

## Creating a microfrontend UX architecture based on W3C Web Component standards & implemented using Angular Elements

Applies microservices ideas to the frontend, standards meets components, microfrontend app shell, building using Angular Elements, consuming from/hosted by other frameworks

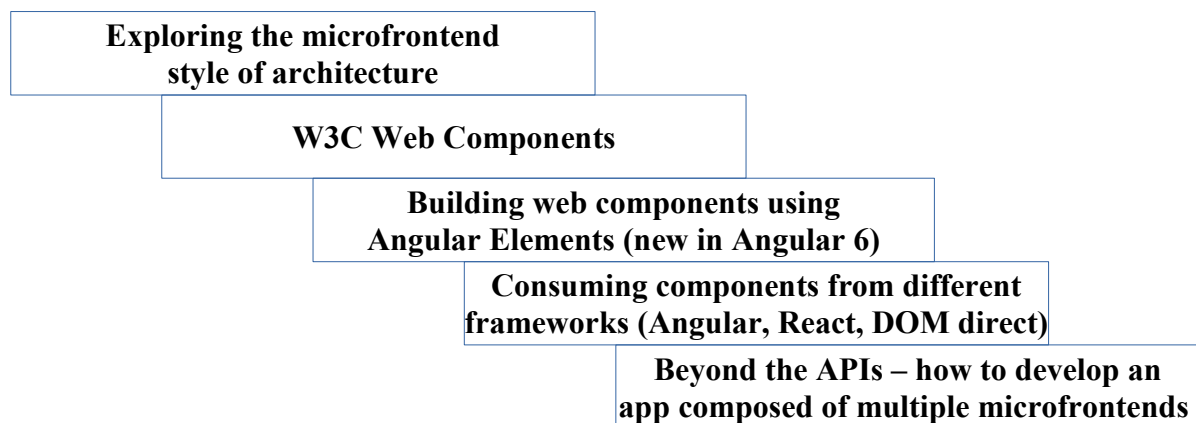
### Overview

The microservices approach to backend development has clearly demonstrated the architectural benefit of segmenting large blocks of application functionality, where each block can be created separately and can evolve at its own pace. A microfrontend approach is applying this learning to the user experience. On the frontend, web applications are getting larger and larger. With the goals of avoiding monolithic frontend applications and of more flexible app delivery, the general idea of microfrontends has obvious attraction.

The best way to structure microfrontends is to build W3C Web Components. W3C and the web community have been working on how to bring the idea of components to the web platform in a standard way. They have come up with a small set of standards that is fast gaining support from many web frameworks and mainstream web browsers, thus allowing components written in one framework (e.g. Angular 6) to be hosted by a web app written with a different one (e.g. React).

The best way to build W3C Web Components is to use Angular Elements. This is a new package in Angular 6 that allows Angular application developers to very easily create W3C Web Components that can be hosted by other frameworks. Angular already has the capability (via [CUSTOM\\_ELEMENTS\\_SCHEMA](#)) of consuming web components written with other frameworks.

### Multi-Stage Strategy For This Workshop



- **Exploring the microfrontend style of architecture** – What have we learnt from microservices and how can we apply that to the user experience
- **W3C Web Components** – Three main W3C standards – [Custom Elements](#), [Shadow DOM](#) and [HTML Templates](#) – that are used together to build multi-framework components
- **Angular Elements** – Make your Angular components be web components with just a small amount of code, using new features of Angular 6
- **Consuming Components from different frameworks** – Web components should run everywhere
- **Beyond the APIs** – Developing a microfrontend-based app (set of common app services, etc.)

## Features & Benefits

Exploring the microfrontend style of architecture	We learn from our experience with microservices at the backend about what is the best approach to delivering microfrontends. We develop an understanding of what does it mean to building using the microfrontend approach.
W3C Web Components	Web browsers are implementing these standards in shipping- or soon-to-be-shipping-editions, so now is the right time from app developers' viewpoints to dive deeper into these new standards and be aware of what they involve
Building web components using Angular Elements	With a few lines of code, Angular Elements allows web developers to convert their existing and new Angular components to be web components.
Consuming components from different frameworks	Web components can be consumed from any framework that support the standards. We see how our Angular Elements-based web components can be consumed from a variety of other frameworks.
Beyond the APIs – how to develop an app composed of multiple microfrontends	A microfrontend infrastructure is needed to deliver common app services, from navigation, to notification to an app shell. We see how to compose multiple web components so they work together to deliver an application's required functionality.

## Target Market

The aim of this workshop is firstly to bring attendees up to speed on three related areas of microfrontends, W3C Web Components and Angular Elements; and secondly to produce running code in a domain of interest to the client that shows in a practical way these ideas in action.

## Software Architect from Clipcode


The software architect from Clipcode will have detailed experience of user interface development along with excellent knowledge of all three of microfrontends, W3C Web Component standards and Angular Elements.

## Who Should participate from the Client

The workshop attendees should consist of the client's software architect and frontend user experience team. Each should have development experience with Angular and a good grounding in web standards.

## How to proceed

If you wish to arrange this workshop on-site in your company's offices, please contact Clipcode below. We need to discuss arrangements further, agree goals for the engagement and set a tentative schedule.

 <a href="http://www.clipcode.net">www.clipcode.net</a>	<b>If your dev team is starting an important project and needs help, please contact us via email at <a href="mailto:sales@clipcode.com">sales@clipcode.com</a> to discuss how we can be of assistance.</b>
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