



# Kubernetes Orchestration Workshop

NWV\_431x | Expert-Led Live | 5G Core | ⚙️⚙️⚙️

Course Duration: 3 days

Competitive advantages of business agility drives the need for responsive and flexible IT infrastructure; which can be slow and expensive. The lead time to procure, install, configure, and commission new HW can take weeks. Containerization brings speed, agility, scalability, and availability with lower CapEx and OpEx. Hands-on operational exercises are provided with detailed explanations of Kubernetes component implementation, along with the basics for troubleshooting. Participants become Tenants and create multi-tiered network topologies and web service applications, enabling the participant to more adeptly deploy and support Containerized applications in a Kubernetes environment.

## Intended Audience

A hands-on in-depth technical training to personnel involved in design, engineering, and operations and monitoring telecom networks.

## Objectives

After completing this course, the student will be able to:

- Describe Container Orchestration
- Identify applications of Kubernetes in NFV
- Describe Kubernetes physical architectures
- Provision, manage and monitor Kubernetes resources
- Create a simple virtual network
- Explore Kubernetes Services
- Contrast the benefits of Networking Options
- Deploy and update Pods using Repos

## Course Prerequisites

[Cloud Native NFV Architecture and Operations Workshop](#)

## Outline

1. Kubernetes Foundations
  - 1.1 Kubernetes components and architecture
  - 1.2 Kubernetes physical hosts and networks
  - 1.3 Tenant segregation techniquesExercise: Kubernetes namespaces and RBAC
2. Deployment of Pods
  - 2.1 Kubernetes capabilities and components
  - 2.2 Pod Deployment & provisioning trace
  - 2.3 Scheduler and filter algorithmsExercise: Pod Operations
3. Networking Services
  - 3.1 Networking capabilities and components
  - 3.2 Network use cases
  - 3.3 Under-the-hood implementation
  - 3.4 Network frame traceExercise: Network Services
4. Using Repos - Lab Only  
Exercise: Image operations  
Exercise: Using Helm charts
5. Kubernetes Services
  - 5.1 Kubernetes Services
  - 5.2 Using Kubernetes ServicesExercise: Kubernetes services  
Exercise: Additional Optional Labs