



## **W10**

Performance Testing

Wednesday, October 23rd, 2019 1:30 PM

# **Performance Testing in a Containerized World**

Presented by:

## **Valentin Guerlesquin**

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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.

# Performance Testing In a Containerized World



Valentin GUERLESQUIN

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

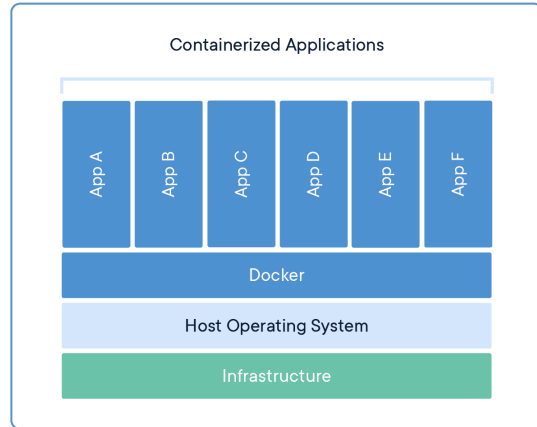
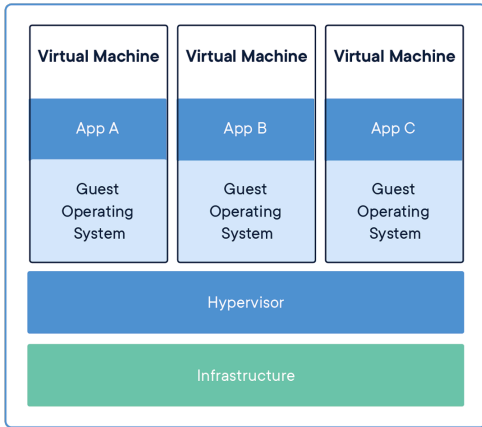


# *dOEs iT wOrKs ?*

**No? Add memory !**

**fine, release then**

# What is a container



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Both illustrations from [docker.com/resources/what-container](https://docker.com/resources/what-container)

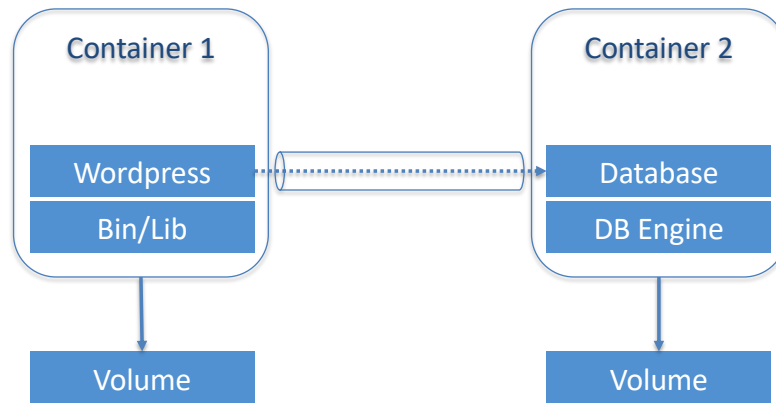
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# Demo



```
744         }, error => {
745             error => {
746                 error => {
747                     error => {
748                         error => {
749                             error => {
750                                 error => {
751                                     error => {
752                                         error => {
753                                             error => {
754                                                 error => {
755                                                     error => {
756                                                         error => {
757                                         $sort_order = array();
758                                         foreach ($quotes as $key => $value) {
759                                             $sort_order[$key] = $value['sort_order'];
760                                         }
761                                         array_multisort($sort_order, SORT_ASC, $quotes);
762                                         $this->session->data['lpa']['shipping_methods'] = $quotes;
763                                         $this->session->data['lpa']['address'] = $address;
764                                         if (empty($quotes)) {
765                                             $json['error'] = $this->language->get('error_no_shipping_methods');
766                                         } else {
767                                             $json['quotes'] = $quotes;
768                                         }
769                                         if (isset($this->session->data['lpa']['shipping_method']) && !
770                                             empty($this->session->data['lpa']['shipping_method']) &&
771                                             !isset($this->session->data['lpa']['shipping_method']['code'])) {
772                                             $json['selected'] = $this->session->data['lpa']['
773                                         } else {
774                                             $json['selected'] = '';
775                                         }
776                                     }
777                                 }
778                             }
779                         }
780                     }
781                 }
782             }
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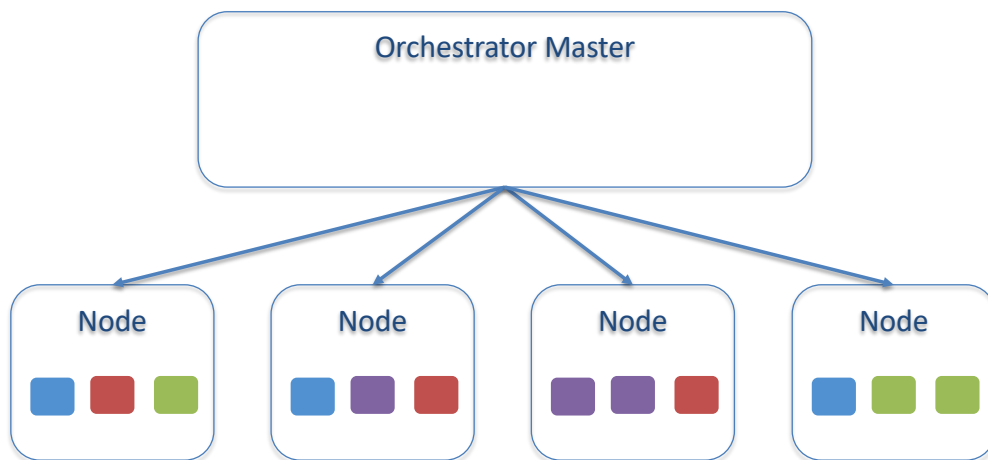
## What's in it



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## Orchestration



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**Use cases**

Rehost      Replatform      Refactor

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**Rehost**

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

App  
Middleware  
OS  
VM

Container  
App  
Middleware  
Docker  
OS  
VM

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## Rehost on cloud



**Example :**

**VM on ESXi was 4 CPU + 12 G**

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

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

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## Rehost – Should we care ?



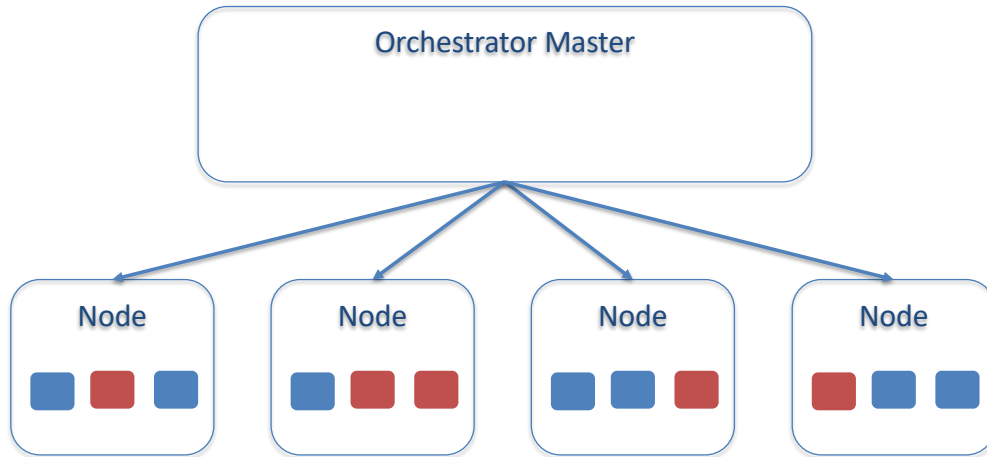
- **Might do a regression test : you should be surprised !**
- **Where are your database ? Consider using relational database SaaS.**
- **Are you using NFS, SAN, FTP ?**

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## Replatform – use an orchestrator



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## Replatform – You are not alone anymore



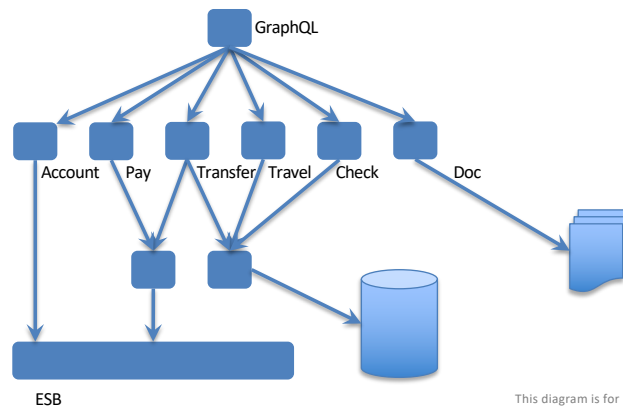
**Do sizing – find the correct amount of memory and CPU that should be allocated to your container**

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

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## Refactor



## 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

