

## Day - 1

### • Intra-pod communication (container to container)

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- Inter-pod communication (pod to pod)

- Pod to service communication

- External access

- Kubernetes networking versus Docker networking

- Lookup and discovery

- Self-registration

- Services and endpoints

- Loosely coupled connectivity with queues

- Loosely coupled connectivity with data stores

- Kubernetes ingress

### • Basic Linux networking

- Basic Linux networking

- IP addresses and ports

- Network namespaces

- Virtual Ethernet devices

- Bridges

- Routing

- Maximum transmission unit

- Pod networking

- Kubenet

- Requirements

- Setting the MTU

- Container networking interface

- Container runtime

- CNI plugin

- **Networks on Bare Metal Clusters**

- Bridging on bare metal clusters
- Contiv
- Open vSwitch
- Nuage networks VCS
- Canal
- Flannel
- Calico project
- Romana

- **Network Policies on Kubernetes**

- Quickstart for Calico on Kubernetes
- Secure a simple application using the Kubernetes NetworkPolicy API
- Control ingress and egress traffic using the Kubernetes NetworkPolicy API
- Create a user interface that shows blocked and allowed connections in real time
- Install and configure calicoctl
- Project Calico Troubleshooting

- **Network Policies on Kubernetes**

- How it works
- Getting started on Kubernetes
- Deploying flannel manually
- Building & Configuration flannel
- flannel Backends & Running
- flannel Troubleshooting
- Projects integrating with flannel
- Using network policies effectively

- **Network Policies on Kubernetes**

- Understanding the Kubernetes network policy design
- Network policies and CNI plugins
- Configuring network policies
- Implementing network policies

- **Network Policies on Kubernetes**

- Configuring an external load balancer Via configuration file
- Configuring an external load balancer Via Via Kubectl
- Finding the load balancer IP addresses
- Identifying client IP addresses & Annotating the load balancer
- Understanding potential in even external load balancing
- Service load balancer
- Ingress
- HAProxy
- Utilizing the NodePort
- Custom load balancer provider using HAProxy
- Running HAProxy Inside the Kubernetes cluster
- Keepalived VIP
- Writing your own CNI plugin
- First look at the loopback plugin
- Building on the CNI plugin skeleton
- Reviewing the bridge plugin