**MICROSERVICES:**

One of the popular architecture in Software World.

**Agenda:**

1. History of Microservices

2. Problems with Monolith & SOA[Service Oriented Architecture]

3. Microservices Architecture

4. Problems solved by Microservices

5. Designing Microservices Architecture

6. Deploying Microservices [deep dive in CONTAINERS & Kubernetes concepts]

7. Testing Microservices

8. Service Mesh [Make Communication between services]

9. Logging & Monitoring

10. When we should not use Microservices

11. Microservices & the organization

12. Anti-Patterns & Common Mistakes

13. Breaking Monolith to Microservices

14. Case Study

15. Conclusions

**History:**

Microservices are introduced to overcome the problems faced in 2 different architectures...

i. Monolith

ii. SOA (Service Oriented Architecture)

*MONOLITH Architecture:*

Original Architecture

All the software components are executes as Single Process.

-> Thread

-> Memory Resource

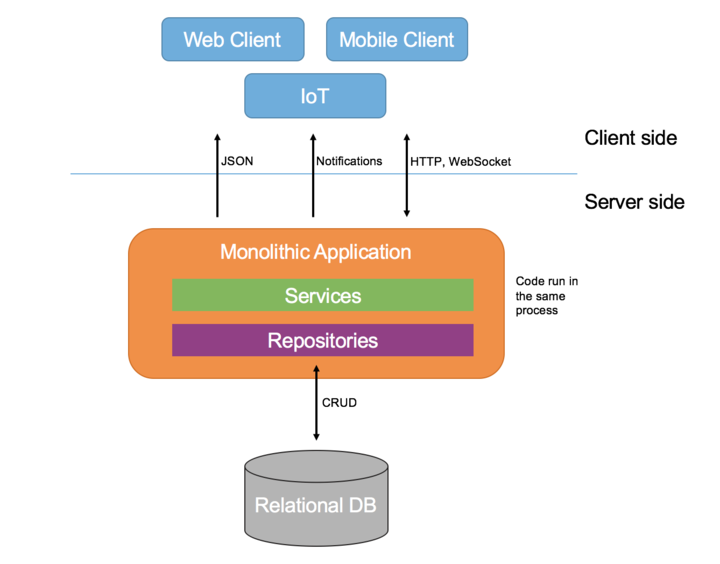
-> Compute Power

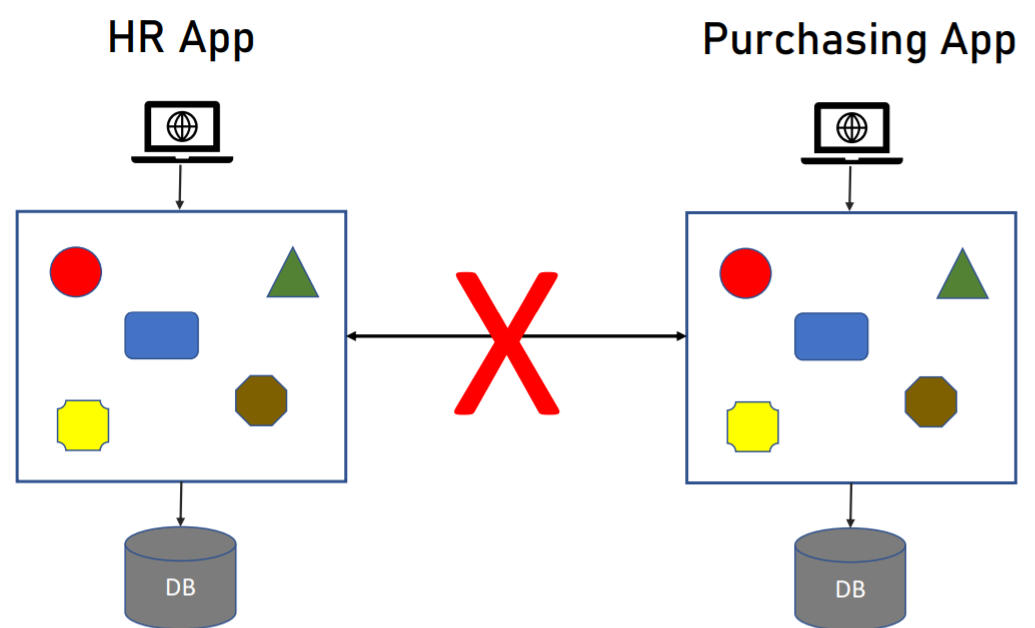
Strong Coupling

Implemented as SILO (Standalone Apps). It will not export anything. Nothing can Go Out.

**Pros:**

Easier to design [Because, there is no *Networking, Message transfer, Cross Debugging*]





*SOA: [Service Oriented Architecture]*

Coined in 1998

Apps are exposing the functionality to outside world

Usually implemented using **SOAP, WSDL**. SOAP & WSDL are in XML formats that contains all the things that are exposed by the Apps.

**ESB (Enterprise Service Bus)** is used to make communication between 2 services or else between 1 service & 1 client.