

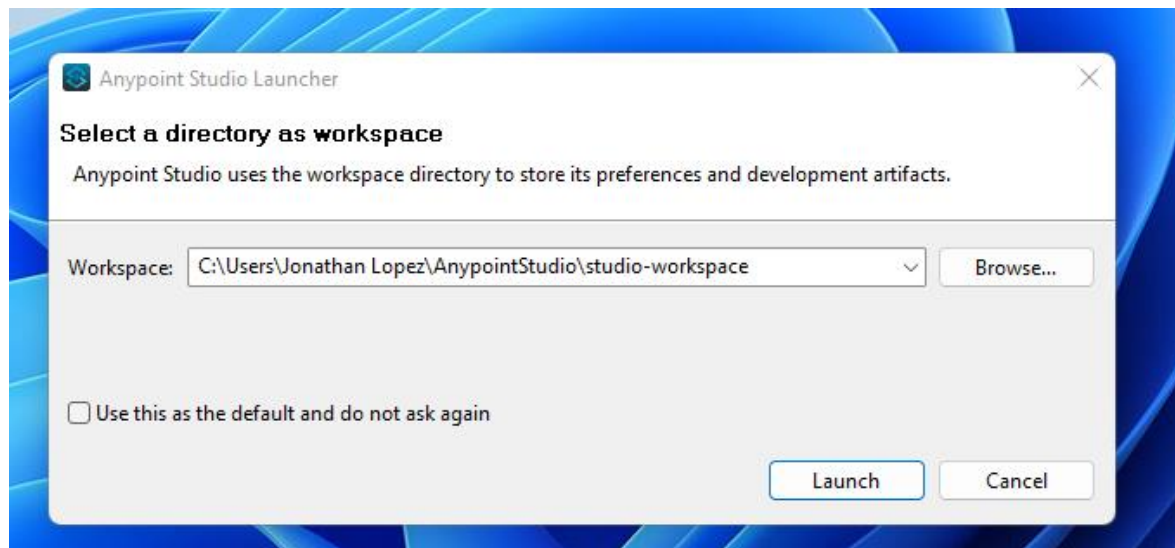
# Prueba SPS MuleSoft

## Instalación de IDE.

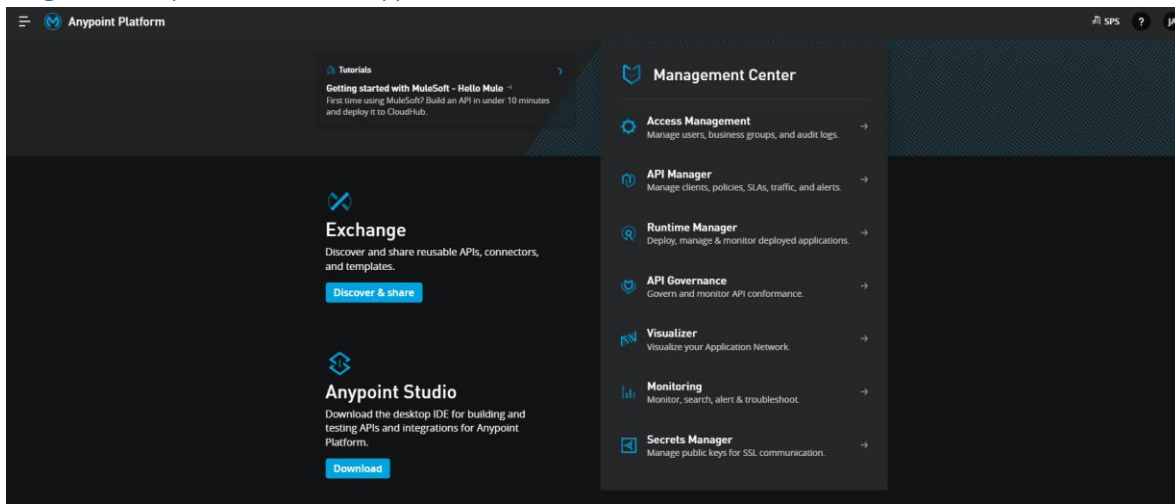
Paso 1: Descarga y descomprimir en carpeta raíz C:

iiipo > Disco local (C:)				
Nombre	Fecha de modificación	Tipo	Tamaño	
SWINDOWS.~BT	28/11/2022 08:50 p. m.	Carpeta de archivos		
AMD	21/11/2022 12:25 p. m.	Carpeta de archivos		
Archivos de programa	04/12/2022 06:58 p. m.	Carpeta de archivos		
Archivos de programa (x86)	20/11/2022 03:02 p. m.	Carpeta de archivos		
componentes	24/10/2022 09:42 a. m.	Carpeta de archivos		
ESD	28/11/2022 09:10 p. m.	Carpeta de archivos		
inconcertw10	09/06/2022 08:09 p. m.	Carpeta de archivos		
LocalStorage	09/06/2022 08:14 p. m.	Carpeta de archivos		
LOG	15/04/2022 03:01 p. m.	Carpeta de archivos		
PerfLogs	05/06/2021 07:10 a. m.	Carpeta de archivos		
Python311	27/10/2022 12:05 p. m.	Carpeta de archivos		
Usuarios	09/06/2022 07:19 p. m.	Carpeta de archivos		
Windows	11/11/2022 08:07 p. m.	Carpeta de archivos		
XboxGames	09/07/2022 04:12 p. m.	Carpeta de archivos		
hosts	10/04/2022 08:57 p. m.	Archivo	1 KB	
AnypointStudio-7.14.0-win64	13/12/2022 09:51 a. m.	Archivo WinRAR Z...	2,114,534 KB	

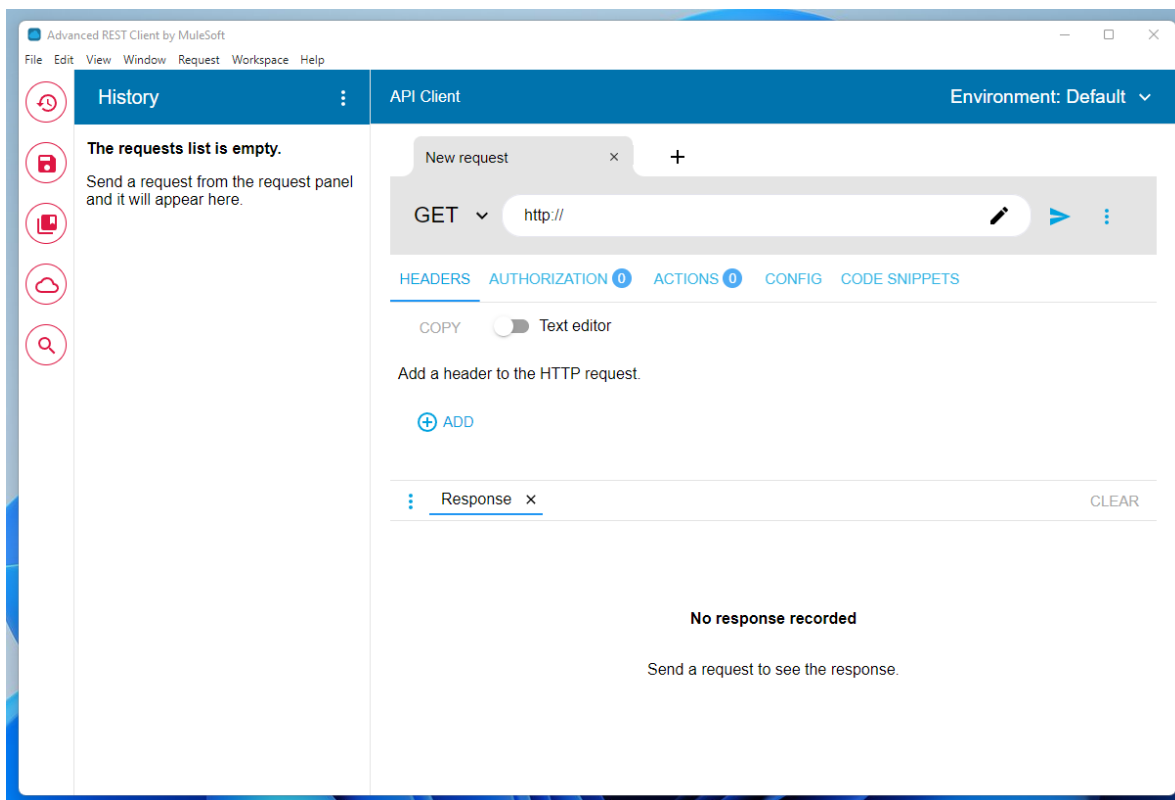
Paso 2: Seleccionar carpeta de trabajo



## Registro en plataforma: Anypoint Platform.



## Instalación de REST CLIENT.



### 1-. Creación de APP en MULE (HELLO MULE)

Paso 1: Clic en pestaña File, new Project, New Mule Project.

New Mule Project

### Project Settings

Create a Mule project in the workspace or in an external location.

Project Name:

**Runtime**

Mule Server 4.4.0 EE

[Install Runtimes](#)

**API Implementation**

Add an API implementation to your project to automatically set up an APIkit router and create placeholder flows for each resource method

☒ Scaffold flows from these API specifications

Download RAML from Design Center   Import RAML from local file   Import a published API

Location:

Import a valid API definition

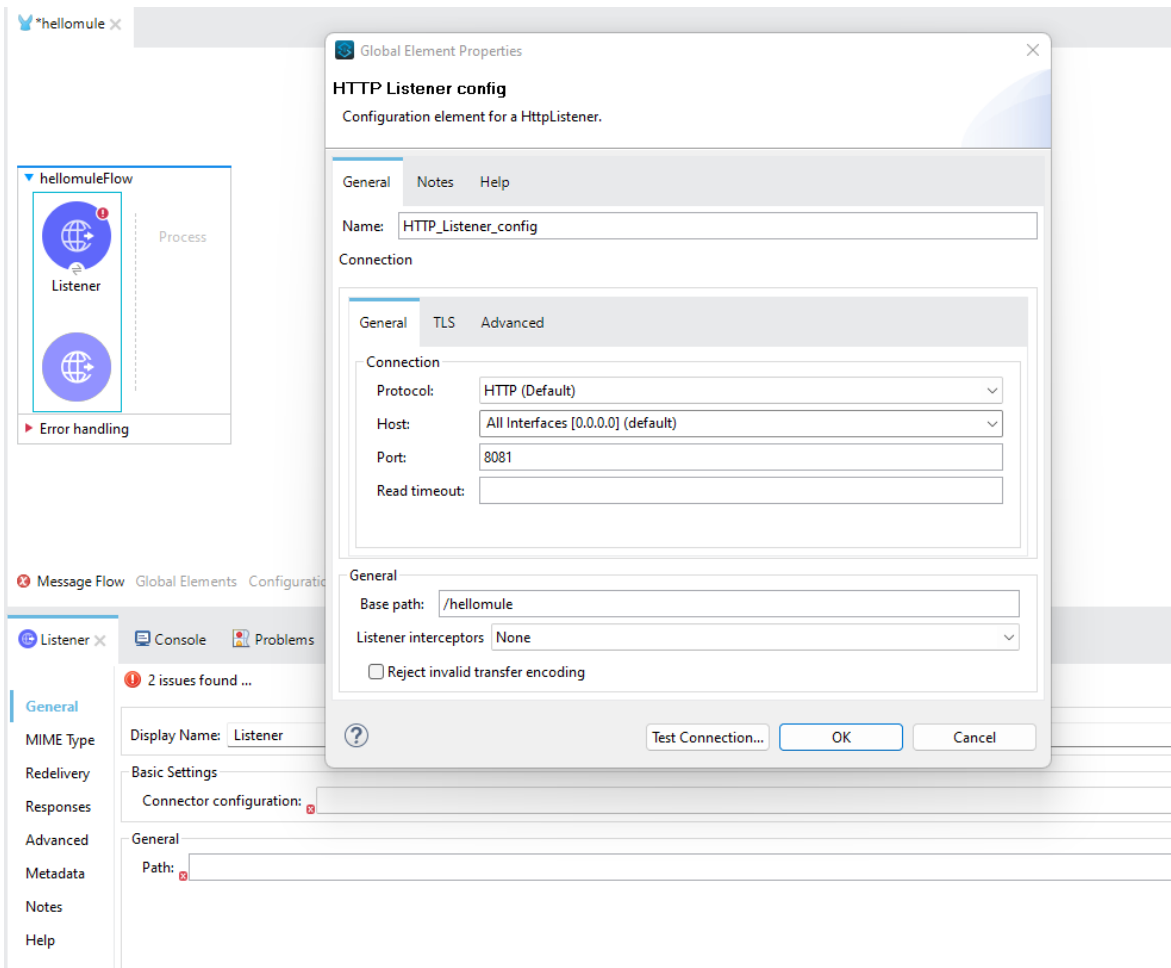
⚠ You won't be able to stay in sync between Studio and Design Center. You can only manage your RAML files locally [Learn how to stay in sync](#)

**Project location**

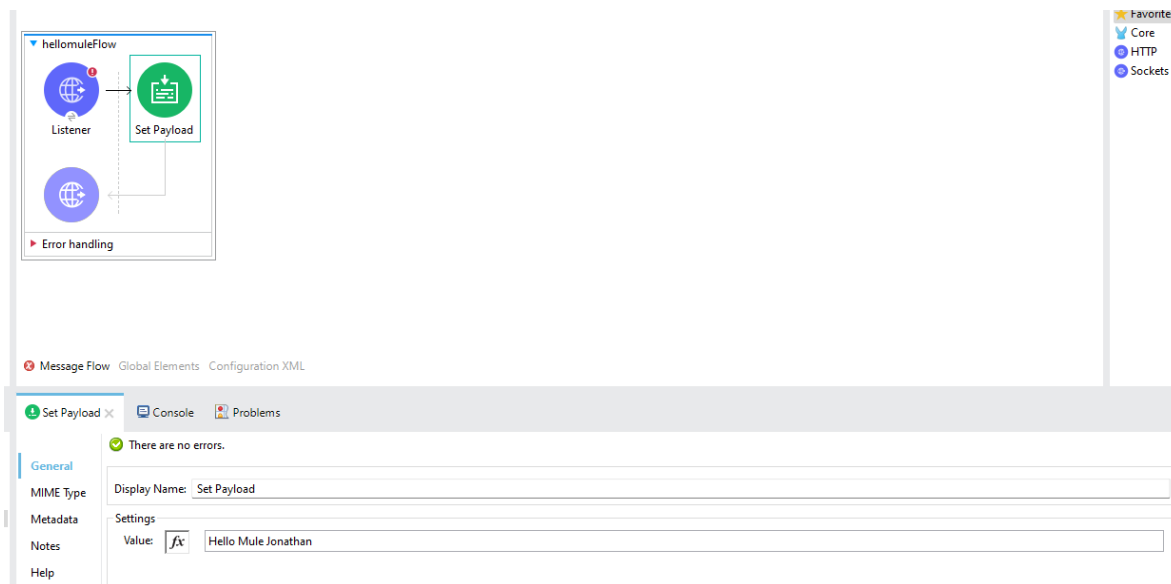
☒ Use default location

Location:

Paso 2: Se agrega http listener y se configura con el path “/hellomule”, en el puerto por default.



Paso 3: Se agrega método Set Payload y se establece la cadena “Hello Mule” y se guarda el archivo (ctrl +S, archivo – save).



Paso 4: Se da clic izquierdo y se da clic en Run Project “nombreProyecto” y se hace consulta en postman para comprobar el servicio.

hello

helloFlow

Message Flow

Global Elements

Configuration XML

Mule Properties

Console

Problems

Progress

hello [Mule Applications] [pid: 12312]

```

INFO 2022-12-13 11:48:37,362 [WrapperListener_start_runner] org.mule.runtime.core.internal.logging.LogUtil:
+++++
+ Mule is up and kicking (every 5000ms) +
+++++
INFO 2022-12-13 11:48:37,408 [WrapperListener_start_runner] org.eclipse.jetty.server.AbstractConnector: Started ServerConnector@12b0651c(HTTP/
INFO 2022-12-13 11:48:37,411 [WrapperListener_start_runner] org.mule.runtime.core.internal.logging.LogUtil:
*****
*      - - + DOMAIN + - -          * - - + STATUS + - - *
*****
* default                                * DEPLOYED                *
*****

*****
*      - - + APPLICATION + - -      *      - - + DOMAIN + - -      * - - + STATUS + - - *
*****
* hello                                * default                    * DEPLOYED                *
*****

INFO 2022-12-13 11:48:38,730 [[MuleRuntime].uber.03: {hello}.uber@org.mule.runtime.module.extension.internal.runtime.source.ExtensionMessageSou

```

http://0.0.0.0:8081/hellomule

Save

POST

http://0.0.0.0:8081/hellomule

Send

Params

Authorization

Headers (7)

Body

Pre-request Script

Tests

Settings

Cookies

Query Params

KEY	VALUE	DESCRIPTION	...	Bulk Edit
Key	Value	Description		

Body

Cookies

Headers (2)

Test Results

Status: 200 OK Time: 217 ms Size: 84 B Save Response

Pretty

Raw

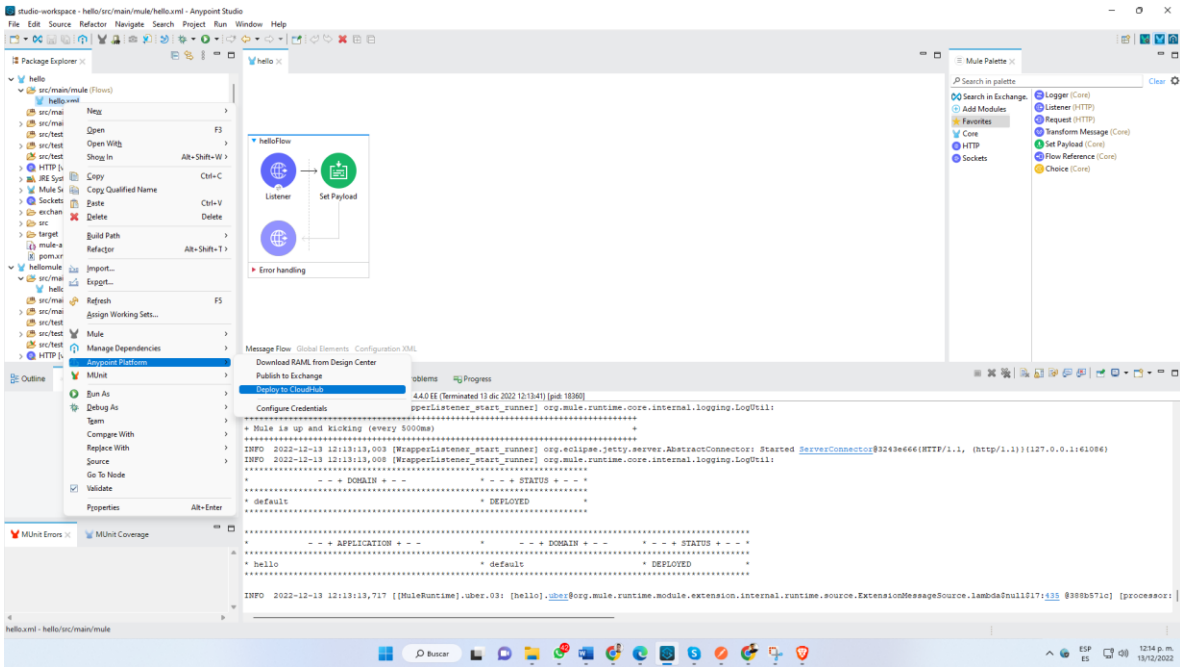
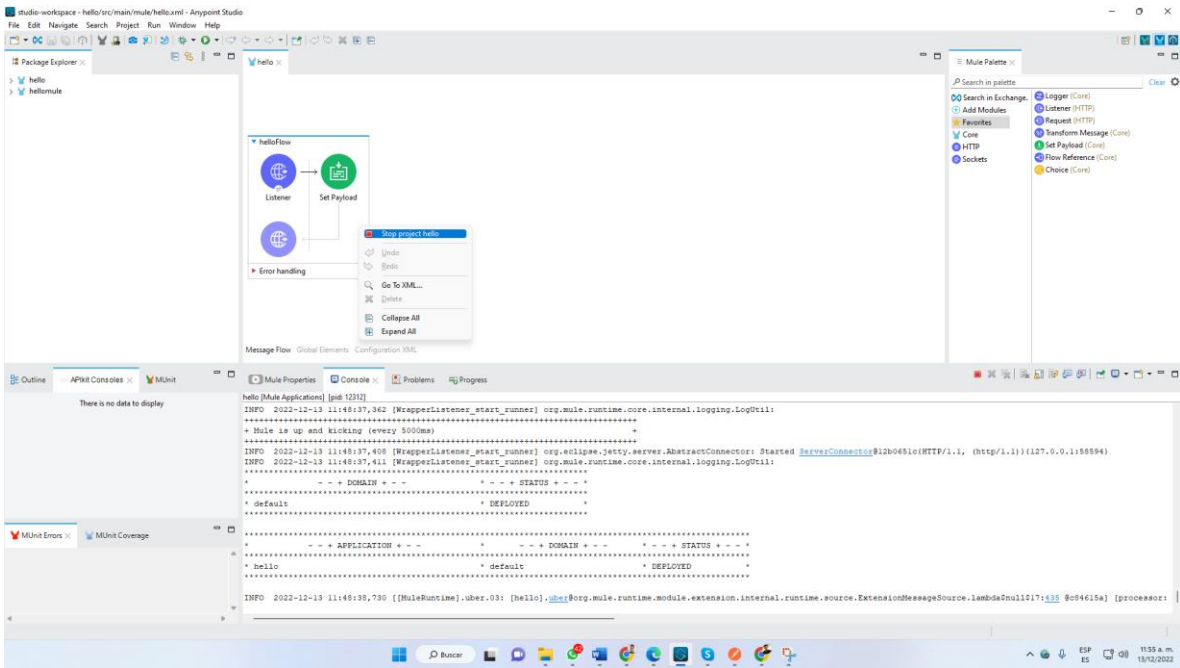
Preview

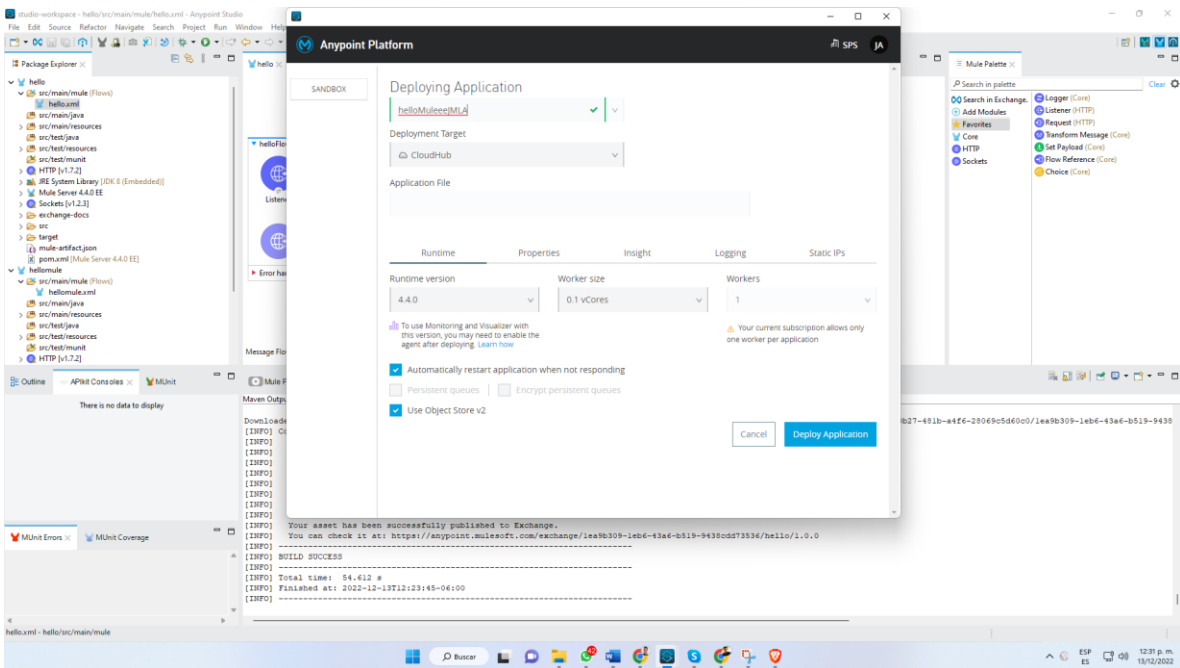
Visualize

Text

1 HelloMule

Paso 5: Se detiene el proyecto para realizar el deploy, mediante CloudHub





Una vez termino el deploy se abre Anypoint y se toma el URL para probar con una petición post que debe retornar un estado 200 (ok).

Runtime Manager

SANDBOX

helloMuleeejmla

Domain: [hellomuleeejmla.us-e2.cloudhub.io](https://hellomuleeejmla.us-e2.cloudhub.io) Last Updated 2022-12-13 12:34:10PM 1 micro worker, using 4.4.0

Dashboard

Mule messages

Last hour

Last 24hrs

Last week

Insight

Logs

Object Store

Queues

Schedules

Settings

11:34:19

11:44:19

11:54:19

12:04:19

12:14:19

12:24:19

CPU

100%

Worker 3.133.94.244

http://hellomuleeejmla.us-e2.cloudhub.io/hellomule

Save

POST

http://hellomuleeejmla.us-e2.cloudhub.io/hellomule

Send

Params

Authorization

Headers (7)

Body

Pre-request Script

Tests

Settings

Query Params

KEY	VALUE	DESCRIPTION
Key	Value	Description

Body

Cookies

Headers (4)

Test Results

Status: 200 OK Time: 452 ms Size: 123 B Save Response

Pretty

Raw

Preview

Visualize

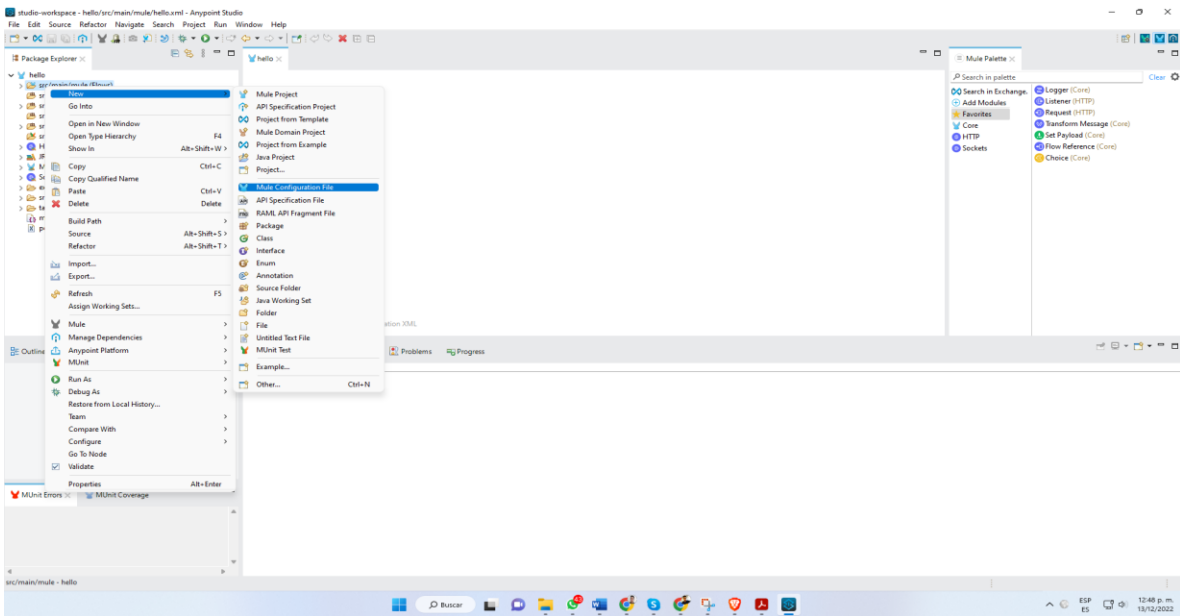
Text

1

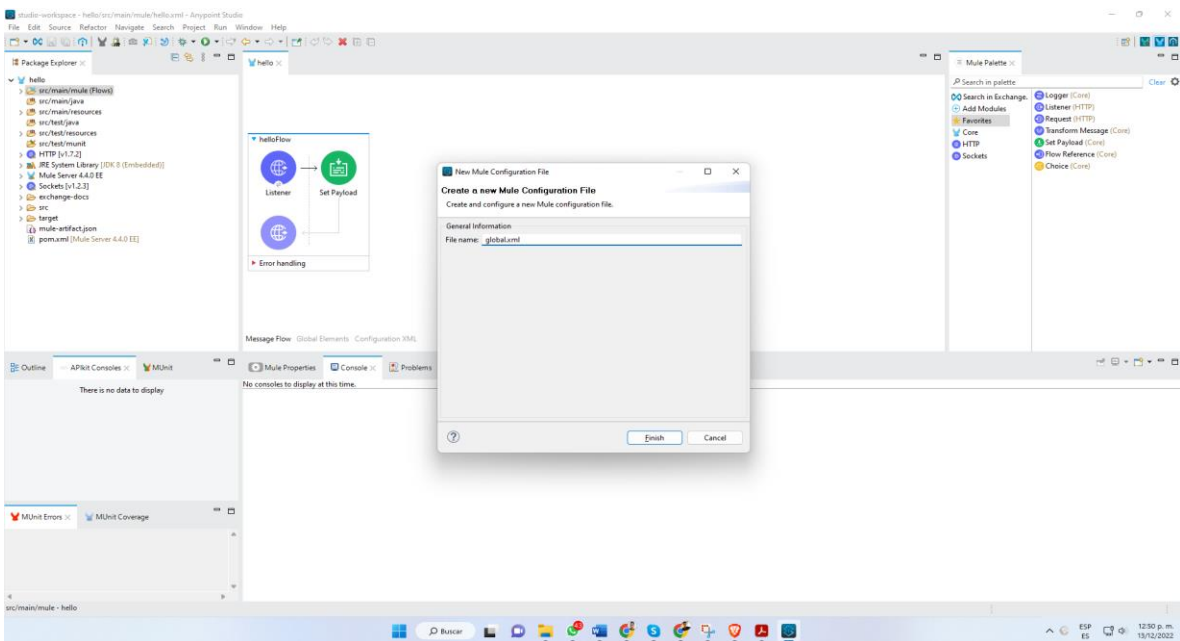
HelloMule

2-. Creación de archivo de propiedades, para mantener y referenciar datos sensibles por separado del código generado.

Paso 1: clic en carpeta src/main/mule y new file (Mule Configuration File)



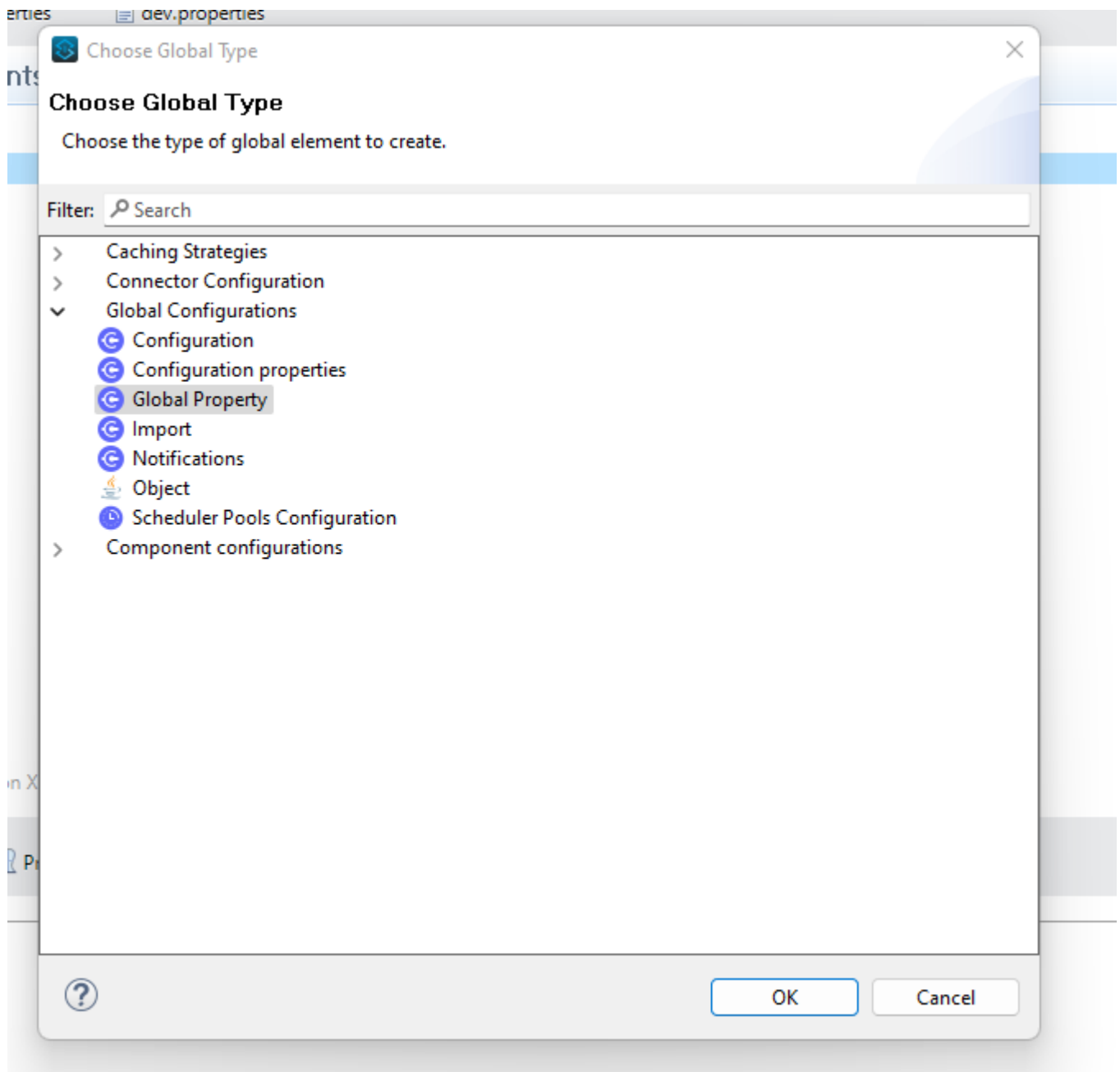
Se le da el nombre global.xml



Paso 2: Cortar código http:Listener-config de hello.xml a global XML y guardar los archivos para evitar errores.

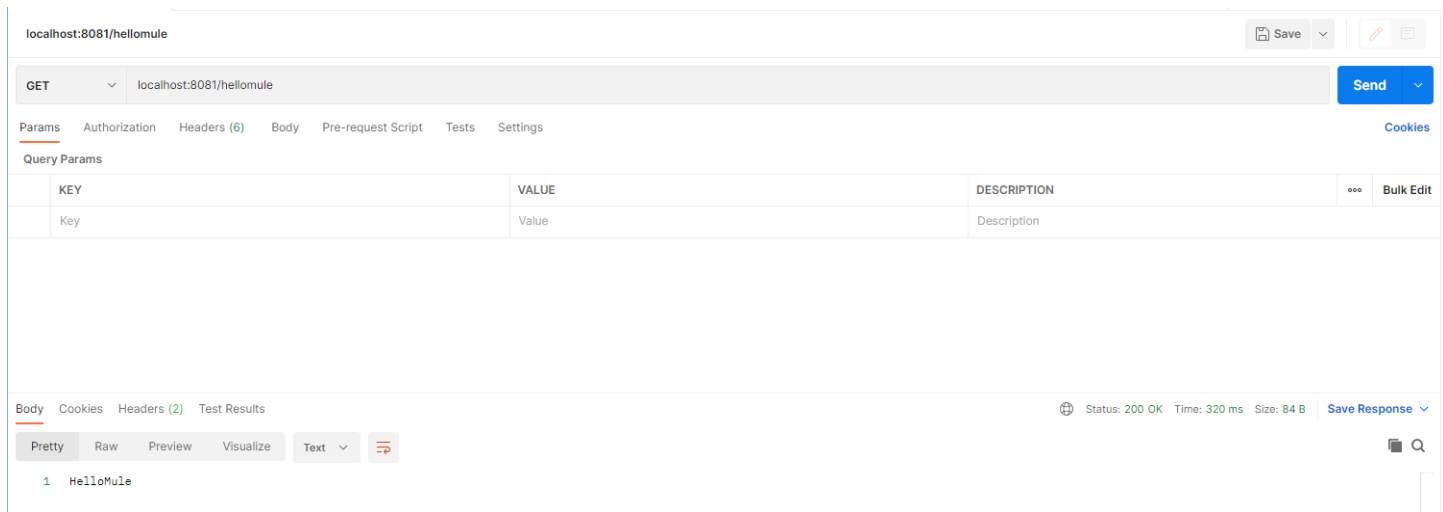






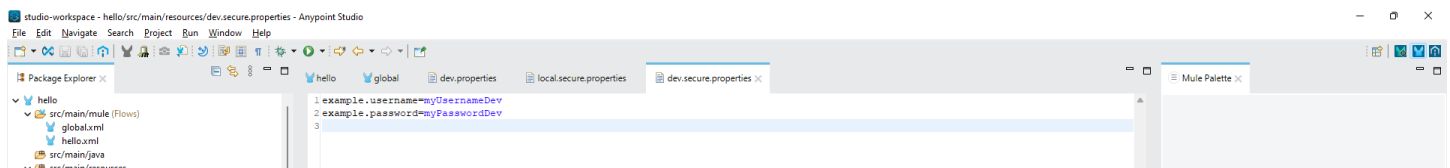
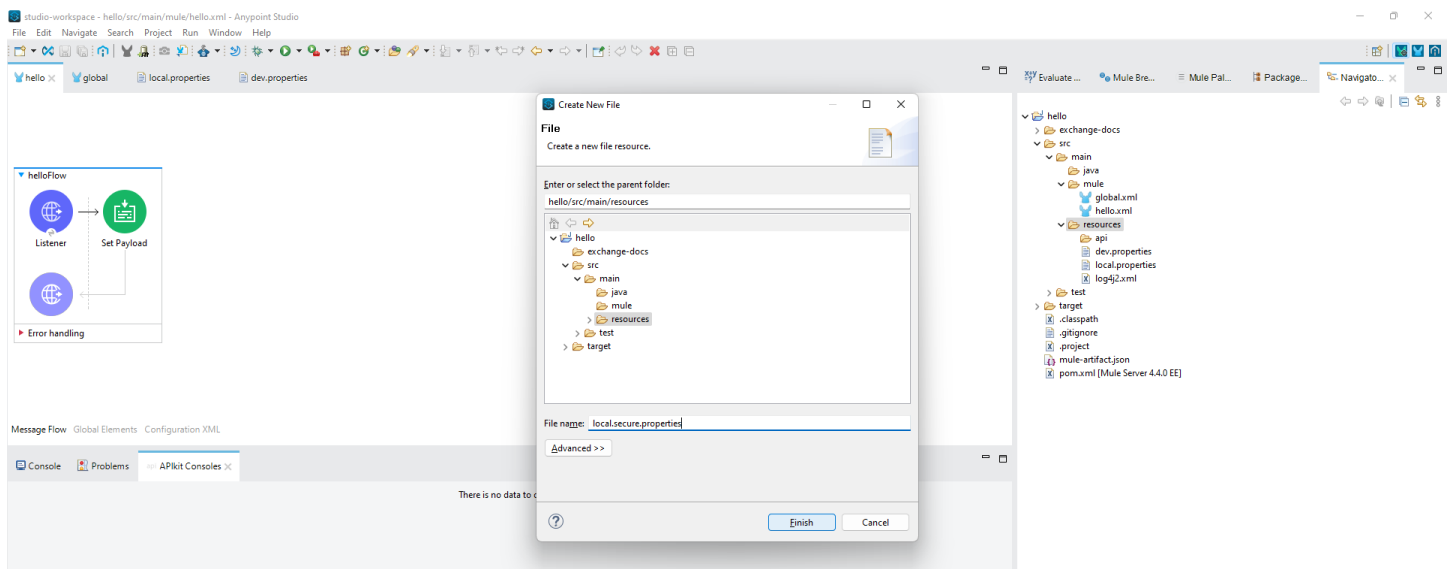
Global Configuration Elements				
Type	Name	Description		
HTTP Listener config (Configuration)	HTTP Listener_config			Create
Configuration properties (Configuration)	Configuration properties			Edit
Global Property (Configuration)	env			Delete

Prueba de configuración con postman método GET

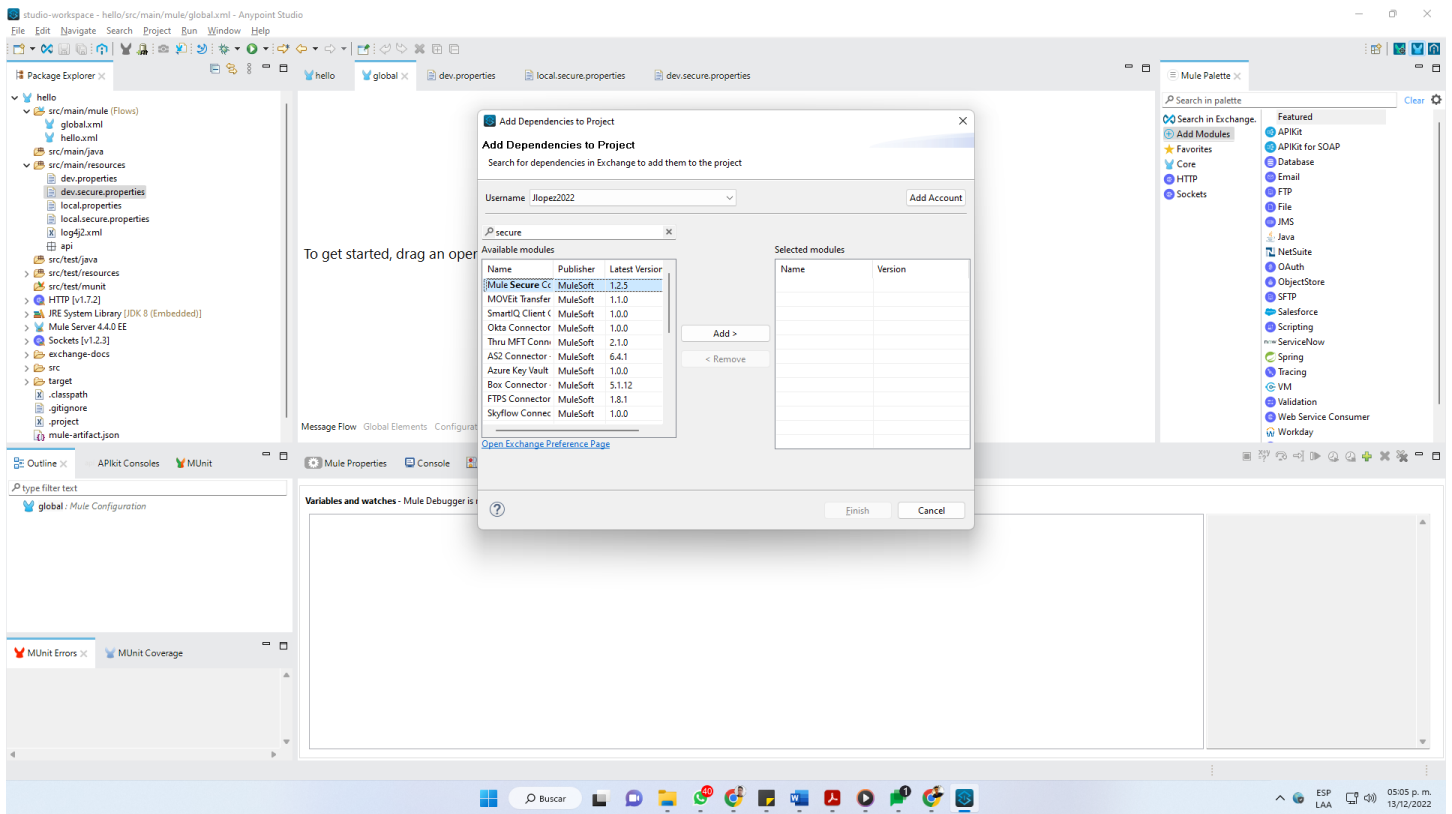


### 3.- Creación de archivo propiedades seguras, para proteger datos sensibles.

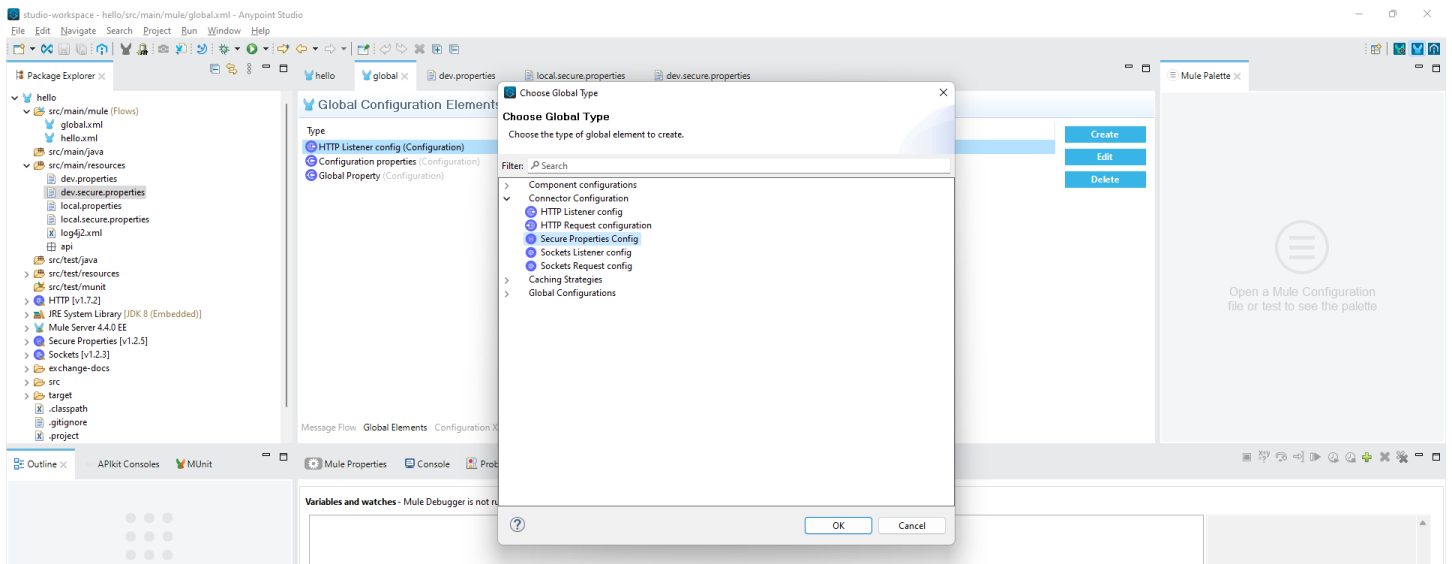
Crear archivo local y dev, dando clic en sources, new file y dar el nombre.



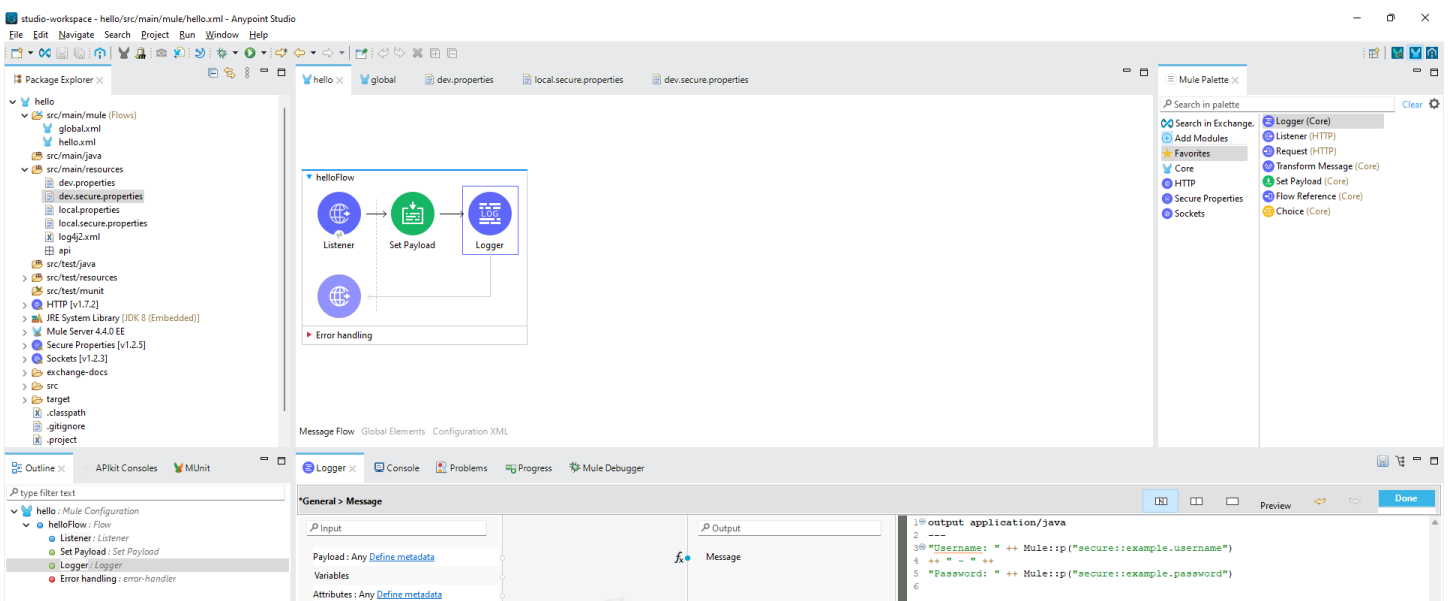
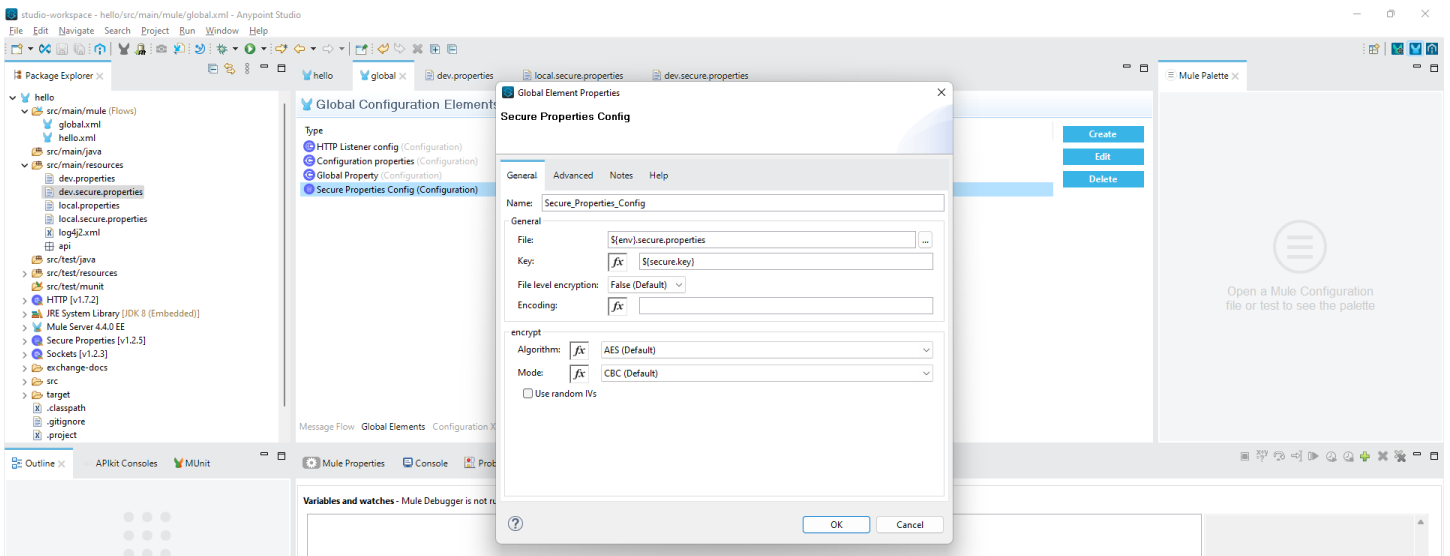
Configurar modulo de seguridad



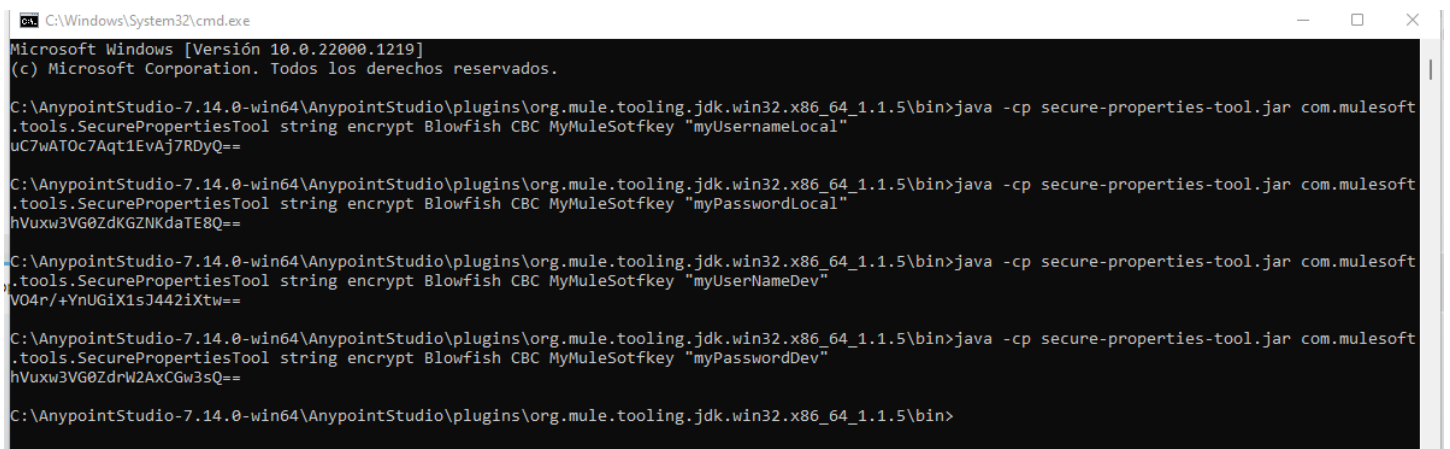
Se agrega archivo config secure properties en el global.xml



Configuración de propiedades dinámicas



## Encriptación de keys



## Retorna al ejecutar el código

```

:6ed] [processor: ; event: ] org.mule.runtime.module.extension.internal.runtime.source.ExtensionMessageSource: Message sour
org.mule.runtime.core.internal.processor.LoggerMessageProcessor: Username: myUsernameLocal - Password: myPasswordLocal
  
```

## Application File

hello-1.0.0-mule-application.jar

Choose file ▾

Get from sandbox

Last Updated 2022-12-13 9:16:48PM

App url: hellomuleeejmla.us-e2.cloudhub.io

Runtime	Properties	Insight	Logging	Static IPs
<div>Table view Text view</div>				
env	dev	✕		
secure.key	*****	✕		
key	value			

## Logs en aniport

21:16:48.796 12/13/2022 Deployment system SYSTEM

Your application is started.

21:19:27.792 12/13/2022 Worker-0 [MuleRuntime].uber.05: [hellomuleeejmla].helloFlow.CPU\_LITE @1851bbd4 INFO

event:1dbd7050-7b5e-11ed-b51e-06552dc0eb08 Username: myUsernameDev - Password: myPasswordDev

## 4.-Creacion de Api en API MANAGER

APIs / Add API

✓ Runtime

API

Endpoint

Review

## API

Select the API you want to manage.

☐ Select API from Exchange☒ Create new API**i** Once the API is created it will be published in Exchange in stable state.

Name hellomuleapi

Asset types <sup>①</sup> HTTP API ▾

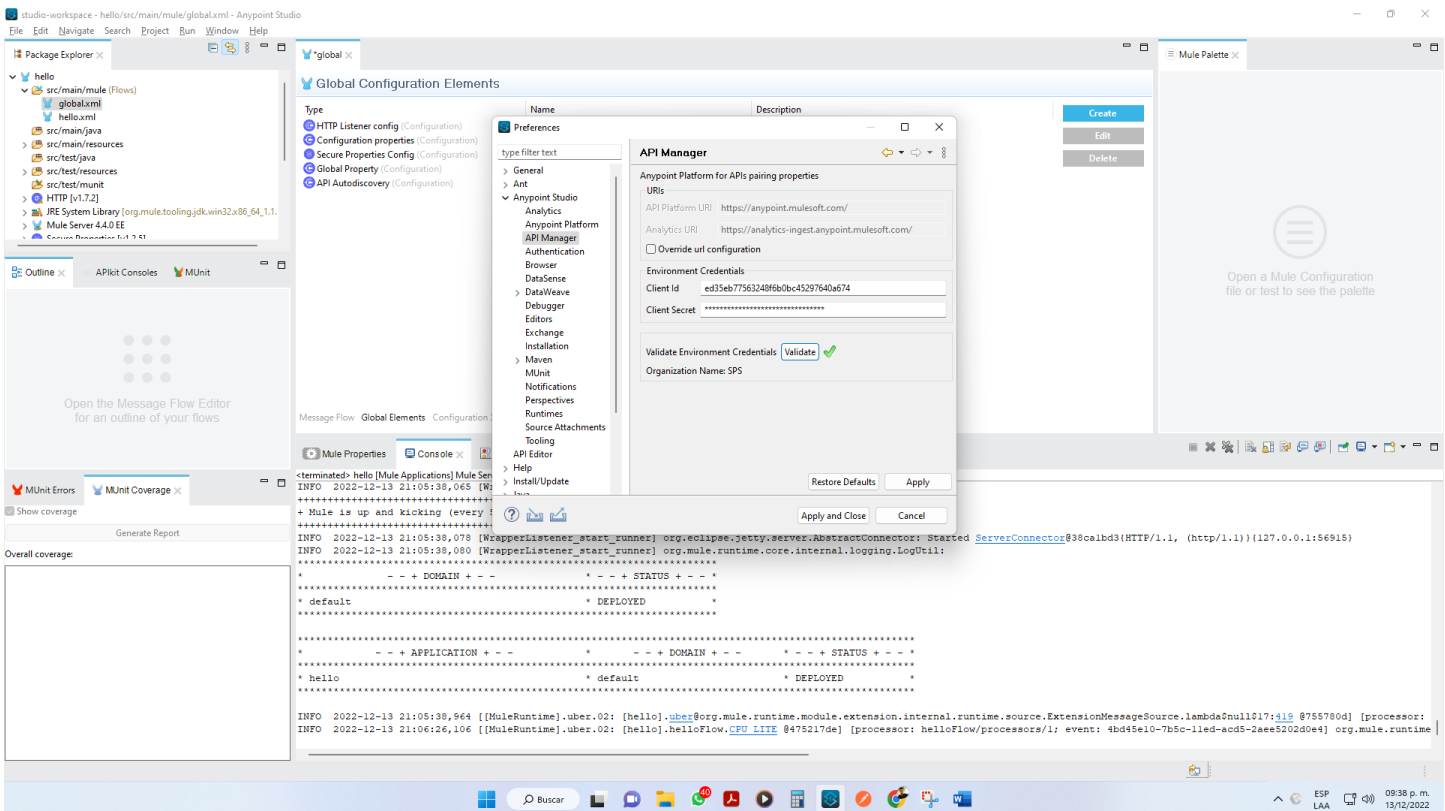
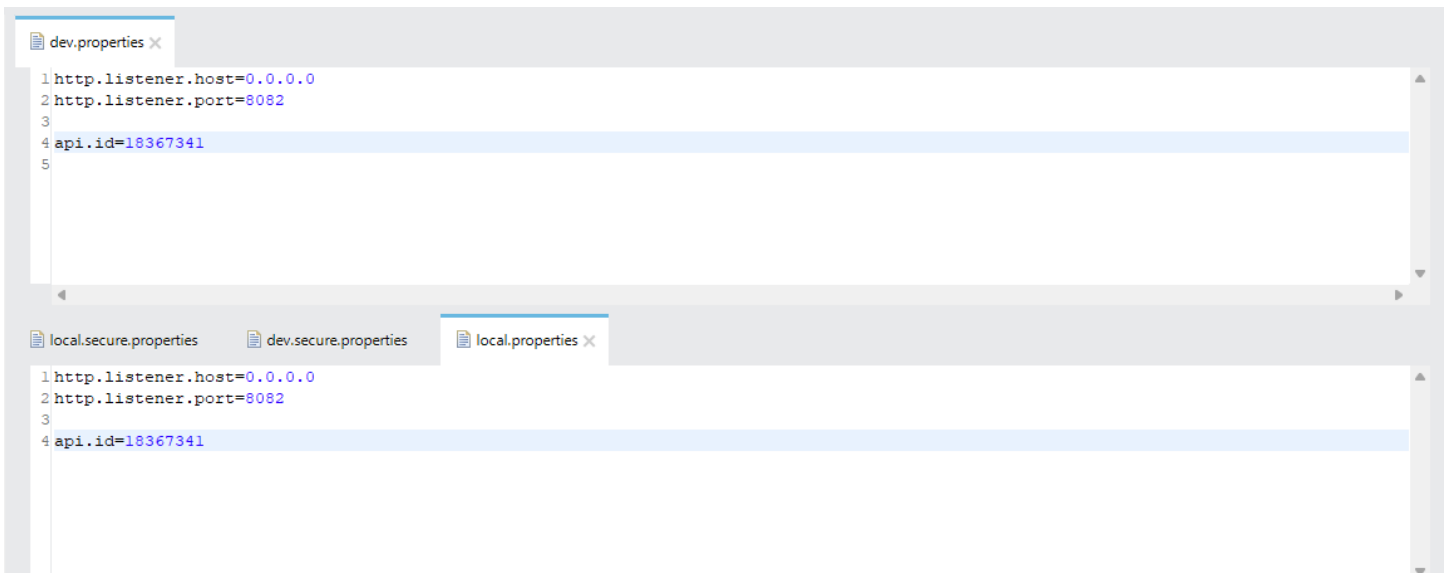
Advanced &gt;

Cancel

Previous

Next

## Configuración de api id en properties



Se realiza deploy y se valida en postman

GET localhost:8081/hellomule Send

Params Authorization Headers (6) Body Pre-request Script Tests Settings

Query Params

KEY	VALUE	DESCRIPTION	...
Key	Value	Description	

Body Cookies Headers (2) Test Results Status: 200 OK Time: 655 ms Size: 84 B [Save Res](#)

Pretty Raw Preview Visualize Text ⋮

1 HelloMule

## Deploy en CloudHub

**Anypoint Platform** SPS JA

SANDBOX CloudHub

Application File  
hello.jar

Runtime Properties Insight Logging Static IPs

Table view Text view

anypoint.platform.analytics_base_uri	https://analytics-ingest.anypoint.mulesoft.com/	×
anypoint.platform.client_id	ed35eb77563248f6b0bc45297640a674	×
anypoint.platform.client_secret	4b7486Fe38744925b4AEFa6eD374238E	×
anypoint.platform.base_uri	https://anypoint.mulesoft.com/	×
env	dev	×
secure.key	.....	×
key	value	

Cancel Deploy Application

## Validación de api activa en API MANAGER

APIs / hellomuleapi

Actions

Type	Asset Version	Implementation URI ⓘ	API Label ⓘ	API Version
HTTP	1.0.0 (Latest)	N/A	-	v1
API Status	Consumer Endpoint	API Instance ID ⓘ	Mule Version	
Active	N/A	18367341	4.4.0-20220824	
Tags				
ADD A TAG				

## 5.- Aplicar client ID a API en API MANAGER

Se debe entrar a API MANAGER en Anypoint, entrar a la API y pólíces (políticas).

Dar clic en aplicar nueva política y configurar la misma.



## APIs / hellomuleapi / Policies / Configure Client ID Enforcement policy

### Credentials origin

Origin of the Client ID and Client Secret credentials.

- ☒ HTTP Basic Authentication Header
- ☐ Custom Expression

### Advanced options ▾

Configure policy version, methods and resources

### Policy version

1.3.2 (latest) ▾

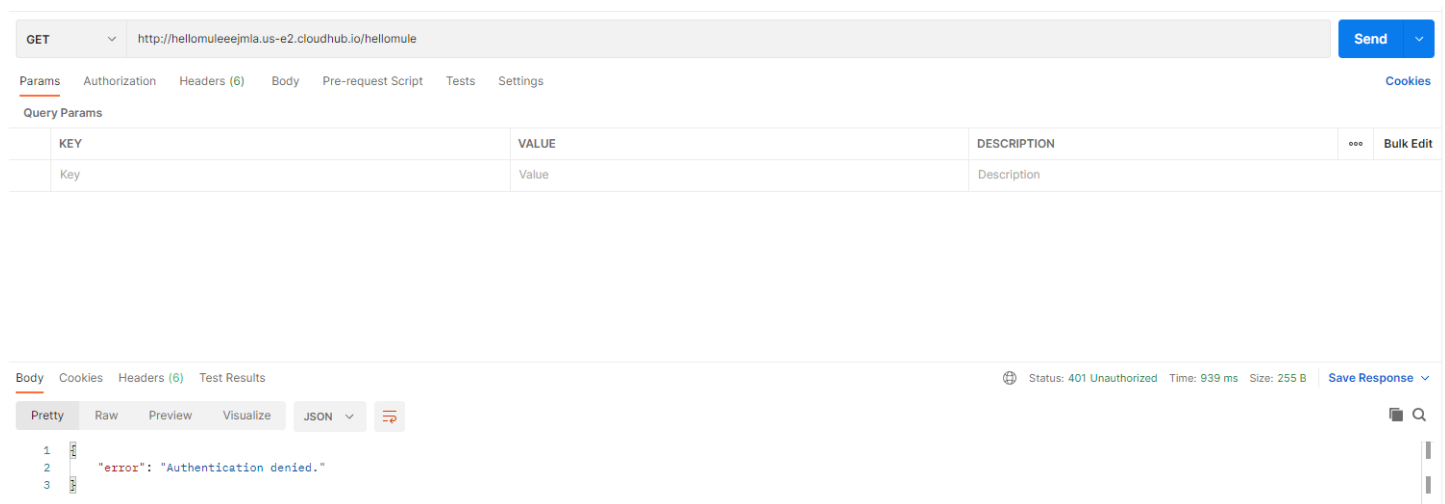
### Method & resource conditions

- ☒ Apply configuration to all API method & resources
- ☐ Apply configuration to specific API method & resources

Previous

Apply

Se comprueba que política funciona, ya que no da acceso a la información, comprobado mediante postman.



GET http://hellomuleeejmla.us-e2.cloudhub.io/hellomule Send ▾

Params Authorization Headers (6) Body Pre-request Script Tests Settings Cookies

Query Params

KEY	VALUE	DESCRIPTION	...	Bulk Edit
Key	Value	Description		

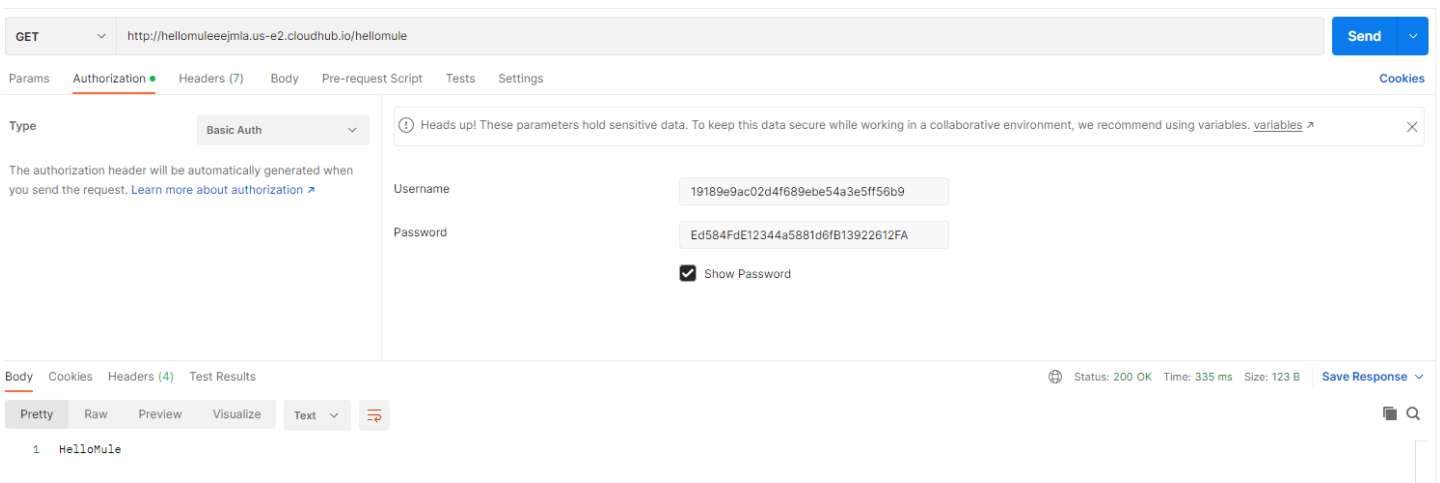
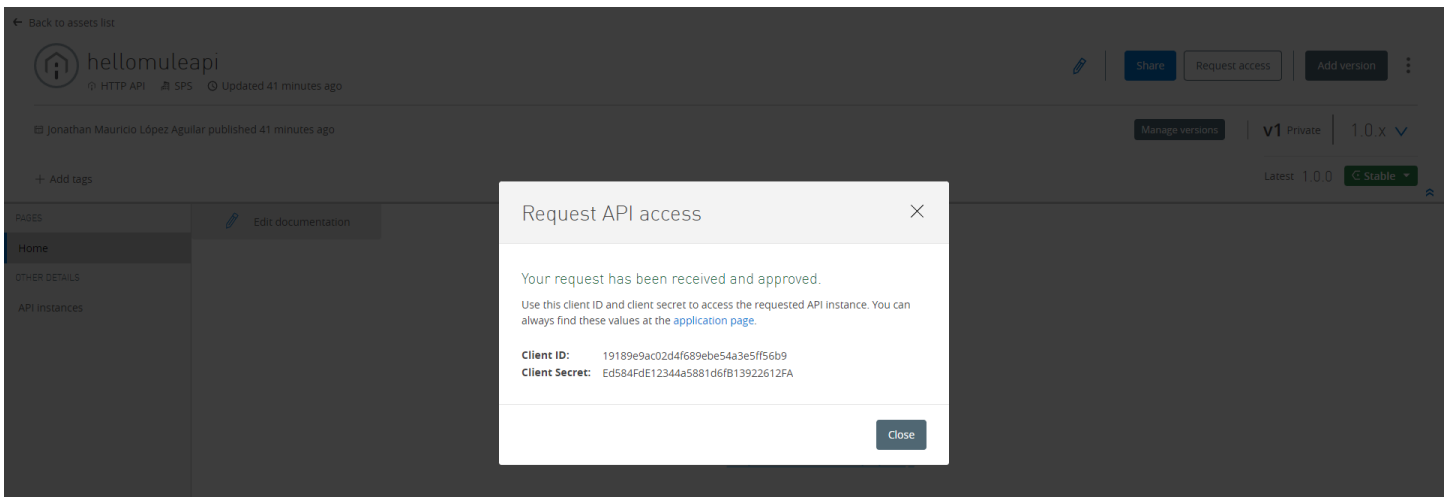
Body Cookies Headers (6) Test Results

Status: 401 Unauthorized Time: 939 ms Size: 255 B Save Response ▾

Pretty Raw Preview Visualize JSON ▾

```
1
2 "error": "Authentication denied."
3
```

Se crea request Access y se comprueba con postman



## 6.- Conocer sobre el enfoque de First Api Specification

Principalmente una API es una tecnología que permitirá comunicar aplicaciones entre sí, el desarrollador backend proporciona la parte lógica para ser consumida por peticiones de información que solicita el lado del cliente o front end.

Estas deben ser creadas en un estándar haciendo que sean fáciles de manipular y usar esta información.

Como desarrollador de Apis, se debe ser claro en la forma en como los futuros desarrolladores o quien tenga necesidad de consumir el api se podrán conectar o hacer uso de la misma.

Se debe especificar un url base en el cual se alojará la API, también se puede configurar el protocolo de comunicación para el api, como puede ser HTTP.

Un api restfull tiene métodos get (recibir información), post (Crear información), patch (Actualizar información de una instancia parcialmente), put (Actualizar una instancia completa) y delete (borrar datos).

Los parámetros de consulta deben ser creados usando snake\_case por convención.

Toda consulta de una API, devuelve un estado los 200 son respuestas exitosas, 400 generalmente errores de ruta o acceso denegado y los 500 errores del servidor.

## 7.- Construcción de API en API DESIGNER.

Se debe entrar a Anypoint y desing Center, dar clic en crear nueva API, NEW API SPECIFICATION (SPEC).

Design Center

Undo Redo

NTO Customer Database API

Publish

Filter

### API Summary

Add a new Security Scheme, Resource or Data type by clicking on the + buttons or import an existing asset from Exchange.

Import from Exchange

- SECURITY SCHEMES +
- RESOURCES +
- DATA TYPES +
- GROUPS +

Create groups to semantically group resources and data types in your API specification.

### API Summary

Title: New API

Version:

Protocols: Select...

Media type: Select...

Base URI:

Base URI Parameters (0) >

Description

Markdown Visual

Secured By: Select...

Documentation (0)

Add Documentation

Edit RAML
Download

```
#%RAML 1.0
title: New API
```

### API Summary

Title: NTO Customer Database API

Version: 1.0.0

Protocols: HTTP x HTTPS x

Media type: application/json x

Base URI: api.samplebaseuri.com

Base URI Parameters (0) v

Add Base URI Parameter

Description

Markdown Visual

A simple API to retrieve information from Northern Trail Outfitters' customer database.

Secured By: Select...

Documentation (0)

Add Documentation

Se agrega Data Type (Address y Contact) y recursos que necesitara nuestra API

## Data types

Name  Type  ☐ Union

Description

**B** *I* **»** **</>** **≡** **≡** **H** Markdown Visual

Address data type

---

☐ Property Name  ☐ Required  Type ☐ Union ☐ ☐

☐ Property Name  ☐ Required  Type ☐ Union ☐ ☐

☐ Property Name  ☐ Required  Type ☐ Union ☐ ☐

☐ Property Name  ☐ Required  Type ☐ Union ☐ ☐

☐ Property Name  ☐ Required  Type ☐ Union ☐ ☐

Dar clic en resources para configurar los métodos de nuestra API

Design Center

Undo Redo Saved a few seconds ago

NTD Customer Database API

URI Parameters (0) >

GET POST PUT PATCH DELETE OPTIONS HEAD

Summary Responses (0) Query Parameters (0) Headers (0)

Name  Secured By

Description

**B** *I* **»** **</>** **≡** **≡** **H** Markdown Visual

```
country: USA
postalAddress:
  street: 44 Shirley Ave.
  city: West Chicago
  postalCode: "60185"
  state: IL
country: USA
properties:
  firstName?:
    example: Example
    type: string
  lastName:
    example: Example
    type: string
  phone?:
    example: Example
    type: string
  email?:
    example: Example
```

Se puede realizar simulaciones de las peticiones y obtener una respuesta

## Try It

Add a header to the HTTP request.

 Add

Send

200 OK

Time: 440.2 ms



```
1  {
2    "firstName": "Danny",
3    "lastName": "Brookshire",
4    "phone": "123-412-3412",
5    "email": "danny.brookshire@
6    "deliveryAddress": {
7      "street": "44 Shirley Av
8    e.",
9      "city": "West Chicago",
10     "postalCode": "60185",
11     "state": "IL",
12     "country": "USA"
13   },
14   "postalAddress": {
15     "street": "44 Shirley Av
16   e.",
17     "city": "West Chicago",
18     "postalCode": "60185",
19     "state": "IL",
20     "country": "USA"
  }
```

Publicación de la API

# Publishing to Exchange

## Asset version (required)

## API version (required)

## LifeCycle State



Stable

State of release, ready to consume



Development

In Process of Design and Development

> Advanced options

## About asset versioning

To publish to Exchange, please, use [Semantic Versioning](#). Examples of good versions are 1.0.0 or 4.3.1.

## More help

- [Changing a project's main/root file](#)
- [What is an API version?](#)

The lifecycle state of an asset shows its status in the software development lifecycle, from development to stable releases to deprecation. [Learn more](#)

Cancel

Publish to Exchange

[Back to assets list](#)



NTO Customer Database API

REST API SPS Updated 25 seconds ago



Share

Download

View code

Add version



Jonathan Mauricio López Aguilar published 24 seconds ago

+ Add tags

Manage versions

v1 Private

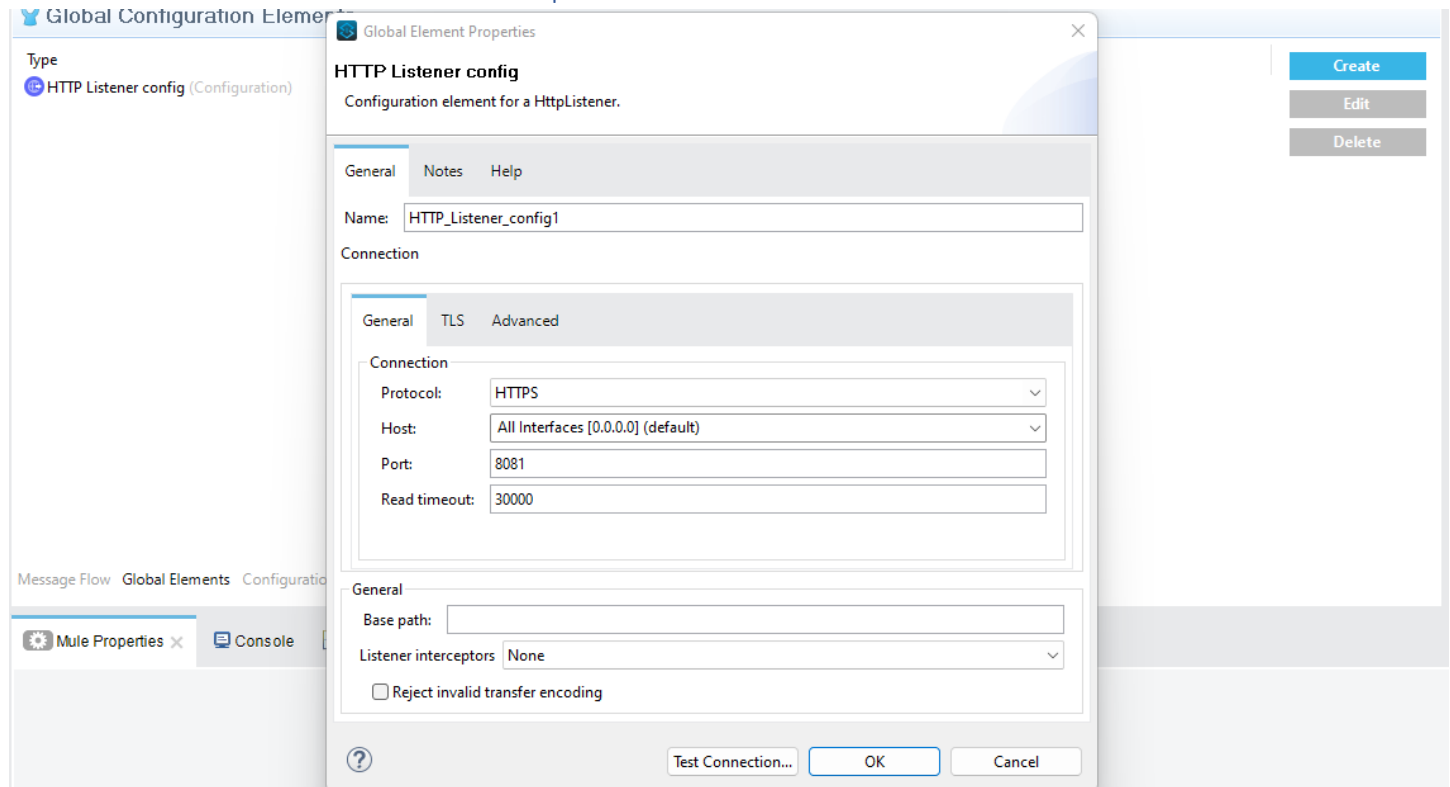
1.0.x

Latest 1.0.0

Stable

Not Validated

## 8.- Habilitar HTTPS consume en mule Aplicación



```
[mexico]:
¿Cuál es el código de país de dos letras de la unidad?
[mx]:
¿Es correcto CN=jonathan lopez, OU=sps, O=sps, L=mexico, ST=mexico, C=mx?
[no]: SI

Warning:
El certificado generado uses the SHA1withRSA signature algorithm which is considered a security risk. This algorithm will
be disabled in a future update.

C:\Users\Jonathan Lopez\AnypointStudio>
```

## HTTP Listener config

Configuration element for a HttpListener.

The screenshot shows the 'HTTP Listener config' dialog box. It has three tabs: 'General', 'Notes', and 'Help'. The 'General' tab is selected. Inside, there are several input fields and checkboxes:

- Password:** An empty text field with a 'Show password' checkbox to its right.
- Type:** A dropdown menu currently showing 'JCEKS'.
- Key Password:** A text field containing 'password' with a checked 'Show password' checkbox.
- Password:** A text field containing 'password' with a checked 'Show password' checkbox.
- Algorithm:** An empty text field.
- Advanced:** A section containing two text fields: 'Enabled Protocols' and 'Enabled Cipher Suites', both currently empty.

A 'Test connection' dialog box is overlaid on top of the main configuration window. It has a title bar with a close button (X) and a message icon. The message says 'Test connection successful'. There is an 'OK' button at the bottom right of this dialog.

At the bottom of the main configuration window, there is a 'Test Connection...' button, an 'OK' button, and a 'Cancel' button.

## Prueba en POSTMAN

The screenshot shows the Postman application interface. At the top, the URL bar shows 'https://0.0.0.0:8084/hellomule'. Below the URL bar, the 'GET' method is selected, and the same URL is entered in the request field. The 'Send' button is visible on the right.

Below the request field, there are tabs for 'Params', 'Authorization', 'Headers (6)', 'Body', 'Pre-request Script', 'Tests', and 'Settings'. The 'Body' tab is selected, showing 'Body', 'Cookies', 'Headers (2)', and 'Test Results'.

At the bottom, the response is displayed. It shows a status of '200 OK', a time of '474 ms', and a size of '92 B'. The response body is 'Hello Mule HTTPS'.