Build PI Applications Faster with PI Web API Client Libraries
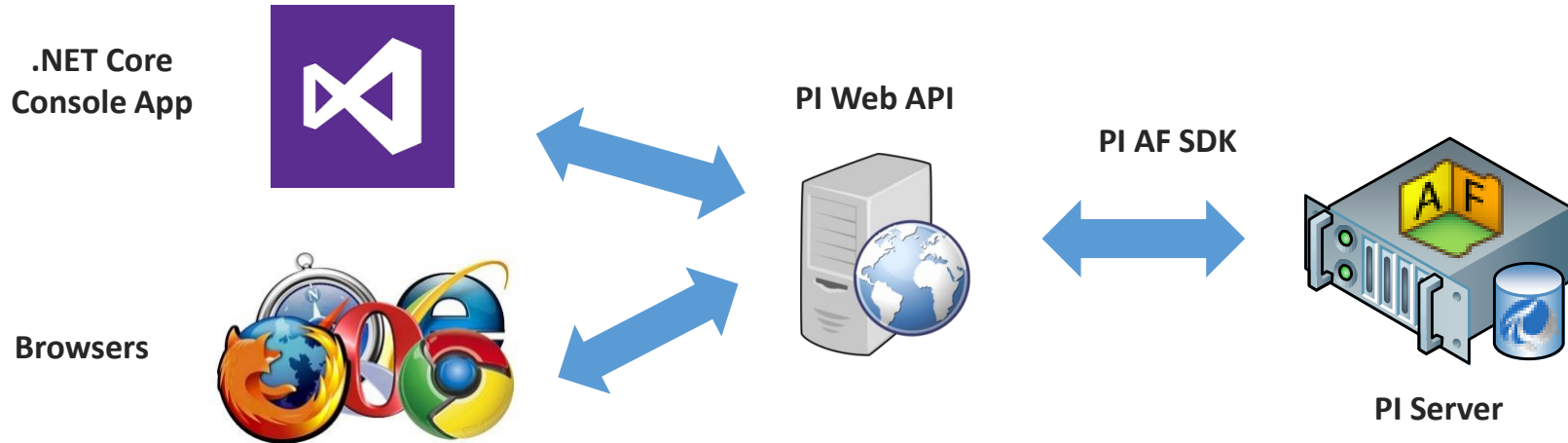
Marcos Vainer Loeff

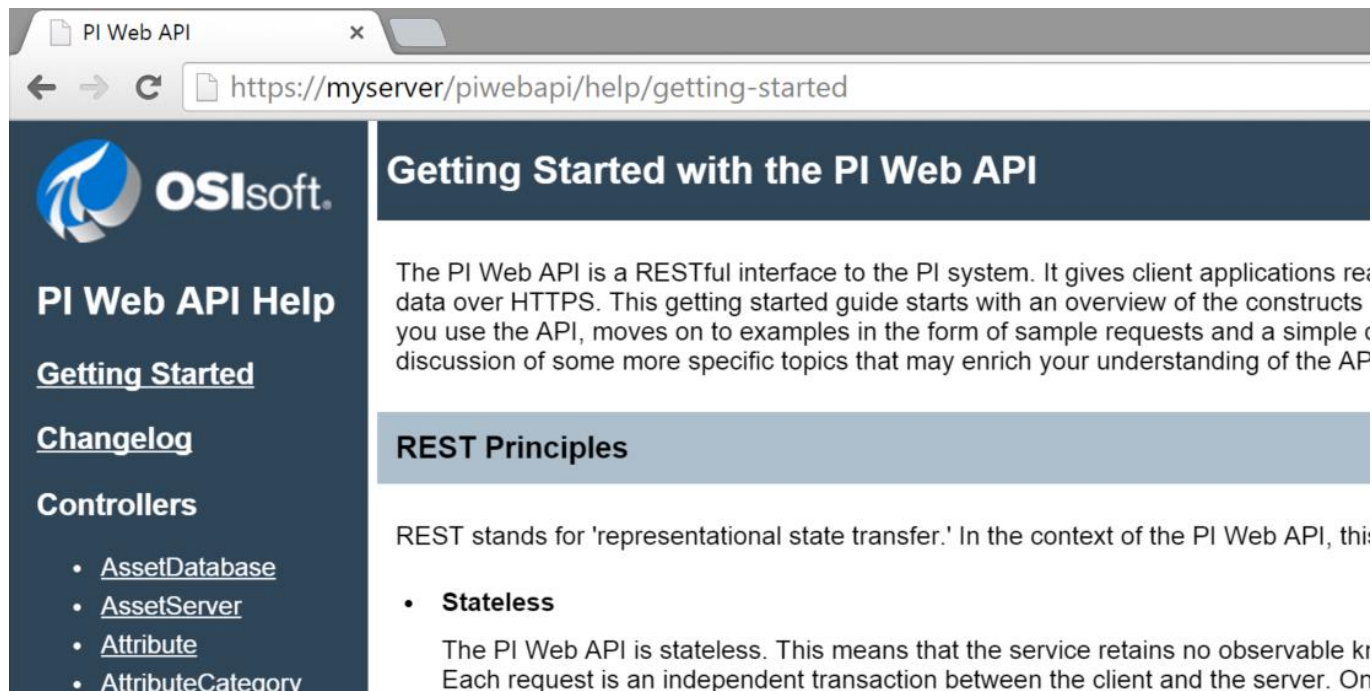Sr. Technology Enablement Engineer

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

.NET Core
Console App

Browsers

PI Web API

PI AF SDK

PI Server

Online Tutorial

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.

PI Web API

HTTP Requests

PI Web API client library

piwebapiClient.DataServers.List()

GET /piwebapi/dataservers/
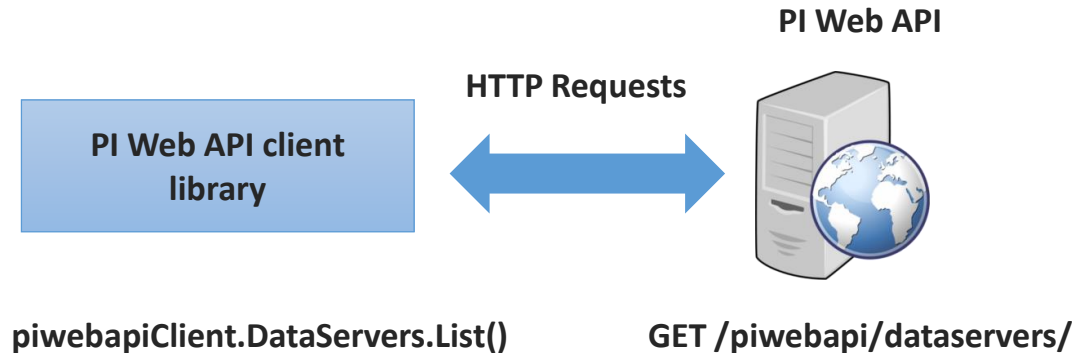
Understanding the PI Web API client library for .NET Core

.NET Core Console App

PI Web API client library

JSON.NET ⟷ RestSharp

PI Web API

PI AF SDK

HTTP Requests

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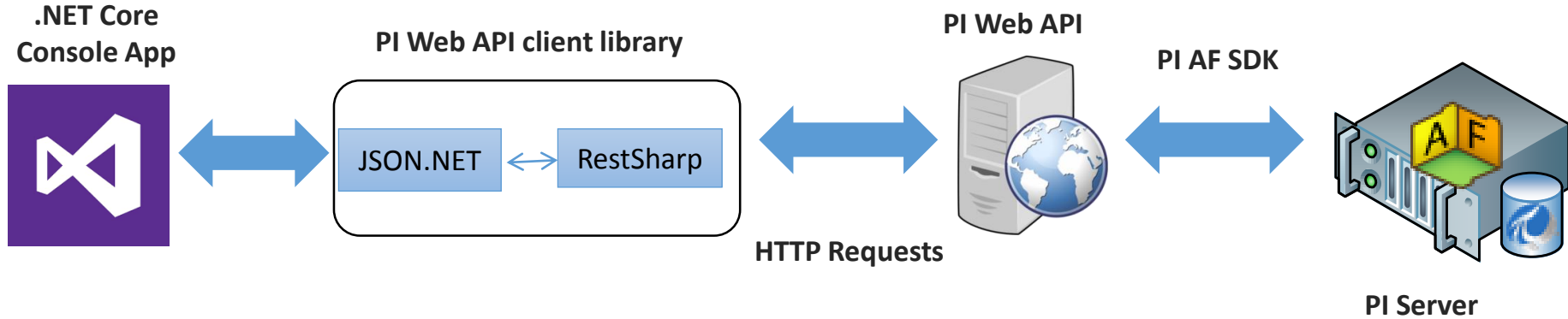
PI Web Client Library takes care of your check list under the hood

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
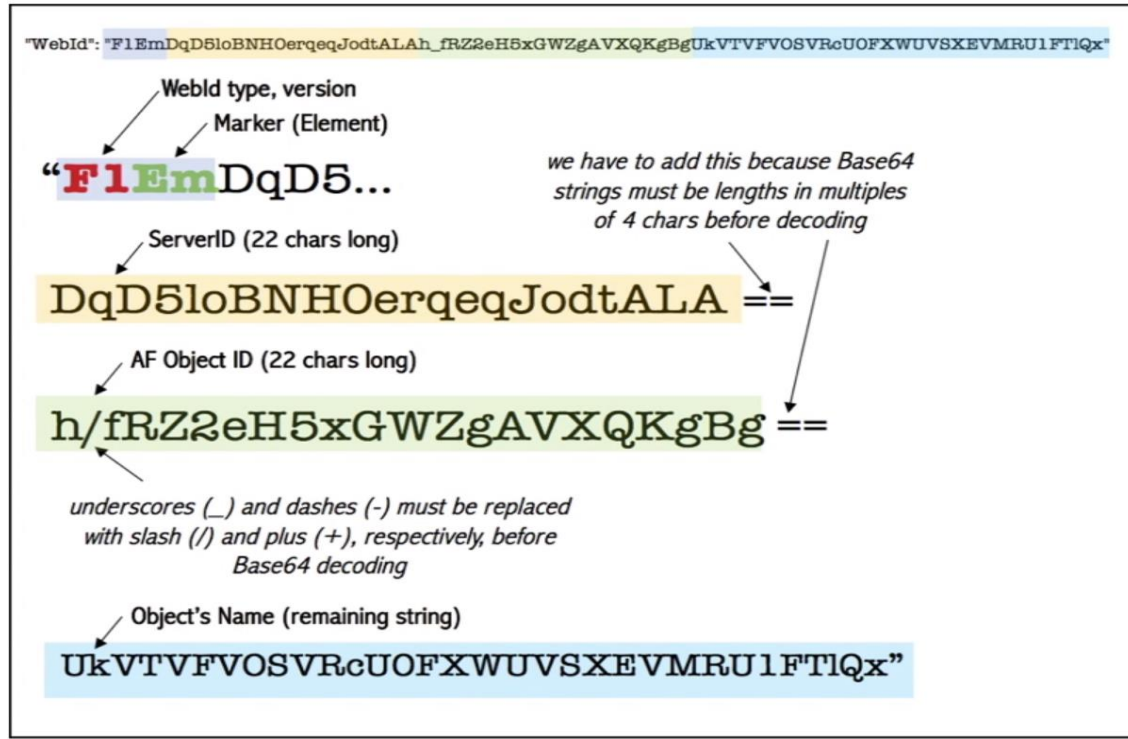
Demo

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
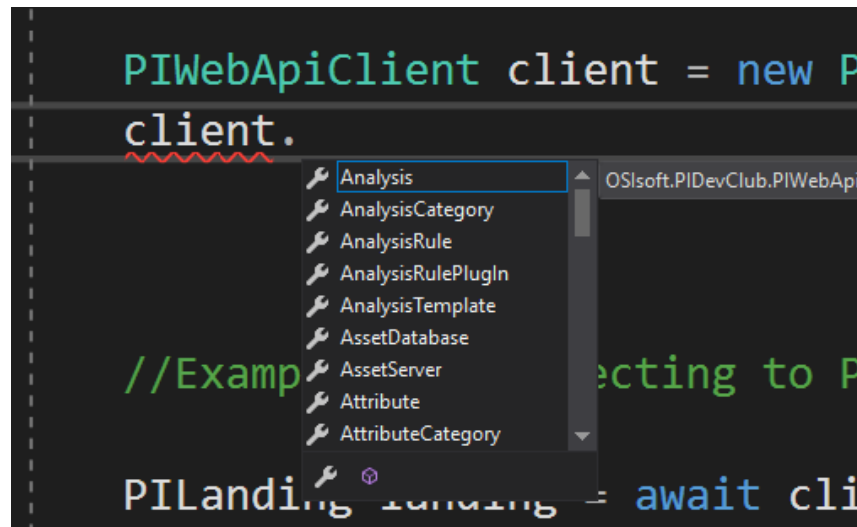
Summary & Benefits

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

Sr. Technology Enablement Engineer

OSIsoft, LLC

Questions

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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.