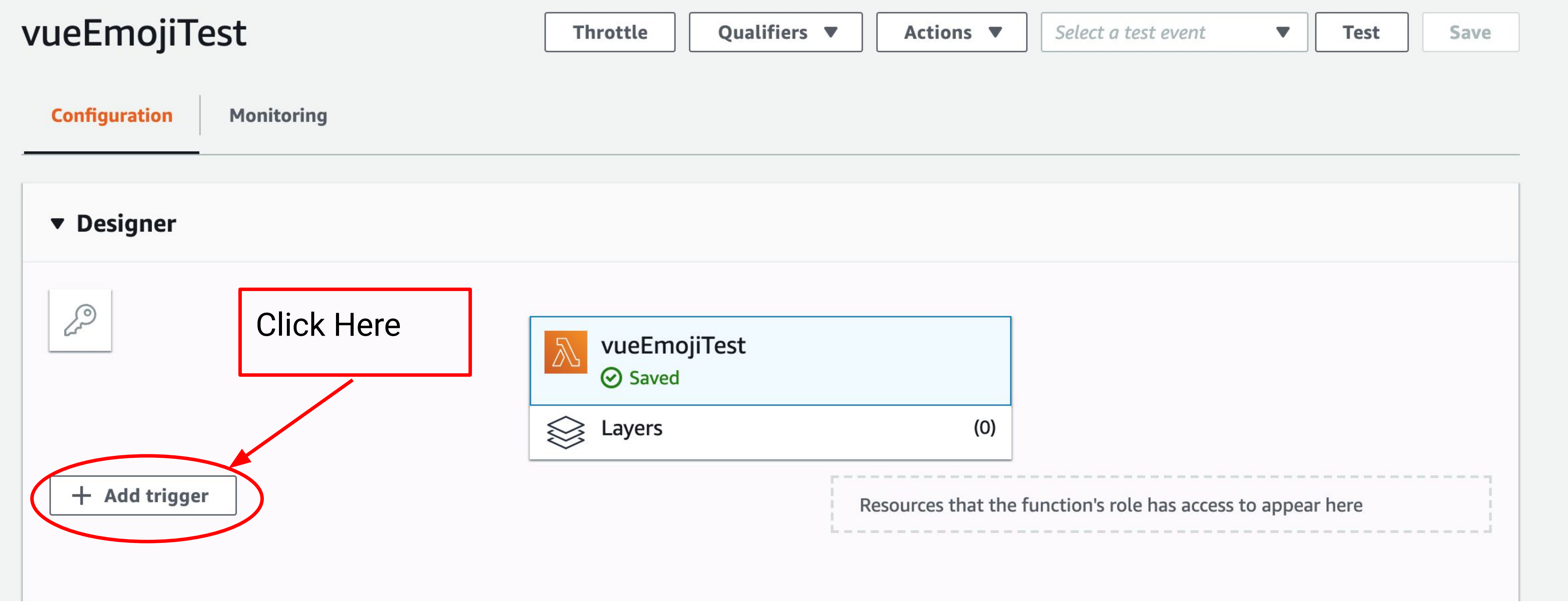
AWS Lambda with a simple HTTP proxy

Setting up API Gateway

Example code from – https://github.com/Aishwarya26l/vue-emojis

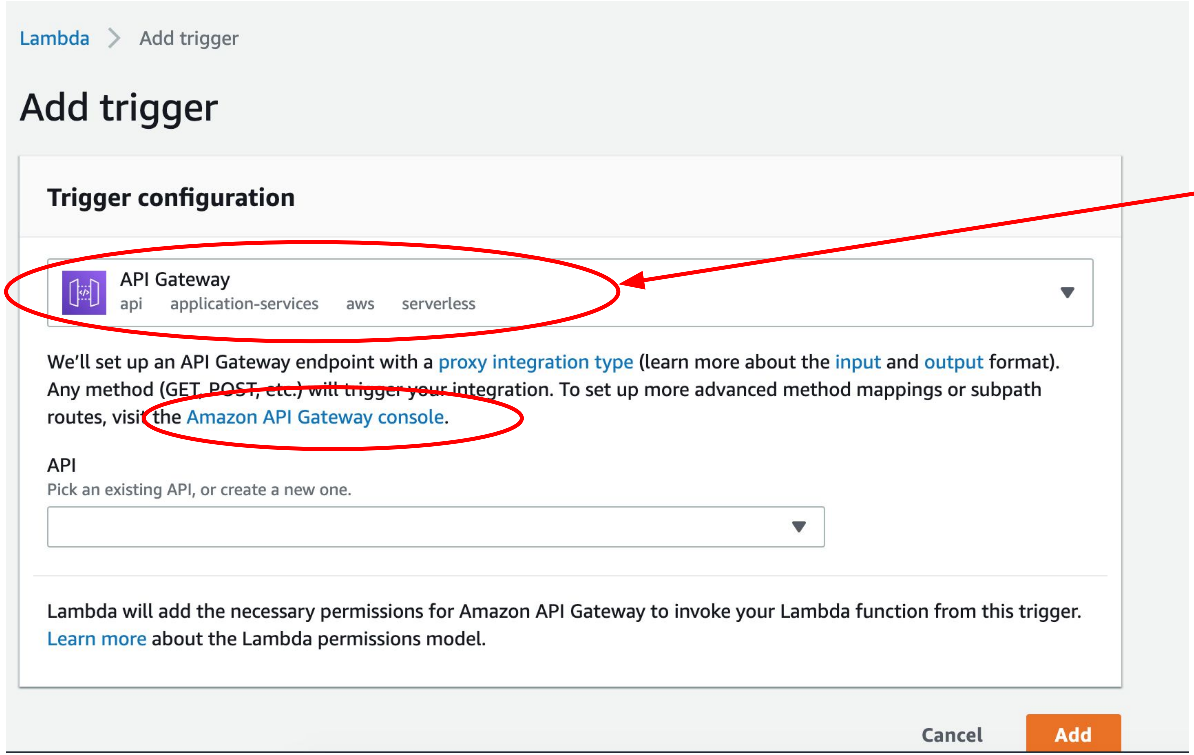
Navigate to your Lambda function



Click Here

Resources that the function's role has access to appear here

Add trigger



Lambda > Add trigger

Add trigger

Trigger configuration

API Gateway
api application-services aws serverless

We'll set up an API Gateway endpoint with a proxy integration type (learn more about the input and output format). Any method (GET, POST, etc.) will trigger your integration. To set up more advanced method mappings or subpath routes, visit the Amazon API Gateway console.

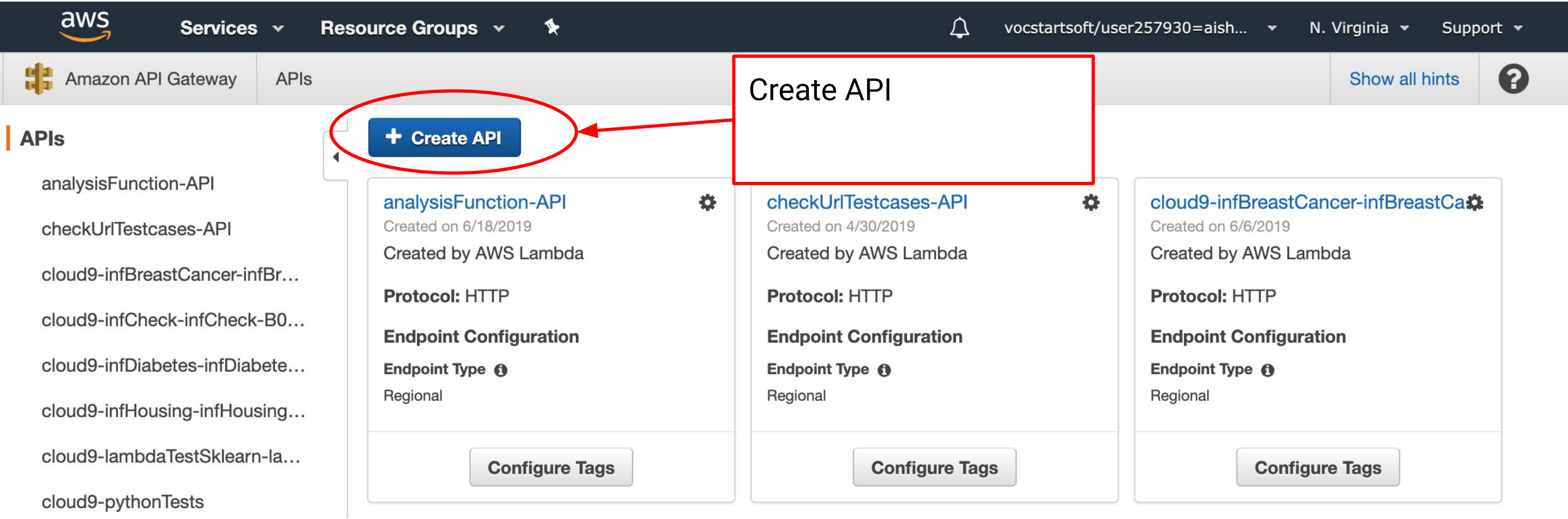
API
Pick an existing API, or create a new one.

Lambda will add the necessary permissions for Amazon API Gateway to invoke your Lambda function from this trigger. Learn more about the Lambda permissions model.

Select API Gateway as the Trigger

1. Click on Amazon API Gateway Console for advanced settings.

API Gateway console



Create API

analysisFunction-API
Created on 6/18/2019
Created by AWS Lambda

Protocol: HTTP

Endpoint Configuration

Endpoint Type

Regional

checkUrlTestcases-API
Created on 4/30/2019
Created by AWS Lambda

Protocol: HTTP

Endpoint Configuration

Endpoint Type

Regional

cloud9-infBreastCancer-infBreastCa
Created on 6/6/2019
Created by AWS Lambda

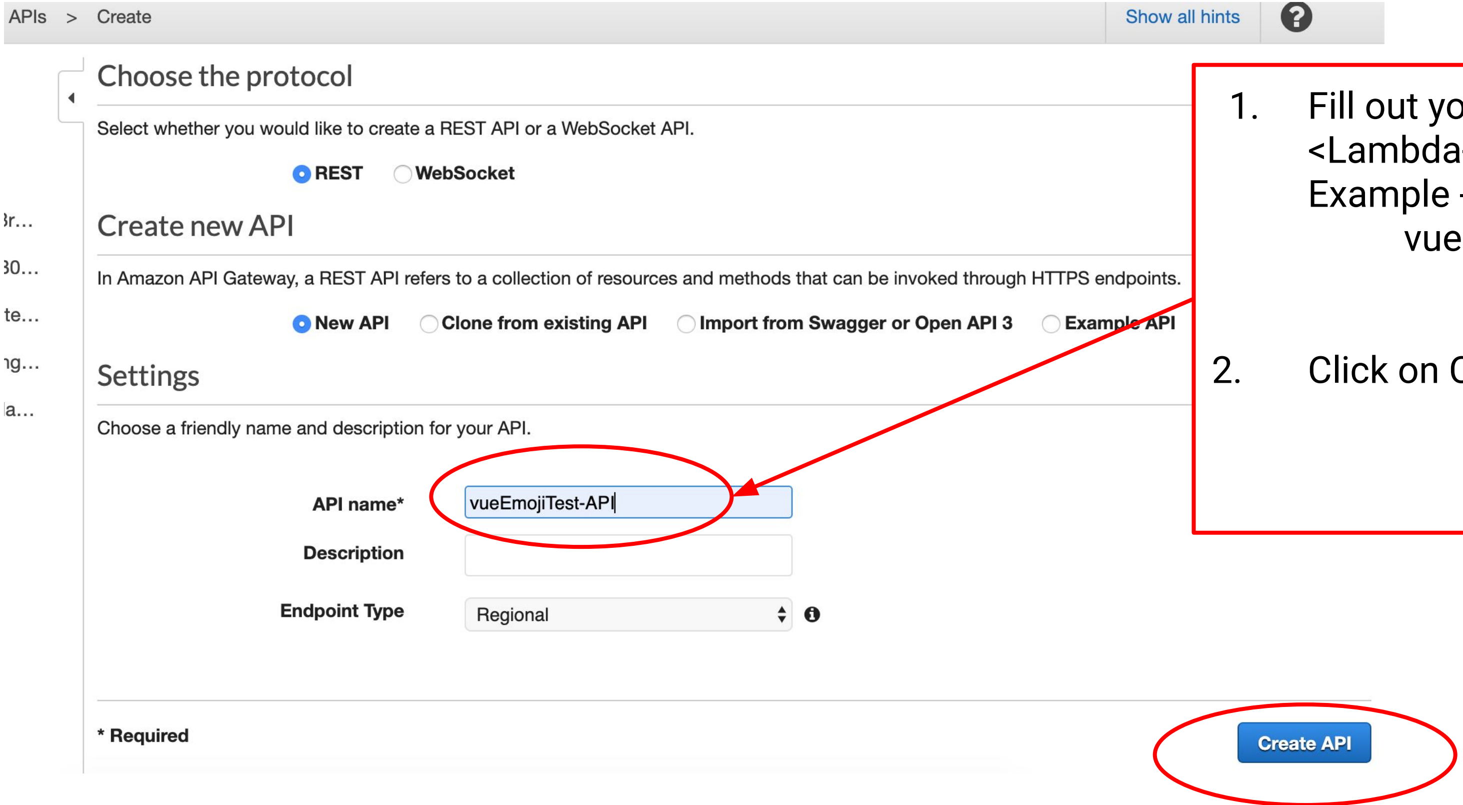
Protocol: HTTP

Endpoint Configuration

Endpoint Type

Regional

API Gateway console



Choose the protocol

Select whether you would like to create a REST API or a WebSocket API.

● REST ○ WebSocket

Create new API

In Amazon API Gateway, a REST API refers to a collection of resources and methods that can be invoked through HTTPS endpoints.

● New API ○ Clone from existing API ○ Import from Swagger or Open API 3 ○ Example API

Settings

Choose a friendly name and description for your API.

API name*: vueEmojiTest-API

Description:

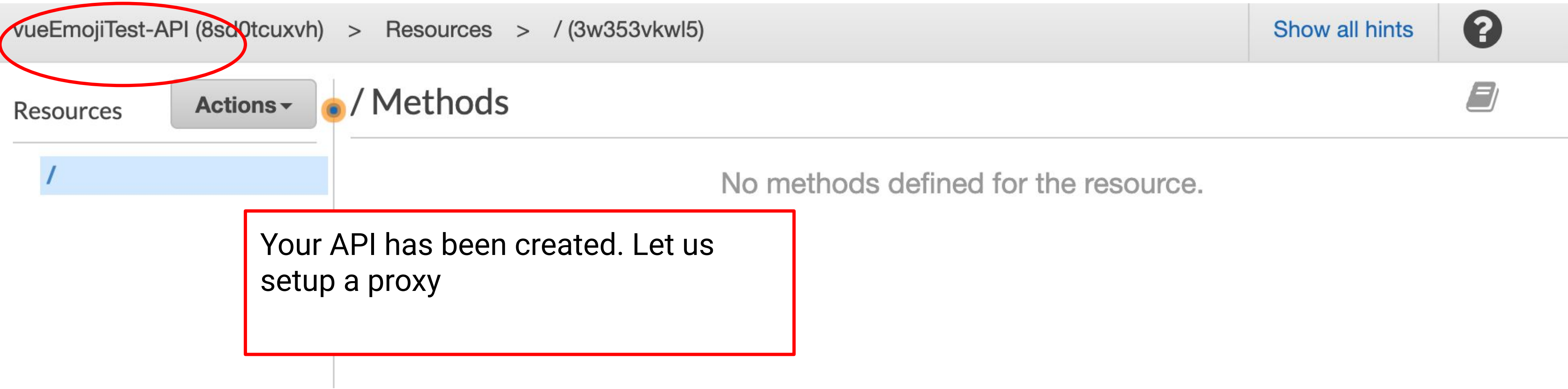
Endpoint Type: Regional

* Required

1. Fill out your API name <Lambda-Function-Name>-API
   Example -
   vueEmojiTest-API

2. Click on Create API

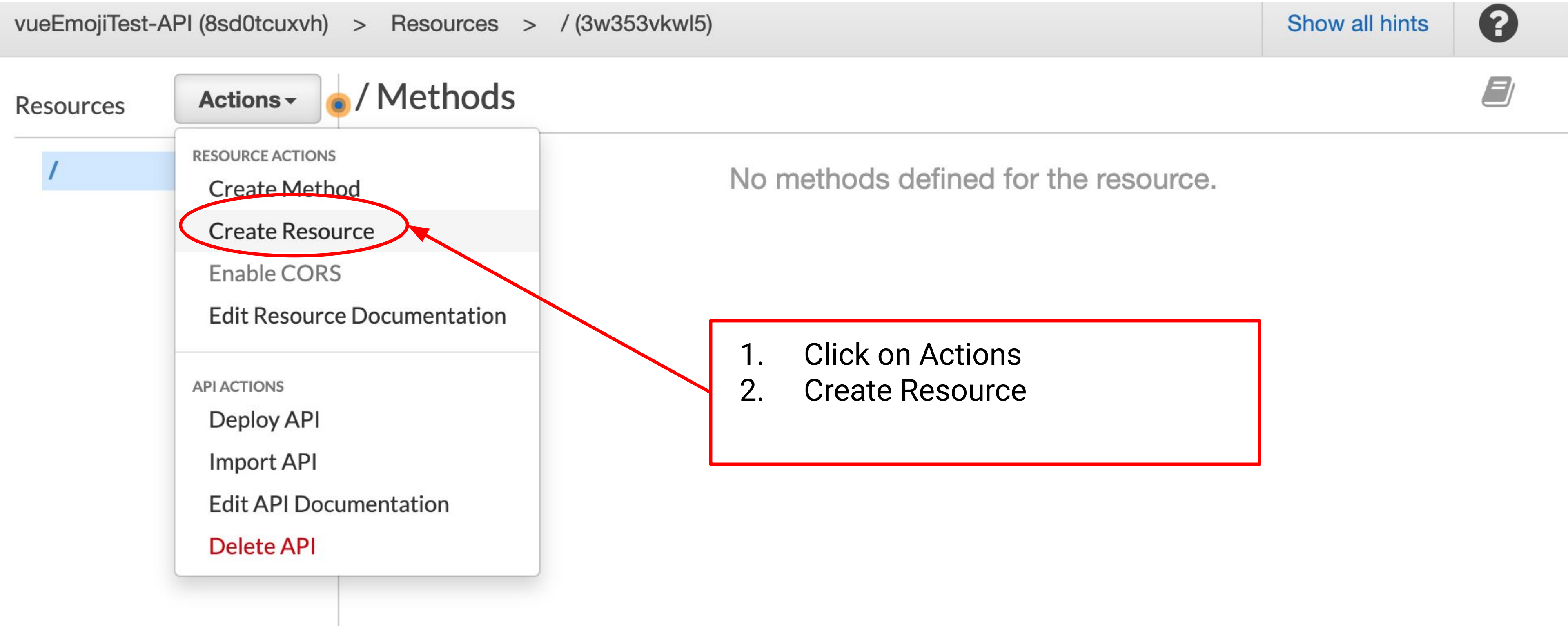
API Gateway console



No methods defined for the resource.

Your API has been created. Let us setup a proxy

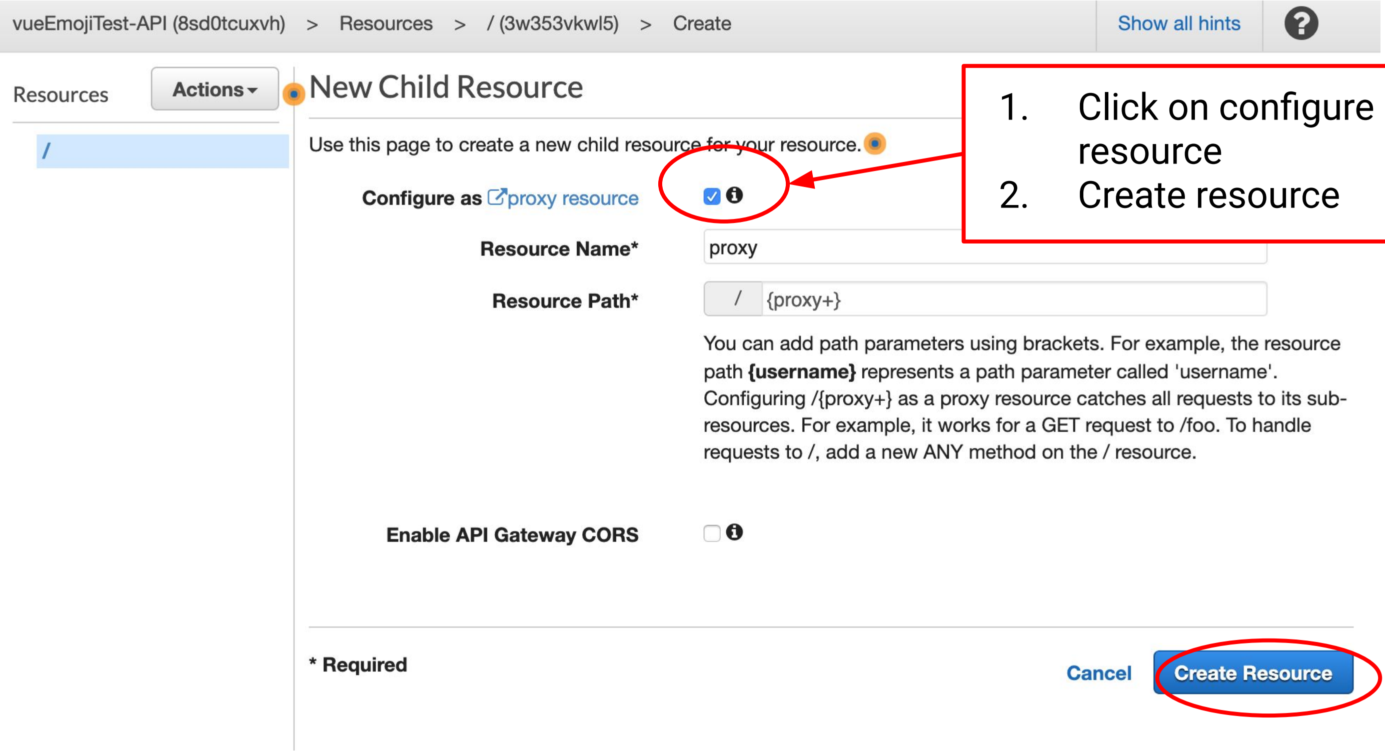
API Gateway console



No methods defined for the resource.

1. Click on Actions
2. Create Resource

API Gateway console



vueEmojiTest-API (8sd0tcuxvh) > Resources > / (3w353vkwl5) > Create

New Child Resource

Use this page to create a new child resource for your resource.

Configure as proxy resource ☑

Resource Name* proxy

Resource Path* / {proxy+}

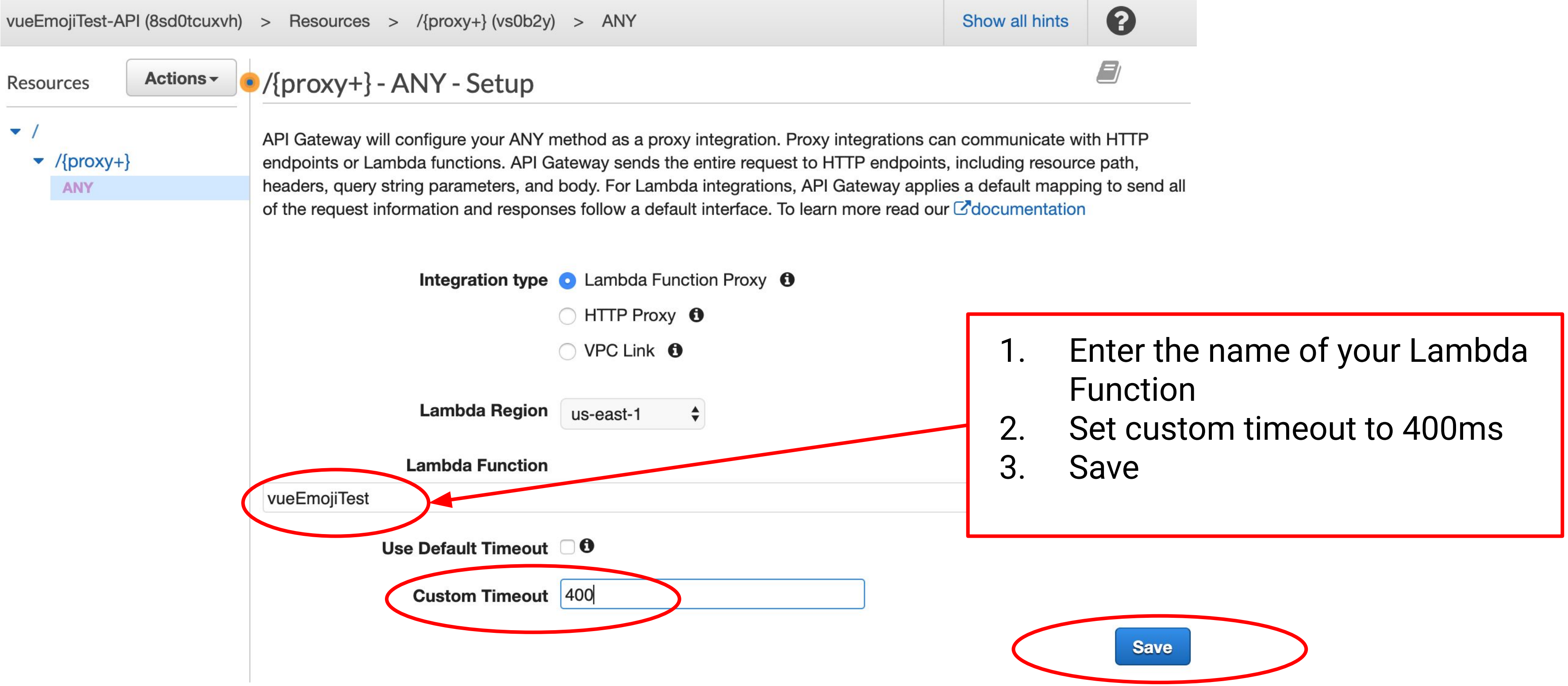
You can add path parameters using brackets. For example, the resource path **{username}** represents a path parameter called 'username'. Configuring /{proxy+} as a proxy resource catches all requests to its sub-resources. For example, it works for a GET request to /foo. To handle requests to /, add a new ANY method on the / resource.

Enable API Gateway CORS □

*** Required**

1. Click on configure as proxy resource
2. Create resource

API Gateway console



vueEmojiTest-API (8sd0tcuxvh) > Resources > /{proxy+} (vs0b2y) > ANY

/{proxy+} - ANY - Setup

API Gateway will configure your ANY method as a proxy integration. Proxy integrations can communicate with HTTP endpoints or Lambda functions. API Gateway sends the entire request to HTTP endpoints, including resource path, headers, query string parameters, and body. For Lambda integrations, API Gateway applies a default mapping to send all of the request information and responses follow a default interface. To learn more read our documentation

Integration type ● Lambda Function Proxy ○ HTTP Proxy ○ VPC Link

Lambda Region us-east-1

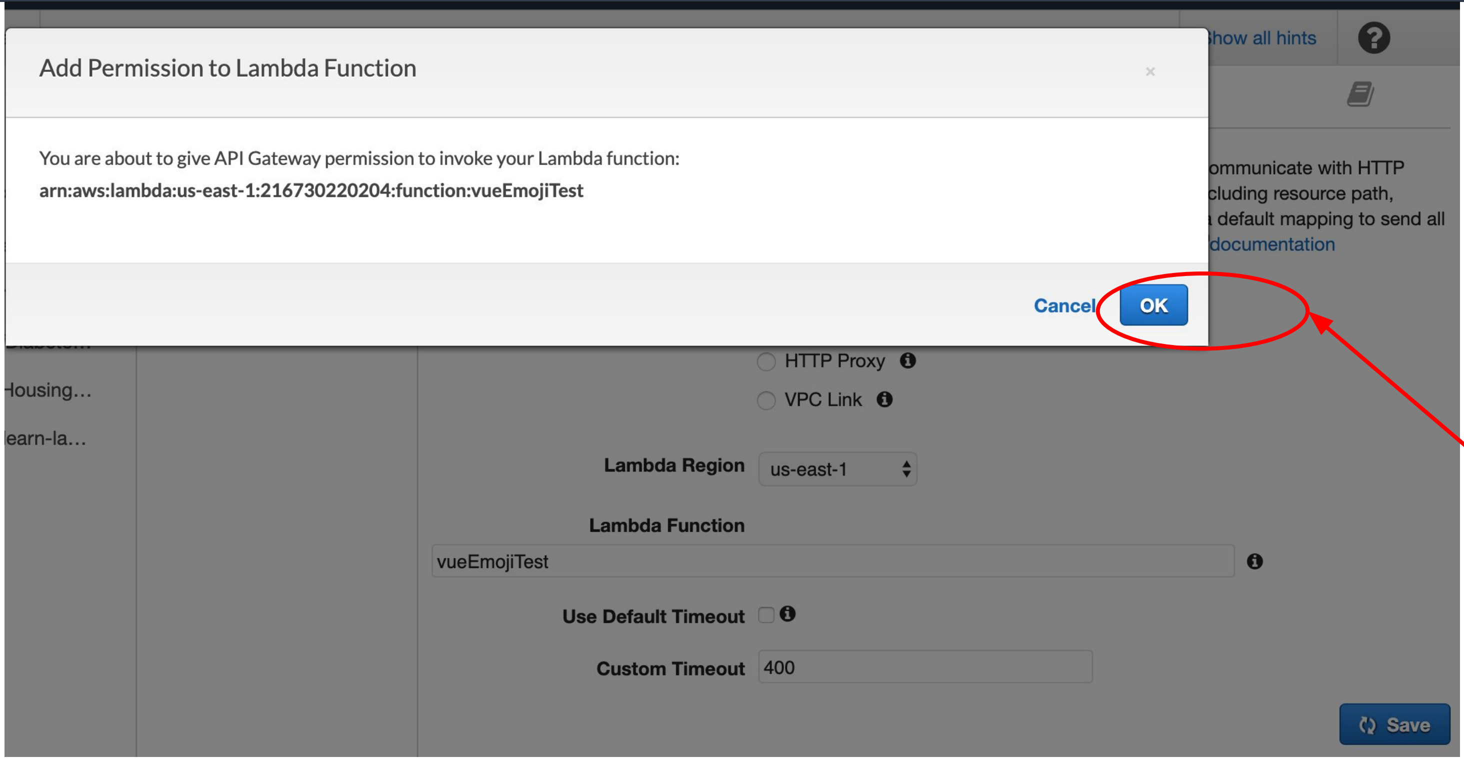
Lambda Function vueEmojiTest

Use Default Timeout □

Custom Timeout 400

1. Enter the name of your Lambda Function
2. Set custom timeout to 400ms
3. Save

API Gateway console



Add Permission to Lambda Function

You are about to give API Gateway permission to invoke your Lambda function:

arn:aws:lambda:us-east-1:216730220204:function:vueEmojiTest

Lambda Region: us-east-1

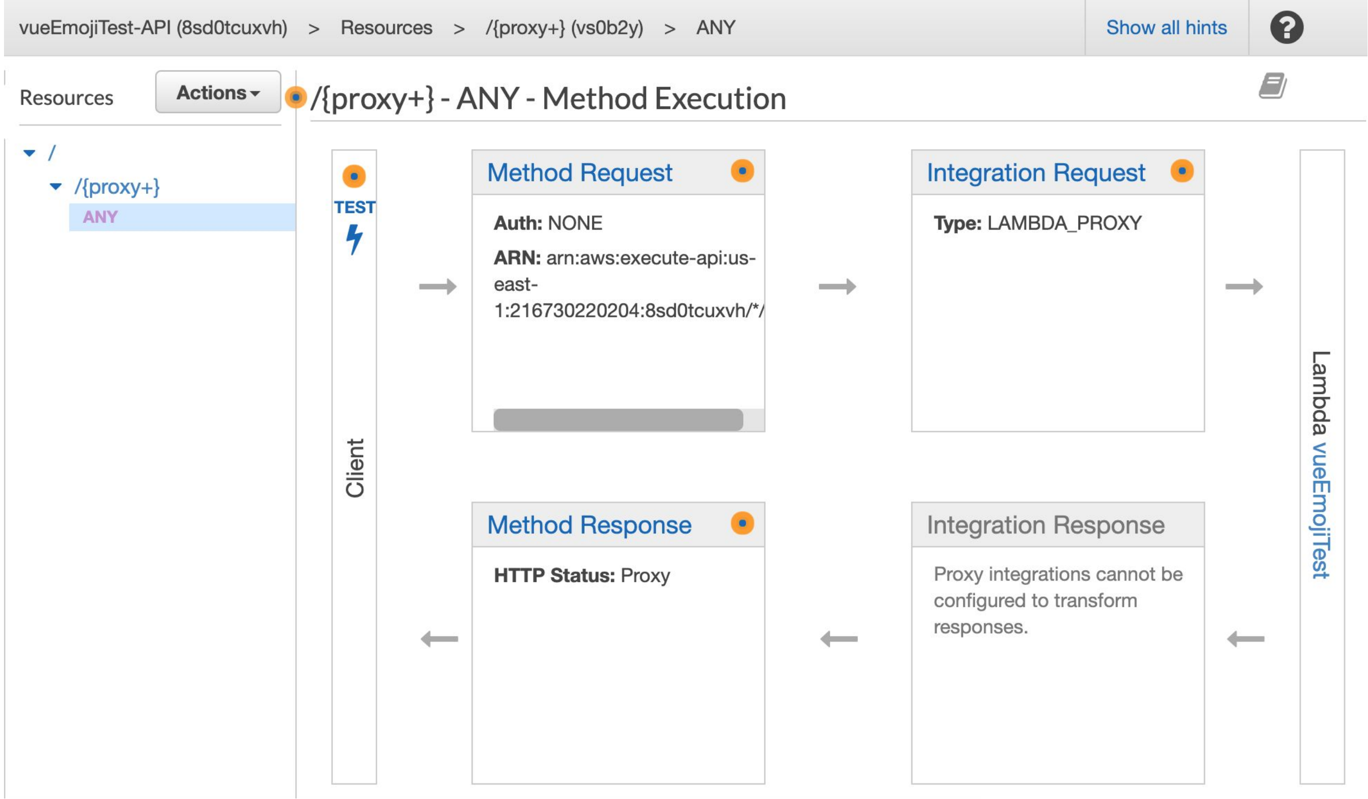
Lambda Function: vueEmojiTest

Use Default Timeout: □

Custom Timeout: 400

Confirm

API Gateway console



vueEmojiTest-API (8sd0tcuxvh) > Resources > /{proxy+} (vs0b2y) > ANY

/{proxy+} - ANY - Method Execution

Method Request

Auth: NONE

ARN: arn:aws:execute-api:us-east-1:216730220204:8sd0tcuxvh/*/

Integration Request

Type: LAMBDA_PROXY

Method Response

HTTP Status: Proxy

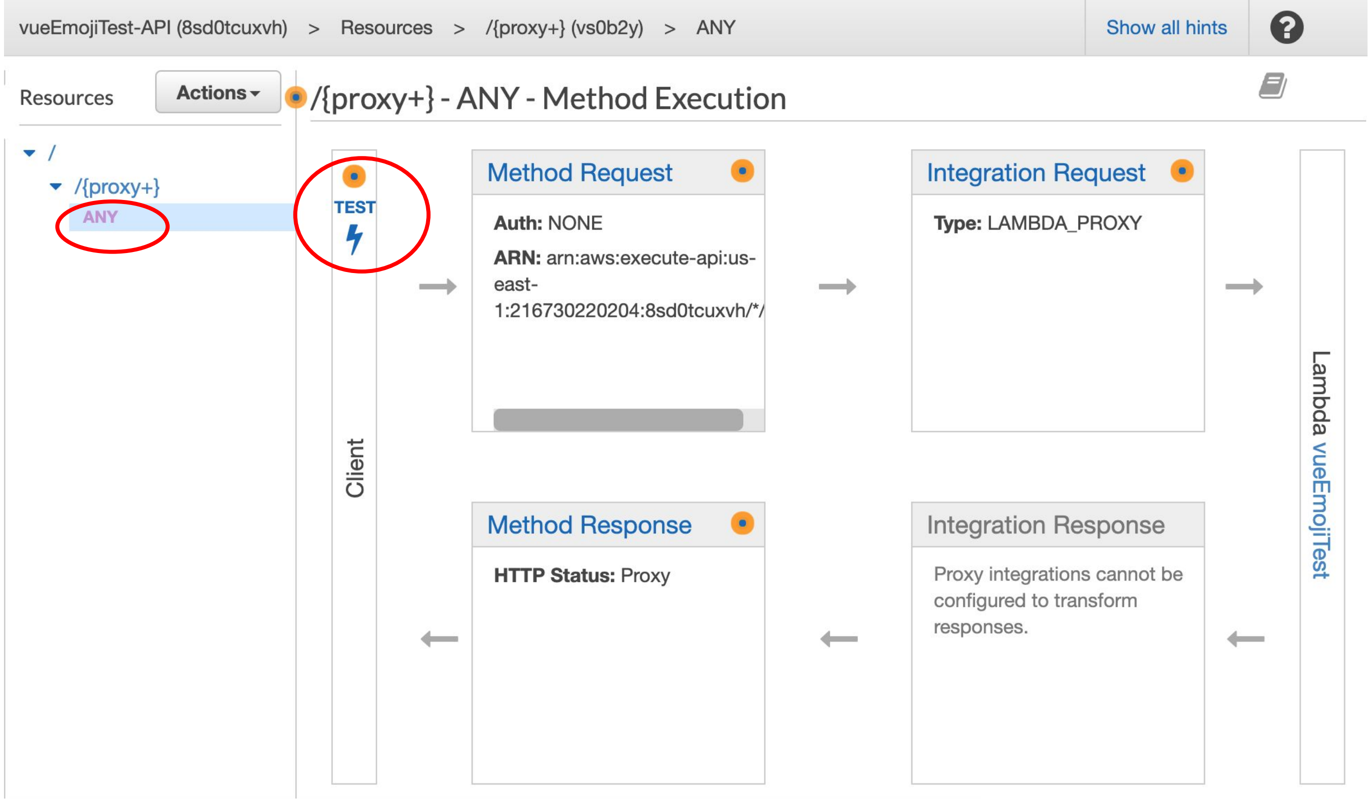
Integration Response

Proxy integrations cannot be configured to transform responses.

Your proxy has been set up.

1. **Let us test our API**
2. **Then deploy**

API Gateway console



vueEmojiTest-API (8sd0tcuxvh) > Resources > /{proxy+} (vs0b2y) > ANY

/{proxy+} - ANY - Method Execution

Method Request

Auth: NONE

ARN: arn:aws:execute-api:us-east-1:216730220204:8sd0tcuxvh/*/

Integration Request

Type: LAMBDA_PROXY

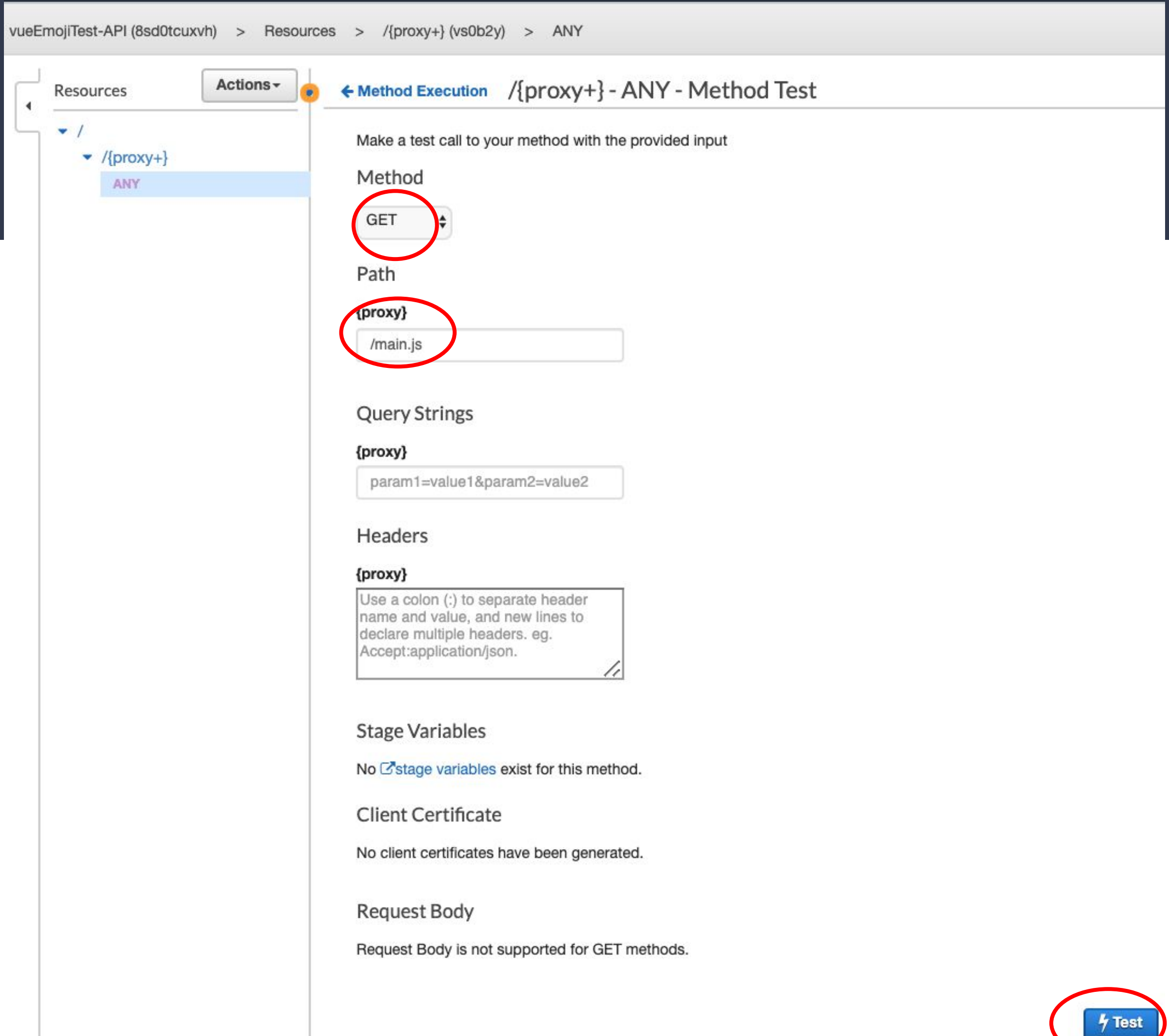
Method Response

HTTP Status: Proxy

Integration Response

Proxy integrations cannot be configured to transform responses.

1. Click on ANY under {proxy+}
2. Click on test to test our proxy



vueEmojiTest-API (8sd0tcuxvh) > Resources > /{proxy+} (vs0b2y) > ANY

/{proxy+} - ANY - Method Test

Make a test call to your method with the provided input

Method

GET

Path

{proxy}

/main.js

Query Strings

{proxy}

param1=value1&param2=value2

Headers

{proxy}

Use a colon (:) to separate header name and value, and new lines to declare multiple headers. eg. Accept:application/json.

Stage Variables

No stage variables exist for this method.

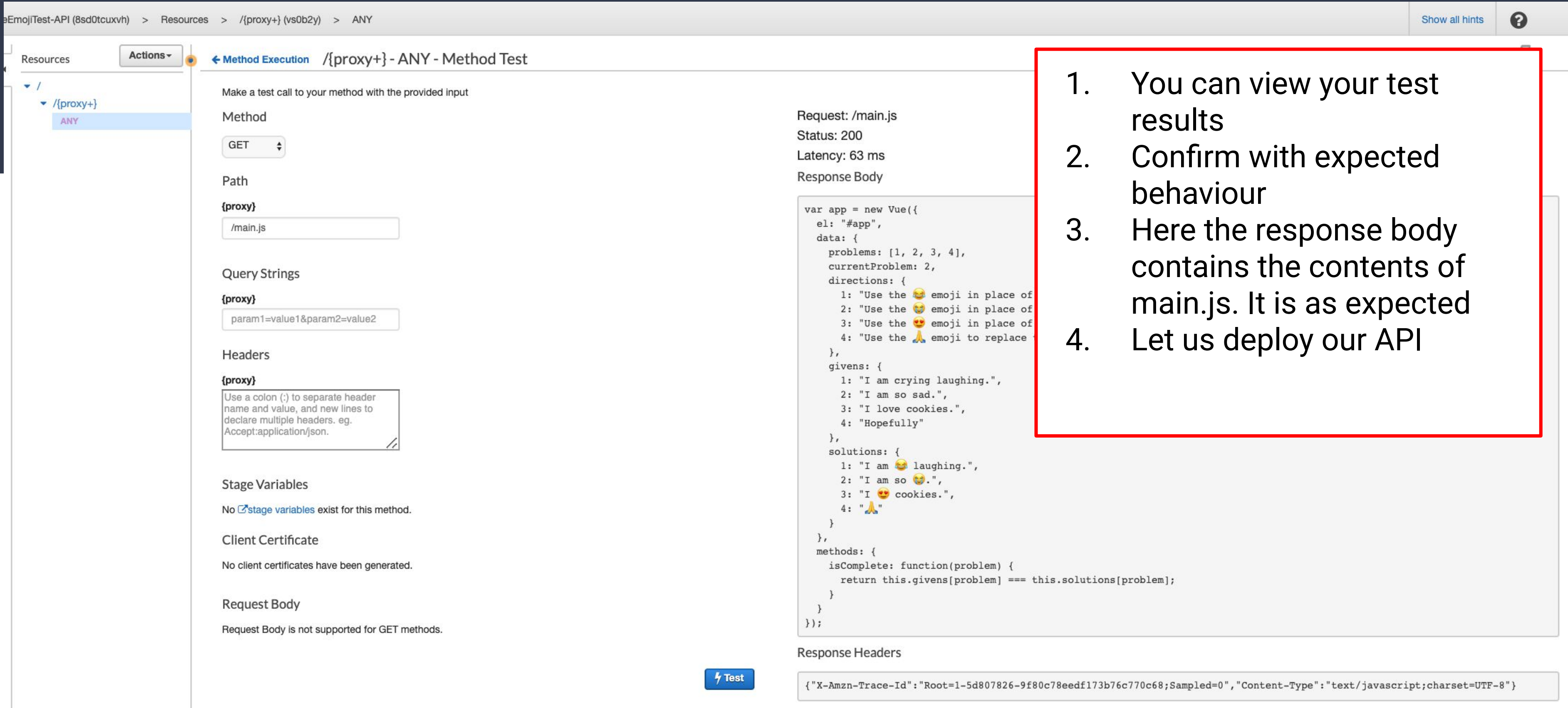
Client Certificate

No client certificates have been generated.

Request Body

Request Body is not supported for GET methods.

1. Select the GET method
2. Select the route /main.js
3. Click on test



eEmojiTest-API (8sd0tcuxvh) > Resources > /{proxy+} (vs0b2y) > ANY
Show all hints
Resources
Actions▾
/
/{proxy+}
ANY
← Method Execution

/{proxy+} - ANY - Method Test

Make a test call to your method with the provided input

Method

GET

Path

{proxy}

/main.js

Query Strings

{proxy}

param1=value1&param2=value2

Headers

{proxy}

Use a colon (:) to separate header name and value, and new lines to declare multiple headers. eg. Accept:application/json.

Stage Variables

No stage variables exist for this method.

Client Certificate

No client certificates have been generated.

Request Body

Request Body is not supported for GET methods.

Request: /main.js

Status: 200

Latency: 63 ms

Response Body

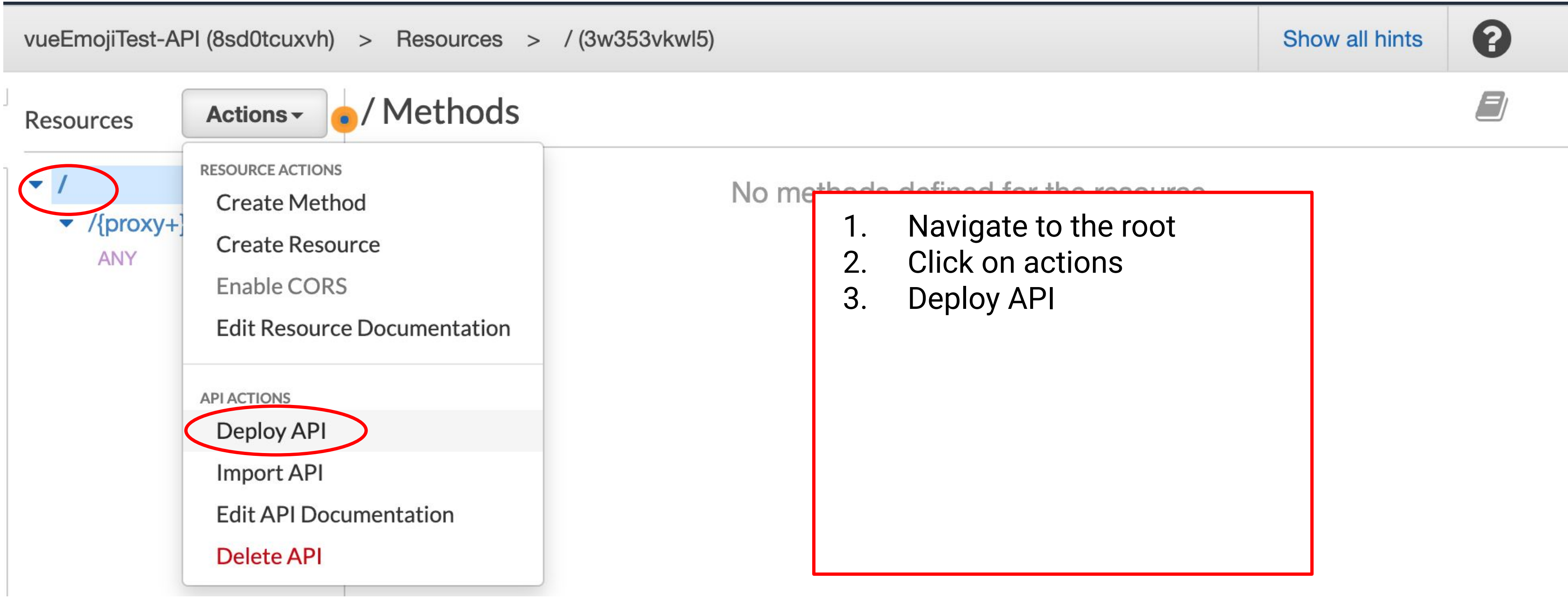
```
var app = new Vue({
  el: "#app",
  data: {
    problems: [1, 2, 3, 4],
    currentProblem: 2,
    directions: {
      1: "Use the 😂 emoji in place of
      2: "Use the 😭 emoji in place of
      3: "Use the 😍 emoji in place of
      4: "Use the 🙏 emoji to replace
    },
    givens: {
      1: "I am crying laughing.",
      2: "I am so sad.",
      3: "I love cookies.",
      4: "Hopefully"
    },
    solutions: {
      1: "I am 😂 laughing.",
      2: "I am so 😭.",
      3: "I 😍 cookies.",
      4: "🙏"
    }
  },
  methods: {
    isComplete: function(problem) {
      return this.givens[problem] === this.solutions[problem];
    }
  }
});
```

Response Headers

```
{"X-Amzn-Trace-Id":"Root=1-5d807826-9f80c78eedf173b76c770c68;Sampled=0","Content-Type":"text/javascript;charset=UTF-8"}
```

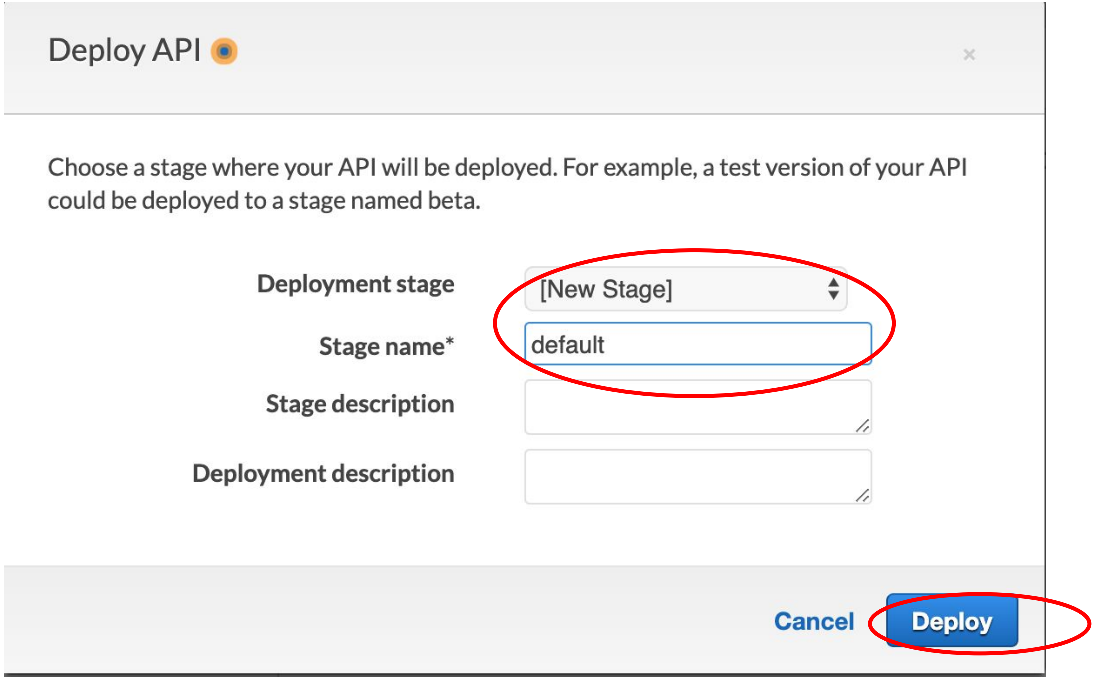
1. You can view your test results
2. Confirm with expected behaviour
3. Here the response body contains the contents of main.js. It is as expected
4. Let us deploy our API

API Gateway console



1. Navigate to the root
2. Click on actions
3. Deploy API

API Gateway console



Deploy API

Choose a stage where your API will be deployed. For example, a test version of your API could be deployed to a stage named beta.

Deployment stage: [New Stage]

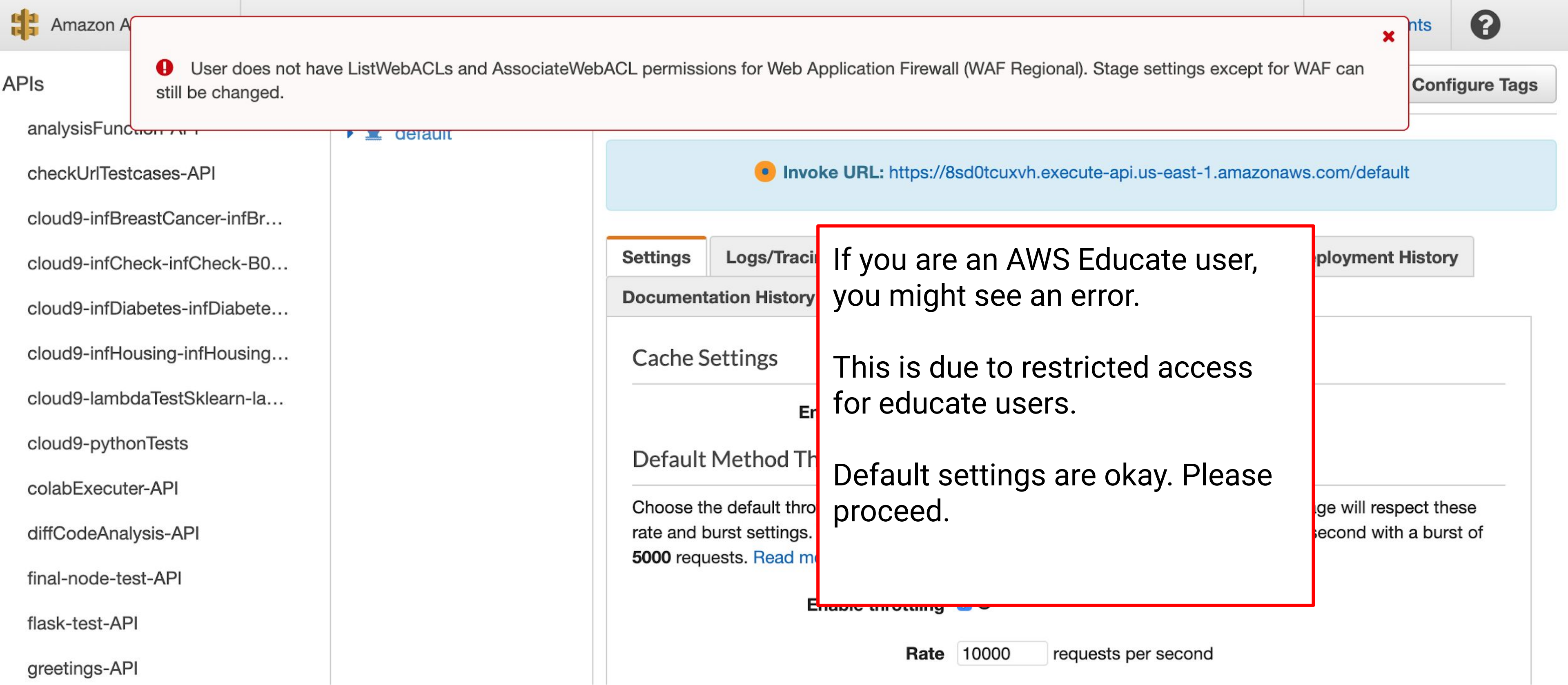
Stage name*: default

Stage description:

Deployment description:

1. Select [New Stage] for deployment
2. Call it “default”
3. Click on Deploy

API Gateway console



User does not have ListWebACLs and AssociateWebACL permissions for Web Application Firewall (WAF Regional). Stage settings except for WAF can still be changed.

Invoke URL: https://8sd0tcuxvh.execute-api.us-east-1.amazonaws.com/default

Choose the default thro ... ge will respect these rate and burst settings. ... econd with a burst of **5000** requests. Read m

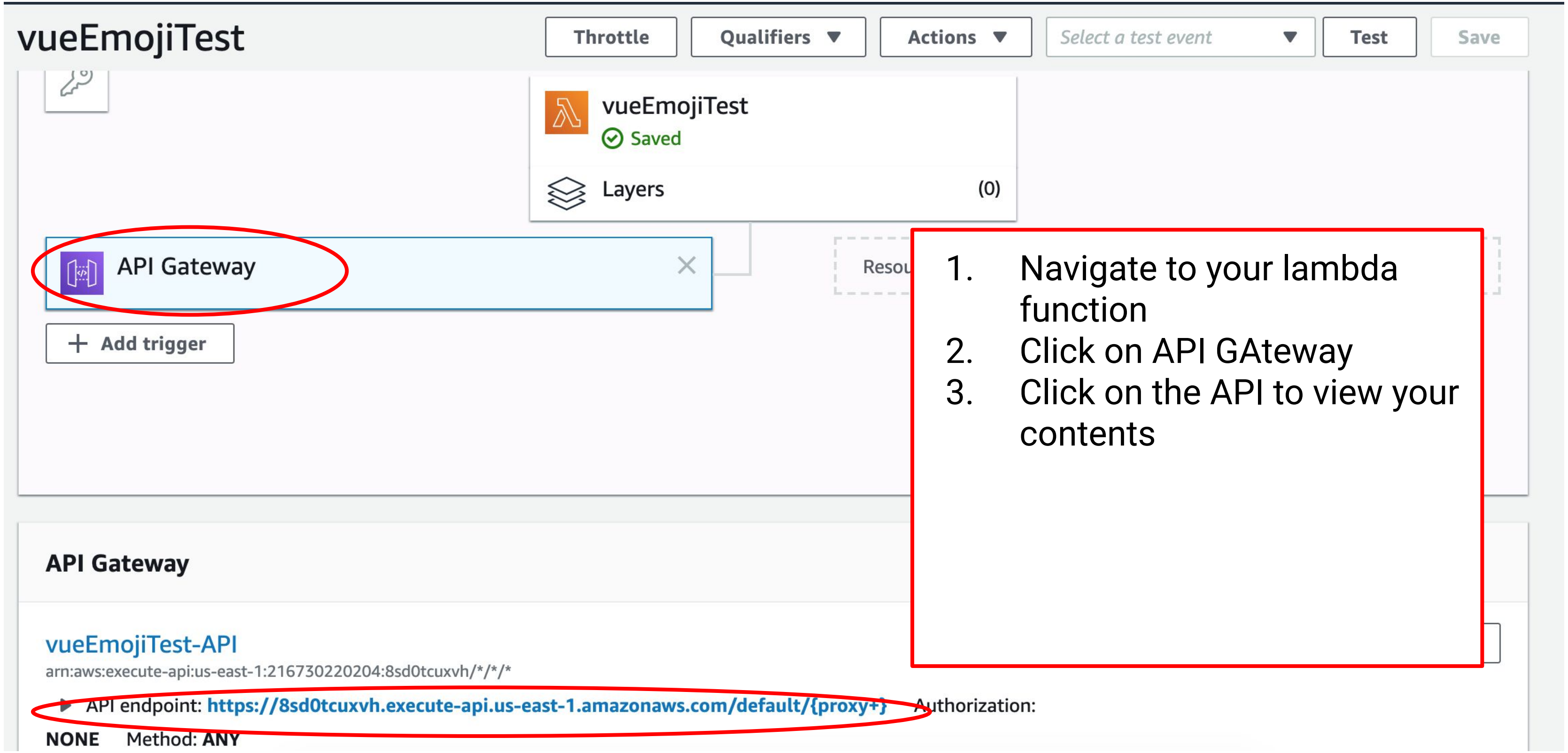
Rate 10000 requests per second

If you are an AWS Educate user, you might see an error.

This is due to restricted access for educate users.

Default settings are okay. Please proceed.

Lambda console



API Gateway

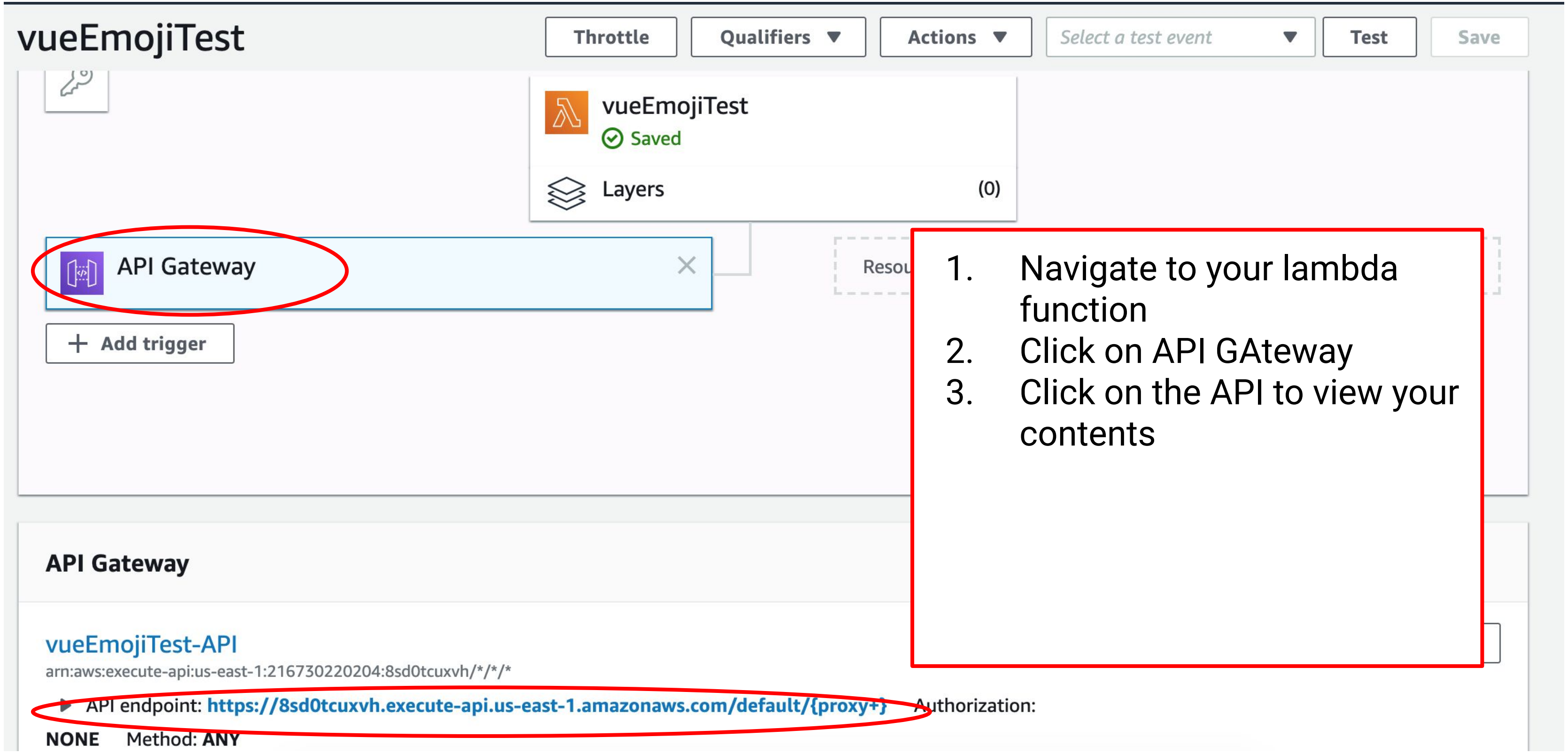
vueEmojiTest-API

arn:aws:execute-api:us-east-1:216730220204:8sd0tcuxvh/*/*/*

API endpoint: https://8sd0tcuxvh.execute-api.us-east-1.amazonaws.com/default/{proxy+} Authorization: NONE Method: ANY

1. Navigate to your lambda function
2. Click on API GAteway
3. Click on the API to view your contents

Lambda console



vueEmojiTest-API

arn:aws:execute-api:us-east-1:216730220204:8sd0tcuxvh/*/*/*

▶ API endpoint: https://8sd0tcuxvh.execute-api.us-east-1.amazonaws.com/default/{proxy+} Authorization: NONE Method: ANY

1. Navigate to your lambda function
2. Click on API GAteway
3. Click on the API to view your contents

Lambda API

1. API - https://8sd0tcuxvh.execute-api.us-east-1.amazonaws.com/default/index.html

Tests for proxies -

1. https://8sd0tcuxvh.execute-api.us-east-1.amazonaws.com/default/main.js

References -

1. Github for example code - https://github.com/Aishwarya26l/vue-emojis
2. API Gateway proxy documentation - https://docs.aws.amazon.com/apigateway/latest/developerguide/api-gateway-create-api-as-simple-proxy-for-http.html