W10

Performance Testing
Wednesday, October 23rd, 2019 1:30 PM

Performance Testing in a Containerized World

Presented by:

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Valentin Guerlesquin

Valentin Guerlesquin is the director of test automation and performance testing at National Bank. He has been a software testing professional for more than ten years. Valentin has worked in several roles, including test environment management, manual functional testing, mobile, and testing process improvement. He is an ISTQB full advanced and TMMi-certified professional. He has trained dozens of his peers in several organizations, from telecom to the aerospace industry to finance.

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Performance Testing
In a Containerized World

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October 23rd, 2019

Who Am I ?

```
[-V-@starcanada:~ valentin]$ uname -a

Valentin GUERLESQUIN@bnc.ca 1983 French Kernel Version 7.28/Release_1;
root:fra-bzh home:yul module:IT-addict module:AVGeek module:PPL-SEP
module:ISTQB-FullAdvanced module:catLover module:cook
module:TMMi_Certified-Professional module:Smalltalk-80
```

When we did it

2016 – Complete refactor of transactional website

From daddy's tech (Websphere, Mainframe connectors, MQueue) to microservices, react, containers, private openshift cloud, kafka topics

Since 2016 – New apps in containers, migrations… New Blood in our IT landscape

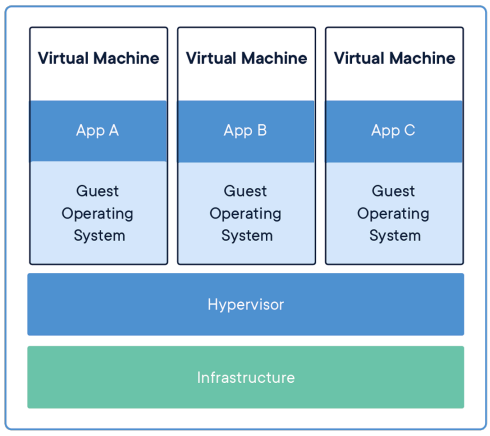
How it was before

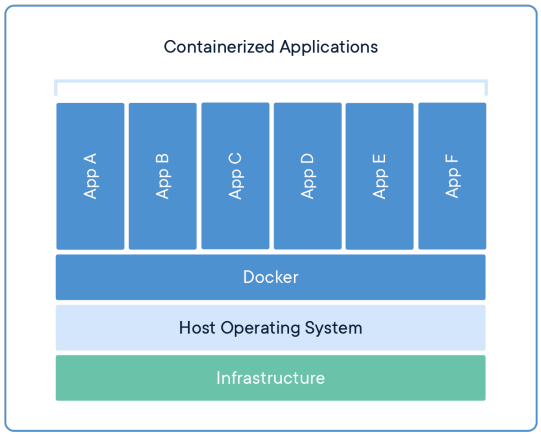
dOEs iT wOrKs ?

No? Add memory !

fine, release then

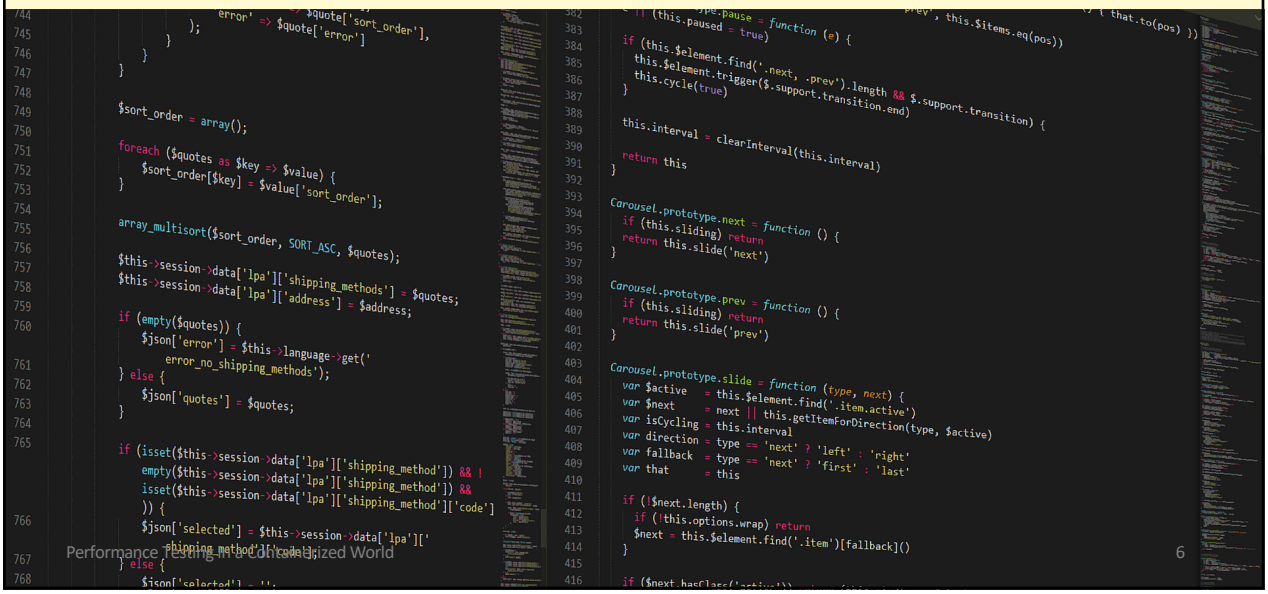
What is a container



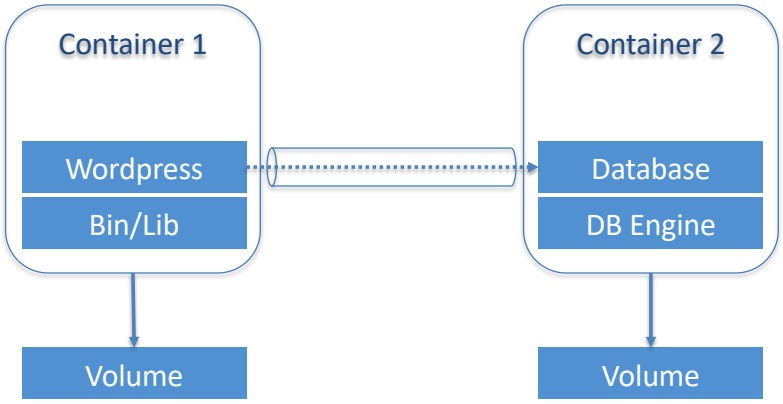


Both illustrations from docker.com/resources/what-container

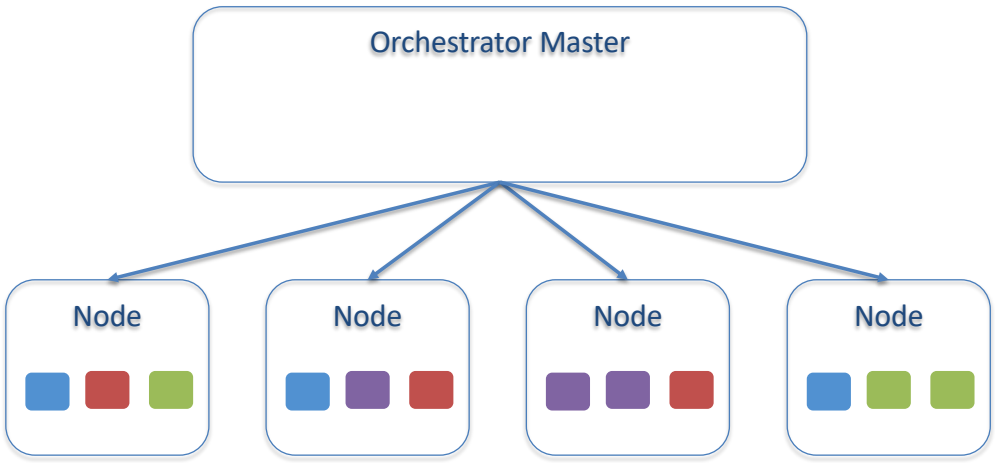
Demo



What's in it



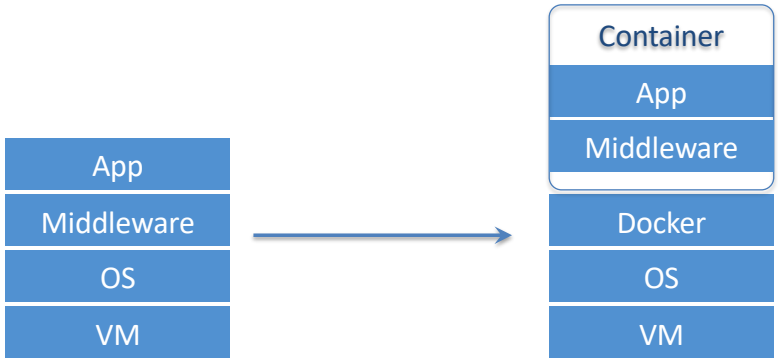
Orchestration



Use cases

Rehost

Lifting a part or the complete application into a container and then in a docker host



Rehost on cloud

Example :

VM on ESXi was 4 CPU + 12 G

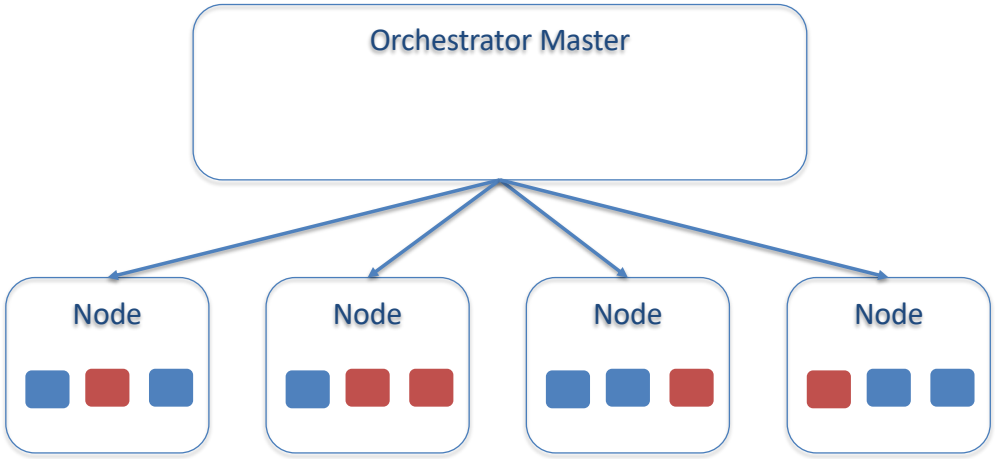
Instance	vCPU	Memory (Gio)
m5.large	2	8
m5.xlarge	4	16
m5.2xlarge	8	32
m5.4xlarge	16	64
m5.8xlarge	32	128
m5.12xlarge	48	192
m5.16xlarge	64	256
m5.24xlarge	96	384

EC2 Instance Type excerpt – M5 non-metal, oct. 2019, AWS documentation

Rehost – Should we care ?

- **Might do a regression test : you should be surprised !**
- **Where are your database ? Consider using relational database SaaS.**
- **Are you using NFS, SAN, FTP ?**

Replatform – use an orchestrator

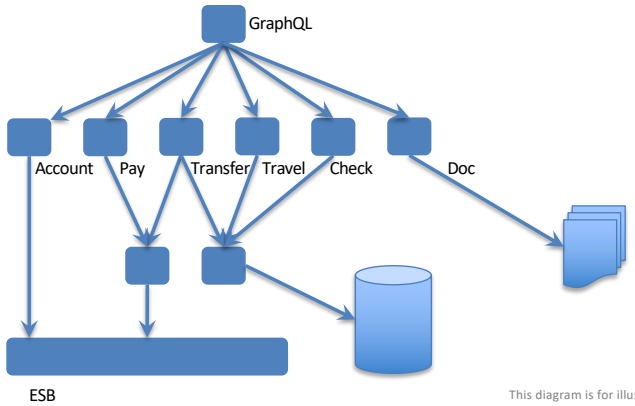


Replatform – You are not alone anymore

Do sizing – find the correct amount of memory and CPU that should be allocated to your container

Manage replication – find the right moment to scale up and to scale down

Refactor



This diagram is for illustration only.

Refactor – New build Strategy

Approach
- **Bottom-Up**
- **Size and cap**
- **Optimization of performances : a key to success**
- **Considerations**

Success Factors :
- **Don't trust the paper**
- **Do it often**
- **Know your platform**

Questions