

Micro-module architecture



Summary of Content

Micro-module system architecture is a design approach that structures an application into small, self-contained modules within a single deployable system, combining modularity with centralized management.

Overview

A micro-module system is essentially a hybrid between modular monoliths and microservices. It divides an application into distinct, well-defined modules, each responsible for a specific functionality, while still being part of a single deployable unit . Unlike microservices, these modules do not operate as fully independent services with separate databases or deployment pipelines, but they maintain clear boundaries and interfaces, allowing teams to work on them independently without disrupting the entire system .

Key Characteristics

- **Clear Module Boundaries:** Each module has a defined responsibility and interacts with other modules through well-defined interfaces, reducing accidental dependencies .
- **Centralized Deployment:** All modules are deployed together as a single application, simplifying deployment and reducing operational complexity compared to microservices .
- **Shared Data Management:** Modules typically share a central database or repository, ensuring data consistency and simplifying reporting and auditing .



Article Content

React Micro Frontend Architecture Tutorial with Example

Learn how to build a React Micro Frontend Architecture with this in-depth tutorial. Explore

The Architect's Guide to Micro-Frontends: Module Federation with

Discover how enterprise architects can implement scalable micro-frontend architectures using Module Federation in

Modules vs Vertical Slices 2026: Macro vs Micro

The deep-dive on modules vs vertical slices: macro (bounded contexts, contracts, data

Micro Frontend Architecture: How to Implement with Module

Build scalable micro frontend architecture using Module Federation and Single-SPA. Complete implementation guide

The Microfrontend Revolution: Module Federation with Angular

With Module Federation we can use Angular and its router to lazy load separately compiled and deployed

A Guide to Micro Frontend Architecture with Module Federation

Conclusion In summary, Micro frontends combined with Module Federation, offer a powerful approach to building

Microarchitecture

Intel 80286 microarchitecture The pipelined datapath is the most commonly used datapath design in microarchitecture today. This

Lecture 10: Microarchitecture Fundamentals & Design II

Remember: "principled design" from our second lecture Frank Lloyd Wright: "architecture [...] based upon principle, and not upon

A Comprehensive Guide to Micro Frontend Architecture

A Comprehensive Guide to Micro Frontend Architecture Introduction In today's rapidly evolving digital developments,

Microarchitecture

In previous IA-32 and Intel 64 architecture processors, the decode phase broke instructions into micro-operations characterized as

Micro Frontend Architecture with Module Federation 2.0

A deep-dive production guide to Micro Frontend Architecture using Module Federation 2.0 in 2026. Learn host/remote

Building Micro Frontends with React, Vite, and Module Federation: A ...

A comprehensive guide to building production-ready micro frontends architecture using React, TypeScript, Vite, and

What Are Microservices? How Microservices Architecture Works

What are Microservices? Microservices, often referred to as Microservices architecture, is an architectural approach

What are Microservices? | AWS

Microservices are an architectural and organizational approach to software development where software is composed of small

Toward Bundler-Independent Module Federations: Enabling Typed Micro ...

Modern web applications demand scalable and modular architectures, driving the adoption of micro-frontends. This

Microservices vs. Modular Architecture: Choosing the Right ...

Architecture is crucial for a project's performance, scalability, and maintainability. Among the various architectural

Micro-Module Data Centers: Architecture, Advantages, and ...

Micro-module data centers have achieved stepped technological evolution through an innovative "prefabricated,

Micro-Frontend Architecture with Module Federation

If your application has grown in size and complexity, consider exploring Micro-Frontend

Micro-Frontend Architecture Diagrams: Module Federation & Shell

How to create micro-frontend architecture diagrams. Covers Module Federation 3.0, shell/remote topology, shared

Toward Bundler-Independent Module Federations: Enabling Typed Micro ...

Bundler-Independent Module Federations (BIMF) represents a transformative approach to modularizing micro

Microfrontends: Guide to Modern Frontend Architecture

Microfrontends represent an architectural approach where a frontend application is decomposed into smaller,

The Intelligent Micro Module, the Element of Intelligent Data ...

Meanwhile, the modular data center, comprised of micro modules, is becoming popular. The modules' flexibility and predictability are

Modular software architecture 101: Modular monolith vs

Learn about the pros and cons of modular software architecture and find out which

Designing Micro-Frontend Architectures Using Module Federation in

Discover the power of Module Federation in Webpack 5 and learn best practices for implementing this game-changing architecture.

Microservice Architecture vs Modular Architecture: The Ultimate ...

Microservice architecture and modular architecture are two popular paradigms, each with its own strengths and

Modular Architecture vs. Microservices | by Tomer Ben David

Modular Architecture vs. Microservices Modular architecture is a design approach where a system is broken down

Microservices vs. Modular Architecture: Choosing the Right ...

Choosing between microservice and modular architecture depends on your project needs. Microservices offer

How to Build Multi-Module Projects in Spring Boot for

As software applications grow in complexity, managing scalability, modularity, and clarity

The Micro-Frontend Architecture Handbook

Over the years, in my role as a lead full-stack developer, solutions architect, and mentor, I've been immersed in the

Building a Micro Frontend Architecture with Vue 3, Vite and Module ...

Micro frontend architecture is a powerful way to build scalable and modular applications. Instead of... Tagged with vue,

Contact Us

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