AWS API Gateway

2024-03

Renato Matos
renato.matos79@gmail.com

Speaker

Renato is a full stack developer focusing on .NET backend. During his free time, Renato enjoys watching Netflix series', reading books, and spending quality time playing with his dogs and his lovely child.

Rest API

A Representational State Transfer (REST) API **is a type of web service architecture that allows different systems to communicate with each other over the internet** broken down into key components:

Resources: In a REST API, resources represent the data entities or objects that clients can interact with. Each resource is identified by a unique Uniform Resource Identifier (URI), commonly known as an endpoint. For example, `/users` might represent a collection of user resources, and `/users/{id}` might represent a specific user identified by their ID.

HTTP Methods: RESTful APIs use standard HTTP methods to perform operations on resources. The most commonly used HTTP methods in REST APIs are:

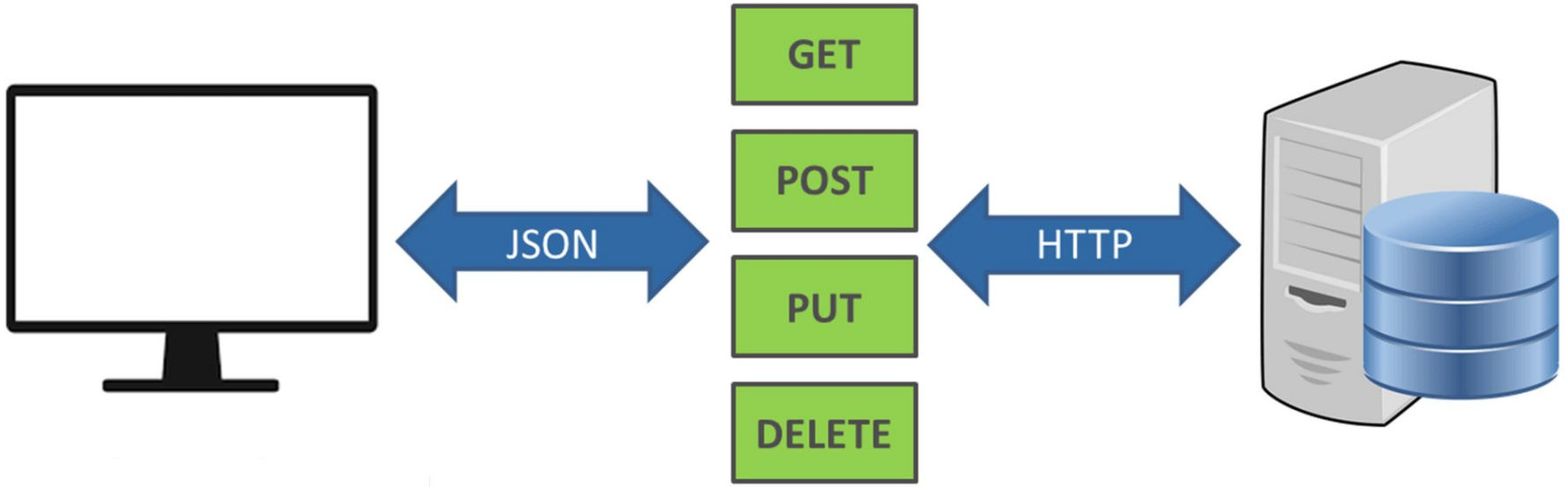
- GET: Retrieve a representation of a resource.
- POST: Create a new resource.
- PUT: Update an existing resource.
- DELETE: Delete a resource.
- PATCH: Partially update a resource.

These HTTP methods map to CRUD (Create, Read, Update, Delete) operations on resources.

Statelessness: REST APIs are stateless, meaning that each request from a client to the server must contain all the information necessary to understand and process the request. The server does not maintain any client state between requests.

Representation: Resources in a REST API are typically represented using different media types such as JSON (JavaScript Object Notation) or XML (eXtensible Markup Language). Clients and servers communicate by exchanging representations of resources, which contain data in a structured format.

Rest API


GET
POST
PUT
DELETE
JSON
HTTP
Client sends a **request**
HTTP methods
Server sends a **response**

API Gateway

Build and Deploy APIs Quickly: PI Gateway allows you to quickly create RESTful APIs or WebSocket APIs without the need for infrastructure setup or management

Scalability and High Availability: API Gateway automatically scales to handle any amount of traffic, ensuring high availability and reliability of your APIs

Integration with AWS Services: AWS Lambda, AWS S3, AWS DynamoDB, AWS Cognito, and more

Security and Access Control: API Gateway provides features for securing your APIs, including authentication, authorization, and encryption. You can use AWS Identity and Access Management (IAM), OAuth 2.0, and Amazon Cognito to control access to your APIs and protect sensitive data

Monitoring and Logging: API Gateway offers built-in monitoring and logging capabilities that allow you to track API usage, performance metrics, and errors in real-time

Cost-effective Pricing Model: API Gateway offers a pay-as-you-go pricing model, where you only pay for the API requests and data transfer out of the service.

Support for API Versioning and Lifecycle Management: API Gateway supports API versioning and lifecycle management, allowing you to easily manage multiple versions of your APIs, roll back changes, and deprecate outdated versions without disrupting existing clients.

Developer-Friendly Features: API Gateway provides features such as API documentation, SDK generation, and testing tools that make it easier for developers to consume and integrate with your APIs.

https://docs.aws.amazon.com/apigateway/latest/developerguide/limits.html

API Gateway

HTTP API:

- HTTP API is a new type of API Gateway introduced by AWS, designed to offer low-latency, low-cost API integrations for HTTP-based APIs.
- It provides a lightweight and cost-effective solution for building APIs with simple use cases.
- HTTP APIs support core API Gateway features such as request/response transformation, CORS (Cross-Origin Resource Sharing), JWT (JSON Web Tokens) authorizers, and rate limiting.
- HTTP APIs do not support all features available in REST APIs, but they are optimized for serverless architectures and simple API use cases.

REST API:

- REST API is the traditional API Gateway offered by AWS, which supports a broader range of features and customization options compared to HTTP APIs.
- It follows the principles of Representational State Transfer (REST) architecture, allowing clients to interact with resources using standard HTTP methods and representations.
- REST APIs support more advanced features such as custom domain names, API keys, IAM (Identity and Access Management) authorization, request/response validation, and stage variables.
- REST APIs are suitable for building complex APIs with multiple endpoints, advanced security requirements, and integration with various AWS services.

REST API Private:

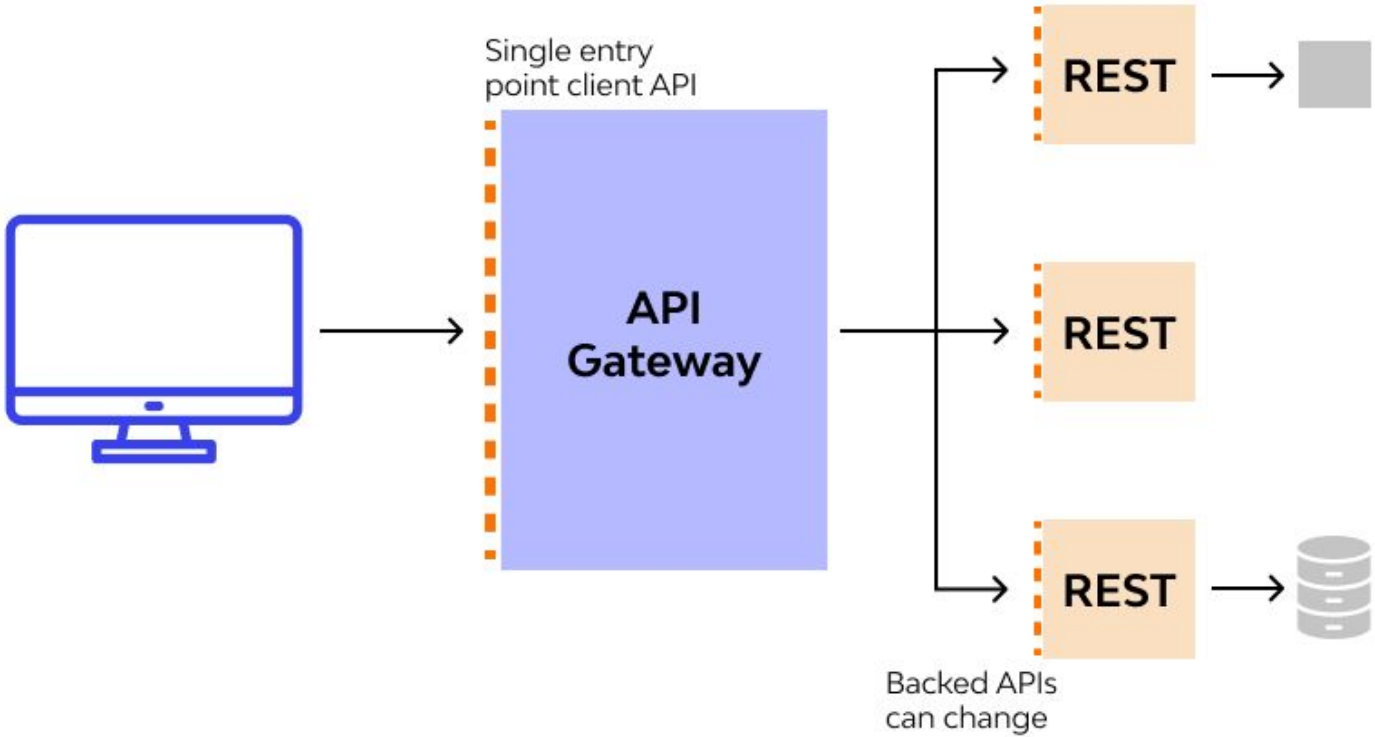
- REST API Private is a variation of REST API that allows you to expose your API privately within a VPC (Virtual Private Cloud) without exposing it to the public internet.
- It is suitable for scenarios where you want to restrict access to your API to specific VPC resources or securely integrate with internal systems.
- REST API Private supports all the features available in REST APIs, including custom domain names, authorization mechanisms, and request/response handling.
- It provides enhanced security and isolation by leveraging private integration with AWS resources or using AWS PrivateLink to access resources within a VPC.

WebSocket APIs:

- WebSocket APIs are used for real-time, bidirectional communication between clients and servers over a single, long-lived connection.
- Unlike HTTP APIs and REST APIs, which use request/response model, WebSocket APIs enable full-duplex communication, allowing both clients and servers to send messages asynchronously.
- WebSocket APIs support features such as route management, message transformation, authorization, and integration with AWS Lambda for serverless processing.
- They are suitable for building applications that require real-time updates, such as chat applications, gaming platforms, or collaborative editing tools.

https://docs.aws.amazon.com/apigateway/latest/developerguide/http-api-vs-rest.html

API Gateway


Single entry
point client API
API
Gateway
REST
REST
REST
Backed APIs
can change

API Gateway

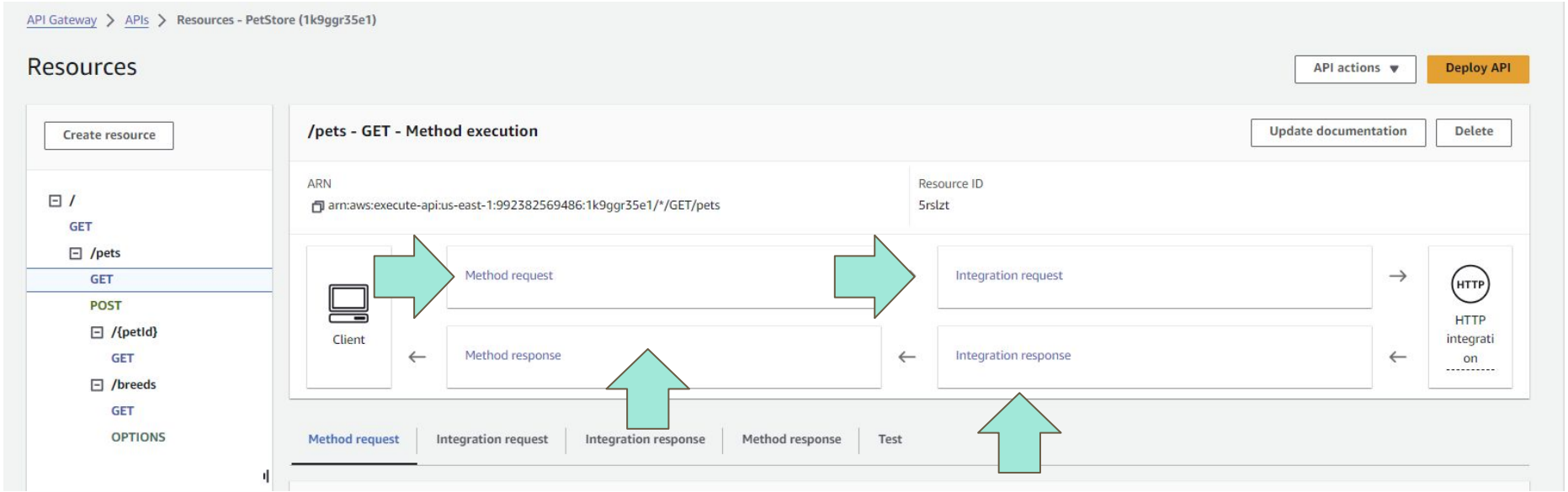
bjss

01. Building our first API

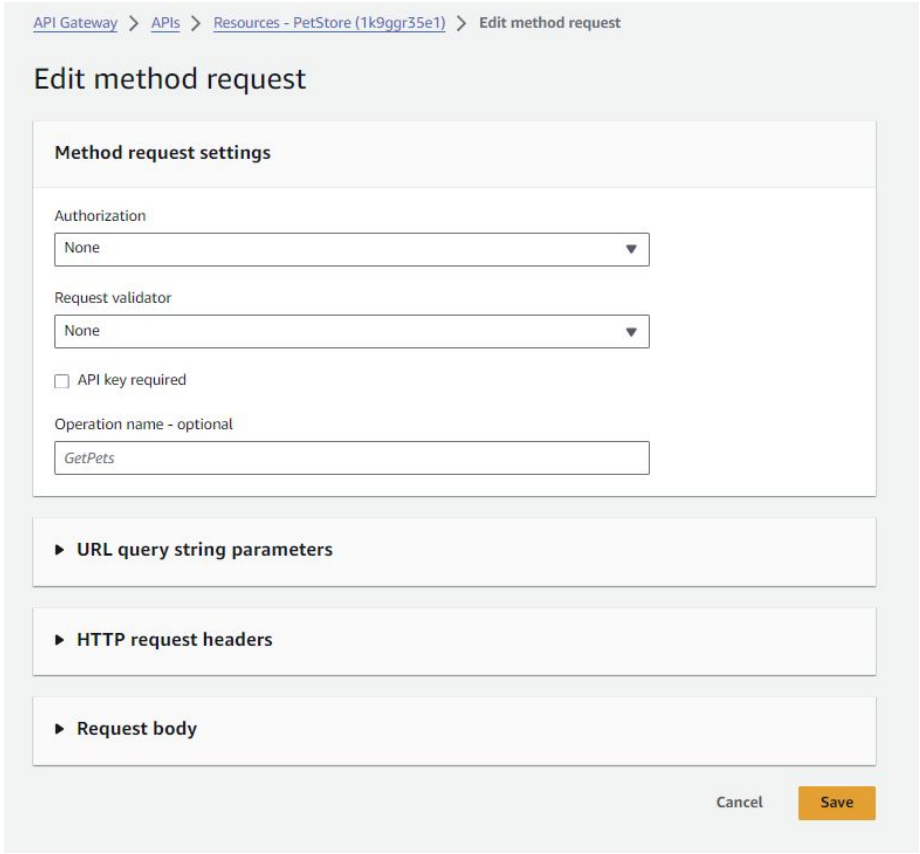
bjss

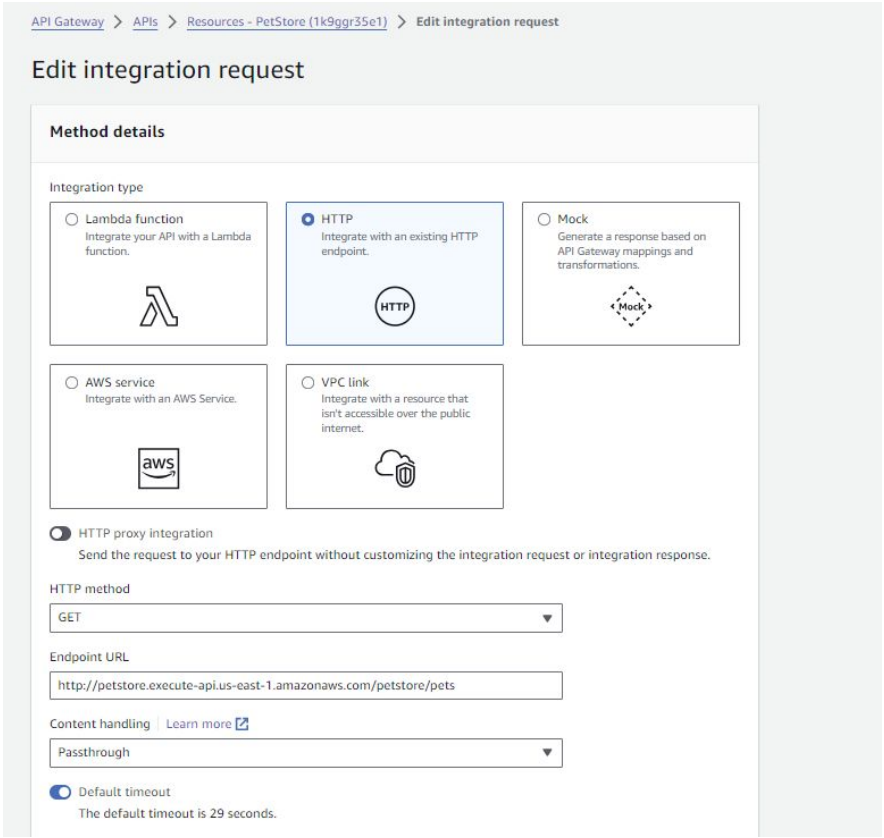
02.Exploring the flow

API Gateway

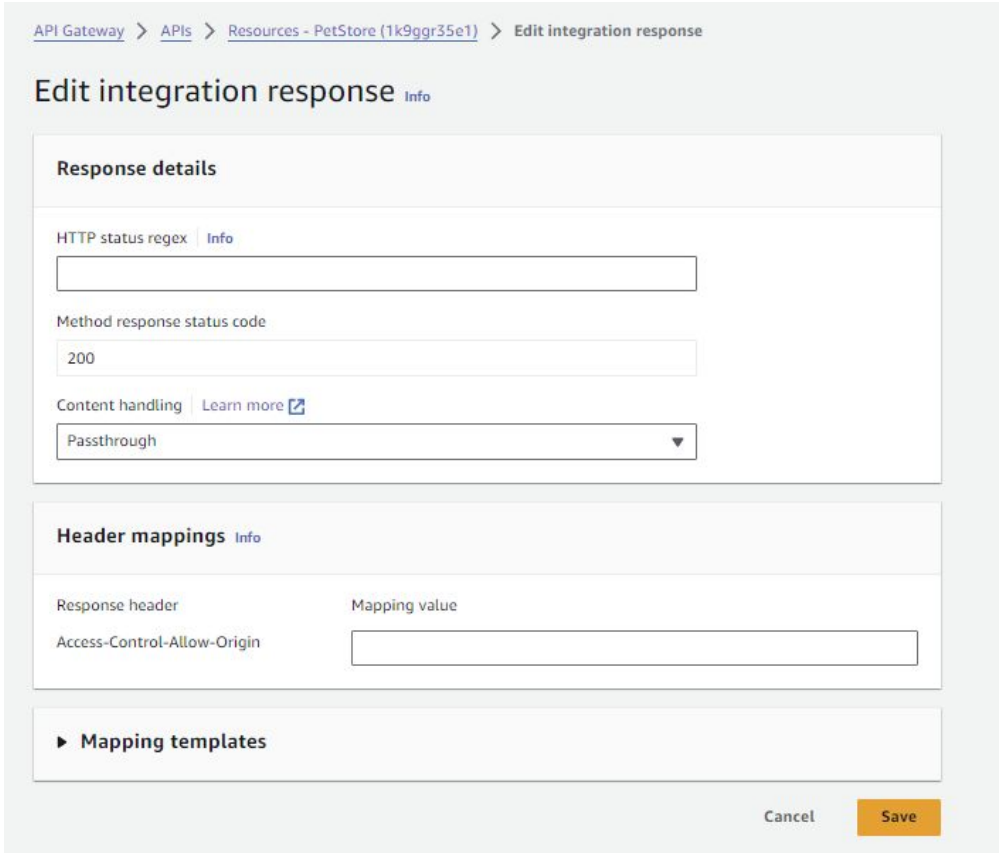

API Gateway > APIs > Resources - PetStore (1k9ggr35e1)
Resources
API actions
Deploy API
Create resource
/pets - GET - Method execution
Update documentation
Delete
ARN
arn:aws:execute-api:us-east-1:992382569486:1k9ggr35e1/*/GET/pets
Resource ID
5rslzt
/
GET
/pets
GET
POST
/{petId}
GET
/breeds
GET
OPTIONS
Client
Method request
Integration request
Method response
Integration response
HTTP
HTTP integration
Method request
Integration request
Integration response
Method response
Test

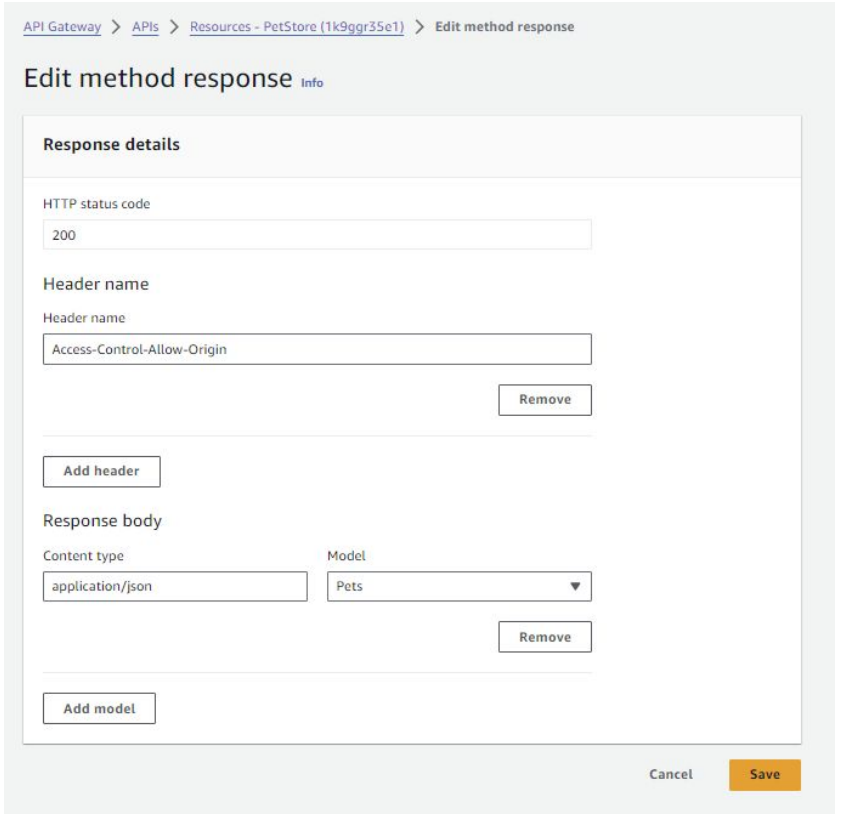
API Gateway


API Gateway > APIs > Resources - PetStore (1k9ggr35e1) > Edit method request
Edit method request
Method request settings
Authorization
None
Request validator
None
API key required
Operation name - optional
GetPets
URL query string parameters
HTTP request headers
Request body
Cancel
Save


API Gateway > APIs > Resources - PetStore (1k9ggr35e1) > Edit integration request
Edit integration request
Method details
Integration type
Lambda function
Integrate your API with a Lambda function.
HTTP
Integrate with an existing HTTP endpoint.
Mock
Generate a response based on API Gateway mappings and transformations.
AWS service
Integrate with an AWS Service.
VPC link
Integrate with a resource that isn't accessible over the public internet.
HTTP proxy integration
Send the request to your HTTP endpoint without customizing the integration request or integration response.
HTTP method
GET
Endpoint URL
http://petstore.execute-api.us-east-1.amazonaws.com/petstore/pets
Content handling
Learn more
Passthrough
Default timeout
The default timeout is 29 seconds.

API Gateway


API Gateway > APIs > Resources - PetStore (1k9ggr35e1) > Edit integration response
Edit integration response Info
Response details
HTTP status regex Info
Method response status code
200
Content handling Learn more
Passthrough
Header mappings Info
Response header
Mapping value
Access-Control-Allow-Origin
Mapping templates
Cancel
Save


API Gateway > APIs > Resources - PetStore (1k9ggr35e1) > Edit method response
Edit method response Info
Response details
HTTP status code
200
Header name
Header name
Access-Control-Allow-Origin
Remove
Add header
Response body
Content type
Model
application/json
Pets
Remove
Add model
Cancel
Save

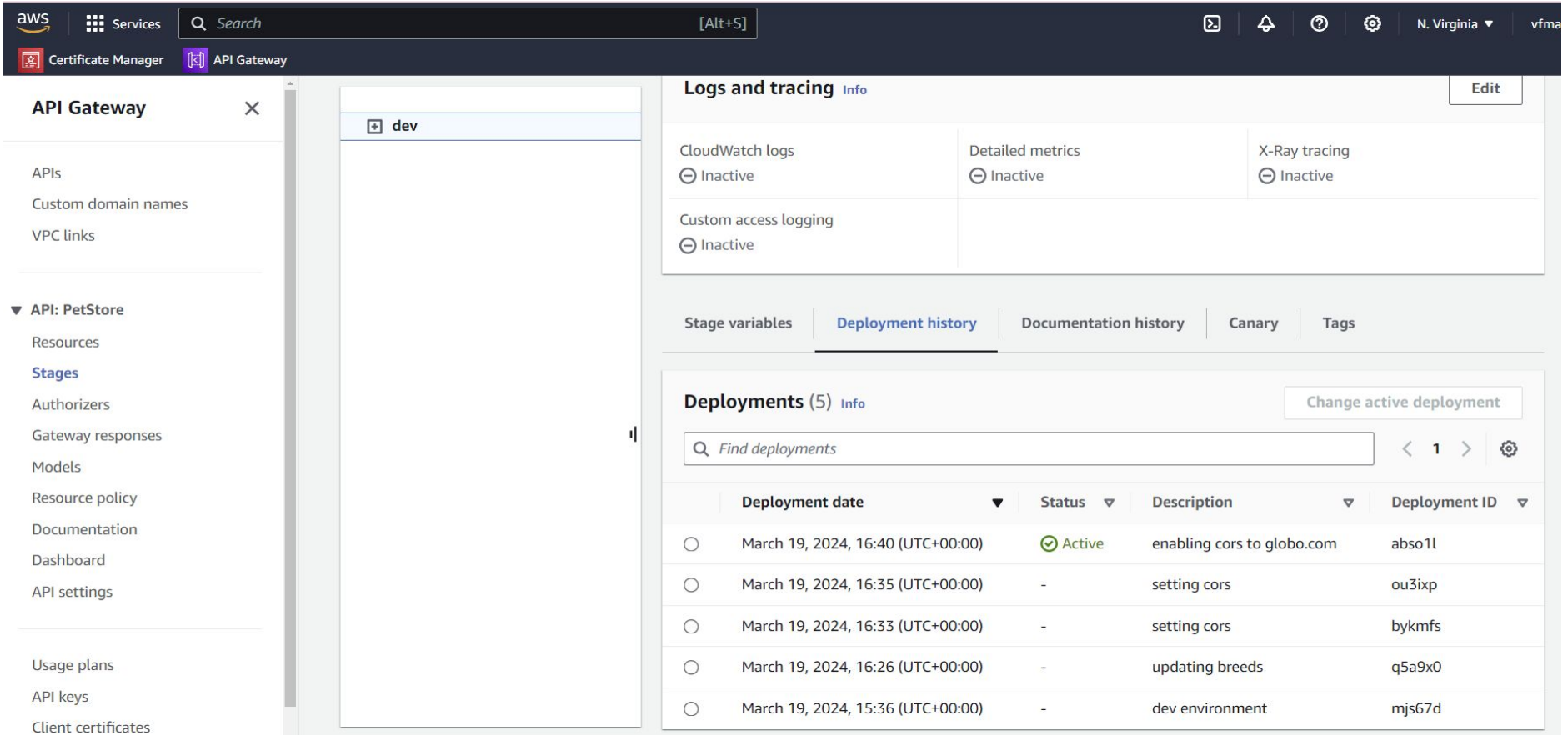
bjss

03.Providing mock data

bjss

04.Deploying to DEV env

API Gateway


aws
Services
Search
[Alt+S]
N. Virginia
vfma
Certificate Manager
API Gateway
API Gateway
APIs
Custom domain names
VPC links
API: PetStore
Resources
Stages
Authorizers
Gateway responses
Models
Resource policy
Documentation
Dashboard
API settings
Usage plans
API keys
Client certificates
dev
Logs and tracing Info
Edit
CloudWatch logs
Inactive
Detailed metrics
Inactive
X-Ray tracing
Inactive
Custom access logging
Inactive
Stage variables
Deployment history
Documentation history
Canary
Tags
Deployments (5) Info
Change active deployment
Find deployments
1
Deployment date
Status
Description
Deployment ID
March 19, 2024, 16:40 (UTC+00:00)
Active
enabling cors to globo.com
abso1l
March 19, 2024, 16:35 (UTC+00:00)
-
setting cors
ou3ixp
March 19, 2024, 16:33 (UTC+00:00)
-
setting cors
bykmfs
March 19, 2024, 16:26 (UTC+00:00)
-
updating breeds
q5a9x0
March 19, 2024, 15:36 (UTC+00:00)
-
dev environment
mjs67d

05.Using lambda function to replace the mock content

bjss

06.Enabling CORS

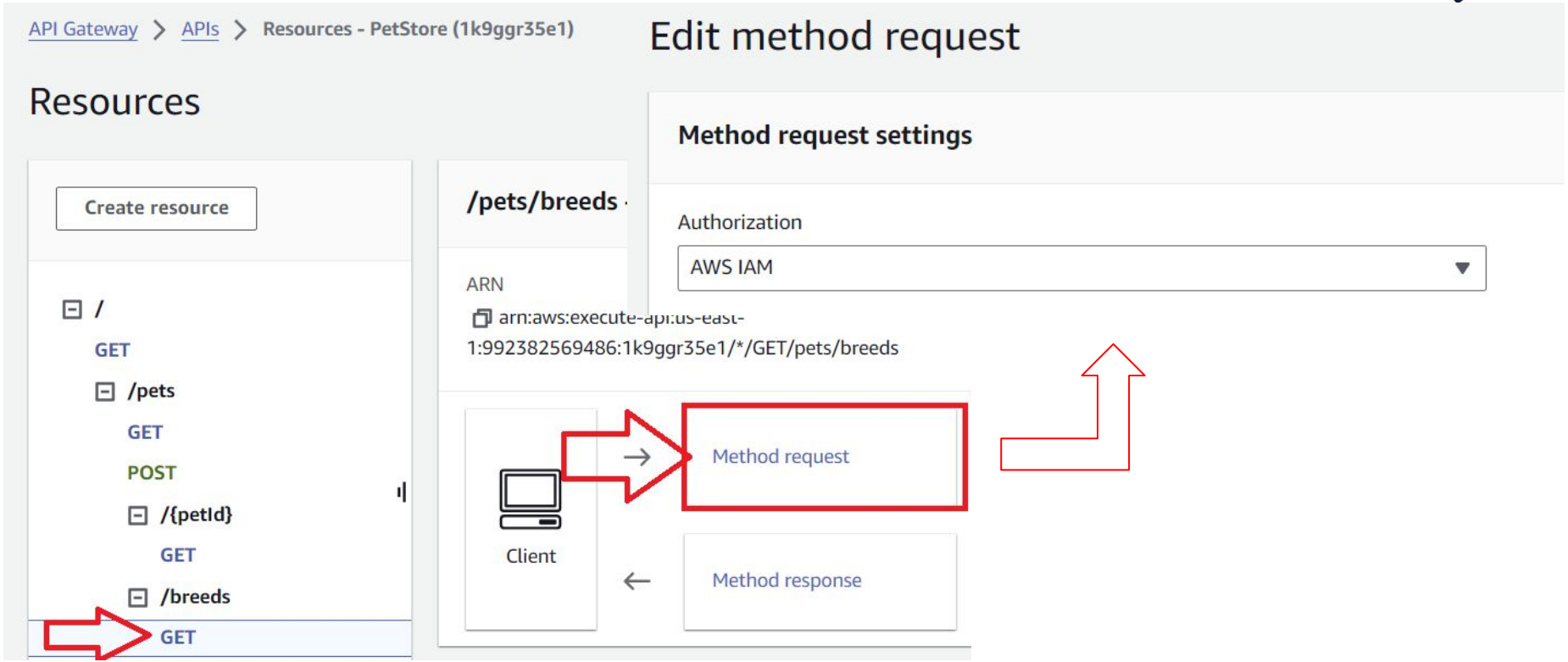
API Gateway

Paste this code below using **console browser** and press **RETURN**, after that run the code typing **main()**

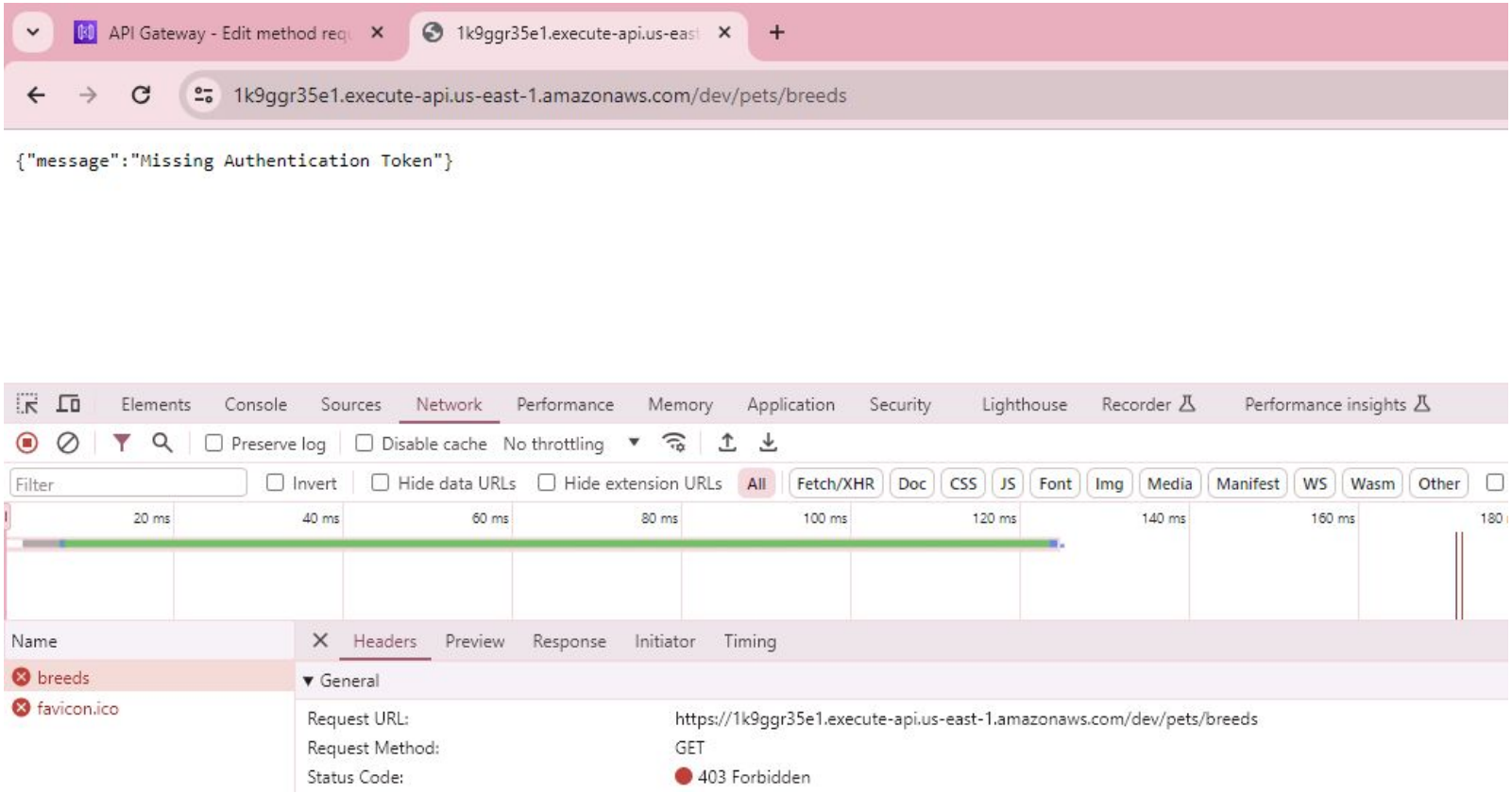
```
function main() {
     console.log("requesting breeds")
     $.ajax({
       url: "https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds",
       success: function(data) {
          console.log(data)
       }
     })
}
```

07.Enabling IAM Authentication

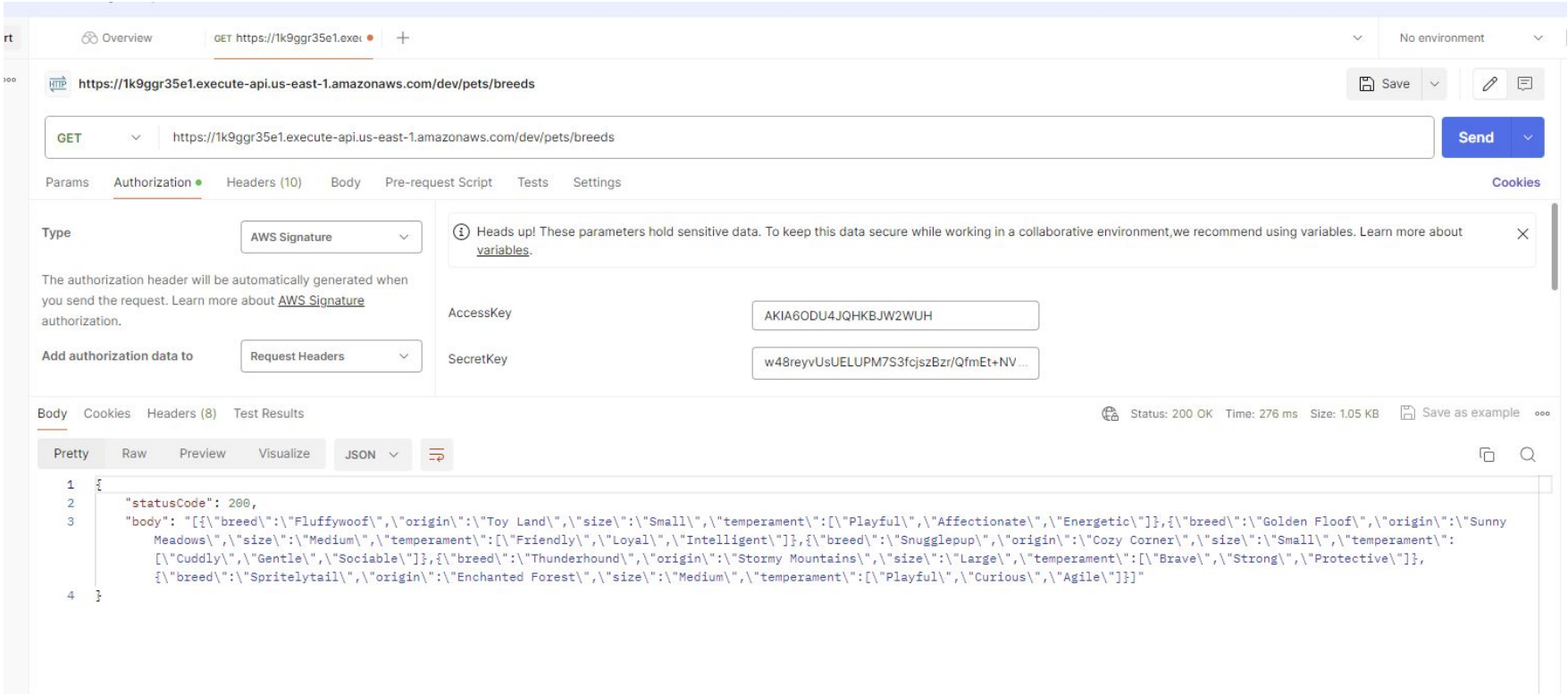
API Gateway


API Gateway > APIs > Resources - PetStore (1k9ggr35e1)
Edit method request
Resources
Method request settings
Create resource
/pets/breeds
Authorization
AWS IAM
ARN
arn:aws:execute-api:us-east-
1:992382569486:1k9ggr35e1/*/GET/pets/breeds
/
GET
/pets
GET
POST
/{petId}
GET
/breeds
GET
Client
Method request
Method response

API Gateway

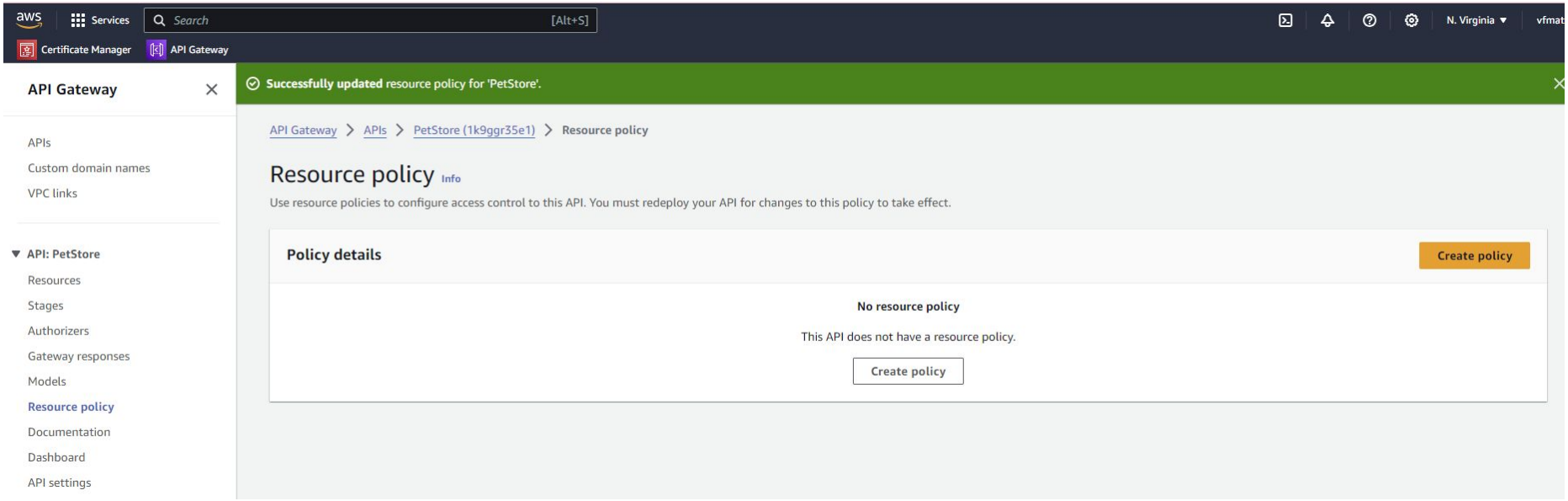

API Gateway - Edit method req
1k9ggr35e1.execute-api.us-east
1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
{"message":"Missing Authentication Token"}
Elements
Console
Sources
Network
Performance
Memory
Application
Security
Lighthouse
Recorder
Performance insights
Preserve log
Disable cache
No throttling
Filter
Invert
Hide data URLs
Hide extension URLs
All
Fetch/XHR
Doc
CSS
JS
Font
Img
Media
Manifest
WS
Wasm
Other
20 ms
40 ms
60 ms
80 ms
100 ms
120 ms
140 ms
160 ms
Name
Headers
Preview
Response
Initiator
Timing
breeds
favicon.ico
General
Request URL:
https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Request Method:
GET
Status Code:
403 Forbidden

API Gateway


Overview
GET https://1k9ggr35e1.exec
No environment
https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Save
GET
https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Send
Params
Authorization
Headers (10)
Body
Pre-request Script
Tests
Settings
Cookies
Type
AWS Signature
Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment,we recommend using variables. Learn more about variables.
The authorization header will be automatically generated when you send the request. Learn more about AWS Signature authorization.
AccessKey
AKIA6ODU4JQHKBJW2WUH
Add authorization data to
Request Headers
SecretKey
w48reyvUsUELUPM7S3fcjszBzr/QfmEt+NV...
Body
Cookies
Headers (8)
Test Results
Status: 200 OK
Time: 276 ms
Size: 1.05 KB
Save as example
Pretty
Raw
Preview
Visualize
JSON
{
"statusCode": 200,
"body": "[{\"breed\":\"Fluffywoof\",\"origin\":\"Toy Land\",\"size\":\"Small\",\"temperament\":[\"Playful\",\"Affectionate\",\"Energetic\"]},{\"breed\":\"Golden Floof\",\"origin\":\"Sunny Meadows\",\"size\":\"Medium\",\"temperament\":[\"Friendly\",\"Loyal\",\"Intelligent\"]},{\"breed\":\"Snugglepup\",\"origin\":\"Cozy Corner\",\"size\":\"Small\",\"temperament\":[\"Cuddly\",\"Gentle\",\"Sociable\"]},{\"breed\":\"Thunderhound\",\"origin\":\"Stormy Mountains\",\"size\":\"Large\",\"temperament\":[\"Brave\",\"Strong\",\"Protective\"]},{\"breed\":\"Spritelytail\",\"origin\":\"Enchanted Forest\",\"size\":\"Medium\",\"temperament\":[\"Playful\",\"Curious\",\"Agile\"]}]"
}

08.Resource Policy

API Gateway

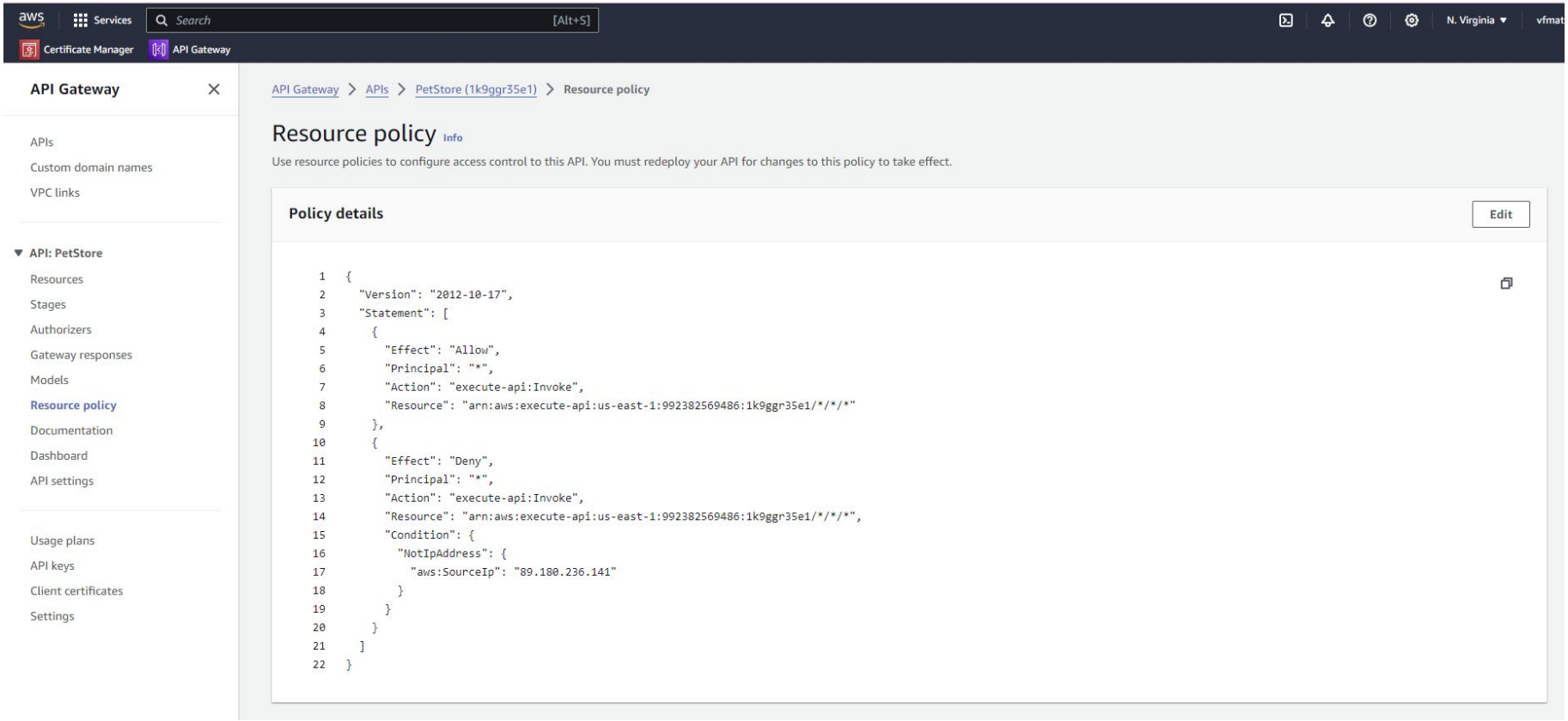

aws
Services
Search
[Alt+S]
N. Virginia
vfmat
Certificate Manager
API Gateway
API Gateway
Successfully updated resource policy for 'PetStore'.
APIs
Custom domain names
VPC links
API: PetStore
Resources
Stages
Authorizers
Gateway responses
Models
Resource policy
Documentation
Dashboard
API settings
API Gateway > APIs > PetStore (1k9ggr35e1) > Resource policy
Resource policy Info
Use resource policies to configure access control to this API. You must redeploy your API for changes to this policy to take effect.
Policy details
Create policy
No resource policy
This API does not have a resource policy.
Create policy

API Gateway

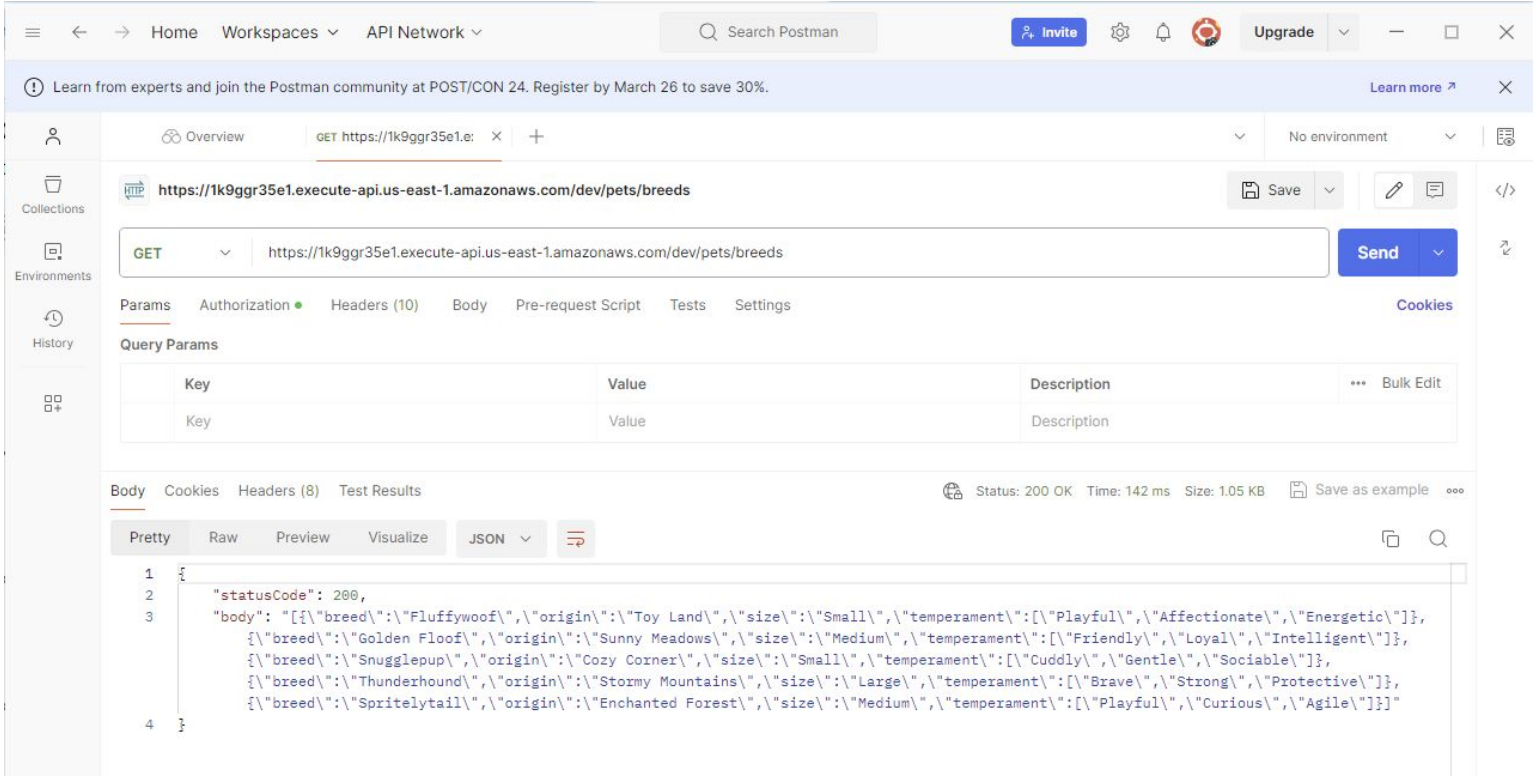
```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": "*",
      "Action": "execute-api:Invoke",
      "Resource": "arn:aws:execute-api:us-east-1:992382569486:1k9ggr35e1/*/*/*"
    },
    {
      "Effect": "Deny",
      "Principal": "*",
      "Action": "execute-api:Invoke",
      "Resource": "arn:aws:execute-api:us-east-1:992382569486:1k9ggr35e1/*/*/*",
      "Condition": {
        "NotIpAddress": {
          "aws:SourceIp": "89.180.236.241"
        }
      }
    }
  ]
}
```

https://repost.aws/knowledge-center/api-gateway-resource-policy-access

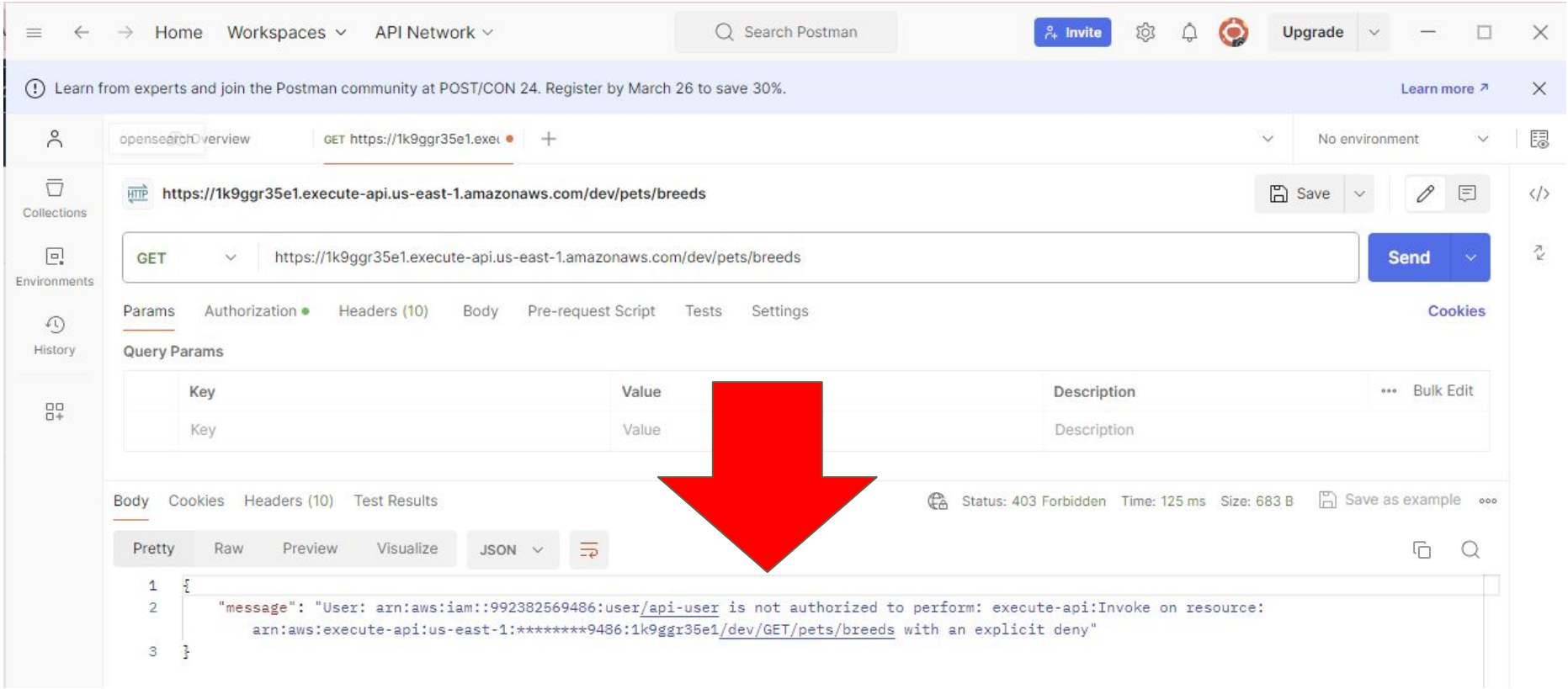
API Gateway


aws
Services
Search
[Alt+S]
N. Virginia
Certificate Manager
API Gateway
API Gateway
APIs
Custom domain names
VPC links
API: PetStore
Resources
Stages
Authorizers
Gateway responses
Models
Resource policy
Documentation
Dashboard
API settings
Usage plans
API keys
Client certificates
Settings
API Gateway > APIs > PetStore (1k9ggr35e1) > Resource policy
Resource policy Info
Use resource policies to configure access control to this API. You must redeploy your API for changes to this policy to take effect.
Policy details
Edit
{
"Version": "2012-10-17",
"Statement": [
{
"Effect": "Allow",
"Principal": "*",
"Action": "execute-api:Invoke",
"Resource": "arn:aws:execute-api:us-east-1:992382569486:1k9ggr35e1/*/*/*"
},
{
"Effect": "Deny",
"Principal": "*",
"Action": "execute-api:Invoke",
"Resource": "arn:aws:execute-api:us-east-1:992382569486:1k9ggr35e1/*/*/*",
"Condition": {
"NotIpAddress": {
"aws:SourceIp": "89.180.236.141"
}
}
}
]
}

API Gateway


Home
Workspaces
API Network
Search Postman
Invite
Upgrade
Learn from experts and join the Postman community at POST/CON 24. Register by March 26 to save 30%.
Learn more
Overview
GET https://1k9ggr35e1.e:
No environment
Collections
Environments
History
https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Save
GET
https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Send
Params
Authorization
Headers (10)
Body
Pre-request Script
Tests
Settings
Cookies
Query Params
Key
Value
Description
Bulk Edit
Key
Value
Description
Body
Cookies
Headers (8)
Test Results
Status: 200 OK
Time: 142 ms
Size: 1.05 KB
Save as example
Pretty
Raw
Preview
Visualize
JSON
{
"statusCode": 200,
"body": "[{\"breed\":\"Fluffywoof\",\"origin\":\"Toy Land\",\"size\":\"Small\",\"temperament\":[\"Playful\",\"Affectionate\",\"Energetic\"]},
{\"breed\":\"Golden Floof\",\"origin\":\"Sunny Meadows\",\"size\":\"Medium\",\"temperament\":[\"Friendly\",\"Loyal\",\"Intelligent\"]},
{\"breed\":\"Snugglepup\",\"origin\":\"Cozy Corner\",\"size\":\"Small\",\"temperament\":[\"Cuddly\",\"Gentle\",\"Sociable\"]},
{\"breed\":\"Thunderhound\",\"origin\":\"Stormy Mountains\",\"size\":\"Large\",\"temperament\":[\"Brave\",\"Strong\",\"Protective\"]},
{\"breed\":\"Spritelytail\",\"origin\":\"Enchanted Forest\",\"size\":\"Medium\",\"temperament\":[\"Playful\",\"Curious\",\"Agile\"]}]"
}

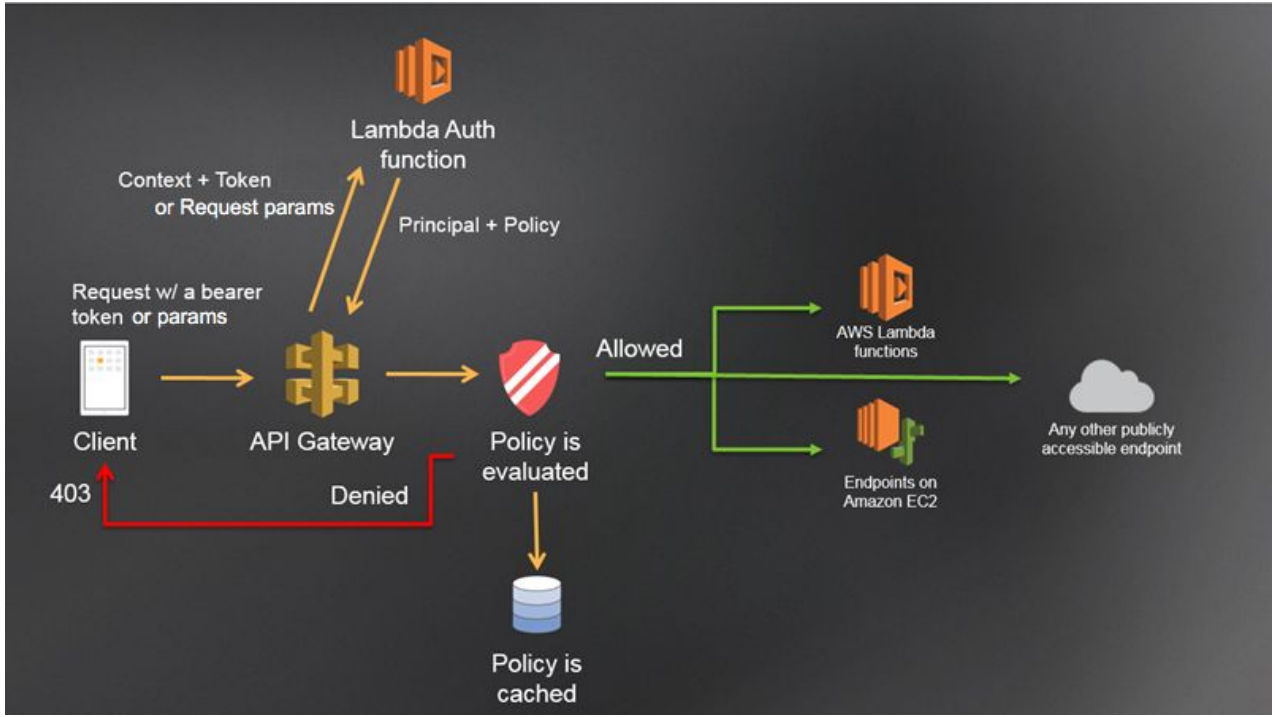
API Gateway


Home
Workspaces
API Network
Search Postman
Invite
Upgrade
Learn from experts and join the Postman community at POST/CON 24. Register by March 26 to save 30%.
Learn more
No environment
Collections
Environments
History
https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Save
GET
https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Send
Params
Authorization
Headers (10)
Body
Pre-request Script
Tests
Settings
Cookies
Query Params
Key
Value
Description
Bulk Edit
Body
Cookies
Headers (10)
Test Results
Status: 403 Forbidden
Time: 125 ms
Size: 683 B
Save as example
Pretty
Raw
Preview
Visualize
JSON
{
"message": "User: arn:aws:iam::992382569486:user/api-user is not authorized to perform: execute-api:Invoke on resource:
arn:aws:execute-api:us-east-1:********9486:1k9ggr35e1/dev/GET/pets/breeds with an explicit deny"
}

09.Lambda Authorizers

API Gateway

A *Lambda authorizer* (formerly known as a *custom authorizer*) **is an API Gateway feature** that uses a **Lambda function** to control access to your API.



https://docs.aws.amazon.com/apigateway/latest/developerguide/apigateway-use-lambda-authorizer.html

API Gateway

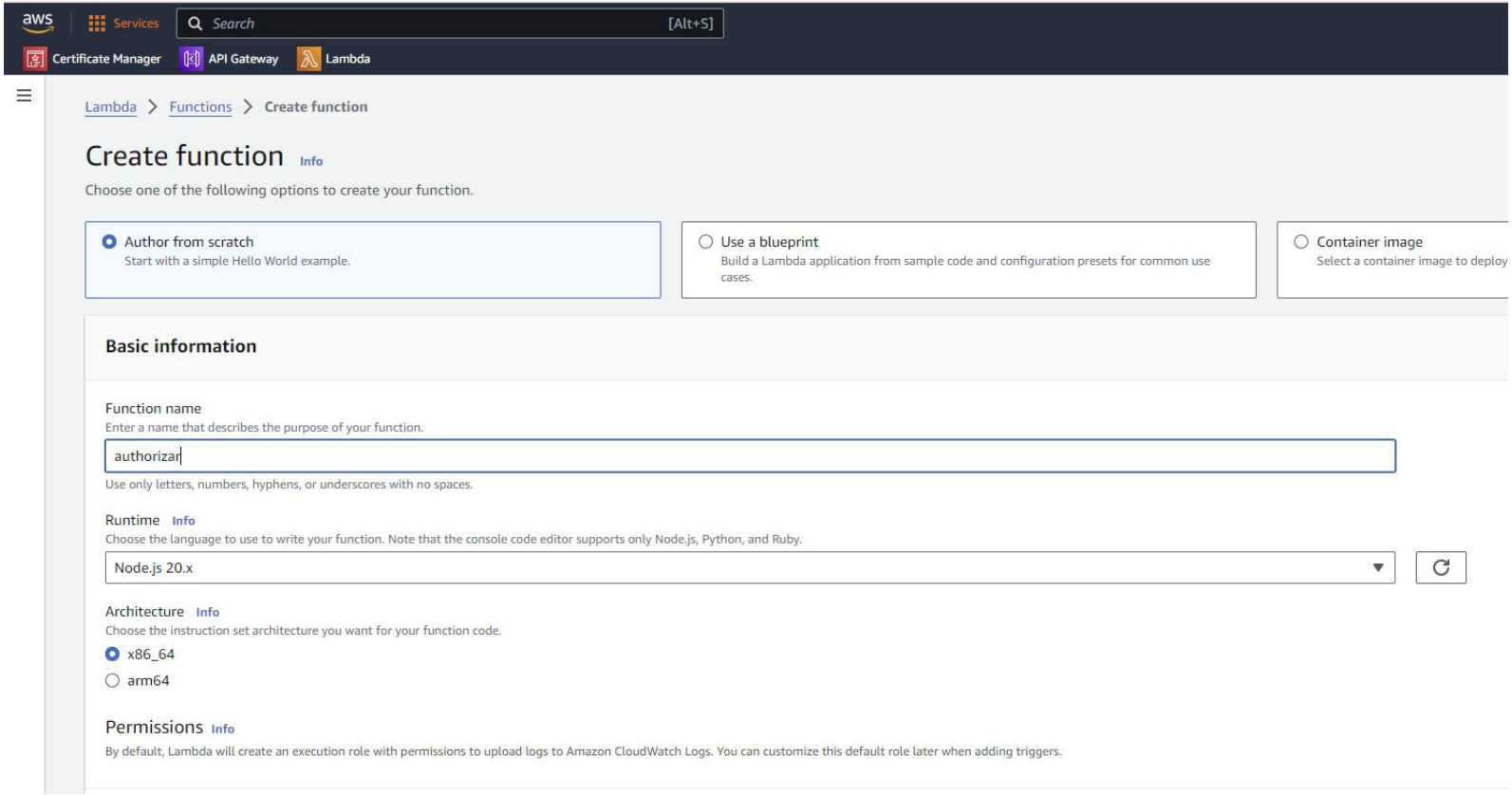
Token-Based Authorizer:

- Token-based authorizers are used when clients provide tokens (such as JWT - JSON Web Tokens) as part of the request, typically in the Authorization header.
- The Lambda authorizer extracts the token from the request, validates its authenticity (e.g., verifies the signature, expiration), and optionally checks the token against an external identity provider (e.g., AWS Cognito, OAuth provider).
- If the token is valid and authorized, the authorizer returns an IAM policy allowing access to the requested resource.
- Token-based authorizers are **commonly used for authentication purposes, where clients provide tokens to prove their identity and access rights**.

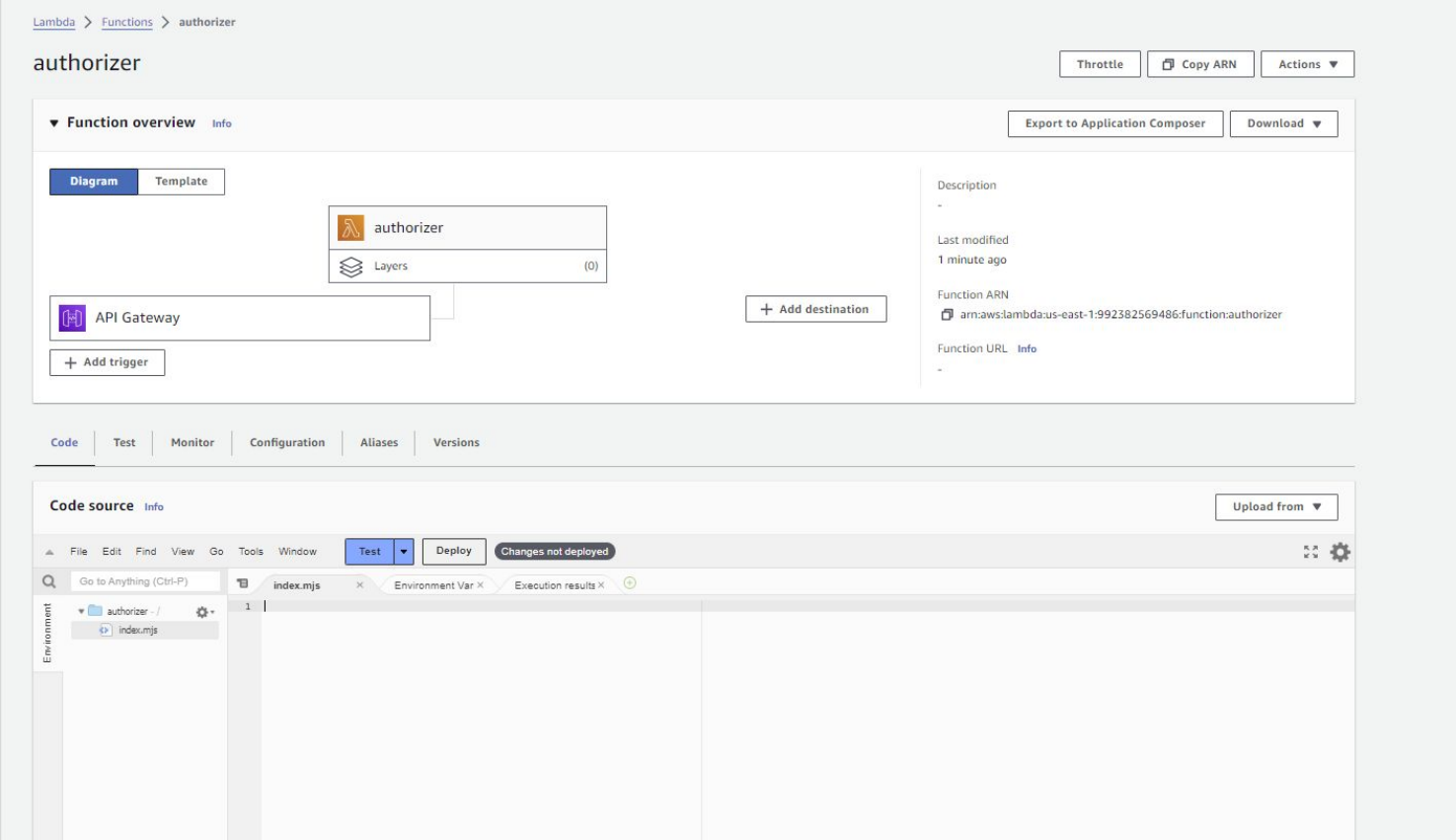
Request-Based Authorizer:

- Request-based authorizers are used when clients provide additional information in the request payload, headers, or query parameters to determine access control.
- The Lambda authorizer receives the entire request and examines its content to determine whether the requester is authorized to access the resource.
- Based on the information provided in the request, the authorizer constructs an IAM policy allowing or denying access to the requested resource.
- Request-based authorizers are more flexible and can accommodate various authentication and authorization mechanisms beyond token-based authentication. **For example, they can perform custom logic based on request attributes, user attributes, or external data sources**.

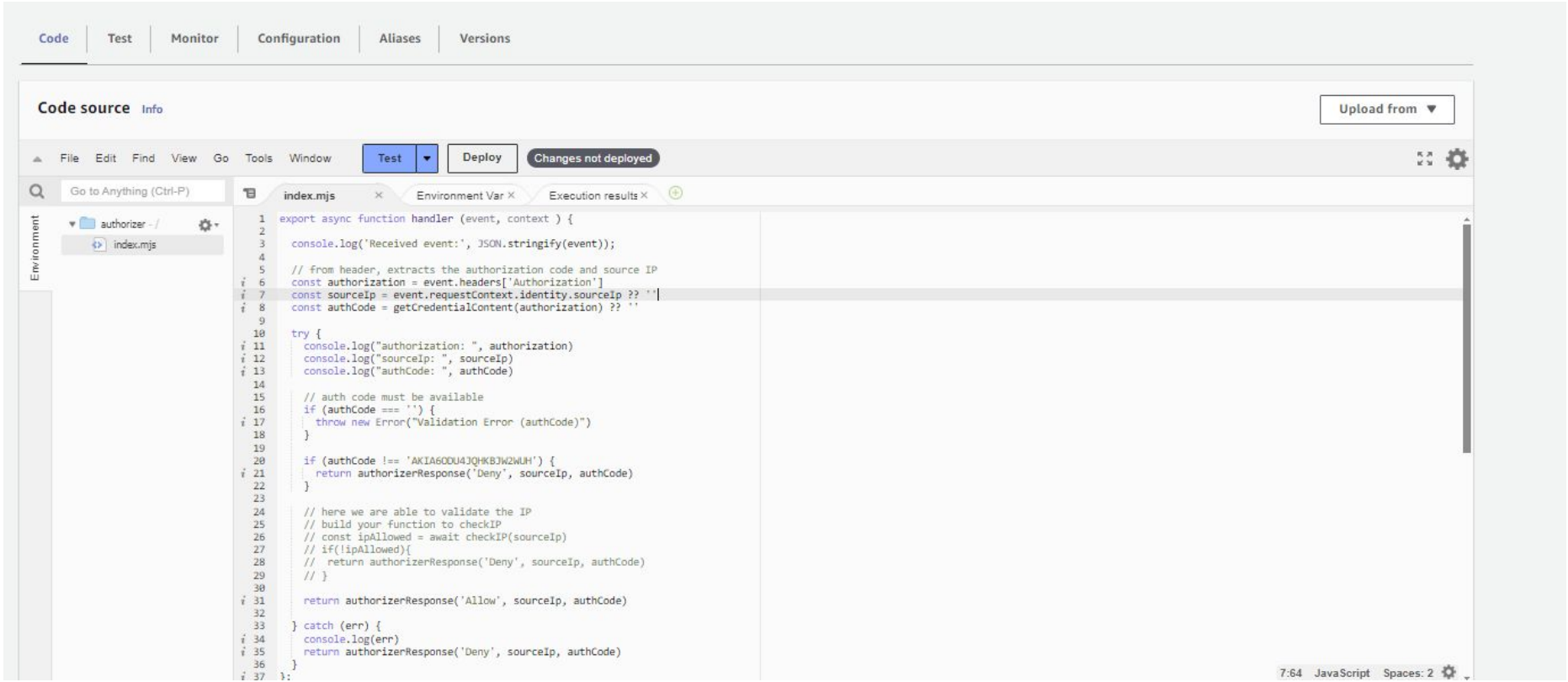
API Gateway


aws
Services
Search
[Alt+S]
Certificate Manager
API Gateway
Lambda
Lambda > Functions > Create function
Create function
Info
Choose one of the following options to create your function.
Author from scratch
Start with a simple Hello World example.
Use a blueprint
Build a Lambda application from sample code and configuration presets for common use cases.
Container image
Select a container image to deploy
Basic information
Function name
Enter a name that describes the purpose of your function.
authorizar
Use only letters, numbers, hyphens, or underscores with no spaces.
Runtime Info
Choose the language to use to write your function. Note that the console code editor supports only Node.js, Python, and Ruby.
Node.js 20.x
Architecture Info
Choose the instruction set architecture you want for your function code.
x86_64
arm64
Permissions Info
By default, Lambda will create an execution role with permissions to upload logs to Amazon CloudWatch Logs. You can customize this default role later when adding triggers.

API Gateway


Lambda > Functions > authorizer
authorizer
Throttle
Copy ARN
Actions
Function overview Info
Export to Application Composer
Download
Diagram
Template
authorizer
Layers (0)
API Gateway
Add trigger
Add destination
Description
-
Last modified
1 minute ago
Function ARN
arn:aws:lambda:us-east-1:992382569486:function:authorizer
Function URL Info
-
Code
Test
Monitor
Configuration
Aliases
Versions
Code source Info
Upload from
File Edit Find View Go Tools Window
Test
Deploy
Changes not deployed
Go to Anything (Ctrl-P)
index.mjs
Environment Var
Execution results
Environment
authorizer - /
index.mjs

API Gateway


Code
Test
Monitor
Configuration
Aliases
Versions
Code source
Info
Upload from
File
Edit
Find
View
Go
Tools
Window
Test
Deploy
Changes not deployed
Go to Anything (Ctrl-P)
index.mjs
Environment Var
Execution results
Environment
authorizer
index.mjs
export async function handler (event, context) {
console.log('Received event:', JSON.stringify(event));
// from header, extracts the authorization code and source IP
const authorization = event.headers['Authorization']
const sourceIp = event.requestContext.identity.sourceIp ?? ''
const authCode = getCredentialContent(authorization) ?? ''
try {
console.log("authorization: ", authorization)
console.log("sourceIp: ", sourceIp)
console.log("authCode: ", authCode)
// auth code must be available
if (authCode === '') {
throw new Error("Validation Error (authCode)")
}
if (authCode !== 'AKIA6ODU4JQHKBJW2WUH') {
return authorizerResponse('Deny', sourceIp, authCode)
}
// here we are able to validate the IP
// build your function to checkIP
// const ipAllowed = await checkIP(sourceIp)
// if(!ipAllowed){
// return authorizerResponse('Deny', sourceIp, authCode)
// }
return authorizerResponse('Allow', sourceIp, authCode)
} catch (err) {
console.log(err)
return authorizerResponse('Deny', sourceIp, authCode)
}
};
7:64
JavaScript
Spaces: 2

API Gateway

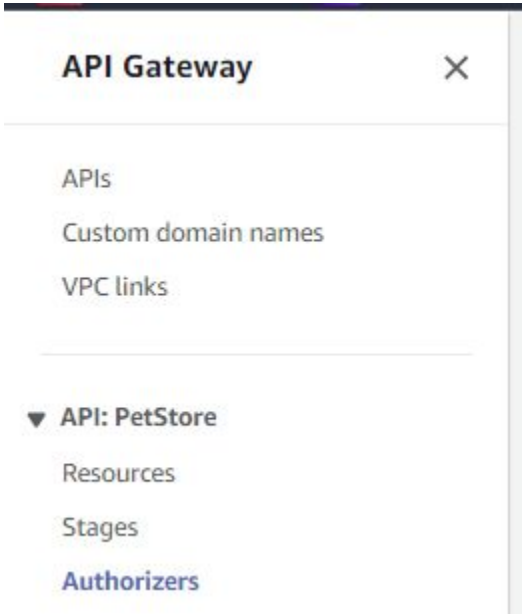
```
export async function handler (event, context ) {
  // from header, extracts the authorization code and source IP
  const authorization = event.headers['Authorization']
  const sourceIp = event.requestContext.identity.sourceIp ?? ''
  const authCode = getCredentialContent(authorization) ?? ''
  try {
    // auth code must be available
    if (authCode === '') {
      throw new Error("Validation Error (authCode)")
    }
    // forcing authCode to be a valid user 'AKIA6ODU4JQHKBJW2WUH'
    if (authCode !== 'AKIA6ODU4JQHKBJW2WUH') {
      return authorizerResponse('Deny', sourceIp, authCode)
    }

    return authorizerResponse('Allow', sourceIp, authCode)

  } catch (err) {
    console.log(err)
    return authorizerResponse('Deny', sourceIp, authCode)
  }
};
```

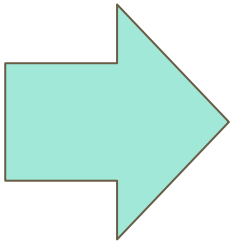
API Gateway

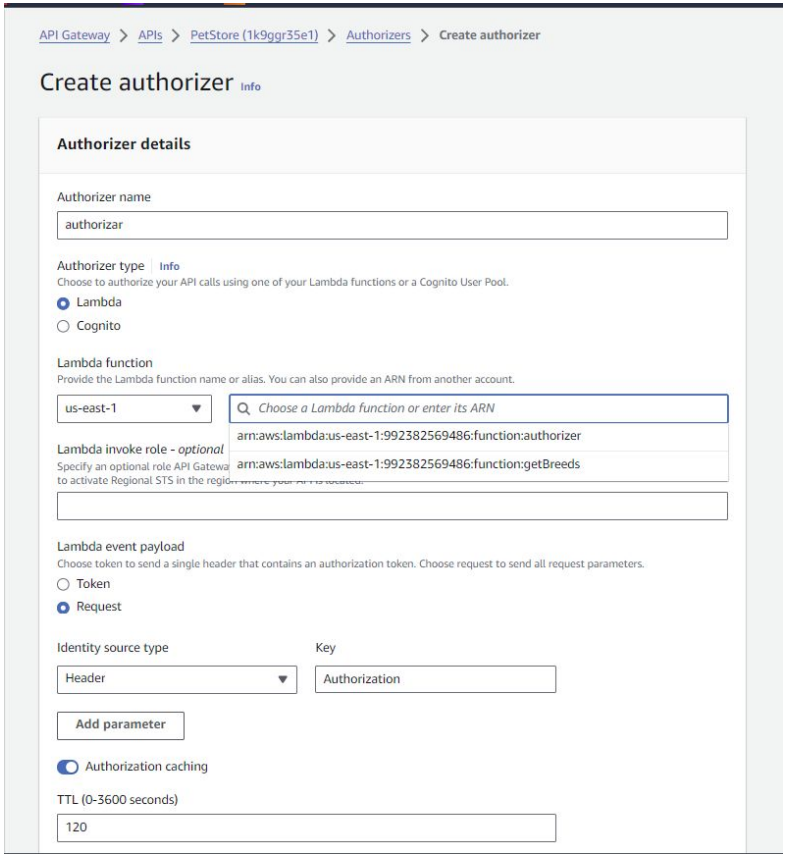
```
// Using REGEX extracts the credential content
function getCredentialContent(header) {
  // Use regular expression to extract the credential content
  const match = header.match(/Credential=([^/]+)/);

  // Check if the match is found
  if (match && match.length > 1) {
    return match[1];
  } else {
    return null
  }
}
```

```
// build the final Policy (Allow)
function authorizerResponse (effect, sourceIp, authCode) {
  const response = {
    principalId: sourceIp,
    context: {
      "sourceIp": sourceIp,
      "authCode": authCode
    },
    policyDocument: {
        Version: '2012-10-17',
        Statement: [
            {
                Action: 'execute-api:Invoke',
                Effect: effect,
                Resource: '*',
            },
        ],
    },
  }
  return response
}
```

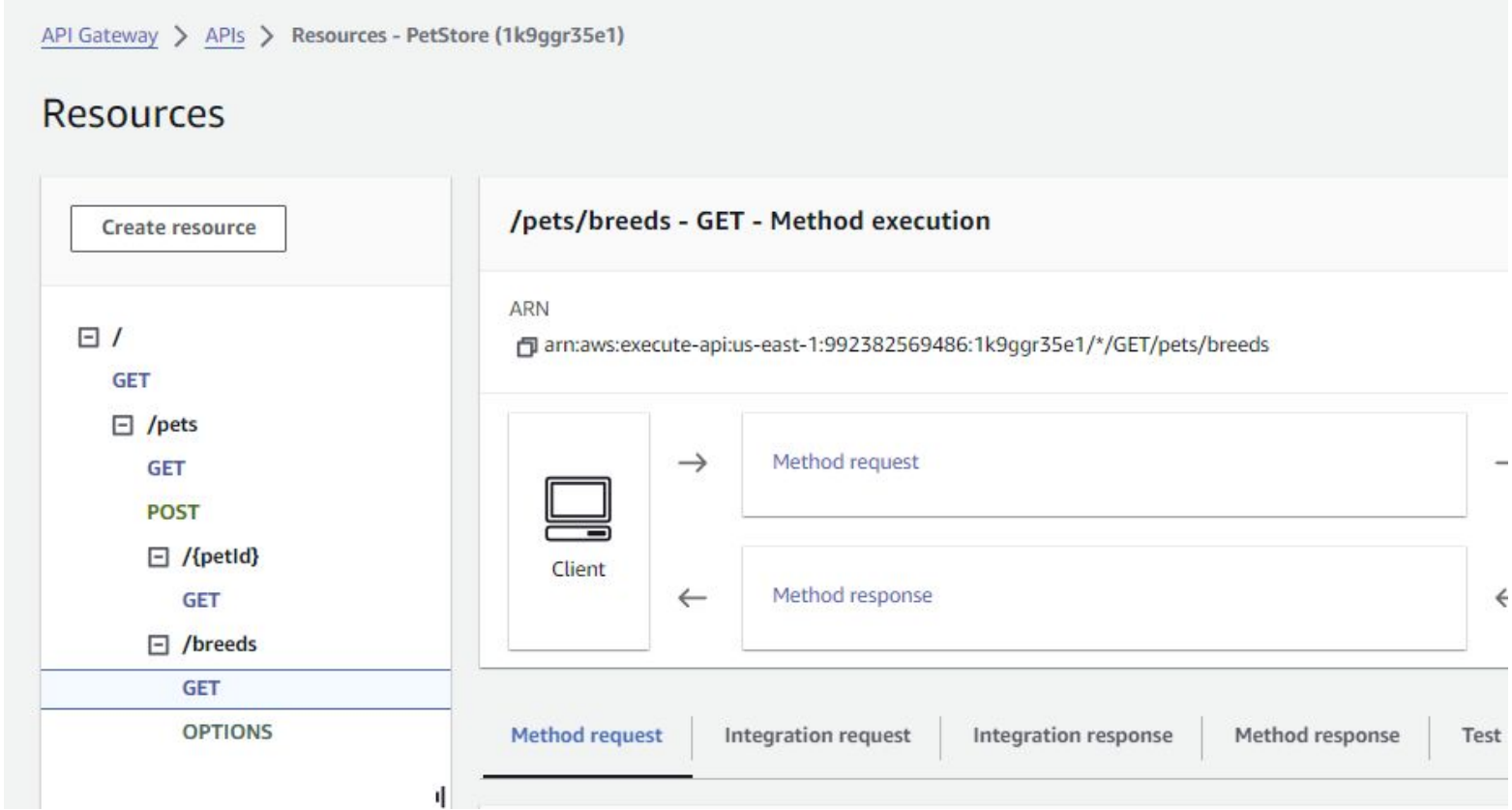
API Gateway


API Gateway
APIs
Custom domain names
VPC links
API: PetStore
Resources
Stages
Authorizers

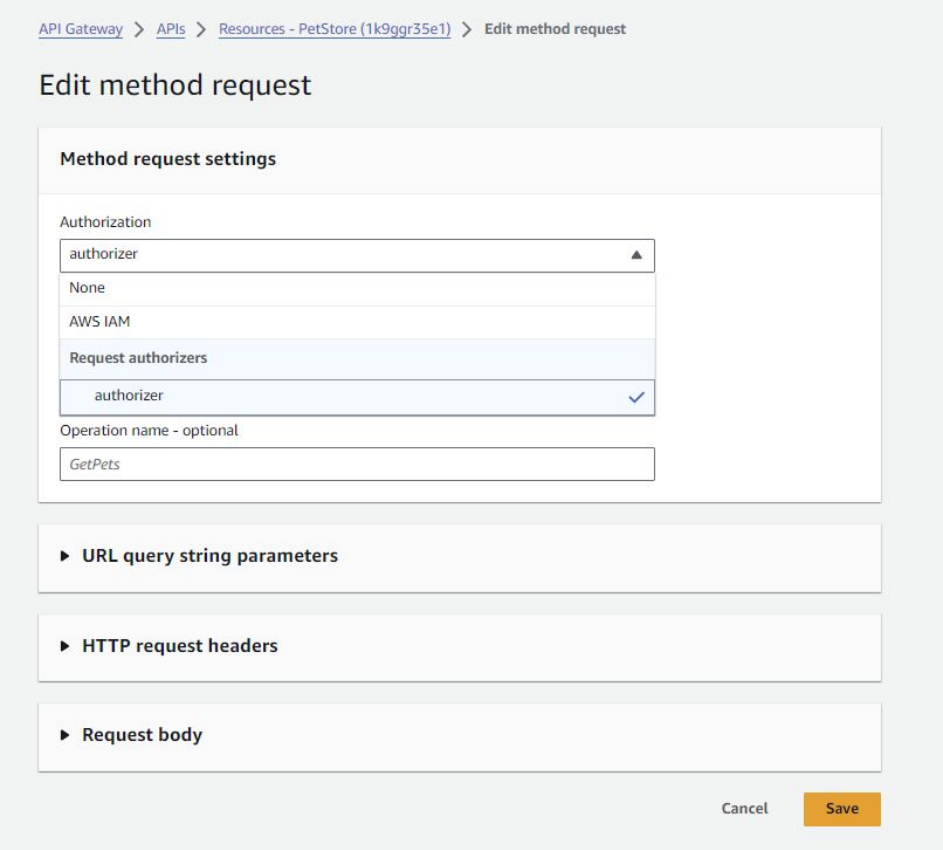



API Gateway > APIs > PetStore (1k9ggr35e1) > Authorizers > Create authorizer
Create authorizer Info
Authorizer details
Authorizer name
authorizar
Authorizer type Info
Choose to authorize your API calls using one of your Lambda functions or a Cognito User Pool.
Lambda
Cognito
Lambda function
Provide the Lambda function name or alias. You can also provide an ARN from another account.
us-east-1
Choose a Lambda function or enter its ARN
arn:aws:lambda:us-east-1:992382569486:function:authorizer
arn:aws:lambda:us-east-1:992382569486:function:getBreeds
Lambda invoke role - optional
Lambda event payload
Choose token to send a single header that contains an authorization token. Choose request to send all request parameters.
Token
Request
Identity source type
Key
Header
Authorization
Add parameter
Authorization caching
TTL (0-3600 seconds)
120

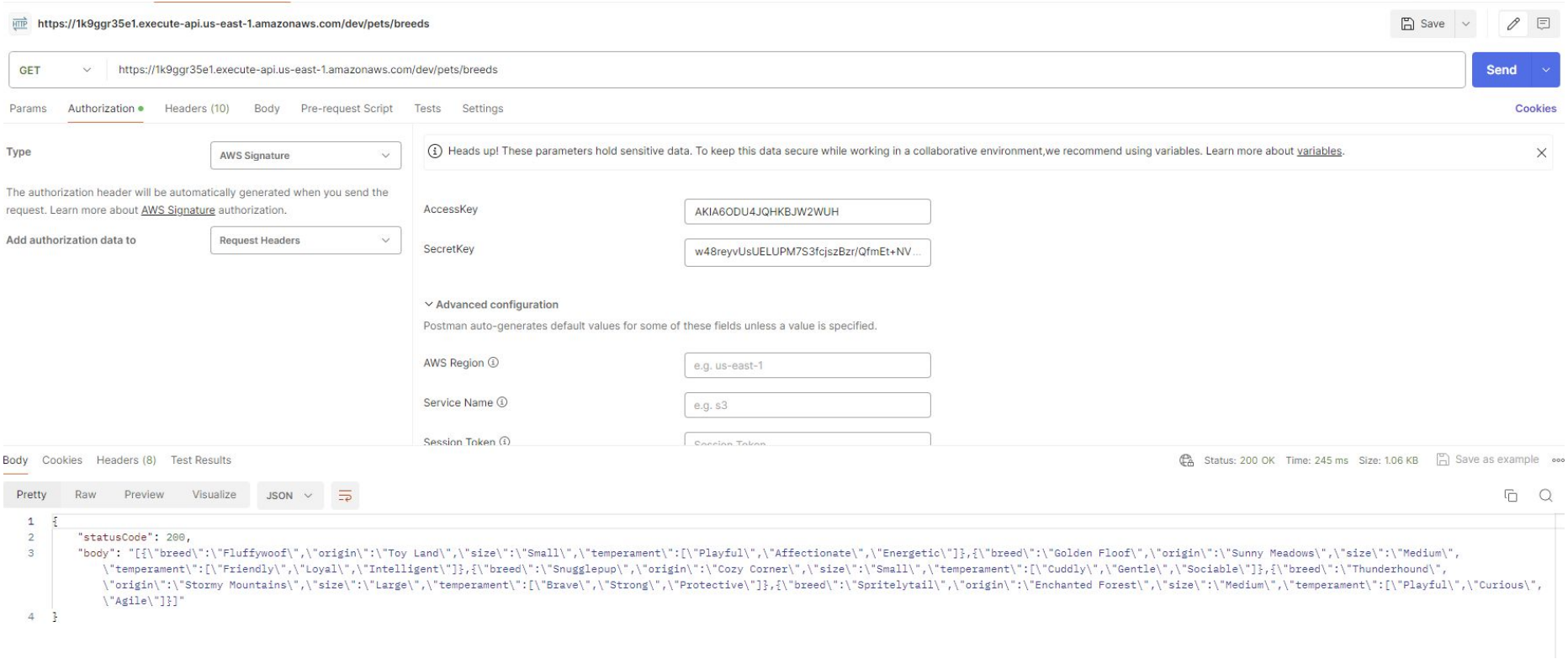
API Gateway


API Gateway > APIs > Resources - PetStore (1k9ggr35e1)
Resources
Create resource
/
GET
/pets
GET
POST
/{petId}
GET
/breeds
GET
OPTIONS
/pets/breeds - GET - Method execution
ARN
arn:aws:execute-api:us-east-1:992382569486:1k9ggr35e1/*/GET/pets/breeds
Client
Method request
Method response
Method request
Integration request
Integration response
Method response
Test

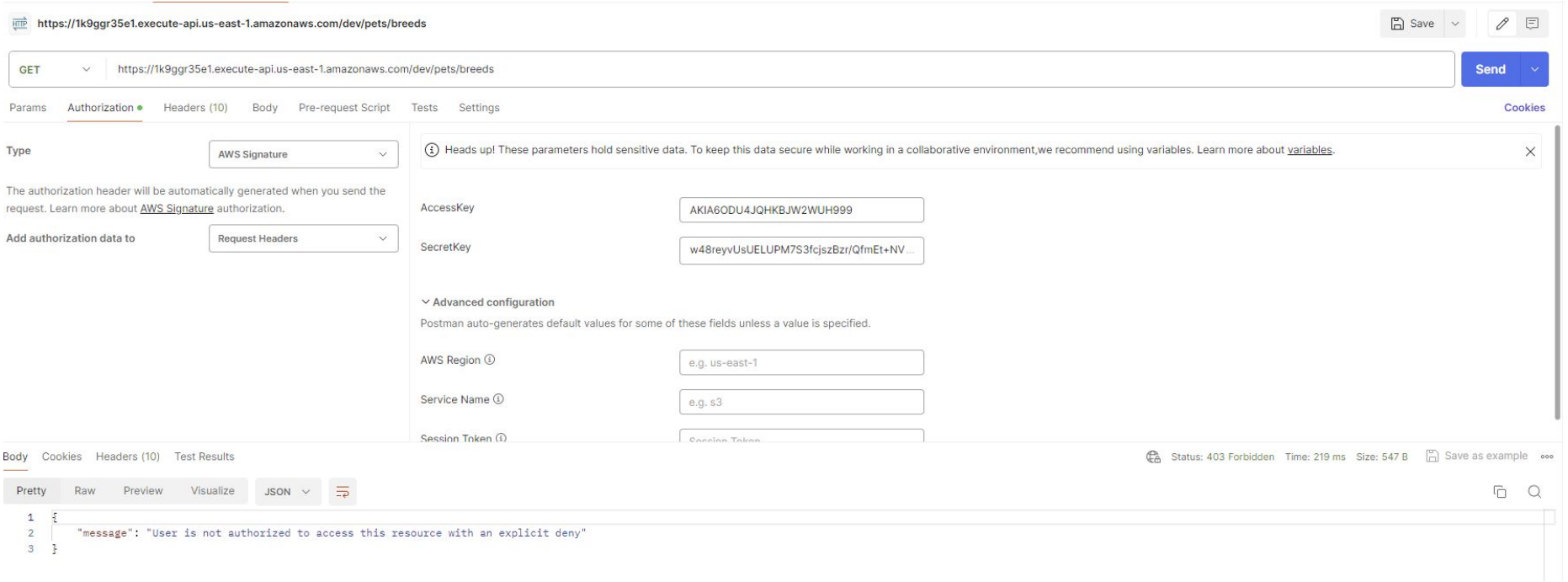
API Gateway


API Gateway > APIs > Resources - PetStore (1k9ggr35e1) > Edit method request
Edit method request
Method request settings
Authorization
authorizer
None
AWS IAM
Request authorizers
authorizer
Operation name - optional
GetPets
URL query string parameters
HTTP request headers
Request body
Cancel
Save

API Gateway


https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Save
GET
https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Send
Params
Authorization
Headers (10)
Body
Pre-request Script
Tests
Settings
Cookies
Type
AWS Signature
The authorization header will be automatically generated when you send the request. Learn more about AWS Signature authorization.
Add authorization data to
Request Headers
Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment,we recommend using variables. Learn more about variables.
AccessKey
AKIA6ODU4JQHKBJW2WUH
SecretKey
w48reyvUsUELUPM7S3fcjszBzr/QfmEt+NV...
Advanced configuration
Postman auto-generates default values for some of these fields unless a value is specified.
AWS Region
e.g. us-east-1
Service Name
e.g. s3
Session Token
Body
Cookies
Headers (8)
Test Results
Status: 200 OK
Time: 245 ms
Size: 1.06 KB
Save as example
Pretty
Raw
Preview
Visualize
JSON
{
"statusCode": 200,
"body": "[{\"breed\":\"Fluffywoof\",\"origin\":\"Toy Land\",\"size\":\"Small\",\"temperament\":[\"Playful\",\"Affectionate\",\"Energetic\"]},{\"breed\":\"Golden Floof\",\"origin\":\"Sunny Meadows\",\"size\":\"Medium\",
\"temperament\":[\"Friendly\",\"Loyal\",\"Intelligent\"]},{\"breed\":\"Snugglepup\",\"origin\":\"Cozy Corner\",\"size\":\"Small\",\"temperament\":[\"Cuddly\",\"Gentle\",\"Sociable\"]},{\"breed\":\"Thunderhound\",
\"origin\":\"Stormy Mountains\",\"size\":\"Large\",\"temperament\":[\"Brave\",\"Strong\",\"Protective\"]},{\"breed\":\"Spritelytail\",\"origin\":\"Enchanted Forest\",\"size\":\"Medium\",\"temperament\":[\"Playful\",\"Curious\",
\"Agile\"]}]"
}

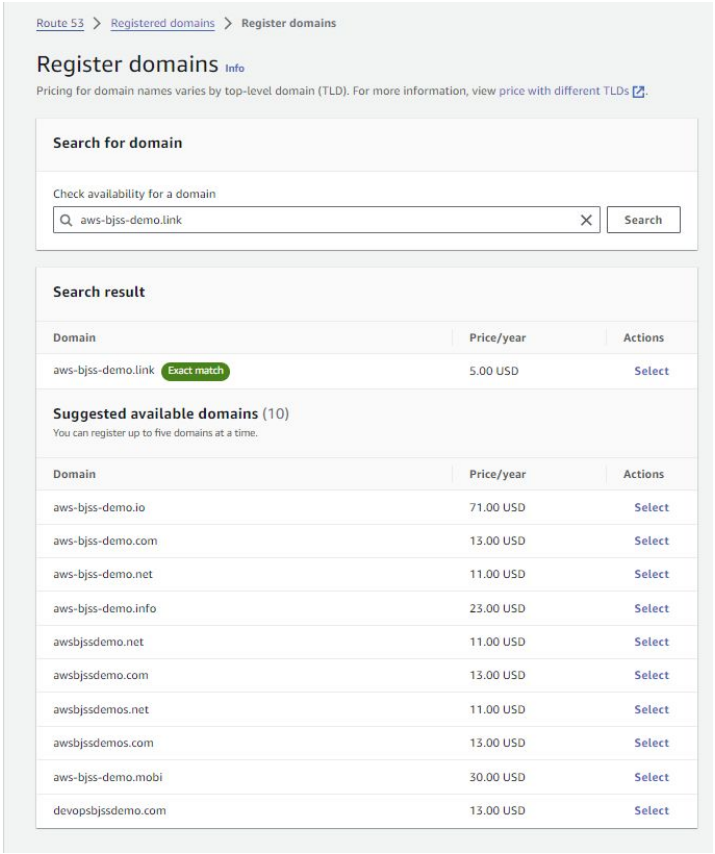
API Gateway


https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Save
GET
https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds
Send
Params
Authorization
Headers (10)
Body
Pre-request Script
Tests
Settings
Cookies
Type
AWS Signature
Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment,we recommend using variables. Learn more about variables.
The authorization header will be automatically generated when you send the request. Learn more about AWS Signature authorization.
AccessKey
AKIA6ODU4JQHKBJW2WUH999
Add authorization data to
Request Headers
SecretKey
w48reyvUsUELUPM7S3fcjszBzr/QfmEt+NV
Advanced configuration
Postman auto-generates default values for some of these fields unless a value is specified.
AWS Region
e.g. us-east-1
Service Name
e.g. s3
Session Token
Body
Cookies
Headers (10)
Test Results
Status: 403 Forbidden
Time: 219 ms
Size: 547 B
Save as example
Pretty
Raw
Preview
Visualize
JSON
{
"message": "User is not authorized to access this resource with an explicit deny"
}

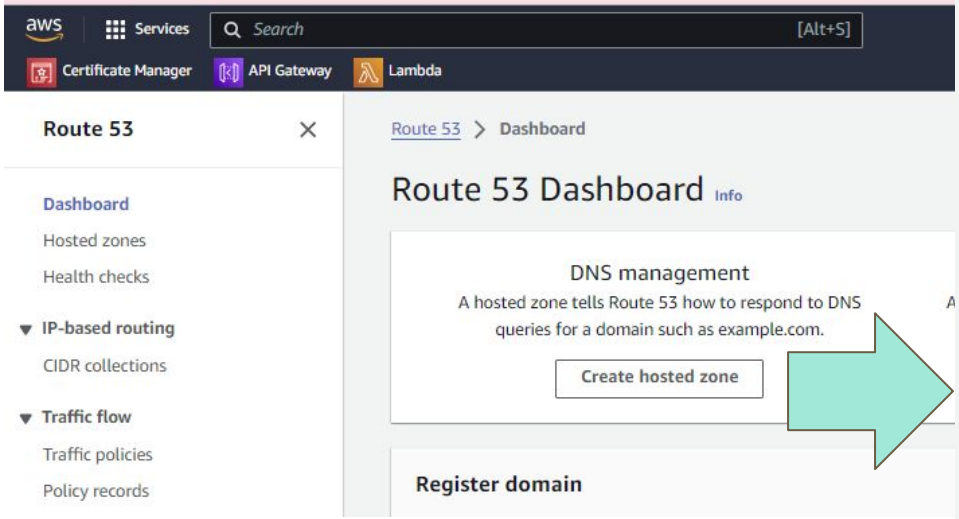
bjss

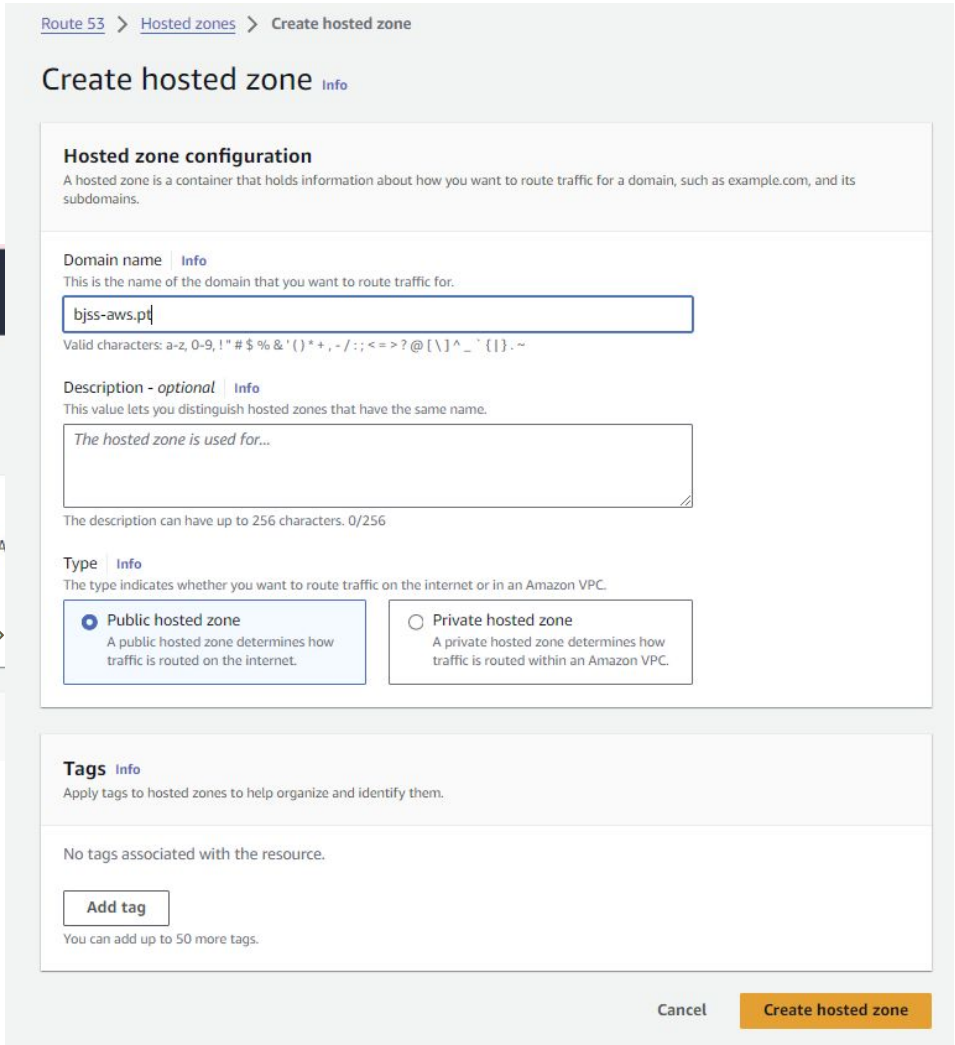
10.Custom Domain

API Gateway

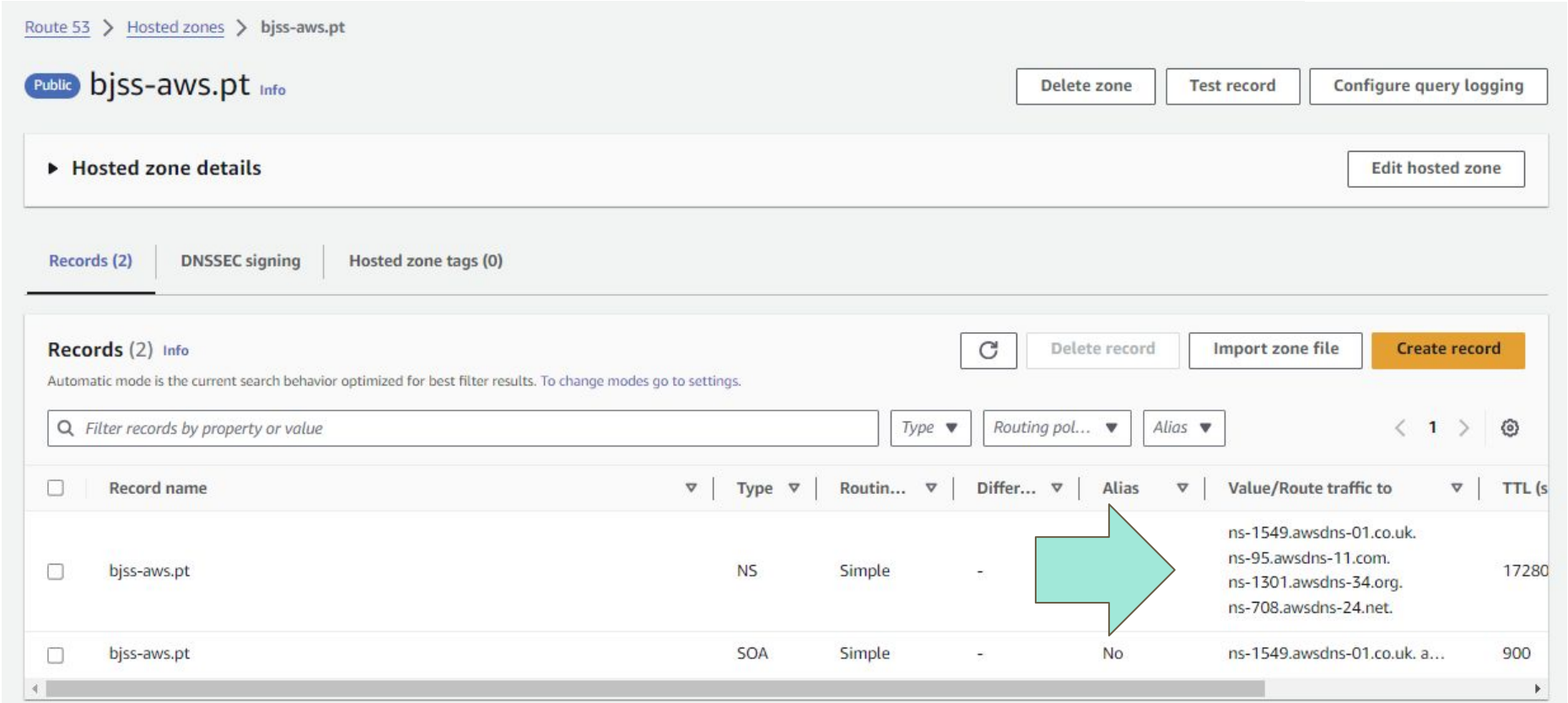

Route 53 > Registered domains > Register domains
Register domains Info
Pricing for domain names varies by top-level domain (TLD). For more information, view price with different TLDs.
Search for domain
Check availability for a domain
aws-bjss-demo.link
Search
Search result
Domain
Price/year
Actions
aws-bjss-demo.link Exact match
5.00 USD
Select
Suggested available domains (10)
You can register up to five domains at a time.
Domain
Price/year
Actions
aws-bjss-demo.io
71.00 USD
Select
aws-bjss-demo.com
13.00 USD
Select
aws-bjss-demo.net
11.00 USD
Select
aws-bjss-demo.info
23.00 USD
Select
awsbjssdemo.net
11.00 USD
Select
awsbjssdemo.com
13.00 USD
Select
awsbjssdemos.net
11.00 USD
Select
awsbjssdemos.com
13.00 USD
Select
aws-bjss-demo.mobi
30.00 USD
Select
devopsbjssdemo.com
13.00 USD
Select

API Gateway

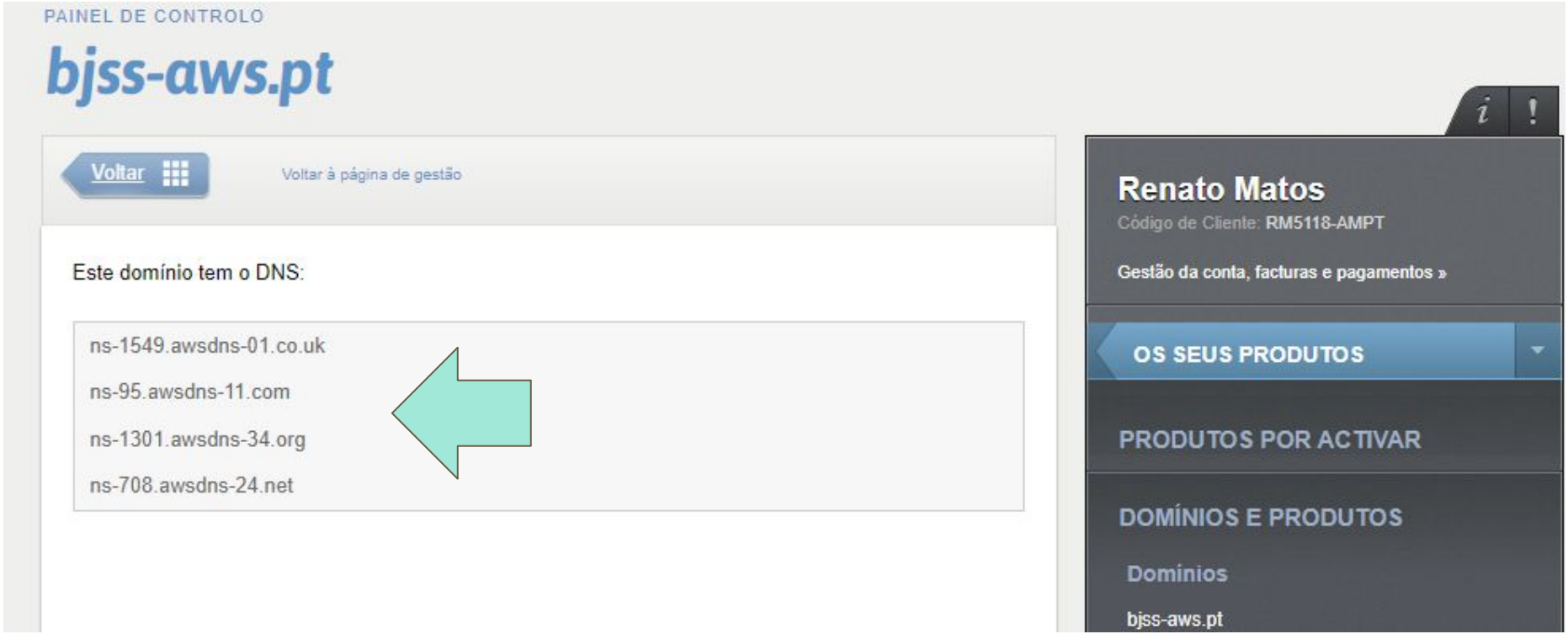

aws
Services
Search
[Alt+S]
Certificate Manager
API Gateway
Lambda
Route 53
Dashboard
Hosted zones
Health checks
IP-based routing
CIDR collections
Traffic flow
Traffic policies
Policy records
Route 53 > Dashboard
Route 53 Dashboard Info
DNS management
A hosted zone tells Route 53 how to respond to DNS queries for a domain such as example.com.
Create hosted zone
Register domain


Route 53 > Hosted zones > Create hosted zone
Create hosted zone Info
Hosted zone configuration
A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.
Domain name Info
This is the name of the domain that you want to route traffic for.
bjss-aws.pt
Valid characters: a-z, 0-9, ! " # $ % & ' ( ) * + , - / : ; < = > ? @ [\ ] ^ _ ` { | } . ~
Description - optional Info
This value lets you distinguish hosted zones that have the same name.
The hosted zone is used for...
The description can have up to 256 characters. 0/256
Type Info
The type indicates whether you want to route traffic on the internet or in an Amazon VPC.
Public hosted zone
A public hosted zone determines how traffic is routed on the internet.
Private hosted zone
A private hosted zone determines how traffic is routed within an Amazon VPC.
Tags Info
Apply tags to hosted zones to help organize and identify them.
No tags associated with the resource.
Add tag
You can add up to 50 more tags.
Cancel
Create hosted zone

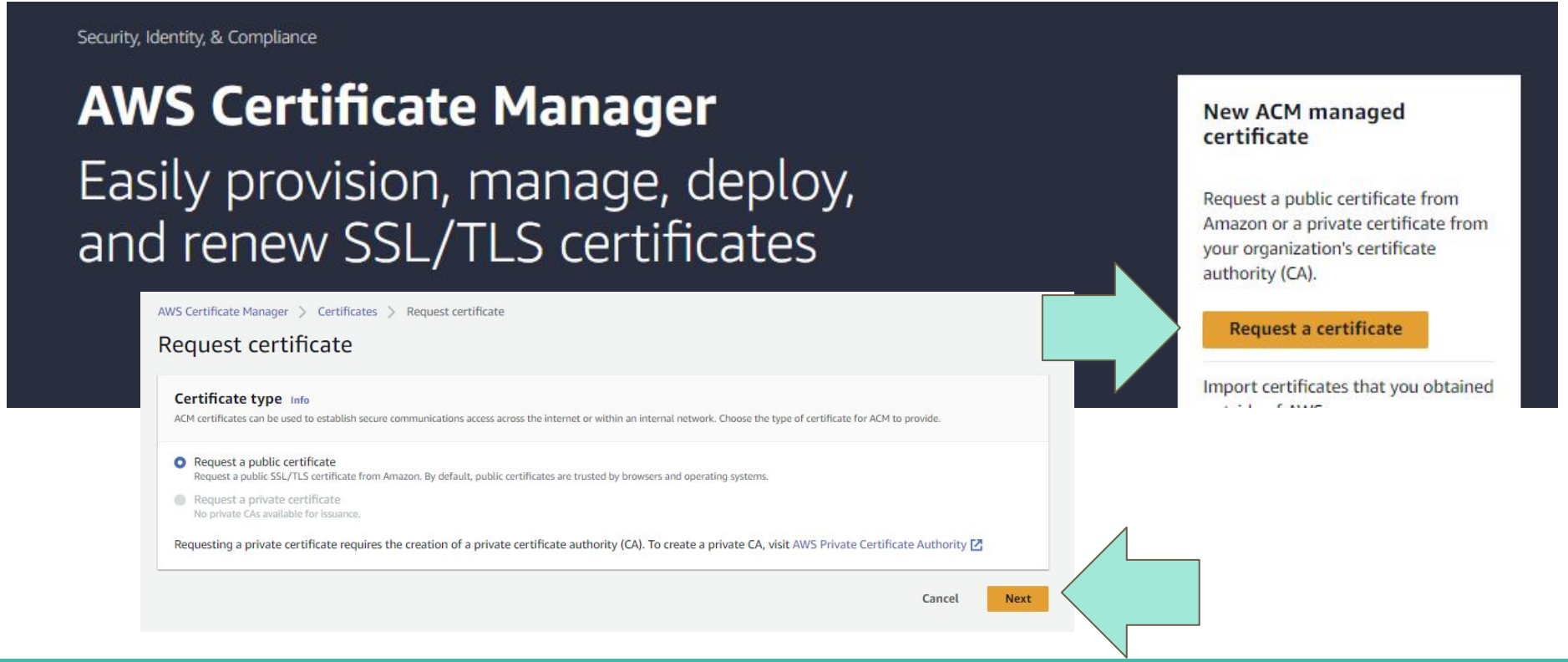
API Gateway


Route 53 > Hosted zones > bjss-aws.pt
Public bjss-aws.pt Info
Delete zone
Test record
Configure query logging
Hosted zone details
Edit hosted zone
Records (2)
DNSSEC signing
Hosted zone tags (0)
Records (2) Info
Delete record
Import zone file
Create record
Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.
Filter records by property or value
Type
Routing pol...
Alias
1
Record name
Type
Routin...
Differ...
Alias
Value/Route traffic to
TTL (s
bjss-aws.pt
NS
Simple
-
ns-1549.awsdns-01.co.uk.
ns-95.awsdns-11.com.
ns-1301.awsdns-34.org.
ns-708.awsdns-24.net.
17280
bjss-aws.pt
SOA
Simple
-
No
ns-1549.awsdns-01.co.uk. a...
900

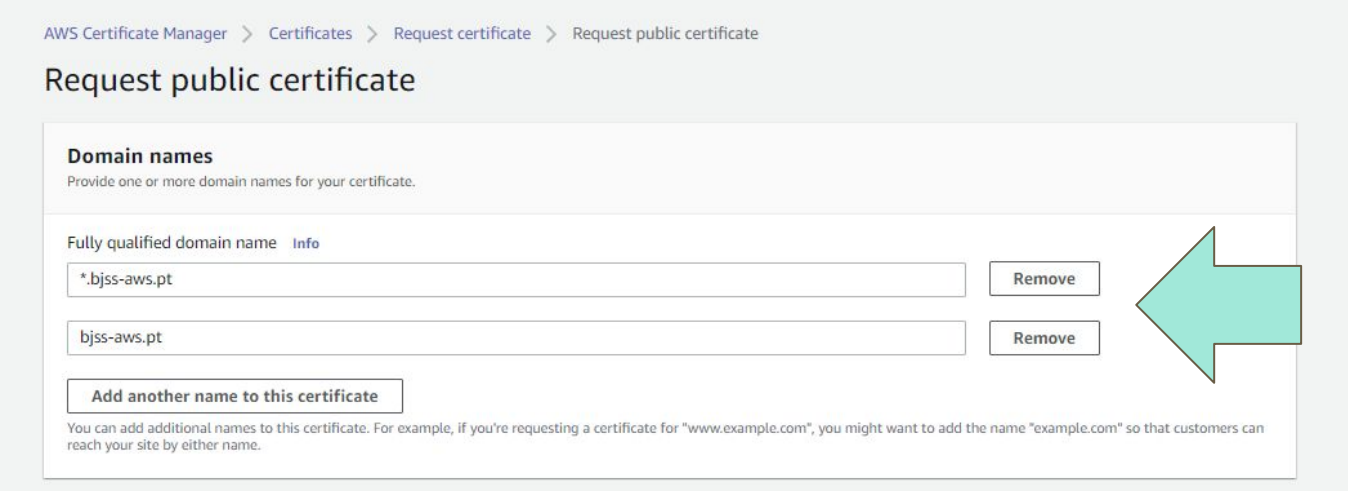
API Gateway

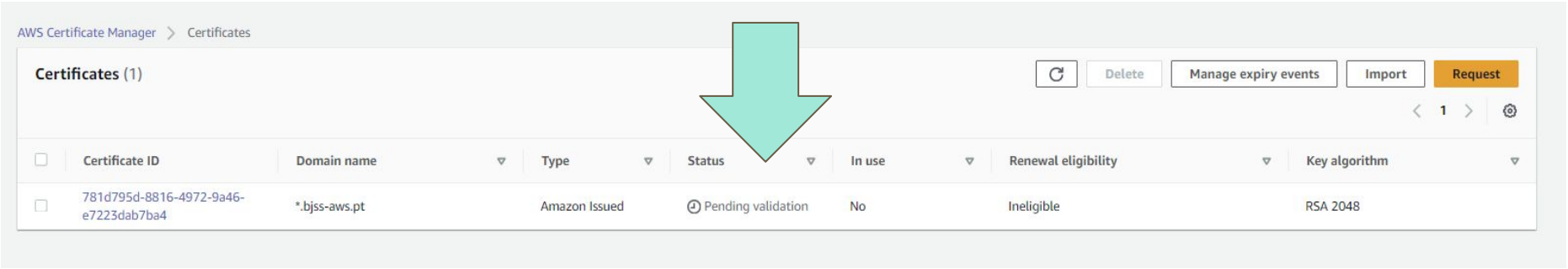

PAINEL DE CONTROLO
bjss-aws.pt
Voltar
Voltar à página de gestão
Este domínio tem o DNS:
ns-1549.awsdns-01.co.uk
ns-95.awsdns-11.com
ns-1301.awsdns-34.org
ns-708.awsdns-24.net
Renato Matos
Código de Cliente: RM5118-AMPT
Gestão da conta, facturas e pagamentos »
OS SEUS PRODUTOS
PRODUTOS POR ACTIVAR
DOMÍNIOS E PRODUTOS
Domínios
bjss-aws.pt

API Gateway

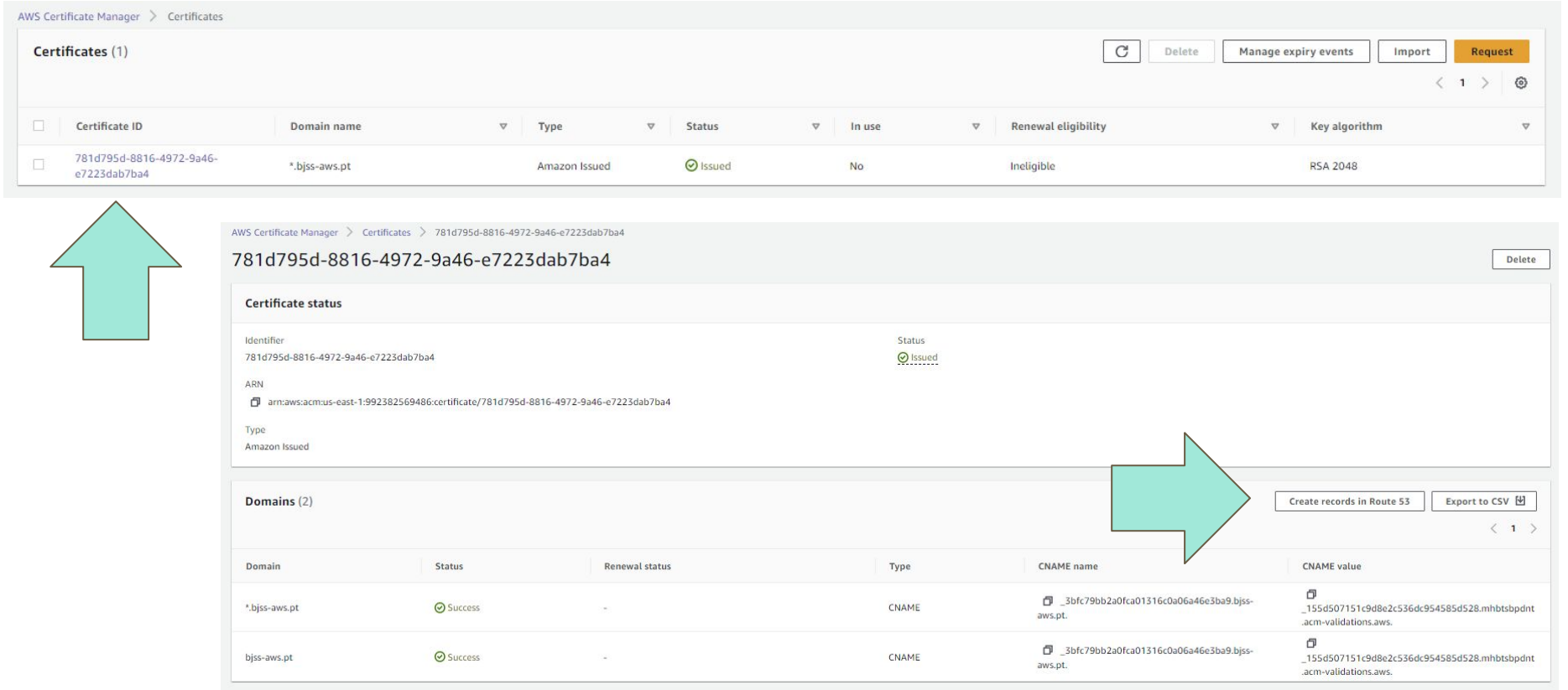

Security, Identity, & Compliance
AWS Certificate Manager
Easily provision, manage, deploy, and renew SSL/TLS certificates
AWS Certificate Manager > Certificates > Request certificate
Request certificate
Certificate type Info
ACM certificates can be used to establish secure communications access across the internet or within an internal network. Choose the type of certificate for ACM to provide.
Request a public certificate
Request a public SSL/TLS certificate from Amazon. By default, public certificates are trusted by browsers and operating systems.
Request a private certificate
No private CAs available for issuance.
Requesting a private certificate requires the creation of a private certificate authority (CA). To create a private CA, visit AWS Private Certificate Authority
Cancel
Next
New ACM managed certificate
Request a public certificate from Amazon or a private certificate from your organization's certificate authority (CA).
Request a certificate
Import certificates that you obtained

API Gateway

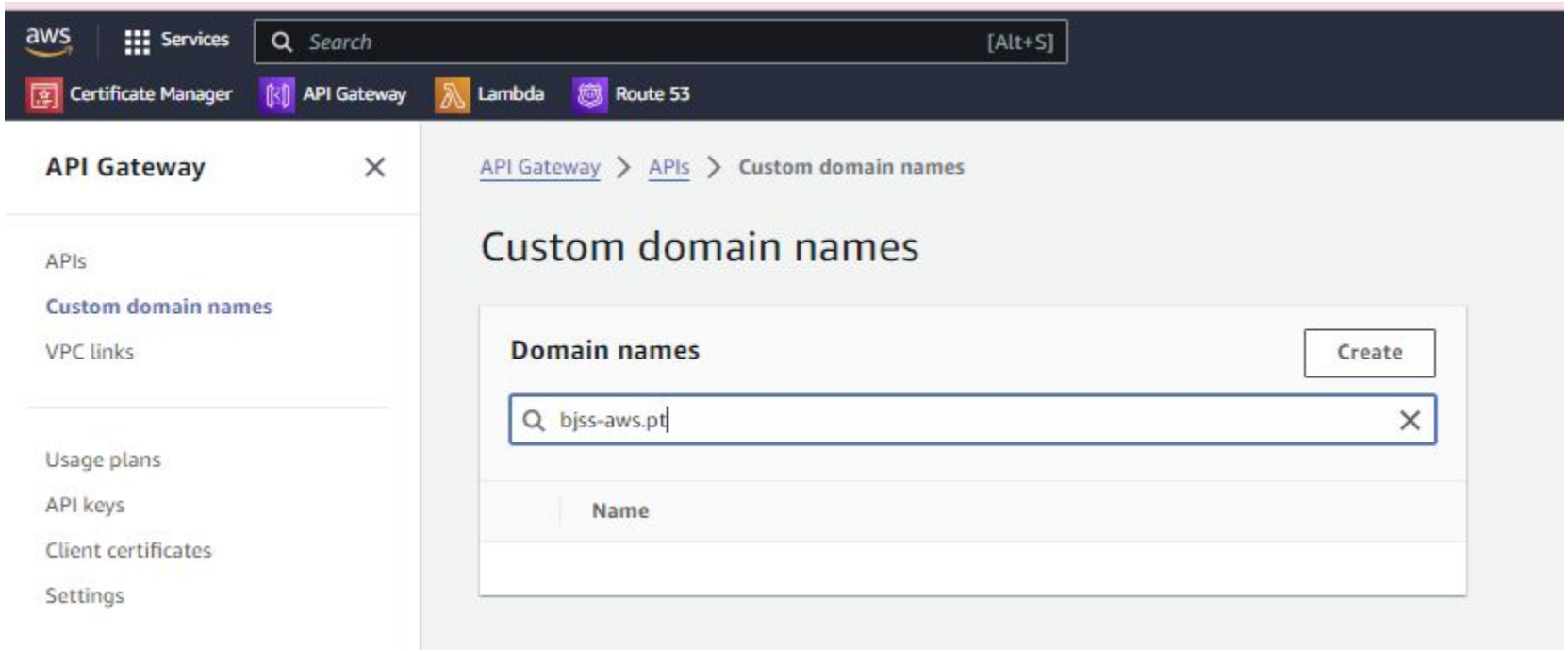

AWS Certificate Manager > Certificates > Request certificate > Request public certificate
Request public certificate
Domain names
Provide one or more domain names for your certificate.
Fully qualified domain name Info
*.bjss-aws.pt
Remove
bjss-aws.pt
Remove
Add another name to this certificate
You can add additional names to this certificate. For example, if you're requesting a certificate for "www.example.com", you might want to add the name "example.com" so that customers can reach your site by either name.


AWS Certificate Manager > Certificates
Certificates (1)
Delete
Manage expiry events
Import
Request
1
Certificate ID
Domain name
Type
Status
In use
Renewal eligibility
Key algorithm
781d795d-8816-4972-9a46-e7223dab7ba4
*.bjss-aws.pt
Amazon Issued
Pending validation
No
Ineligible
RSA 2048

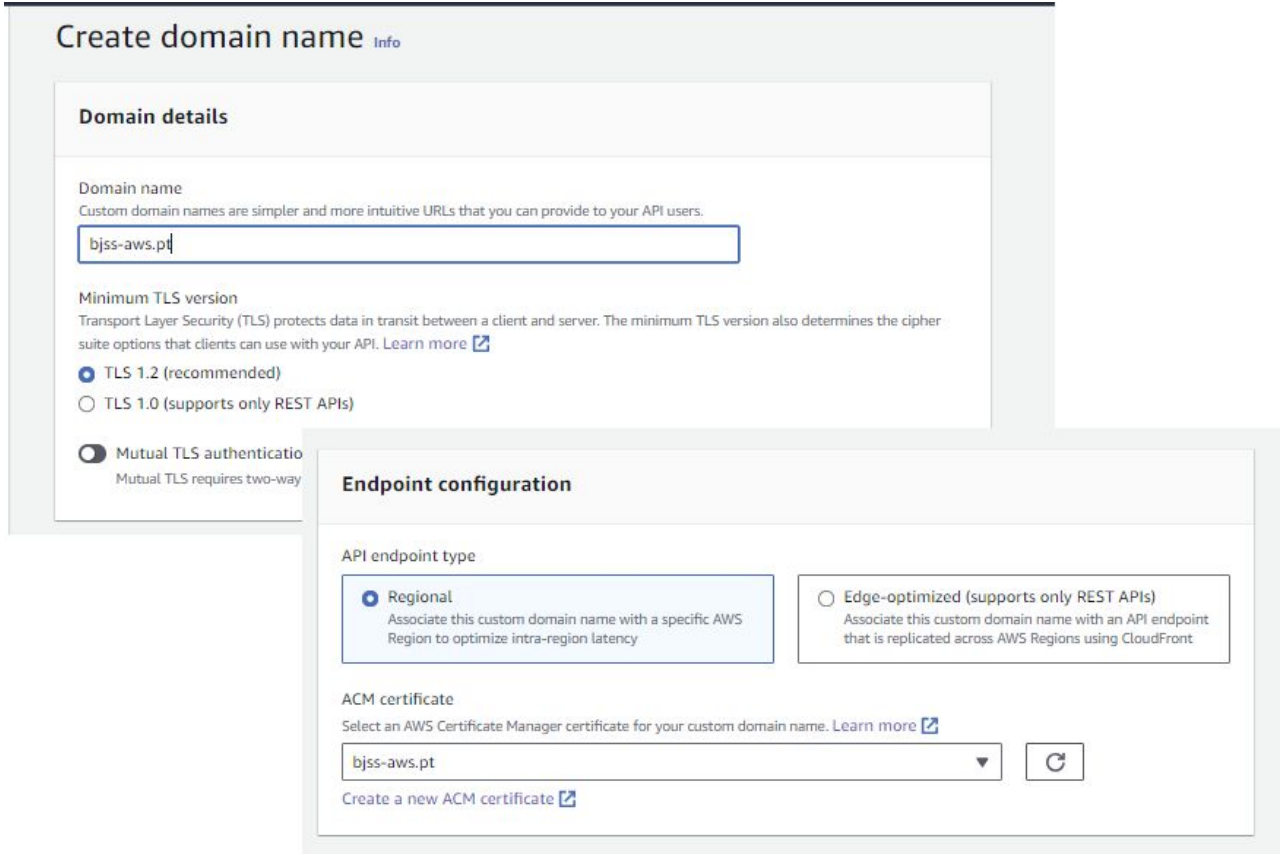
API Gateway


AWS Certificate Manager > Certificates
Certificates (1)
Delete
Manage expiry events
Import
Request
Certificate ID
Domain name
Type
Status
In use
Renewal eligibility
Key algorithm
781d795d-8816-4972-9a46-e7223dab7ba4
*.bjss-aws.pt
Amazon Issued
Issued
No
Ineligible
RSA 2048
AWS Certificate Manager > Certificates > 781d795d-8816-4972-9a46-e7223dab7ba4
781d795d-8816-4972-9a46-e7223dab7ba4
Delete
Certificate status
Identifier
781d795d-8816-4972-9a46-e7223dab7ba4
Status
Issued
ARN
arn:aws:acm:us-east-1:992382569486:certificate/781d795d-8816-4972-9a46-e7223dab7ba4
Type
Amazon Issued
Domains (2)
Create records in Route 53
Export to CSV
Domain
Status
Renewal status
Type
CNAME name
CNAME value
*.bjss-aws.pt
Success
CNAME
_3bfc79bb2a0fca01316c0a06a46e3ba9.bjss-aws.pt.
_155d507151c9d8e2c536dc954585d528.mhbtsbpdnt.acm-validations.aws.
bjss-aws.pt
Success
CNAME
_3bfc79bb2a0fca01316c0a06a46e3ba9.bjss-aws.pt.
_155d507151c9d8e2c536dc954585d528.mhbtsbpdnt.acm-validations.aws.

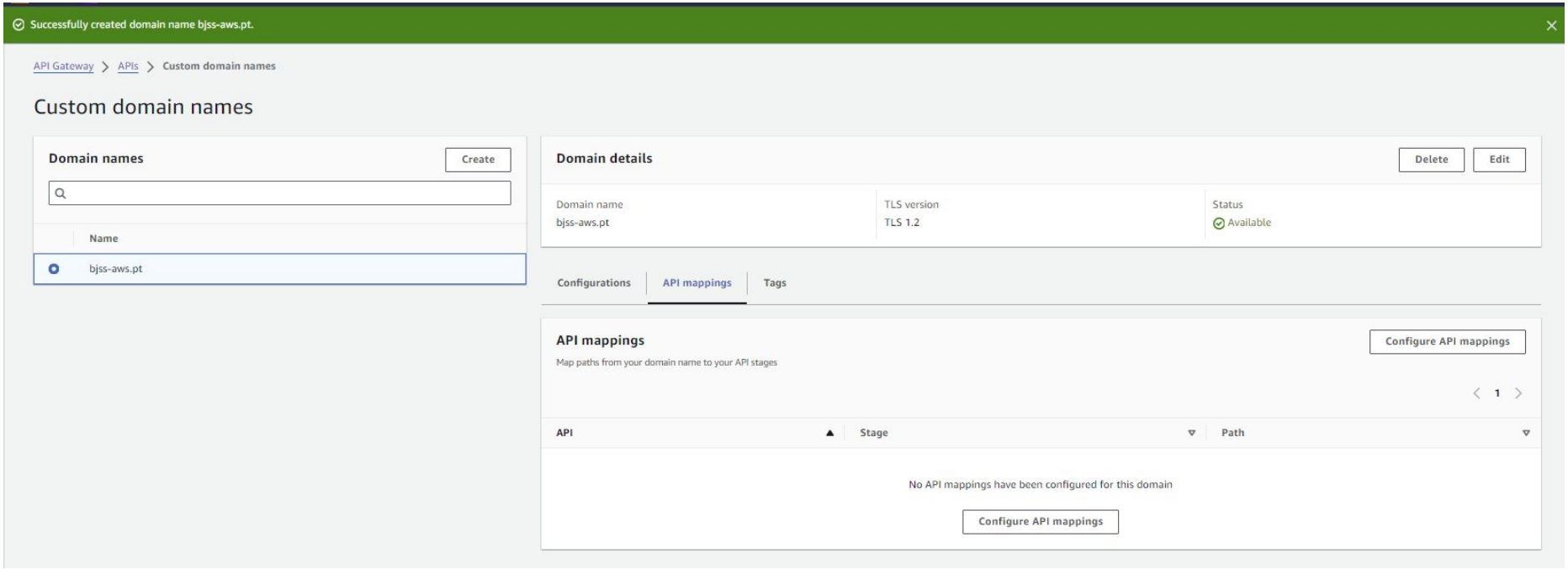
API Gateway


aws
Services
Search
[Alt+S]
Certificate Manager
API Gateway
Lambda
Route 53
API Gateway
APIs
Custom domain names
VPC links
Usage plans
API keys
Client certificates
Settings
API Gateway > APIs > Custom domain names
Custom domain names
Domain names
Create
bjss-aws.pt
Name

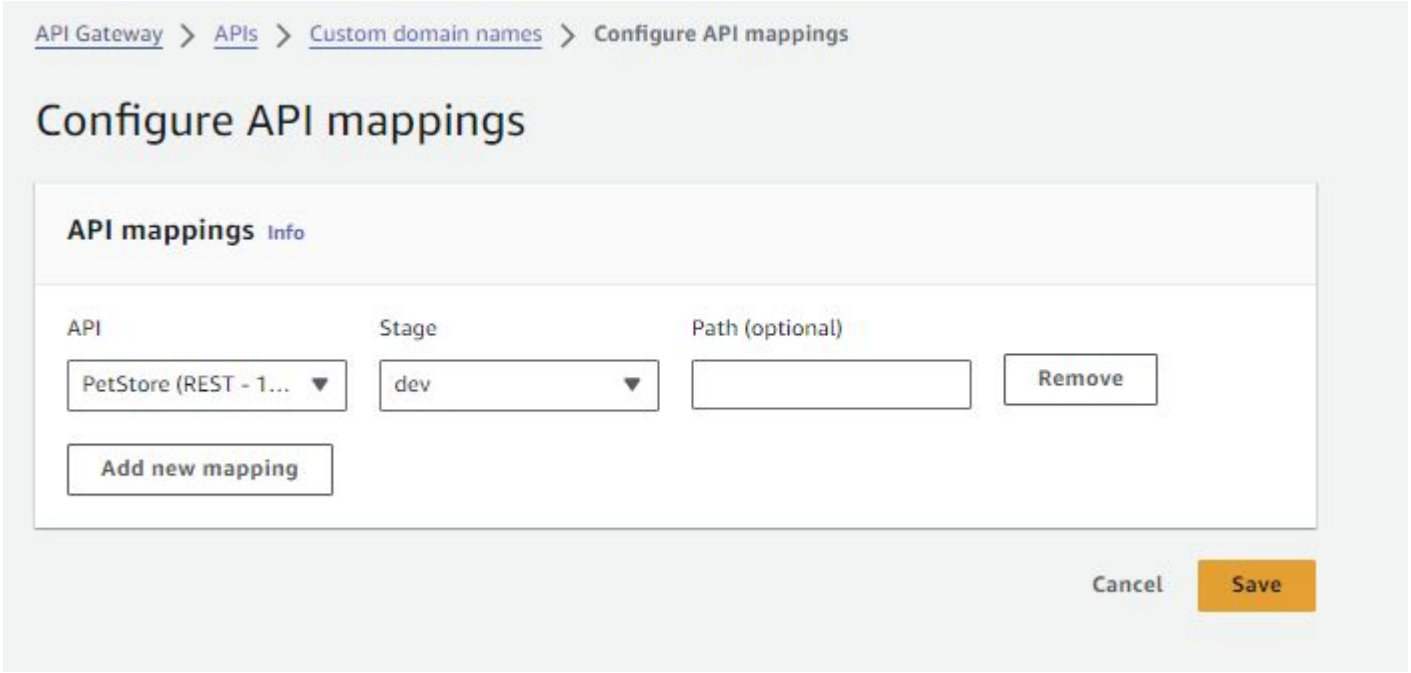
API Gateway


Create domain name Info
Domain details
Domain name
Custom domain names are simpler and more intuitive URLs that you can provide to your API users.
bjss-aws.pt
Minimum TLS version
Transport Layer Security (TLS) protects data in transit between a client and server. The minimum TLS version also determines the cipher suite options that clients can use with your API. Learn more
TLS 1.2 (recommended)
TLS 1.0 (supports only REST APIs)
Mutual TLS authenticatio
Mutual TLS requires two-way
Endpoint configuration
API endpoint type
Regional
Associate this custom domain name with a specific AWS Region to optimize intra-region latency
Edge-optimized (supports only REST APIs)
Associate this custom domain name with an API endpoint that is replicated across AWS Regions using CloudFront
ACM certificate
Select an AWS Certificate Manager certificate for your custom domain name. Learn more
bjss-aws.pt
Create a new ACM certificate

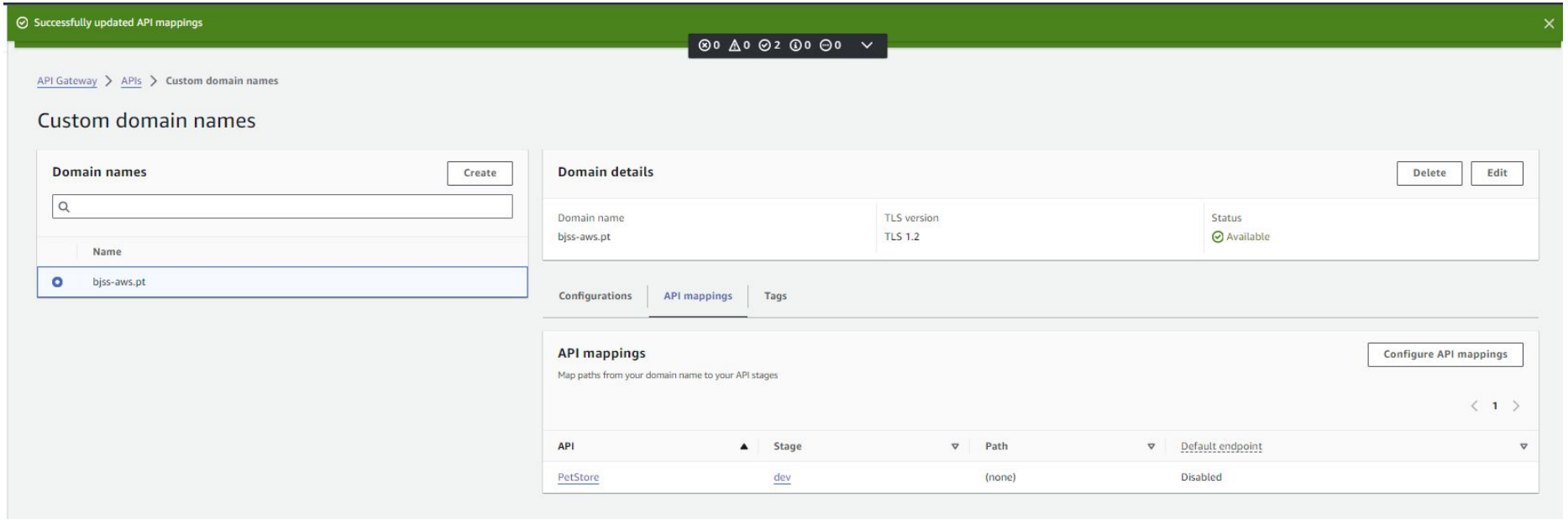
API Gateway


Successfully created domain name bjss-aws.pt.
API Gateway > APIs > Custom domain names
Custom domain names
Domain names
Create
Name
bjss-aws.pt
Domain details
Delete
Edit
Domain name
bjss-aws.pt
TLS version
TLS 1.2
Status
Available
Configurations
API mappings
Tags
API mappings
Map paths from your domain name to your API stages
Configure API mappings
1
API
Stage
Path
No API mappings have been configured for this domain
Configure API mappings

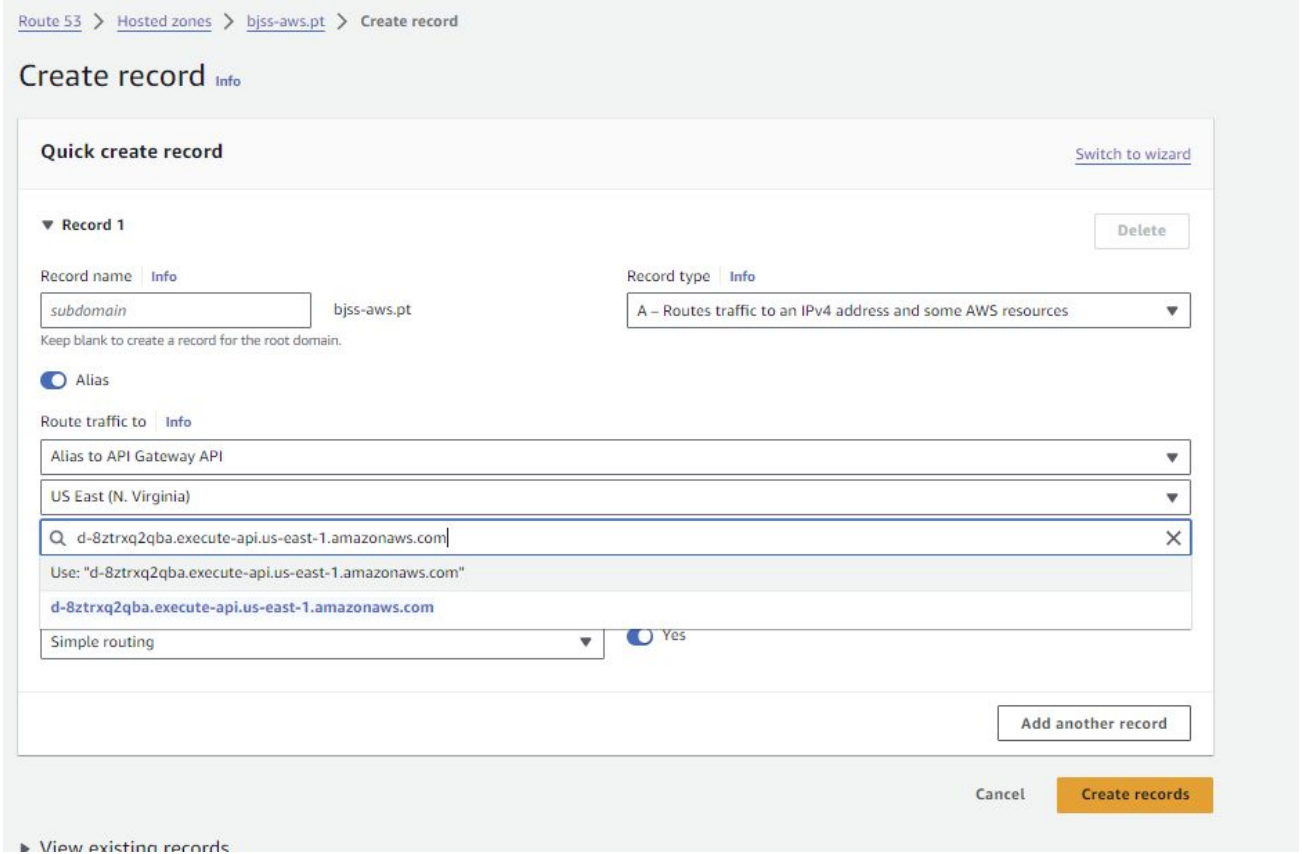
API Gateway


API Gateway > APIs > Custom domain names > Configure API mappings
Configure API mappings
API mappings Info
API
Stage
Path (optional)
PetStore (REST - 1...
dev
Remove
Add new mapping
Cancel
Save

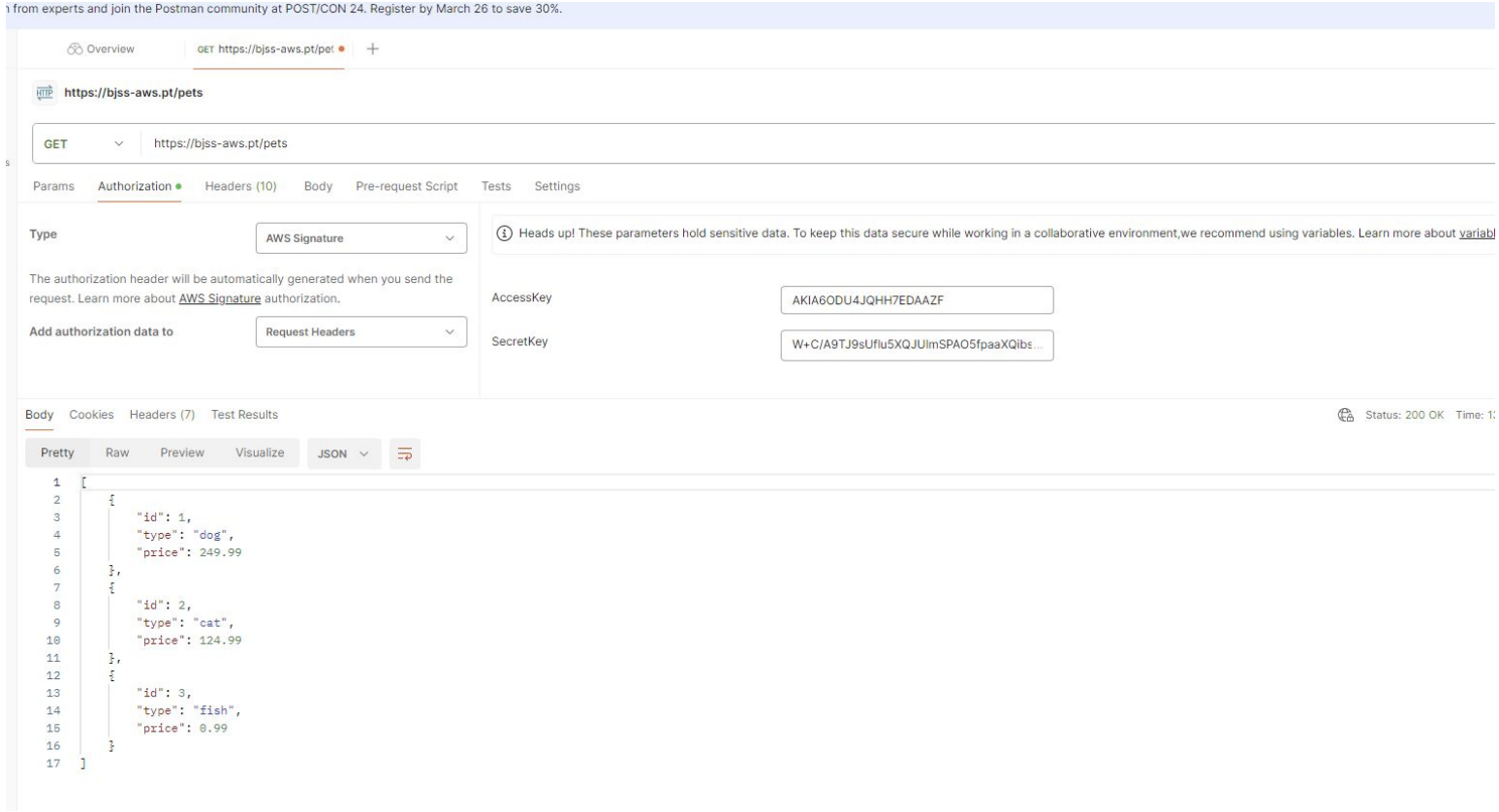
API Gateway


Successfully updated API mappings
API Gateway > APIs > Custom domain names
Custom domain names
Domain names
Create
Name
bjss-aws.pt
Domain details
Delete
Edit
Domain name
bjss-aws.pt
TLS version
TLS 1.2
Status
Available
Configurations
API mappings
Tags
API mappings
Map paths from your domain name to your API stages
Configure API mappings
API
Stage
Path
Default endpoint
PetStore
dev
(none)
Disabled

API Gateway


Route 53 > Hosted zones > bjss-aws.pt > Create record
Create record Info
Quick create record
Switch to wizard
Record 1
Delete
Record name Info
subdomain
bjss-aws.pt
Keep blank to create a record for the root domain.
Record type Info
A – Routes traffic to an IPv4 address and some AWS resources
Alias
Route traffic to Info
Alias to API Gateway API
US East (N. Virginia)
d-8ztrxq2qba.execute-api.us-east-1.amazonaws.com
Use: "d-8ztrxq2qba.execute-api.us-east-1.amazonaws.com"
d-8ztrxq2qba.execute-api.us-east-1.amazonaws.com
Simple routing
Yes
Add another record
Cancel
Create records
View existing records

API Gateway


from experts and join the Postman community at POST/CON 24. Register by March 26 to save 30%.
Overview
GET https://bjss-aws.pt/pet
https://bjss-aws.pt/pets
GET
https://bjss-aws.pt/pets
Params
Authorization
Headers (10)
Body
Pre-request Script
Tests
Settings
Type
AWS Signature
Heads up! These parameters hold sensitive data. To keep this data secure while working in a collaborative environment,we recommend using variables. Learn more about variabl
The authorization header will be automatically generated when you send the request. Learn more about AWS Signature authorization.
AccessKey
AKIA6ODU4JQHH7EDAAZF
Add authorization data to
Request Headers
SecretKey
W+C/A9TJ9sUflu5XQJUlmSPAO5fpaaXQibs
Body
Cookies
Headers (7)
Test Results
Status: 200 OK
Pretty
Raw
Preview
Visualize
JSON
[
{
"id": 1,
"type": "dog",
"price": 249.99
},
{
"id": 2,
"type": "cat",
"price": 124.99
},
{
"id": 3,
"type": "fish",
"price": 0.99
}
]

API Gateway

https://github.com/renatomatos79/bjss-aws-api-gateway

renato.matos79@gmail.com