Getting Started with Kubernetes | Kubernetes Quick Start

Explore Kubernetes Core Functionality, Work with the Cloud; Build Clusters, and Deploy and Manage Applications on Clusters

Course Snapshot

- **Course: TTDV7590: Getting Started with Kubernetes**

- **Duration**: 2 full days or Mini-Camp (4 half day sessions)

- **Audience & Skill-Level**: Introductory level for Experienced Software Developers or Architects familiar with programming languages and containers

- **Hands-on Learning:** This course is approximately **50% hands-on**, combining expert lecture, real-world demonstrations and group discussions with machine-based practical labs and exercises. Student machines are required.

- **Public Schedule**: This course has active dates on our live-online open enrollment **Public Schedule**.

- **Customizable**: This course agenda, topics and labs can be further adjusted to target your specific training skills objectives, tools and learning goals. Please inquire for details.

Overview

Containerization has taken the IT world by storm, in the last few years. Large software houses, starting from Google and Amazon, are running significant portions of their production load in containers. **Kubernetes** is an open-source system for automating deployment, scaling, and management of containerized applications. Kubernetes groups containers that make up an application into logical units for easy management and discovery. Kubernetes builds upon 15 years of experience of running production workloads at Google, combined with best-of-breed ideas and practices from the community.

Getting Started with Kubernetes is a hands-on workshop style course that teaches participants core features and functionality of Kubernetes. Students will exit the course knowing how to build a Kubernetes cluster, and how to deploy and manage applications on that cluster.

Learning Objectives

This course is approximately **50% hands-on**, combining expert lecture, real-world demonstrations and group discussions with machine-based practical labs and exercises. Our engaging instructors and mentors are highly experienced

practitioners who bring years of current "on-the-job" experience into every classroom.

Working in a hands-on learning environment led by our expert facilitator, students will explore:

- What a Kubernetes cluster is, and how to deploy and manage them on-premises and in the cloud.

- How Kubernetes fits into the cloud-native ecosystem, and how it interfaces with other important technologies such as Docker.

- The major Kubernetes components that let us deploy and manage applications in a modern cloud-native fashion.

- How to define and manage applications with declarative manifest files that should be version-controlled and treated like code.

Audience & Pre-Requisites

This in an introductory-level class for intermediate skilled team members. Students should have prior software development experience or exposure, have some basic familiarity with containers, and should also be able to navigate the command line.

Course Topics / Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We will work with you to tune this course and level of coverage to target the skills you need most. Topics, agenda and labs are subject to change, and may adjust during live delivery based on audience interests, participation and skill-level.

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Getting Started

- Our sample application

- Kubernetes concepts

- Declarative vs imperative

- Kubernetes network model

- First contact with kubectl

- Setting up Kubernetes

Working with Containers

- Running our first containers on Kubernetes

- Exposing containers

- Shipping images with a registry

- Running our application on Kubernetes

Exploring the Kubernetes Dashboard

- The Kubernetes dashboard

- Security implications of kubectl apply

- Scaling a deployment

- Daemon sets

- Labels and selectors

- Rolling updates

Next Steps

- Accessing logs from the CLI

- Managing stacks with Helm

- Namespaces

- Next steps

Student Materials: Each participant will receive a **Student Guide** with course notes, code samples, software tutorials, step-by-step written lab instructions, diagrams and related reference materials and resource links. Students will also receive the project files (or code, if applicable) and solutions required for the hands-on work.

Hands-On Setup Made Simple! Our dedicated tech team will work with you to ensure our 'easy-access' cloud-based course environment is accessible, fully-tested and verified as ready to go well in advance of the course start date, ensuring a smooth start to class and effective learning experience for all participants. Please inquire for details and options.