

Scaling

Saturday, April 13, 2024 4:20 PM

Problem : How can we scale an app?

Vertical Scaling

Imagine, just one computer, which was 1GB RAM and 1vcore process is not upgraded to more bigger 2 GB RAM and 2 CPU cores. The act of increasing the capacity of current system is called vertical scaling.

Why should I opt for vertical scaling?

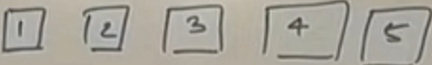
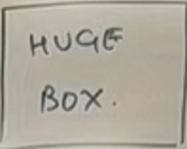
If I know, my system need this much capacity all the time, then I would opt for Vertical scaling otherwise Horizontal scaling.

Horizontal Scaling

Imagine, you have many 1 GB RAM and 1 Core CPU machines laying around and you are using them when needed.

So the plan is to always go with Vertical scaling and when your system is fine then use horizontal scaling.

Difference between Horizontal vs Vertical Scaling

HORIZONTAL	VERTICAL
	
LOAD BALANCING REQUIRED	① <u>N/A.</u>
<u>RESILIENT</u>	② Single point of failure.
Network calls. (RPC)	③ <u>Inter process Communication.</u>
DATA INCONSISTENCY.	④ <u>Consistent</u>
<u>SCALES WELL.</u>	⑤ Hardware limit.
<u>AS <u>USERS</u> INCREASE</u>	