

Securing Kubernetes and containers

A 2 day **Hands on** training course



Description

This course introduces concepts, procedures, and best practices to harden Kubernetes based systems and container-based applications against security threats. It deals with the main areas of cloud-native security: Kubernetes cluster setup, Kubernetes cluster hardening, hardening the underlying operating system and networks, minimizing microservices vulnerabilities, obtaining supply chain security as well as monitoring, logging, and runtime security.



Key outcomes

By the end of the course delegates will be able to:

- ✓ Harden Kubernetes systems and clusters.
- ✓ Harden containers.
- ✓ Configure and use Kubernetes audit logs.



Training Approach

This structured course uses Instructor Led Training to provide the best possible learning experience. Small class sizes ensure students benefit from our engaging and interactive style of teaching with delegates encouraged to ask questions throughout the course. Quizzes follow each major section allowing checking of learning. Hands on sessions are used throughout to allow delegates to consolidate their new skills.



Details

Who will benefit?

Technical staff working with Kubernetes.

Prerequisites

Definitive Kubernetes for engineers.
Definitive Docker for engineers

Duration: 2 days

Overall rating: New Course

Generic Training



Generic training complements product specific courses covering the complete picture of all relevant devices including the protocols "on the wire".

"Friendly environment with expert teaching that teaches the why before the how."
G.C. Fasthosts

Small Class Sizes



We limit our maximum class size to 8 delegates; often we have less than this. This ensures optimal interactivity between delegates and instructor.

"Excellent course. The small class size was a great benefit..."
M.B. IBM

Hands On Training



The majority of our courses use hands on sessions to reinforce the theory.

"Not many courses have practice added to it. Normally just the theoretical stuff is covered."
J.W. Vodafone

Our Courseware



We write our own courses; courseware does not just consist of slides and our slides are diagrams not bullet point text.

"Comprehensive materials that made the course easy to follow and will be used as a reference point."
V.B. Rockwell Collins

Customise Your Course



Please contact us if you would like a course to be customised to meet your specific requirements. Have the course your way.

"I was very impressed by the combination of practical and theory. Very informative. Friendly approachable environment, lots of hands on."
S.R. Qinetiq

Securing Kubernetes and containers

Course Content

This course does not only deal with the daily security administration of Kubernetes-based systems but also prepares delegates for the official Certified Kubernetes Security Specialist (CKS) exams of the Cloud Native Computing Foundation (CNCF).
Structure: 50% theory 50% hands on lab exercises

Module 1: User and authorization management

- Users and service accounts in Kubernetes
- Authenticating users
- Managing authorizations with RBAC

Module 2: Supply chain security

- Vulnerability checking for images
- Image validation in Kubernetes
- Reducing image footprint
- Secure image registries

Module 3: Validating cluster setup and penetration testing

- Use CIS benchmark to review the security configuration of Kubernetes components.
- Modify the cluster components' configuration to match the CIS Benchmark.
- Penetration testing Kubernetes for known vulnerabilities.

Module 4: System hardening

- Use kernel hardening tools
- Setup appropriate OS level security domains
- Container runtime sandboxes
- Limit network access

Module 5: Monitoring and logging

- Configure Kubernetes audit logs
- Configure Audit Policies
- Monitor applications behaviour with Falco

What our customers say

"Absolutely brilliant, very knowledgeable and helpful trainer would recommend to teach anyone. Kept me interested 100% of the time which is very impressive as this does not happen often, if at all!"

O. B. Network Rail

"The best technical course I've been on!"

L. W. Fujitsu Telecoms Europe

"Very well thought out and structured course. Would recommend 100%. Lots of equipment, good quality."

A.R. Unipart

"Course content is interesting. Relevant to current systems and presented well."

S.S-T. Arqiva

