

Build PI Applications Faster with PI Web API Client Libraries

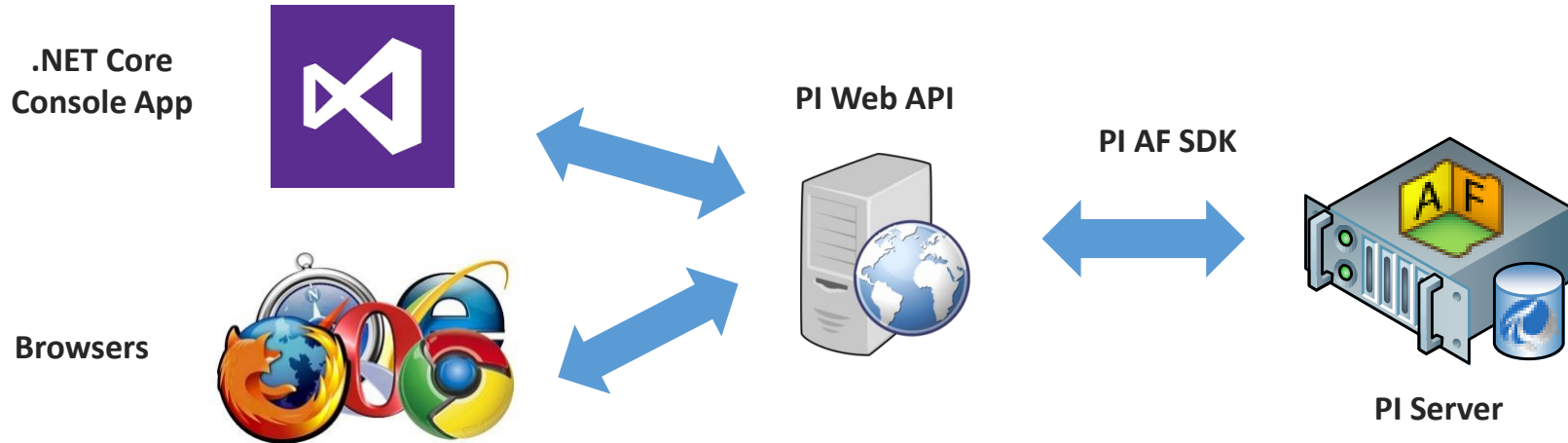
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Sr. Technology Enablement Engineer

Agenda

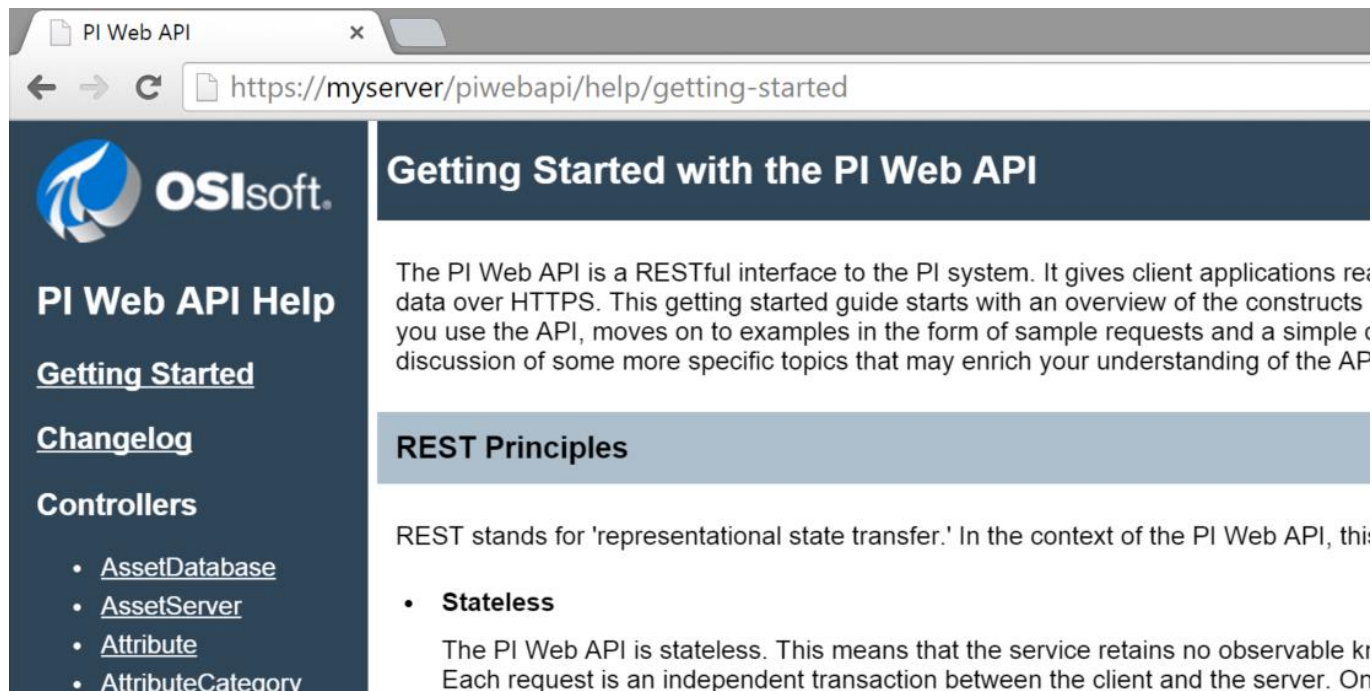
- What is PI Web API?
- What are PI Web API client libraries?
- Demo .NET Core Console Application
- Client libraries for other platforms
- Q/A

What is PI Web API?

PI Web API - A suite of *RESTful* services for accessing and manipulating data in your PI System




Online Tutorial



The screenshot shows a web browser window with the title 'PI Web API' and the address bar displaying 'https://myserver/piwebapi/help/getting-started'. The page content is divided into a left sidebar and a main content area. The sidebar, on a dark blue background, features the OSIsoft logo, the title 'PI Web API Help', and a list of links: 'Getting Started' (underlined), 'Changelog' (underlined), 'Controllers', and a bulleted list of links: 'AssetDatabase', 'AssetServer', 'Attribute', and 'AttributeCategory'. The main content area has a dark blue header with the title 'Getting Started with the PI Web API'. Below this, a paragraph explains that the PI Web API is a RESTful interface to the PI system, providing client applications with data over HTTPS. It mentions that the getting started guide starts with an overview of the constructs, moves on to examples in the form of sample requests, and includes a simple discussion of some more specific topics. Below this paragraph is a light blue section titled 'REST Principles'. The text under this section states that REST stands for 'representational state transfer.' and that in the context of the PI Web API, this means the service is stateless. A bulleted list with the item 'Stateless' is shown, followed by a paragraph explaining that the PI Web API is stateless, meaning the service retains no observable knowledge of previous requests. Each request is an independent transaction between the client and the server.

PI Web API

https://myserver/piwebapi/help/getting-started

 **OSIsoft.**

PI Web API Help

Getting Started

Changelog

Controllers

- [AssetDatabase](#)
- [AssetServer](#)
- [Attribute](#)
- [AttributeCategory](#)

Getting Started with the PI Web API

The PI Web API is a RESTful interface to the PI system. It gives client applications real-time data over HTTPS. This getting started guide starts with an overview of the constructs you use the API, moves on to examples in the form of sample requests and a simple discussion of some more specific topics that may enrich your understanding of the API.

REST Principles

REST stands for 'representational state transfer.' In the context of the PI Web API, this means the service is stateless.

- **Stateless**

The PI Web API is stateless. This means that the service retains no observable knowledge of previous requests. Each request is an independent transaction between the client and the server. On

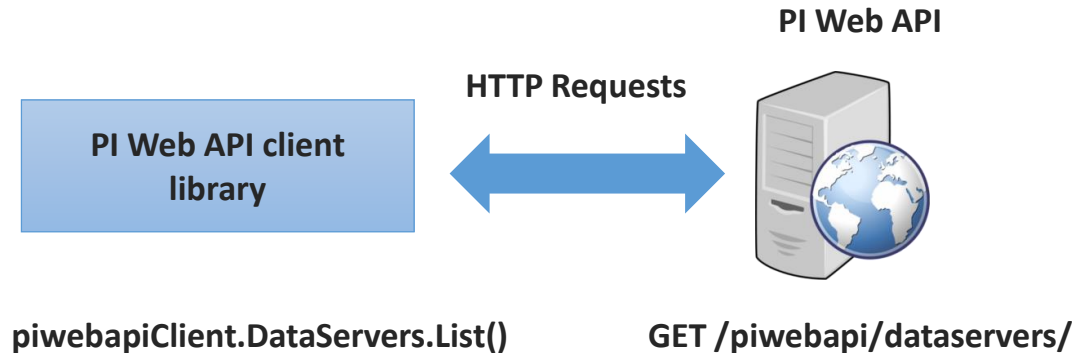
Here is what your TO DO List looks like with PI Web API:

- ✓ Learn how to make HTTP requests.
- ✓ Write the URL for each request.
- ✓ Write the body message for POST/PUT/PATCH HTTP requests.
- ✓ Learn how to convert JSON string to objects.
- ✓ Add the authentication header
- ✓ Write code without Intelissense

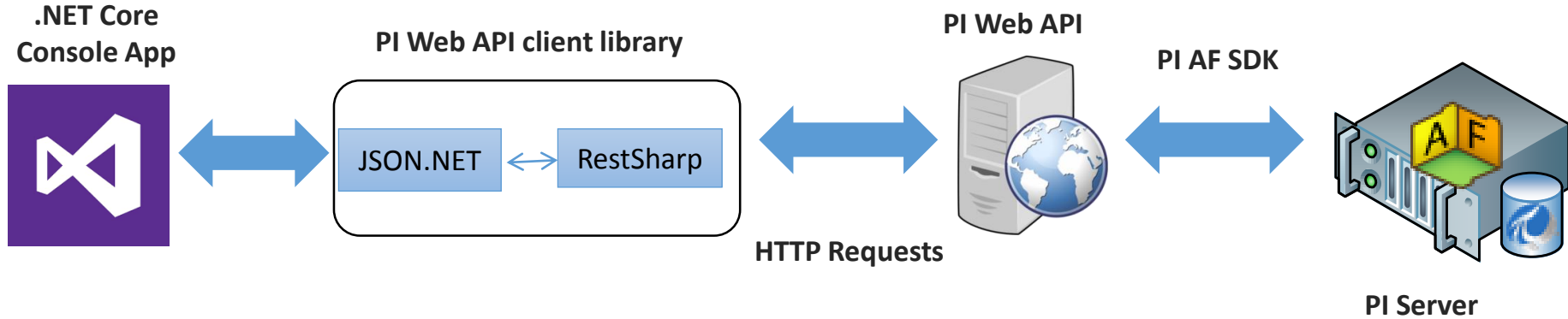
What are PI Web API client libraries?

What are PI Web API client libraries?

- Generated using Swagger specification
- Available in PI Web API 2017+
- All PI Web API methods available on the server-side are also available on each client library.



Understanding the PI Web API client library for .NET Core



PI Web Client Library takes care of
your check list under the hood

Demo .NET Core Console Application



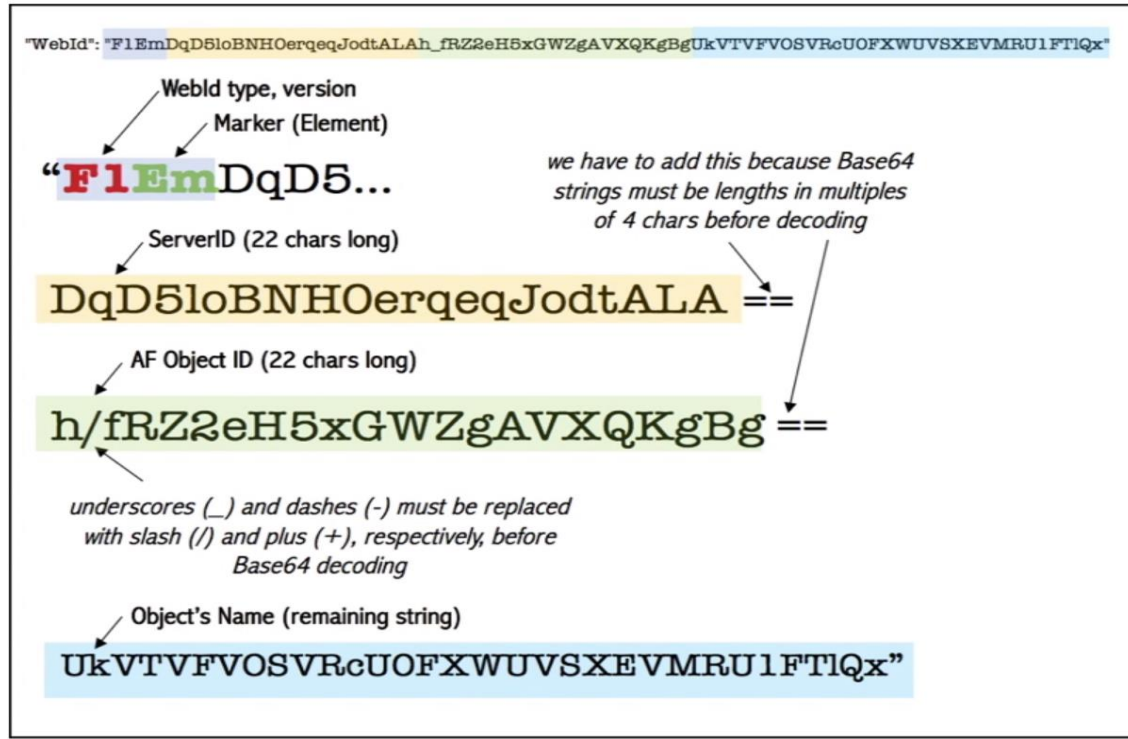
Complexity

- Installation
- Documentation
- Example 1 - Authentication
- Example 2 - Retrieve basic PI Objects: PIElement, PIAttributes
- Example 3 - Handling exceptions
- Example 4 - Updating PI Point description
- Example 5 - Retrieve data in bulk
- Example 6 - Update data in bulk
- Example 7 - PI Web API Batch
- Examples 8 and 9 - Web ID 2.0 client generation
- Example 10 - PI Web API Channels

Demo



A Full Web ID 2.0



Demo



PI Web API client libraries for other platforms

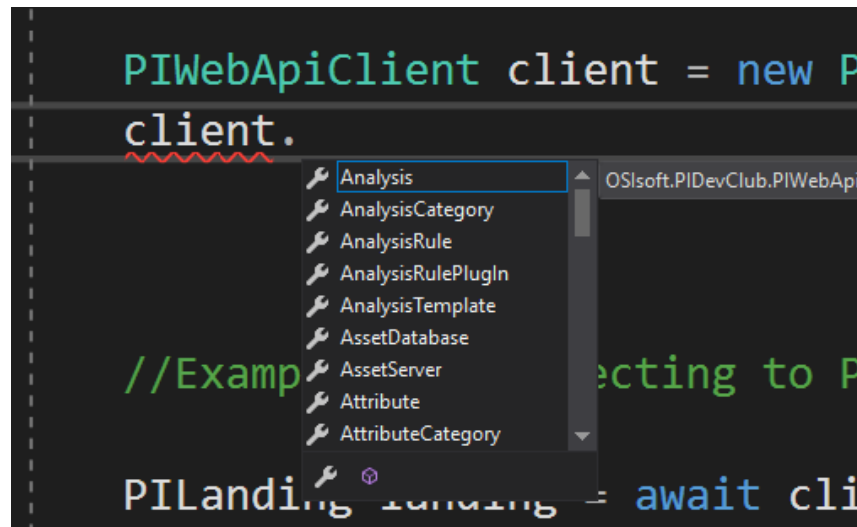
PI Web API client libraries for other platforms

- .NET Standard
- .NET Framework (PI Web API Channels)
- VBA
- PHP
- Java and Android
- jQuery
- AngularJS
- Angular 5
- R
- Python

<https://pisquare.osisoft.com/community/developers-club/blog/2017/11/01/pi-web-api-client-libraries-already-released>

Summary & Benefits

1. The client libraries automatically:
 - Generate the URL for each request.
 - Make the HTTP requests.
 - Add the authentication header.
 - Convert JSON string to objects
2. Be more productive by write code faster (less code is required) and easier (all methods are already available).
3. Some platforms support Intellisense!



Contact Information

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Questions

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State your **name & company**



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Merci

谢谢

Спасибо

Danke

Gracias

Thank You

감사합니다

ありがとう

Grazie

Obrigado

Optional: Click to add a takeaway you
wish the audience to leave with.