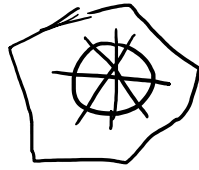# Kubernetes - K8s

Cluster - K8s env. (Logical group)

Nodes - Physical device - CPU + Mem (Physical group)
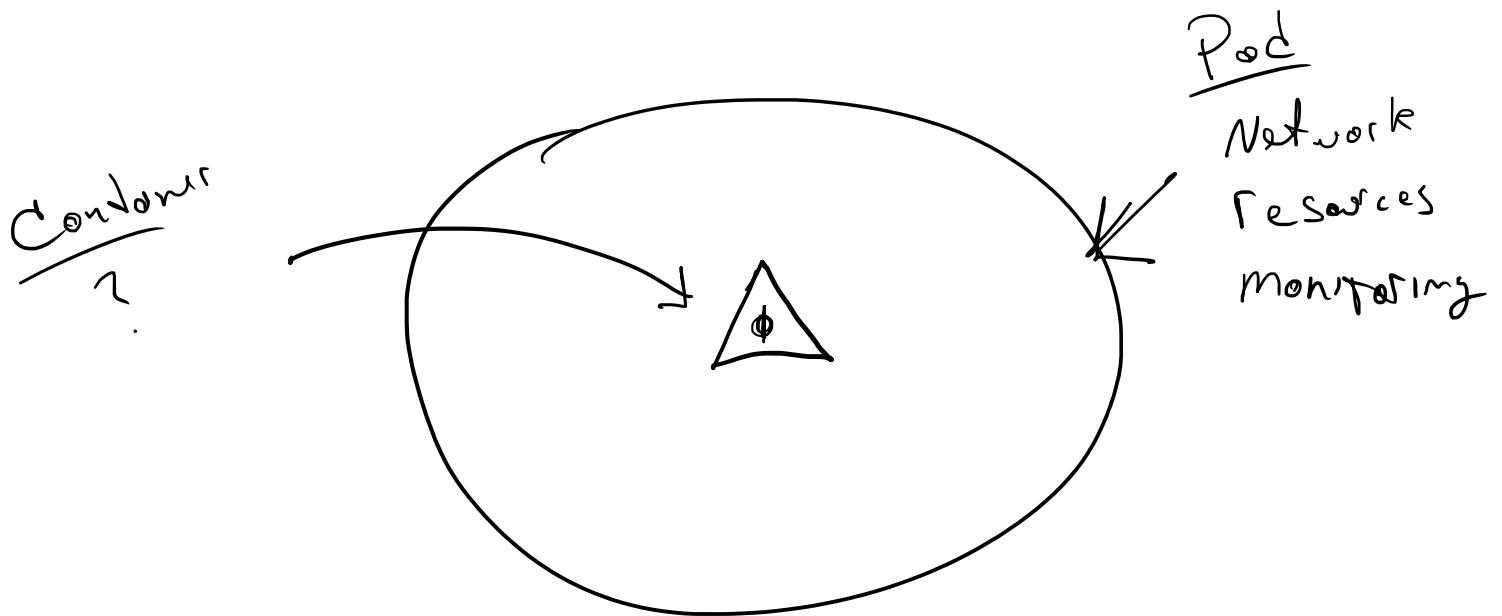
Pod - Contains Containers (Logical group)
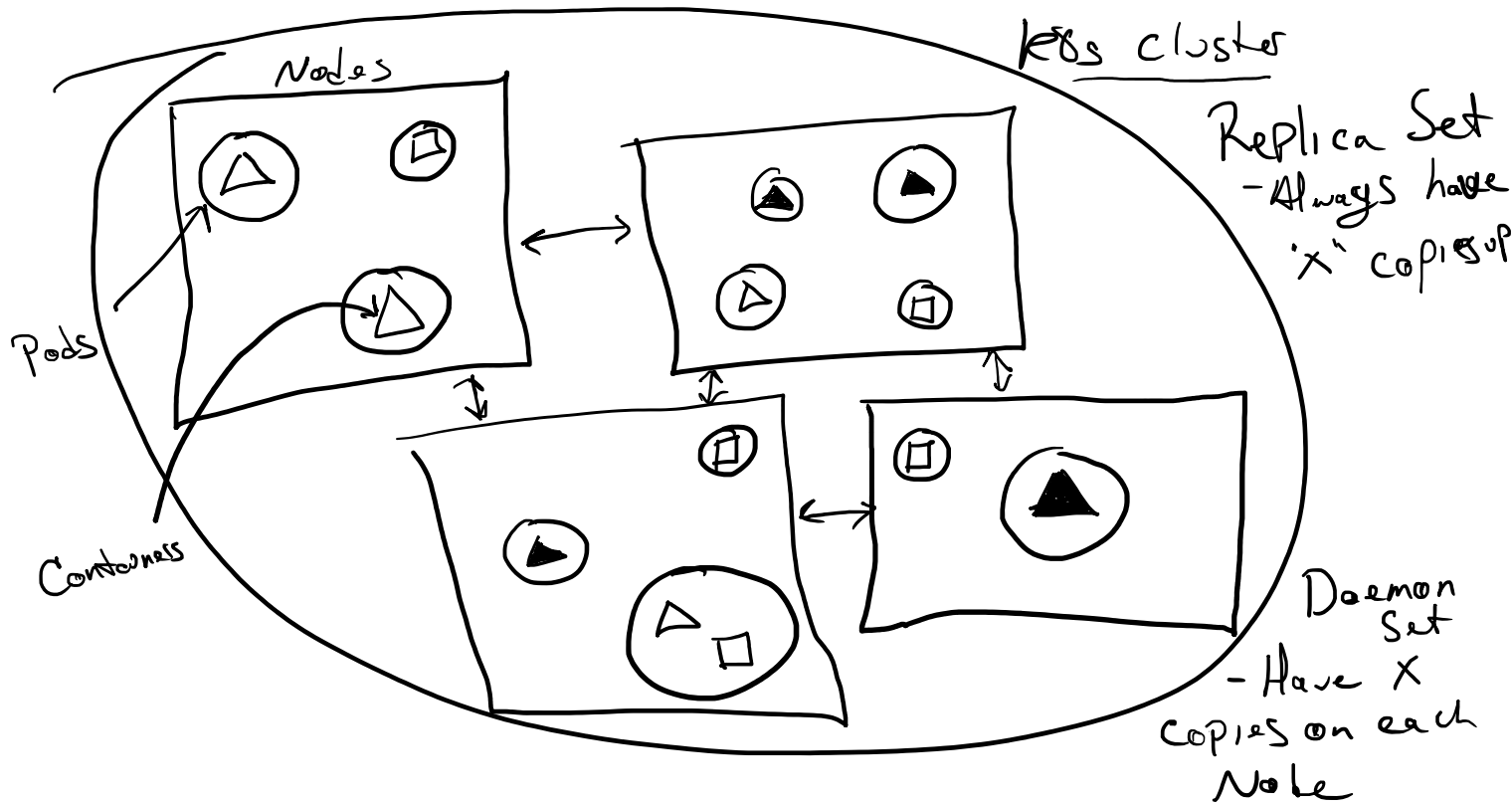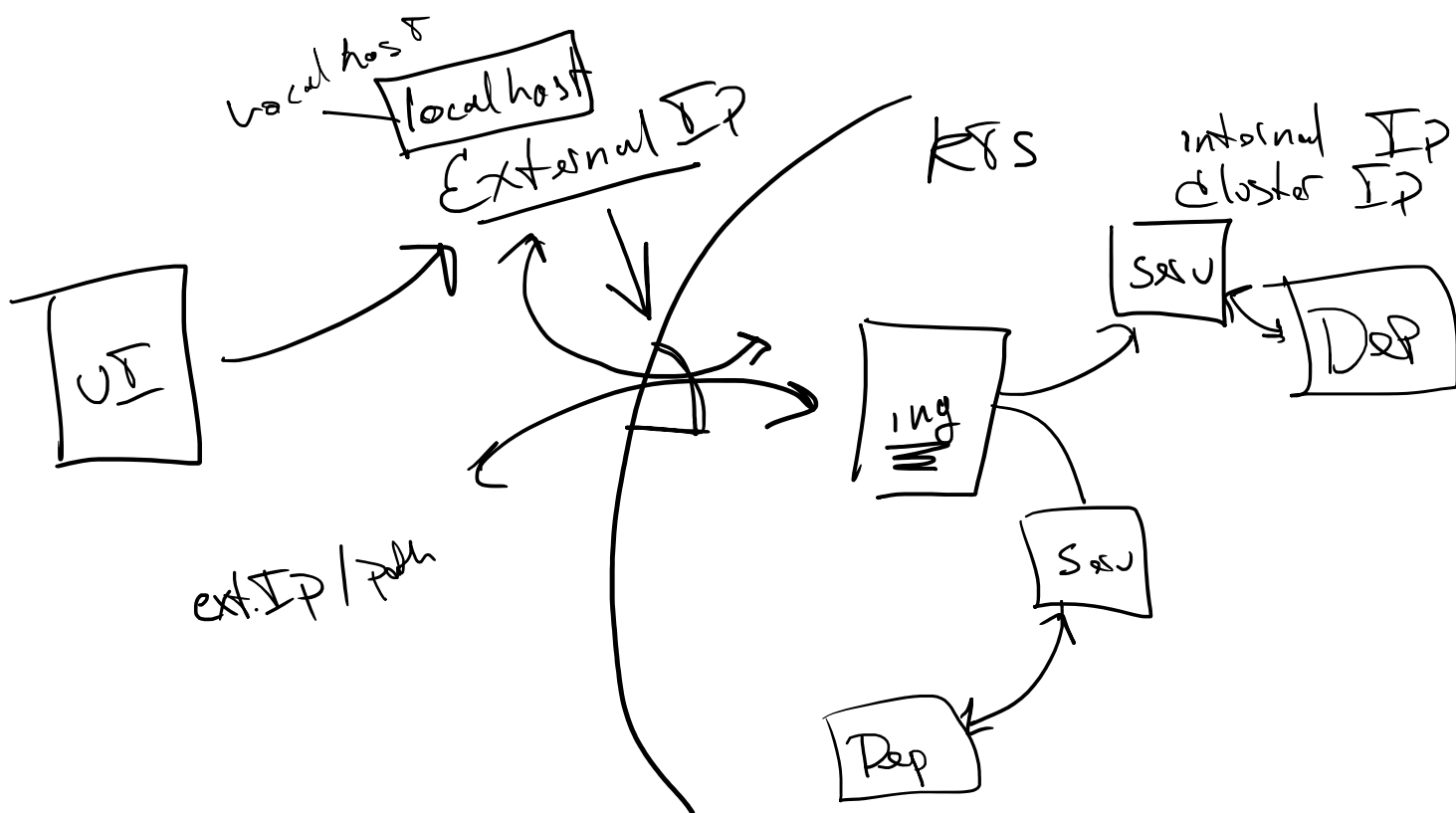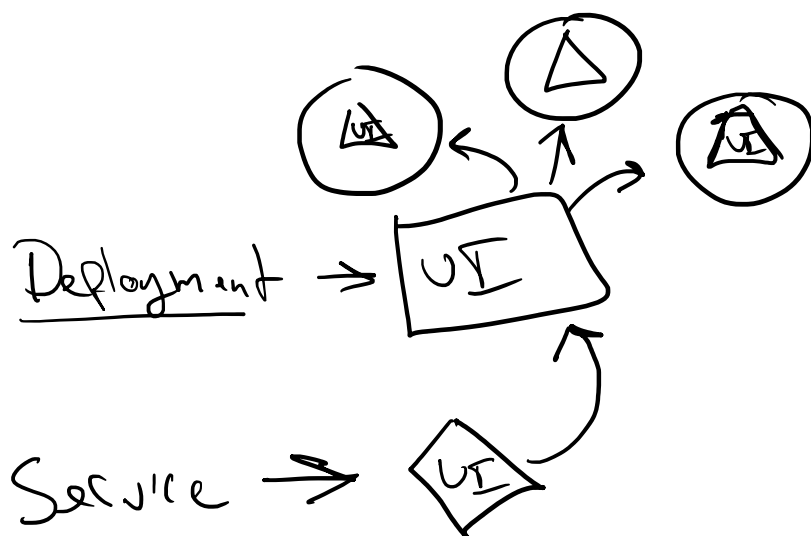   (Anything smaller is considered part of the pod)

Lables - Provides a way to reference diff components.

Namespace - Provides a logical segmentation of a
        cluster

Deployment - describes the configuration for a
        Micro Service. Focuses on creating Pods.

Service - describes the connectivity for a deployment.

Nodes

K8s cluster

Replica Set
- Always have 'X' copies up

Pods

Containers

Daemon Set
- Have X copies on each Node

Container
?

Pod
Network
resources
monitoring

Service → Deployment

Deployment → UI

Service → UI

localhost
localhost
External IP

UI

ext.IP/path

KFS

ing

Sev

Dep

internal IP
cluster IP

Sev

Dep
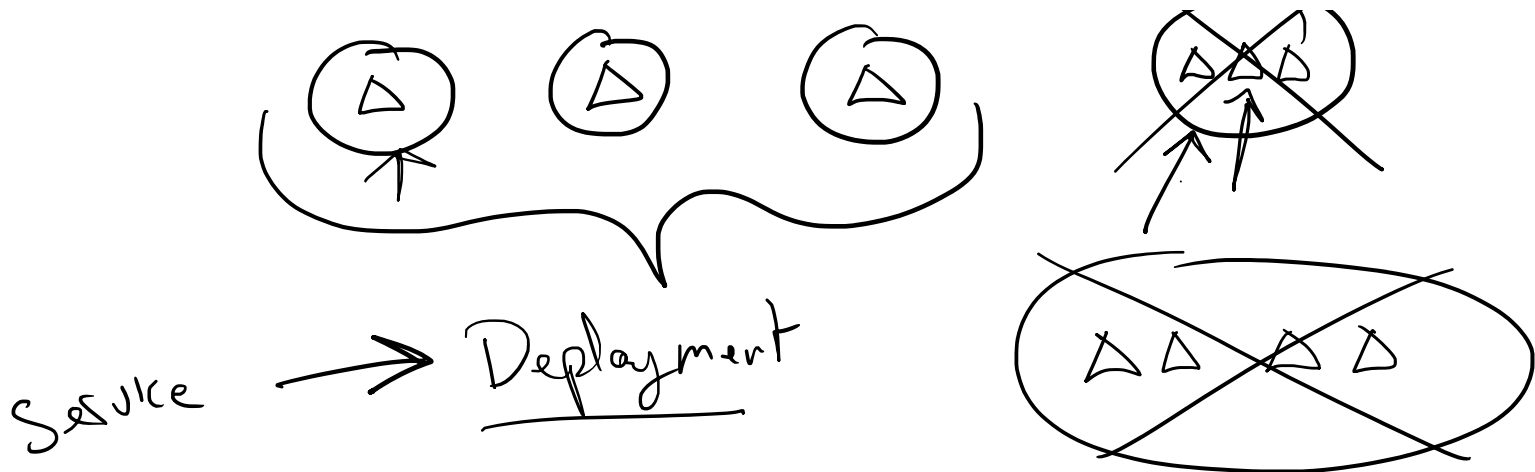
Helm → Apply Configuration to a k8s
         Cluster

Helm Chart → Configuration File

Ingress → Routing Configuration in k8s
          usually easier to install w/ Helm

Ingress Controller → All the function

I A C - Infra. As Code
  - Repeatable
  - Consistent   Terraform
  - Portal v script speed   _____
  = Automation   Provisioning
    _____   _____
  - CLI interaction

- Terraform — Provision Resources
- Helm   — Deploy Clusters @ one time
- Graphana - visuals
- Prometheus - Query info

- Prometheus - Query info
- Loki - Log aggregation