

1. Create high availability
(Reverse proxy): Direct client requests to appropriate server
 2. Load Balancer: ①. Round Robin (weight) ②. Least Connection
 3. IP hash 4) generic hashing
- JSON → Nginx
Alternative:
- AWS ELB (less Logging)
- Free version
- serializing / de-serializing
 - light weight, language independent
- Alternative: CSV, yaml (more readable)
indentation . XML
Decision: (more support in the language)

BMO Dashboard Project

Hypervisor: Separates physical & application VM

Hypervisor 1: Baremetal type
better performing, direct OS, secure access. e.g. Citrix XenServer

Hypervisor 2: installed on existing OS, depend on local host OS. e.g. VMware Workstation

Run anywhere / anytime / LAMP

Linux Apache MySQL PHP
Docker let us run the same container anywhere ① Reproducible
② easy testing ③ no need to wrangle dependency.

Microservices

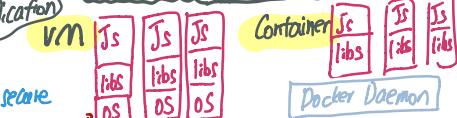
Docker Container
instance of image
Setup of the virtual computer

为什么用 docker?

1. 不用下载

轻量级 VM, 更轻量

Three steps



Docker Daemon

Runtime Enginee (Docker Engine)

Host OS

Hypervisor

Guest OS there

≥ 4GB RAM

Creates and runs VM

Advantage: ① Crash won't affect

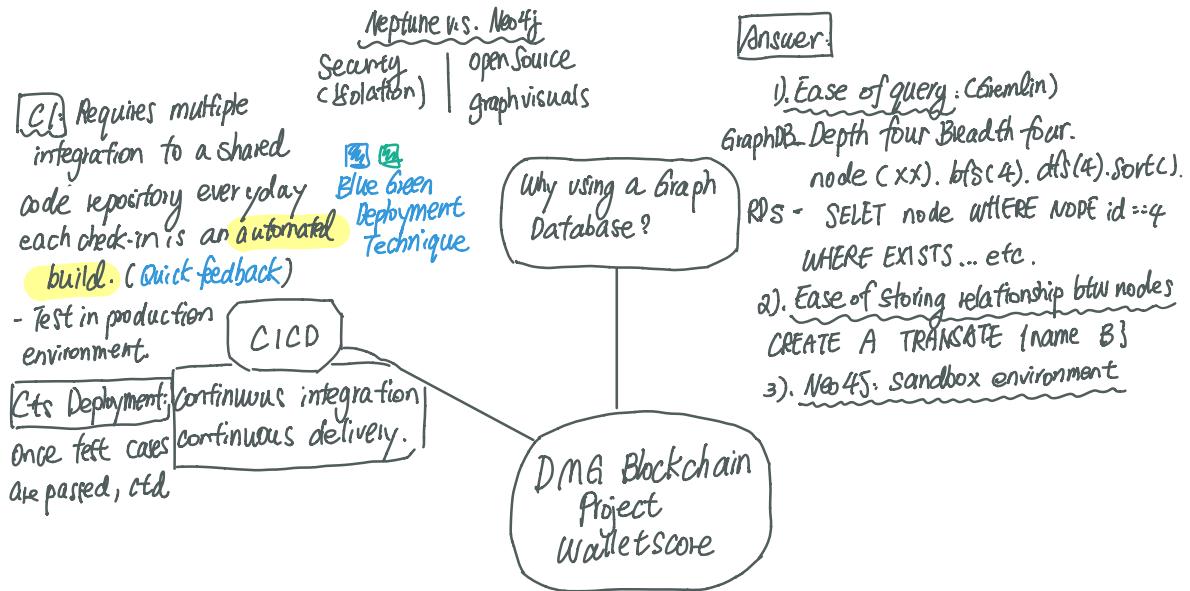
② Security test ③ Utilize hardware

用户隔离
/ Isolation 隔离

Manifest / Dockerfile
Advantage: ④ 小, 不需 Guest OS.
⇒ 启动快

应用 (FE/BE)
隔离





Python: simplify counts / readability / fast to get an idea down
(The Zen of Python) - Developer's guide.

Java:
① Paul Graham & At Yahoo 的维护困难 (存在商店) modularize.
② 难优化 (一般用于虚拟机上)

Scala ① 优化空间很多 ② 多样化 ③ 强大的 support

(Spark - large scale data processing, ON RAM,
var file = spark.read.textfile ("__")
file.filter(line => line.contains ("spark")).count()

Go : built for concurrency.