

# Build PI Applications Faster with PI Web API Client Libraries

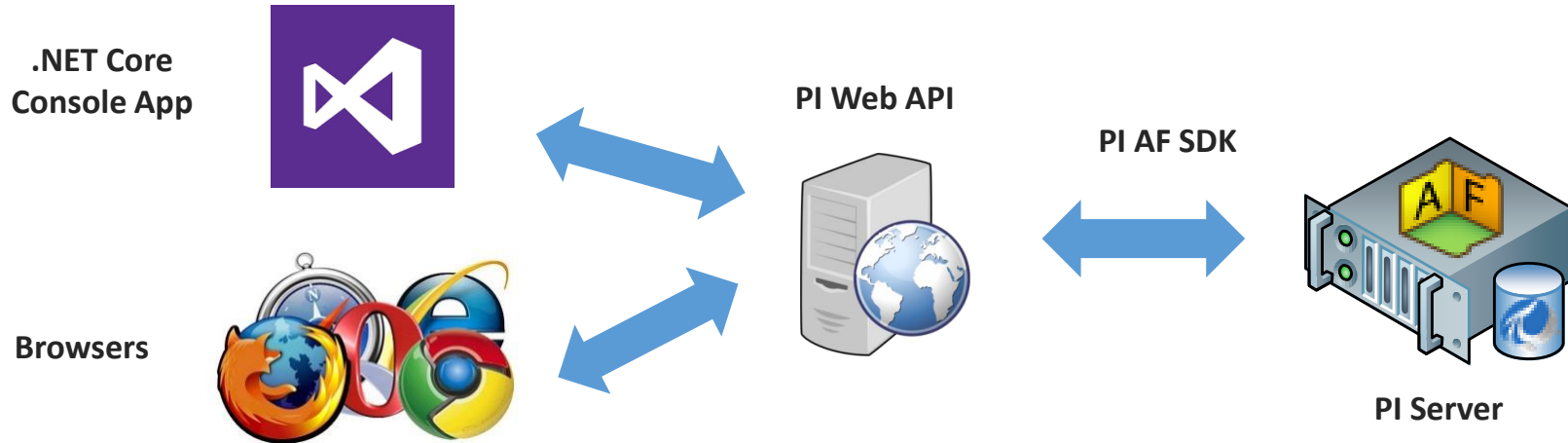
Marcos Vainer Loeff  
Sr. Technology Enablement Engineer

# Agenda

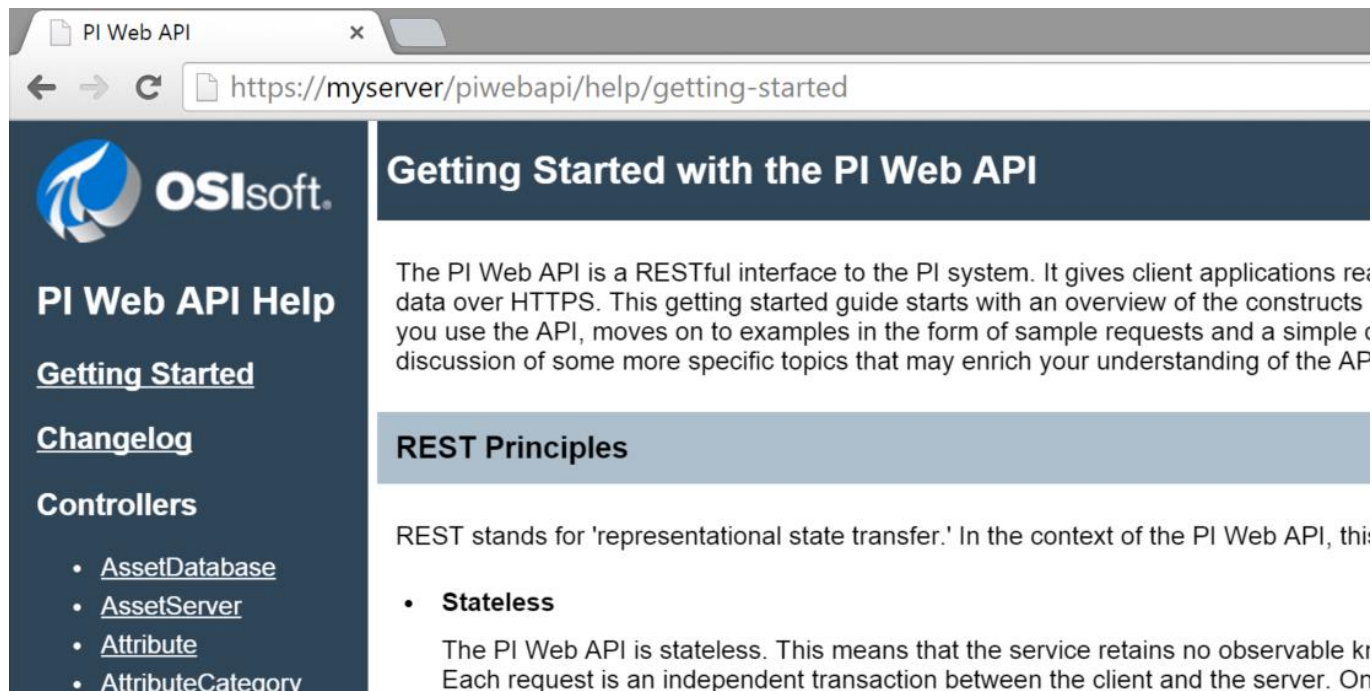
- What is PI Web API?
- What are PI Web API client libraries?
- Demo .NET Core Console Application
- Client libraries for other platforms
- Q/A

# 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. The text is partially cut off. Below the paragraph is a light blue section titled 'REST Principles'. The first principle, 'Stateless', is listed with a bullet point. The text explains 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. The text is also partially cut off.

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:

- 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

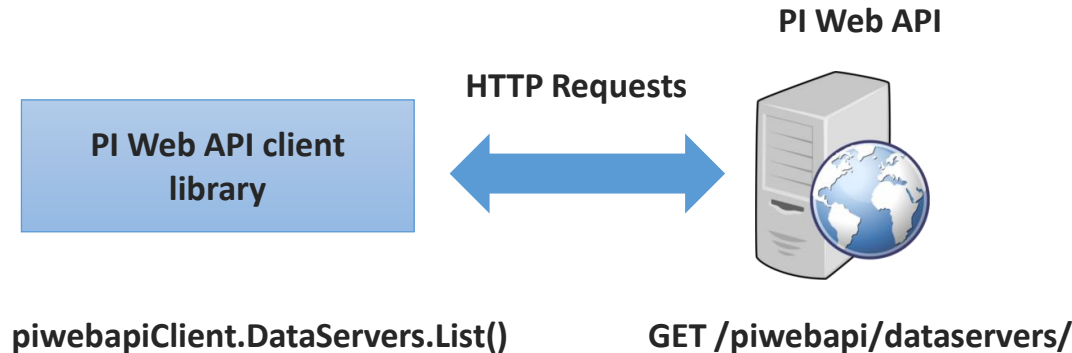
# Here is what your TO DO List looks like with PI Web API:

- ✓ 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?

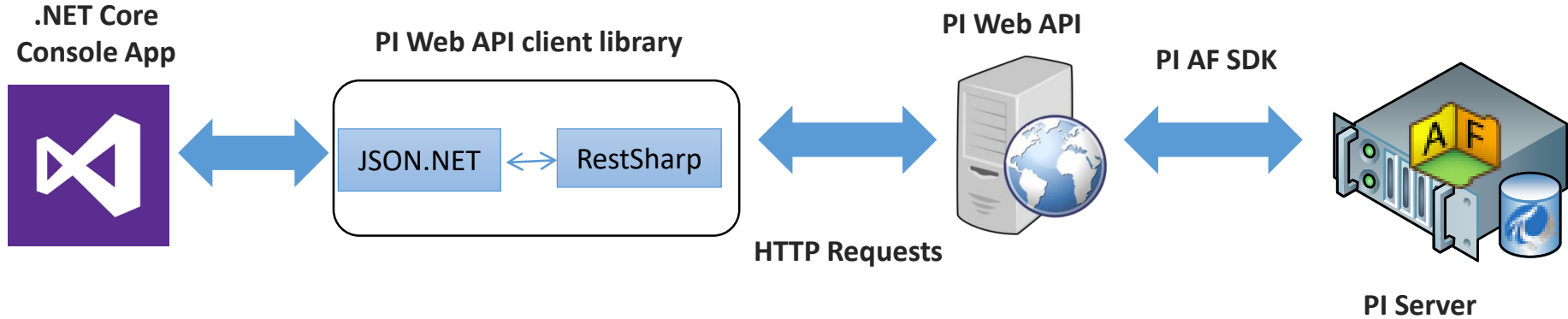
# What are PI Web API client libraries?

- 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



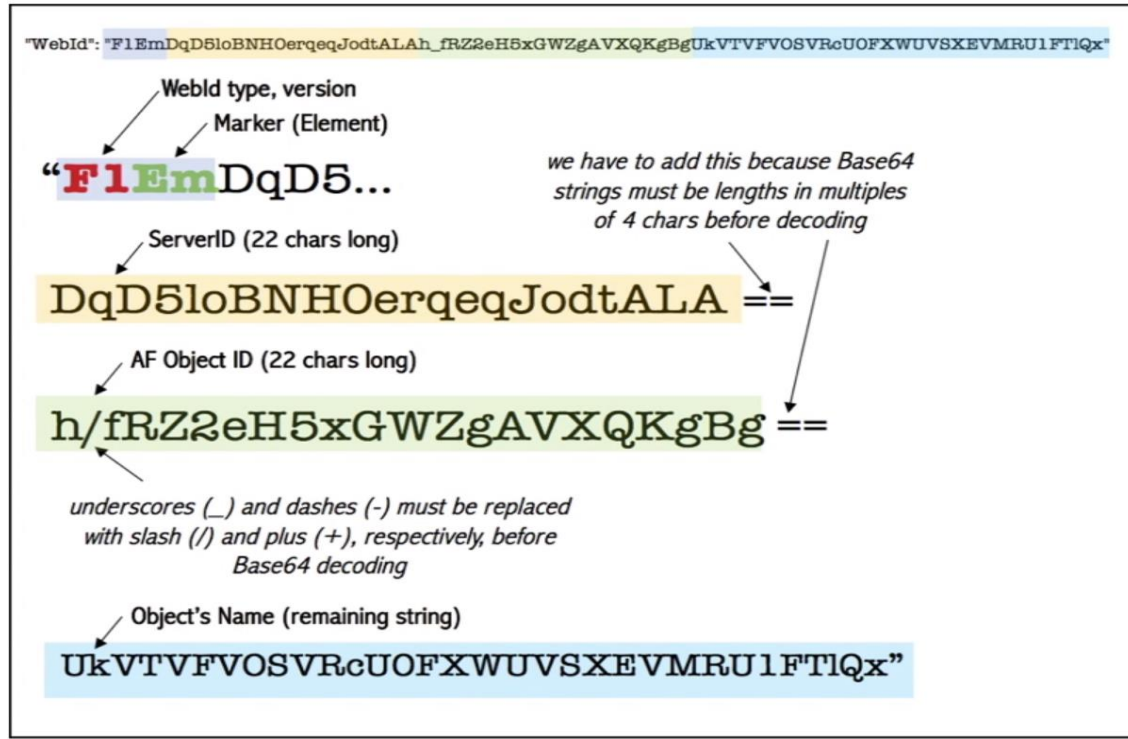
**Complexity**

- 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

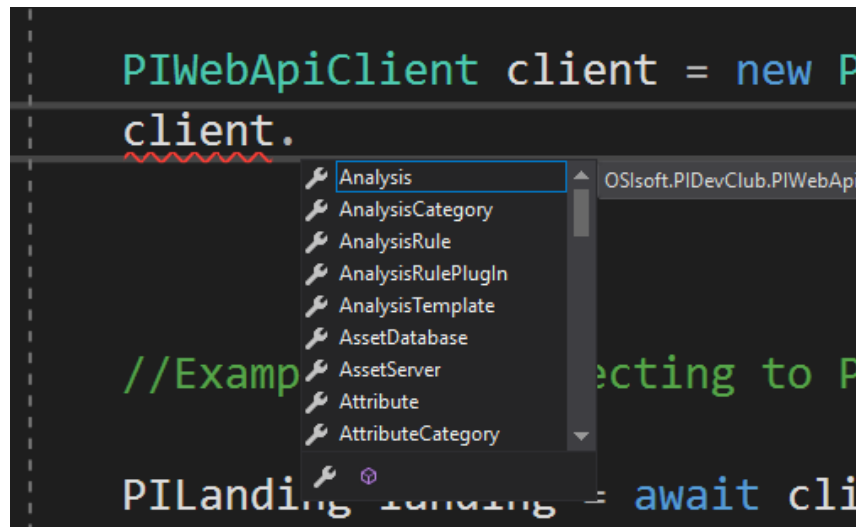
# PI Web API client libraries for other platforms

- .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

**Marcos Vainer Loeff**

[mloeff@osisoft.com](mailto:mloeff@osisoft.com)

Sr. Technology Enablement Engineer  
OSIsoft, LLC

# Questions

Please wait for the **microphone** before asking your questions

State your **name & company**



# Please remember to...

Complete the Online Survey for this session

A smartphone displaying the OSISOFT Users Conference 2017 app interface. The screen shows a navigation menu with options like Home, About, and Contact. The main content area features a blue banner with the text "TRANSFORM YOUR WORLD" and a list of topics including AI, Big Data, and Cloud.

**Download the Conf OSISOFT Users**

**App for 2017**

**UPDATED VERSION COMING SOON**

• View... create your own... with other attendees

Download on the App Store  
GET IT ON Google Play  
HTML

search **OSISOFT** in the app store

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.