

## **Polymer.js Essentials**

### **Course Summary**

#### **Description**

ProTech's Polymer.js Essentials training teaches students how to write Web Components that extend existing HTML elements and define new ones. Complete applications can then be built from these components, which can be used declaratively without having to understand their internal code.

#### **Objectives**

At the end of this course, students will be able to:

- Understand the purpose and principles of Polymer.js
- Create single page web applications
- Perform AJAX calls and update elements with data
- Handle keyboard and other events
- Create custom elements
- Define and store data on the client

#### **Prerequisites**

All attendees must have substantial prior experience developing with JavaScript. If attendees will not have prior JavaScript experience, we would be delighted to precede this class with a one- or two-day intensive JavaScript primer

#### **Software Needed on Each Student PC**

- Node.js with the node package "grunt-cli"
- The latest version of Chrome or Firefox
- IDE/development environment of your choice
- Other free software and lab files that Accelebrate would specify

#### **Duration**

Two day

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### **Course Outline**

#### **I. Introduction**

#### **II. What is Polymer.js?**

- A. Platform
  - 1. Web Components
  - 2. DOM
- B. Principles of Polymer.js
  - 1. Everything is an Element
- C. Material Design Elements

#### **III. Using Core Elements**

- A. UI
  - 1. Layout
  - 2. Icons
- B. Events
  - 1. Handling Keyboard Input
  - 2. XHR & Ajax
  - 3. Media Query
  - 4. Signals
- C. Data
  - 1. Local Storage
  - 2. Metadata

#### **IV. Using Paper Elements**

#### **V. Creating Elements**

- A. Two-way Data Binding
- B. Declarative Event Handling
- C. Declarative Inheritance
- D. Property Observation

#### **VI. Conclusion**