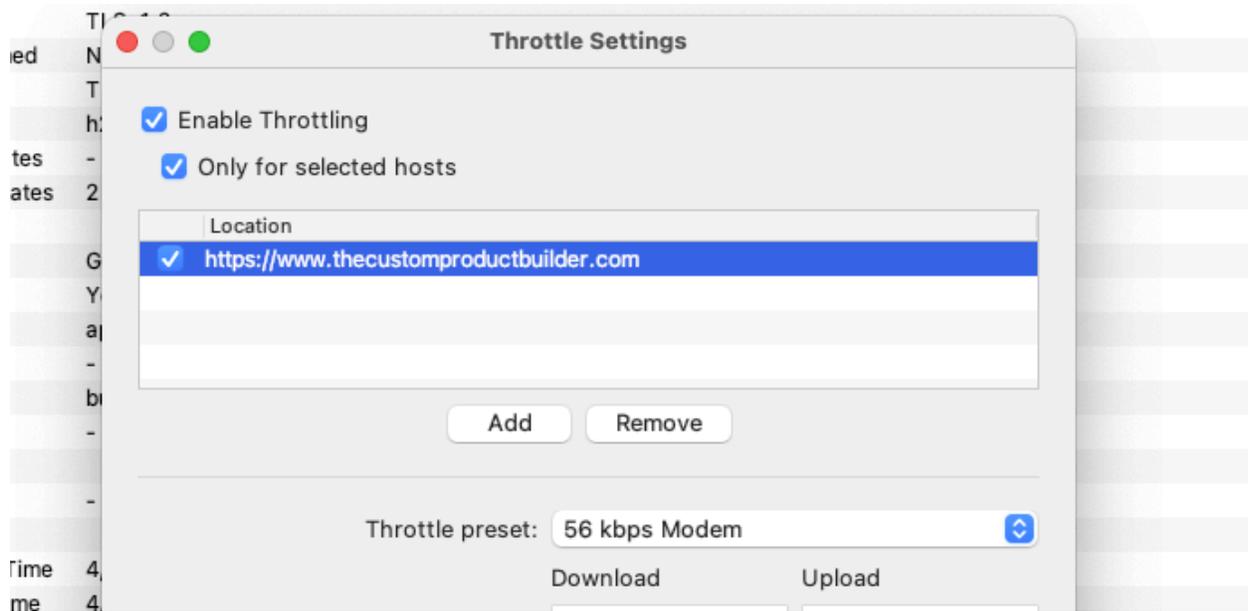
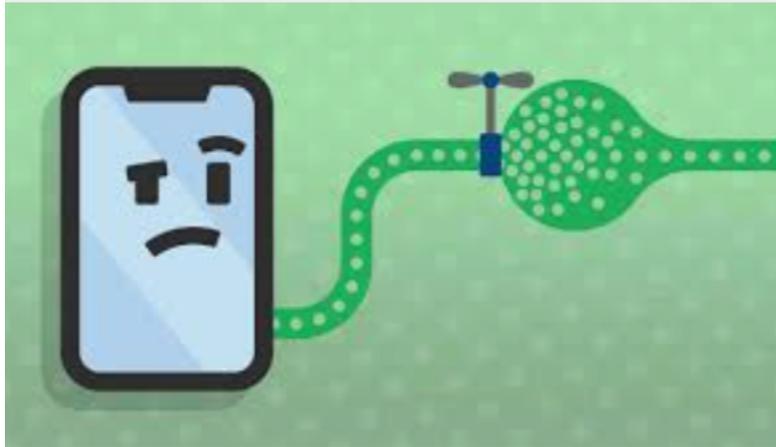
- Repeat 1 request.
- Iterations: 10
- Concurrency: 1
- Show results in new Session
- Repeat delay (ms): 1 to 100
- Use ranges
- Buttons: Cancel, OK

10 requests

The screenshot shows the 'Overview' tab for the selected 'post-json' request. The detailed metrics are as follows:

Name	Value
URL	https://buildteam.us12.list-manage.com/subscribe/post-json?u=ba5976946f3a87a4ef4247abe&id=a7ca5e07c9&c=jQuery1900046785948581
Status	Complete
Response Code	200
Protocol	HTTP/2.0
TLS	TLSv1.2 (TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384)
Protocol	TLSv1.2
Session Resumed	N/A (Connection kept alive)
Cipher Suite	TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384
ALPN	h2
Client Certificates	-
Server Certificates	2
Extensions	-
Method	GET
Keep Alive	Yes
Content-Type	application/json; charset=utf-8
Client Address	-
Remote Address	buildteam.us12.list-manage.com/104.100.72.44:443
Tags	-
Connection	-
WebSockets	-
Timing	-
Request Start Time	4/20/23 12:38:02
Request End Time	4/20/23 12:38:02
Response Start Time	4/20/23 12:38:02
Response End Time	4/20/23 12:38:02
Duration	330 ms
DNS	-
Connect	-
TLS Handshake	-
Request	1 ms
Response	1 ms
Latency	328 ms
Speed	5.31 KB/s
Request Speed	8.79 KB/s
Response Speed	1.70 MB/s
Size	-
Request	9 bytes
Response	1.74 KB (1,784 bytes)
Total	1.75 KB (1,793 bytes)

Throttling. User with 3G

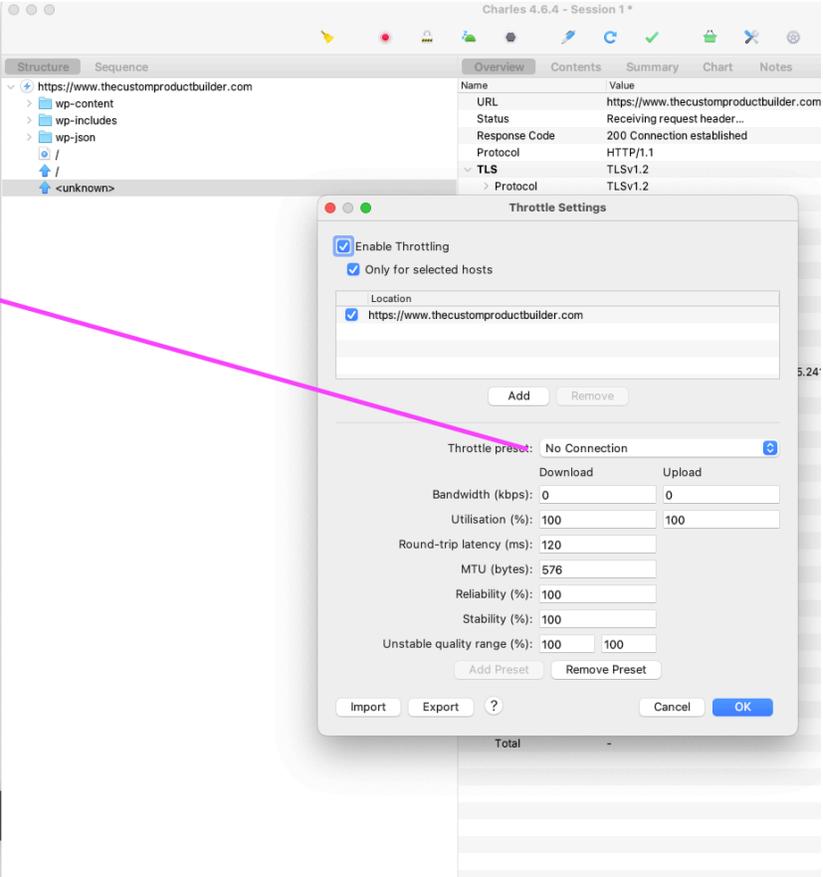


Visually obvious

No Internet connection

9:41

Safari could not open the page because the server stopped responding.



The screenshot shows the Charles Proxy interface with a 'Throttle Settings' dialog box open. The dialog box has the following settings:

- Enable Throttling
- Only for selected hosts
- Location: https://www.thecustomproductbuilder.com
- Throttle preset: No Connection
- Download Bandwidth (kbps): 0
- Upload Bandwidth (kbps): 0
- Utilisation (%): 100
- Round-trip latency (ms): 120
- MTU (bytes): 576
- Reliability (%): 100
- Stability (%): 100
- Unstable quality range (%): 100

The background shows the Charles Proxy interface with a structure view of https://www.thecustomproductbuilder.com and an overview of the current request.

Real life example with caching / connection problem > not giving any Connection Error. User just could schedules an appt.

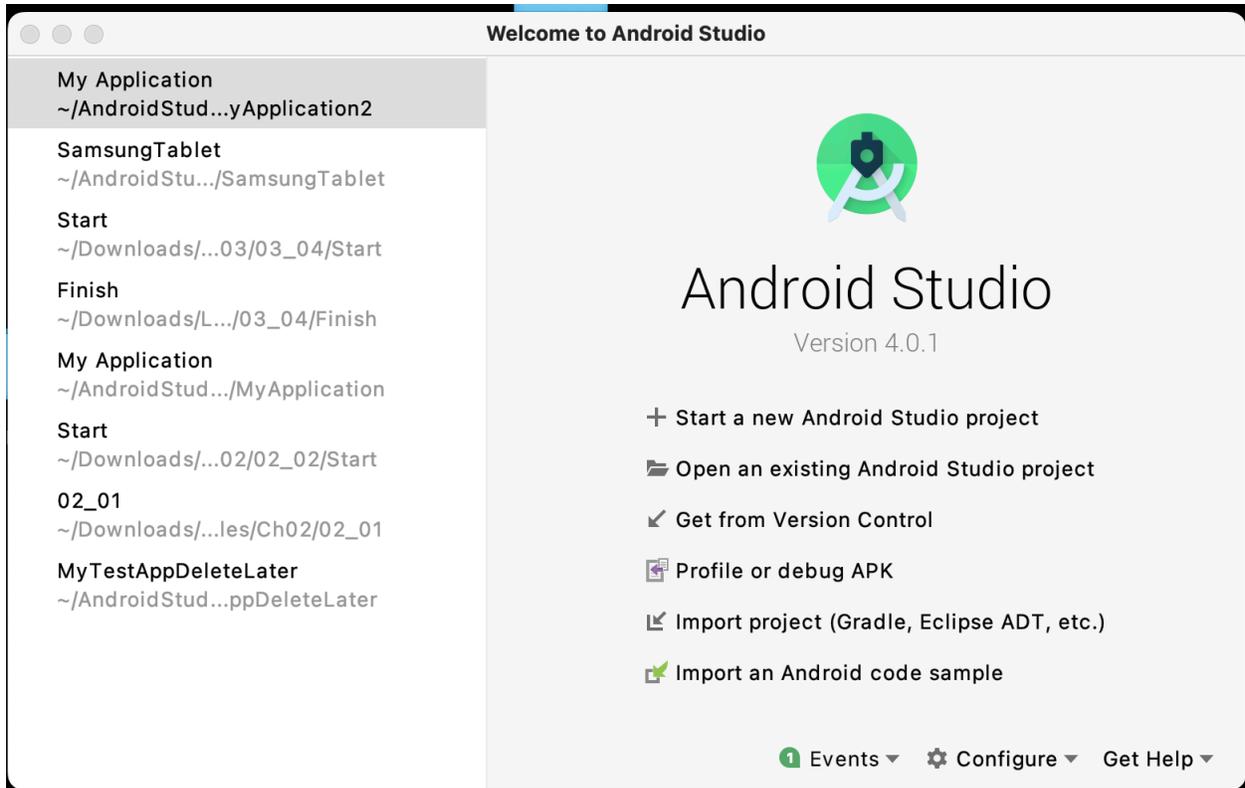
Mobile version on my phone.

Android Studio

Tip:

know different platforms. buy a cheap Android (iPhone 5) and practice with it. Play around. Macbooks! Terminal.

Android studio > Install it



How to get logs

Interview question: What are logs? > computer-generated data file that contains information about usage patterns, activities, and operations within an operating system, application, server or another device. Log files show whether resources are performing properly and optimally. Developer looks into the logs to find errors, warnings etc.

How to turn developers mode on your Android device.

<https://www.samsung.com/uk/support/mobile-devices/how-do-i-turn-on-the-developer-options-menu-on-my-samsung-galaxy-device/>

ADB > Android Debug Bridge (how to install it > type it in terminal sudo apt install android-tools-adb)

adb logcat > once you open the app try running adb logcat and make sure you see things being logged

Connect your device to computer.

Make sure that you see you devices in terminal

```
Last login: Tue Apr 10 12:55:07 on tty3000
[EvgenyShashkov@Evgenijs-MacBook-Air-2 ~ % adb devices
List of devices attached
58f307c3          device
```

The same terminal in Android Studio

The screenshot displays the Android Studio interface. The top toolbar shows the 'Run' button (a green play icon) and a dropdown menu currently set to 'app'. The left sidebar contains the 'Project' view, showing the 'app' module with subfolders for 'manifests', 'java', 'res', and 'Gradle Scripts'. The main editor window shows the Kotlin source code for 'MainActivity.kt'. The code includes package declarations, imports, and three overridden methods: 'onCreate', 'onCreateOptionsMenu', and 'onOptionsItemSelected'. The 'onCreate' method calls 'super.onCreate', 'setContentView', and 'setSupportActionBar', and also finds a floating action button to show a toast message. The 'onCreateOptionsMenu' method inflates a menu. The 'onOptionsItemSelected' method is partially visible. At the bottom, the 'Terminal' window shows the command 'adb devices' being executed, resulting in the output: 'List of devices attached' and '58f307c3 device'. The terminal prompt is 'EvgenyShashkov@Evgenijs-MacBook-Air-2 SamsungTablet %'.

```
1 package com.example.samsungta
2
3 import ...
9
10 class MainActivity : AppCompa
11
12 override fun onCreate(sav
13     super.onCreate(savedI
14     setContentView(R.layo
15     setSupportActionBar(f
16
17     findViewById<Floating
18         Snackbar.make(vie
19             .setActio
20     }
21 }
22
23 override fun onCreateOpti
24     // Inflate the menu;
25     inflater.inflate(
26     return true
27 }
28
29 override fun onOptionsItemSelected
30     // Handle action bar
31     // automatically hand
32     // as you specify a p
```

Terminal: Local x +

```
EvgenyShashkov@Evgenijs-MacBook-Air-2 SamsungTablet % adb devices
List of devices attached
58f307c3      device

EvgenyShashkov@Evgenijs-MacBook-Air-2 SamsungTablet %
```

Get the logs when your bug (crush) is happening!!! Cos it's a lot of information.

```
Terminal: Local x +
04-21 10:32:50.405 2504 2504 D io_stats: !@ 179,0 r 274711 12490884 w 78171 1343212 d 5455 393896 f 21920 22049 iot 145690 136311 th 51200 0 0 pt 0 inp 0 0 2772.888
04-21 10:32:51.087 1773 1773 D KeyguardUpdateMonitor: updateCarrierTextInfo
04-21 10:32:51.088 1773 1773 D SecStatusBarWifiView: updateState: WifiIconState(resId=2131232714, visible=true, activityId=2131232719)
04-21 10:32:51.093 1773 1773 D FaceWidgetClockPage: isNetworkRoamingState id=-1
04-21 10:32:51.094 1773 1773 D FaceWidgetClockPage: isNetworkRoamingState false
04-21 10:32:51.094 1773 1773 D FaceWidgetClockPage: onRefreshCarrierInfo(pre, now): false, false
04-21 10:32:51.098 1773 1773 D FaceWidgetCloneClockPage: isNetworkRoamingState id=-1
04-21 10:32:51.098 1773 1773 D FaceWidgetCloneClockPage: isNetworkRoamingState false
04-21 10:32:51.098 1773 1773 D FaceWidgetCloneClockPage: onRefreshCarrierInfo(pre, now): false, false
04-21 10:32:51.612 960 960 I cnss-daemon: Ready to update GW parameters
04-21 10:32:52.014 1152 1522 D SensorService: [50] 0.231 -0.109 9.815
04-21 10:32:52.563 447 447 I hwserviceanager: getTransport: Cannot find entry vendor.samsung.hardware.radio.channel@2.0::ISehChannelV/msd in either framework or device manifest.
04-21 10:32:53.321 1753 1856 D BtGatt.GattService: onScanResult to scannerId: 6- eventType=0x1b, addressType=1, address=77:6, primaryPhy=1, secondaryPhy=0, advertisingSid=0xff, txPower=127, rssi=-84, peridicAdvInt=0x0
^C
EvgenyShashkov@Evgenijs-MacBook-Air-2 SamsungTablet %
```

How to stop it??? > Mac > Control + C

**Save logs without running them in terminal
adb logcat > logcat.txt**

**with timestamp
adb logcat -v time > FileName.txt**



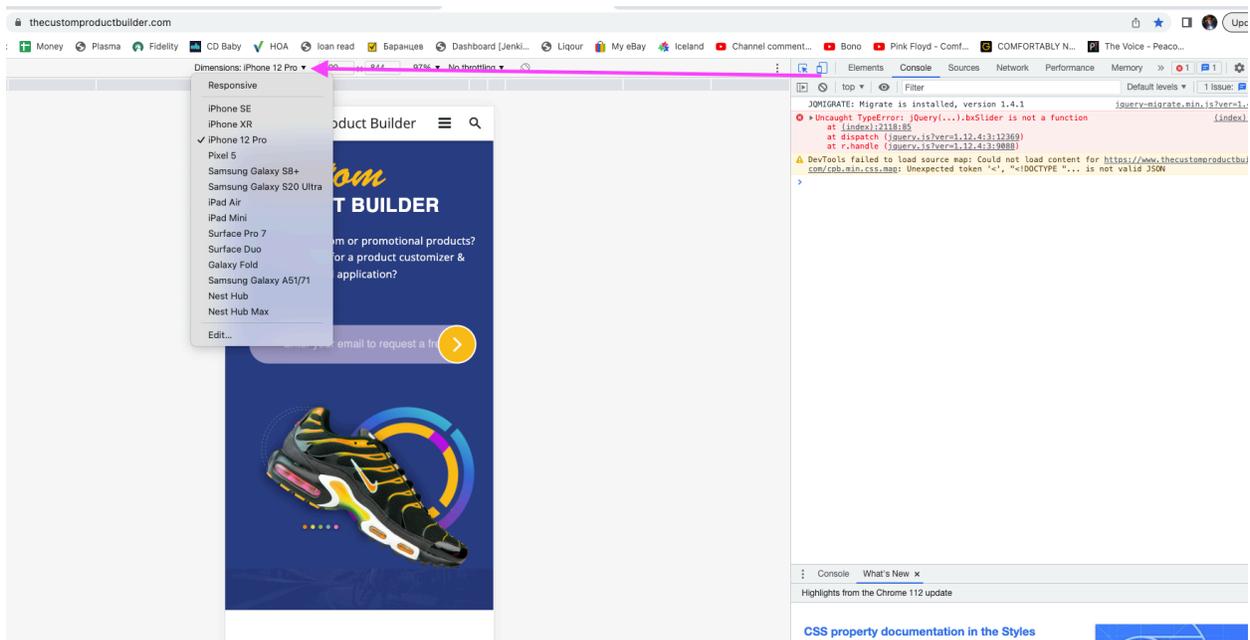
Or manually.

Download > <https://www.barebones.com/products/bbedit/>

Attach it to your ticket.



Show mobile mode within browser.



December 2023. New Mac././.

Android simulator > FACEPALM :(

Select a system image

Recommended x86 Images Other Images

Release Name	API Level	ABI	Target
R Download	30	x86	Android 10.0+ (Google APIs)
Q Download	29	x86	Android 10.0 (Google APIs)
Pie Download	28	x86	Android 9.0 (Google APIs)
Oreo Download	27	x86	Android 8.1 (Google APIs)
Oreo Download	26	x86	Android 8.0 (Google APIs)
Nougat Download	25	x86	Android 7.1.1 (Google APIs)
Nougat Download	24	x86	Android 7.0 (Google APIs)
Marshmallow Download	23	x86	Android 6.0 (Google APIs)
Lollipop	22	x86	Android 5.1 (Google APIs)

Lollipop

API Level **22**

Android **5.1**

Google Inc.

System Image **x86**

Recommendation
Your CPU does not support VT-x.
[Troubleshoot](#)

We recommend these images because they run the fastest and support Google APIs.

How it should look like

My Application [-/AndroidStudioProjects/MyApplication] - .../app/src/main/res/layout/content_main.xml

MyApplication Android Virtual Device Manager

Your Virtual Devices
Android Studio

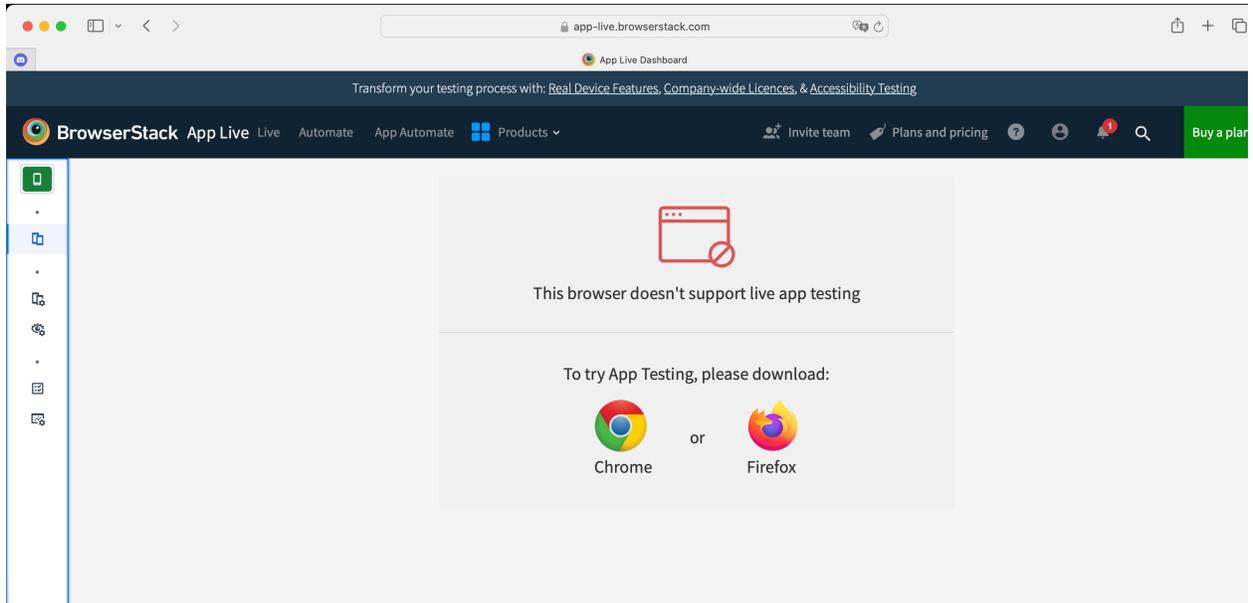
Type	Name	Play Store	Resolution	API	Target	CPU
☐	Pixel XL API 30 IMH test	▶	1080 x 1920: 420dpi	29	Android 10.0 (Google Play)	x86

9:20 Saturday, Dec 9

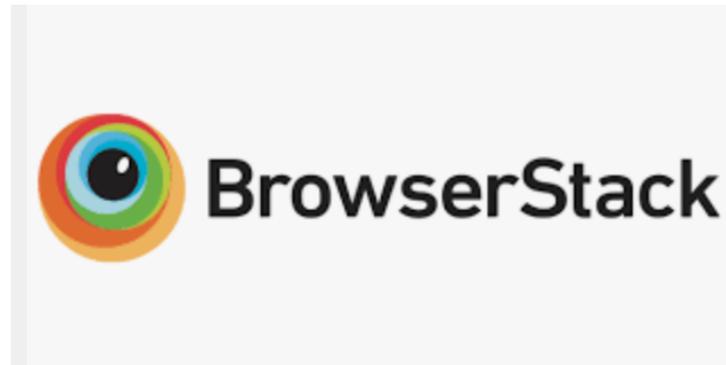
Messages Play Store Chrome

Messages

Safari FACEPALM2 : (



Browserstack



https://live.browserstack.com/dashboard#os=ios&os_version=&device=17.0&zoom_to_fit=true&full_screen=true&url=https%3A%2F%2Ffluxledlights.com%2Fproducts%2Fdemo-t-shirt-automatic-recoloring-out-of-stock-test-product%3FcpbPreview%3Dtrue&speed=1

BrowserStack is an essential tool for testers because it offers live, web-based browser testing with instant access to various browsers and operating systems. This is crucial for testers to check the compatibility of applications across different platforms. Here are a few reasons why testers need BrowserStack:

1. **Multiple Browser Compatibility:** BrowserStack provides access to a range of browsers including Chrome, Firefox, Safari, Edge and Internet Explorer. This allows testers to find and fix bugs across various browsers and ensure a consistent user experience.
2. **Access to Various Operating Systems:** It provides different operating systems like Windows, MacOS, iOS and Android. This helps in testing the application on different devices easily without needing the actual device. **My example Android**
3. **Real Device Testing:** It provides real device cloud for testing which improves the accuracy of the test results. **BUT in my experience we had bugs that we reproducible on physical devices only > switching camera, notifications, timeouts, login by face id**
4. **Automated Testing:** It allows automated testing which helps in saving time and increasing efficiency. Users can run parallel tests to speed up the testing process.
5. **Easy Debugging:** It provides pre-installed developer tools for easy debugging of applications.
6. **Local Testing:** Testers can also test local or privately hosted websites through secure and dedicated connections.

7. Integrations: It offers integrations with popular frameworks like Selenium, Appium, etc for automated testing and also integrations with CI/CD tools like Jenkins, Travis CI, etc.

8. Screenshots and Screen Recording: It provides the functionality of capturing screenshots during the test sessions and even record the testing process.

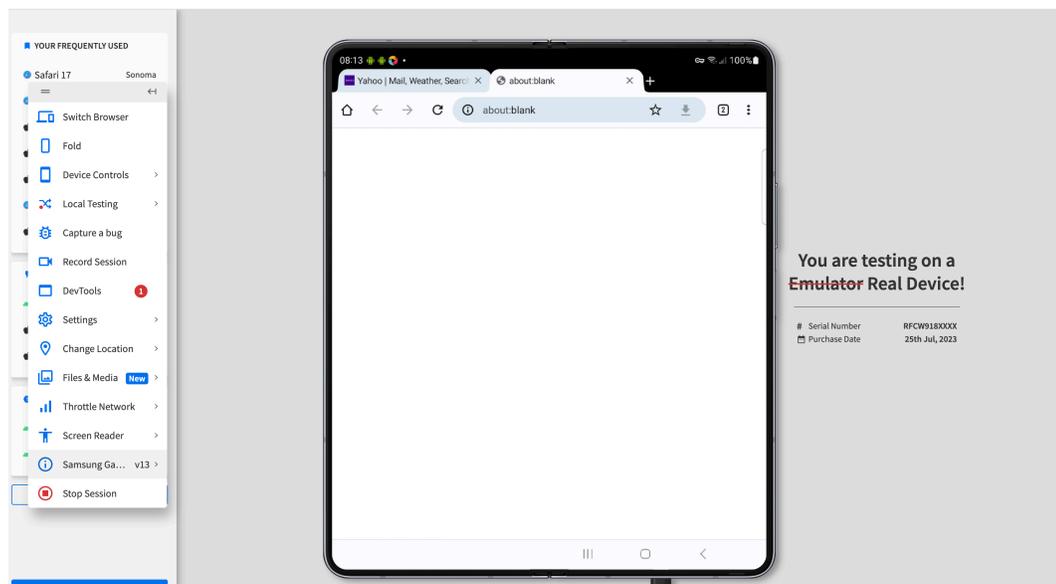
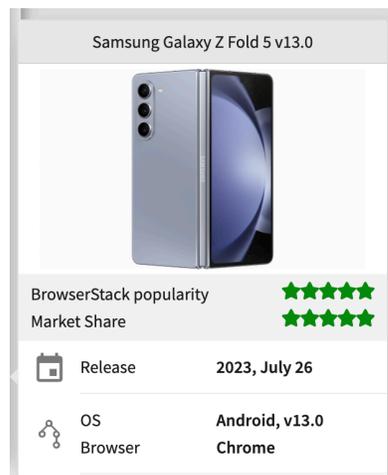
Overall, BrowserStack makes web testing far easier and efficient for testers.

Go through the menu.

Rare devices example > Samsung v13 Galaxy Z Fold 5.

Basically mix of dev tool and Charles Proxy but with access to all the available devices.

Make sure that your company still support certain devices and browsers. My example.



Android and iOS apps have different file formats that are used for installation and distribution.

1. Android App Files: Android apps come packaged in APK (Android Package Kit) files. An APK file includes the AndroidManifest.xml file, the application code (in.dex files), resource files, and other files compiled together. This single APK file is what users download and install on their Android devices. My APK examples. Know how to install it from bamboo, manually, cloud etc. Ask your developer. Right version!
2. iOS App Files: iOS apps come packaged in IPA (iOS App Store Package) files. An IPA file is a binary file that contains all the resources needed for the app to function - including the compiled app executable, app resources like images and sounds, and meta-information like an app icon and documentation. This IPA file is what users download and install on their iOS devices.

TestFlight.



<https://developer.apple.com/testflight/>

TestFlight is a platform provided by Apple that allows developers to beta test their iOS, watchOS, and tvOS apps before releasing them to the App Store. It enables developers to provide early access to their apps to a limited number of testers for testing and feedback.

TestFlight makes it easier for developers to gather feedback, identify bugs, and make necessary improvements before making their app available to the general public.

Testers need TestFlight to participate in beta testing of iOS, watchOS, and tvOS apps. By using TestFlight, testers can access and test new features, updates, and bug fixes before they are released to the general public. TestFlight allows testers to provide feedback directly to the developers, helping them identify and fix any issues or bugs before the app is officially launched. Testers can also explore new functionalities, test different device configurations, and share their experience with the developers, contributing to the overall improvement of the app.