

在k8s平台上的DevOps实践和经验 软件全生命周期管理

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What is DevOps?

The word "DevOps" means different things to different people. There is some agreement about what it does for you: DevOps is a set of principles that help you remove inefficiencies in your software delivery workflow and release software rapidly, frequently, and more reliably. The ultimate holy grail is Continuous Deployment, when every change goes from source control to production in a fully automated manner with no human intervention, i.e. you can do zero-touch deployments.

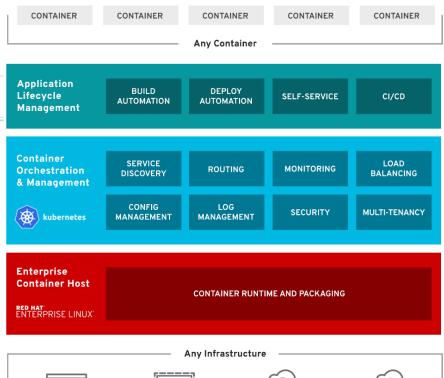
Why OpenShift—红帽K8S社区版本OKD

OPENICULET



PUBLIC

FEATURE	KUBERNETES	OPENSHIFT ORIGIN	OPENSHIFT CONTAINER PLATFORM
Multi-host container scheduling	~	~	~
Self-service provisioning	~	~	~
Service-discovery	~	~	~
Persistent storage	~	~	~
Multi-tenancy		~	~
Collaboration		~	~
Networking		~	~
Image registry		~	~
Monitoring		~	~
Log aggregation		~	~
CI/CD and DevOps		~	*
Certified application services (databases, runtimes,)			*
Certified middleware services			~
Built-in operational management			~
Enterprise-grade operating system			✓
100% Open Source	~	~	~
Community support	~	~	~
Enterprise 24/7 Support			~
Security response team			~
Stable Lifecycle (7 years)			~



PRIVATE

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VIRTUAL

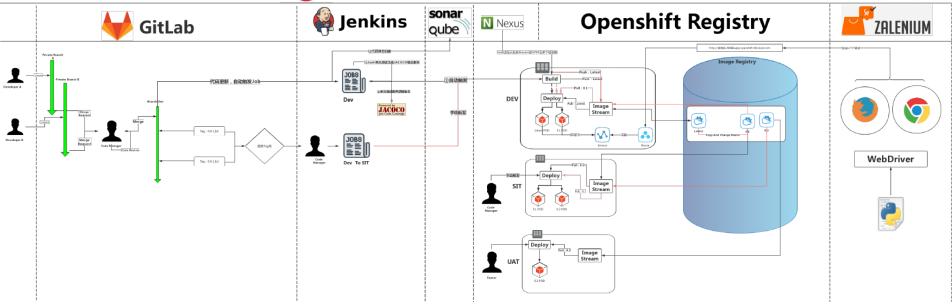
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PHYSICAL

CICD & Devops

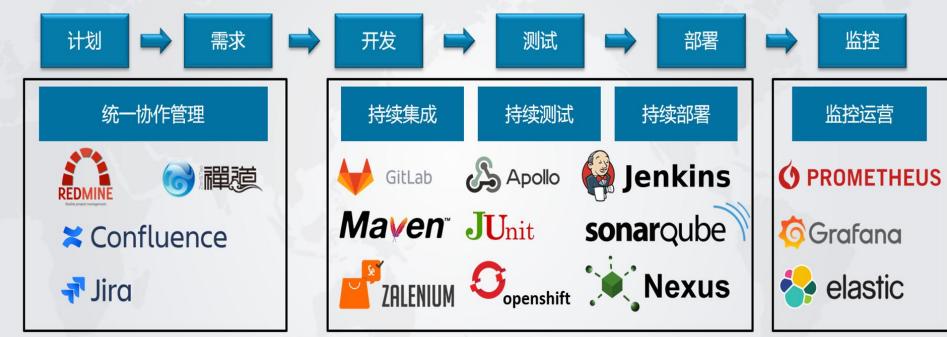






软件全生命周期管理工具链





openshift

物理机

云创IAAS

DevOps工具链



- 项目需求管理:RedMine,禅道, Jira+Confluence
- 代码仓库管理: Gitlab
- 编排调度:Jenkins
- Build : Maven
- 代码检查: Junit, SnoarCube
- 私有仓库:Nexus
- UI自动化测试: Selenium
- 配置管理中心:Apollo

生产环境验证



- 裸机部署OpenShift
- 离线环境部署OpenShift (内部源和镜像仓库)
- 容器存储的验证: Ceph , Netapp (Trident)
- 负载均衡F5集成验证
- 灰度发布的支持
- Prometheus监控+Grafana展示
- 支撑微服务 spring cloud的开发和单体应用的开发
- 应用的日志和监控的解决方案



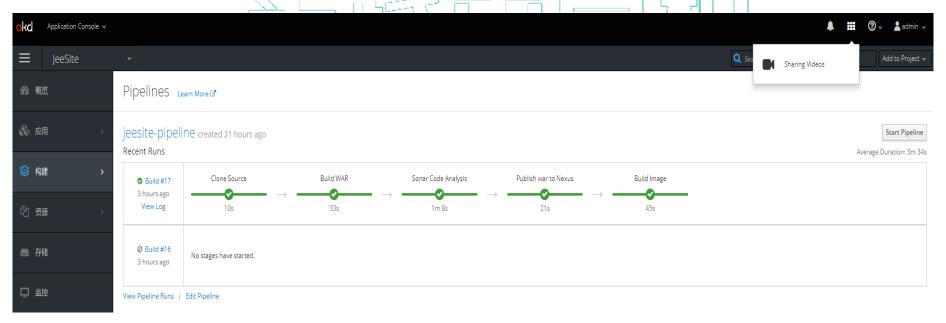
取得的效果

- 开发环境100%容器化(数据库,中间件)存储用nas
- 一套镜像支撑开发,测试和生产
- 开发消耗的计算资源节省90%以上,解决资源恐慌性占用
- 代码规范工具化,代码质量提高
- 测试人员可以对任何版本独立测试,提交bug,重现bug
- 运维人员大量减少了重复劳动,开发专注代码
- 开发者不需要了解k8s

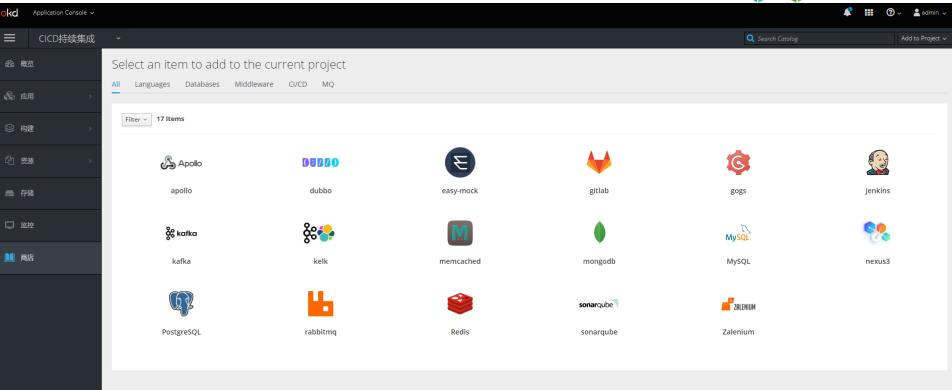


一键搞定DevOps

https://gitee.com/xhua/OpenshiftOneClick









功能

- 集成NFS , 支持pvc 果成NFS, 支持pvc 20个开发使用的模板, 开箱即用, 单机版本
- 集成pipeline流水线