mypodVideos On Kubernetes Concepts

Book: Kubernetes Up & Running (Ch 1-14) (skip ch 7-8 from this book and read the networking book)

Networking and Kubernetes (Ch 1-5)

What is Kubernetes: https://www.youtube.com/watch?v=VnvRFRk_51k

- https://kubernetes.io/docs/concepts/overview/what-is-kubernetes/
- https://kubernetes.io/docs/concepts/overview/components/

Kubernetes Architecture:

https://www.youtube.com/watch?v=umXEmn3cMWY
https://www.youtube.com/watch?v=8C_SCDbUJTg
https://www.youtube.com/watch?v=_3NUI5vasPk&t=780s

Ch - 1, 2, 3

- https://kubernetes.io/docs/concepts/overview/components/

https://www.youtube.com/watch?v=cC46cg5FFAM&list=PLIivdWyY5sqLmnGdKSdQIXq2sd_1bWSnx

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Kubernetes Namespaces: https://www.youtube.com/watch?v=K3jNo4z5Jx8

Kubernetes Configuration(YAML) File:

https://www.youtube.com/watch?v=qmDzcu5uY1I&t=2s

Ch - 4

Kubernetes Pods and Containers:

https://www.youtube.com/watch?v=5cNrTU6o3Fw
https://www.youtube.com/watch?v=6uvHVVNq34w&t=983s

Ch - 5

Kubernetes API

- https://kubernetes.io/docs/reference/using-api/
- https://kubernetes.io/docs/reference/using-api/api-concepts/

Kubernetes Services:

Networking and Kubernetes (Ch 1-5)

~~https://www.youtube.com/watch?v=5IzUpDtmWgM~~
~~https://www.youtube.com/watch?v=J30_ZdaEXbw~~
~~https://www.youtube.com/watch?v=eth7osiCryc~~ ~~(NodePort)~~
~~https://www.youtube.com/watch?v=dVDEIh_Kd48&t=25s~~~~(ClusterIP)~~
~~Ingress:~~
~~https://www.youtube.com/watch?v=80Ew_fsV4rM&t=671s~~
~~EndPoint Slices:~~
~~https://nigelpoulton.com/blog/f/kubernetes-endpoint-slices-explained~~

~~Book: Ch 6, 7, 8~~

Controllers:
https://www.youtube.com/playlist?list=PLMPZQTftRCS8Pp4wiiUruly5ODScvAwcQ
(Watch the videos on following topics from this playlist - ReplicaSet, ReplicationController, Deployments, DaemonSet, Jobs)
https://www.youtube.com/watch?v=pPQKAR1pA9U (StatefulSet)

Book: Ch - 9, 10, 11, 12

ConfigMap and Secret: https://www.youtube.com/watch?v=FAnQTgr04mU

Ch - 13

RBAC

Ch - 14

- https://learnk8s.io/authentication-kubernetes

- https://kubernetes.io/docs/concepts/security/controlling-access/

- https://kubernetes.io/docs/reference/access-authn-authz/authentication/
- https://kubernetes.io/docs/reference/access-authn-authz/rbac/
- https://kubernetes.io/docs/reference/access-authn-authz/service-accounts-admin/

Storage

https://www.youtube.com/watch?v=0swOh5C3OVM (Volume, PV and PVC)
https://www.youtube.com/watch?v=TnfvE8o9wmg (Volume)
https://www.youtube.com/watch?v=x2sMWUkasoE&t=10s (PV and PVC)

Ch - 15

- Volumes
- Persistent Volumes
- Storage Classes
- Dynamic Volume Provisioning
- Storage Capacity

Resource Management

- https://kubernetes.io/docs/concepts/configuration/manage-resources-containers/

Linux / Kubernetes Networking

Introduction to Open vSwitch (OVS)
VXLAN overlay networks with Open vSwitch.
Kubernetes Networking
Understanding kubernetes networking: pods | by Mark Betz | Google Cloud - Community
Understanding Kubernetes Networking — Part 1 | by Sumeet Kumar | Microsoft Azure

Cloud LB -> Node -> Ingress Controller Pod (Nginx, HAProxy) -> App svc:{App Pod}

Blue / Green Deployment

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1. Overview
    a. What is Kubernetes
    b. Kubernetes Components
    c. The Kubernetes API
    d. Working with Kubernetes Objects
        i. Understanding Kubernetes Objects
        ii. Kubernetes Object Management
        iii. Object Names and IDs
        iv. Namespaces
        v. Labels and Selectors
        vi. Annotations
        vii. Field Selectors
        viii. Recommended Labels
2. Cluster Architecture
    a. Nodes
    b. Control Panel-Node Communication
    c. Controllers
    d. Cloud Controller Manager
3. Containers
    a. Images
    b. Container Environments
    c. Runtime Class
    d. Container Lifecycle Hooks
4. Workloads
    a. Pods
        i. Pod Lifecycle
        ii. Init Containers
        iii. Pod Topology Spread Constraints
        iv. Pod Presets
        v. Disruptions
        vi. Ephemeral Containers
    b. Controllers
        i. ReplicaSet
        ii. ReplicationController
        iii. Deployments
        iv. StatefulSets
        v. DaemonSet
        vi. Jobs
        vii. Garbage Collection
        viii. TTL Controller for Finished Resources
        ix. CronJob

5. Services, Load Balancing, and Networking
    a. Service
    b. Service Topology
    c. EndpointSlices
    d. DNS for Services and Pods
    e. Connecting Applications with Services
    f. Ingress
    g. Ingress Controllers
    h. Network Policies
    i. Adding entries to Pos/etc/hosts with HostAliases
    j. IPv4/IPv6 dual-stack
6. Storage
    a. Volumes
    b. Persistent Volumes
    c. Volume Snapshots
    d. CSI Volume Cloning
    e. Storage Classes
    f. Volume Snapshot Classes
    g. Dynamic Volume Provisioning
    h. Node-specific Volume Limits
7. Configuration
    a. Configuration Best Practices
    b. ConfigMaps
    c. Secrets
    d. Managing Resources for Containers
    e. Pod Overhead
    f. Resources Bin Packing for Extended Resources
    g. Organizing Cluster Access Using kubeconfig Files
    h. Pod Priority and Preemption
8. Security
    a. Overview of Cloud Native Security
    b. Pod Security Standards
9. Policies
    a. Limit Ranges
    b. Resource Quotas
    c. Pod Security Policies
10. Scheduling and Eviction
    a. Kubernetes Scheduler
    b. Taints and Tolerations
    c. Assigning Pods to Nodes
    d. Scheduling Framework

    e. Scheduler Performance Tuning
11. Cluster Administration
12. Extending Kubernetes

    a. Volumes - 10
    b. Persistent Volumes 11
    c. Volume Snapshots 12
    d. CSI Volume Cloning 01
    e. Storage Classes 02
    f. Volume Snapshot Classes 03
    g. Dynamic Volume Provisioning 04
    h. Node-specific Volume Limits 05