kubernetes

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Awesome-Kubernetes

awesome build passing BUILD STATUS PENDING License CC 4.0 docker build passing
Slack Channel docs passing
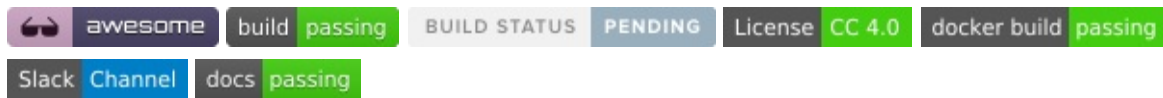
A curated list for awesome kubernetes sources Inspired by @sindresorhus' awesome
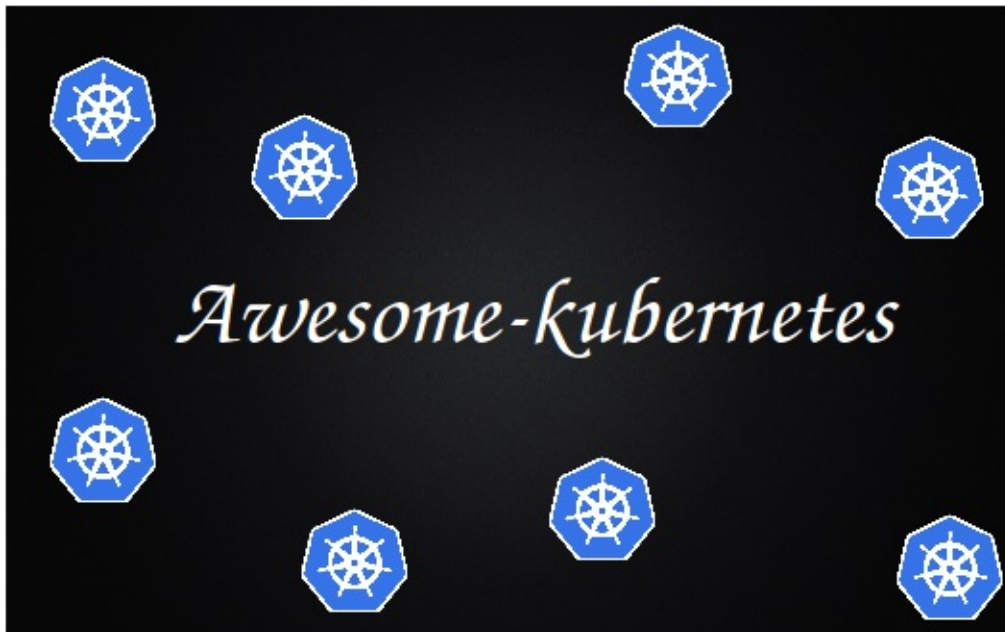
> "Talent wins games, but teamwork and intelligence wins championships."
>
> -- Michael Jordan

Without the help from these amazing contributors, building this awesome-repo would never has been possible. Thank You very much guys !!

Thanks to Gitbook.This awesome list can now be downloaded and read in the form of a book.Check it out --> https://www.gitbook.com/book/ramitsurana/awesome-kubernetes/ .Keep Learning Keep Sharing !!

If you see a package or project here that is no longer maintained or is not a good fit, please submit a pull request to improve this file. Thank you!

What is Kubernetes? :ship:

> Kubernetes is an open-source system for automating deployment, scaling, and management of containerized applications. It groups containers that make up an application into logical units for easy management and discovery.

Source: What is Kubernetes

History:

Kubernetes is known to be a descendant of Google's system BORG

> The first unified container-management system developed at Google was the system
> we internally call Borg. It was built to manage both long-running services and batch
> jobs, which had previously been handled by two separate systems: Babysitter and the
> Global Work Queue. The latter's architecture strongly influenced Borg, but was focused
> on batch jobs; both predated Linux control groups.

Source: Kubernetes Past

Date of Birth:

Kubernetes celebrates its birthday every year on 21st July. Kubernetes 1.0 was released on
July 21 2015, after being first announced to the public at Dockercon in June 2014.

Roadmap

The awesome-kubernetes will now soon be available in the form of different releases and
package bundles, It means that you can download the awesome kubernetes release up to a
certain period of time, The release for awesome kubernetes 2015 bundle is released.
Checkout the releases column for more info.

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Starting Point

A place that marks the beginning of a journey

- Kubernetes Community Overview and Contributions Guide by Ihor Dvoretskyi
- Are you Ready to Manage your Infrastructure like Google?
- Google is years ahead when it comes to the cloud, but it's happy the world is catching up
- An Intro to Google's Kubernetes and How to Use It by Laura Frank
- Getting Started on Kubernetes by Rajdeep Dua
- Kubernetes: The Future of Cloud Hosting by Meteorhacks

- Kubernetes by Google by Gaston Pantana
- Key Concepts by Arun Gupta
- Application Containers: Kubernetes and Docker from Scratch by Keith Tenzer
- Learn the Kubernetes Key Concepts in 10 Minutes by Omer Dawelbeit
- Top Reasons Businesses Should Move to Kubernetes Now by Mike Johnston
- The Children's Illustrated Guide to Kubernetes by Deis
- The 'kubectl run' command by Michael Hausenblas
- Docker Kubernetes Lab Handbook by Peng Xiao
- Curated Resources for Kubernetes
- Kubernetes Comic by Google Cloud Platform
- Kubernetes 101: Pods, Nodes, Containers, and Clusters by Dan Sanche
- An Introduction to Kubernetes by Justin Ellingwood
- Kubernetes and everything else - Introduction to Kubernetes and it's context by Rinor Maloku
- Installation on Centos 7
- Setting Up a Kubernetes Cluster on Ubuntu 18.04
- Cloud Native Landscape

Installers

- Bootkube - CoreOS - Cloud Agnostique
- Breeze - CentOS - Cloud Agnostique
- Conjure-up - Ubuntu - Cloud Agnostique
- Docker for MAC - Run Kubernetes and Docker locally on your MAC (Edge Channel)
- Docker for Windows - Run Kubernetes and Docker locally on your Windows PC (Edge Channel)
- Juju - Ubuntu - Cloud Agnostique
- k3s - Lightweight Kubernetes. Easy to install, half the memory, all in a binary less than 40mb
- kind - A tool for running local Kubernetes clusters using Docker container "nodes"
- Kops - OS Agnostique - AWS
- Kube-ansible - OS Agnostique - Cloud Agnostique
- Kube-aws - CoreOS - AWS
- Kube-deploy
- Kubeadm - OS Agnostique - Cloud Agnostique
- KubeNow - Ubuntu - Cloud Agnostique
- Kubernetes-Saltstack - `systemd` OS - Cloud Agnostique
- Kubespray - OS Agnostique - Cloud Agnostique
- Kubicorn - OS Agnostique - Cloud Agnostique

- Kublr - OS Agnostique - On-Prem - Cloud Agnostique
- Linode - CoreOS - Linode
- matchbox - CoreOS - Network boot and provision Container Linux clusters (e.g. etcd3, Kubernetes, more).
- MetalK8s - CentOS - On-Prem - Cloud Agnostique - Apache-2.0
- MicroK8s - A single package of k8s that installs on 42 flavours of Linux
- Minikube - Run Kubernetes locally
- RKE - OS Agnostique - Cloud Agnostique
- sealos - Simple kubernetes HA installer
- Simplekube - `systemd` OS - Cloud Agnostique
- Supergiant - CoreOS - Cloud Agnostique
- Terraform - CoreOS - AWS
- Typhoon - Container Linux - Cloud Agnostique

Main Resources

Official resources from the Kubernetes team

- Kubernetes Documentation
- Kubernetes Source
- Kubernetes Troubleshooting

Release Notes

Official release notes from the Kubernetes team on Stable Kubernetes Releases

- Kubernetes-1.14
- Kubernetes-1.13
- Kubernetes-1.12
- Kubernetes-1.11
- Kubernetes-1.10
- Kubernetes-1.9
- Kubernetes-1.8
- Kubernetes-1.7
- Kubernetes-1.6
- Kubernetes-1.5
- Kubernetes-1.4
- Kubernetes-1.3
- Kubernetes-1.2

Useful Articles

A piece of writing included with others in a newspaper, magazine, or other publication

Cloud Providers

- Kubernetes on AWS by CoreOS
- AWS Advent 2014 - CoreOS and Kubernetes on AWS by Tim Dsyinger
- Kubernetes and AWS VPC Peering by Ben Straub
- Testing Kubernetes on AWS by Alan Will
- Kubernetes: First steps on Amazon AWS by Remco
- Manage Kubernetes Clusters on AWS Using Kops
- Production grade Kubernetes on AWS: Primer (Part 1) by Guy Maliar
- Production grade Kubernetes on AWS: 4 tools that made our lives easier (Part 2) by Guy Maliar
- Production grade Kubernetes on AWS: 3 tips for networking, ingress and microservices (Part 3) by Guy Maliar
- Production grade Kubernetes on AWS: 3 lessons learned scaling a cluster (Part 4) by Guy Maliar
- Continuous Deployment with Google Container Engine and Kubernetes
- Creating a Kubernetes Cluster on DigitalOcean with Python and Fabric
- Deploy a Kubernetes development cluster with Juju! by Matt Bruzek
- Containers at Scale with Kubernetes on OpenStack by Keith Tenzer

Logging

- Logging in Kubernetes with Fluentd and Elasticsearch by Jon Langemak
- Logging - Kafka topic by namespace by Michael Ward

Monitoring

- Kubernetes Monitoring Guide by JM Saponaro
- Installing cAdvisor and Heapster on bare metal Kubernetes by Jon Langemak
- How to Monitor Kubernetes: A 4-Part Series

Security

- Kubernetes Security Guide - RBAC, TLS, Security policy, Network policy, etc.
- Handling Sensitive Data In A Docker Application with Kubernetes Secrets by John Kariuki

- How to Create and Use Kubernetes Secrets by Mohamed Ez Ez
- Kubernetes Security Best Practices by Peter Benjamin
- Running Vault and Consul on Kubernetes by Michael Herman

Authentication

- Kubernetes Authentication plugins and kubeconfig by Jon Langemak
- Kubernetes Authentication - OpenID Connect by Michael Ward
- Kubernetes authentication via GitHub OAuth and Dex by Amet Umerov

Networking

- Enable IPv6 on Kubernetes with Project Calico by Valentin Ouvrard
- Kubernetes in IPV6-only by Valentin Ouvrard
- Kubernetes 101 – Networking by Jon Langemak
- Kubernetes with OpenStack Cloud Provider: Current state and upcoming changes (part 1 of 2)
- Comparison of Networking Solutions for Kubernetes

CI/CD

- GitOps: High-Velocity CI/CD for Kubernetes
- Achieving CI/CD with Kubernetes by Ramit Surana
- Jenkins declarative pipelines with Kubernetes
- Adding CI/CD to your Spring Boot app with Jenkins X and Kubernetes by Matt Raible using Jenkins X
- Continuous Delivery with Amazon EKS and Jenkins X by Henryk Konsek using Jenkins X
- Continuous Integration and Delivery to AWS Kubernetes using Semaphore
- CI/CD for Microservices on DigitalOcean Kubernetes using Semaphore
- CircleCI

Deep Learning

- Automate deep learning training with Kubernetes GPU-cluster

Certifications

- How to pass the Certified Kubernetes Administrator (CKA) exam on the first attempt

Devops Tools

- Deploying Kubernetes with Ansible and Terraform
- Kubernetes with SaltStack revisited by Jon Langemak
- Try Kubernetes with Vagrant by Christoph Hartmann
- Cluster Consul using Kubernetes API
- Dynamic Kubernetes installation/configuration with SaltStack by Jon Langemak
- Deploying Kubernetes with SaltStack by Jon Langemak

Others

- Packaging Multiple Resources together
- Scaling Docker with Kubernetes by Carlos Sanchez
- Creating a Kubernetes Cluster to Run Docker Formatted Container Images by Chris Negus
- Containerizing Docker on Kubernetes !! by Ramit Surana
- Quay: Introducing an Application Registry for Kubernetes by Antoine Legrand
- Play With Kubernetes Quickly Using Docker
- 1 command to Kubernetes with Docker compose by Sebastien Goasguen
- Nginx Server Deployment using Kubernetes by Rajdeep Dua
- What even is a kubelet? by Kamal Marhubi
- Kubernetes from the ground up: the API server by Kamal Marhubi
- CoreOS + Kubernetes Step By Step by Coreos
- Deploying to Kubernetes with Panamax by Brian DeHamer
- Deploy Kubernetes with a Single Command Using Atomicapp by Jason Brooks
- Deploying a Bare Metal Kubernetes Cluster by James Kyle
- Kubernetes clusters with Oh-My-Vagrant by James
- Fleet Unit Files for Kubernetes on CoreOS by Michael Hamrah
- Kubernetes Container Orchestration through Java APIs by Keith Tenzer
- Docker Clustering Tools Compared: Kubernetes vs Docker Swarm
- Why Docker and Google Kubernetes Are Like PaaS Done Right
- Kubernetes Production Patterns (and Anti-Patterns)
- Introducing Kubic Project
- Three post learn k8s
- Kubernetes tips & tricks
- Running Flask on Kubernetes
- Deploying Node Apps the "Right" Way by Dan Pastusek

Managed Kubernetes

- Platform9
- OpenShift Online
- Eldarion Cloud
- StackPoint Cloud
- Hasura
- ELASTX

Cluster Managers

- Cisco Container Platform

- Gardener - Alibaba, AWS, Azure, GCP, and OpenStack cluster manager
- Gravity - Formerly Telekube
- Kqueen
- Kubermatic
- Kublr - AWS, Azure, GCP, vSphere, vCloud Director, and On-Prem cluster manager
- PKS - Cluster manager by Pivotal, VMWare and Google
- Rancher

Developer Platform

- DevSpace - Build, test and run code directly inside any Kubernetes cluster

- Draft - a tool for developers to create cloud native applications with Kubernetes
- Eclipse Che - cloud development workspaces with SSH and multi-user support
- Garden - Orchestrates your development workflows to make developing microservices faster and easier.
- goPaddle
- Knative - Platform to build, deploy, and manage modern serverless workloads
- Mantl
- Spring Cloud integration
- VAMP

Enterprise Kubernetes Products

- Canonical Distribution of Kubernetes - CDK

- Docker EE - Docker Enterprise Edition 2.0
- IBM Cloud Private
- Kublr - Kubernetes for the Enterprise - multi-cloud and on-prem Kubernetes operations center
- NetApp Kubernetes Service

- OpenShift - Container Platform
- SUSE Container as a Service

Public/Private Cloud

- Alibaba Cloud - Alibaba Cloud Container Service for Kubernetes
- AWS EKS - Amazon Elastic Container Service
- Azure AKS - Azure Kubernetes Service
- DigitalOcean - DigitalOcean Kubernetes
- GKE - Google Kubernetes Engine
- IKS - IBM Cloud Kubernetes Service
- OKE - Oracle Kubernetes Engine
- OVH Managed Kubernetes - OVH Managed Kubernetes
- Rackspace - Rackspace
- VMware Cloud PKS

PaaS

Kubernetes Platform as a Service providers

- Alauda Container Platform

- Containerum
- Eldarion Cloud
- Hasura
- Kel
- KubeSail - An easy, free way to try Kubernetes
- OpenShift Online/Dedicated/Container Platform
- OpenShift Origin (OKD)
- Rancher
- teresa - Simple PAAS that runs on top of Kubernetes.
- WSO2

Interactive Learning Environments

Learn Kubernetes using an interactive environment without requiring downloads or configuration

- Katacoda
- Kubernetes Bootcamp
- Magic Sandbox

- Play with Kubernetes

MOOC Courses / Tutorials

List of available free online courses(MOOC) and tutorials

Courses

- Scalable Microservices with Kubernetes at Udacity
- Introduction to Kubernetes at edX

Tutorials

- Kubernetes Tutorials by Kubernetes Team

- Kubernetes By Example by OpenShift Team
- Kubernetes Tutorial by Tutorialspoint
- Imperative vs. Declarative—a Kubernetes Tutorial by Adrien Trouillaud

Case Studies

Study of Various different case studies

- Building a Bank with Kubernetes
- Bringing Pokemon Go to Google Cloud
- Monitoring Kubernetes at Wayblazer
- Major League Soccer Monolith to Kubernetes Transition
- Using Kubernetes on AWS
- Kubernetes at Github
- Kubernetes the hard way (installation from scratch)
- Kubernetes Failure Stories

Persistent Volume Providers

List of some Persistent Volume Providers for Kubernetes.Check out Persistent Volume Providers for more info

- AWS
- CephRBD

- GCE
- Glusterfs
- Hitachi
- HPE
- Kube-Aliyun
- Linode
- Microsoft
- NetApp Trident
- OpenEBS
- OpenStack Cinder
- Portworx
- Pure Storage
- QuoByte
- Rancher Longhorn
- Rook
- StorageOS
- Stork

Container Storage Interface Plugins

List of some Container Storage Interface plugins for Kubernetes. Check out *Kubernetes-CSI* for more info

- AWS EBS
- AWS EFS
- AWS FSx for Lustre
- Ceph
- Cloudscale
- DigitalOcean
- DriveScale
- Ember
- Gluster
- Google Compute Engine Persistent Disk
- Hostpath
- Inmemory
- Intel PMEM-CSI
- Linode Block Storage
- Mesos
- MooseFs
- NetApp Trident

- Nexenta
- NFS
- Nutanix
- OpenSDS
- OpenStack Cinder
- Portworx
- Quobyte
- ScaleIO
- Virtual Filesystem
- VMware vSphere

Developer Libraries/ Scripts

List of some libraries & scripts for executions and good referrals

Python

- Pykube

Jenkins

- Jenkinsfile with Helm, Go, Docker, Kubectl, JNLP

Projects

Kubernetes-related projects that you might find helpful

Related Software

Projects built to make life with Kubernetes even better, more powerful, more scalable

- Ambassador - API Gateway built on the Envoy Proxy
- Argo - The Workflow Engine for Kubernetes
- Bitnami Kubernetes Production Runtime
- Client Libraries
- Fission Workflows - Workflow-based serverless function composition
- Forecastle - A dashboard which dynamically discovers and provides a launchpad to access applications deployed on Kubernetes

- Git Webhook Proxy - A proxy to let webhooks reach running services behind a firewall
- Hypernetes
- Ingress Monitor Controller - Watches ingress endpoints and automatically registers liveness alerts on the configured uptime checker
- kmachine
- KEDA - Kubernetes-based Event Driven Autoscaling
- kube-fledged - A K8S add-on for creating and managing a cache of container images directly on cluster worker nodes
- kube-openvpn
- Kubeform
- Kubefuse
- Kubefwd - Bulk port forwarding Kubernetes services for local development.
- Kubernetes Cluster Federation (previously Ubernetes)
- Kubernetes Ec2 Autoscaler
- Kubic-Project
- Reloader - Auto-load updates of ConfigMaps and Secrets into pods for Deployments, StatefulSets and DaemonSets
- Telepresence - Locally develop/debug services against a remote Kubernetes cluster

Package Managers

- CNAB - CNABs facilitate the bundling, installing and managing of container-native apps - and their coupled services.
- Helm - For further information, please check out - Awesome Helm.
- Cloudsmith - A fully managed package management SaaS, with first-class support for public and private Kubernetes registries (Docker + Helm Charts, plus many others).

Monitoring Services

To maintain regular surveillance over kubernetes

- Console
- BotKube - App that helps you monitor your Kubernetes cluster, debug critical deployments & gives recommendations for the standard practices
- Datadog
- eventrouter - simple introspective kubernetes service that forwards events to a specified sink.
- Goldpinger display, monitor and alert on inter-cluster connectivity
- Grafana Kubernetes App

- Heapster
- Instana
- kail - Kubernetes Log Viewer. Streams logs from all containers of all matching pods.
- Kubebox - Terminal console for Kubernetes
- Kubedash
- Kubernetes Operational View - read-only system dashboard for multiple K8s clusters
- Kubespy - Tools for observing Kubernetes resources in real time, powered by Pulumi.
- Kubetail
- Kubewatch
- Netsil
- New Relic - Kubernetes monitoring and visualization service.
- NexClipper - An open source software for monitoring Kubernetes and containers.
- Outcold Solutions - monitoring Kubernetes, OpenShift and Docker in Splunk Enterprise and Splunk Cloud (metrics and log forwarding)
- Prometheus
- Searchlight
- Sysdig Monitoring
- Sysdig Open Source
- The Elastic Stack - An open-source solution for monitoring and visualising K8s metrics, logs, application traces and more.
- Weave Scope

Testing

Test your applications running on Kubernetes

- chaoskube - periodically kills random pods in your Kubernetes cluster
- k8s-testsuite - Helm chart for network and loadtesting of a Kubernetes cluster
- kboom - The Kubernetes scale & soak load tester
- kind - A single node cluster to run your CI tests against thats ready in 30 seconds
- kube-monkey - Chaos Monkey for Kubernetes clusters
- Kubeadm-dind-cluster - multi-node test cluster based on kubeadm
- Litmus - Chaos engineering for stateful workloads on Kubernetes
- PowerfulSeal - kills targeted pods and machines to test your software reliability
- Sonobuoy - Diagnostic tool that runs Kubernetes conformance tests
- Test-Infra
- KubeInvaders - Gamified Chaos engineering tool for Kubernetes Clusters. It is like Space Invaders but alien ships are pods.

Continuous Delivery

Build-test-deploy automated workflow software designed to make production environments more stable and life better for engineers

- Jenkins
  - Jenkins-Kubernetes Plugin by Carlos Sanchez
  - Automated Image Builds with Jenkins, Packer, and Kubernetes
  - On-demand Jenkins slaves with Kubernetes and the Google Container Engine
  - Jenkins setups for Kubernetes and Docker Workflow
  - Lab: Build a Continuous Deployment Pipeline with Jenkins and Kubernetes
  - Jenkins Operator - Kubernetes native Jenkins operator
- Jenkins X - automated CI/CD for Kubernetes with GitOps Promotion and Preview Environments on Pull Requests using best of breed OSS tools like: Jenkins, Helm, Skaffold, Kaniko, Knative Build, Knative Pipeline and Prow
- Apollo - Open Source application providing teams with self service UI for creating and deploying their services to Kubernetes.
- Argo CD - Declarative continuous deployment for Kubernetes.
- Buildkite - Lean CI/CD cloud hosted control plane with agents on your infrastructure.
- Codefresh - Kubernetes CI/CD platform (with private Docker and Helm Chart repositories)
- GitLab
- k8s-deploy-helper - Framework to easily deploy Kubernetes applications via GitLab.
- kb8or
- Keel
- Kit
- Kontinuous
- KubeCI
- Razee
- Shippable
- Shipper - Kubernetes native multi-cluster canary or blue-green rollouts using Helm.
- Spinnaker
- Vili
- Weave Flux – GitOps reconcoliation operator
- Wercker

Serverless Implementations

- FaaS-netes
- Fission

- Funktion
- Iron.io
- Kubeless
- Nuclio
- OpenFaaS
- OpenWhisk
- Virtual Kubelet - Allows nodes to be backed by other services and providers.

Operators

- Cert manager
- Cert Operator
- cert-manager
- Container Linux Update Operator
- Couchbase
- DB Operator
- Elasticsearch
- etcd
- Istio
- K8s Operator Workshop
- Kafka
- Kong API
- kooper - Simple Go library to create Kubernetes operators and controllers
- Kubernetes Operators
- KubeVirt
- Kured - Kured (Kubernetes Reboot Daemon) is a Kubernetes daemonset that performs safe automatic node reboots
- Memcached
- MongoDB
- MySQL
- Operator Kit
- Operator SDK
- OperatorHub.io - A new home for the Kubernetes community to share Operators
- PostgreSQL
- PostgreSQL - manage PostgreSQL clusters using StatefulSets and Patroni.
- Prometheus

Custom Schedulers

- bashScheduler - Written in bash
- escheduler - Written in elixir
- firmament
- ksched - Experimental flow based scheduler
- Scheduler - Cost based scheduler
- Sticky Node Scheduler

Container Support

A list of linux containers supported by kubernetes.

- Docker
- Rkt
    - Rktnetes
    - rktlet - Rkt implementation of a Kubernetes
- containerd
- cri-containerd - Containerd-based implementation of Kubernetes Container Runtime Interface
- CRI-O
- Hyper.sh/frakti - Hypervisor-based container runtime
- virtlet - Kubernetes CRI implementation for running VM workloads
- infranetes
- Kata Containers

Database

- Apache Ignite - Memory-centric distributed database, caching, processing platform
- Cassandra / DataStax
- CockroachDB
- Crate
- Hazelcast
- Minio
- MongoDB
- RDS - Provision RDS databases via CRD from Kubernetes
- Vitess - Horizontal scaling of MySql by Youtube

Networking

- AWS VPC CNI - Networking plugin using Elastic Network Interfaces
- Calico
- Canal by Tigera
- Cilium
- Cisco ACI - CNI plugin from Cisco support ACI fabrics
- CNI-Genie
- cni-ipvlan-vpc-k8s
- Contiv
- External DNS - To control DNS records dynamically via Kube resources
- Goldpinger display, monitor and alert on inter-cluster connectivity
- Infoblox
- Kube-router
- kubernetes-network-policy-recipes
- Kuryr
- Linen
- Multus-cni - Multi-homed pod cni
- Network-Controller - Open vSwitch, Multiple network interfaces that associate with Kubernetes pods
- NSX-T - CNI plugin supporting load balancing and distributed firewalls.
- Nuage
- OpenContrail
- OpenVSwitch
- Romana
- Weave Net

Service mesh

- Consul
- Envoy
- Istio
- Linkerd
- Weave Mesh

RPC

- gRPC
- Micro

Secret generation and management

- CyberArk Conjur Kubernetes Authenticator - Secure your Kubernetes-deployed applications with CyberArk Conjur
- k8sec
- Kamus - A GitOps, zero-trust solution for secrets encryption/decryption solution.
- kube-lego
- kubernetes-vault
- kubesec - Secure Secret management
- Sealed Secrets
- Secure GitOps Using Weave Cloud Deploy And Bitnami's Sealed Secrets
- Vault auth plugin backend: Kubernetes
- Vault controller

Web applications

- Kubernator
- Kubeapps - A web-based UI for deploying and managing applications in Kubernetes clusters
- Polaris - An open source dashbord for Kubernetes best practices

Desktop applications

- Kubernetic

Mobile applications

- Cabin
- Cockpit

API/CLI adaptors

- click - A CLI focused REPL for quickly interacting with Kubernetes objects.
- Ksql
- kube-prompt - Interactive kubernetes client built using go-prompt.
- kube-ps1 - Kubernetes prompt helper for bash and zsh.
- Kube-shell - Integrated shell for working with the Kubernetes CLI

- kube-tmux - Kubernetes tmux plugin to display the current context and namespace
- Kubectl Aliases - Aliases for Kubectl
- kubectl-plugins - A collection of kubectl plugins handling everything from easy context switches to connecting to a container as any user (root included) via exec. Slightly tailored towards GKE users.
- kubectl-trace - Schedule bpftrace programs on your kubernetes cluster using this kubectl plugin
- kubectld
- kubectx - switch between clusters on kubectl
- Kubefuse
- kubens - switch between namespaces on kubectl
- kubensx - Simpler Cluster/User/Namespace switching for Kubernetes (featuring interactive mode and wildcard/fuzzy matching).
- kubeplay
- Kubesh - Work around kubectl
- StackStorm
- stern - Multi pod and container log tailing
- Vikube - Kubernetes operations from Vim, in Vim

Application deployment orchestration

- AppController
- Brigade - Event Based Scripting using JavaScript
- Deployment manager
- ElasticKube
- Gitkube - Build and deploy docker images on Kubernetes using `git push`.
- IBM UrbanCode
- Kb8or
- Nulecule
- Psykube
- Skaffold - Command line tool that facilitates continuous development for Kubernetes applications.

Configuration

- Ansible
- Chef
- Habitat
- Jsonnet

- K8comp
- kapitan - Manage complex deployments using jsonnet and jinja2
- kenv
- Kompose
- Konfd
- Ktmpl
- kubecfg - Combines jsonnet and kubectl to let you declare systems in an easy to override way
- kubediff
- kubegen
- kustomize - Customization using partial specs
- Pulumi - Provides a SDK for k8s deployments targeting on-premises clusters and major cloud vendors' managed services.
- Puppet
- Saltstack
- thesus - A command-line utility and importable package for comparing sets of Kubernetes objects
- Cue - A data constraint language which aims to simplify tasks involving defining and using data. Cue is a superset of JSON

Security

- Aquasec
- Authenticator - A tool for using AWS IAM credentials to authenticate to a Kubernetes cluster
- Calico Network Policy (from Tigera) - Widely adopted open source implementation unifying Kubernetes Network Policy and Istio Application Policy.
- Dex - OpenID and OAuth for Kubernetes
- Guard - Authenticaton webhook server with support for Github, Gitlab, Google, Azure and LDAP (AD) as identity providers.
- kiam - Allows cluster users to associate AWS IAM roles to Pods.
- kube-bench - The Kubernetes Bench for Security is a Go application that checks whether Kubernetes is deployed according to security best practices.
- kube-hunter - Hunt for security weaknesses in Kubernetes clusters.
- kube-psp-advisor - Help building an adaptive and fine-grained pod security policy.
- kube2iam - Provides different AWS IAM roles for pods running on Kubernetes
- Kubesec.io
- Pomerium - a zero-trust identity-aware access proxy inspired by BeyondCorp.
- Rakkess - Kubectl plugin to show an access matrix for all available resources.

- Sysdig Falco
- Sysdig Secure
- Tigera Secure Cloud Edition
- Tigera Secure Enterprise Edition
- Trireme
- Twistlock

Load balancing

- Avi Networks - Software Load Balancer | Intelligent WAF | Elastic Service Mesh
- AWS ALB Ingress Controller
- Cloudflare Warp Ingress
- Contour - Kubernetes ingress controller for Lyft's Envoy proxy
- F5 Big IP Controller
- Gimbal - Platform capable of routing traffic to multiple Kubernetes and OpenStack clusters
- Gloo - Envoy-based API gateway and ingress controller
- HAProxy Ingress
- Linode NodeBalancer Ingress
- MetalLB - load-balancer implementation for bare metal Kubernetes clusters, using standard routing protocols.
- NGINX Ingress Controller
- Nginx Plus
- Skipper - HTTP router and reverse proxy for service composition, including use cases like Kubernetes Ingress
- Traefik
- Voyager - Secure HAProxy based Ingress Controller
- Yggdrasil - Envoy Control Plane for Kubernetes Multi-cluster Ingress

Big Data

- Kube-Yarn
- Spark

Machine Learning

- FfDL - Deep Learning Platform offering TensorFlow, Caffe, PyTorch etc. as a Service on Kubernetes

- kubeflow - Machine Learning Toolkit for Kubernetes.
- MLT - Machine Learning Container Templates: easy to use container and kubernetes object templates.
- mxnet-operator - Tools for ML/MXNet on Kubernetes.
- Polyaxon - An open source platform for reproducible machine learning and deep learning on kubernetes
- seldon-core - Open source framework for deploying machine learning models on Kubernetes
- TensorFlow k8s

Service Discovery

- Consul
    - Kelsey Hightower Consul
    - Bridge between Kubernetes and Consul

Operating System

- CoreOS
- GCI
- k3OS
- Kurma
- LinuxKit
- Talos

YAML/JSON Config

- kompose
- ksonnet-lib
- kube-libsonnet - Generic library of Kubernetes objects for Jsonnet/Kubecfg with object to array mapping for painless overrides.
- kubegen
- kubeval

Static Analysis

- kube-score - Kubernetes object analysis with recommendations for improved reliability

and security
* popeye - Kubernetes cluster resource sanitzer

Tuning

* Ktune

Backup and Disaster Recovery

* Velero - Utility for managing backup and restore of Kubernetes clusters. Formerly Heptio Ark.
* K8up - Kubernetes and OpenShift Backup Operator based on restic
* burry.sh - Cloud Native backup and recovery for etcd, zookeeper and consul
* kube-backup - Sync kubernetes state to git.

Plugins

* Krew - Plugin Manager

Raspberry Pi

Some of the awesome findings and experiments on using Kubernetes with Raspberry Pi.

* Check out Kubecloud
* Setting up a Kubernetes on ARM cluster
* Setup Kubernetes on a Raspberry Pi Cluster easily the official way! by Mathias Renner and Lucas Käldström
* How to Build a Kubernetes Cluster with ARM Raspberry Pi then run .NET Core on OpenFaas by Scott Hanselman

Books

A written or printed work consisting of pages glued or sewn together along one side and bound in covers that provide us with information

* Cloud Native DevOps with Kubernetes by John Arundel, Justin Domingus (blog)
* DevOps with Kubernetes by Hideto Saito, Hui-Chuan Chloe Lee, Cheng-Yang Wu

- Docker and Kubernetes Under the Hood (Chinese) by Harry Zhang, Jianbo Sun and ZJU SEL lab
- Docker in Action, Second Edition by Jeff Nickoloff and Stephen Kuenzli
- Docker in Practice, Second Edition by Ian Miell & Aidan Hobson Sayers
- Getting Started with Kubernetes by Jonathan Baier
- Golden Guide to Kubernetes Application Development by Matthew Palmer
- Kubernetes Book (OpenSource Book) by Leverege Developers
- Kubernetes Cookbook - Second Edition by Hideto Saito, Hui-Chuan Chloe Lee, Ke-Jou Carol Hsu
- Kubernetes Design Patterns and Extensions by Onur Yilmaz
- Kubernetes Handbook (OpenSource Book in Chinese) by Pengfei Ni
- Kubernetes Handbook (OpenSource Book in Chinese) by Jimmy Song
- Kubernetes in Action by Marko Lukša
- Kubernetes: Scheduling the Future at Cloud Scale by Dave K. Rensin
- Kubernetes: Up and Running by Kelsey Hightower
- Mastering Kubernetes by Gigi Sayfan
- OpenShift in Action by Jamie Duncan & John Osborne
- Playing with Java Microservices on Kubernetes and OpenShift by Nebrass Lamouchi
- The DevOps 2.3 Toolkit: Kubernetes by Viktor Farcic

Certifications

A list of some credible certifications to certify yourself as Kubernetes expert

- Certified Kubernetes Administrator (CKA)

Slide Presentations

A slide is a single page of a presentation created with software such as PowerPoint or OpenOffice Impress.

- A brief study on Kubernetes and its components by Ramit Surana
- Achieving CI/CD with Kubernetes by Ramit Surana
- An Introduction to Kubernetes by Imesh Gunaratne
- Architecture Overview by enakai00
- Cluster management with Kubernetes by Satnam Singh
- Kubernetes and CoreOS @ Athens Docker meetup by Mist.io
- Kubernetes Scaling SIG (K8Scale) by Bob Wise
- Moving to Kubernetes - Tales from SoundCloud by Tobias Schmidt

- Musings on Mesos: Docker, Kubernetes, and Beyond. by Timothy St. Clair
- Package your Java EE Application using Docker and Kubernetes by Arun Gupta
- Scaling Jenkins with Docker and Kubernetes by Carlos Sanchez
- The Top 5 Metrics to Monitor in Kubernetes
- Zero downtime-java-deployments-with-docker-and-kubernetes by Arjan Schaaf

Videos

A recording of moving visual images made digitally or on videotape.

Main Account

- Google Developers
- Kubernetes

Other Useful Videos

- A Technical Overview of Kubernetes by Bredan Burns
- Alpaca Kubernetes on AWS by Adrien Lemaire
- Arun Gupta: Package your Java applications using Docker and Kubernetes by Arun Gupta
- Container Orchestration using CoreOS and Kubernetes by Kelsey Hightower
- DevNation 2015 - Paul Bakker - Kubernetes: Beyond the basics by Paul Bakker
- Docker Containers and Kubernetes with Brian Dorsey by Brian Dorsey
- Google I/O 2014 - Containerizing the Cloud with Docker on Google Cloud Platform by Google Developers
- Kubernetes-Defined Monitoring
- Kubernetes: The Journey So Far - Greg DeMichillie by Greg DeMichillie
- Managing Containers at Scale with CoreOS and Kubernetes by Kelsey Hightower
- Shanghai '18: KubeCon + CloudNativeCon
- Testing Distributed Software on Kubernetes with PowerfulSeal at Kubecon 2017 Austin by Mikolaj Pawlikowski

CI/CD Videos

- Automating CI/CD on Kubernetes with Jenkins X by James Strachan using Jenkins X with these slides

Interesting Twitter Accounts

Twitter is quick, it's easy to communicate on, and is a very valuable social channel for a brand or business if you use it to its full potential, By following these news aggregators, rolling news channels, and companies, you can get the inside scoop of a story long before it hits the mainstream news outlets.

- Apcera
- CoreOS
- DevOps Summit
- Engine Yard
- Google Cloud Platform
- Kismatic
- Kube Con
- KubeFacts
- Kubernetes
- KubeWeekly
- Learnk8s
- Skippbox - Acquired by Bitnami
- Sysdig

Amazing People

- Ahmet Alp Balkan, Software Engineer at Google & Google Kubernetes Engine
- Aparna Sinha, Group Product Manager - Kubernetes at Google
- Arun Gupta, Principal Open Source Technologist at Amazon Web Services
- Brandon Philips, CTO at CoreOS
- Brendan Burns, Partner Architect at Microsoft
- Brian Grant, Principal Engineer at Google, Lead Architect of Kubernetes
- Carlos Sanchez, Senior Software Engineer, CloudBees
- Chris Aniszczyk, Chief Operating Officer at Cloud Native Computing Foundation
- Eric Tune, Senior Staff Engineer at Google
- Ihor Dvoretskyi, Developer Advocate at Cloud Native Computing Foundation
- Jessie Frazzelle, Cloud Developer Advocate at Microsoft
- Joe Beda, Founder and CTO at Heptio
- Joseph Jacks, Entrepreneur In Residence at Quantum Corporation
- Kelsey Hightower, Staff Developer Advocate at Google
- Kris Nova, Engineer at Heptio, Creator of Kubicorn
- Michelle Noorali, Software Engineer at Microsoft

- Paris Pittman, Developer Relations Manager - Kubernetes at Google
- Patrick Reilly, Office of the CTO at Cisco, Cisco board of member for CNCF
- Tim Hockin, Senior Staff SW Engineer / Engineering Manager at Google

Meetup Groups

An awesome way to connect with kubernauts around the globe

- Amsterdam
- Amsterdam #2
- Atlanta
- Bangalore
- Berlin
- Boston
- Hamburg
- Hong Kong
- London
- Munich
- New York
- Paris
- Pittsburgh
- Pune
- San Diego
- San Francisco
- Seattle
- Tunisia
- Worldwide

Connecting with Kubernetes

- Blog
- Community Q&A – The Office Hours
- Community
- Freenode
- Google +
- Mailing List (developer/contributor discussion)
- Mailing List (user discussion and Q&A)
- Reddit

- Slack
- Stackoverflow
- Twitter

Conferences

Some must to go and attend conferences on kubernetes

- Container Camp
- ContainerDays
- Devoxx
- Docker Con
- GCP Next
- Kubecon

Contributing

Contributions are most welcome!

This list is just getting started, please contribute to make it super awesome.

Check out the Contributing Guidelines.

License

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