Enterprise Computing Solutions - Education Services

TRAINING OFFERING

You can reach us at:

Arrow Enterprise Computing Solutions Ltd, Part 1st Floor, Suite 1D/1, Central House, Otley Road, Harrogate, HG3 1UG

Email: educationteam.ecs.uk@arrow.com
Phone: 0870 251 1000

Kubernetes Fundamentals and Cluster Operations

CODE:	LENGTH:	PRICE:
VMW_KFCO	32 Hours (4 days)	£2,995.00

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.

Objectives

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

Audience

Anyone who is preparing to build and run Kubernetes clusters

Prerequisites

• Linux concepts and command line proficiency
• General networking proficiency

Programme

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
- 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

Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
13 Jul 2026	Virtual Classroom	BST	English	Instructor Led Online		£2,995.00
07 Sep 2026	Virtual Classroom	BST	English	Instructor Led Online		£2,995.00
07 Dec 2026	Virtual Classroom	GMT	English	Instructor Led Online		£2,995.00

Additional Information

This training is also available as onsite training. Please contact us to find out more.