

ORCHESTRATION AND HARDENING AUTOMATION OF LAMP STACK ON GOOGLE CLOUD PLATFORM

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Agenda

-  **Problem**
-  **Goals & Objectives**
-  **Scope**
-  **Solution Features**
-  **SPO Components**
-  **SPO Implementation**
-  **Hardening of SPO**
-  **How SPO Works ?**
-  **SPO on GCP**
-  **SPO Video**
-  **Live execution**
-  **Questions**

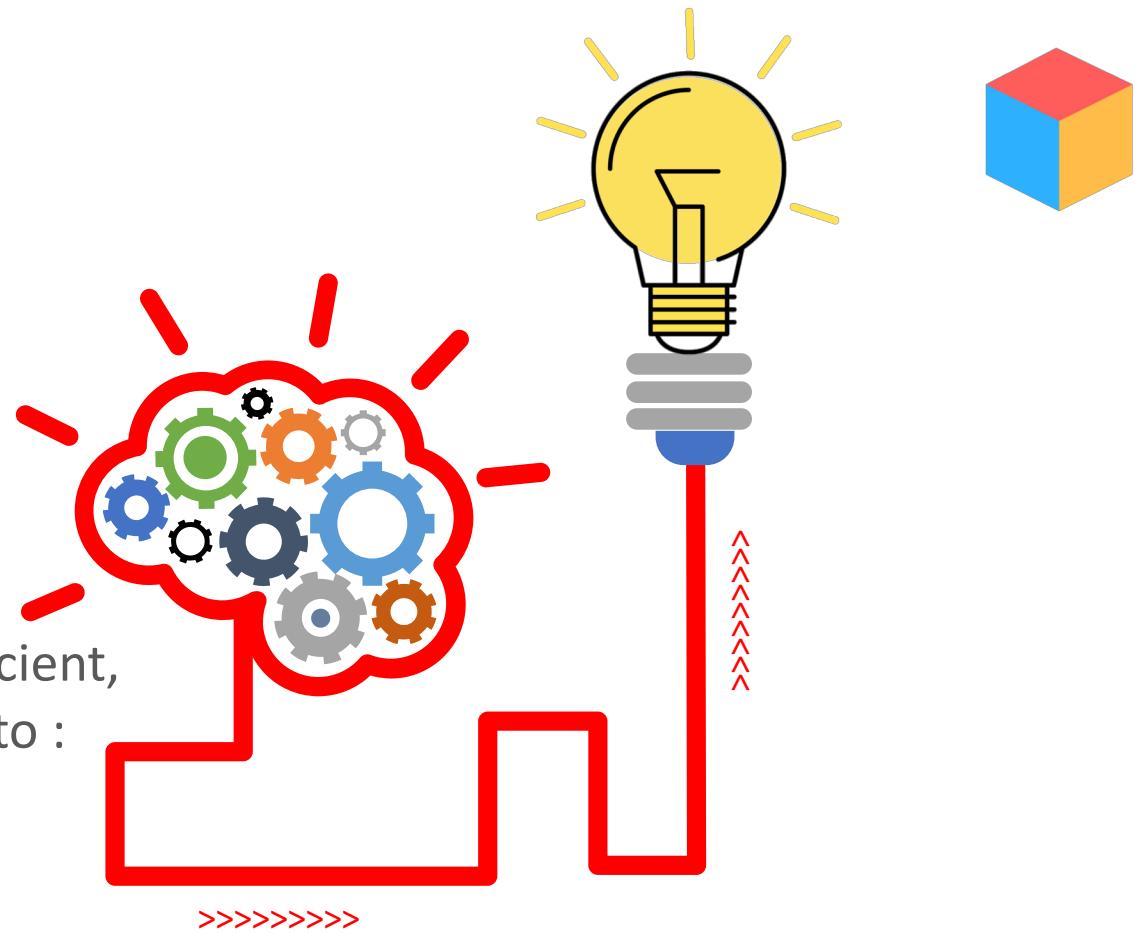
The Solution

The Problem

Developer require an efficient,
simple, and quick way to :

- Deploy
- Configure
- Hardening

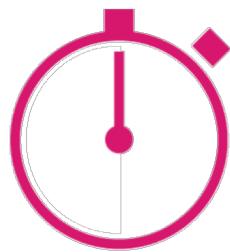
LAMP stack in the Cloud.



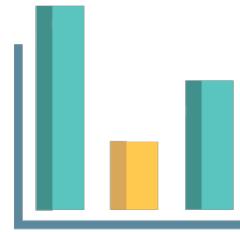


Goals & Objectives

ORCHESTRATE of new systems in Google Cloud platform by :



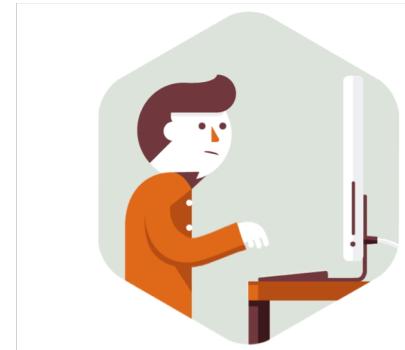
SPEED UP
process of
Orchestration



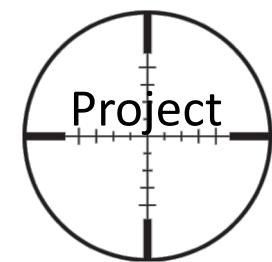
MINIMIZE
deployment
errors



INCREASING
productivity



EASE
of use by user



Scope

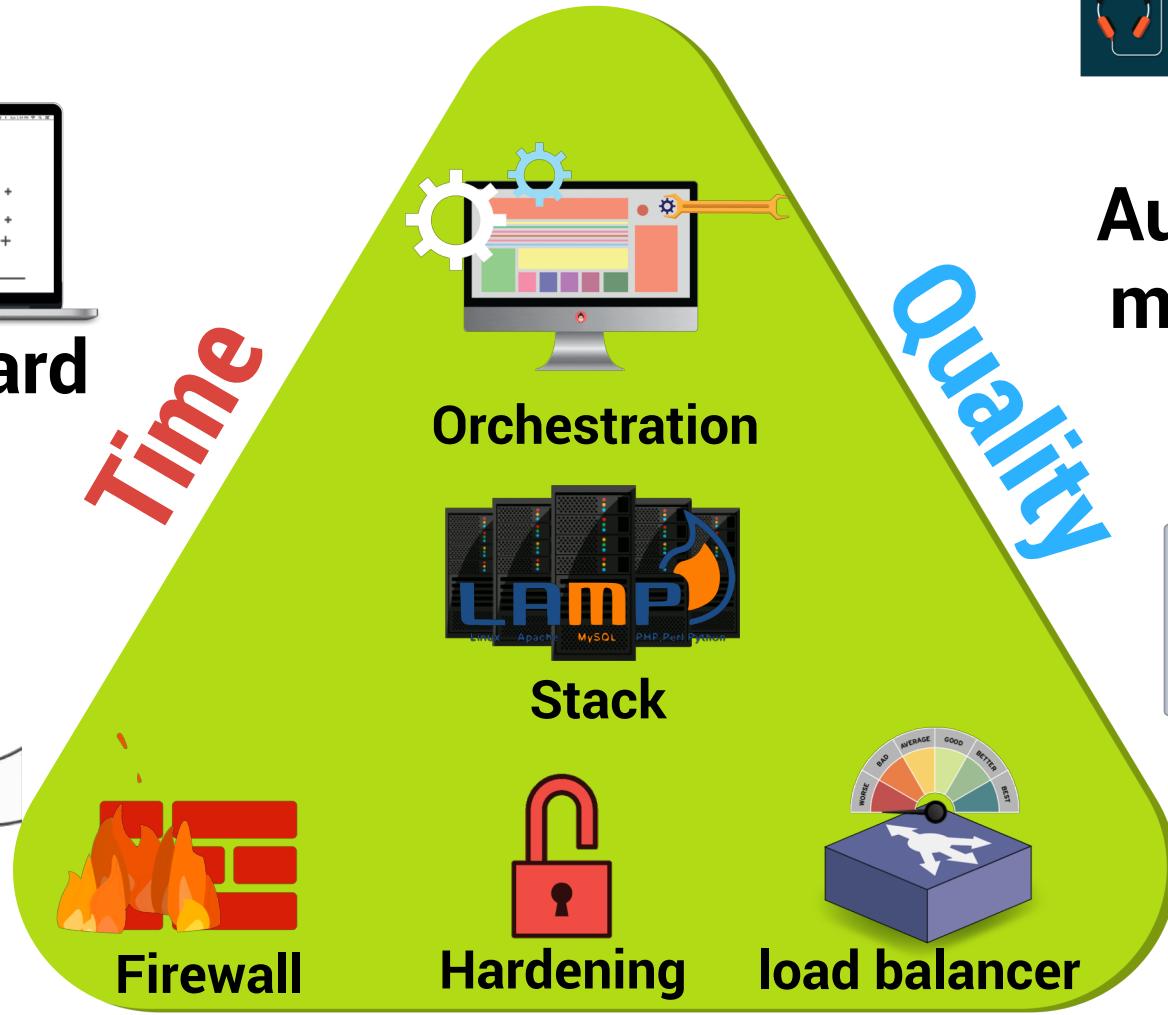


Dashboard

Time



Audit



Resources

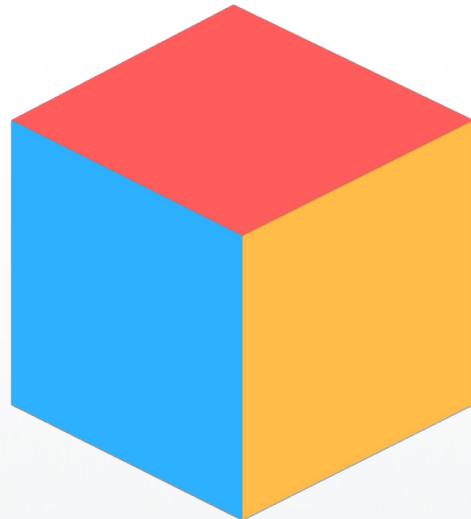


Automation monitoring

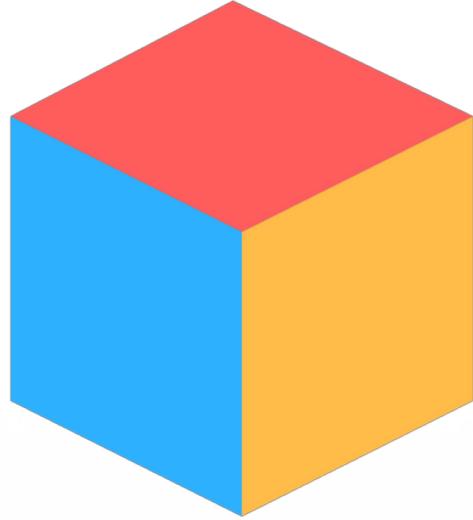


API

WHEN YOU
AUTOMATE,



YOU
ACCELERATE



SIMPLICITY PRODUCTIVITY OPEN SOURCE



Solution Features



HUMAN
READABLE
AUTOMATION



NO SPECIAL
CODING SKILLS
NEEDED



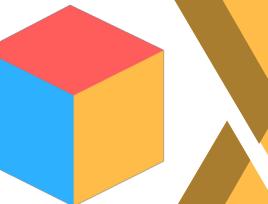
TASKS EXECUTED IN
ORDER



WORKFLOW
ORCHESTRATION



CONFIGURATION
MANAGEMENT



APP DEPLOYMENT



Solution Features (cont.)


**ORCHESTRATE THE APP
LIFECYCLE**




**AGENTLESS
ARCHITECTURE**

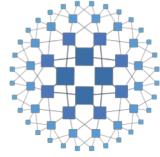

**NO AGENTS TO
EXPLOIT OR
UPDATE**



SPO Components



Google Cloud Platform



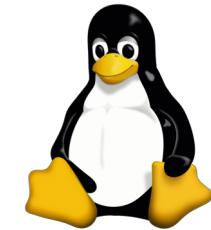
HAProxy



ANSIBLE



IPTABLES

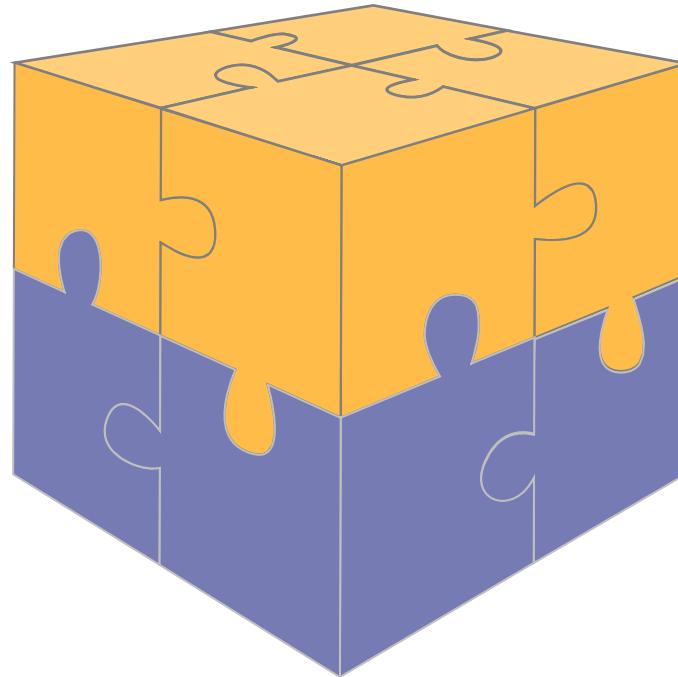


APACHE



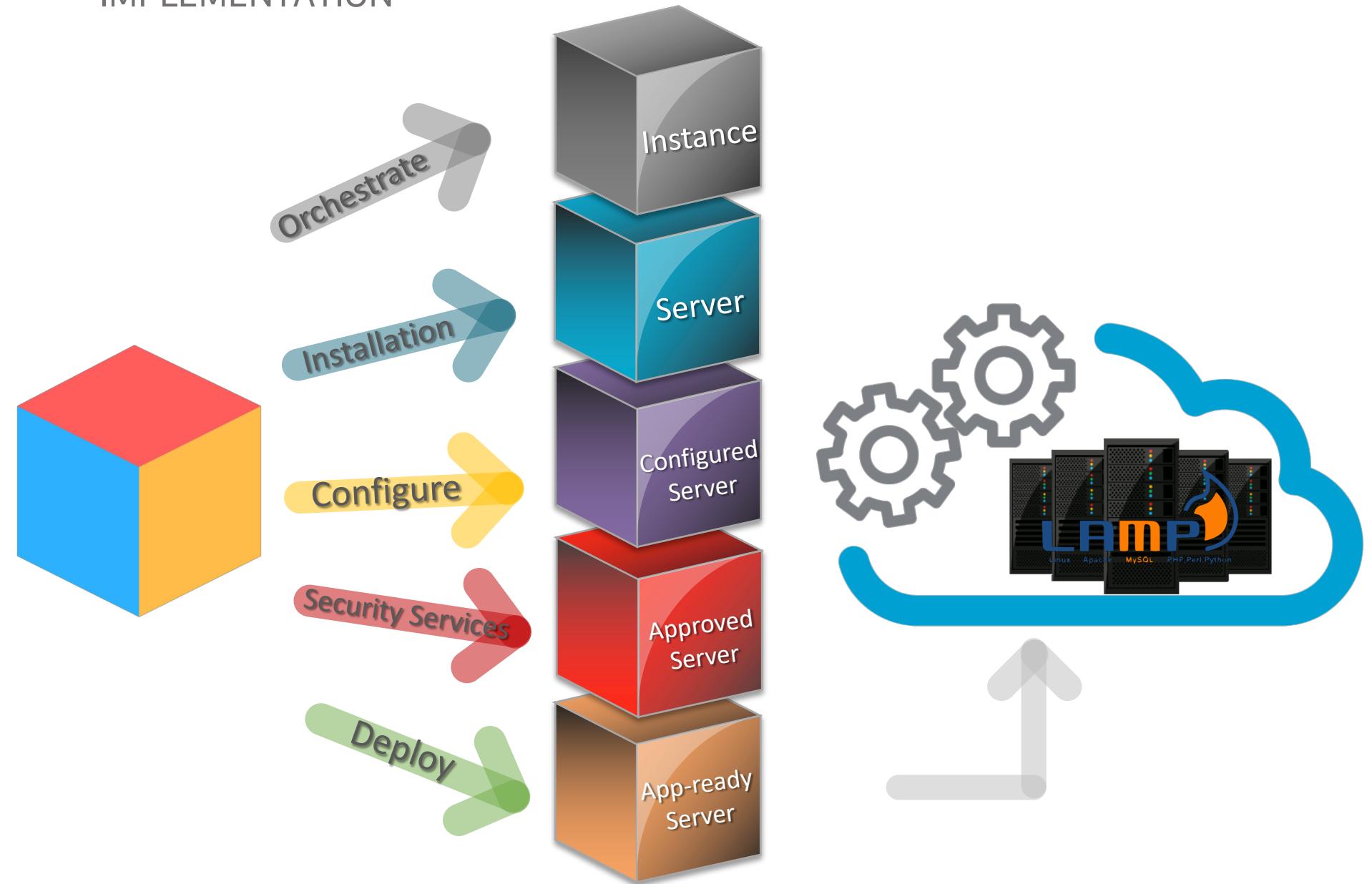


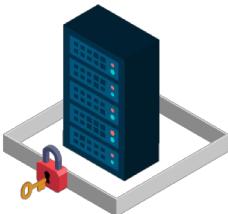
SPO Components





IMPLEMENTATION

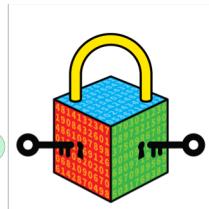




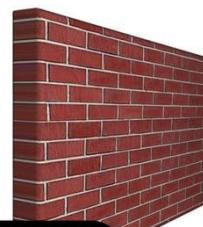
Hardening of SPO



Private
RSA key
2048 bit



X11 Forwarding
Rhosts
Max authentication
Public key usage
Root login
SSH protocol



IPTables

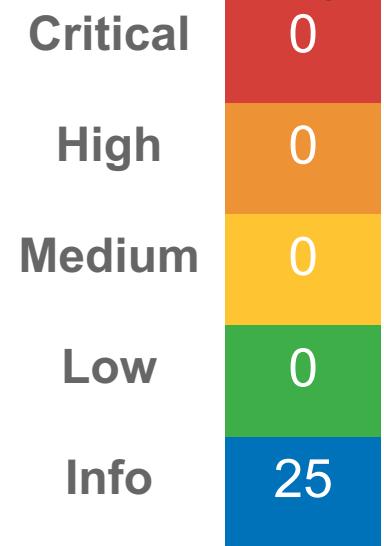
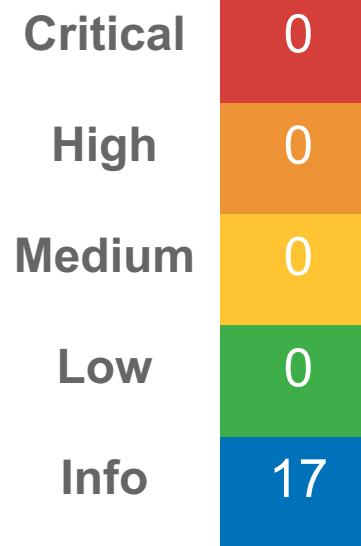
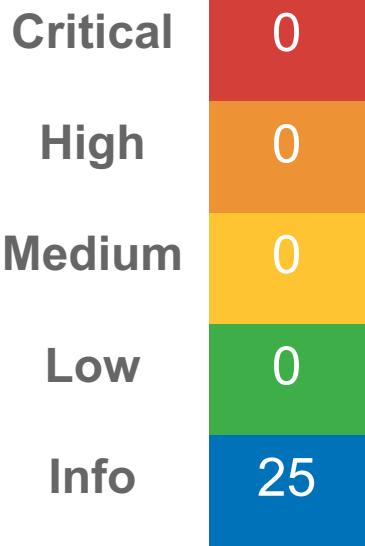
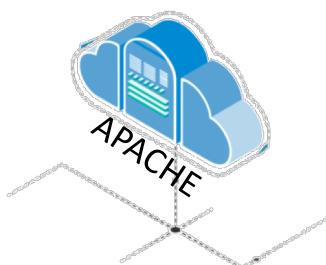
- ✓ SSH incoming TCP
- ✓ HTTP incoming TCP
- ✓ MySQL incoming TCP
- ✓ incoming TCP
- ✗ incoming TCP
- ✓ Outgoing TCP
- ✗ Outgoing TCP
- ✗ Forwarded



HAProxy

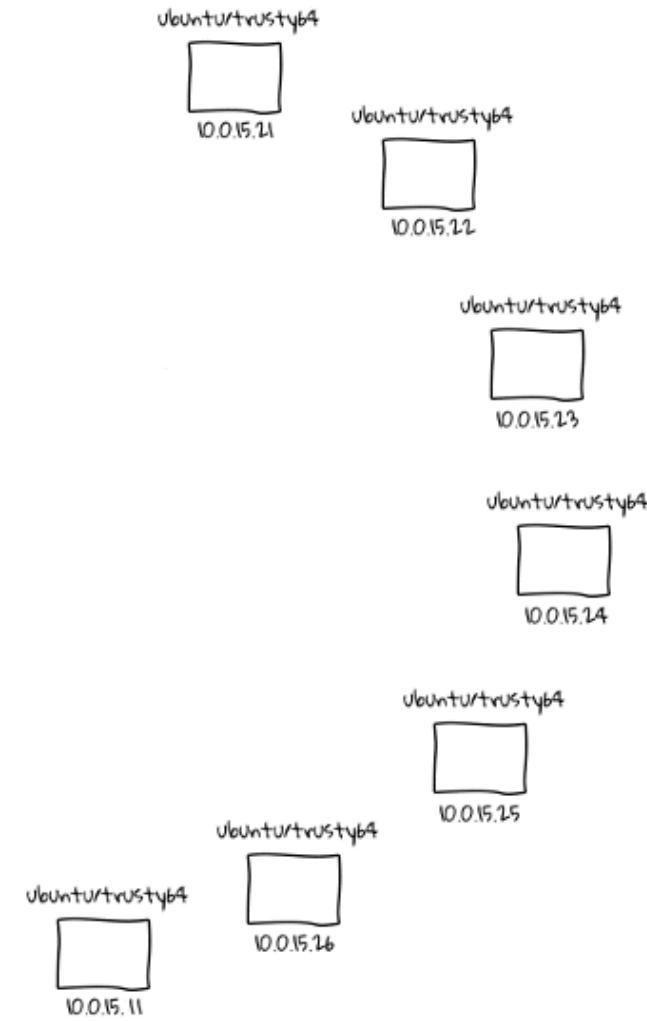
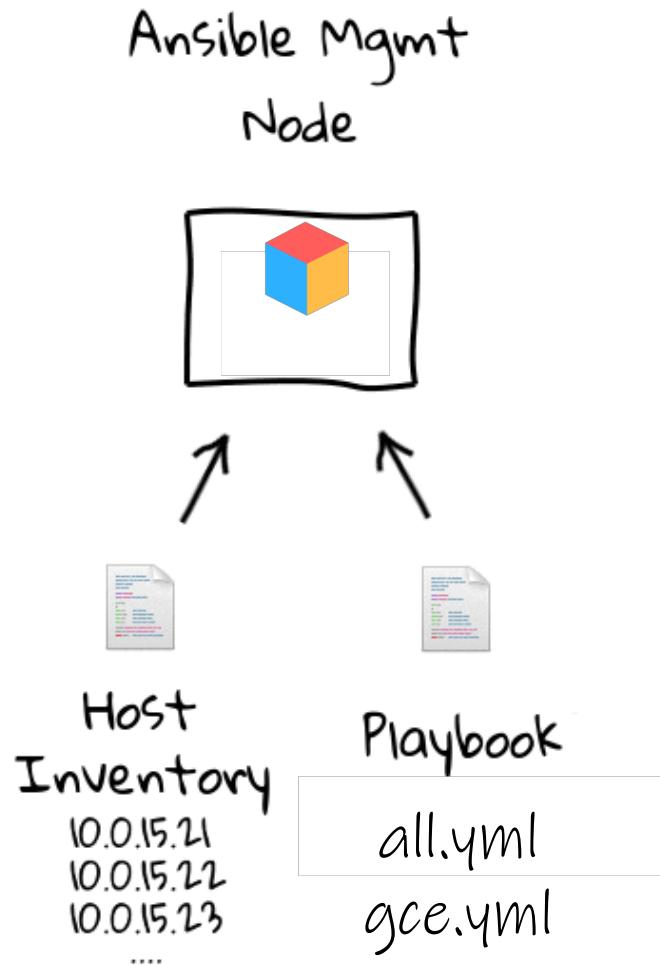


Scan SPO with Nessus



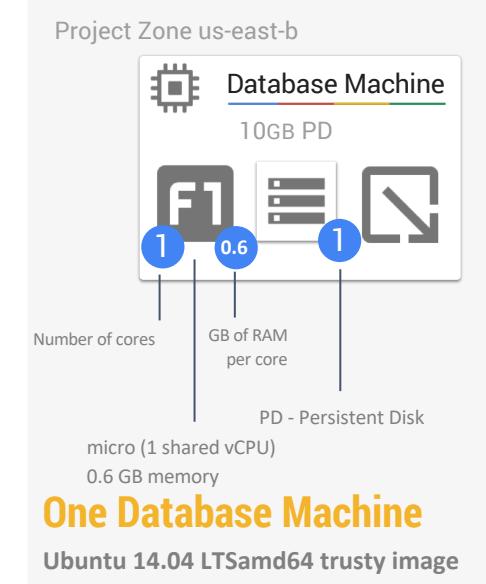
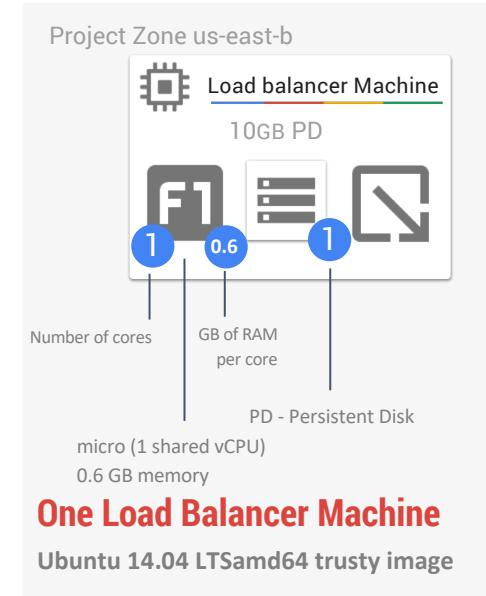
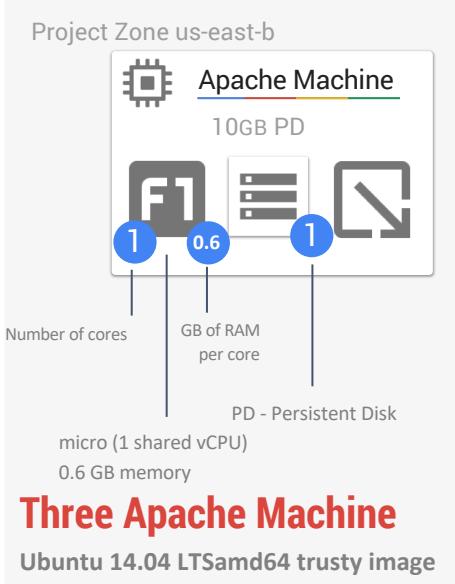
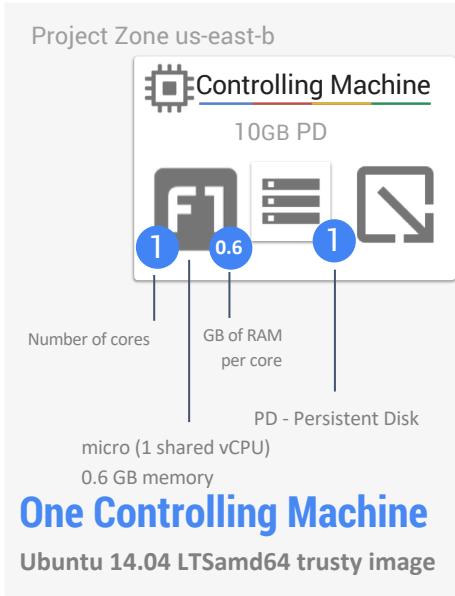


How SPO Works ?





SPO on GCP





SPO Video

```
1. bandar@Bandar: ~/Desktop/Final Project /key (zsh)
bandar@Bandar ~$ ssh spo@35.229.114.91 -i spo.key
✓ 1110 04:07:30
```

Run Live execution





Questions?