



**Enterprise Computing Solutions - Education Services**

## **TRAINING OFFERING**

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**Sie erreichen uns unter**

Arrow ECS GmbH, Elsenheimerstraße 1, 80687 München

Email: [training.ecs.de@arrow.com](mailto:training.ecs.de@arrow.com)

Phone: +49 (0)89 930 99 168

CODE:	LÄNGE:	PREIS:
VMW_KFCO	32 Hours (4 Tage)	€2,760.00

## Description

This four-day course is the first step in learning about Containers and Kubernetes Fundamentals and Cluster Operations. Through a series of lectures and lab exercises, the fundamental concepts of containers and Kubernetes are presented and put to practice by containerizing and deploying a two-tier application into Kubernetes.

## Lernziel

By the end of the course, you should be able to meet the following objectives:

- • Build, test, and publish Docker container images
- • Become familiar with YAML files that define Kubernetes objects
- • Understand Kubernetes core user-facing concepts, including pods, services, and deployments
- • Use kubectl, the Kubernetes CLI, and become familiar with its commands and options
- • Understand the architecture of Kubernetes (Control plane and its components, worker nodes, and kubelet)
- • Learn how to troubleshoot issues with deployments on Kubernetes
- • Apply resource requests, limits, and probes to deployments
- • Manage dynamic application configuration using ConfigMaps and Secrets
- • Deploy other workloads, including DaemonSets, Jobs, and CronJobs
- • Learn about user-facing security using SecurityContext, RBAC, and NetworkPolicies

## Zielgruppe

Anyone who is preparing to build and run Kubernetes clusters

## Inhalt

### 1 Course Introduction

- • Introductions and objectives

### 2 Containers

- • What and Why containers
- • Building images
- • Running containers
- • Registry and image management

### 3 Kubernetes Overview

- • Kubernetes project
- • Plugin interfaces
- • Building Kubernetes
- • Kubectl CLI

### 4 Beyond Kubernetes Basics

- • Kubernetes objects
- • YAML
- • Pods, replicas, and deployments

- • Services
- • Deployment management
- • Rolling updates
- • Controlling deployments
- • Pod and container configurations

## 5 Kubernetes Networking

- • Networking within a pod
- • Pod-to-Pod Networking
- • Services to Pods
- • ClusterIP, NodePort, and LoadBalancer
- • Ingress controllers
- • Service Discovery via DNS

## 6 Stateful Applications in Kubernetes

- • Stateless versus Stateful
- • Volumes
- • Persistent volumes claims
- • StorageClasses
- • StatefulSets

## 7 Additional Kubernetes Considerations

- • Dynamic configuration
- • ConfigMaps
- • Secrets
- • Jobs, CronJobs

## 8 Security

- • Network policy
- • Applying a NetworkPolicy
- • SecurityContext
- • runAsUser/Group
- • Service accounts
- • Role-based access control

## 9 Logging and Monitoring

- • Logging for various objects
- • Sidecar logging
- • Node logging
- • Audit logging
- • Monitoring architecture
- • Monitoring solutions
- • Octant

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## VMware vRealize® Operations Manager™ 10 Cluster Operations

- • Onboarding new applications
- • Backups
- • Upgrading
- • Drain and cordon commands
- • Impact of an upgrade to running applications
- • Troubleshooting commands
- • VMware Tanzu

™ portfolio overview

## Kurstermine

Datum	Lokation	Time Zone	Sprache	Type	Durchführungsgarantie	PREIS
04 Jun 2024	Virtual Classroom	BST	English	Instructor Led Online		€2,760.00

## **Zusätzliche Information**

Diese Schulung ist auch als Vor-Ort-Schulung verfügbar. Bitte kontaktieren Sie uns, um mehr zu erfahren.