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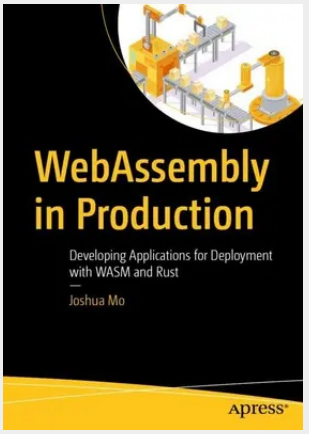
WebAssembly in Production

Developing Web Applications for Deployment with WASM and Rust



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Become an expert in using WebAssembly across a variety of projects and real-life situations. This book is a comprehensive guide to WebAssembly and it will guide you in creating applications that can be deployed to production. Not only will you learn how WASM is being used in modern browser applications, but you will also gain insight into newer cutting-edge fields like applied AI that are also additionally using WebAssembly to deploy workloads, leveraging the WebAssembly security model to provide additional security.The book begins with an introduction to WebAssembly as a production systems boundary and explains why it matters beyond the browser. The book then moves into familiarizing you with the current WebAssembly landscape and standards and provides you with a mental model of how WebAssembly code executes. The following chapters address performance and data movement between hosts and WASM modules and explain the WebAssembly security model.The book then helps you solve modern AI reliability issues using WebAssembly's security model and shows you how WebAssembly fits into modern AI and agent-based systems. The book also prepares you for the future of WebAssembly interoperability. The final portion of the book instructs you in applying concepts from the book to create an application. The book ends with an exploration of WebAssembly's limitations and when it can be misused.If you want to understand how WebAssembly works, not just theoretically but in practical ways that resonate with the current AI landscape, this book will be an invaluable companion that will provide you with a comprehensive and deeper understanding of this crucial technology.What You Will Learn- Build applications and modules that use WebAssembly in an idiomatic manner- Utilize WebAssembly's security model to provide sandbox-like conditions for applications- Understand different WebAssembly previews and the (dis)advantages of each one- Learn how to use WASM beyond browser applicationsWho This Book is ForThis book will be primarily for mid-tier developers who have a few years of experience under their belt, or senior developers who are looking to get into WASM.

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