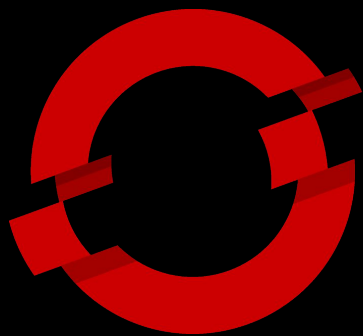


Ansible meets OpenShift

Daniel Fröhlich, Senior Solution Architect Middleware

ConSol OpenShift Event Munich Allianz Arena

11. Juli 2017



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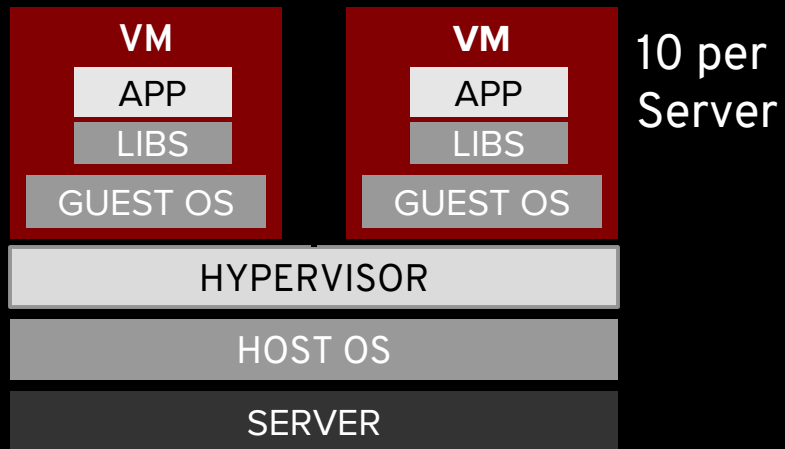
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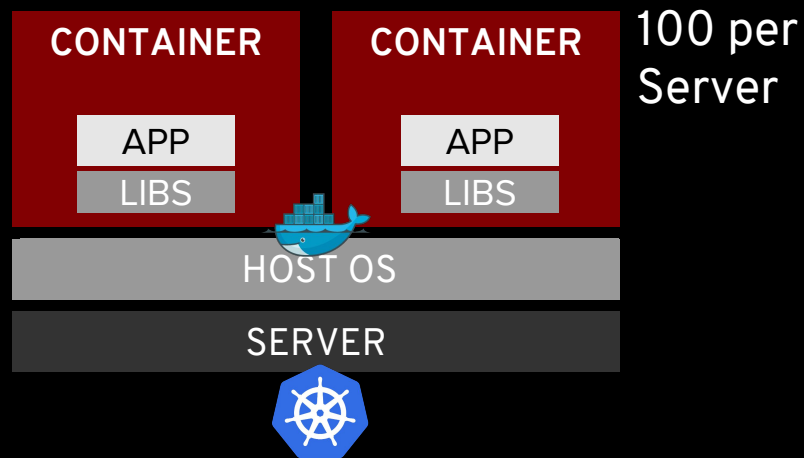




Virtualization



Containers





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made easy



OPENSIFT MAKES DOCKER UND KUBERNETES EASY TO USE



WHAT COMES IN KUBERNETES

- Container Scheduling on Multiple Hosts
- Self-healing



WHAT OPENSIFT ADDS OVER KUBERNETES

Ops:

- Software Defined Network
- Persistent Storage
- Container Native Storage (CNS / SDS)
- Log Aggregation and Analysis
- Monitoring | Telemetry
- Capacity Management
- Egress Routing for Enterprise integration
- Router Sharding
- Full Stack Support
- System Certifications and Patching
- ...

Security:

- Role Based Access Control
- Container Security and Isolation
- Multi-tenancy

Dev:

- Automatically Triggered Deployments (CICD)
- Integrated Customizable Pipelines (CICD)
- Build and Deployment Configurations
- Weighted AB Testing
- Stateful Workloads (Storage, StatefulSets)
- Workload Containerization
- Self-service
- User Experience
- ...
- Secured Registries
- Automated Deployment Patching
- ...

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SIMPLE BUT POWERFUL
AUTOMATION
OF EVERYTHING



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DESCRIBE WHAT is the result

~~NOT HOW~~ to do it

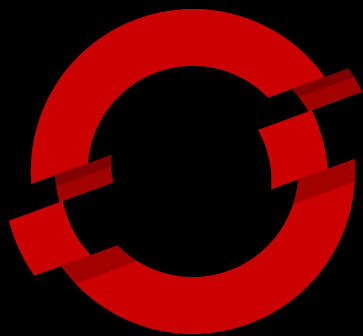
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IDEMPOTENT

can be applied multiple times without changing the result

ANSIBLE PLAYBOOK EXAMPLE

```
---
- name: install and start apache
  hosts: all
  vars:
    http_port: 80
  tasks:
    - name: install httpd
      package: name=httpd state=latest
    - name: write the apache config file
      template: src=/srv/httpd.j2 dest=/etc/httpd.conf
    - name: start httpd
      service: name=httpd state=running
```



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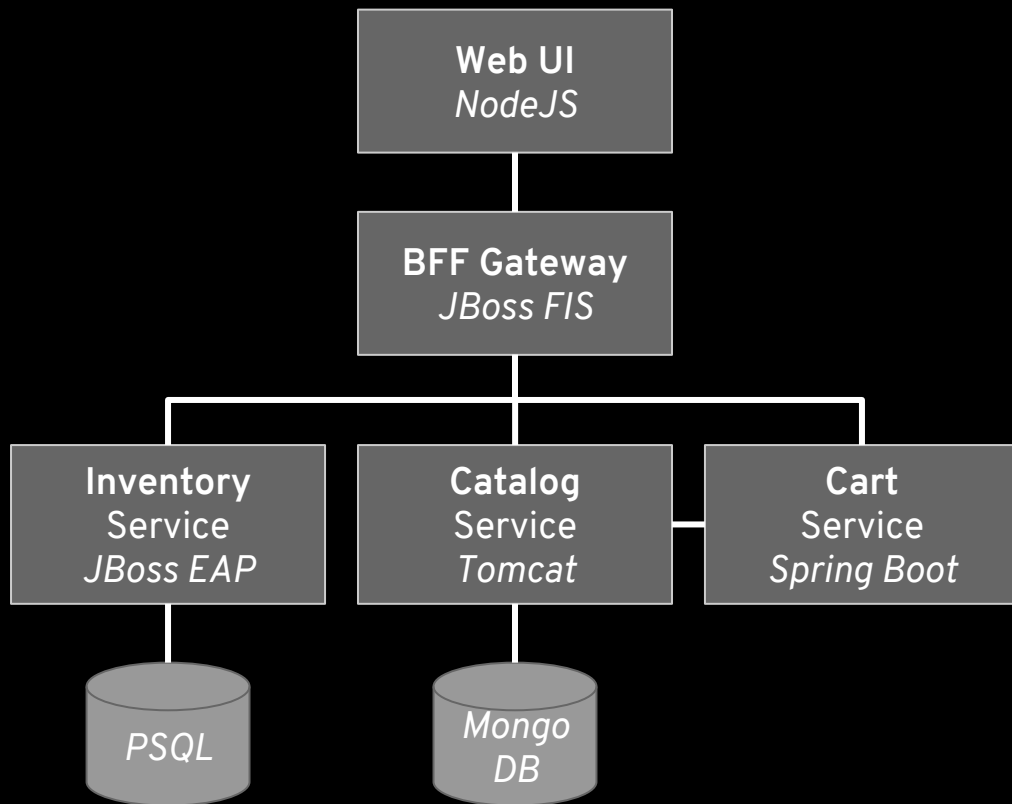
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What's the problem?

A 'simple' MicroServices based WebShop Solution...



... can be complex to configure and deploy, even with OpenShift

- CoolStore CI/CD
- CoolStore DEV Inventory
- CoolStore Developer Project
- CoolStore PROD**
- CoolStore TEST

ExternallIP

Images

BuildConfig

DeployConfig

Routes

Secrets

Services

StatefulSets

Certificates

ConfigMaps

EgressRouter

Pods

Volumes

PVCclaims

Pipelines

Templates

Accounts



A red lifebuoy with three white reflective stripes and three rope handles is floating on the surface of a swimming pool. The pool's bottom is covered in blue mosaic tiles, and the water is clear and blue. The text "Automation by Ansible to the rescue" is overlaid in white, bold, sans-serif font across the center of the image.

Automation by Ansible to the rescue

ANSIBLE *OPENSIFT* PLAYBOOK EXAMPLE

```
---
- hosts: localhost
  roles:
    - role: ansible.kubernetes-modules
  tasks:
    - name: Create project
      openshift_v1_project:
        name: coolstore-prod
        display_name: CoolStore-PROD
        description: Production Environment
        state: present
```

SHOWTIME



1 + 1 = 3



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redhat

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A dark red hat is positioned in the center of the frame, slightly to the right. To its left, another similar hat is partially visible. In the upper right corner, there is a light brown electrical outlet with a white cord plugged into it. The background is a solid, dark grey color.

Thank you!



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linkedin.com/company/red-hat

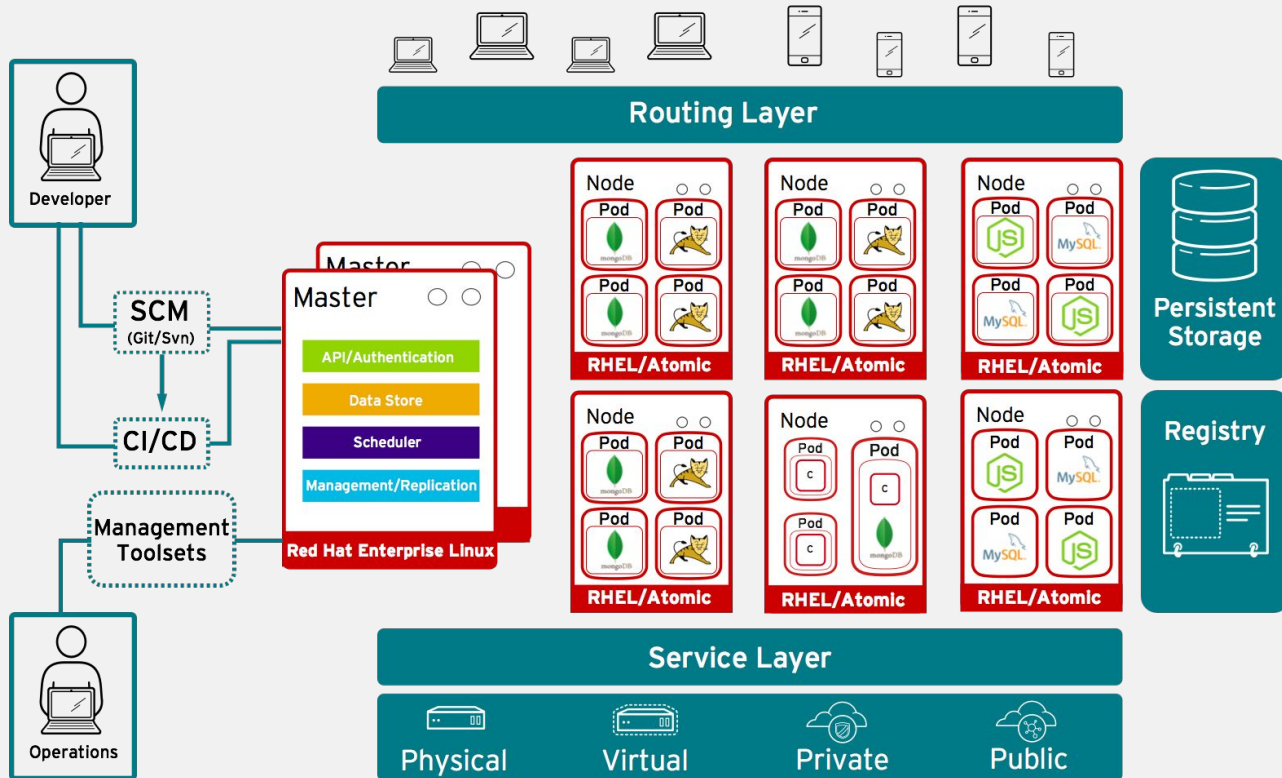


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youtube.com/user/RedHatVideos

10.000 FT OVERVIEW OF OPENSHIFT



WHAT IS ANSIBLE?

It's a **simple automation language** that can perfectly describe an IT application infrastructure in Ansible Playbooks.

It's an **automation engine** that runs Ansible Playbooks.

Ansible Tower is an enterprise framework for **controlling, securing and managing** your Ansible automation with a **UI, a restful API and workflow management**.





SIMPLE

Human readable automation

No special coding skills needed

Describe the **WHAT**, not the *HOW*



POWERFUL

Automate **everything**:

App deployment

Configuration management

Workflow orchestration

Orchestrate the app lifecycle

Idempotency



AGENTLESS

Agentless architecture

Uses OpenSSH & WinRM

No agents to exploit or update

More efficient & more secure

