MuleSoft
from Salesforce

Yes, we have a connector for that !

REST Connect Connector Generator

Blitzer: George Jeffcock, PSE

Blitzed: 26th July 2024

Forward Looking Statements

MuleSoft from Salesforce

This presentation contains forward-looking statements abou among other things, trend analyses and future events, future financial p formance, anticipated growth, industry prospects, environmental, social and governance goals, and the anticipated benefits d companies. The achievement or success of the matters co ch forward-looking statements involves risks, uncertainties and assumptions. If any such risks or uncertainties materializ assumptions prove incorrect, Salesforce's results co fally from the results expressed or implied by these forward-looking statements. The risks and uncertainti ude those factors discussed in Salesforce' to time with the Securities and Exchange Commission, including, but not limited to: impact of, and actions he COVID-19 pandemic, related esulting economic downturn and market volatility; our ability to maintain security levels and service perfo our customers, and th id unanticipated downtime and prevent, detect and remediate performance degradation and securit r data cente ur ability to secure additional data center capacity; our reliance on third-party hardware, software and est ng those related to the provision of services on the Internet, those related to accessing the Internet, and th s; current and potential litigation involving us or our industry, including litigation involving acquired entities such as Table nt thereof; regulatory developments and regulatory investigations involving us or affecting our industry; our ability to successfully i expand our services; the success of our strategy of acquiring or making investments in complementary businesses, joint ventures, se bility to complete, on a timely basis or at all, announced transactions; our ability to realize the benefits from acquisitions, strategic partnerships, join 021 acquisition of Slack Technologies, Inc., and successfully integrate acquired businesses and technologies; our ability to compete in the markets in y and our plan to build our business, including our strategy to be a leading provider of enterprise cloud computing applications and platform to grow unearned revenue and remaining performance obligation; the pace of change and innovation in enterprise cloud computi er attrition and costs related to those efforts; the success of our international expansion strategy; the demands on our p d operations, including as a result of acquisitions; our ability to preserve our workplace culture, including as a re policies; our dependency on the development and maintenance of the infrastructure of the Interne and relate our ability to predict, our operating results and cash flows; the variability in our results arising from the products; the perform s in complementary businesses through our strategic investment portfolio; the impact of future gains or l ent portfolio, including gains nditions that may affect the publicly traded companies within our strategic investment portfolio; our ability to property rights; our ability to develop o oreign currency exchange rate and interest rate fluctuations on our results; the valuation of our deferred tax assets a related valuation allowances; the potential availab tax assets in the future; the impact of new accounting pronouncements and tax laws; uncertainties affecting ou stimate our tax rate; uncertainties regarding our tax obligat nection with potential jurisdictional transfers of intellectual property, including the tax rate, the timing of the transfer a e value of such transferred intellectual property; uncertainties regard he effect of general economic and market conditions; the impact of geopolitical events; uncertainties regarding the impact of expensing stock options and other equity awards; the sufficiency of our capital resources; the ability to execute our Share Repurchase Program; our ability to comply with our debt covenants and lease obligations; the impact of climate change, natural disasters and actual or threatened public health emergencies; and our ability to achieve our aspirations, goals and projections related to our environmental, social and governance initiatives.

Been Available for Years

Updated: September 28, 2022

Problem Statements

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Do you have a connector for <InsertApplication Name> ?

Your connector for <InsertApplicationName> does not support what is available ?

How do I manage HTTP Request sprawl across projects?

How can we restrict what resources we want invoked?

REST Connect Connector Generator

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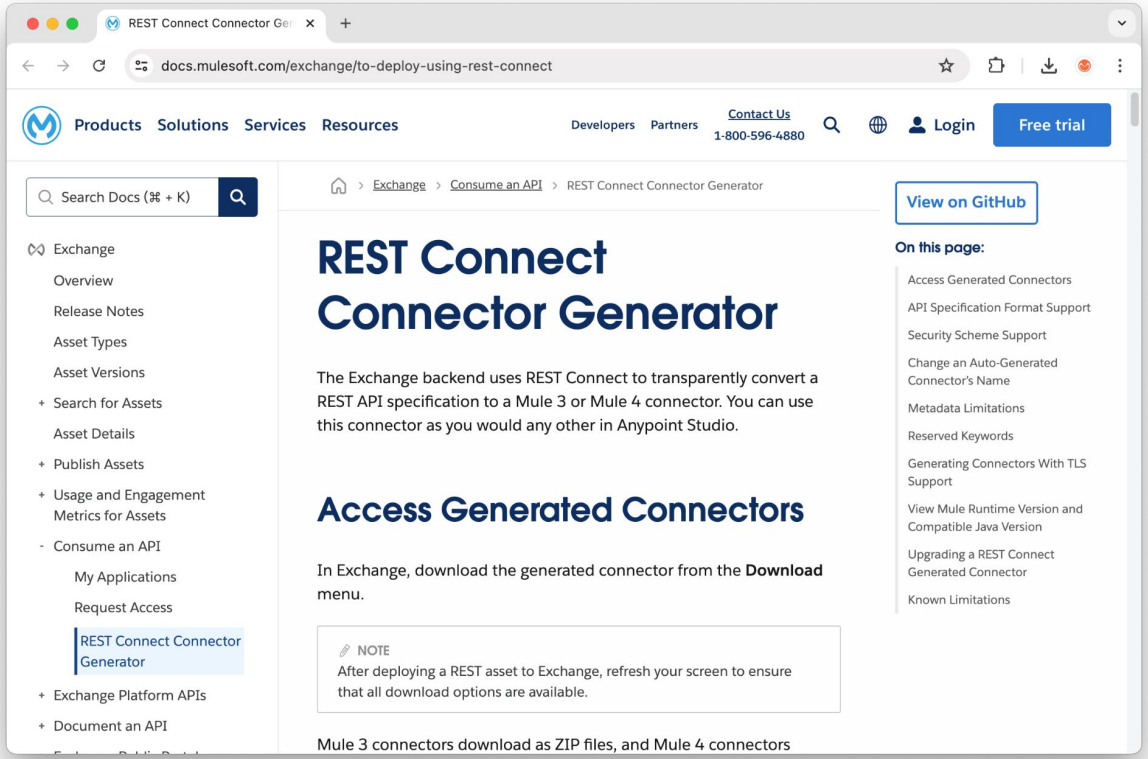


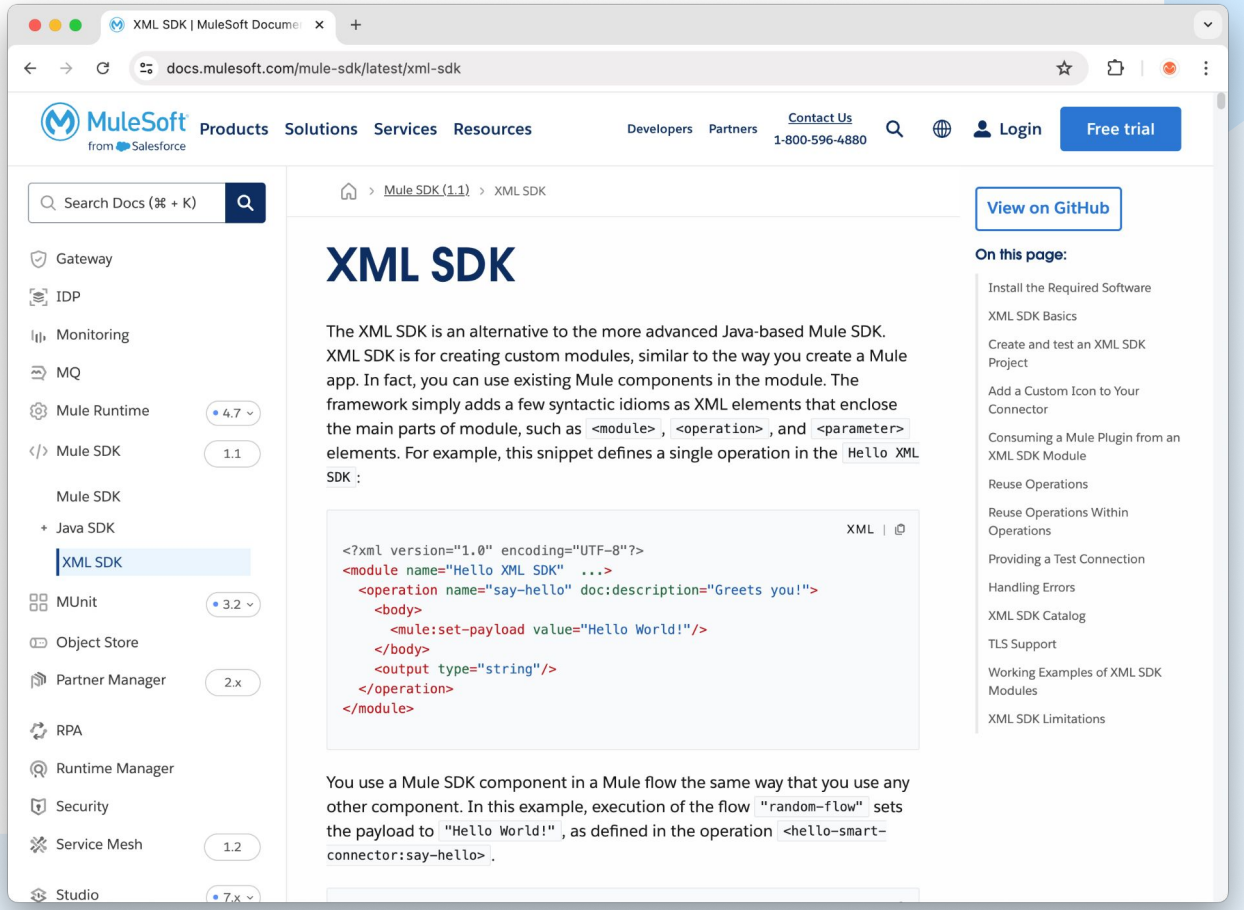
https://docs.mulesoft.com/exchange/to-deploy-using-rest-connect

“REST Connect” “Connector” “Generator”

MuleSoft from Salesforce

Generating What?

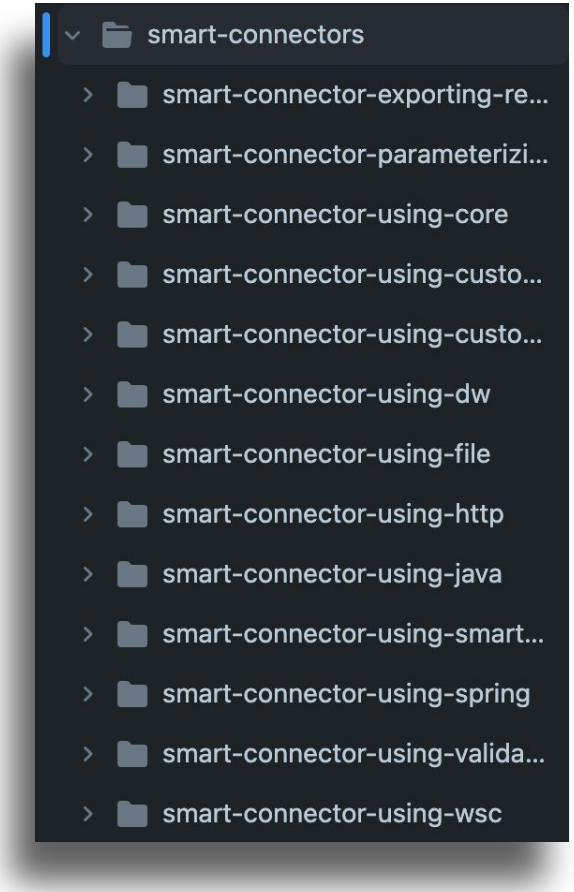
https://docs.mulesoft.com/mule-sdk/latest/xml-sdk



“REST Connect” “Connector” “Generator”

Smart Connector

https://github.com/mulesoft-labs/smart-connectors-integration-tests



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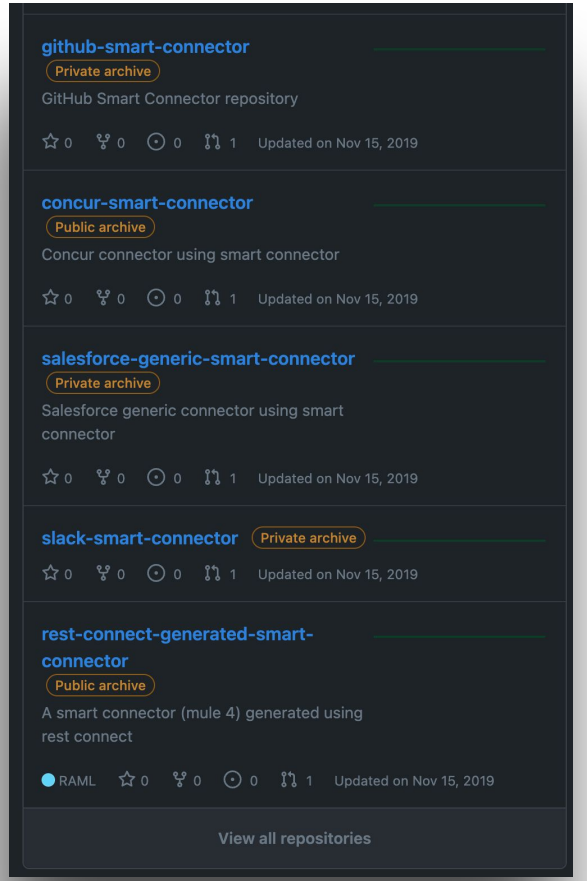
Smart Connector

https://github.com/mulesoft-labs?q=smart&type=all&language=&sort=

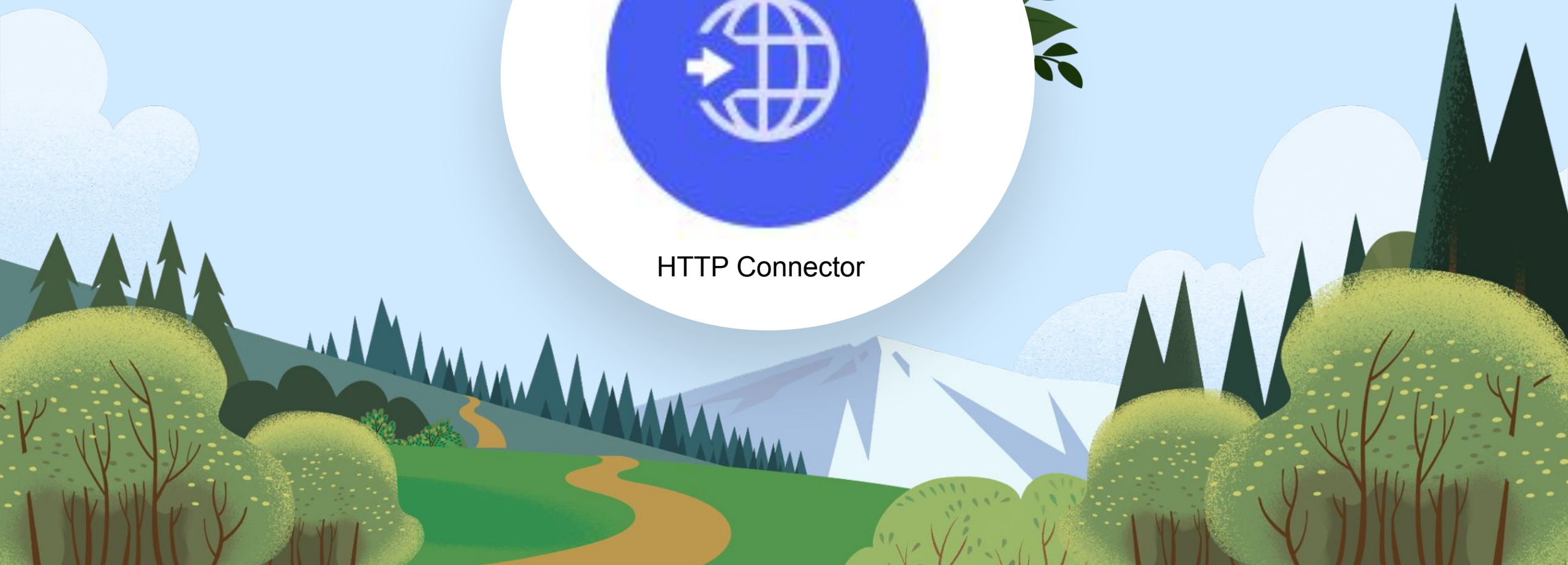


There is an Elephant in the room

MuleSoft
from Salesforce

There is an Elephant in the room

MuleSoft from Salesforce



HTTP Connector

Why NOT HTTP Connector Mule 4

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Historic

HTTP Request Connector Mule3

The request connector is especially handy when consuming a RESTful API that is described in a RAML file. If you reference the API's RAML file in the connector's configuration, it proactively offers you the set of available resources and operations contained in the RAML file, as well as enforce the policies described in the file. It also exposes the API metadata to Studio, which can then be used by other elements such as DataWeave to autocomplete fields and make configuration much easier.

Bespoke Everytime

Because no scaffolding from Source of Truth it becomes a free for all.

Countless hacks to get something working per Mule Project

How can you justify the time spent of each dev learning the endpoint in Mule environment instead of handing them a solution

Change Management

How can you see impact of a change of a consumed API ?

How can you restrict what operations are to be used ?

MuleSoft is Re-Use

Then start practicing it!

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He was over heard to say:

"Never ever, ever use HTTP Connector"

What a buffon!

George Jeffcock, HTTP Connector Hater

George Jeffcock SE

HTTP Connector Hater

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“Let’s be VERY clear,
I am not saying that, ok!”

Anypoint Platform

anypoint.mulesoft.com/exchange/?tag=3rdparty&show=org&sort=last

Salesforce

Exchange

composableforce

CF

Publish new asset

Search assets

All assets

composableforce (root)

Provided by MuleSoft

Shared with me

Asset engagement

My applications

Public portal

Settings

Back to legacy search

Any type

composableforce (root)

3rdparty

Any lifecycle state

Clear all filters

18 results.

Save this search

Sort by: Last modified

REST API

Jira ServiceNow Webhooks

Composable Force

REST API

mulesoft-secrets-manager

Composable Force

REST API

MD365BC - Microsoft Dynamics 365 Business Central

Composable Force

REST API

Aritma PSD2 API

Composable Force

REST API

OpenIDM

Composable Force

GraphQL API

star-wars-swapi-graphql

Composable Force

REST API

Salesforce Business Rules Engine

Composable Force

REST API

ServiceNow Table REST API

Composable Force

REST API

AccuWeather

Composable Force

REST API

Google PaLM

Composable Force

REST API

Victron Energy

Composable Force

REST API

Ollama

Composable Force

REST API

OpenAI API

Composable Force

REST API

1Password

Composable Force

REST API

Smarty.com

Composable Force

REST API

Plaid

Composable Force

REST API

Sinch.com

Composable Force

REST API

BankID

Composable Force

Today's Build

AccuWeather APIs

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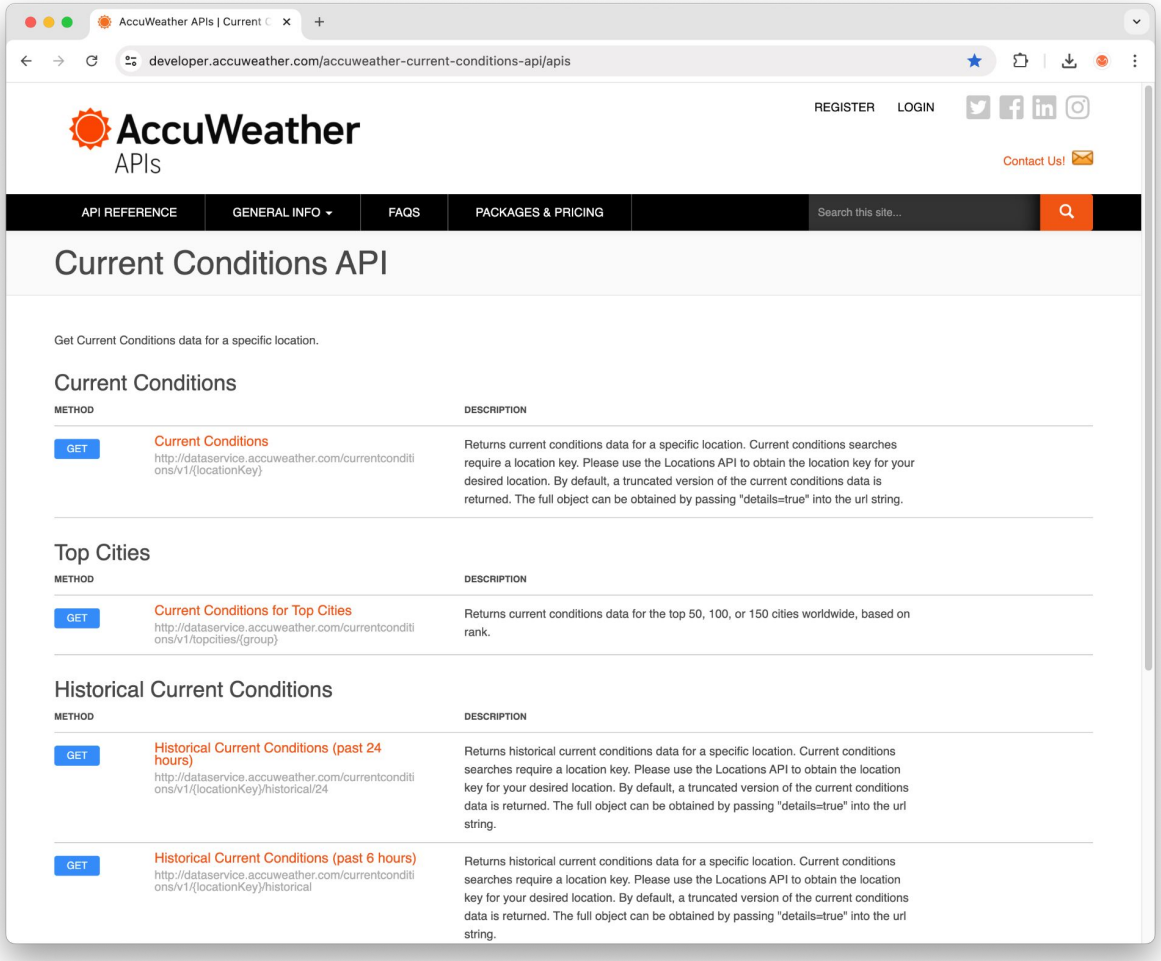
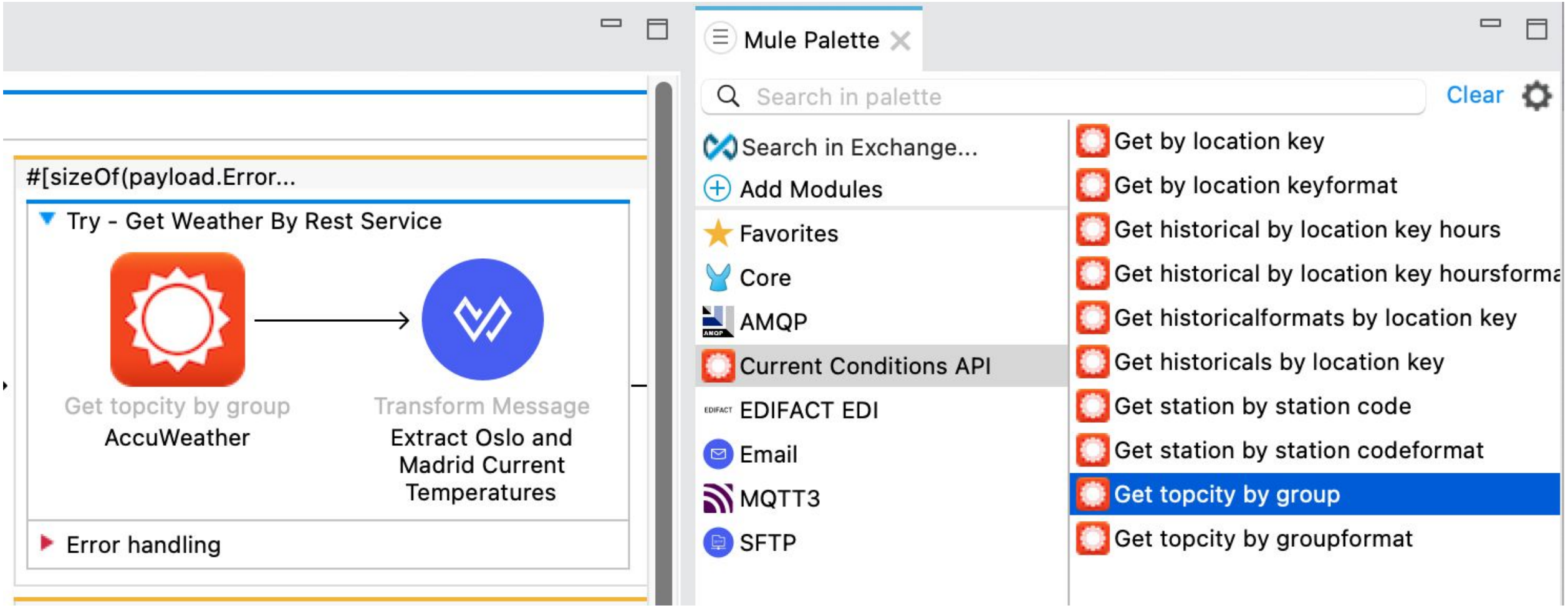


We Need Good Weather

MuleSoft from Salesforce



Step 1a - Discovery Phase

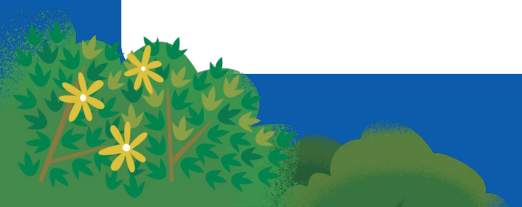
MuleSoft from Salesforce

Find OpenAPI Specification (Swagger)

– This is important to show the simplicity of hosting 3rd Party Spec

Places to look:

- Vendor Developers Portal
  - If Swagger UI Widget - use /api-docs to get the raw doc
- SwaggerHub - Search Entire Registry
- Postman API Network
  - Convert Postman Collections Into OpenAPI
  - Postman to OpenAPI Documentation
- GitHub - https://github.com/search?q=accuweather&type=repositories



Step 1b - Discovery Phase

MuleSoft from Salesforce

Never ever Learn an Endpoint in your Middleware

– Use dedicated tooling

At SPEED you can now discover:

Authentication & Authorization

Learn & Save request details

Learn & Save Error responses

Finally Learn & Save Successful responses

..and use those tooling communities to help on difficult Endpoints

Step 2 - Model Discovery Learnings

MuleSoft from Salesforce

Design Center

Get started creating Mule applications and APIs. Create visual flows, and build, test, and reuse API specifications and fragments.

Start Designing

Exchange

Discover and share reusable APIs, connectors, and templates.

Discover & Share

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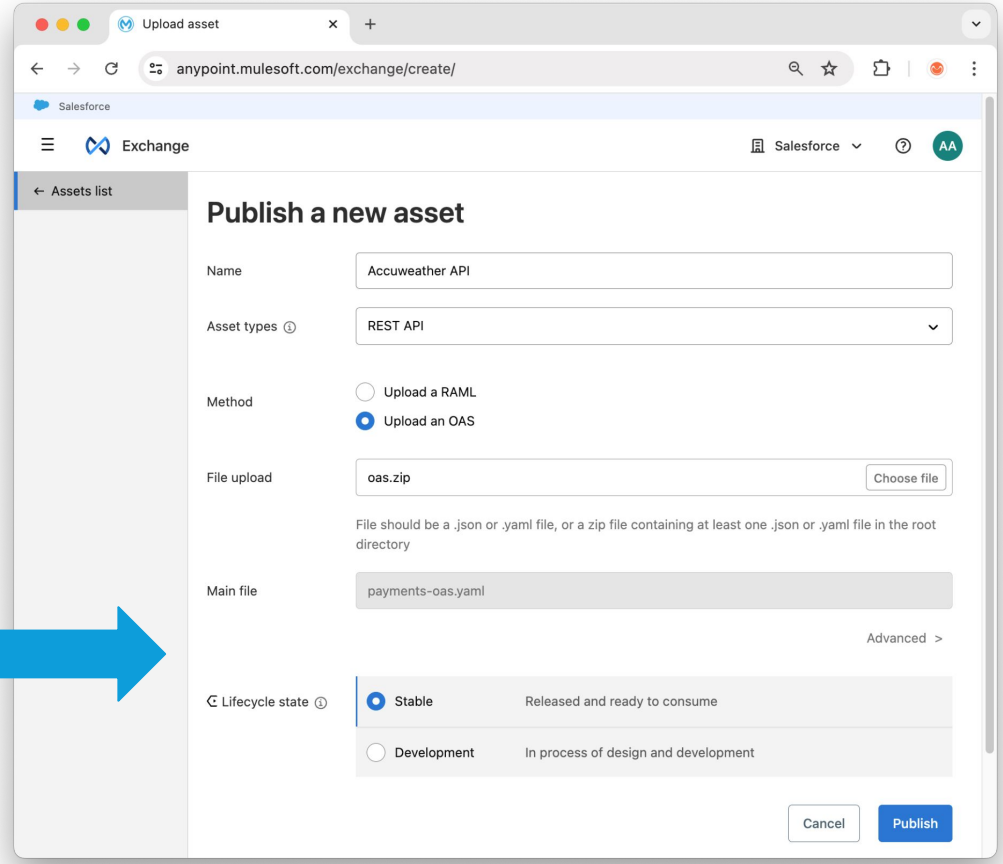

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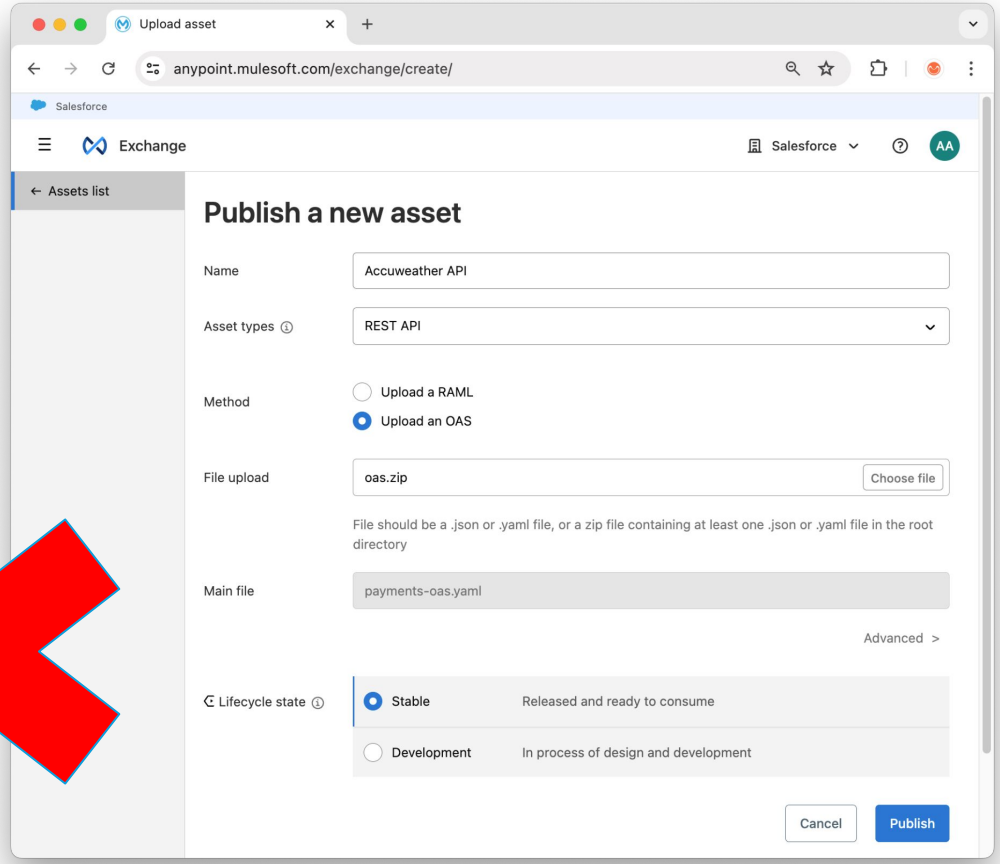

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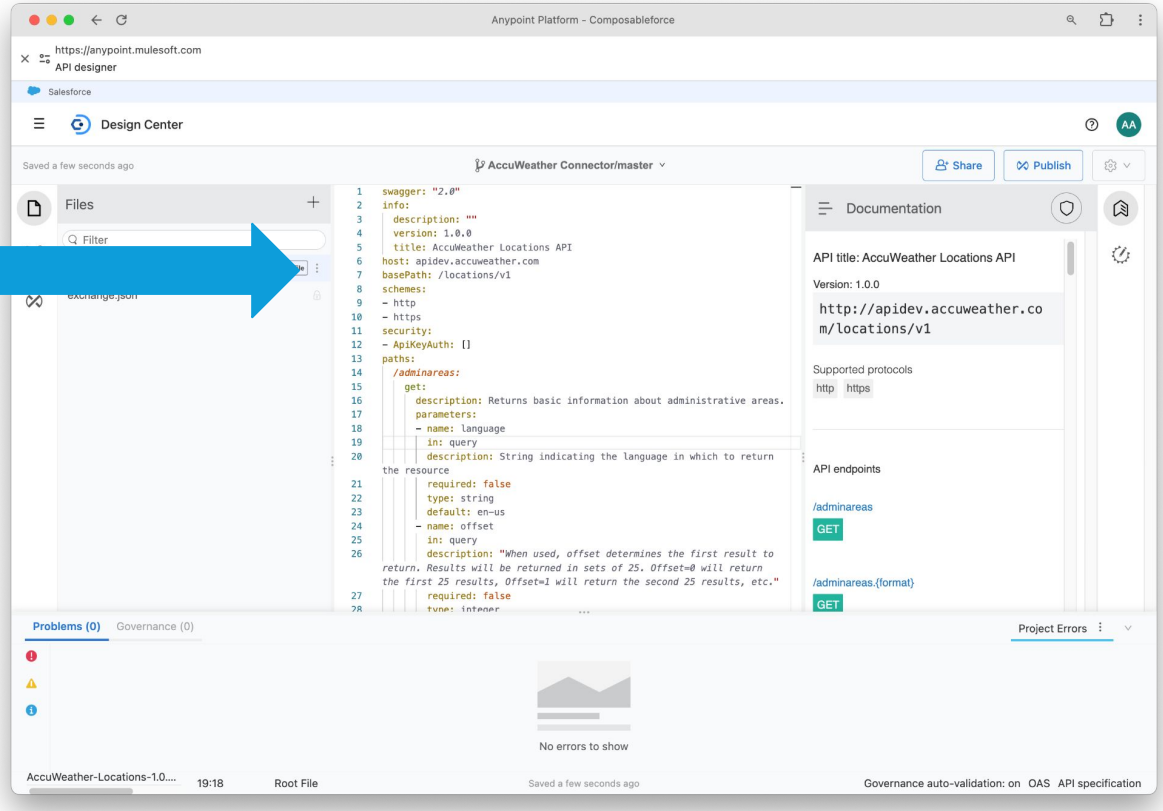

Step 3 - Pro Tips

REST Connect Library

(0 reviews)

REST Connect Library can be included in your API specification to generate a connector from your API specification properly.

REST Connect Library v1.0.2 provides several enhancements to API specs. The most used are:

- ignored: This annotation allows to specify a method which will not be transformed into an operation. Optionally, a reason can be defined.
- operationName: This annotation allows to specify a custom operation name inside the extension.
- parameterName: This annotation allows to specify a custom parameter name.
- default: Use this annotation to select a default media type for an operation body (i.e application/json).
- renewTokenExpression: Allows you to provide a DW expression used to check if the OAuth token should be renewed.

https://www.mulesoft.com/exchange/org.mule.connectivity/rest-connect-library/

Step 3 - Pro Tips

```
..
# Current Conditions By Locatic
#
  /{locationKey}:
    get:
      x-rest-connect.ignored: ]
      x-rest-connect.operationN
      description: 'Returns cur
```

```
/actions:
  get:
    (rest-connect.ignored): Ignored for now.
    (rest-connect.
    displayName: I
    queryParameter
      page:
        type: numb
        descriptio
        default: 0
        required:
      size:
        type: numb
        default: 2
        required: false
```

```
default)                                    annotations
operationName)
parameterName)
partContentType)
partFilename)
partFilenameParameter)
partName)
partNameParameter)
renewTokenExpression)
userSelectedSecuritySchemes)
```

RAML

https://www.mulesoft.com/exchange/org.mule.connectivity/rest-connect-library/

Step 3 - Troubleshooting

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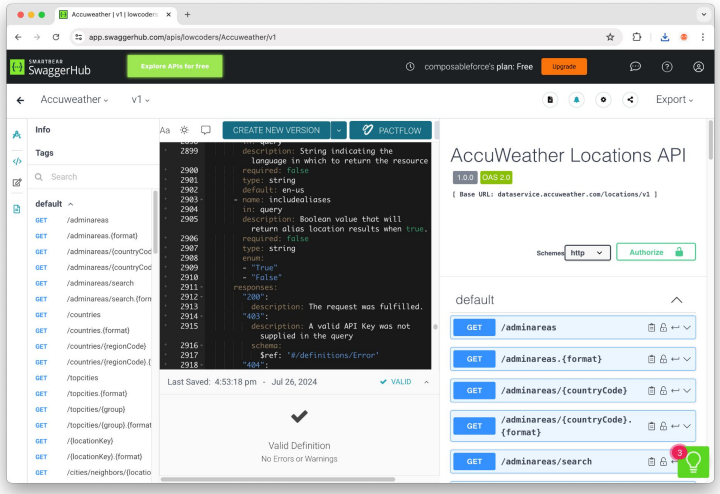
Trust No-One (including Mule Tooling)

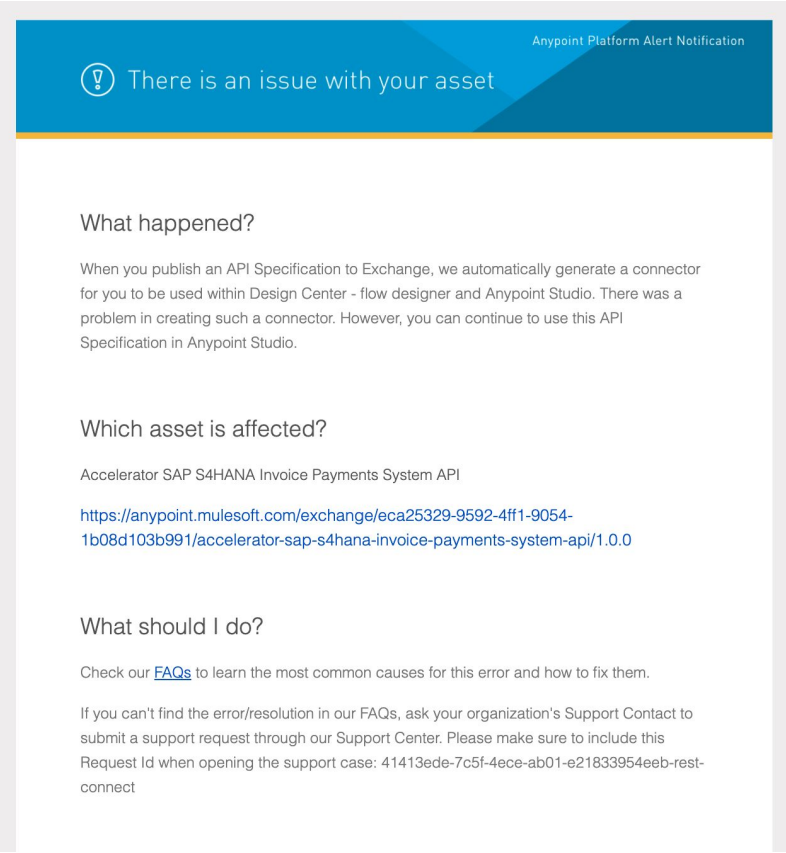
You found an OpenAPI Specification (Swagger)

– Don’t be afraid to test it’s validity at the home of OpenAPI - Smartbear



- JSON to YAML
- Swagger 2.0 to OpenAPI 3.X
- Smartbear UI is and **should be one of the best** and **it will help you**

Step 4 - Troubleshooting



Anypoint Platform Alert Notification

There is an issue with your asset

What happened?

When you publish an API Specification to Exchange, we automatically generate a connector for you to be used within Design Center - flow designer and Anypoint Studio. There was a problem in creating such a connector. However, you can continue to use this API Specification in Anypoint Studio.

Which asset is affected?

Accelerator SAP S4HANA Invoice Payments System API

https://anypoint.mulesoft.com/exchange/eca25329-9592-4ff1-9054-1b08d103b991/accelerator-sap-s4hana-invoice-payments-system-api/1.0.0

What should I do?

Check our FAQs to learn the most common causes for this error and how to fix them.

If you can't find the error/resolution in our FAQs, ask your organization's Support Contact to submit a support request through our Support Center. Please make sure to include this Request Id when opening the support case: 41413ede-7c5f-4ece-ab01-e21833954eeb-rest-connect

Problem details

Error when trying to publish Mule 4 Connector: java.util.concurrent.ExecutionException: org.mule.connectivity.restconnect.exception.InvalidSourceException: The provided API specification has errors. Unresolved reference 'idp-object-commonError' Unresolved reference 'idp-object-commonError'

Problem details

Error when trying to publish Mule 4 Connector: java.util.concurrent.ExecutionException: org.mule.connectivity.restconnect.exception.InvalidSourceException: The provided API specification has errors. Property 'openapi' not supported in a RAML 1.0 webApi node Property 'info' not supported in a RAML 1.0 webApi node Property 'tags' not supported in a RAML 1.0 webApi node Property 'security' not supported in a RAML 1.0 webApi node Property 'paths' not supported in a RAML 1.0 webApi node Property 'servers' not supported in a RAML 1.0 webApi node Property 'components' not supported in a RAML 1.0 webApi node

Step 4 - Troubleshooting

Inspect webhooks and HTTP requests

Get a URL to collect HTTP or webhook requests and inspect them in a human-friendly way.

Optionally connect APIs, run code and return a custom response on each request.

Create Request Bin

Hosted on pipedream.com and private by default.
Create a public bin instead.

Put MuleSoft into the Bin

George Jeffcock
Platform Solution Engineer at MuleSoft

November 25, 2019

https://www.linkedin.com/pulse/put-jitterbit-bin-george-jeffcock

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Thank you