WebAssembly Components: From Cloud to Edge (LFD134)

Learn foundational Rust skills such as creating and hosting WebAssembly modules. Explore the JavaScript WebAssembly API for browsers and multiple alternative, non-web host runtimes for WebAssembly. Become familiar with the benefits and usage of the component model and gain the ability to easily create distributed, cloud native applications using secure WebAssembly modules as a deployment target by leveraging open source projects. Learn to differentiate between the features and functionality afforded by the base WebAssembly specification versus additional features added by community tooling and open source projects, and understand how WebAssembly-based applications really work.

Duration: 8 Hours

Prerequisites for this course

In order to complete this course, learners should be able to:

Knowledge/Skills
- Intermediate programming skills are required, though no specific language or platform is mandatory. The majority of the course code will be in Rust with a few sections in JavaScript and even raw WebAssembly Text (wat) format.

System Prerequisites
- Rust toolchain (including the wasm32-unknown target) installed
- Modern web browser with a high degree of WebAssembly support (e.g. Firefox, Chrome, or Edge).

Outline for this course

Chapter 1 – Course Introduction

Chapter 2 – WebAssembly from Scratch

Chapter 3 – WebAssembly with Rust

Chapter 4 – Using WebAssembly Host Runtimes

Chapter 5 – Advanced Guest and Host Communications

Chapter 6 – WebAssembly and the Component Model

Chapter 7 – Advanced Component and Capability Use Cases