#ASLI ENGINEERING

What are Microservices after all?

SWIPE

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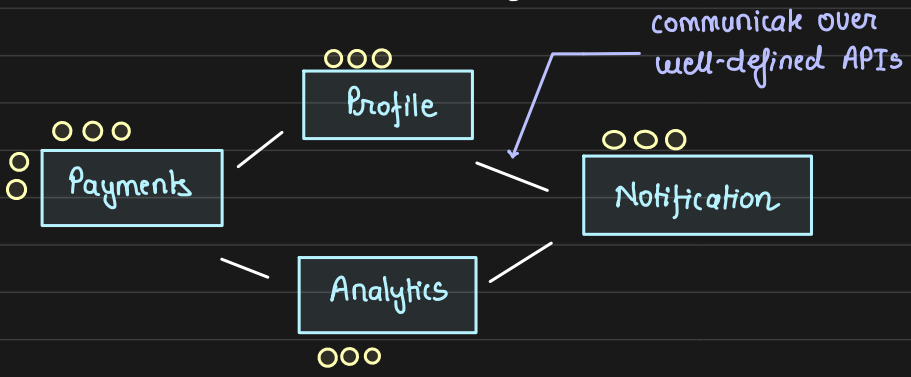
What are Microservices?

Microservices are processes / workflows that are

- Highly maintainable
- loosely coupled

Microservices are like reusable functions, but bigger and over network

Microservices are typically structured around Business needs and are owned by a small team



With microservices, we are trying to optimize

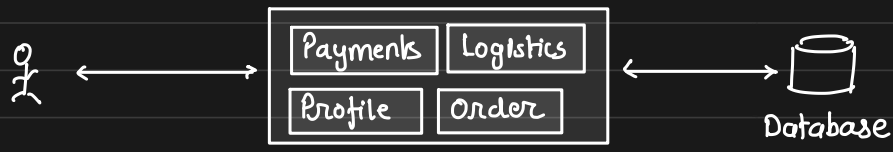
- rapid feature delivery
- easy to upgrade the stack

Microservices are no silver bullet

and have several drawbacks

Precursor to microservices is Monolith Architecture

Almost all products start monolith and slowly move to microservices



Business logic of payments, profile, orders, logistics are all part of the same JAR / codebase / Binary that are deployed across all the servers.

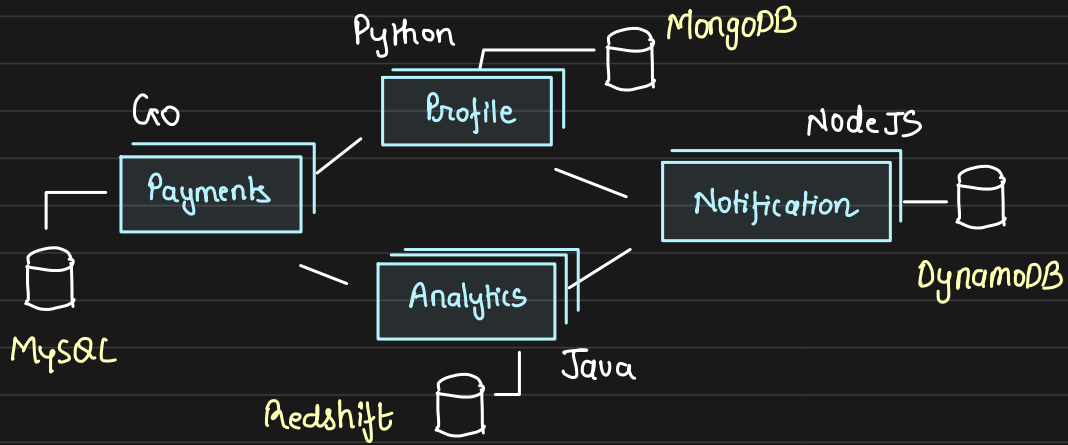
Advantages simple to develop, build, test, and scale
- develop: everything part of same codebase
- build: all modules part of same artifact
- test, and scale: same JAR deployed across all srv

Disadvantages

- Tight coupling b/w modules
- Bulky container / binary / deployment artifact
- Homogeneous single Tech Stack
- Bug in one module affects others
- Scaling one module requires scaling everything
- large monolithic codebase is intimidating and eventually slows down delivery

Monolith to microservices

Club functions that do related work and create a microservice
Start small. with few modules and continue to separk them
Eventually leading to architecture like this ↓



Characteristics of Microservices

- autonomous → decisions and operations are independent (evolutionary)
- specialized → focus on solving one problem really well
- built for business → organized around business needs and teams

Advantages of adopting microservices

- Agility → small independent teams moving faster
- Scaling → scaling is precise, independent and owned by team
- Tech freedom → Picking right stack for the service
- Simple to understand → limited responsibilities
- Reusability of resources → build once, use across spectrum
- Faster defect isolation → isolate the failed service quickly

"circuit breaker"

Anti-patterns

- do not start with microservices
- do not make services too small
- use as many tools as possible, do not build from scratch