Jenkins-X
CI/CD in wolkigen Umgebungen

Simon Kienzler,
Johannes M. Scheuermann

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Johannes M. Scheuermann
Macht Dinge mit der Cloud

• Officially: Cloud Platform Engineer
• Unofficially: Chaos Monkey

Simon Kienzler
Automatisiert gerne Prozesse

• Bachelor thesis on automated deployments
• Currently exploring the k8s eco-system
Agenda

› What is Jenkins-X?
› How does it work?
› Recap
› Q & A
What is Jenkins X?
“Jenkins X is a swiss-army knife”

James Strachan
Serverless vs. Classic
How does it work?

Magic!
How does it (actually) work?

CLI:  jx
Architecture (classic)
Architecture (serverless)
Requirements

Cluster
 › RBAC
 › Default Storage Class
 › Insecure Docker images (in-cluster Registry)
 › 4 vCPUs

Client
 › kubectl
 › helm
 › Cloud Provider CLI
Validate your cluster

- Jenkins-X has built-in support for sonobouy
- Runs conformance test
- Show results
- Should be executed at least once
Installation (serverless)

1. Bootstrap Cluster
2. Create Namespace jx
3. (optional) Install Tiller
4. Setup Ingress Controller
5. Configure Git repo
6. Create admin secrets
7. Clone Cloud env repo
8. Jenkins-X
9. Nexus
10. Chart Museum
11. Monocular
12. Prow
13. Tekton CD

Chart Museum

Monocular

Tekton CD
Create a new application

**CLI:** `jx create quickstart`
Import an application

CLI: `jx import`
Promotion
Jenkins X - Components

- Development Environment per team (namespace)
- zero or more permanent Environments
  - Staging
  - Production
- Optional Preview Environments
- Service Linking from preview namespaces is possible
- Addon support
Jenkins-X Pipelines
(Kubernetes) Deck

### Prow Status

**Filter**
- all job types
- all repositories
- all pull requests
- all authors
- Search job name, accepts "*" wildcards
- all states

<table>
<thead>
<tr>
<th>Repository</th>
<th>Revision</th>
<th>Job</th>
<th>Started</th>
</tr>
</thead>
<tbody>
<tr>
<td>jenkins-joe/go-jenkins</td>
<td>#1 (9415491) by johscheuer</td>
<td>serverless-jenkins</td>
<td>16:12:46</td>
</tr>
<tr>
<td>jenkins-joe/go-jenkins</td>
<td>#1 (c8cfcdb) by johscheuer</td>
<td>serverless-jenkins</td>
<td>16:09:11</td>
</tr>
</tbody>
</table>
CI/CD “ChatOps”

@johscheuer: The following test failed, say /retest to rerun them all:

<table>
<thead>
<tr>
<th>Test name</th>
<th>Commit</th>
<th>Details</th>
<th>Rerun command</th>
</tr>
</thead>
<tbody>
<tr>
<td>serverless-jenkins</td>
<td>c8cfcdb</td>
<td>link</td>
<td>/test this</td>
</tr>
</tbody>
</table>

Details

PR built and available in a preview environment jenkins-joe-go-jenkins-pr-1 [here](#)
CI/CD “ChatOps”

@johscheuer: you cannot LGTM your own PR.

Details
In response to this:

/lgtm

Instructions for interacting with me using PR comments are available here. If you have questions or suggestions related to my behavior, please file an issue against the kubernetes/test-infra repository.
Important things first!
Recap
Nice to know

- IDE integration (VS Code, IntelliJ, Theia)
- Dev Pods (develop in the cloud)
  - [https://github.com/jenkins-x/jx/issues/3524](https://github.com/jenkins-x/jx/issues/3524)
- Supports multiple Git Servers
  - GitHub, Gitlab, BitBucket, ...
- Issue Tracker integration
- Anchore CV scanner
- Serverless Addon (gloo and Knative)
- CRD’s are the super-glue
  - [https://cdconference.io/](https://cdconference.io/)
Limitations

› You can’t delete a cluster :)
› Everything is unencrypted per default (no TLS)!
› Versions are pinned
› Instable
Should I use it?

- Very early stage
- Many moving parts
- Pretty complex with all the magic in the background
- Documentation only covers simple steps
- (theoretically) less management overhead
- Open Community (Office hours)
Q/A
Vielen Dank

Johannes M. Scheuermann

Simon Kienzler

inovex GmbH
Ludwig-Erhard-Allee 6
76131 Karlsruhe
Images

- https://jenkins.io/images/logos/jenkins-x/jenkins-x.png
- https://github.com/kubernetes/test-infra/raw/master/prow/logo_horizontal_solid.png
- https://github.com/Azure/draft/raw/master/docs/img/draft-logo.png
- https://docs.sonatype.com/download/attachments/14155777/global.logo?version=3&modificationDate=1367027697643&api=v2
- https://github.com/helm/chartmuseum/raw/master/logo2.png
- http://www.quickmeme.com/img/1e/1e316e8b30384c27aa347055973c419a658e6673e630d193304482261ef5de28.jpg
Further reading

- https://cd.foundation
- https://jenkins-x.io/documentation/