

- **Understanding the Kubernetes networking model**

- Intra-pod communication (container to container)
- Inter-pod communication (pod to pod)
- Pod to service communication
- External access
- Kubernetes networking versus Docker networking
- Lookup and discovery
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- **Kubernetes network plugins**

- Basic Linux networking
- IP addresses and ports
- Network namespaces
- Virtual Ethernet devices
- Bridges
- Routing
- Maximum transmission unit
- Pod networking
- Kubenet
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- **Kubernetes networking solutions**

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

- **Kubernetes Networking with Project Calico**

- 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
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- **Using network policies effectively**

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

- **Kubernetes Networking with Project flannel**

- 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

- **Load balancing operations**

- 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