

Moving to Kubernetes

Solving Configuration, Security and Collaboration Challenges in the Container Pipeline: What We've Learned

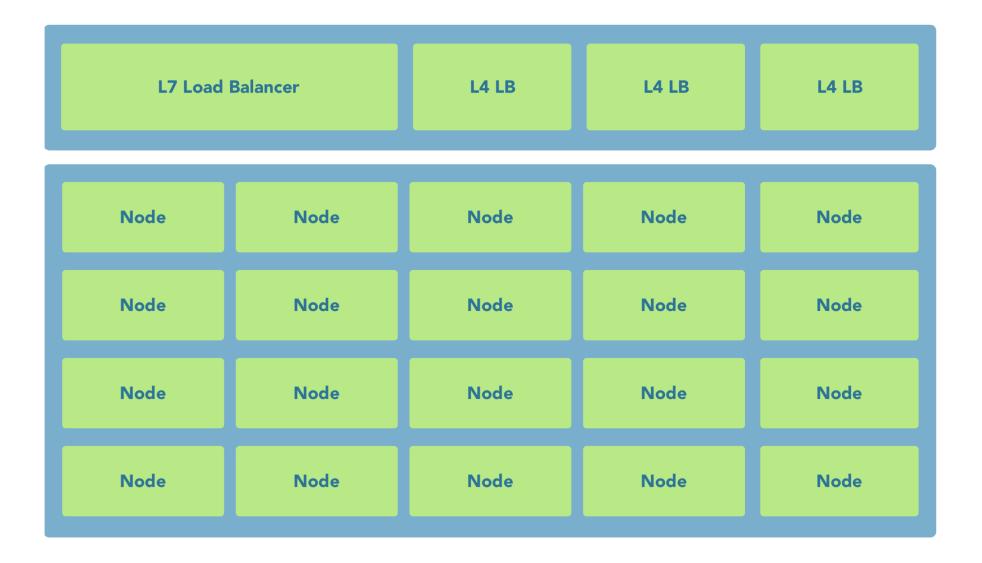


Our Old Stack





Our Ideal Stack





Databases



- High Availability
- Deployment risk
- Node replacement downtime







- Replacing Env Vars
- Git access right issues
- Write-only access





Configuration



- App vs Kube config
- Deployment vs App



Environments





CI/CD Pipeline



- Test / CI vs deployment
- Blue / Green Canary
- Rollbacks
- Image scans / audits



Container Delivery Pipeline **BUILD STEPS** Building Unit tests Source code Container registry Retagging Docker images HELM **STENCILS Policies** Integration Kubernetes **Annotations** Configuration tests **Templates** Scanning **FORMATIONS** Configuration **Deployment Workflow** Manual Approval **Kubernetes Cluster** generation



Formations



Environment

- Independent of deployment
- Limited
- Usually have undocumented meaning



Formation

- Deployment target
- Unlimited
- Can support multiple environments



Stencils



Templates

- Version control is optional and manual
- Use of control-flow in structured data
- Domain independent



Stencils

- Built in version control
- Support for base templates
- Domain specific
- Simple markup



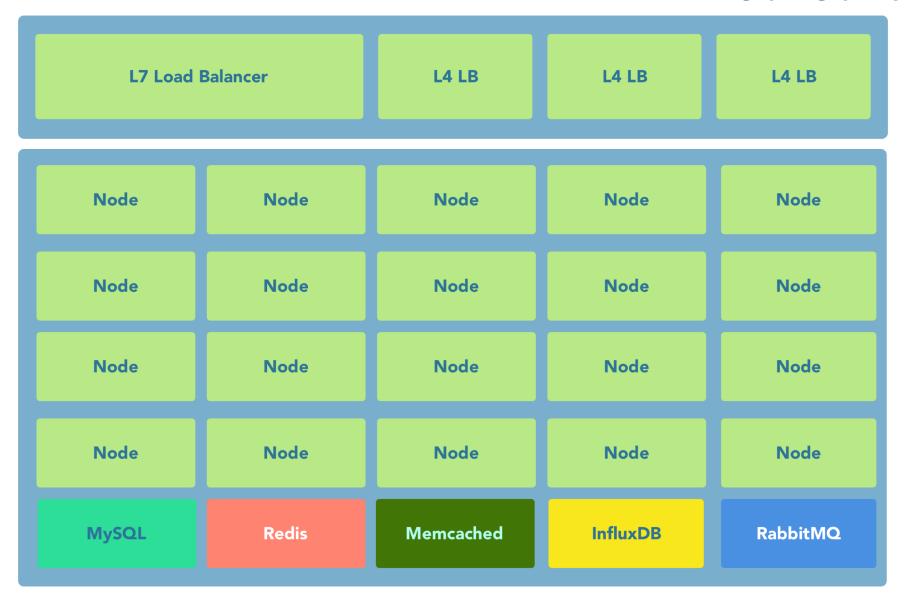
Copper



- Access to vanilla upstream API
- Ensure vs Warn
- Extra-asset policies (filenames, folders,...)



Our Current Stack





Questions?





Thank you!

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