

WEB DAY



2022

ONLINE CONFERENCE



AZURE FUNCTIONS E OPENAPI : LA COPPIA PERFETTA!!

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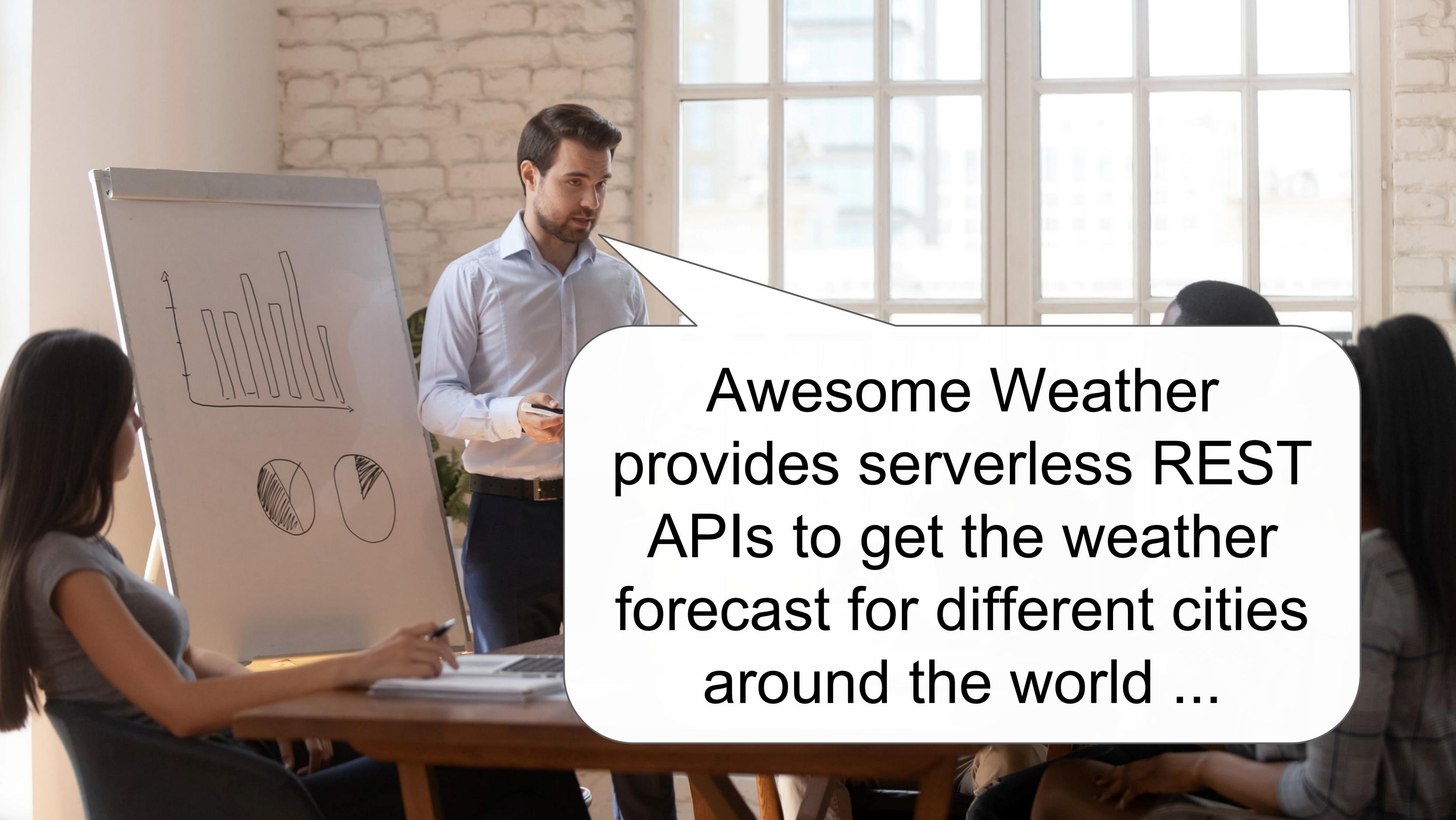
CODICEPLASTICO

managed/designs

A woman with long dark hair, wearing a grey sleeveless top, is standing and pointing at a whiteboard. The whiteboard has a simple line graph with an upward arrow on the y-axis. She is in a meeting room with other people seated around a wooden table. In the background, there is a large window with a view of a building and a brick wall. The scene is brightly lit, suggesting a professional and collaborative environment.

Someday ...

**... in one of Awesome
Weather's meeting
rooms ...**



**Awesome Weather
provides serverless REST
APIs to get the weather
forecast for different cities
around the world ...**



... now we want to deliver the APIs as SaaS and we need to document them to let our clients know how to use them ...



**Any idea on how
to do it?**

Doc or pdf documents?

A group of four people (three men and one woman) are sitting around a wooden conference table in a bright, modern office setting. They are engaged in a meeting, with laptops open in front of them. A large, white speech bubble with a black border is superimposed over the center of the image, containing the text "No, doc or pdf is not the right solution". The background features large windows and a brick wall.

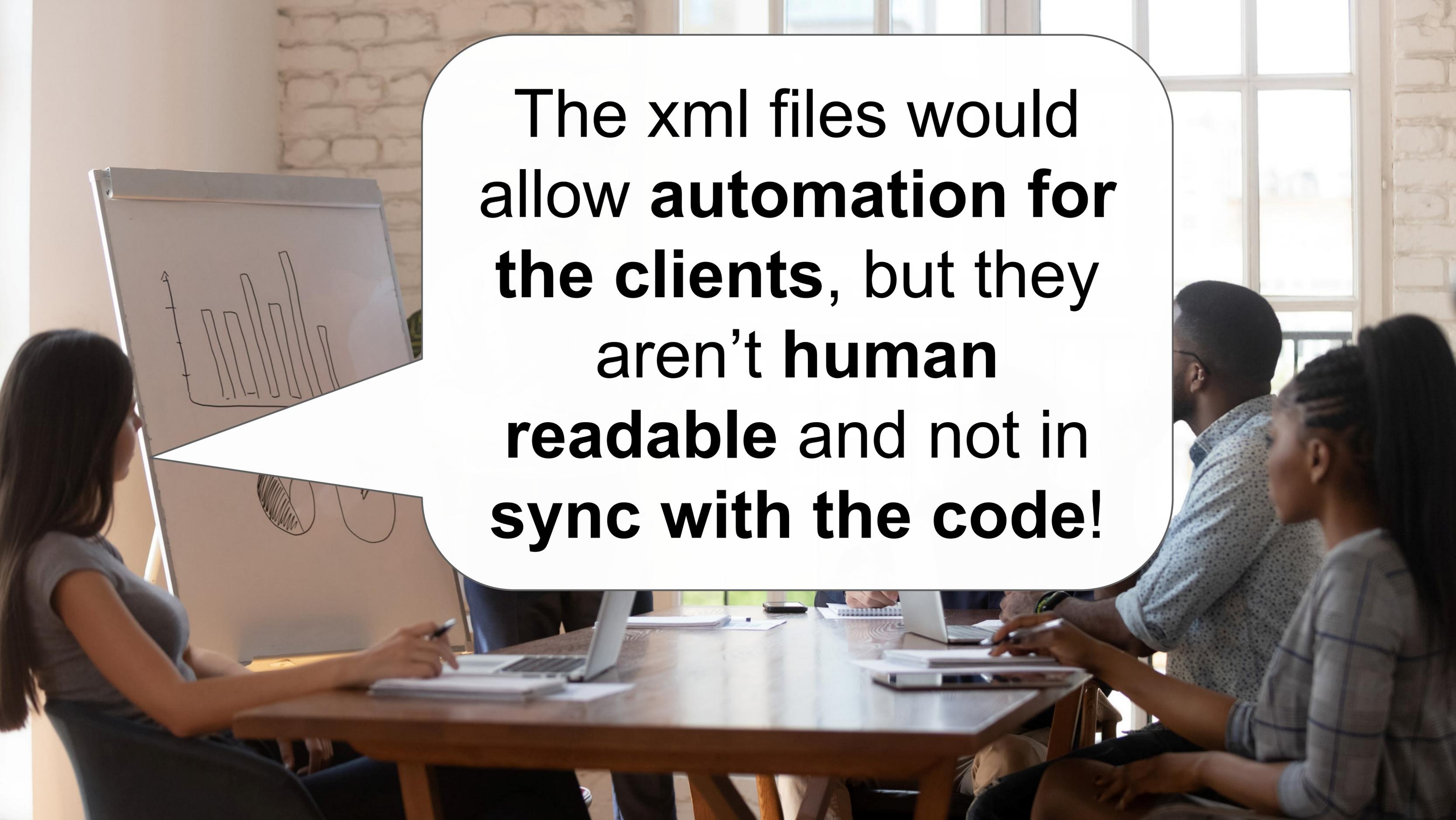
**No, doc or pdf is not
the right solution**



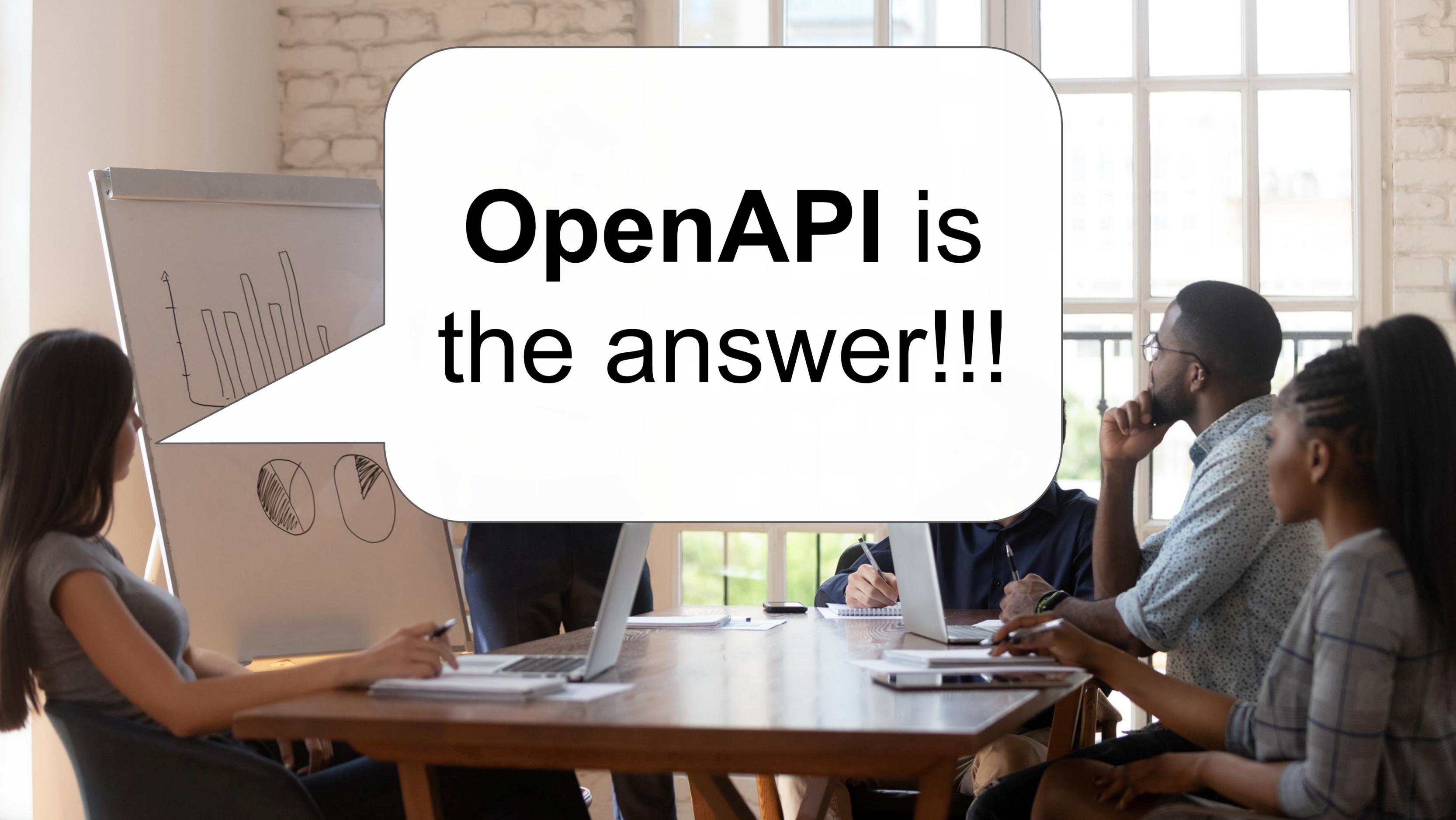
... they are not **sync**
with code!
They don't allow
automation for clients!



**Can we
produce xml
files?**

A group of people are seated around a wooden conference table in a meeting room. A woman on the left is looking at a whiteboard that displays a hand-drawn bar chart. The whiteboard also has some other diagrams below the chart. A large, white, rounded rectangular text box is overlaid on the right side of the image, containing the text: "The xml files would allow automation for the clients, but they aren't human readable and not in sync with the code!".

The xml files would allow automation for the clients, but they aren't human readable and not in sync with the code!

A group of people are sitting around a wooden conference table in a bright, modern office. A woman on the left is pointing at a whiteboard that has a bar chart and two pie charts drawn on it. A man in the center is looking at a laptop. A woman on the right is looking towards the whiteboard. A large white speech bubble with a black border is overlaid on the scene, containing the text 'OpenAPI is the answer!!!'.

**OpenAPI is
the answer!!!**

What is the OpenAPI Specification?

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The **OpenAPI Specification** (OAS) defines a standard, programming language-agnostic interface description for HTTP APIs.



Advantages of OpenAPI specification

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1

Allows you to interact with the remote service without understand implementation logic

2

Removes guesswork in calling a service

3

Allows you to generate SDKs automatically from the definition

OpenAPI terminology

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OpenAPI specification

It is the standard for describing a RESTful API.
It can be seen as your guide for writing the API definition following the OpenAPI rules.
AKA OpenAPI specs.

OpenAPI definition

It describes exactly how your API works.
It is written following the OpenAPI specification.
AKA OpenAPI contract.

OpenAPI documentation

It is human-readable documentation for your API based on your OpenAPI definition.
It can be automatically generated from your OpenAPI definition to avoid the pain of writing it by hand.
AKA OpenAPI reference.

In-Process

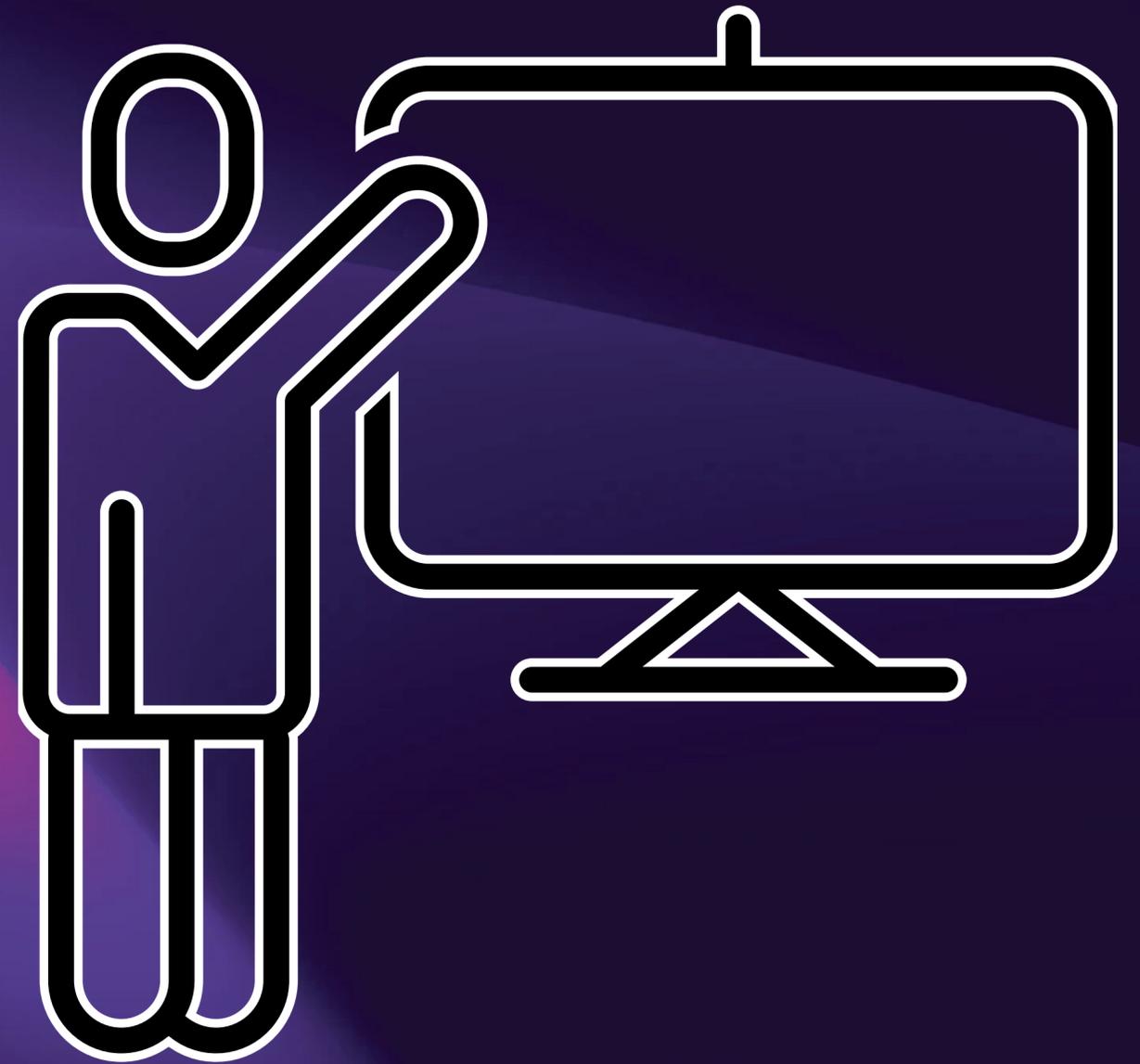
`Microsoft.Azure.WebJobs.Extensions.OpenApi`
It supports only Azure Functions v2 and later

Isolated

`Microsoft.Azure.Functions.Worker.Extensions.OpenApi`
It supports only Azure Functions v3 and later

DEMO

**FROM ZERO TO FULL OPENAPI
SUPPORT IN AZURE FUNCTIONS!**



```
{
  "IsEncrypted": false,
  "Values": {
    "OpenApi__ApiKey": "123456789",
    "OpenApi__AuthLevel__Document": "Function",
    "OpenApi__AuthLevel__UI": "Function"
  }
}
```

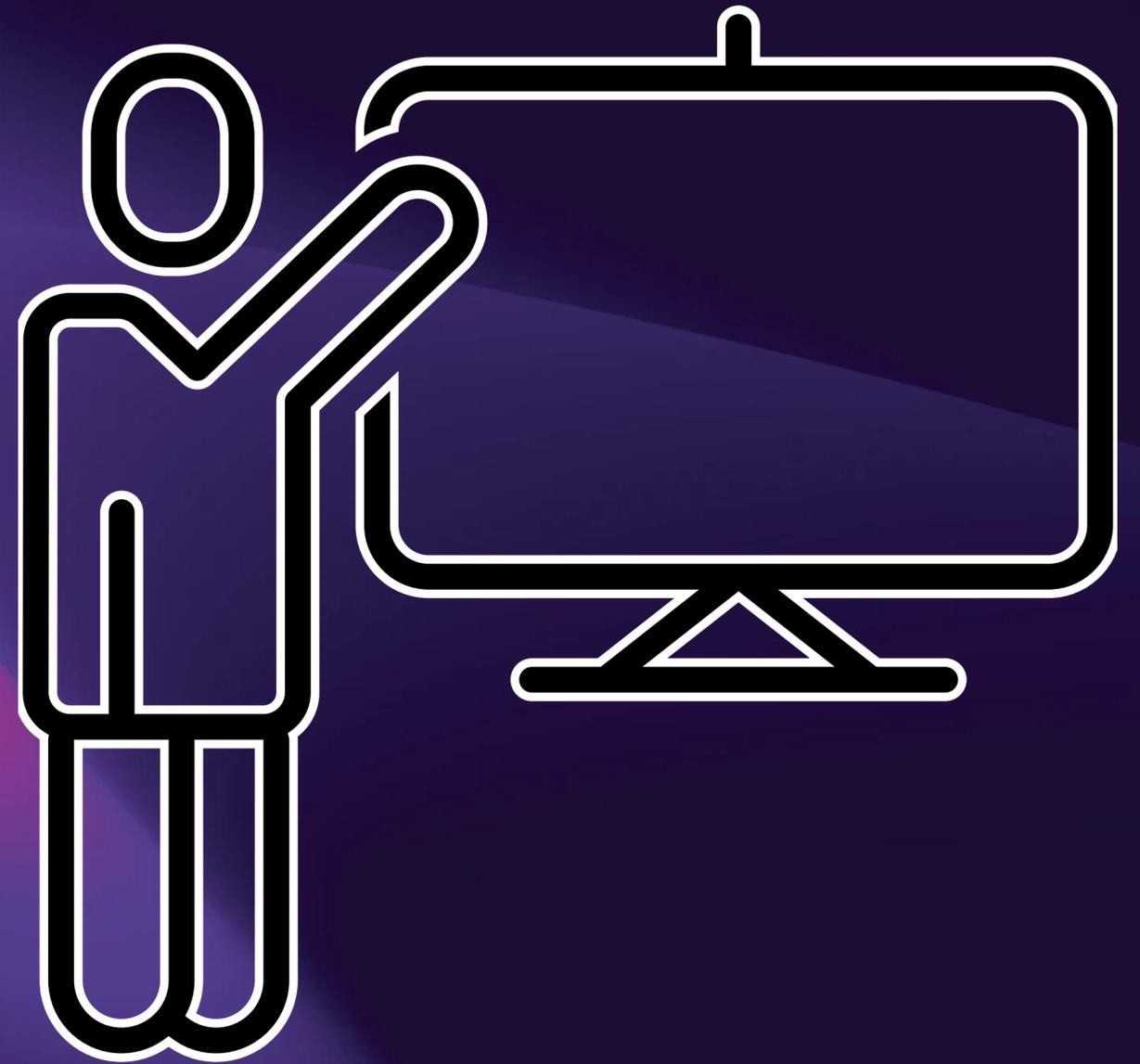
You can configure API Key (like your Azure Functions) defining it in the appsettings.json

You can implement your own authentication process overriding the default authorization.

```
public class OpenApiHttpTriggerAuthorization : DefaultOpenApiHttpTriggerAuthorization
{
    public override Task<OpenApiAuthorizationResult> AuthorizeAsync(IHttpRequest request)
    {
        var result = default(OpenApiAuthorizationResult);
        // ...
        return Task.FromResult(result);
    }
}
```

DEMO

**OPENAPI ENDPOINTS SECURITY IN
AZURE FUNCTIONS!**



Conclusions

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OpenAPI is an open specification backed by big companies, and, over time, the implementation is stable

OpenAPI specification is language-agnostic, and does not require rewriting existing APIs

Language-agnostic is great for inclusivity, but can introduce a complexity when you use it in language-specific frameworks

Take care of the learning curve. For developers unfamiliar with its concepts, OpenAPI can function as a bandaid rather than a toolset

Thanks for your attention!!!!!!



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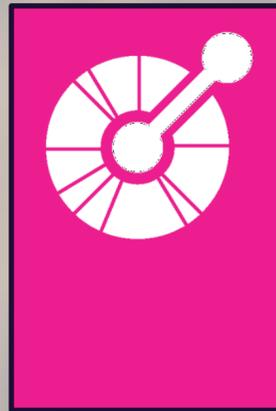
@massimobonanni



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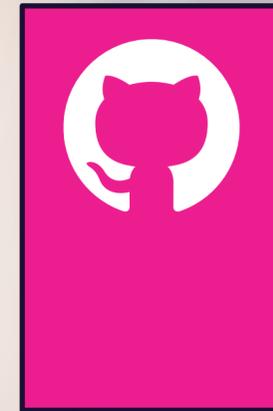
References

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OpenAPI Initiative

<https://www.openapis.org/>



OpenAPI Specification – GitHub Repo

<https://github.com/OAI/OpenAPI-Specification/>



Deploy OpenAPI enabled Azure Functions with .NET in Visual Studio

<https://docs.microsoft.com/en-us/shows/Azure-Friday/Deploy-OpenAPI-enabled-Azure-Functions-with-NET-in-Visual-Studio>



Azure Functions OpenAPI Extension – GitHub Repo

<https://github.com/azure/azure-functions-openapi-extension>



Demo- GitHub Repo

<https://github.com/massimobonanni/AzureFunctionOpenAPI>