Spring cloud

If we've to build microservices which talks to each other, we can use spring cloud.

We'll try to build a service discovery, we'll be using spring cloud netflix.

→ We'll come back to this.

Spring cloud netflix

→ is based on open source softwares.

Entire netflix uses spring boot,

Biggest user of spring and spring cloud, because of this netflix has contributed to spring, By releasing some of the common libraries, clubbed inside spring cloud netflix.

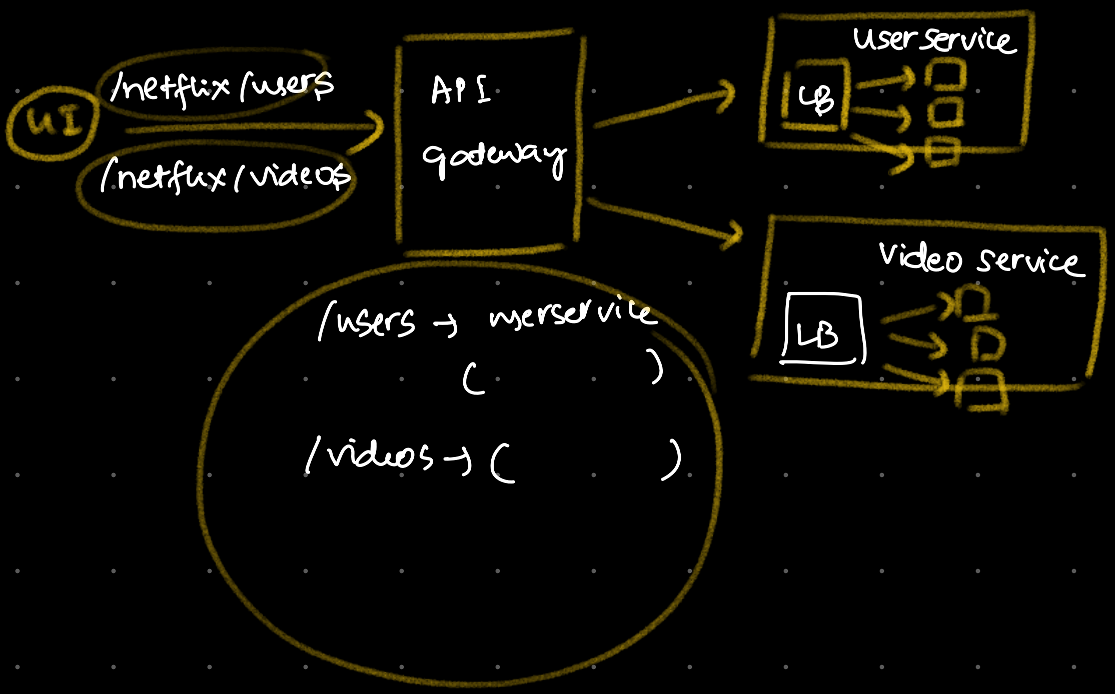
→ We'll use Eureka server.

→ It's a way to do service discovery.

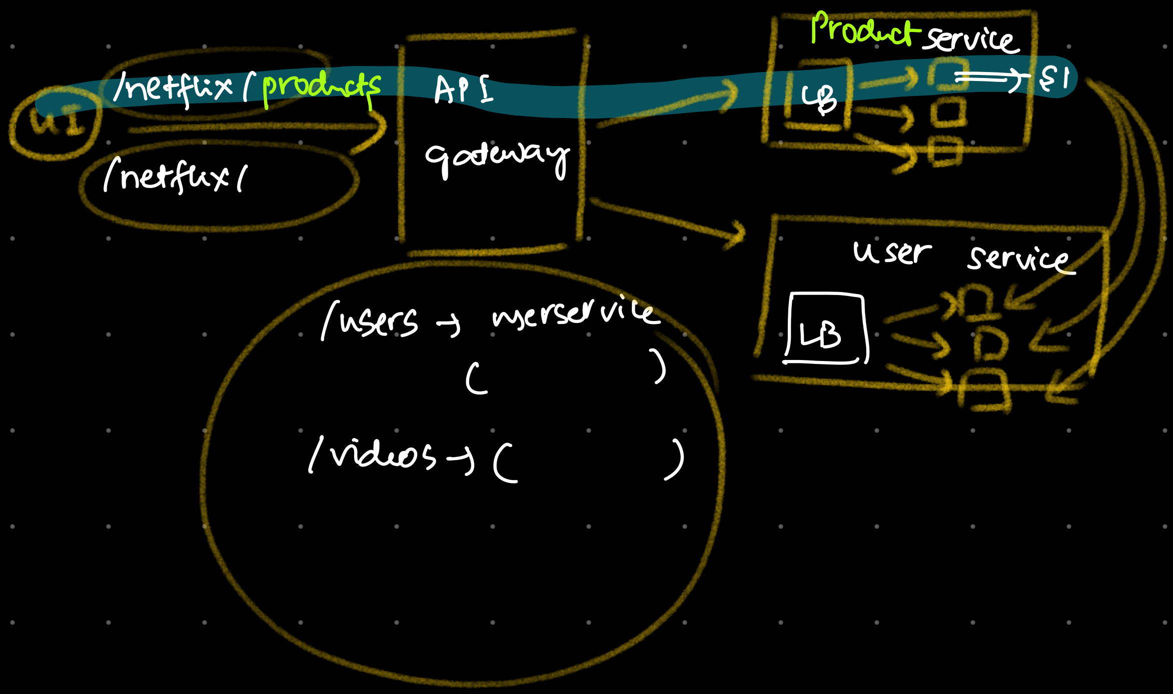
- Single company → multiple microservices

→ All have different IP addresses.

→ We need a way to know the IP address of other services



Ecommerce.



In order for product service to make a call to user service it needs the IP's of user service.

It'll get this from service discovery.

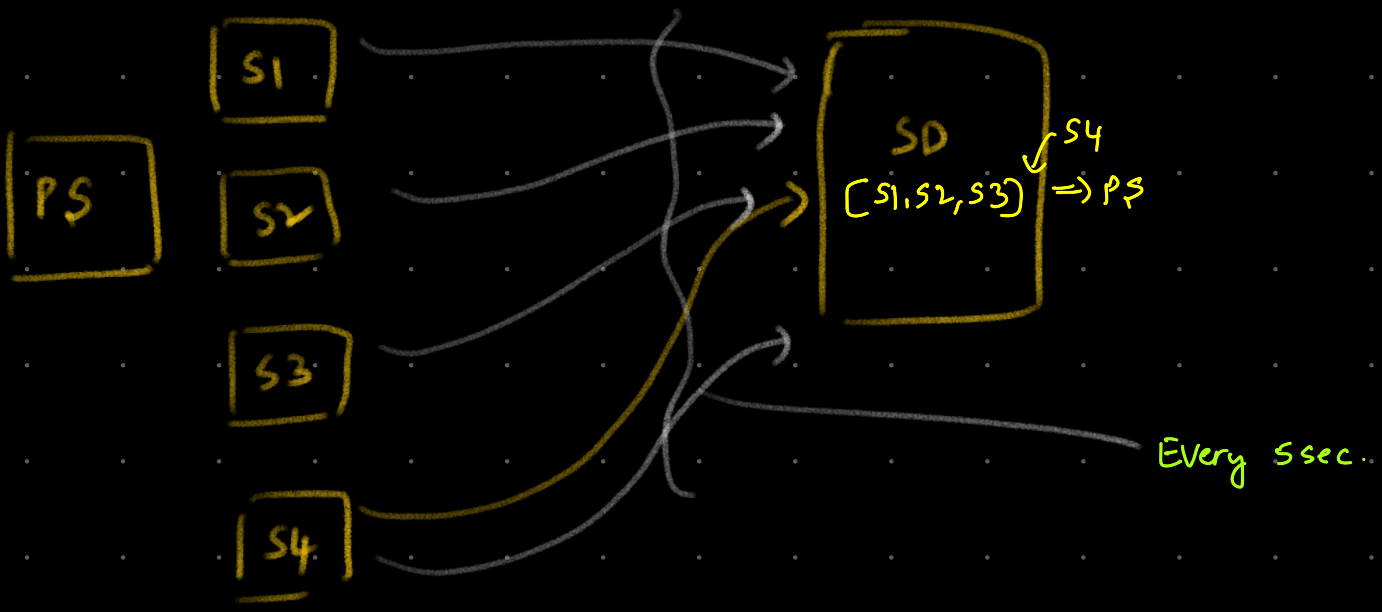
Map from service name to the list of IP addresses of that services.

How service discovery works? (SD)

1. How SD will know if a new server has come out for a service.

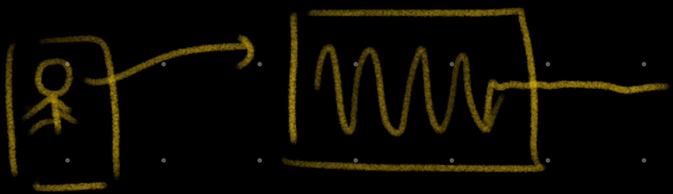
In the appⁿ code, you keep the IP of SD.

When the appⁿ starts on a new machine, it sends a request to the IP of SD so that we can register that server.



2. How will SD know about the servers that are not responding. (or is dead).

can I make a call to SD from the machine that is dying? => NO!.



Heart beat

The servers will be continuously sending requests to SD (every 5 seconds),

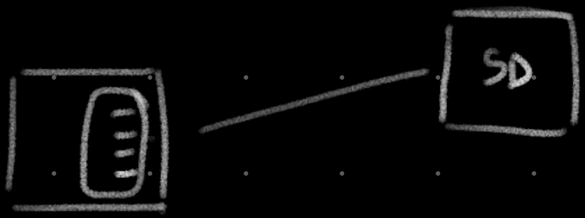
If in the last 15 seconds, A server has not sent any req-uest, then we can assume it's dead and remove from my list.

HealthCheck

SD sends a request to servers every 'x' seconds to check if a server is doing well or not (alive or dead).

It's possible that the server might recover and then sends a heart beat signal to the SD. in this case, we'll again register this server in SD list.

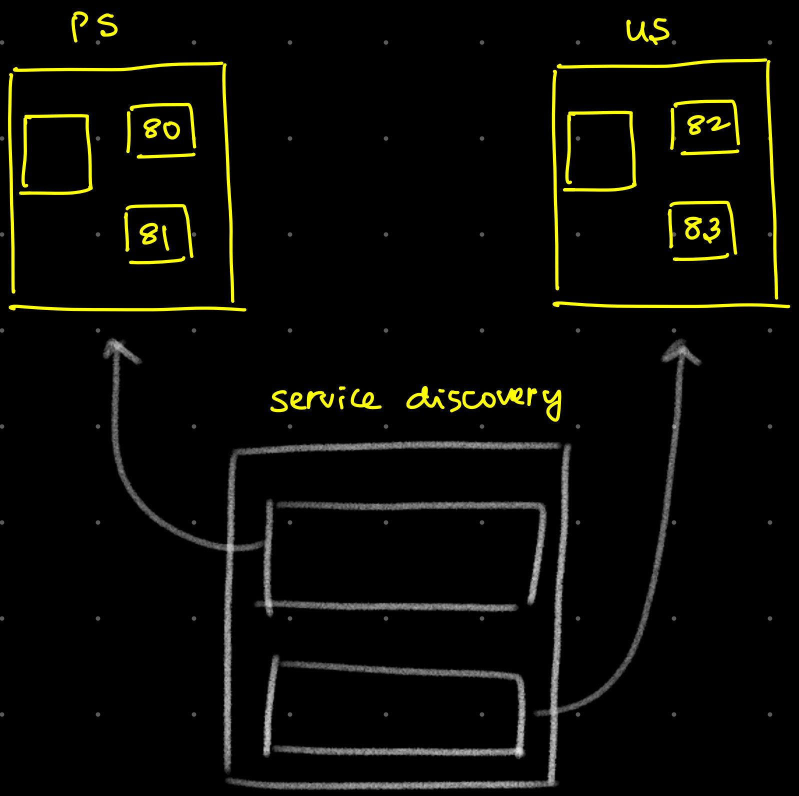
note: most of the times, the m/c's for a service are static, You can use caching.



It's possible that some of the cached machines are no longer healthy, in which case the requests sent to those machines can fail.

(Tradeoff).

However, you can handle this by retry mechanism or invalidating cache.


PS
80
81
US
82
83
service discovery