

# **Kubernetes Administration using Docker for Beginners**

**Duration: 5 Days** 

# **Prerequisites:**

- Basic understanding of Linux operating system and its command line interface.
- Familiarity with basic Linux commands and navigation of the file system.
- Knowledge of core computing concepts, including networking, storage, and virtualization.
- Understanding of basic software development or system administration concepts.
- Fundamental knowledge of cloud computing principles can be helpful but not mandatory.

### **Course Description:**

The course on Docker and Kubernetes for beginners is a comprehensive program designed to equip learners with the foundational knowledge and practical skills needed to administer containerized applications using Docker and orchestrate them with Kubernetes. The course begins with Module 1, where students are introduced to the concept of containers and the process of installing Docker, building images, and managing data persistence. As the course progresses through Module 2, learners explore the core concepts of Kubernetes, its benefits, and design principles, setting the stage for a deeper dive into Kubernetes architecture in Module 3. Here, students become familiar with the components that make up the master and node structures, and the tools used to interact with the cluster, such as kubectl and kubelet. By engaging with the course, participants will also learn to utilize Kubernetes features (Module 4), manage resources and storage (Modules 5 and 6), configure environment variables (Module 7), and work with additional workloads like Jobs and CronJobs (Module 8). Finally, Module 9 focuses on the critical aspect of security within a Kubernetes environment, covering topics from security contexts to RBAC and cluster roles. Upon completion of the Kubernetes Administrator Certification Course, learners will have the confidence to manage containerized applications and maintain Kubernetes clusters, positioning themselves as valuable assets in the field of cloud-native technologies.

# **Target Audience:**

- DevOps Engineers
- Software Developers
- System Administrators
- Cloud Infrastructure Engineers
- IT Project Managers involved in deployment and automation
- Technical Architects planning container strategies
- Network Administrators seeking to understand container networking
- Security Professionals needing to enforce container security
- Quality Assurance Technicians overseeing environment consistency
- Application Developers interested in microservices architecture
- IT Graduates aiming to advance in cutting-edge technology careers

#### **Course Outlines:**

- Module 1 -Docker Administration
- > Module 2 -Core Concepts of Kubernetes
- ➤ Module 3 -Navigating Kubernetes Architecture
- Module 4 -Using Kubernetes Features
- Module 4 -Other features
- Module 5 -Storage
- Module 6-Environment Variables
- Module 7-Extra workloads
- Module 8-Security