

My IP – Test Report (Kalin Chih)

Web API Functional Tests	1
Web API – URLs.....	1
Web API – Happy Cases	1
Web API – Alternative Cases.....	3
Web API – Test Tool & Scripts	5
Website Functional Tests.....	5
Website – URLs	5
Website – Happy Cases.....	5
Website – Alternative Cases	7
Website – Test Tool	8
Website World Wide Performance Tests	8
Test Plan.....	8
Test Result.....	8

Web API Functional Tests

Web API – URLs

CloudFront Distribution URL	https://dgugs846yfp0a.cloudfront.net/dev/my_ip_addresses
API Gateway Stage URL	https://3uzizhoukf.execute-api.ap-northeast-1.amazonaws.com/dev/my_ip_addresses

Web API – Happy Cases

Test Case	API-OK-001: Send HTTPS GET request to Web API CloudFront distribution URL
Expected Result	<ul style="list-style-type: none">• Response 200 status• Response body contains request object, correct myIP, serverIp, httpStatus and lambdaExecutionMs• Response contains CORS headers
Test Result	<pre>// Request GET /dev/my_ip_addresses User-Agent: PostmanRuntime/7.13.0 Accept: */* Cache-Control: no-cache Postman-Token: 487e7d79-fb5a-4824-b989-2062e5cada37 Host: dgugs846yfp0a.cloudfront.net accept-encoding: gzip, deflate Connection: keep-alive HTTP/1.1 200 status: 200 Content-Type: application/json Content-Length: 235</pre>

	<pre> Connection: keep-alive Date: Fri, 24 May 2019 07:09:21 GMT x-amzn-RequestId: da7997dc-7df2-11e9-85c6-31de317c0575 Access-Control-Allow-Origin: * Access-Control-Allow-Headers: Content-Type,X-Amz-Date,Authorization,X-API-Key,X-Amz-Security-Token x-amz-apigw-id: aLTJMHprtjMFsJg= Access-Control-Allow-Methods: GET,OPTIONS X-Amzn-Trace-Id: Root=1-5ce798a1-3271e6804454b3e0d60d00e0;Sampled=0 Via: 1.1 d49c4749b641723498222f1791d0bf32.cloudfront.net (CloudFront), 1.1 ec4d5e18da821a10fe37918f056967b0.cloudfront.net (CloudFront) X-Cache: Miss from cloudfront X-Amz-Cf-Id: 3Mg0u5J9OTdjUfOEzrFtRNY58yhcb1a4ChduzQLW1N6glLQjJGFE1w== // Response {"request":{"xForwardedFor":"118.163.170.73", 52.46.57.75, 70.132.27.131", "userAgent":"Amazon CloudFront"},"myIp":"118.163.170.73", "serverIp":"169.254.65.189", "httpStatus":200, "lambdaExecutionMs":1} </pre>
--	---

Test Case	API-OK-002: Send HTTPS GET request with forged X-Forwarded-For header to Web API CloudFront distribution URL
Expected Result	<ul style="list-style-type: none"> • Response 200 status • Response body contains request object, correct myIP, serverIp, httpStatus and lambdaExecutionMs • Response contains CORS headers
Test Result	<pre> // Request GET /dev/my_ip_addresses X-Forwarded-For: 1.1.1.1, 2.2.2.2 User-Agent: PostmanRuntime/7.13.0 Accept: */* Cache-Control: no-cache Postman-Token: 001174be-d20b-4a93-9ee4-4e938fc19e40 Host: dgugs846yfp0a.cloudfront.net accept-encoding: gzip, deflate Connection: keep-alive HTTP/1.1 200 status: 200 Content-Type: application/json Content-Length: 253 Connection: keep-alive Date: Fri, 24 May 2019 07:07:59 GMT x-amzn-RequestId: a9b50101-7df2-11e9-9ef9-01665dcc02b9 Access-Control-Allow-Origin: * Access-Control-Allow-Headers: Content-Type,X-Amz-Date,Authorization,X-API-Key,X-Amz-Security-Token x-amz-apigw-id: aLS8aEUSTjMFukA= Access-Control-Allow-Methods: GET,OPTIONS X-Amzn-Trace-Id: Root=1-5ce7984f-84bc45f1b5883251c021578c;Sampled=0 Via: 1.1 ba6b942710aa259103f983d062cdf775.cloudfront.net (CloudFront), 1.1 ec4d5e18da821a10fe37918f056967b0.cloudfront.net (CloudFront) X-Cache: Miss from cloudfront X-Amz-Cf-Id: n071DI28NrvdbY-QouAXZ_AEkUhuiBi_-d1tDwFwJ_capT3zOqXxeQ== // Response </pre>

	<pre>{ "request": { "xForwardedFor": "1.1.1.1, 2.2.2.2, 118.163.170.73, 52.46.57.88, 70.132.27.84", "userAgent": "Amazon CloudFront", "myIp": "118.163.170.73", "serverIp": "169.254.65.189", "httpStatus": 200, "lambdaExecutionMs": 2 } }</pre>
--	---

Test Case	API-OK-003: Send HTTP GET request to Web API CloudFront distribution URL
Expected Result	<ul style="list-style-type: none"> • HTTP request redirects to HTTPS • Response 200 status • Response body contains request object, correct myIp, serverIp, httpStatus and lambdaExecutionMs • Response contains CORS headers
Test Result	<pre>// Request GET /dev/my_ip_addresses User-Agent: PostmanRuntime/7.13.0 Accept: */* Cache-Control: no-cache Postman-Token: 8f7cdc65-1e8c-4201-915d-87638a58ad4b accept-encoding: gzip, deflate referer: http://dgugs846yfp0a.cloudfront.net/dev/my_ip_addresses Connection: keep-alive HTTP/1.1 200 status: 200 Content-Type: application/json Content-Length: 233 Connection: keep-alive Date: Fri, 24 May 2019 07:01:42 GMT x-amzn-RequestId: c92bc5e7-7df1-11e9-b88b-150a162e0689 Access-Control-Allow-Origin: * Access-Control-Allow-Headers: Content-Type,X-Amz-Date,Authorization,X-Api-Key,X-Amz-Security-Token x-amz-apigw-id: aLSBjFy1tjMFmZw= Access-Control-Allow-Methods: GET,OPTIONS X-Amzn-Trace-Id: Root=1-5ce796d6-d014fc0008b572803a049e80;Sampled=0 Via: 1.1 b3f2829423a128e564944f5af75ecda5.cloudfront.net (CloudFront), 1.1 7f3183d4dbd6bd80a4194d7658fb2746.cloudfront.net (CloudFront) X-Cache: Miss from cloudfront X-Amz-Cf-Id: L0iDmwQEB75qy36Ocel4KLSdsiCxDILYggusLcMbvC4A895kSjB3tg== // Response {"request":{"xForwardedFor":"60.251.40.253, 52.46.57.75, 70.132.27.148","userAgent":"Amazon CloudFront"},"myIp":"60.251.40.253","serverIp":"169.254.65.189","httpStatus":200,"lambdaExecutionMs":1}</pre>

Web API – Alternative Cases

Test Case	API-Error-001: Send HTTPS GET request to Web API Gateway stage URL
Expected Result	<ul style="list-style-type: none"> • Response body contains httpStatus(403) and lambdaExecutionMs
Test Result	<pre>// Request GET /dev/my_ip_addresses User-Agent: PostmanRuntime/7.13.0 Accept: */* Cache-Control: no-cache Postman-Token: 7174ad90-cf71-466c-80de-24ae0d963709</pre>

	Host: 3uzizhoukf.execute-api.ap-northeast-1.amazonaws.com accept-encoding: gzip, deflate Connection: keep-alive HTTP/1.1 200 status: 200 Content-Type: application/json Content-Length: 40 Connection: keep-alive Date: Fri, 24 May 2019 07:17:05 GMT x-amzn-RequestId: ef39d45c-7df3-11e9-8455-0f2c9c3eb1b4 Access-Control-Allow-Origin: * Access-Control-Allow-Headers: Content-Type,X-Amz-Date,Authorization,X-Api-Key,X-Amz-Security-Token x-amz-apigw-id: aLURvGD7NjMFvMQ= Access-Control-Allow-Methods: GET,OPTIONS X-Amzn-Trace-Id: Root=1-5ce79a71-f902b85013a53d46ae65dc90;Sampled=0 X-Cache: Miss from cloudfront Via: 1.1 efd481542a303e167a3110e3c0ffee24.cloudfront.net (CloudFront) X-Amz-Cf-Id: IkyZaYbcZgfK92CUWI-go8DgLzIqug_VD0cM8R1otmCOs4Cwxa8jmg== // Response {"httpStatus":403,"lambdaExecutionMs":0}
--	---

Test Case	API-Error-002: Send HTTPS GET request with invalid auth_token to Web API Gateway stage URL
Expected Result	<ul style="list-style-type: none"> Response body contains httpStatus(403) and lambdaExecutionMs
Test Result	// Request GET /dev/my_ip_addresses myip-authtoken: test User-Agent: PostmanRuntime/7.13.0 Accept: */* Cache-Control: no-cache Postman-Token: c3da046c-6461-4f9d-b24f-aed21e035511 Host: 3uzizhoukf.execute-api.ap-northeast-1.amazonaws.com accept-encoding: gzip, deflate Connection: keep-alive HTTP/1.1 200 status: 200 Content-Type: application/json Content-Length: 40 Connection: keep-alive Date: Fri, 24 May 2019 07:20:27 GMT x-amzn-RequestId: 67b46b37-7df4-11e9-b88b-150a162e0689 Access-Control-Allow-Origin: * Access-Control-Allow-Headers: Content-Type,X-Amz-Date,Authorization,X-Api-Key,X-Amz-Security-Token x-amz-apigw-id: aLUxUHj1NjMFmZw= Access-Control-Allow-Methods: GET,OPTIONS X-Amzn-Trace-Id: Root=1-5ce79b3b-daf6886065068b90b988a080;Sampled=0 X-Cache: Miss from cloudfront Via: 1.1 efd481542a303e167a3110e3c0ffee24.cloudfront.net (CloudFront) X-Amz-Cf-Id: Wg05F-JbSf7_BT7CV_Orzyi1C94noNF1UPleFRxYithus0Jl9NZCAA== // Response {"httpStatus":403,"lambdaExecutionMs":0}

Test Case	API-Error-003: Send HTTPS request with unsupported metho to Web API Gateway stage URL
Expected Result	<ul style="list-style-type: none"> Response body contains message(Missing Authentication Token)
Test Result	<pre>// Request POST /dev/my_ip_addresses myip-authtoken: test User-Agent: PostmanRuntime/7.13.0 Accept: */* Cache-Control: no-cache Postman-Token: d25130af-54dd-4f7c-9345-d680e48b9fc7 Host: 3uzizhoukf.execute-api.ap-northeast-1.amazonaws.com accept-encoding: gzip, deflate content-length: Connection: keep-alive HTTP/1.1 403 status: 403 Content-Type: application/json Content-Length: 42 Connection: keep-alive Date: Fri, 24 May 2019 07:22:34 GMT x-amzn-RequestId: b32bb919-7df4-11e9-8087-2781f39f363b x-amzn-ErrorType: MissingAuthenticationTokenException x-amz-apigw-id: aLVFGED4NjMFrkA= X-Cache: Error from cloudfront Via: 1.1 efd481542a303e167a3110e3c0ffee24.cloudfront.net (CloudFront) X-Amz-Cf-Id: prluO2LtmL4c1UI-ncd2jsjLTjZh40jmLYDN1PsPWEcmGnVpkouHJQ== // Response {"message":"Missing Authentication Token"}</pre>

Web API – Test Tool & Scripts

The Web API test scripts are made by [Postman](#), it can be run by [Newman](#) command line in CI/CD tools.

Postman Collection Script	postman_collection.json
Postman Environment Setting	postman_environment.json
Postman Test Result	web_api-test_result.png

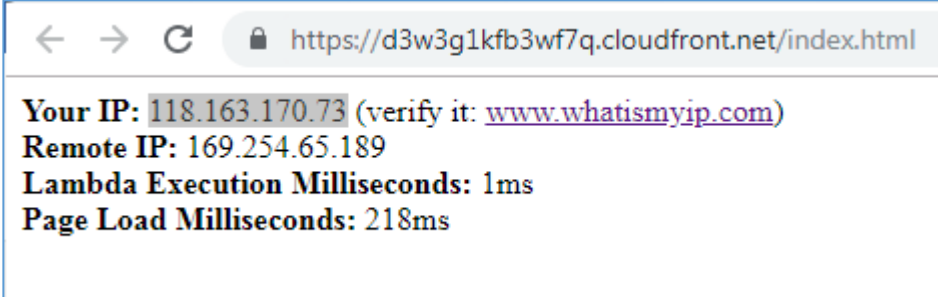
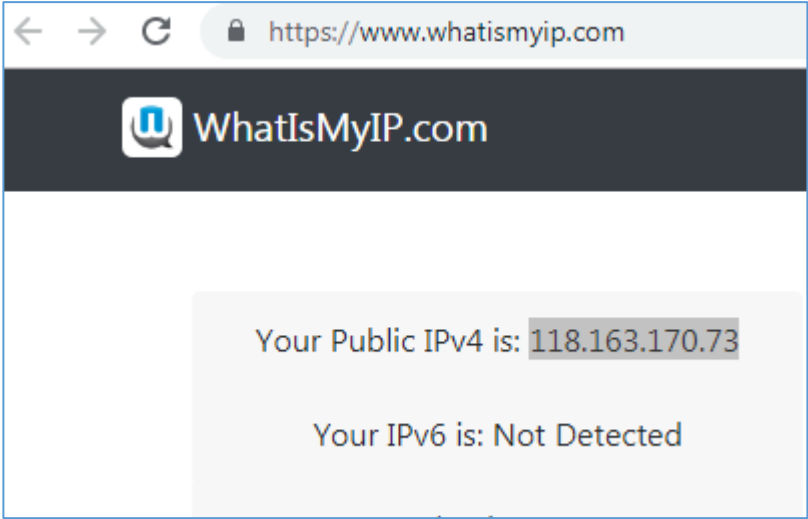
Website Functional Tests

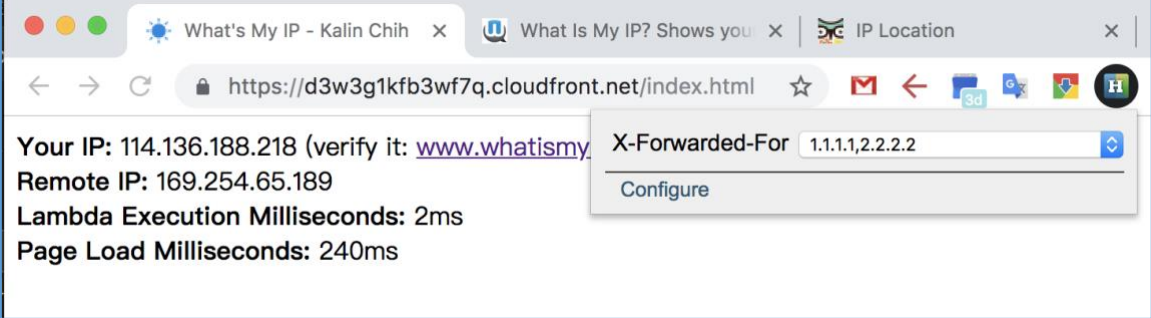
Website – URLs

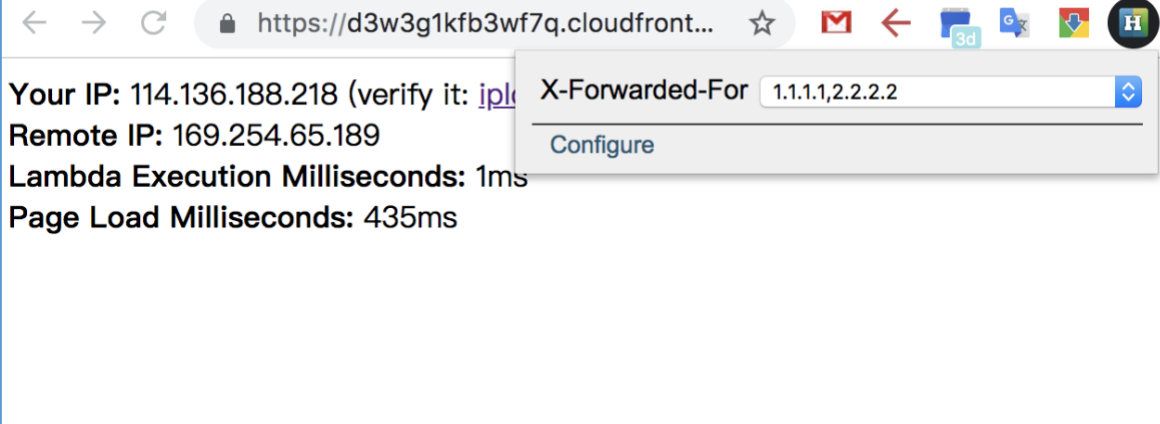

CloudFront Distribution URL	https://d3w3g1kfb3wf7q.cloudfront.net/index.html
S3 Object URL	https://s3-ap-northeast-1.amazonaws.com/kalinchih-my-ip-view/index.html

Website – Happy Cases

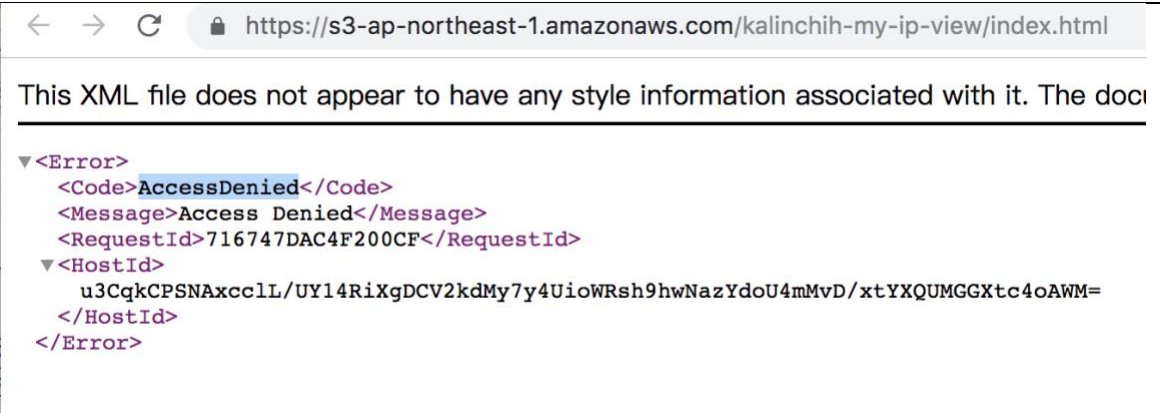
Test Case	Web-OK-001: Open Website CloudFront distribution URL by browser
Expected Result	<ul style="list-style-type: none"> Display “Your IP”, “Remote IP”, “Lambda Execution Milliseconds” and “Page Load Milliseconds” The “Your IP” value is same with the “Your Public IPv4” on https://www.whatismyip.com/

Test Result	 <p> Your IP: 118.163.170.73 (verify it: www.whatismyip.com) Remote IP: 169.254.65.189 Lambda Execution Milliseconds: 1ms Page Load Milliseconds: 218ms </p>  <p> WhatIsMyIP.com Your Public IPv4 is: 118.163.170.73 Your IPv6 is: Not Detected </p>
-------------	---

Test Case	Web-OK-002: Open Website CloudFront distribution URL with forged X-Forwarded-For header by browser
Expected Result	<ul style="list-style-type: none"> ● Display “Your IP”, “Remote IP”, “Lambda Execution Milliseconds” and “Page Load Milliseconds” ● The “Your IP” value is same with the “Your IP address” on https://iplocation.com/
Test Result	 <p> Your IP: 114.136.188.218 (verify it: www.whatismyip.com) Remote IP: 169.254.65.189 Lambda Execution Milliseconds: 2ms Page Load Milliseconds: 240ms </p> <p>X-Forwarded-For: 1.1.1.1,2.2.2.2</p>

	 <p>Note: cannot use https://www.whatismyip.com/ to verify the user IP because it displays the forged IP by X-Forwarded-For header.</p> 
--	---

Website – Alternative Cases

Test Case	Web-Error-001: Open Website S3 object URL by browser
Expected Result	<ul style="list-style-type: none"> ● Display S3 AccessDenied error
Test Result	 <pre> <?xml version="1.0" encoding="UTF-8" standalone="yes"?> <Error> <Code>AccessDenied</Code> <Message>Access Denied</Message> <RequestId>716747DAC4F200CF</RequestId> <HostId> u3CqkCPSNAXcc1L/UY14RiXgDCV2kdMy7y4UioWRsh9hwNazYdoU4mMvD/xtYXQUMGGXtc4oAWM= </HostId> </Error> </pre>

Website – Test Tool

Currently manually test by Chrome with [Smart Header extension](#) which can be improved by [Robot Framework](#) with [Selenium](#) for automation.

Website World Wide Performance Tests

Test Plan

Test website worldwide speed from 17 regions by <https://www.dotcom-tools.com/website-speed-test.aspx>.

Test Result

- Average 1st visit: 311.2 ms (< 400ms)
- Average 2nd visit: 231.4 ms (< 400ms)

