

Microservices Architecture

CSSE6400

Richard Thomas

May 9, 2022

Microservices

Inspired by DDD

Definition 1. Bounded Context

Logical boundary of a domain where particular terms and rules apply consistently.







Definition 2. Service Cohesion Principle

Services are cohesive business processes. They are a bounded context.

Definition 3. Service Independence Principle

Services should not depend on the implementation of other services.

Corollary 1. Low Coupling

Services should have minimal coupling with other services.

Corollary 2. No Reuse

Services do not reuse components from other services, to avoid dependencies.

Choreography & Orchestration

Choreography Similar to event-driven *broker*

Orchestration Similar to event-driven
mediator





Question

How bad is the coupling with choreography or orchestration?

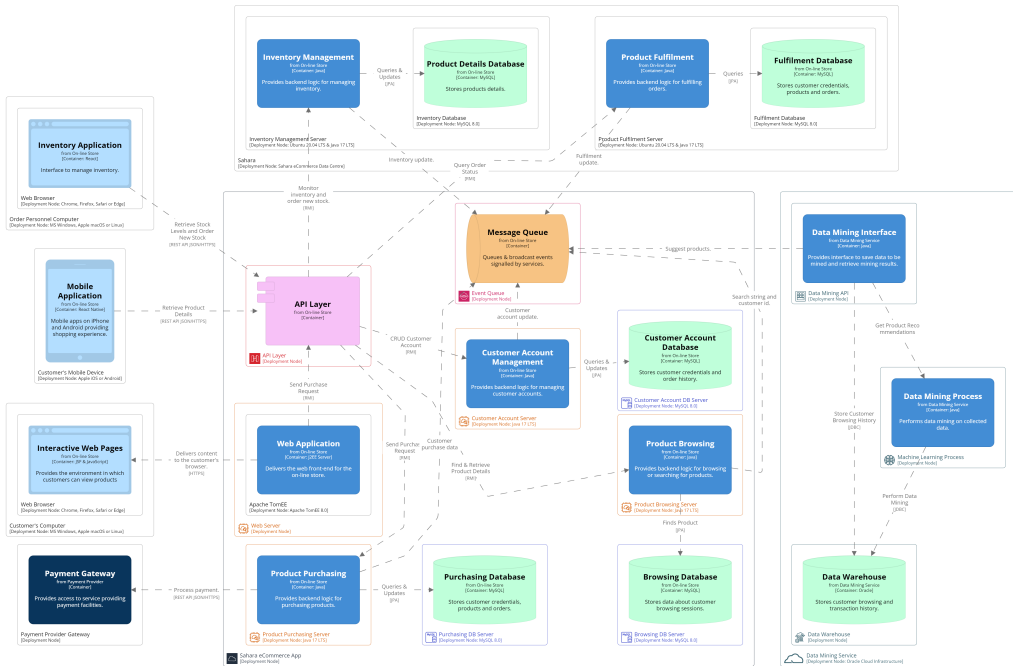
Question

How bad is the coupling with choreography or orchestration?

Answer

For a very large system, very bad.





Question

Are *browsing* and *purchasing* separate contexts?

Question

Are *browsing* and *purchasing* separate contexts?

Answer

- Are they a single business process or different processes?
- Do they share much or little data?

Question

- What about *inventory management* and *browse*?
- How do they maintain a consistent product database?

Pros & Cons

Modularity



Extensibility



Reliability



Interoperability



Scalability



Security



Deployability



Testability



Simplicity

