**📑 Case Study: ERP Modernization Project**

**🔹 Problem**

The client’s **legacy ERP system** was:

* Monolithic and difficult to scale.
* Lacking modern APIs for integration with other systems.
* Slow performance on large datasets.
* Hard to maintain due to outdated technologies.

**🔹 Solution**

Designed and implemented a **modular, service-oriented architecture**:

* Built RESTful APIs with **.NET 8 + Entity Framework Core**.
* Introduced a **PostgreSQL database** with optimized queries.
* Developed a **Vue 3 SPA frontend** for usability and speed.
* Containerized services with **Docker & Docker Compose** for deployment consistency.
* Implemented **unit and integration tests** with xUnit.

**🔹 Results**

* ✅ Reduced page load times by **40%**.
* ✅ Improved scalability with containerized services.
* ✅ Easier maintenance with modular architecture.
* ✅ Enabled integrations with third-party systems.

**🔹 Architecture Diagram**