



PARTNER
NETWORK



Troubleshooting Cloudflare

Troubleshooting Cloudflare's Integrated Global Cloud Platform

Agenda

Troubleshooting Cloudflare

Day 2 Review

Common Issues Overview

Let's start checking

Understand errors

Working with Cloudflare Support

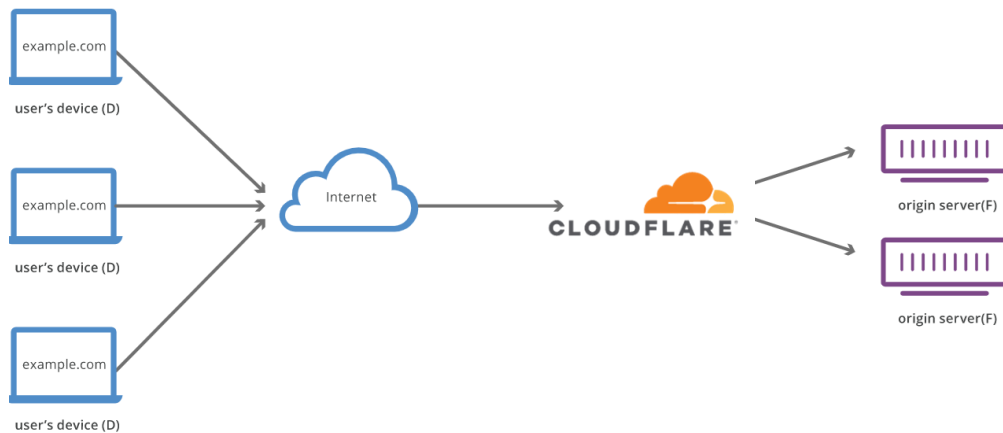
Instructor



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Partner Technical Enablement

What You Should Already Know

- Common Tools for Troubleshooting with Cloudflare
 - Dig, Curl, MTR/Traceroute, HAR Files
- Cloudflare acts as a reverse proxy using Anycast DNS to route customer traffic



ACE - What we covered on Day 1~2

- Can perform, and guide the customer on the safe steps of Cloudflare implementation (onboarding).
- Understood and can guide the customer on DNS/SSL decisions.
- Understood and can guide onboarding best practices.
- Understood and can guide key security products, how to fine-tune.
- Understood and can guide key performance products, how to fine-tune.



Cloudflare ACE Training Webinar

Lab Handbook Online: <https://ace-training.cf/>

Troubleshooting: Prerequisite 1

- You have **a website you onboarded** on day 1.
- You have access to your Cloudflare demo account.

If not yet, please take **the day 1: implementation** webinar first.



Cloudflare ACE Training Webinar

Lab Handbook Online: <https://ace-training.cf/>

Troubleshooting: Prerequisite 2

Please make sure you have terminal-friendly environment (MacOS, Linux) so we can play together with some basic terminal commands such as **dig**, **curl** etc.

Time: 5 ~ 15 mins

Prerequisite is also illustrated at the handbook: <https://ace-training.cf/>



Cloudflare is an integrated global cloud network that provides performance, security, reliability and platform solutions.

// Common Issues Overview

Common situations that need Troubleshooting



1. After deploying Cloudflare, my app isn't working!

Variation: my app's `intermittently` not working!

2. After deploying Cloudflare, it became slow!

3. My app is not blocking this request, but it's blocked after Cloudflare!

4. My app renders / behaves differently after deploying Cloudflare

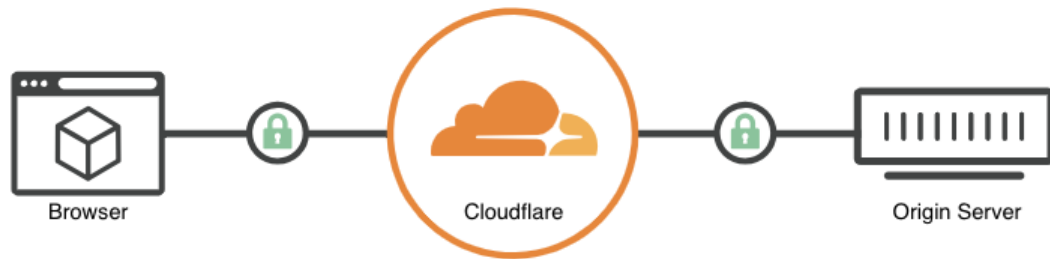
Before starting Troubleshooting

1. Do you have enough information to understand the problem symptom?

e.g: rayld, cdn-cgi/trace, HAR, traceroute, explanation

1. Did you turn the log on?
2. Do you know where to find what?
3. Can you reproduce the problem?
4. Can you manage to find the trigger of the problem? Can you try t/s tools to determine if it's Cloudflare or the origin or even the client problem?

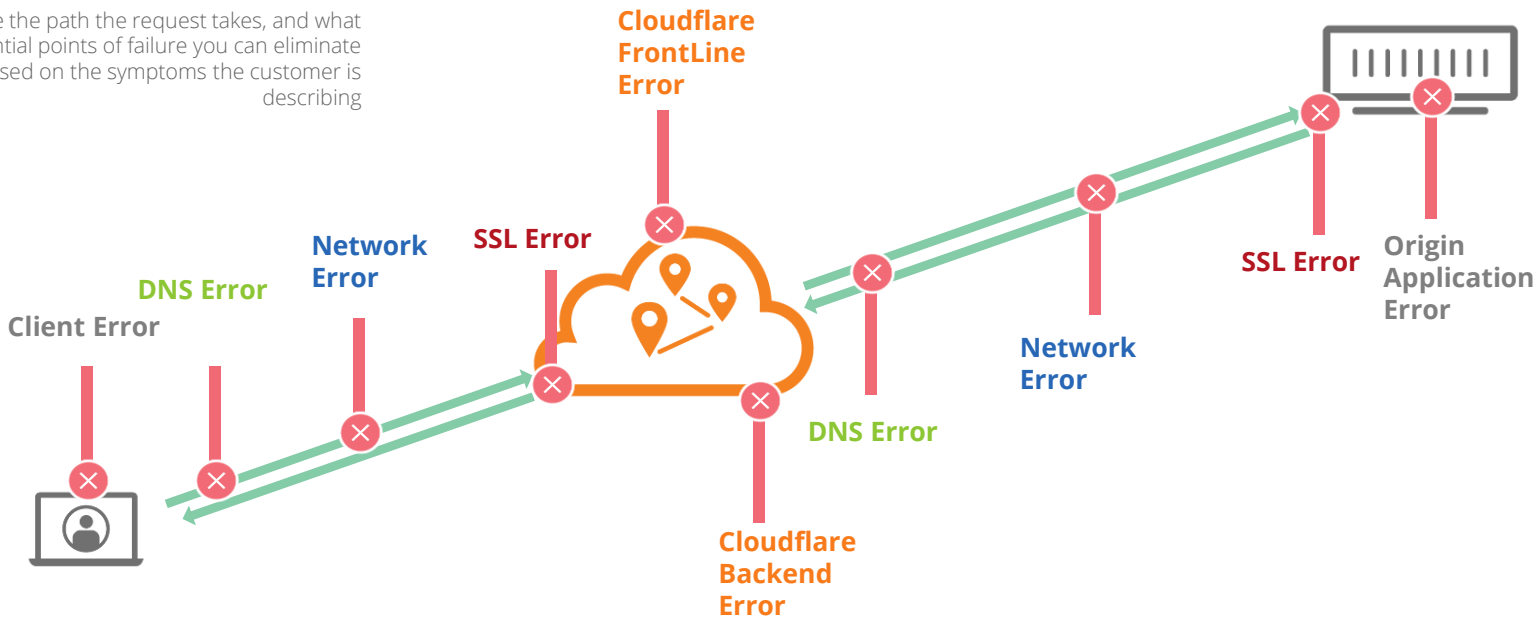




Possible points of failure

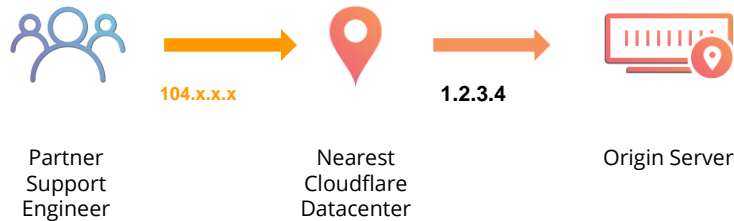
Draw the network map

Picture the path the request takes, and what potential points of failure you can eliminate based on the symptoms the customer is describing

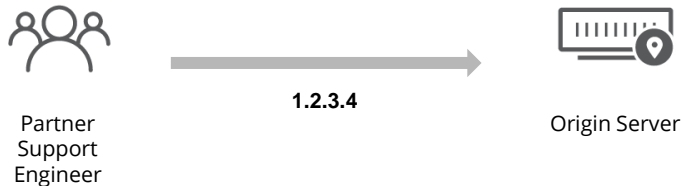


What we can do “before” submitting the support request

Reproduce/Confirm the problem by sending the request through Cloudflare’s proxy



Pinpoint the problem by sending the request bypassing Cloudflare and send request direct to origin



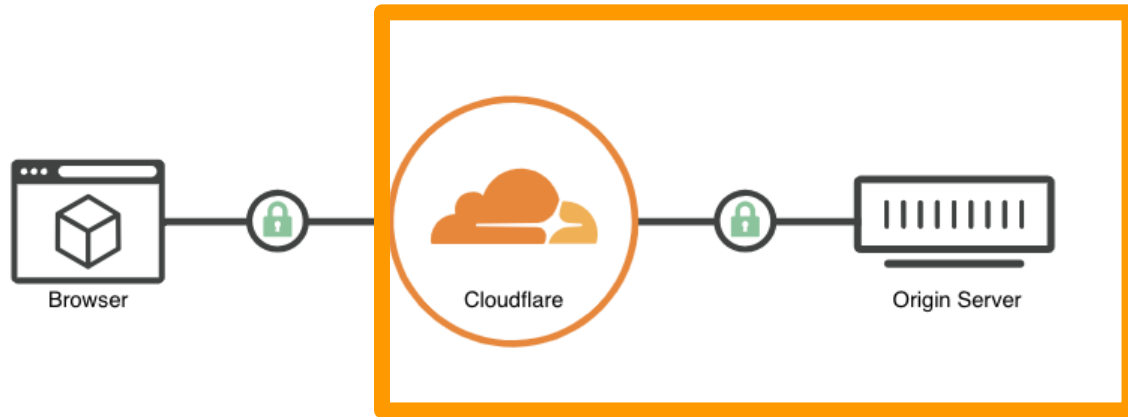
Collecting the necessary information will give you visibility.
You may either solve the problem, or at least have enough
information to effectively work with Cloudflare's support team.

// Let's start checking!

ACE - Troubleshooting Exercise #1

- Try to turn on the log on your test zone.





First thing first

Is origin server ready to use Cloudflare proxy?

Is Cloudflare IP range allow-listed by the origin?

- Configure firewalls to prevent access to your servers, load balancers, and other infrastructure from non-Cloudflare IP addresses
 - This means allowlisting [Cloudflare IPs](#) in your Access Control List to prevent rate-limiting or false positives from any intrusion detection systems.
- Prevents attackers from recording/recognizing the “fingerprints” of your hardware when probing your IPs

Have you set up Cloudflare Standalone Health Checks? Is it showing Healthy ?

- At Cloudflare dashboard, set up Cloudflare standalone health checks to verify the origin server responds to Cloudflare data center's HTTP(S)/TCP requests.
- You can find it at Traffic/Health Checks. Select the relevant region as per the business requirement.
- Proceed to the next step only after the health checks are marked as Healthy .

First thing first

Is origin server ready to use Cloudflare proxy?

Cloudflare adds header/cookie when proxying back the request to the origin server. Is it reviewed?

- Cloudflare passes all HTTP headers as-is from the client to the origin and adds additional headers as specified [here](#). Review the headers and make sure the origin server will work as expected.
- Cloudflare uses HTTP cookies to maximize network resources, manage traffic, and protect our Customers' sites from malicious traffic and the details are described [here](#). Review the cookies and make sure the origin server will work as expected.

Figure out “what” is the problem to solve

1. After deploying Cloudflare, my app's not working!
Variation: my app's `intermittently` not working!
=> with what error msg? what status code?
2. After deploying Cloudflare, it became slow!
=> from where? how do we quantify this? what did you to test?
filtered out the third-party assets?
3. My app is not blocking this request, but it's blocked after Cloudflare!
=> pinpointed what request is being blocked and if it's CF or origin?
4. My app renders / behaves differently after deploying Cloudflare!
=> we need detailed comparison to correctly pinpoint

Figure out “which part” has the problem to solve

ACE - Troubleshooting Exercise

We need a way to compare the proxy vs origin behaviour.

Try this:

```
curl -svo /dev/null/ "https://www.yourdomain.cf"
```

And:

```
curl -svo /dev/null/ "http://www.yourdomain.cf" --resolve  
www.yourdomain.cf:80:35.234.81.115
```

origin address

Are you a Windows user and you can't use cURL?

1. [Windows Subsystem for Linux is the best way](#)
2. You can use local hosts file to point origin address for the Cloudflare enabled site

Can't make direct request to the origin due to customer keeping the best practice?

- ask them to allow your IP address temporarily for troubleshooting

Way to look at it based on the result:

- Problem observed at both
 - look at origin
- Problem observed at the former only
 - look at Cloudflare or Cloudflare<->origin

What's /cdn-cgi/trace

ACE - Troubleshooting Exercise



Cloudflare, Inc. [US] | <https://cloudflare.com/cdn-cgi/trace>



```
f1=26f66
h=cloudflare.com
ip=122.202.10.250
ts=1571695491.491
visit_scheme=https
uag=Mozilla/5.0 (Macintosh; Intel Mac OS X 10_14_6) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/69.0.3497.81 Safari/537.36
colo=SYD
http=http/2
loc=AU
tls=TLSv1.2
sni=plaintext
warp=off
```



Generating a HAR File

A HAR file is a recording of HTTP requests ran from a web browser. Here is an example of a recording being done from within Chrome's dev tools:

The screenshot shows the Chrome DevTools Network tab with a recording of requests to www.cloudflare.com. A context menu is open over the first request, showing the 'Save as HAR with Content' option highlighted. The status bar at the bottom indicates '50 requests | 390 KB transferred | Finish: 1.87 s | DOMContentLoaded: 1.19 s | Load: 1.65 s'.

Name	Method	Status	Type	Initiator	Size	Time	Timeline
www.cloudflare.com	GET	200	document	Other	6.1 KB	363 ms	
main.css?v=1466468351	GET	200	stylesheet	(index):30	8.5 KB	255 ms	
home-page.css?v=1466468351	GET	200	stylesheet	(index):31	957 B	257 ms	
css?family=Open+Sans:400,300,600,700,400italic	GET	200	stylesheet	(index):29	1.2 KB	48 ms	
2511420542.js	GET	200	script	(index):32	71.0 KB	352 ms	
cloudflare-logo.png	GET	200	image	(index):181	5.3 KB	248 ms	
icon-pin.svg	GET	200	image	(index):217	465 B	250 ms	
icon-bolt.svg	GET	200	image	(index):224	402 B	294 ms	
icon-shield.svg	GET	200	image	(index):231	414 B	261 ms	

Instructions can be found on Cloudflare's KB: [How do I generate a HAR File?](#)

Cloudflare, Inc. [US] https://www.cloudflare.com

Cloudflare

Products Solutions Resources Developers Pricing

Contact Sales: +1 (888) 99 FLARE English

Support Log In Sign Up Under Attack?

Cloudflare makes your SaaS products faster & safer

Learn how Cloudflare works

Get Started

Back Forward Reload Save As... Print... Cast... Translate to English View Page Source Inspect

Sign-up, I agree to Cloudflare's terms and conditions and privacy policy.

Sign Up

A Growing Global Network Built for Scale

15 Tbps Capacity and 152 Data Center Global Footprint



Collecting HAR file Step-by-step instructions

HAR Files: Many-splendored things

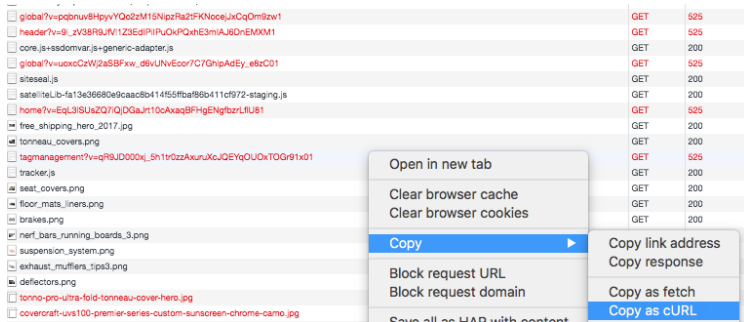
Determining the exact client request and server response

Finding the exact request and response headers gives us a wealth of information, including:

- Was the request served from our cache?
- What was the rayID?
- What was the exact error (both status code and response body)?
- Did the customer hit our edge or not?

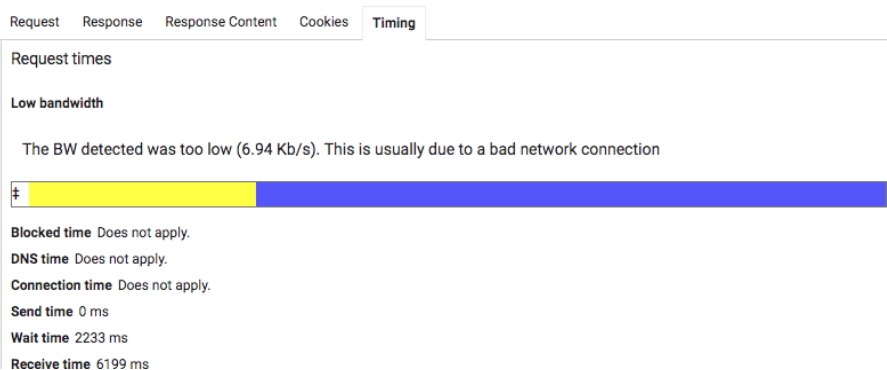
Using “copy as curl”

An exact way to reproduce the request as it was sent from the browser.



Getting timing information to troubleshoot speed issues

Go to the timing section to see where the slowdown occurred.



Checking DNS resolution

A HAR file records the exact IP address the client resolved the hostname to.

Cloudflare Logpush

Logpush can be configured for Enterprise customers using one of the following methods:

- [Cloudflare UI \(Dashboard\)](#)
- [Cloudflare Logpush API](#)

Cloud Services supported by Cloudflare Logpush:

- [Enable Amazon S3](#)
- [Enable Google Cloud Storage](#)
- [Enable Microsoft Azure](#)
- [Enable Sumo Logic](#)
- [IBM Cloud Object Storage](#)

Full Documentation: <https://developers.cloudflare.com/logs/logpush/>

Additional Analytics Integrations

Cloudflare has analytics partnerships with the following companies with built-in dashboards:

- Datadog
- Elastic
- Graylog
- Google Cloud
- Looker
- Splunk
- Sumo Logic

Full Documentation: <https://developers.cloudflare.com/logs/analytics-integrations/>

find a log with rayId

659627555c7e55d2

<example rayId>

Retention & Format

Data Retention

Logs can be queried from 1 minute in the past and going back at least 3 days and up to 7 days.

Format of the Data

The Logpull API returns data in JSON format via gzip compression, each log line is a valid JSON object.

Below is a sample log with default fields:

```
{
  "ClientIP": "89.163.242.206",
  "ClientRequestHost": "www.theburritobot.com",
  "ClientRequestMethod": "GET",
  "ClientRequestURI": "/static/img/testimonial-hipster.png",
  "EdgeEndTimestamp": 1506702504461999900,
  "EdgeResponseBytes": 69045,
  "EdgeResponseStatus": 200,
  "EdgeStartTimestamp": 1506702504433000200,
  "RayID": "3a6050bcbe121a87"
}
```

Available Log Fields: <https://developers.cloudflare.com/logs/log-fields/>

LogPull API Basics

ACE - Troubleshooting Exercise

Endpoints

The three endpoints the Logpull API supports are:

- `GET /logs/received` - returns HTTP request log data based on the parameters specified
- `GET /logs/received/fields` - returns the list of all available log fields
- `GET /logs/rayids/<rayid>` - returns HTTP request log data matching `<rayid>`

Example API requests using cURL

`logs/received`

```
curl -s \  
  -H "X-Auth-Email: <REDACTED>" \  
  -H "X-Auth-Key: <REDACTED>" \  
  "https://api.cloudflare.com/client/v4/zones/<ZONE_ID>/logs/received?  
start=2017-07-18T22:00:00Z&end=2017-07-  
18T22:01:00Z&count=1&fields=RayID,ClientIP"
```

Full Documentation: <https://developers.cloudflare.com/logs/logpull-api/>

Traceroute from Cloudflare colo

<https://api.cloudflare.com/#diagnostics-properties>

Needs Cloudflare team to enable (if doesn't work)

minimum TTL to the origin from specific Cloudflare colo

Colo -- use "sin02" for Singapore, "icn01" for Korea, etc

Is Cloudflare having issues?

- <https://cloudflarestatus.com/>
 - Customers can subscribe
 - Incident tracking
 - Display colo statuses
 - Avg. incident resolution time - 30mins

Past Incidents

Oct 11, 2018

Web Analytics Access

Resolved - This incident has been resolved.

Oct 11, 10:59 UTC

Monitoring - A fix has been implemented and we are monitoring the results.

Oct 11, 10:30 UTC

Identified - The issue has been identified and a fix is being implemented.

Oct 11, 10:07 UTC

Investigating - Cloudflare is observing issues that may impact some users' ability to access Web Analytics via the dashboard and API - customers may see errors returned. We are actively investigating these issues. DNS, Rate Limiting & Argo Analytics are not impacted by this.

Oct 11, 08:39 UTC

Cloudflare System Status

All Systems Operational

What is this page?

Cloudflare provides performance and security to website owners via its intelligent global network. This is the system status for the Cloudflare service, both edge network and dashboard/APIs for management.

Status information is also available as an RSS feed - <https://www.cloudflarestatus.com/history.atom>

▼ Europe

Amsterdam, Netherlands - (AMS)

Operational

Athens, Greece - (ATH)

Operational

Barcelona, Spain - (BCN)

Operational

Belgrade, Serbia - (BEG)

Operational

Berlin, Germany - (TXL)

Operational

Brussels, Belgium - (BRU)

Operational

Bucharest, Romania - (OTP)

Operational

Curl: Quick DNS Override

This helps you check what response you get from the origin realtime

```
curl -svo /dev/null https://www.cloudflare.com --connect-to ::1.2.3.4
```

More help with curl available [here](#)

Curl: Confirming intermittent errors

e.g. normally you see 200 but `intermittently` there's 502!

```
for i in {1..50}; do curl -svo /dev/null/  
"https://www.cloudflare.com?x=${i}" 2>&1 | grep  
-Ei "< HTTP|< Date|< CF-Cache-Status|< CF-RAY|<  
Server"; printf "\n\n"; done;
```


Cloudflare is an integrated global cloud network that provides performance, security, reliability and platform solutions.

// Understand Errors

Q: After deploying Cloudflare, my app's not working!

A: With what status code?

<https://support.cloudflare.com/hc/en-us/articles/115003011431-Troubleshooting-Cloudflare-5XX-errors>

<https://support.cloudflare.com/hc/en-us/articles/360029779472>



- Overview
- 500: internal server error
- 502: bad gateway or 504: gateway timeout
- 503: service temporarily unavailable
- 520: web server returns an unknown error
- 521: web server is down
- 522: connection timed out
- 523: origin is unreachable
- 524: a timeout occurred
- 525: SSL handshake failed
- 526: invalid SSL certificate
- 527: Railgun listener to origin
- Error 530
- Related resources



- Overview
- Error 1000: DNS points to prohibited IP
- Error 1001: DNS resolution error
- Error 1002: DNS points to Prohibited IP
- Error 1002: Restricted
- Error 1003 Access Denied: Direct IP Access Not Allowed
- Error 1004: Host Not Configured to Serve Web Traffic
- Error 1006, 1007, and 1008 Access Denied: Your IP address has been banned
- Error 1010: The owner of this website has banned your access based on your browser's signature
- Error 1011: Access Denied (Hotlinking Denied)
- Error 1012: Access Denied
- Error 1013: HTTP hostname and TLS SNI hostname mismatch
- Error 1014: CNAME Cross-User Banned
- Error 1015: You are being rate limited
- Error 1016: Origin DNS error
- Error 1018: Could not find host
- Error 1019: Compute server error
- Error 1020: Access denied
- Error 1025: Please check back later
- Error 1101: Rendering error
- Error 1102: Rendering error
- Related resources

522 Error: Connection Timed Out


A 522 error is triggered when a **TCP** connection to the web server could not be established over the designated port.

To initiate a TCP connection, Cloudflare servers send out 3 **SYN** packets and awaits a **SYN-ACK** packet in return, if a **SYN-ACK** is not received within 15 seconds, the connection attempt will fail.


Error 522

Ray ID: 2b5310bfcf8d440e • 2016-06-19 01:04:11 UTC


Connection timed out



You
Browser
Working



POP: undef
CloudFlare
Working



httpbin.canhazip.com
Host
Error

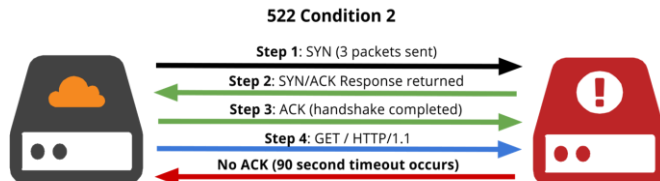
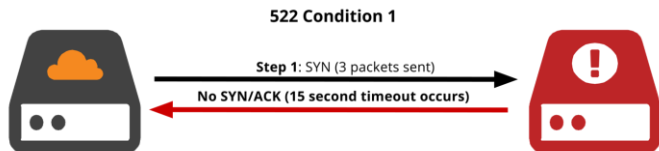
What happened?

The initial connection between CloudFlare's network and the origin web server timed out. As a result, the web page can not be displayed.

What can I do?

If you're a visitor of this website:
Please try again in a few minutes.

If you're the owner of this website:
Contact your hosting provider letting them know your web server is not completing requests. An Error 522 means that the request was able to connect to your web server, but that the request didn't finish. The most likely cause is that something on your server is hogging resources. [Additional troubleshooting information here.](#)



Handling 522 Error Tickets

Common Causes:


1. CF connection attempt being blocked by a firewall/security plugin at the host.
2. Packets are being dropped within the host's network.
3. The origin server was too overloaded to respond.
4. There was an issue with an upstream provider along the path.

Recommendations to the customer:

1. Make sure that you're not blocking Cloudflare IPs in iptables, or your firewall.
2. Confirm with hosting provider isn't rate limiting or blocking Cloudflare IPs.
3. Provide an MTR/Traceroute from the impacted location/origin server to confirm status of the path to Cloudflare's network.

52x errors breakdown

520	<ul style="list-style-type: none">• Connection resets (following a successful TCP handshake)• Response headers exceeds size limit• Empty response from origin• Invalid HTTP response• HTTP response missing headers	524	<ul style="list-style-type: none">• Origin's HTTP Reply exceeds 100s timeout limit
521	<ul style="list-style-type: none">• Cloudflare IPs blocked by Firewall/Router	525	<ul style="list-style-type: none">• Cipher disagreement between origin server and Cloudflare• No SSL at the origin and Full SSL set• Lack of SNI support at the origin• TLS version disagreement
522	<ul style="list-style-type: none">• Connection resets• Rate-limiting• Loss in network path	526	<ul style="list-style-type: none">• Origin does not have a valid certificate<ul style="list-style-type: none">◦ Expired◦ Self-signed◦ CN/SAN Hostname mismatch
523	<ul style="list-style-type: none">• Route to origin is unavailable• Origin is null routed upstream	527	<ul style="list-style-type: none">• WAN connection timed out after establishment with Sender/Listener• Listener's connection failed at origin

Error	Common Cause(s)	Information Gathering
520	<ul style="list-style-type: none"> Connection resets (following a successful TCP handshake) Response headers exceeds size limit Empty response from origin Invalid HTTP response HTTP response missing headers 	<ol style="list-style-type: none"> RayID URI Requested HAR file with CF ON and paused
521	<ul style="list-style-type: none"> Cloudflare IPs blocked by Firewall/Router 	<ol style="list-style-type: none"> RayID Traceroute/MTR
522	<ul style="list-style-type: none"> Connection resets Rate-limiting Loss in network path 	<ol style="list-style-type: none"> RayID URI Requested Traceroute/MTR
523	<ul style="list-style-type: none"> Route to origin is unavailable Origin is null routed upstream 	<ol style="list-style-type: none"> RayID Traceroute/MTR
524	<ul style="list-style-type: none"> Origin's HTTP Reply exceeds 100s timeout limit 	<ol style="list-style-type: none"> RayID URI Requested HAR file with CF ON and paused
525	<ul style="list-style-type: none"> Cipher disagreement between origin server and Cloudflare No SSL at the origin and Full SSL set Lack of SNI support at the origin TLS version disagreement 	<ol style="list-style-type: none"> RayID URI Requested Browser Type and Version
526	<ul style="list-style-type: none"> Origin does not have a valid certificate <ul style="list-style-type: none"> Expired Self-signed CN/SAN Hostname mismatch 	<ol style="list-style-type: none"> RayID URI Requested Origin certificate file
527	 <ul style="list-style-type: none"> WAN connection timed out after establishment with Sender/Listener Listener's connection failed at origin 	<ol style="list-style-type: none"> RayID URI Requested Railgun.conf file from Listener

10xx error breakdown

Error	Cause(s)	Next Steps
1000 - DNS Cyclic Error	Request is re-proxied from origin back to Cloudflare after already being proxied from Cloudflare's edge.	<ol style="list-style-type: none">1. Confirm presence of reverse proxy with customer<ol style="list-style-type: none">a. If present, have them re-configure the proxy to pass through requests from Cloudflare IP ranges to originb. If no proxy is in place, forward error page/rayID to Cloudflare Support
1001 - DNS Resolution Error	Improper configuration of DNS records for CNAME setups or Partial setups at the host partner DNS infrastructure.	<ol style="list-style-type: none">1. Confirm DNS records for zone are pointing to the correct values2. If DNS records are in proper order, please provide rayID/Error page to Cloudflare support
1002 - DNS Points to Local	DNS record is pointing to private IP space	<ol style="list-style-type: none">1. Have customer adjust DNS record to an external IP that is accessible on the public internet
1003 - Bad Host	Querying CF IPs directly in the browser	<ol style="list-style-type: none">1. This is standard behavior, as it is not intended to query CF IPs directly in a web browser
1004 - Host Not Configured	DNS propagation has not completed after activating Cloudflare	<ol style="list-style-type: none">1. If the customer site has just been activated (within minutes), have them retry accessing the site 5 to 10 minutes later from a clean/new browser window2. If customer still reports an issue, forward error page/rayID to Cloudflare support
1006 - User Ban -- IP	Request is blocked by a single IP firewall rule	If traffic is confirmed to be legitimate, then instruct the customer to apply whitelist rules for any reporting address that is receiving these blocks

10xx error breakdown

Error	Cause(s)	Next Steps
1008 - User Ban -- IP range /16	Request is blocked due to address is included within a /16 range rule in the IP firewall	If traffic is confirmed to be legitimate, then instruct the customer to apply whitelist rules for any reporting address that is receiving these blocks
1008 - User Ban -- IP range /16	Request is blocked due to address is included within a /16 range rule in the IP firewall	If traffic is confirmed to be legitimate, then instruct the customer to apply whitelist rules for any reporting address that is receiving these blocks
1009 - User Ban -- Country	Request is blocked due to address registered from a country is blocked by a country rule in the IP firewall	If traffic is confirmed to be legitimate, then instruct the customer to apply whitelist rules for any reporting address that is receiving these blocks
1010 - BIC Ban	Request is blocked by the Browser Integrity Check feature	Confirm what browser type/version is being used from Customer when the error occurs and forward this information to Cloudflare support.
1011 - Hotlink Denial	Request is blocked by the Hotlink Protection feature, which prevents specified URIs to be linked to an external site	This is a feature that is enabled by the account owner. If users are reporting this error to the customer, then it is up to the discretion of the site owner to disable Hotlink Protection.
1013 - Hostname/SNI Mismatch	Client browser either: 1. Does not support SNI 2. Is sending the wrong header to CF	Confirm what browser type/version is being used from Customer when the error occurs and forward this information to Cloudflare support.



Problem Observation

- Start with a working website
- What happen when I change SSL mode?
- What happen when I shutdown nginx daemon?
- What happen when I turn off server?

Customer receives a random error page!

Error 520

Ray ID: 46ece97f7e6591b2 • 2018-10-24 13:50:56 UTC

Web server is returning an unknown error



What happened?

There is an unknown connection issue between Cloudflare and the origin web server. As a result, the web page can not be displayed.

What can I do?

If you are a visitor of this website:

Please try again in a few minutes.

If you are the owner of this website:

There is an issue between Cloudflare's cache and your origin web server. Cloudflare monitors for these errors and automatically

Breaking down a default Cloudflare Error Page

The diagram illustrates the components of a Cloudflare Error 520 page. At the top, the text "Error 520" is shown, with "520" highlighted by an orange box and labeled "Error Code". To the right, the "Ray ID: 2b530dbdcf82440e" is highlighted by a red box and labeled "RayID". Further right, the timestamp "2016-06-19 01:02:07 UTC" is highlighted by a blue box and labeled "UTC Time Stamp". Below these, the message "Web server is returning an unknown error" is highlighted by a green box and labeled "Error Message".

Below the error message is the "Error Topography" section, which shows a flow from "You" (Browser Working) to "CloudFlare" (POP: undef, Working) to "Host" (httpbin.canhazip.com, Error). The flow is indicated by double-headed arrows between the icons. The "Host" icon has a red 'X' over it, while the others have green checkmarks.

Below the Error Topography, there are two sections: "What happened?" and "What can I do?".

What happened?

There is an unknown connection issue between CloudFlare and the origin web server. As a result, the web page can not be displayed.

What can I do?

If you are a visitor of this website:
Please try again in a few minutes.

If you are the owner of this website:
There is an issue between CloudFlare's cache and your origin web server. CloudFlare monitors for these errors and automatically investigates the cause. To help support the investigation, you can pull the corresponding error log from your web server and submit it our support team. Please include the Ray ID (which is at the bottom of this error page). [Additional troubleshooting resources.](#)

Health Checks

Tip - Custom Error Pages

This helps you to distinguish origin 502/504 vs CF 502/504

Enable Origin Error Pages

When Origin Error Page is set to "On", Cloudflare will proxy the 502 and 504 error pages directly from the origin.

This setting was last changed 10 months ago



[Help](#) ▶

Cloudflare is an integrated global cloud network that provides performance, security, reliability and platform solutions.

// A few other tips for troubleshooting

Q: After deploying Cloudflare, my app's not working!

A: With what error code? How to replicate?



- Overview
- 500: internal server error
- 502: bad gateway or 504: gateway timeout
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- 525: SSL handshake failed
- 526: invalid SSL certificate
- 527: Railgun listener to origin
- Error 530
- Related resources



- Overview
- Error 1000: DNS points to prohibited IP
- Error 1001: DNS resolution error
- Error 1002: DNS points to Prohibited IP
- Error 1002: Restricted
- Error 1003 Access Denied: Direct IP Access Not Allowed
- Error 1004: Host Not Configured to Serve Web Traffic
- Error 1006, 1007, and 1008 Access Denied: Your IP address has been banned
- Error 1010: The owner of this website has banned your access based on your browser's signature
- Error 1011: Access Denied (Hotlinking Denied)
- Error 1012: Access Denied
- Error 1013: HTTP hostname and TLS SNI hostname mismatch
- Error 1014: CNAME Cross-User Banned
- Error 1015: You are being rate limited
- Error 1016: Origin DNS error
- Error 1018: Could not find host
- Error 1019: Compute server error
- Error 1020: Access denied
- Error 1025: Please check back later
- Error 1101: Rendering error
- Error 1102: Rendering error
- Related resources

<https://support.cloudflare.com/hc/en-us/articles/115003011431-Troubleshooting-Cloudflare-5XX-errors>



<https://support.cloudflare.com/hc/en-us/articles/360029779472>

Next step: Is the error from CF or the origin?

Examples:

- Cloudflare: 502, Origin: 502

Check your origin please.

- Cloudflare: 403/503, Origin: 0

Some security product seems to be blocking this request.

- Cloudflare: 521, Origin: 503

Check your origin please.

- Cloudflare: 502, Origin: 0 (200) 🤔

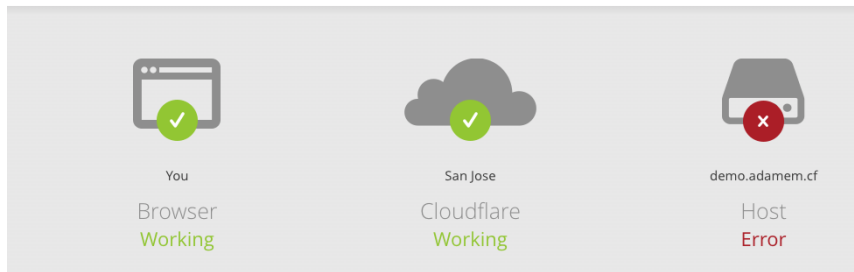
We will investigate asap and get back to you. 😂

Next step? [Status Code Troubleshooting Guide](#) should be a good one-stop shop for all status codes.

Error 522

Ray ID: 5c7f181d88306da0 • 2020-08-24 18:21:39 UTC

Connection timed out



Q: After deploying Cloudflare, my app became slow!

A: May I know from what region? which ISP? to what URL? from around what second to what second? Let me double check the configurations for you and run a synthetic performance test.

- HAR file can show you what resources are slow
- **Logpush customers** have more visibility
(private beta performance fields)

‘Run a synthetic performance test’

If configuration is all good, could be a false alert.

You can run test ‘CF vs origin’ to prove;

(make sure you omit third party requests from the test)

If we are slower than origin/competitor even with all proper settings, then please gather the information and escalate to Cloudflare support.

Q: After deploying Cloudflare, my app behavior changed

A: Please provide:

- Exact steps to reproduce
- HAR file,
- And temporary test credentials if the URL in question is password protected

Q: My app is not blocking this request, but it's blocked after Cloudflare!

A: Go to customer's Firewall Analytics dashboard and search by IP or rayID!

▼

23 Aug, 2020 14:37:22

Block

United States

73.70.123.4

Firewall rules

Ray ID

5c77f974fe01025e

Service

Firewall rules

Method

GET

Rule ID

1cbb3833df3c40a9bb010a2e826fd145

HTTP Version

HTTP/2

Rule name

block /block

Host

theo.blog.adamem.cf

Expression

(http.request.uri.path contains "/block")

Path

/wp-includes/css/dist/block-library/style.min.css

Action taken

Block

Query string

?ver=5.5

Bot score

2

User agent

Mozilla/5.0 (X11; Linux x86_64; rv:68.0) Gecko/20100101 Firefox/68.0

Bot source

Machine Learning

IP address

73.70.123.4

📄

Export event JSON

ASN

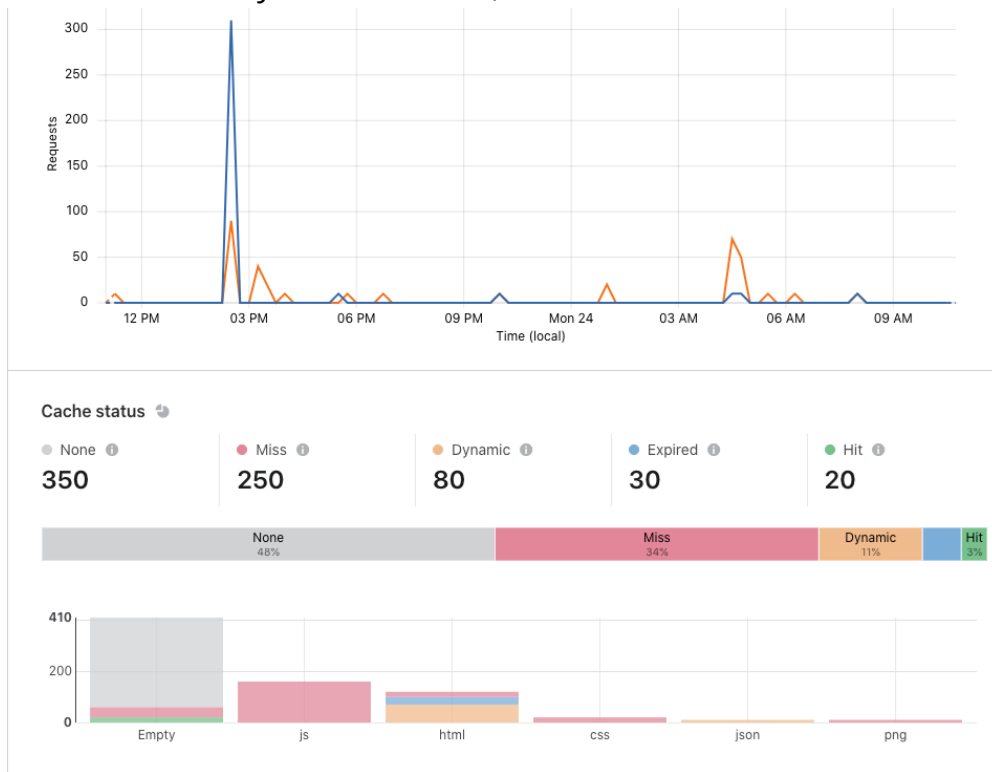
AS7922 COMCAST-7922

Country

United States

Q: My cache hit % is smaller than I expected

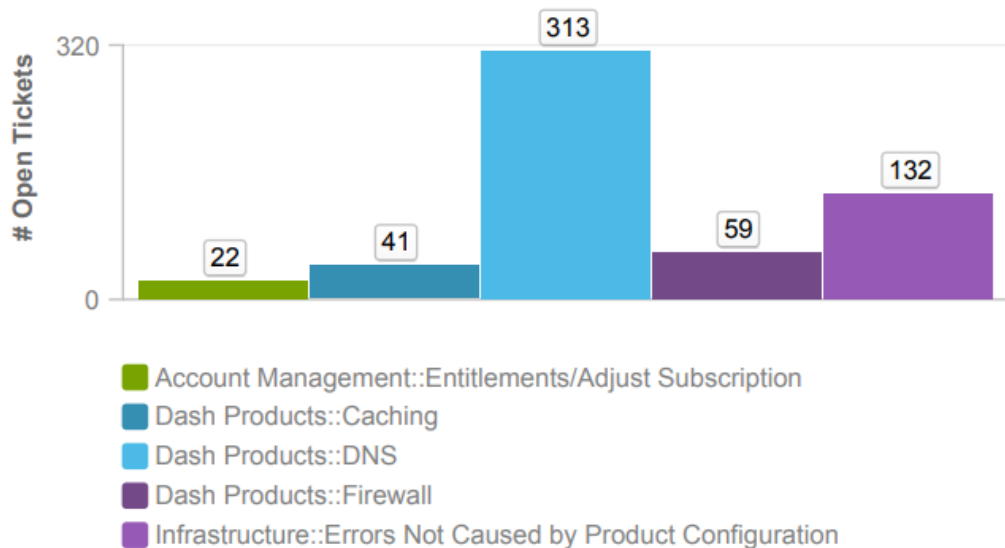
A: Go to customer's Cache Analytics dashboard, and drill down!



Top 5 ticket categories - Enterprise

1. DNS Records
2. Infrastructure
3. Firewall
4. Caching
5. Account Management

Top 10 Ticket Customer Requests of ongoing ENT Tickets 7 Days



Contact Cloudflare support for 24/7/365 support needs.

- entsupport@cloudflare.com
- partnersupport@cloudflare.com

// Working with Cloudflare Support

Find the support you need.

For self-serve questions

Check our extensive Knowledge Base at support.cloudflare.com

For strategic guidance
and best practices

Reach out to your partner account team

For non-critical
production issues

partnersupport@cloudflare.com
Confirm incidents on cloudflarestatus.com

For critical issues
(like attacks)

Call our 24/7 Emergency NOC Line

How to escalate to Cloudflare

To ensure a timely and successful investigation, please gather and organize as many of these crucial pieces of information as you can before you escalate a ticket to Cloudflare Support:

General Issues or Errors	Network Issues or Performance	Site Issues or Performance
<ul style="list-style-type: none">• RayID• URL or Zone name• Steps to reproduce	<ul style="list-style-type: none">• RayID• URL or Zone name• CDN-CGI Trace output• Traceroute or MTR• HTTP Archive File• Test Links (like from WebPageTest)	<ul style="list-style-type: none">• RayID• URL or Zone name• Steps to reproduce• Screenshots• HTTP Archive File• Test Links (like from WebPageTest)

Please be sure to include as much relevant information as possible. If you have questions, you may let us know in the ticket.

what's important
the data of “how to reproduce”

Our Support Policies/Best Practices

- **ALWAYS** confirm the website/account owner when responding and providing information in a Support ticket.
 - Is the ticket submitter writing in from the email address associated with the account?
- **NEVER** make changes to a customer account or their website's settings without confirmation or an approved runbook.

ACE - Troubleshooting Summary

- Initial t/s investigation check points:
 - a. Health checks
 - b. CF <> Origin response codes cross check
 - c. Confirm logs of the corresponding RayID
 - d. Change logs (audit logs) of the problematic time
 - e. Check cloudflarestatus.com
 - f. Save cdn-cgi and HAR
- Still can't find root cause? SOS to the below contact (attach the initial investigation):
 - a. Customer: entsupport@cloudflare.com
 - b. Partner: partnersupport@cloudflare.com
- Important
Sharing the initial t/s result. It will save time!
Need to contact support from the right email. (security)



ACE - Troubleshooting Summary

- Always check the health checks
- Conduct initial investigation, collect information.
- Look at the “general cause” of 5xx, 1xxx error.
Come up with the possible reasons and advice the customer.
- Still can't help? Reach out to Cloudflare support.
 - Share the collected info.
 - “Symptom” ? in engineer language.
 - “How to reproduce” ? in engineer language.
 - “Ask” clearly.
 - Source email matters.



Thank you for your focus for 3 days!!

What we have learned:

Core Product Implementation Steps

Staging Test Tools & Hands-on

DNS/SSL Configurations

Useful Tooling for Cloudflare

Onboarding Best Practice

Security Best Practice

Performance Best Practice

Troubleshooting basics, investigation tips (today!)



Next Steps



1. Take **ACE Certification!**

Cloudflare Partner Portal - Training - Cloudflare University

2. Work on real customer use case

3. Complete the **Challenges** section with Partner Demo Account

4. Learn more at Cloudflare **ASA Course**

THANK YOU

