Proposal
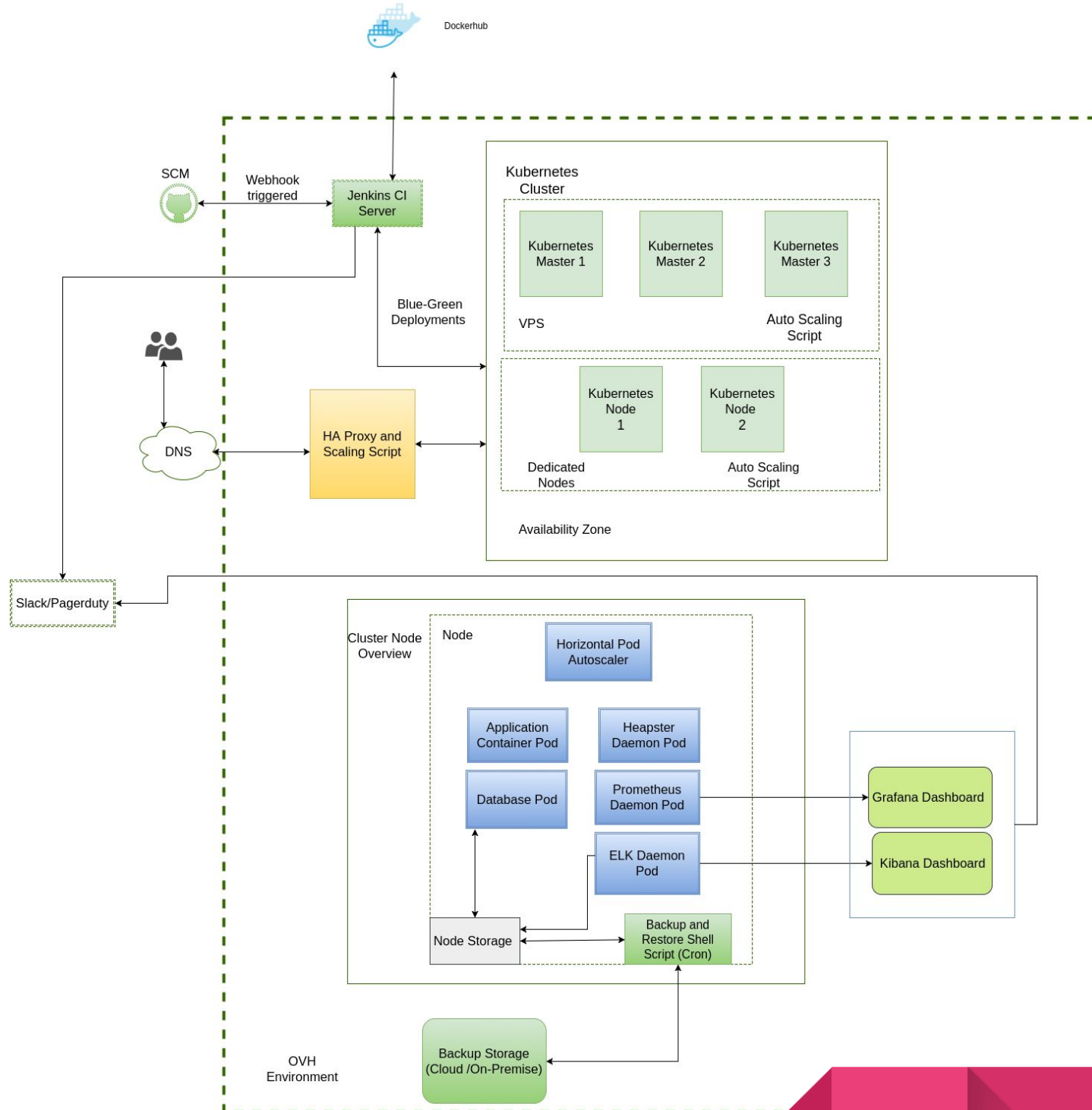
Overview

This document consist the suggested architecture for the Kubernetes in OVH environment. Also several milestones to achieve the reference architecture.

Architecture

Dockerhub

SCM

Webhook
triggered

Jenkins CI
Server

Kubernetes
Cluster

Kubernetes
Master 1

Kubernetes
Master 2

Kubernetes
Master 3

VPS

Auto Scaling
Script

Blue-Green
Deployments

Kubernetes
Node
1

Kubernetes
Node
2

DNS

HA Proxy and
Scaling Script

Dedicated
Nodes

Auto Scaling
Script

Availability Zone

Slack/Pagerduty

Cluster Node
Overview

Node

Horizontal Pod
Autoscaler

Application
Container Pod

Heapster
Daemon Pod

Database Pod

Prometheus
Daemon Pod

Grafana Dashboard

ELK Daemon
Pod

Kibana Dashboard

Node Storage

Backup and
Restore Shell
Script (Cron)

OVH
Environment

Backup Storage
(Cloud /On-Premise)

Milestones:

Kubernetes Cluster Creation:
The cluster creation is one of the most important task. And first milestone. It will take approximately 8 hours to configure cluster on-premise bare-metal.

Time Estimate: 8 hours (approximately)

Running App over Kubernetes:
This task consists creating Kubernetes manifests for the application. Creating replicas for container scaling. App must be running either with docker-compose or docker swarm.

Time Estimate: 10 hours (approximately)

Setting up CI and CD pipeline:
This task consists launching Jenkins master-slave architecture. Connecting Kubernetes cluster and creating build pipeline. All the automated tests and builds will run with Jenkins. The images will be stored to Image Registry.

Time Estimate: 10 hours (approximately)

Autoscaling , HAProxy and DNS:
This task will include setting up the HAProxy and autoscaling of the Kubernetes node depends on the bare-metal.

Time Estimate: 10 hours (approximately)

Monitoring , Backup , Logging and Alerting:

Consists monitoring , backup , logging and alerting of the System It will consist running kubernetes daemon on each node. Backup script will backup the node data to the cloud storage or on-premise storage.

Time Estimate: 8 hours (approximately)

Estimated Time: 46-50 hours (approximately)