

Codefresh Devops exam

Kubernetes + prometheus alerts

1. **Spin up kubernetes** on your laptop:
Using Vagrant (<https://www.vagrantup.com>) , spin up 2-node kubernetes cluster using kubeadm and flannel network.
<https://kubernetes.io/docs/setup/independent/create-cluster-kubeadm/>
2. **Start Prometheus server** (<https://prometheus.io/>) as a kubernetes deployment in this cluster
3. **Configure prometheus alerts** to fire when:
 - a. KubeControllerIsDown - fires when kubernetes controller is down during 1m
 - b. NodeCpuHigh - fires when cpu usage of one of the node > 85% during 15m.
Consider number of cpu cores here
 - c. NonPodCpuHigh - fires when sum of cpu usages of the processes which are not kubernetes pods > 30% during 15m
 - d. PodMemoryHigh - fires when memory usage of one of the pods > 70% of the node memory where it is running

All alerts should bring labels and annotations with relevant information for alert handler.
Up to you decide what information is relevant

As a result send us a link to your public repo with the code or a zip file. Repository should contain:

- Vagrantfile + scripts + instruction for spin up kubernetes. Bonus for 100% automation
- Prometheus installation instruction + configuration and rules files (configmaps)
- Test cases for alerts

On next interview be ready to share screen with an interviewer and show working solution

Good Luck!