Developing Modern Web Apps Using Angular 5 and PI Web API

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Conference Theme & Keywords

Introduction to Angular

What you should know

- HTML
- CSS
- Basic JavaScript
- Programming Fundamentals (Functions, conditionals, loop, etc)

What is Angular?

- Frontend/Client Side JavaScript framework
- Created & maintained by Google
- Used to build powerful single page applications (SPAs)
- Created for dynamic web pages

What Angular is NOT?

- A server side framework/technology
- JavaScript library (jQuery, React, etc)
- Design pattern
- Platform or language (.NET, Java)
- Plugin or extension

Angular Version History

- AngularJS / Angular 1
- Angular 2: Complete rewrite of AngularJS
- Angular 3: Skipped

Angular Version History

- Angular 4 and 5: Backward compatible with Angular 2 with enhancements

Why Use Angular?

- Rapid Development & Code Generation
- Code Organization & Produtivity
- Dynamic Content
- Cross Platform
- Unit Testing Ready

What is TypeScript?

- Super set of JavaScript with added features
- Created by Microsoft
- Class based object-oriented programming
- Resembles languages like C#

Angular Components

Sections of UI can be broken up into encapsulated components

- Basic building block of the UI. An angular app is a tree of Angular componentes.
- Decorators allow us to mark a class an angular component and provide metadata that determines how the componente should be processed, instantiated and used at runtime.

```
import { Component } from '@angular/core';

@Component({
  selector: 'my-app',
  template: `<h1>Hello {{name}}</h1>`,
})

export class AppComponent  {
  name = 'Angular';
}
```

```
<body>
    <my-app>Loading AppComponent content here ...</my-app>
</body>
```

Angular Services

Classes that send data and functionality across components

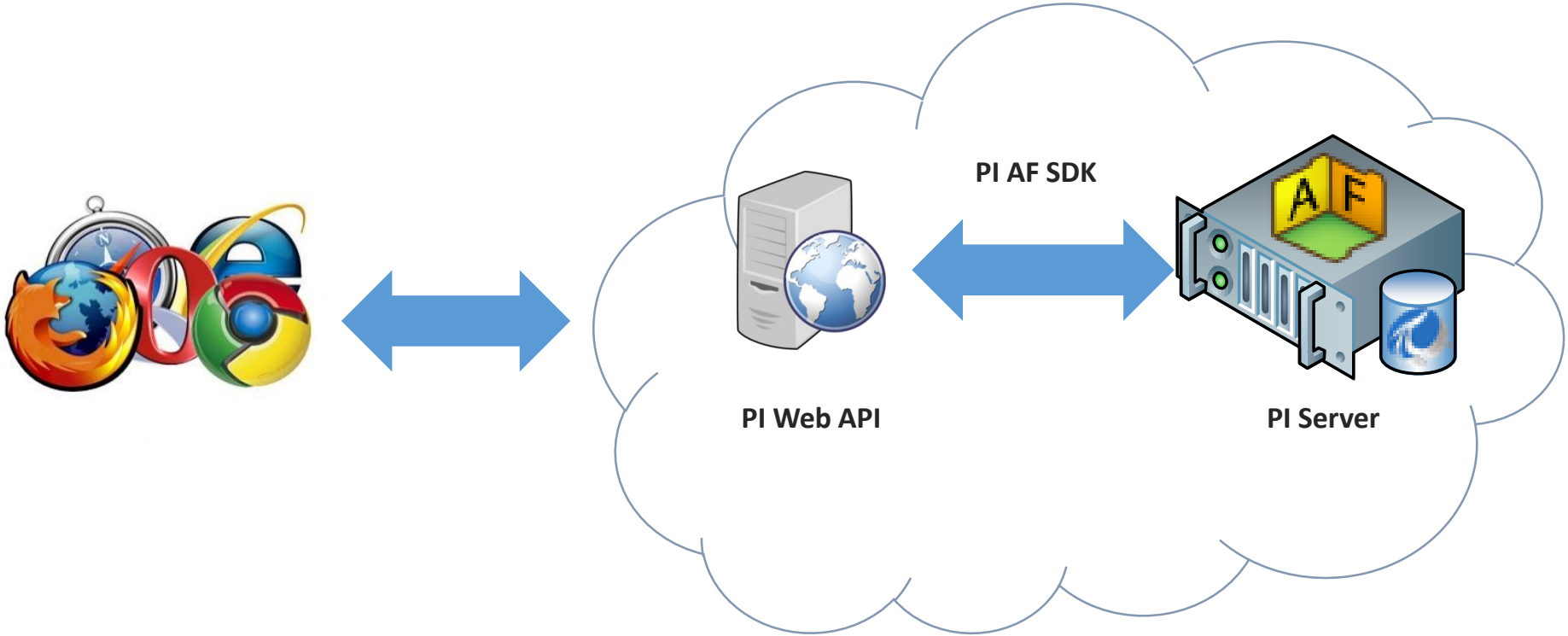
- Keeps componente lean
- DRY – Don’t repeat yourself
- Ideal place for ajax calls

```
import { Injectable } from '@angular/core';

import { User } from './user';
import { USERS } from './mock-users';

@Injectable()
export class UserService {
  getUsers(): User[] {
    return USERS;
  }
}
```

How do I develop an Angular app on top of the PI System?



Demo

Introduction to PI Web API client library for Angular

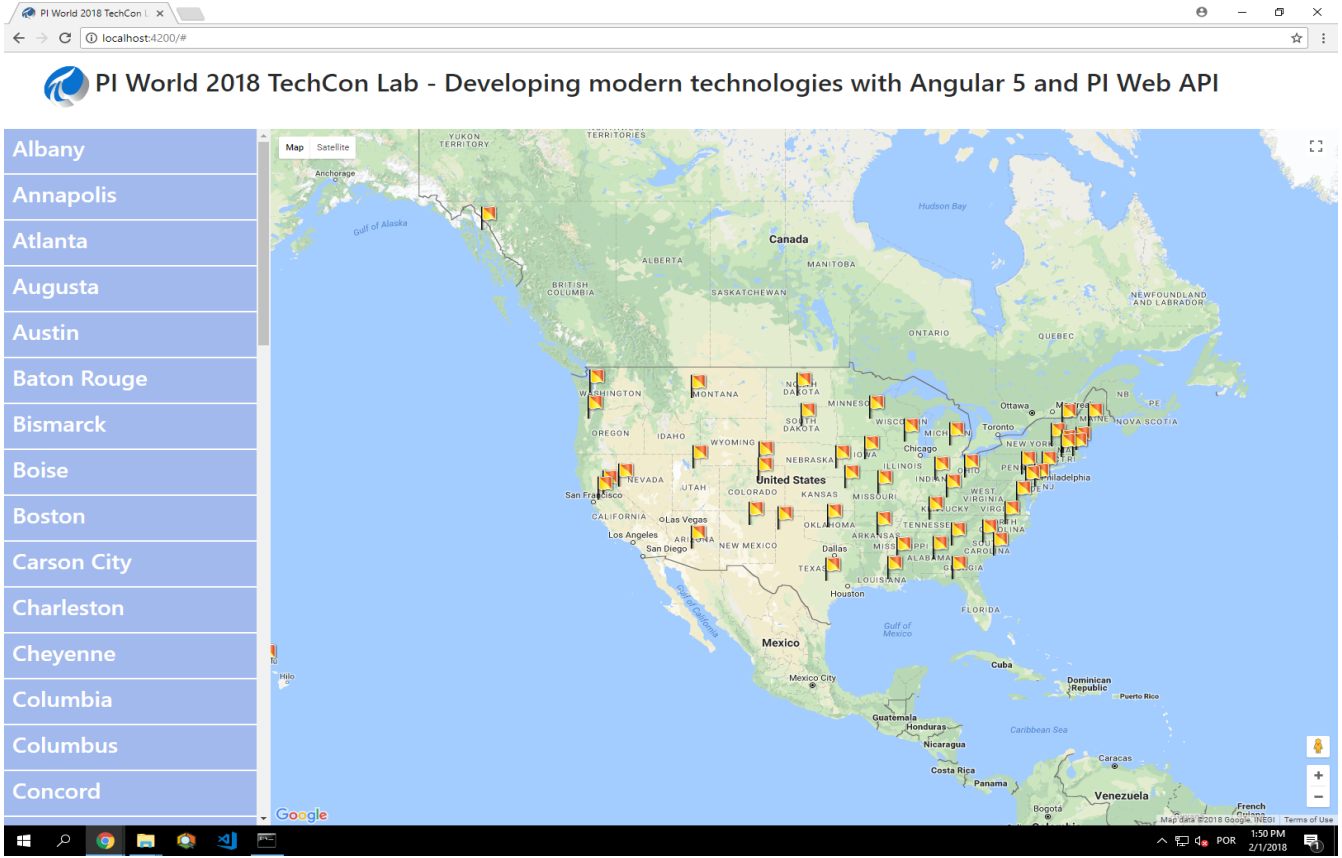
Demo

Introduction to PI Web API client library for Angular

What are PI Web API client libraries?

- RESTful client libraries generated using Swagger specification
- Swagger specificiation is available in PI Web API 2017+
- All PI Web API methods available on the server-side are also available on each client library.

PI Weather Sample App



Demo

Exercise 1 - Getting data from PI Web API

Exercise 2 - Getting geolocation information

Exercise 3 - Showing weather live and calculated data

Exercise 4 - Integrating your app with PI Vision 3

Exercise 5 - Using PI Web API Batch

Contact Information

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Merci

谢谢

Danke

Спасибо

Gracias

Thank You

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ありがとう

Grazie

Obrigado

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