AWS API Gateway

2024-09

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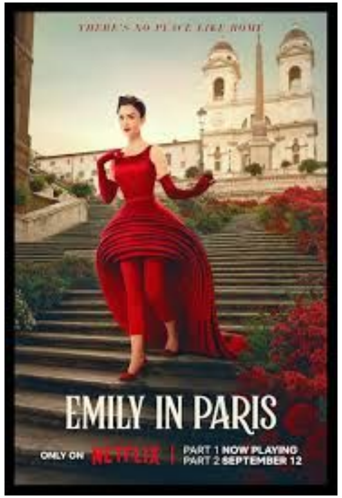
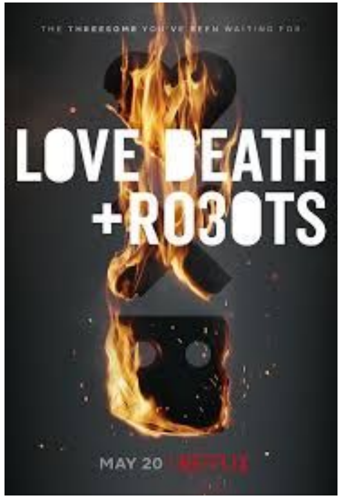
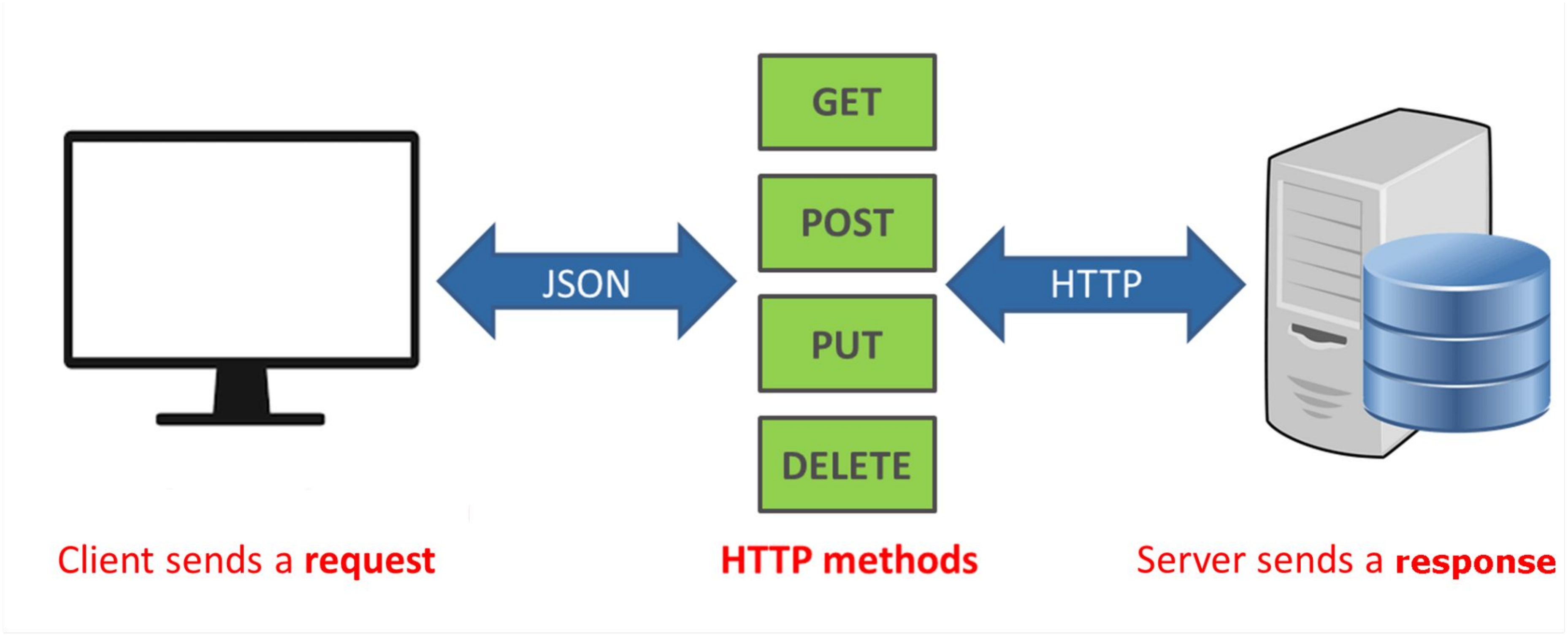
Speaker

Renato is a full-stack developer with a focus on .NET backend development. In his free time, he enjoys watching Netflix series, reading books, and spending quality moments with his dogs and his child.

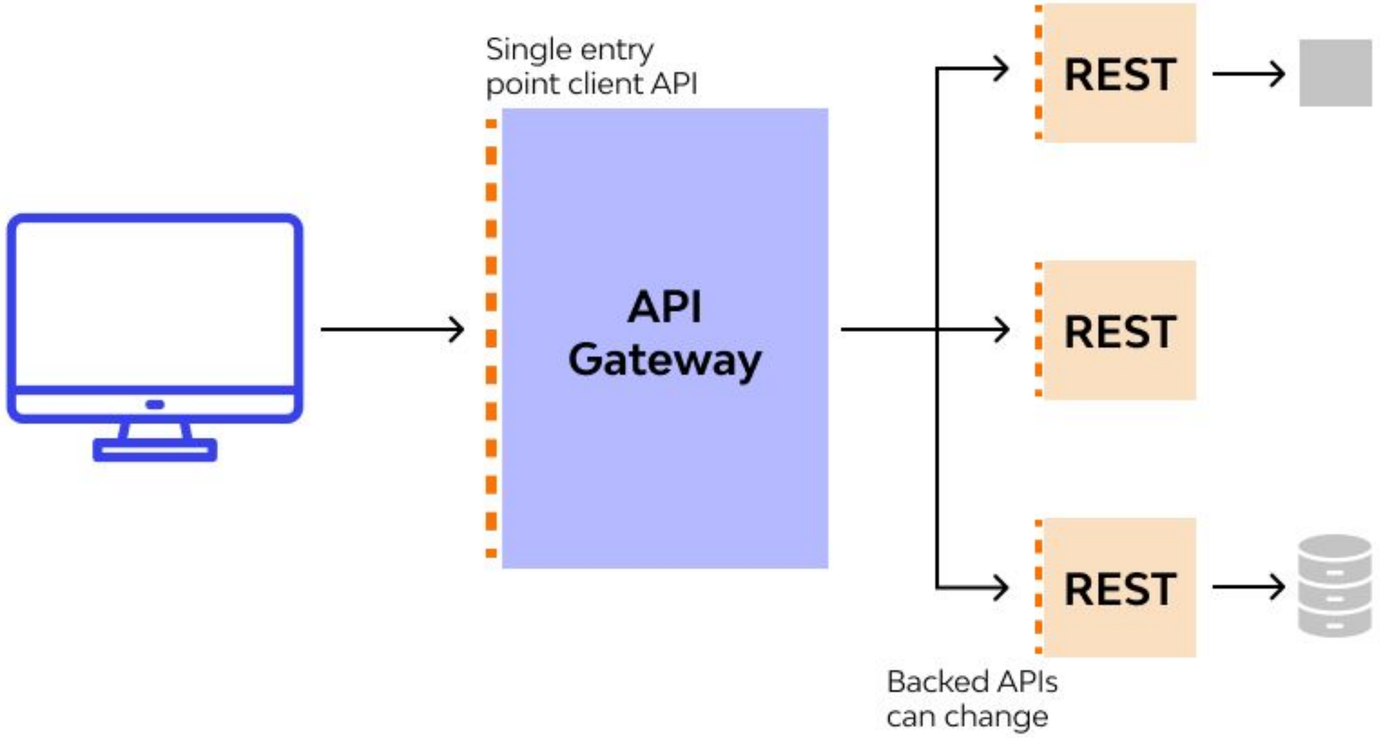




Rest API


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

API Gateway


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

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.

API Gateway

Build and Deploy APIs Quickly: API 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

{LAB}
Time

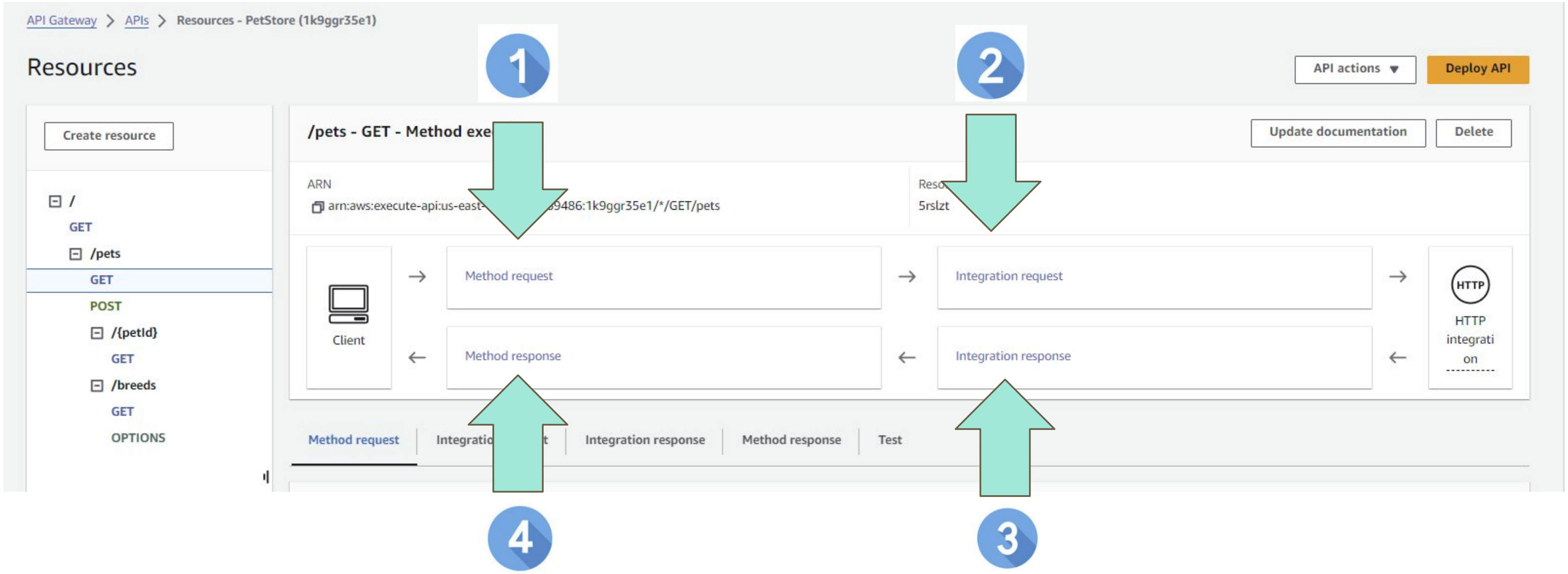
API Gateway

01. Building our first API

02.Exploring the client flow

API Gateway

02.Exploring the client flow



API Gateway 02.Exploring the client flow

1 Method Request

- Authorization: none, IAM, Lambda Authorizer
- Validate: body, header, query string
- Require Api Key

2 Integration Request

- Type: Http, Mock, Lambda Function, AWS Service, VPC Link
- Set http method, URL and timeout
- Format request or enable proxy integration

3 Integration Response

- Set a regex to combine a http status code
- Format the response content

4 Method Response

- Set status code
- Additional header
- Response body

API Gateway

03.Providing mock data

04.Deploying to DEV Stage

API Gateway

05.Using lambda function to replace the mock content

06.Enabling CORS

API Gateway

06.Enabling CORS

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)
       }
     })
}
```

API Gateway

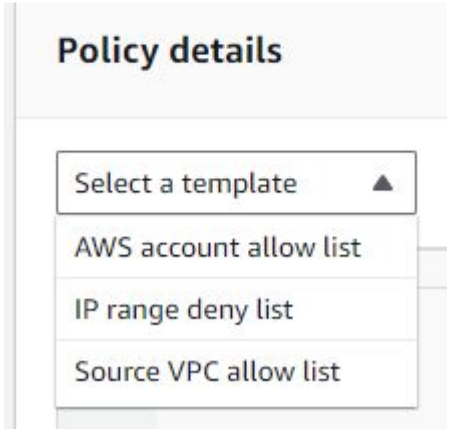
07.Enabling IAM Authentication

08.Resource Policy

API Gateway

08.Resource Policy

In AWS API Gateway, **resource policies** are used to control access to your API endpoints by specifying **who** (which IAM users, roles, or AWS services) can access your API and **from which network or IP** addresses they can make requests. Essentially, resource policies help secure your API Gateway by allowing you to define access controls based on certain conditions



API Gateway

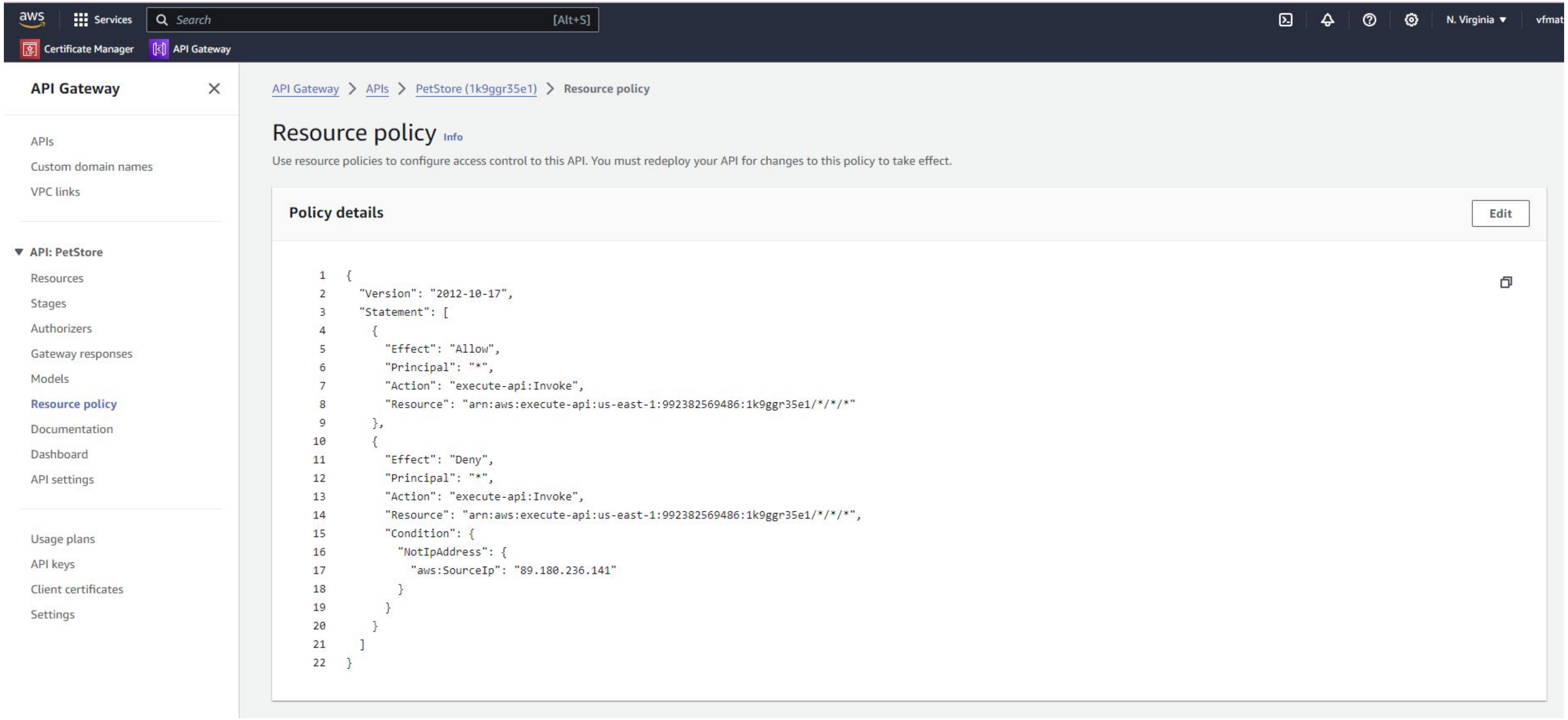
08.Resource Policy

```
{
  "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"
        }
      }
    }
  ]
}
```

`Principal:` `"*"` means **anyone** (any user, role, or account) is allowed to invoke the API.

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

API Gateway 08.Resource Policy



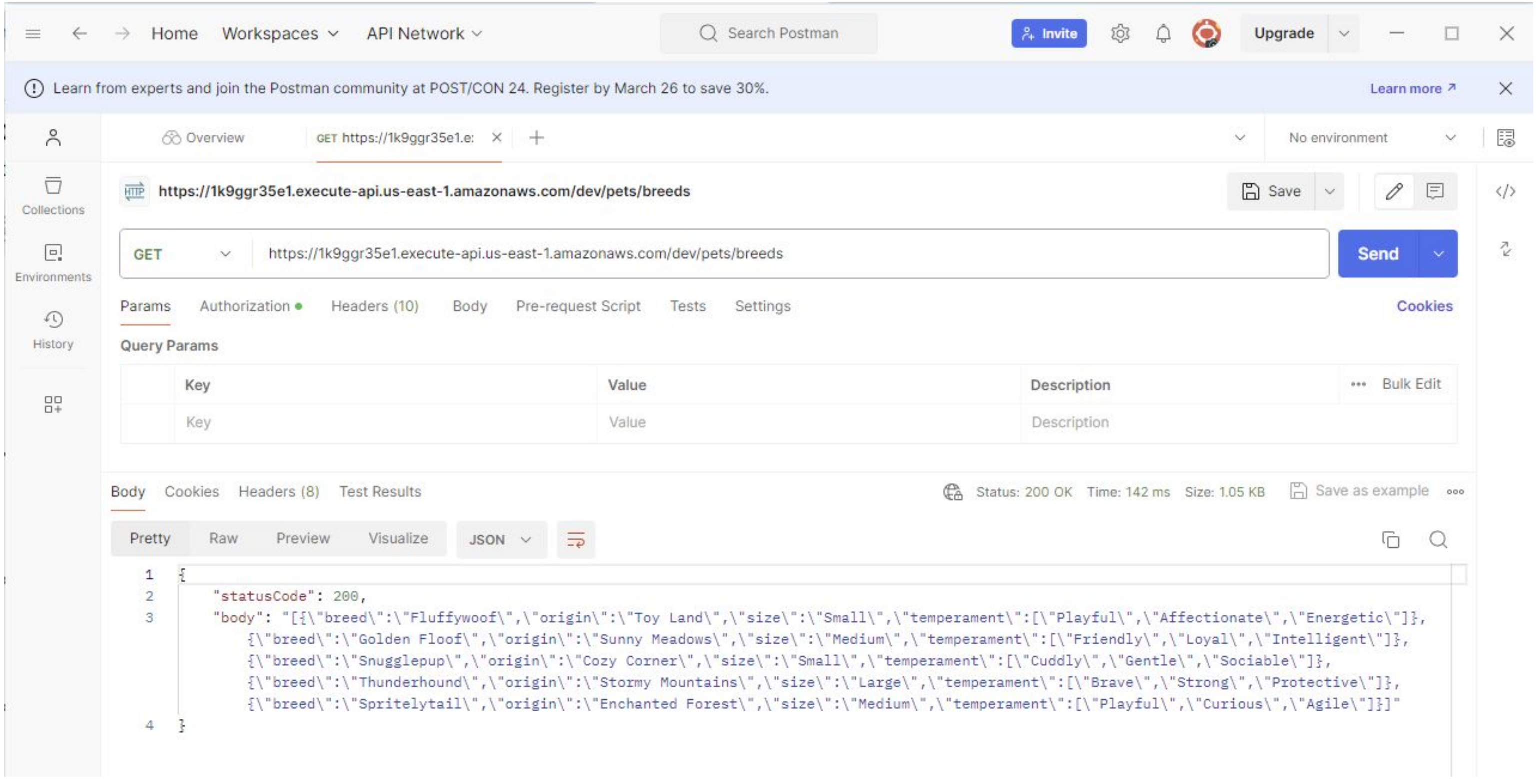
Resource policy

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

```
{
  "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 08.Resource Policy



Learn from experts and join the Postman community at POST/CON 24. Register by March 26 to save 30%. Learn more

https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds

GET https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds

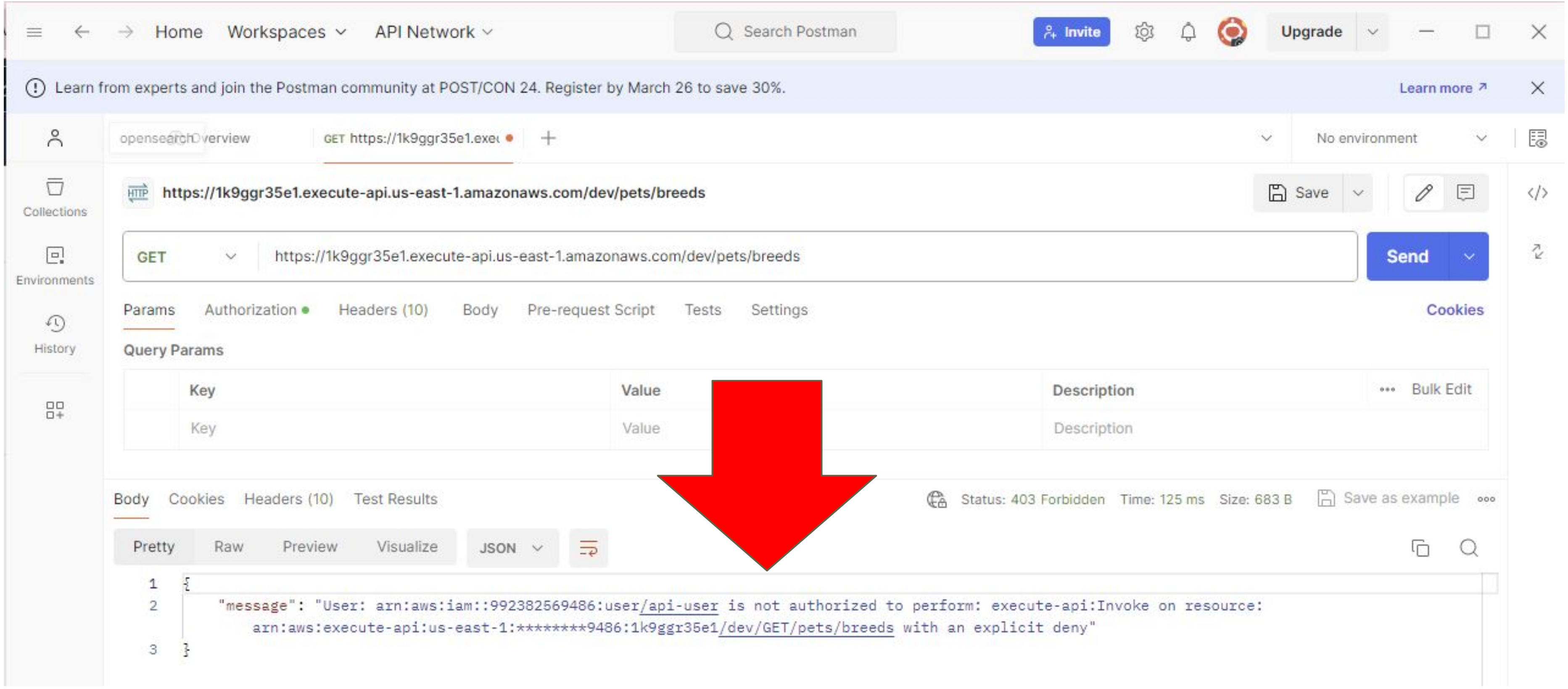
Key	Value	Description
Key	Value	Description

Status: 200 OK Time: 142 ms Size: 1.05 KB

```
{
    "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

08.Resource Policy



https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds

GET https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds

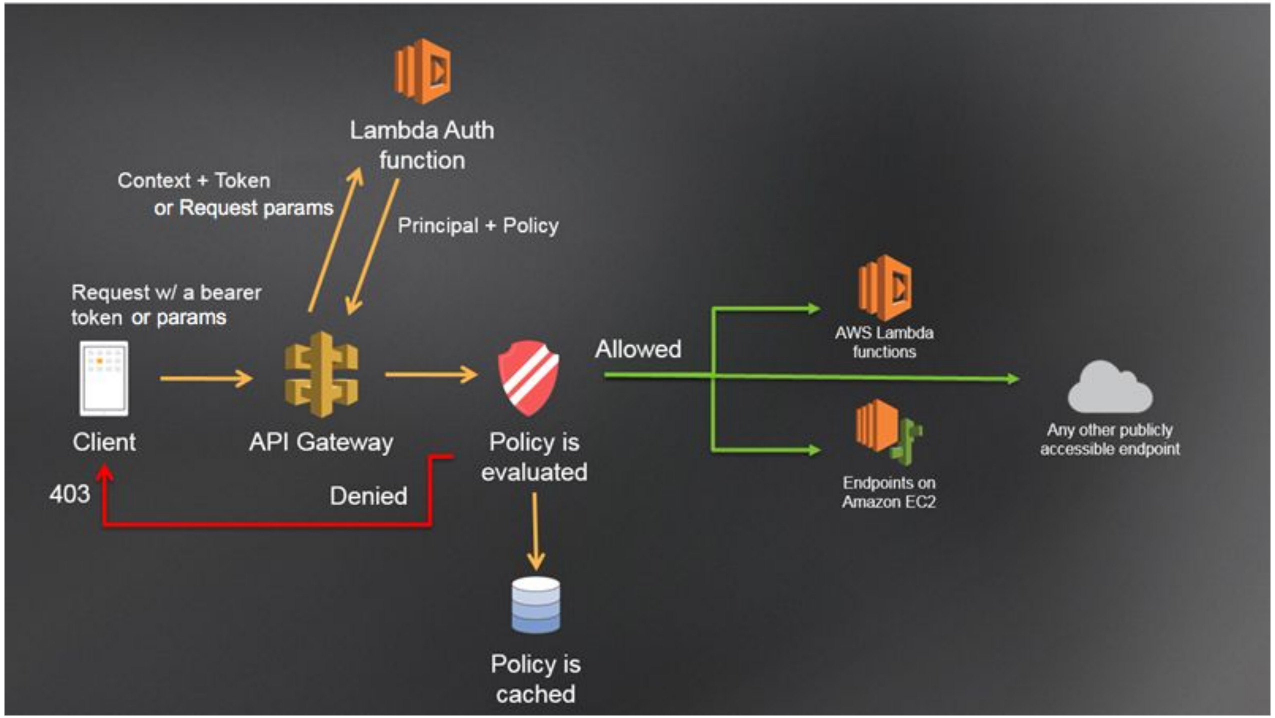
Status: 403 Forbidden Time: 125 ms Size: 683 B

```
{
    "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.Enabling Gateway Authorizer

09.Enabling Gateway Authorizer

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 09.Enabling Gateway Authorizer

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 09.Enabling Gateway Authorizer

```
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

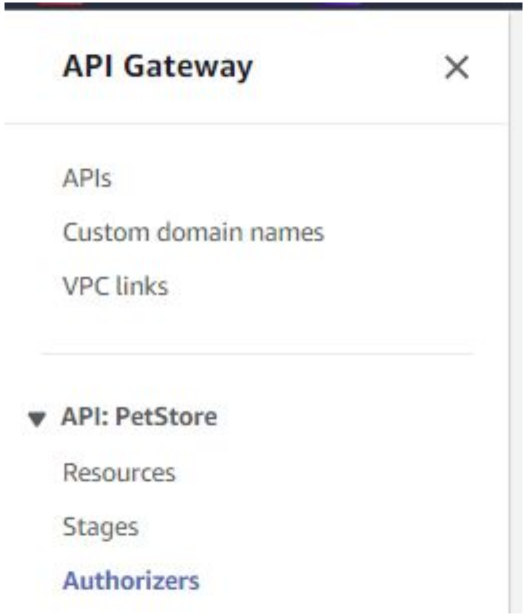
09.Enabling Gateway Authorizer

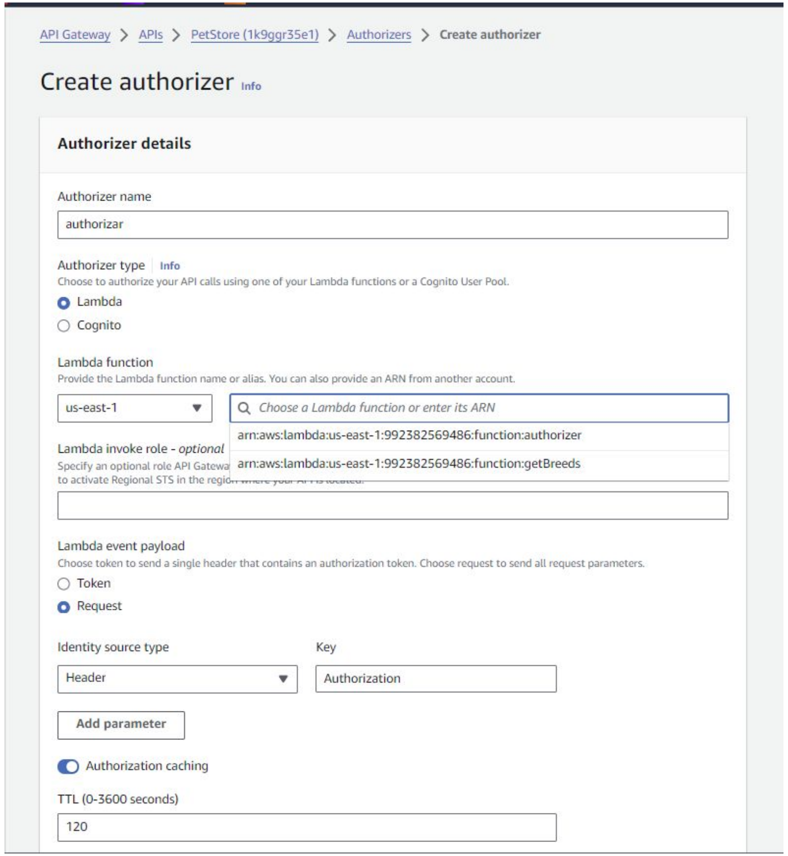
```
// Using REGEX extracts the credential content
function getCredentialContent(header) {
  // Use regular expression to extract the credential content
  const match = header.match(/Credential=([^/]+)/);

  // 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 09.Enabling Gateway Authorizer




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*
Specify an optional role API Gatewa... to activate Regional STS in the region...

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: Header
Key: Authorization

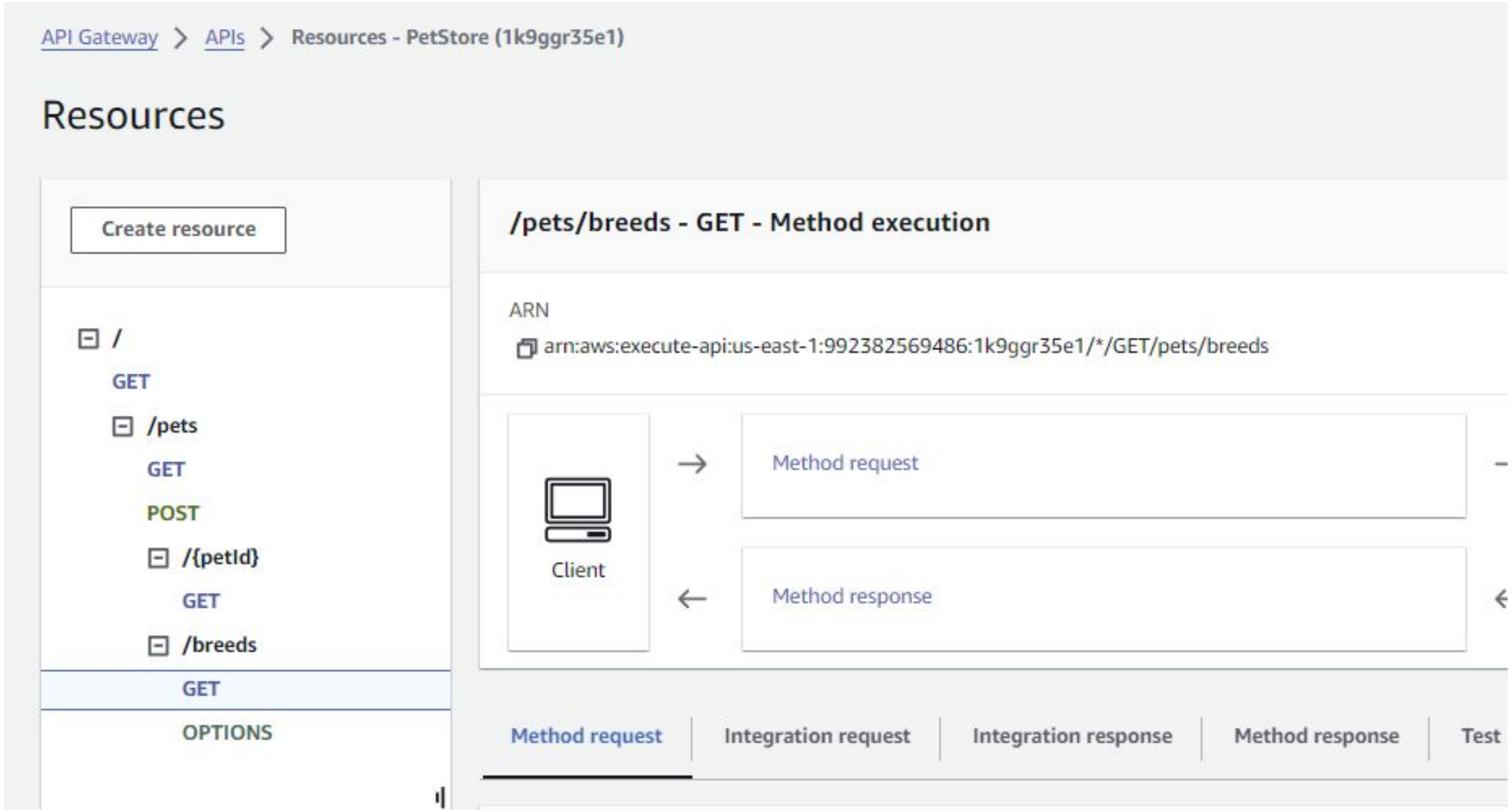
Add parameter

Authorization caching: on

TTL (0-3600 seconds): 120

API Gateway

09.Enabling Gateway Authorizer


API Gateway > APIs > Resources - PetStore (1k9ggr35e1)

Resources

Create resource

/
GET
/pets
GET
POST
/{petId}
GET
/breeds
GET
OPTIONS

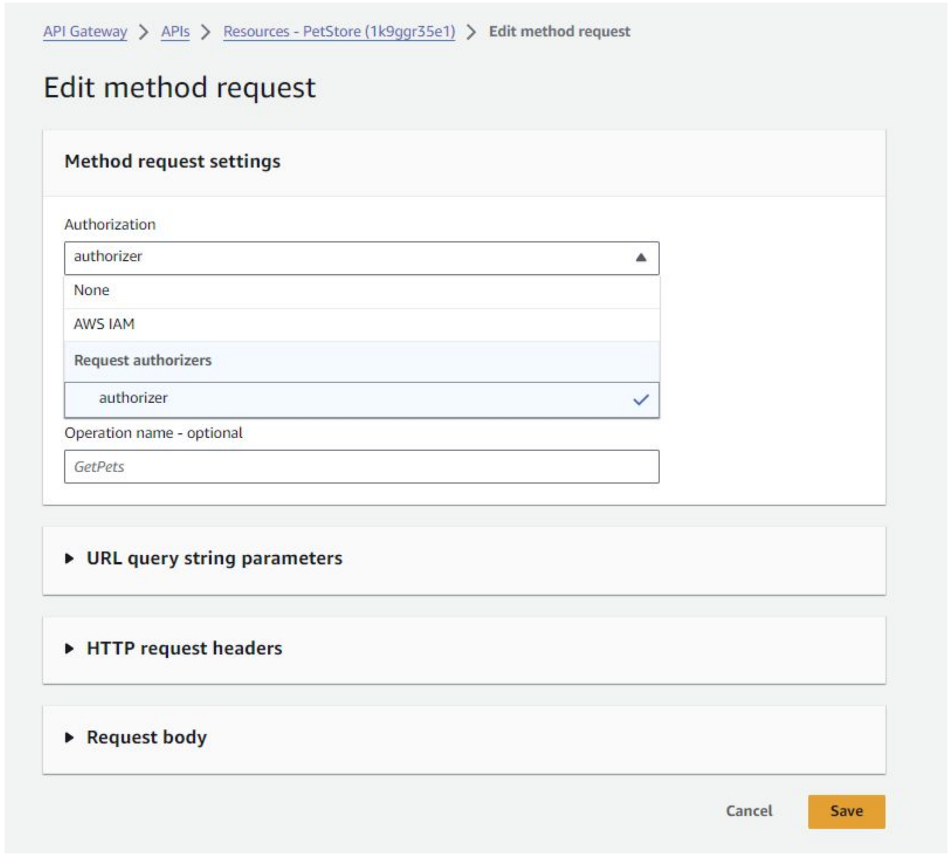
/pets/breeds - GET - Method execution

ARN
arn:aws:execute-api:us-east-1:992382569486:1k9ggr35e1/*/GET/pets/breeds

Method request | Integration request | Integration response | Method response | Test

API Gateway

09.Enabling Gateway Authorizer


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

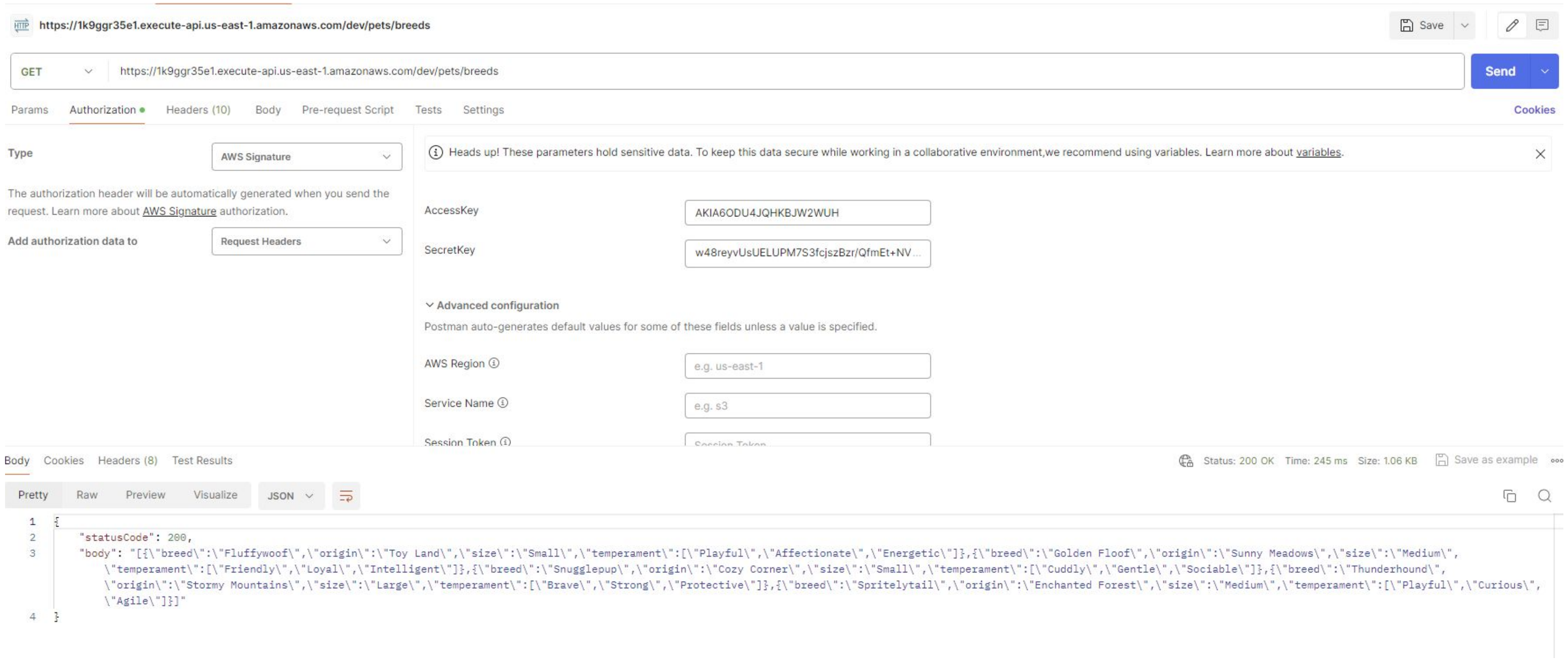
▶ HTTP request headers

▶ Request body

Cancel Save

API Gateway

09.Enabling Gateway Authorizer


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: Session Token

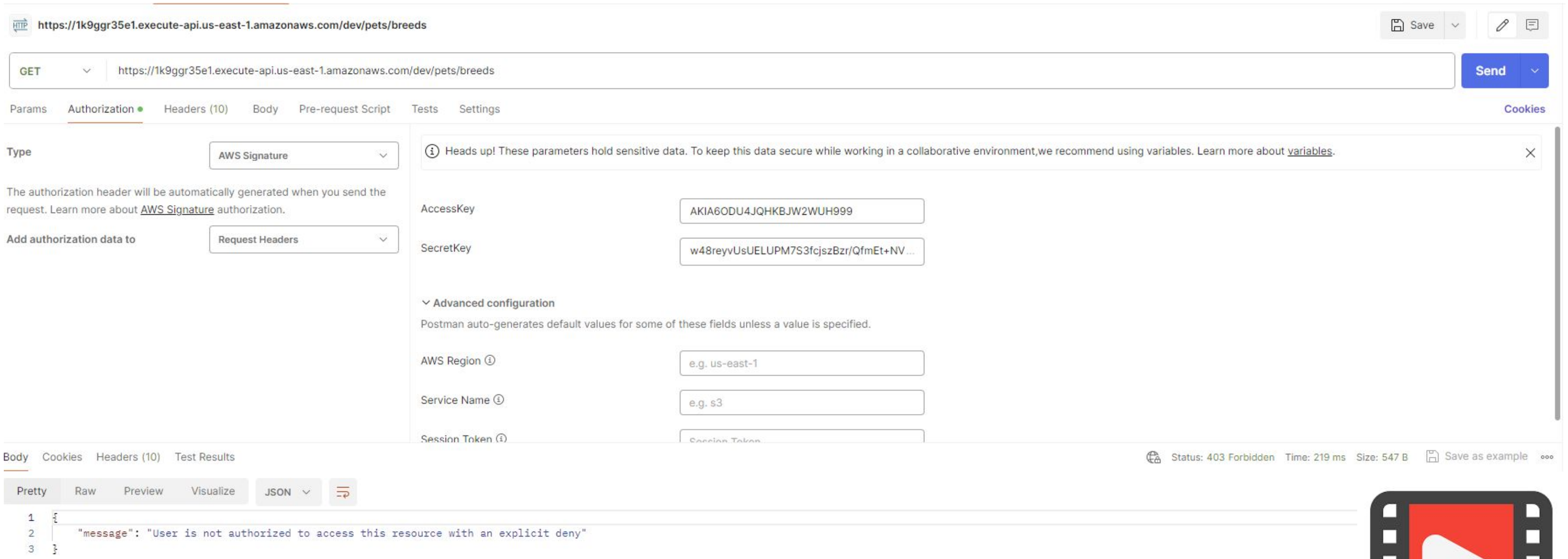
Body | Cookies | Headers (8) | Test Results

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 09.Enabling Gateway Authorizer



https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds

GET https://1k9ggr35e1.execute-api.us-east-1.amazonaws.com/dev/pets/breeds

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: AKIA6ODU4JQHKBJW2WUH999

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

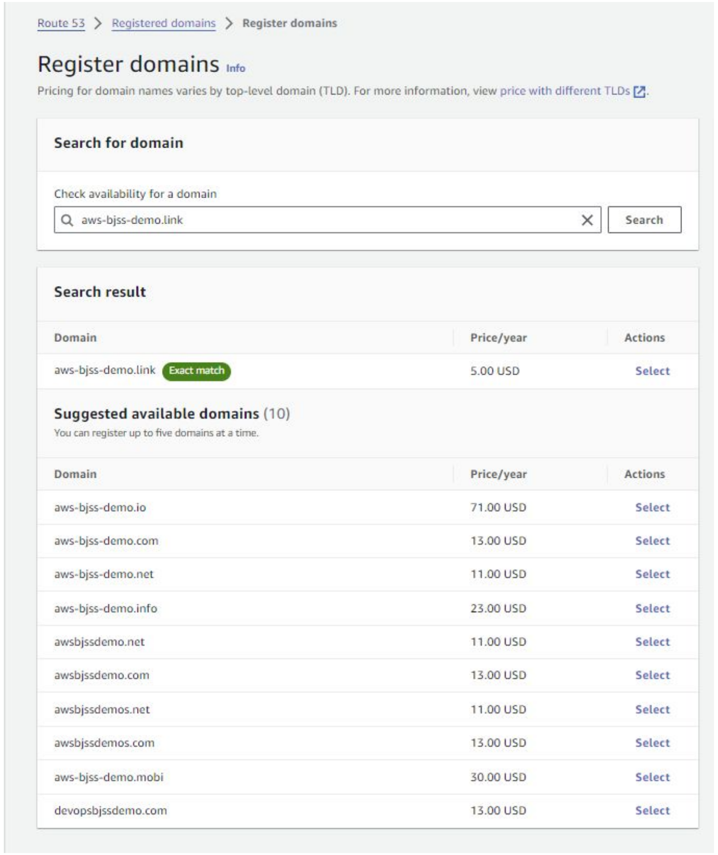
Status: 403 Forbidden Time: 219 ms Size: 547 B

```
{
    "message": "User is not authorized to access this resource with an explicit deny"
}
```

10.Custom Domain

API Gateway

10.Custom Domain



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

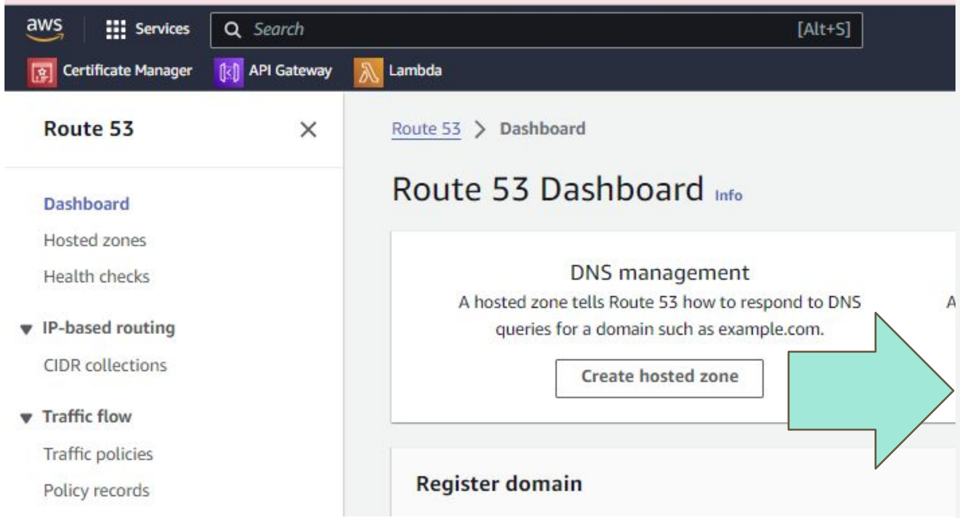
Domain	Price/year	Actions
aws-bjss-demo.link Exact match	5.00 USD	Select

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 10.Custom Domain



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

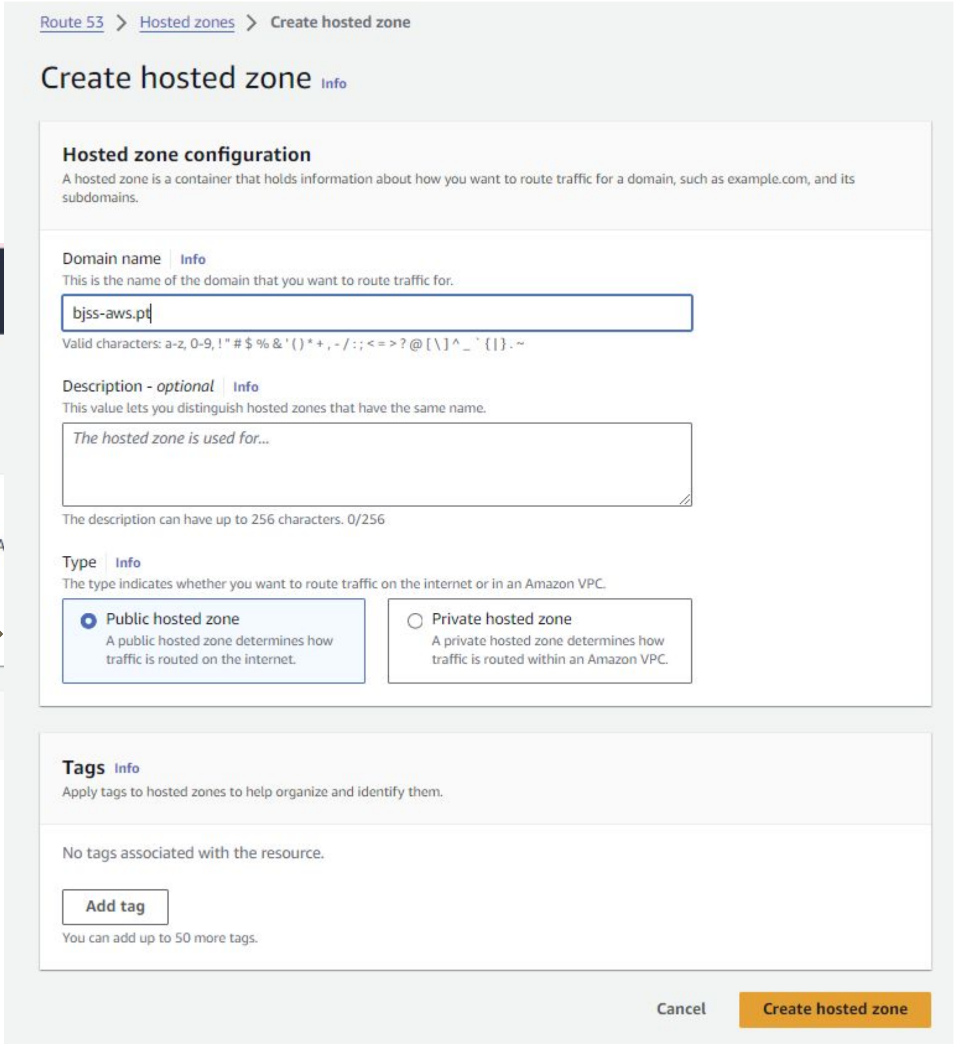
Route 53 Dashboard Info

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.

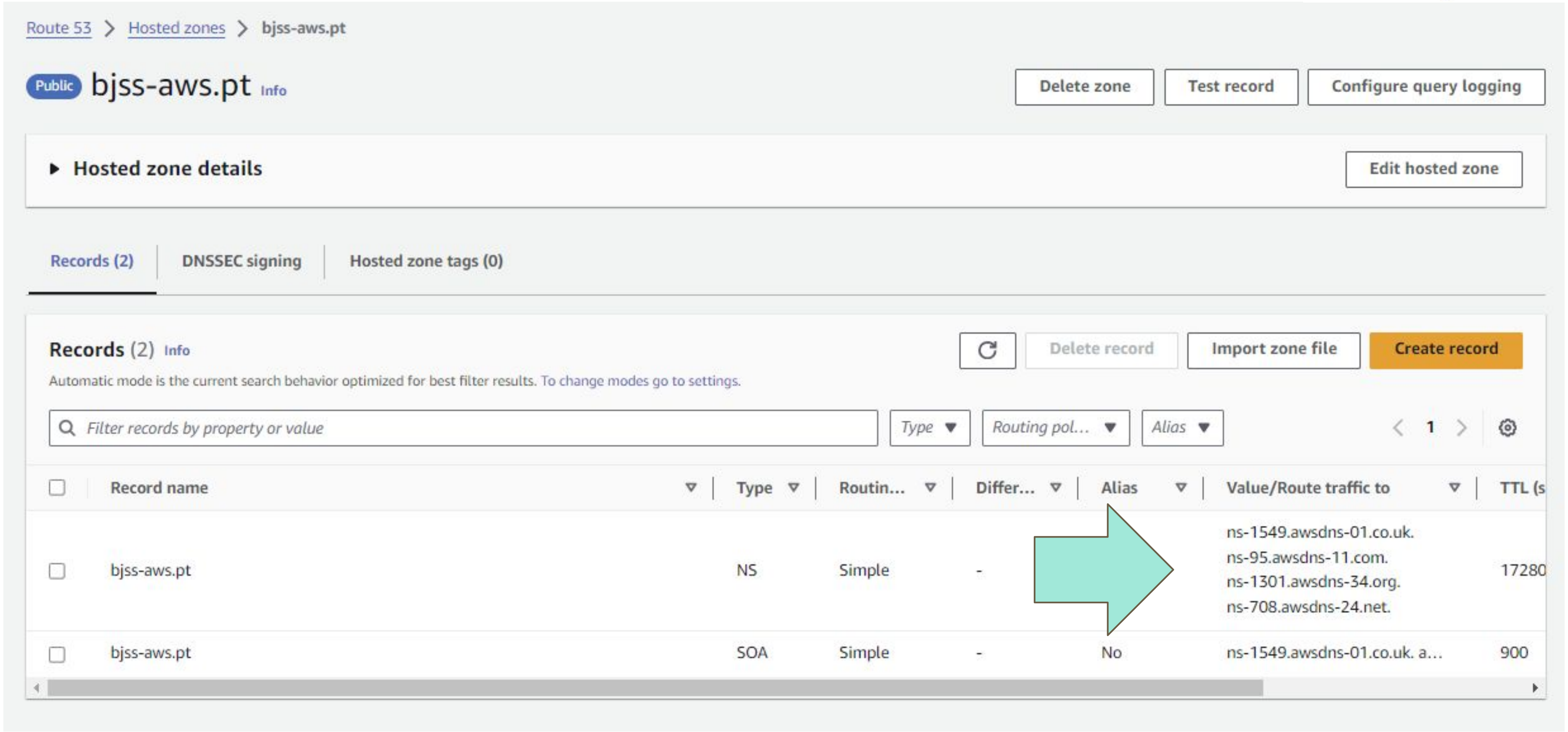
Add tag

You can add up to 50 more tags.

Cancel Create hosted zone

API Gateway

10.Custom Domain


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

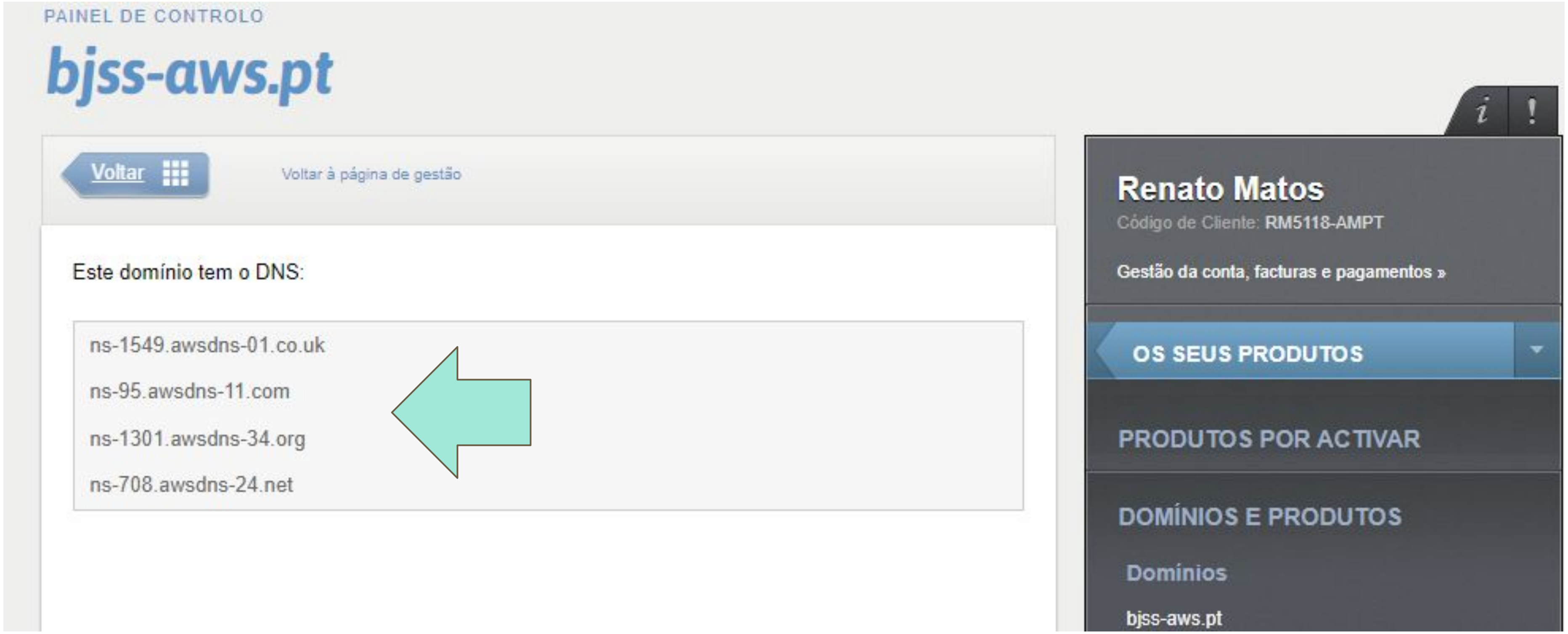
Delete record | Import zone file | Create record

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 10.Custom Domain


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

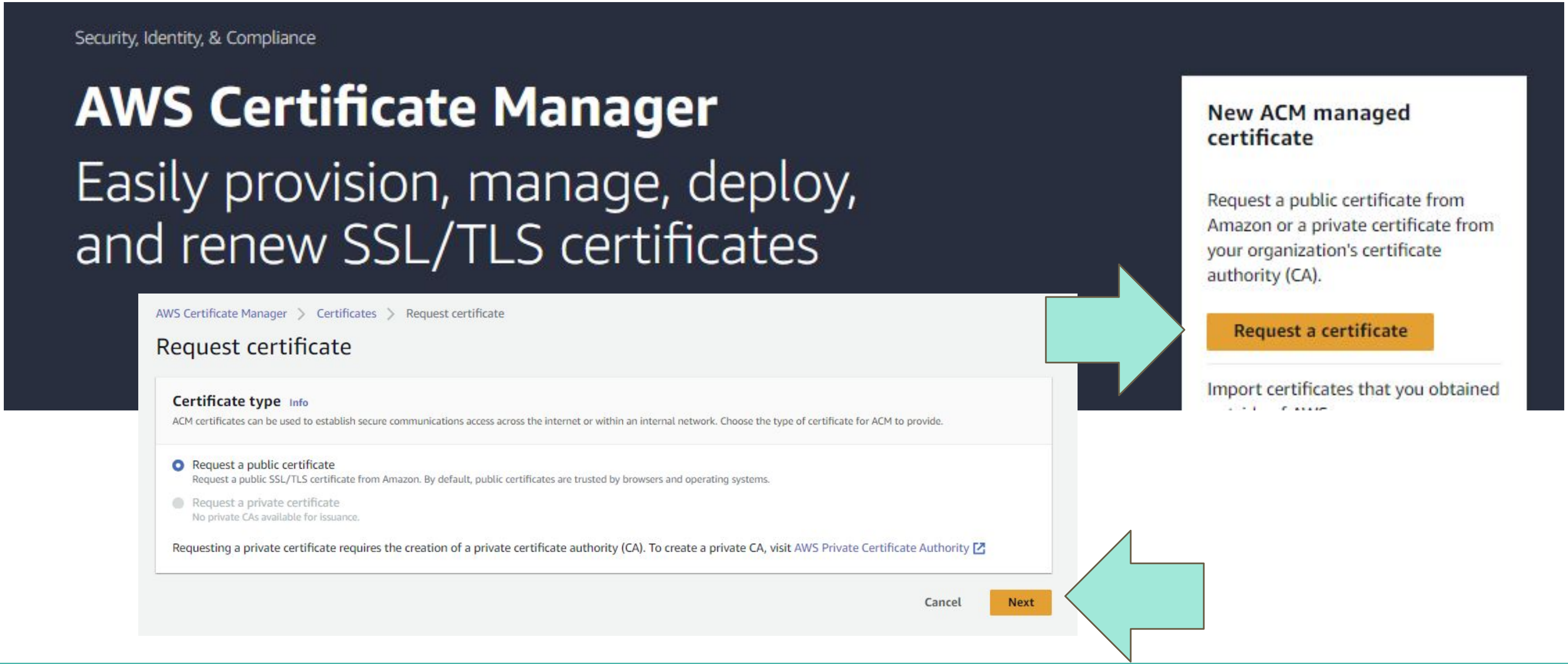
Renato Matos

Código de Cliente: RM5118-AMPT

Gestão da conta, facturas e pagamentos »

API Gateway

10.Custom Domain


Security, Identity, & Compliance

AWS Certificate Manager

Easily provision, manage, deploy, and renew SSL/TLS certificates

New ACM managed certificate

Request a public certificate from Amazon or a private certificate from your organization's certificate authority (CA).

Import certificates that you obtained

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.

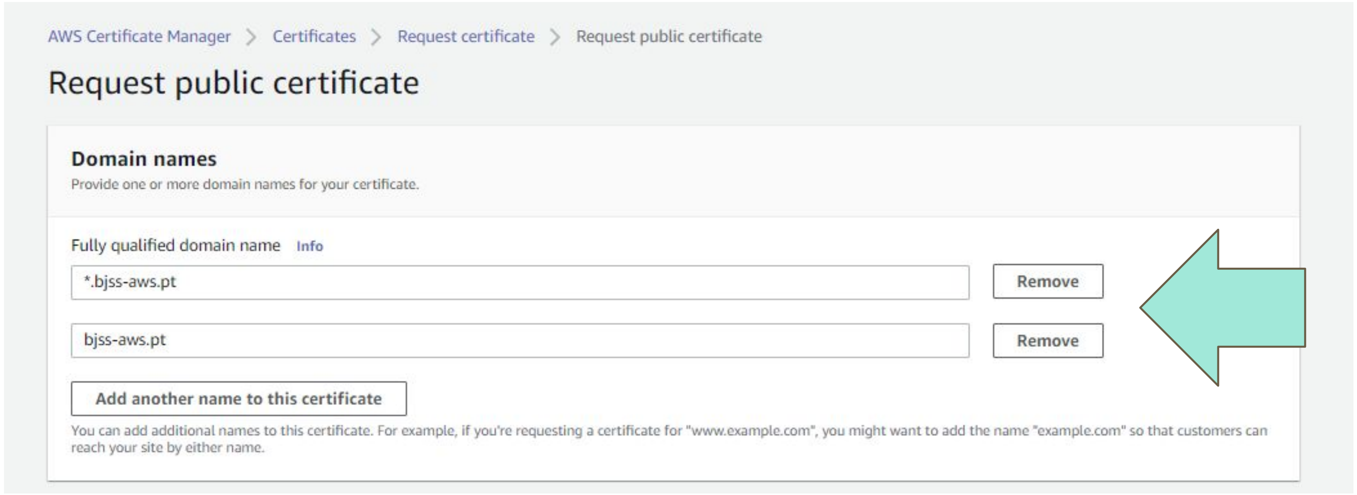
● Request a public certificate
Request a public SSL/TLS certificate from Amazon. By default, public certificates are trusted by browsers and operating systems.

○ 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

API Gateway

10.Custom Domain



AWS Certificate Manager > Certificates > Request certificate > Request public certificate

Request public certificate

Domain names

Provide one or more domain names for your certificate.

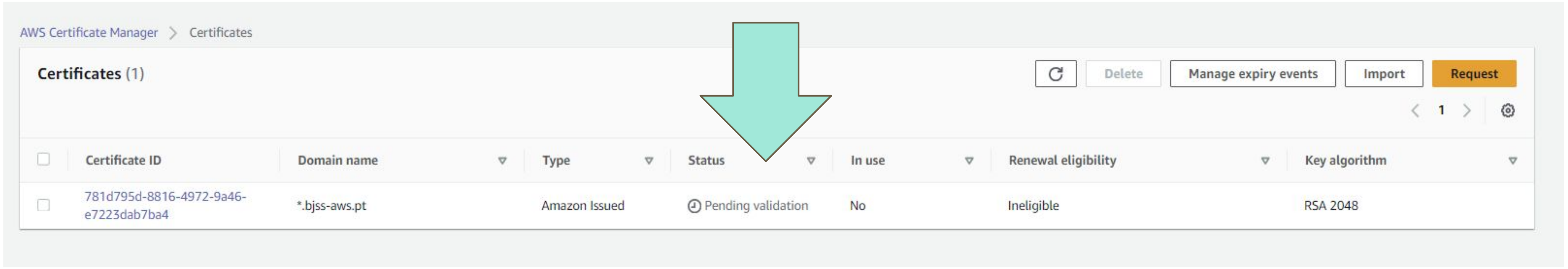
Fully qualified domain name Info

*.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.



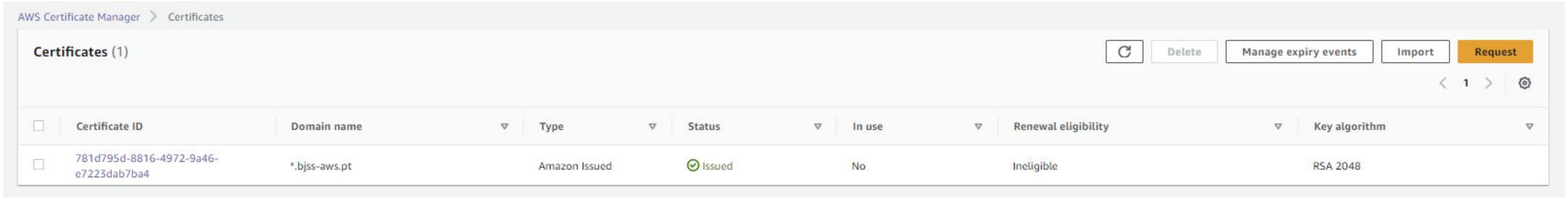
AWS Certificate Manager > Certificates

Certificates (1)

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

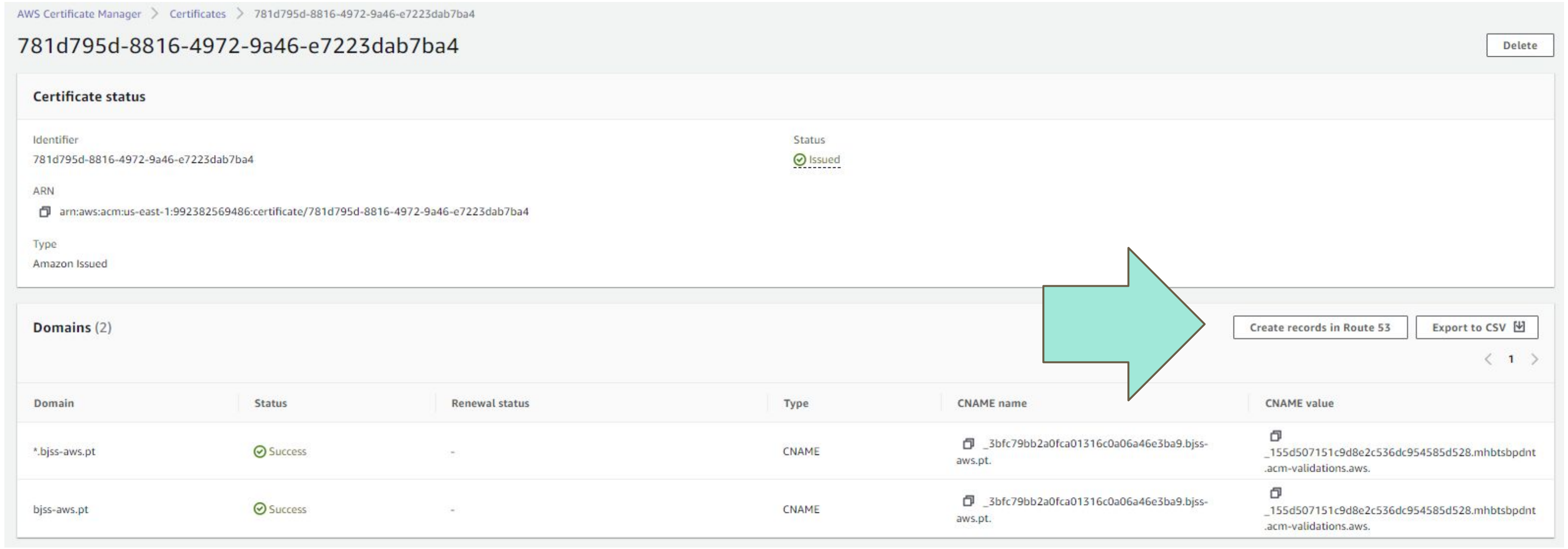
10.Custom Domain



AWS Certificate Manager > Certificates

Certificates (1)

	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

Certificate status

Identifier
781d795d-8816-4972-9a46-e7223dab7ba4

Status
✓ Issued

ARN
arn:aws:acm:us-east-1:992382569486:certificate/781d795d-8816-4972-9a46-e7223dab7ba4

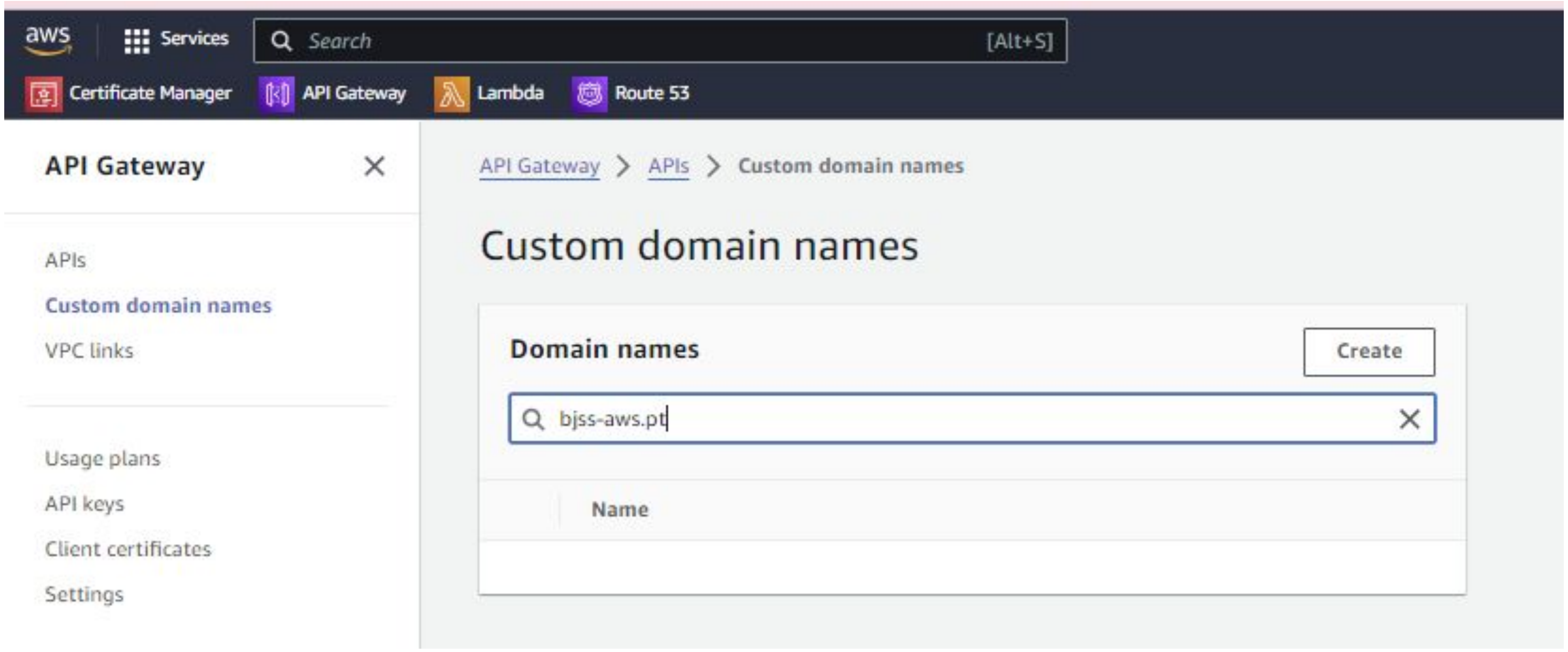
Type
Amazon Issued

Domains (2)

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

10.Custom Domain



Custom domain names

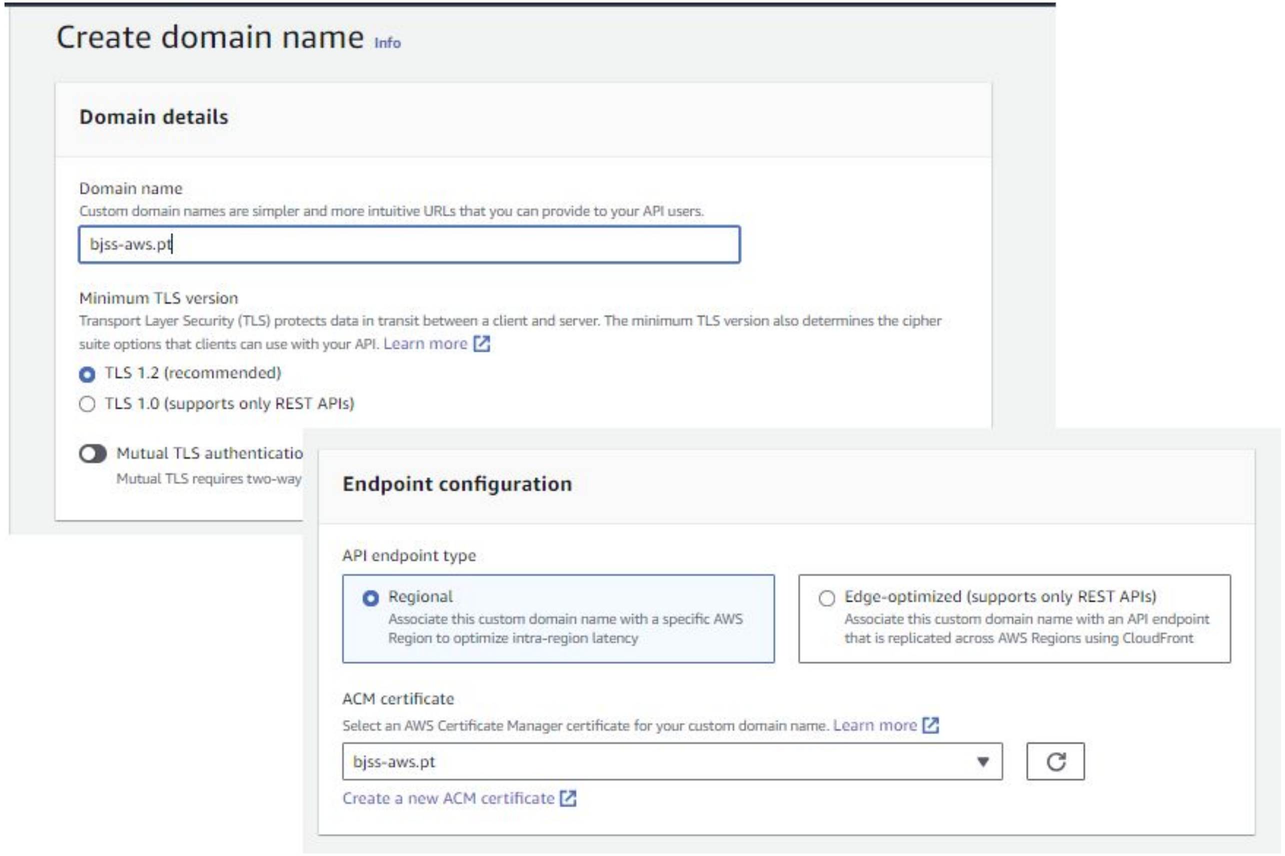
Domain names

bjss-aws.pt

Name

API Gateway

10.Custom Domain



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

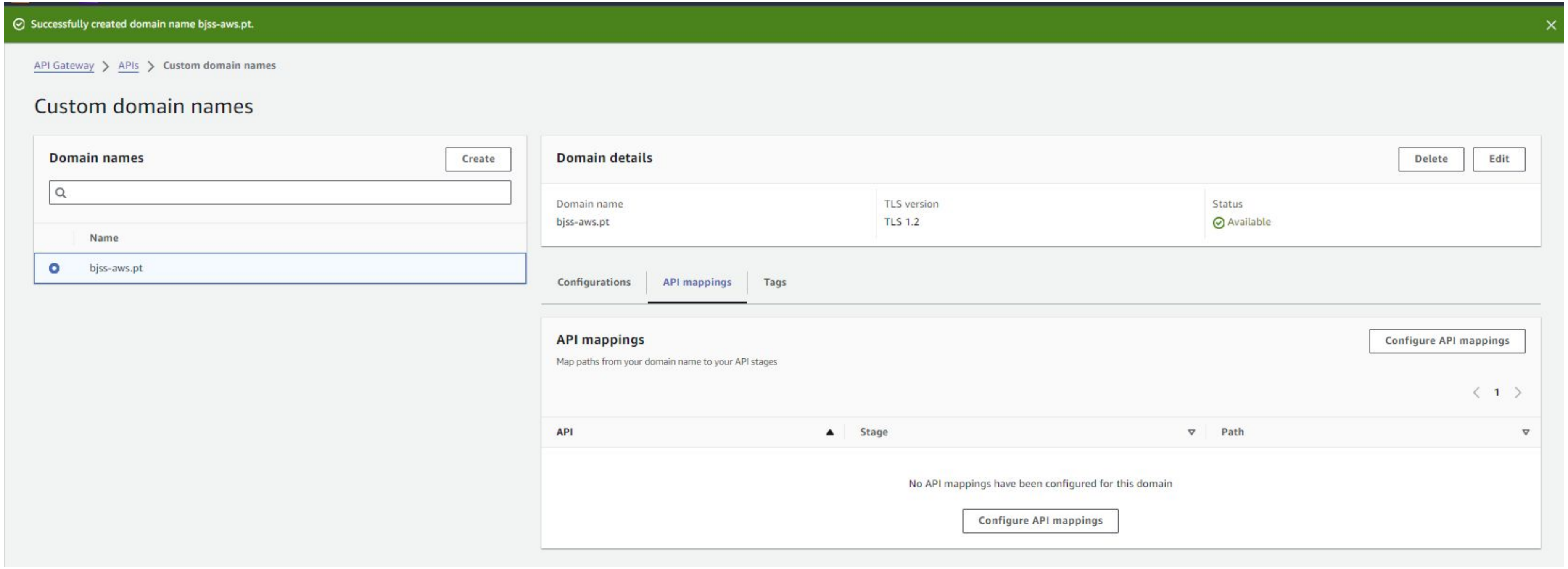
[✓ Regional]
Associate this custom domain name with a specific AWS Region to optimize intra-region latency

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

10.Custom Domain



Successfully created domain name bjss-aws.pt.

API Gateway > APIs > Custom domain names

Custom domain names

Domain names

	Name
●	bjss-aws.pt

Domain details

Domain name	TLS version	Status
bjss-aws.pt	TLS 1.2	✓ Available

API mappings

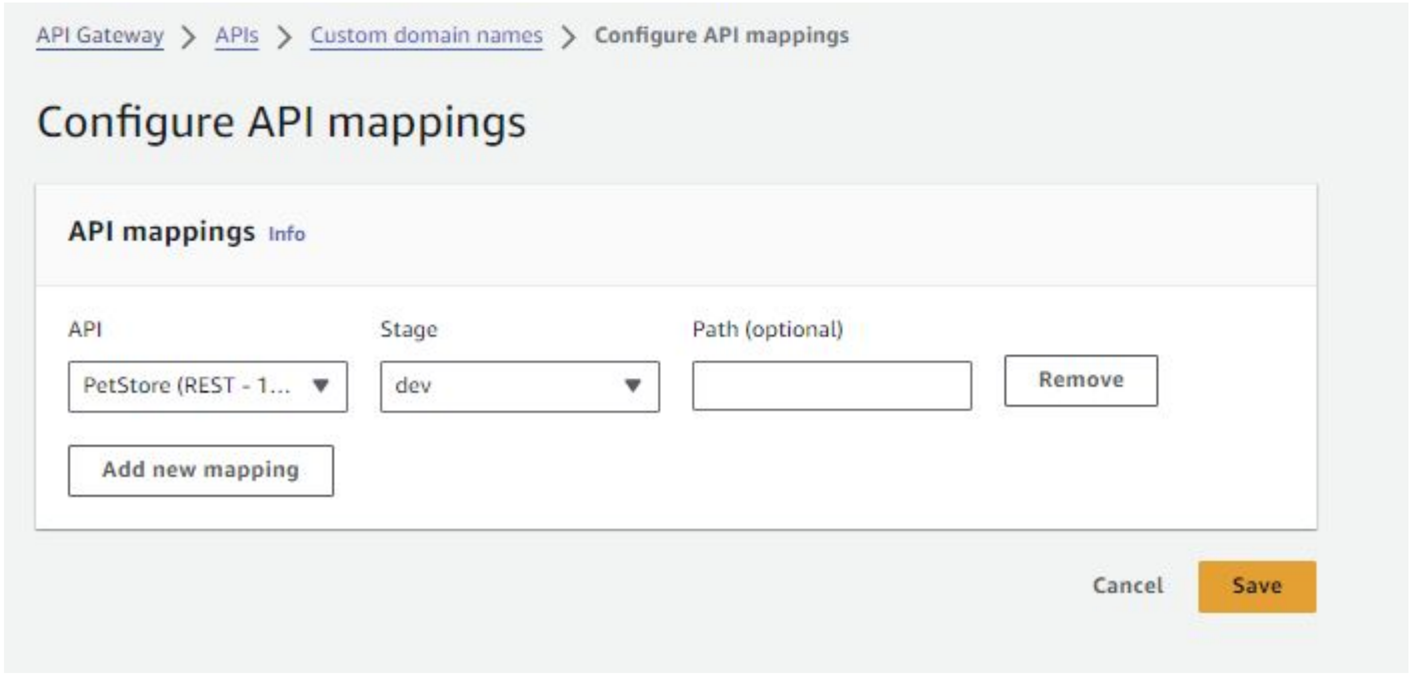
Map paths from your domain name to your API stages

API	Stage	Path

No API mappings have been configured for this domain

API Gateway

10.Custom Domain


API Gateway > APIs > Custom domain names > Configure API mappings

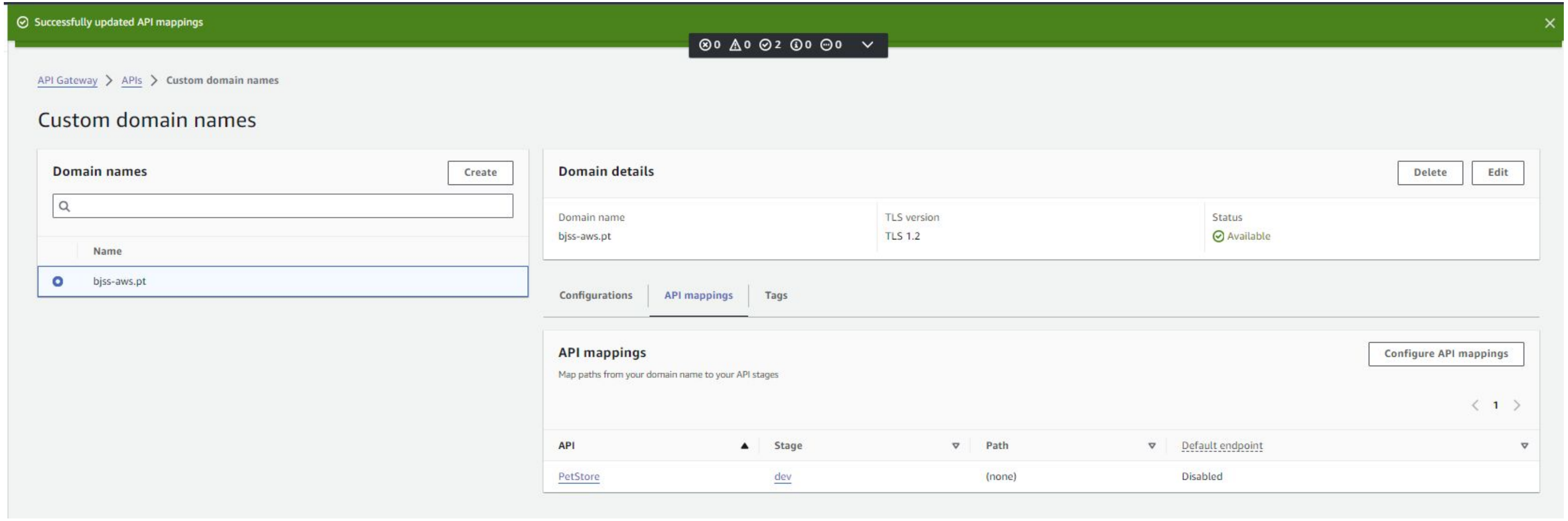
Configure API mappings

API mappings Info

API	Stage	Path (optional)
PetStore (REST - 1...	dev	

API Gateway

10.Custom Domain



Successfully updated API mappings

API Gateway > APIs > Custom domain names

Custom domain names

Domain names

Name
● bjss-aws.pt

Domain details

Domain name	TLS version	Status
bjss-aws.pt	TLS 1.2	Available

Configurations | API mappings | Tags

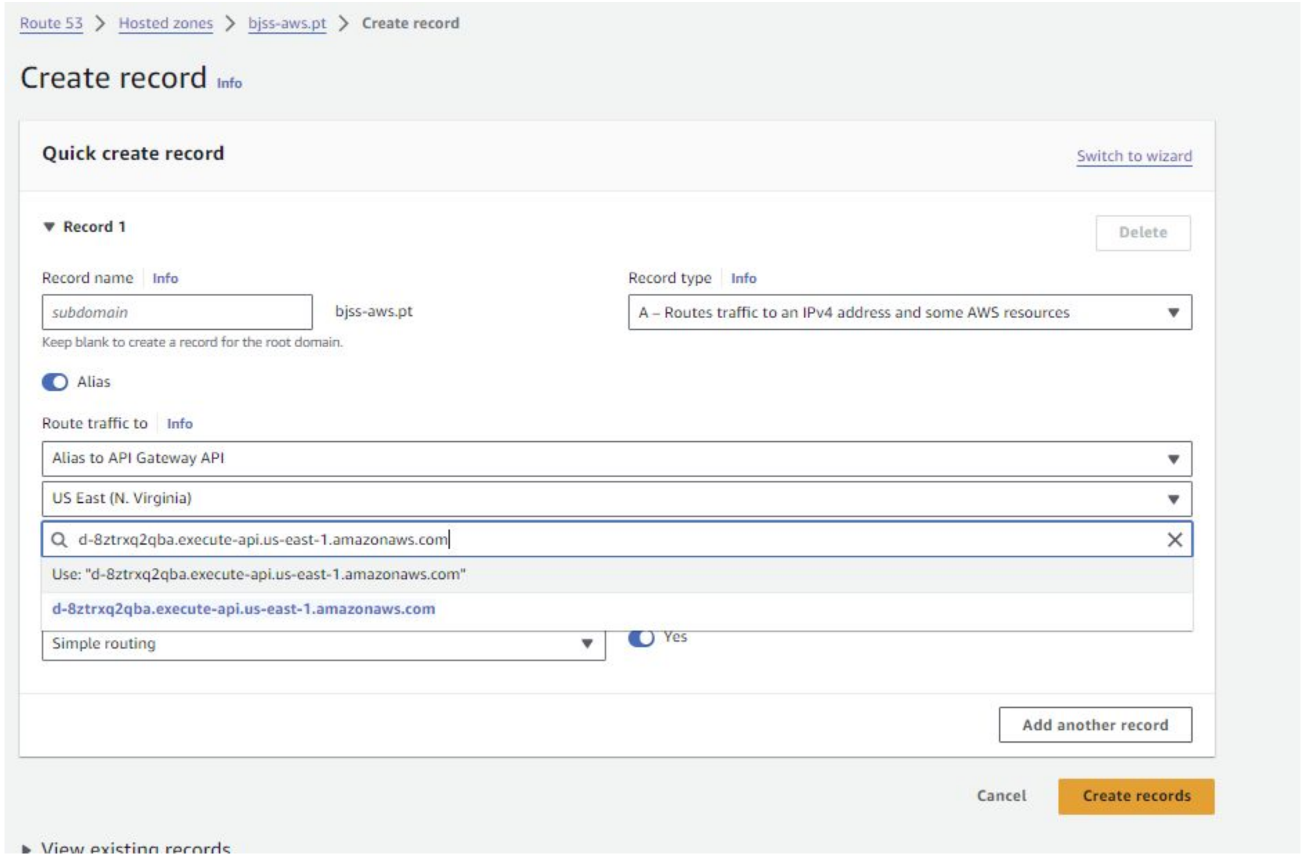
API mappings

Map paths from your domain name to your API stages

API	Stage	Path	Default endpoint
PetStore	dev	(none)	Disabled

API Gateway

10.Custom Domain


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

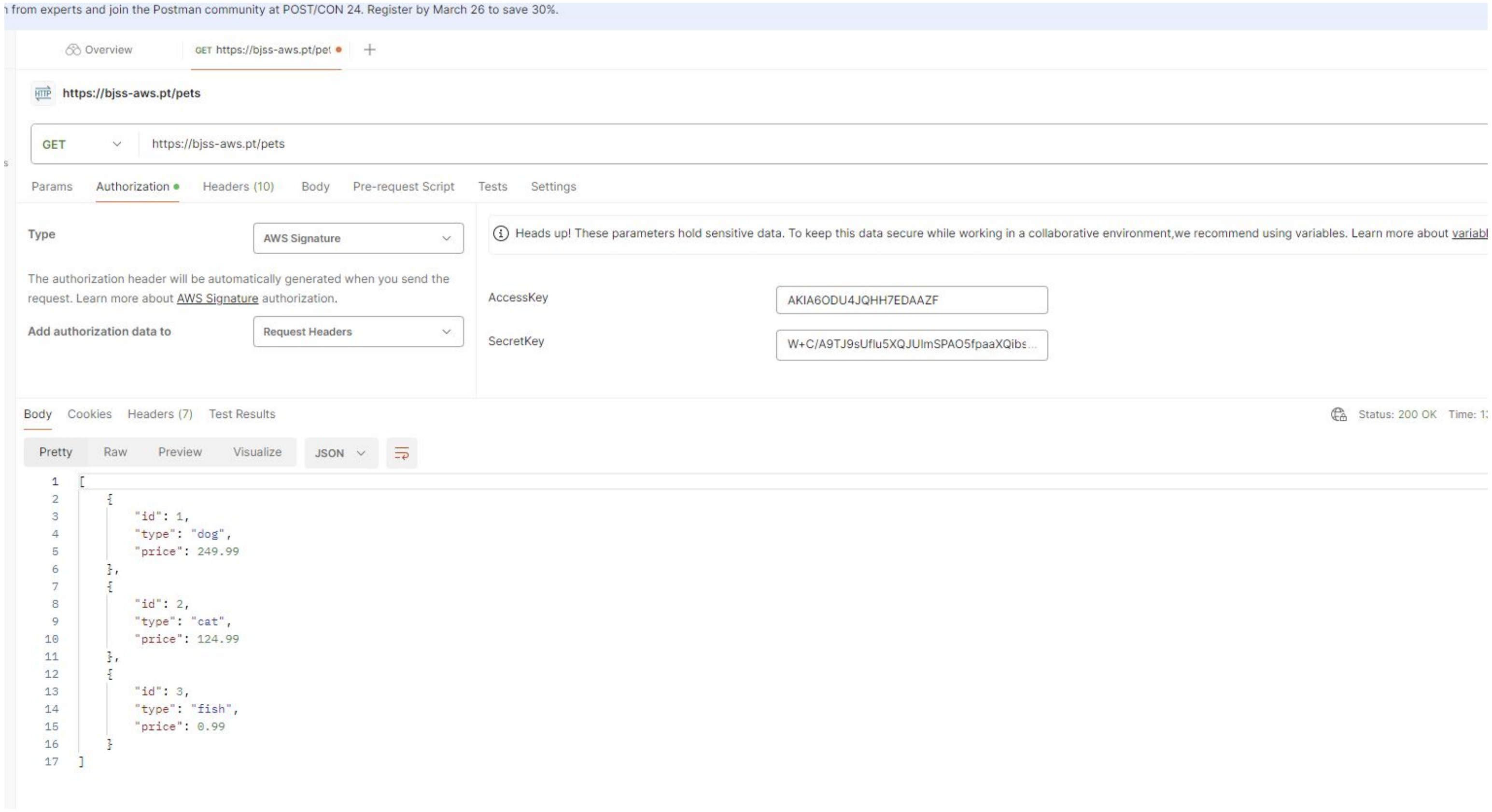
Cancel

Create records

▸ View existing records

API Gateway

10.Custom Domain



 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

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 variabl

AccessKey: AKIA6ODU4JQHH7EDAAZF

SecretKey: W+C/A9TJ9sUflu5XQJUlmSPAO5fpaaXQibs...

Body   Cookies   Headers (7)   Test Results   Status: 200 OK   Time: 1:

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

11.Terraform

11.Terraform

1. Build a linux ec2 instance
2. Install AWS command line
3. Install terraform
4. Create an IAM user with enough policies to create resources
5. Configure AWS command line to use the IAM user account
6. Clone the repo
7. Run Terraform
   a. terraform init
   b. terraform plan
   c. terraform apply

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

API Gateway

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

renato.matos@bjss.com