



TRAINING OFFERING

You can reach us at:

Arrow ECS, Nidderdale House, Beckwith Knowle, Harrogate, HG3 1SA

Email: educationteam.ecs.uk@arrow.com

Phone: 0870 251 1000

CODE:	LENGTH:	PRICE:
VMW_KFCO	32 Hours (4 days)	£2,590.00

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

<p>1. Course Introduction:</p> <ul style="list-style-type: none"> • Introductions and objectives 	<p>2. Containers:</p> <ul style="list-style-type: none"> • What and Why containers • Building images • Running containers • Registry and image management 	<p>3. Kubernetes Overview:</p> <ul style="list-style-type: none"> • Kubernetes project • Plugin interfaces • Building Kubernetes • Kubectl CLI 	<p>4. Beyond Kubernetes Basics:</p> <ul style="list-style-type: none"> • Kubernetes objects • YAML • Pods, replicas, and deployments • Services • Deployment management • Rolling updates • Controlling deployments • Pod and container configurations
<p>5. Kubernetes Networking:</p> <ul style="list-style-type: none"> • Networking within a pod • Pod-to-Pod Networking • Services to Pods • ClusterIP, NodePort, and LoadBalancer • Ingress controllers • Service Discovery via DNS 	<p>6. Stateful Applications in Kubernetes:</p> <ul style="list-style-type: none"> • Stateless versus Stateful • Volumes • Persistent volumes claims • StorageClasses • StatefulSets 	<p>7. Additional Kubernetes Considerations:</p> <ul style="list-style-type: none"> • 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
17 Feb 2025	Virtual Classroom	GMT	English	Instructor Led Online		£2,590.00
19 May 2025	Virtual Classroom	BST	English	Instructor Led Online		£2,590.00
08 Sep 2025	Virtual Classroom	BST	English	Instructor Led Online		£2,590.00
08 Dec 2025	Virtual Classroom	GMT	English	Instructor Led Online		£2,590.00

Additional Information

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