Certified Kubernetes Application Developer (CKAD) Certification Preparation How-To

A short how-to to help You to pass the Certified Kubernetes Application Developer (CKAD) certification exam https://www.cncf.io/certification/ckad/

How to prepare to the exam

- Install minikube with the version of Kubernetes, currenlty used in the exam
  - Verify the version used in the exam in the FAQ on https://www.cncf.io/certification/ckad/
- Play with code generators as much as possible
  - Pods
  - Deployments
  - Services
  - Namespaces
  - Config maps
  - Secrets
  - Cronjob
  - Job
- Analyze the YAML structure of Kubernetes objects
  - kubectl explain pod --recursive
- Practice vim commands
  - http://vimcommands.github.io/
- Practice bash shortcuts
  - http://www.keyxl.com/aaaf192/83/Linux-Bash-Shell-keyboard-shortcuts.htm

How to pass the exam

- Prepare the list of links, the examenator will allow You to use during the exam
- Analyze all question fast, list them in Notebook as an ordered list
- Make fast estimation about time consuming
- Order the list by complexity and by time consuming
  - No-brainers first
  - Medium difficulty, which requires some analyze
  - Complicated, which requires lot's of analysis
- Keep this questions order during the exam
- Switch contexts every time to jump to an another question
- Use copy-paste as much as possible, to avoid any manual error
- Check Your YAML files before to validate the question
- Be careful to namespaces in YAML files
- "Don't freeze" (c)

Environment configuration

~/.vimrc

```
set ts=2 sw=2 expandtab nu ruler
```

aliases

```
export ns=default
alias k='kubectl -n $ns'
alias kdr= 'kubectl -n $ns -o yaml --dry-run'
```

if You would like to use nano instead vim

```
export KUBECTL_EDITOR="nano"
```

YAML Generators

Pod

```
$ kubectl --namespace=default run nginx --image=nginx --env="DOMAIN=cluster" --labels="env=prod"
--limit="cpu=200m,memory=512Mi" --port=80 --dry-run=client -o yaml
```

Deployments

```
$ kubectl --namespace=default create deployment my-dep --image=busybox --dry-run -o yaml
```

Services

```
$ kubectl --namespace=default expose deployment nginx --port=80 --target-port=8000 --dry-run -o yaml
```

Namespaces

```
$ kubectl --namespace=default create namespace my-namespace --dry-run -o yaml
```

Config maps

```
$ kubectl --namespace=default create configmap my-config --from-literal=key1=value1 --from-literal=key2=value2
--dry-run -o yaml
```

Secrets

```
$ echo -n 'your-secret-in-clear1' | base64
$ kubectl --namespace=default create secret generic my-secret --from-literal=key1=encoded-value1 --dry-run -o yaml
```

Cronjob

```
$ kubectl --namespace=default create cronjob my-cronjob --image=busybox --schedule="*/1 * * * *" --dry-run -o yaml
```

Job

```
$ kubectl --namespace=default create job my-job --image=busybox -- date --dry-run -o yaml
```

Useful kubectl commands

```
$ kubectl --namespace=default get pods --all-namespaces
$ kubectl --namespace=default top pods
$ kubectl --namespace=default logs nginx --all-containers=true
$ kubectl --namespace=default edit deployment my-dep
```

Useful ressources

- https://kubernetes.io/docs/home/
- https://kubernetes.io/docs/reference/kubectl/cheatsheet/
- https://kubernetes.io/docs/reference/generated/kubectl/kubectl-commands

Any contributions are welcome via the issue tracker on https://github.com/fedir/go-tooling-cheat-sheet