

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



**Days:** 1

**Prerequisites:** Basic familiarity with IT terms and concepts.

**Audience:** This course is designed for students who are interested in exploring DevOps culture and practices.

**Description:** This course provides fundamental level skills in DevOps practices. Students will learn about the DevOps culture and how to optimize application lifecycle management through Agile planning and management, version control, continuous integration, continuous testing, shift-left testing, continuous deployment/delivery, infrastructure as code, observability, security monitoring, Site Reliability Engineering, and platform engineering.

## OUTLINE:

### LESSON 1 - DISCOVER DEVOPS

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

### LESSON 2 - PLAN WITH DEVOPS

- Foster DevOps culture
- What is Agile?
- Explore DevOps practices
- Plan with GitHub
- Agile plan and management using GitHub
- Module assessment

### LESSON 3 - DEVELOP WITH DEVOPS

- Explore source control and version control
- Explore version control using Git
- Explore GitHub flow
- Explore Continuous Integration
- Explore shift-left testing
- Explore shift-left security
- Implement flow of work with GitHub
- Module assessment

### LESSON 4 - DELIVER 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 with Bicep
- Module assessment

### LESSON 5 - OPERATE WITH DEVOPS

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