

CENG Academy

Introduction to DevOps



DevOps is sweeping the IT world, but what is it exactly? This short course clarifies the problems that led to DevOps, defines DevOps and explains how it can benefit any organization involved in developing and deploying software. Topics include: the pillars of DevOps, with a focus on people and culture; phases and tools in the DevOps lifecycle; connections to CI/CD practices; and a preview of new developments in DevOps.



Audience:

- Software Developer, Engineer, or Architect
- Cloud Engineer or Architect
- Manager of software or cloud team



Delivery Mode: Learn on your own schedule with self-paced online training



Duration: Learners will need approximately 5 hours to complete the course. Learners will have access to the online content for 3 weeks



Recommended Prerequisites:

This course is best suited for learners with the following knowledge and skills:

- Intermediate understanding of client-server architecture
- Moderate experience with virtualization
- Intermediate experience with automated testing and source control



Learner Support: The CENG Academy team of subject matter experts will be available to support you while you take this course. We will answer your questions, confirm your labs, and check in with you after your course to assist with your badge exam preparations

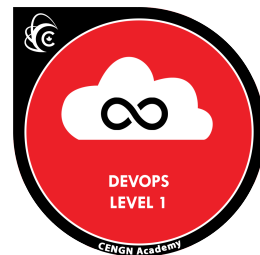
Course Objectives

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

- Identify the basic concepts, principles, and scope of DevOps
- Describe the major phases, philosophies, and value of DevOps
- Classify popular software tools and services used within DevOps
- Recognize the benefits of automating IT infrastructure from development to production
- Recognize DevOps principles appearing in organizational processes
- Identify key DevOps trends, topics, and career learning pathways

Exam and Digital Badge

Learners who complete this course are ready for the CENG Introduction to DevOps exam. Those who successfully complete the exam will earn a CENG DevOps Level 1 digital badge, which can be posted on LinkedIn and other social media



Developed in collaboration with  LIGHTHOUSE LABS



Course Content

Module 1 – Demystifying DevOps - A Brief Introduction

- Describe the problems with previous development methodologies before DevOps arrived
- Define DevOps and the solution it offers
- Describe how DevOps emerged
- Explain the relationship between DevOps and agile development
- Recognize the pillars of DevOps and what they look like when in action
- Define the importance of people and culture in DevOps
- Identify the importance of organizational cultures in DevOps

Module 2 – Ops, Meet Dev

- Recall the phases within the development side of DevOps
- Identify the major tools and services within each of the Dev phases
- Defend the value proposition of containerization and container orchestration
- Defend the value proposition of Continuous Integration
- Define the CI/CD pipeline
- Recall the importance of the CI/CD pipeline and Continuous Monitoring in DevOps environments

Module 3 – Dev, Meet Ops

- Recall the phases within the Operations side of DevOps
- Recall a scenario showcasing the importance of Dev team understanding Ops team to avoid causing release errors and/or slowdowns
- Identify the major tools and services within each of the Ops phases
- Draw out and explain an example of an infrastructure that involves horizontal and/or vertical scaling, and the rationale behind it
- Explain the difference between automated and classic infrastructure

Module 4 – DevOps Engineering Today and Its Future

- Reference learning pathways for DevOps Engineers
- Describe the importance of current focus areas and trends in DevOps

Infrastructure Architecture Functionality