

KBS-331: Container and Kubernetes networking deep dive - extension

Course Length: 1 day

Course Description:

Containerized applications are accessed over the network, but how are they connected to the network while staying isolated from each other?

Participants of this training will learn about the different types of networking resources that facilitates the connectivity for containers, the Container Network Interface (CNI) as well as CNI plugins.

Besides in-depth theoretical coverage students also do hands-on exercises in their own Kubernetes lab system.

Structure: 50% theory 50% hands on lab exercises

Target audience: System administrators, developers and Devops who want to understand and use Kubernetes network features.

Prerequisites: Linux container (e.g. Docker) and Kubernetes administration skills, for instance by participating on our Docker and Kubernetes administration courses.

Detailed Course Outline

Module 1: Network connectivity for containers

- Connecting network namespaces – Open vSwitch
- Iptables introduction
- IPVS introduction
- Connecting network namespaces – SR-IOV
- Lab 1

Module 2: CNI plugins

- Third Party Plugins – Calico
- Third Party Plugins – sriov-cni
- Third Party Plugins – ovs-cni
- Lab 2

Module 3: Services deep dive

- Kubernetes service implementation with iptables
- Kubernetes service implementation with ipvs
- Dual stack services