



# DevOps Foundations: The Core Principles and Practices (AZ-2008)

## Description

### Understanding DevOps fundamentals with GitHub and Azure

Adopting DevOps practices is no longer optional for modern businesses. In an environment where responsiveness, reliability, and automation are essential, this course helps you understand the basics of DevOps using the most powerful tools on the market, such as GitHub, Azure DevOps, and Azure cloud services.

Each module covers a key stage in the DevOps cycle. You will learn how to plan your projects using GitHub project management tools, develop efficiently with Git, deliver faster with GitHub Actions, and maintain operational excellence with Azure cloud services. This training provides a clear and practical view of how DevOps works, with a focus on modern practices such as continuous integration (CI), continuous delivery (CD), automated testing, and observability.

### Why learn DevOps practices today?

DevOps is now a major performance driver. It enables teams to collaborate better, innovate faster, and maintain consistent application quality. By integrating GitHub, Azure DevOps, and Azure cloud services into your workflows, you'll be equipped to meet the demands of modern production environments, where speed and reliability are critical. This training gives you all the tools you need to take action.

## Course Content

### Module 1: Discovering DevOps

- What is DevOps?
- Explore DevOps culture
- Explore DevOps goals and benefits
- Explore the DevOps application lifecycle

### Module 2: Planning with DevOps

- Foster DevOps culture
- What is Agile?

- Explore DevOps practices
- Plan with GitHub
- Agile planning and management with GitHub

### **Module 3: Developing with DevOps**

- Explore source control and version control
- Explore version control using Git
- Explore the GitHub flow
- Explore continuous integration
- Explore shift-left testing
- Explore shift-left security
- Implement the workflow with GitHub

### **Module 4: Delivering with DevOps**

- Explore continuous delivery
- Explore infrastructure as code
- Explore progressive exposure techniques
- Explore continuous delivery with GitHub Actions
- Implement CI/CD with GitHub Actions and IaC using Bicep

### **Module 5: Operating with DevOps**

- Explore operational excellence
- Explore shift-right testing
- Explore observability through performance analysis
- Explore observability through security assessment
- Explore resilience with site reliability engineering
- Improve developer experience with platform engineering
- Enhance workload resilience using Traffic Manager and Azure Chaos Studio

### **Lab / Exercises**

- This course provides you with exclusive access to the official Microsoft lab, enabling you to practice your skills in a professional environment.

### **Documentation**

- Access to Microsoft Learn, Microsoft's online learning platform, offering interactive resources and educational content to deepen your knowledge and develop your technical skills.

### **Participant profiles**

- System or cloud administrator
- Software developer
- DevOps engineer
- Cloud or solutions architect
- Security or support engineer
- IT student
- Operations analyst

### **Prerequisites**

- An Azure subscription. You must have your own subscription.
- Basic knowledge of IT terms and concepts.

### **Objectives**

- Discover DevOps principles and culture
- Plan projects using Agile methods with GitHub
- Master version control with Git and GitHub
- Implement continuous integration and delivery (CI/CD)
- Use GitHub Actions to automate workflows
- Optimize system observability and reliability

### **Description**

DevOps Foundations: The Core Principles and Practices (AZ-2008)

### **Niveau**

Fondamental

### **Classroom Registration Price (CHF)**

900

### **Virtual Classroom Registration Price (CHF)**

850

### **Duration (in Days)**

1

### **Reference**

AZ-2008