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

COURSE OVERVIEW

Explore DevOps practices using GitHub. Your development and operations teams will experience improved collaboration, agility, continuous integration, continuous delivery, automation, and operational excellence throughout all phases of the application lifecycle.

WHO WILL BENEFIT FROM THIS COURSE?

- Administrators
- Developers
- DevOps Engineers
- Security Engineers
- Security Operations Analysts
- Solution Architects
- Support Engineers

PREREQUISITES

Basic familiarity with IT terms and concepts.

COURSE OBJECTIVES

After completing this course, students will be able to:

- Describe the DevOps approach.
- Identify DevOps goals and benefits.
- Understand the DevOps application lifecycle.
- Describe the components of and the path to a DevOps culture.
- Define the frameworks and methods of the Agile methodology.
- Implement DevOps practices.
- Use GitHub to plan a project.
- Define source control and version control.
- Describe how to manage source control with Git.
- Describe how to manage source control with GitHub Flow.
- Define the concept of continuous integration.
- Explore DevOps shift-left testing and security scenarios.
- Define the concept of continuous delivery.
- Describe the concept and implementation methods of IaC.
- Review the progressive exposure techniques and deployment practices.
- Explore DevOps shift-right testing scenarios.

- Describe how to implement continuous delivery with GitHub Actions.
- Explore the concepts of operational excellence.
- Review infrastructure and application monitoring solutions.
- Review infrastructure and application security monitoring solutions.
- Describe the correlation between SRE and DevOps.

COURSE OUTLINE

Discover DevOps
- What is DevOps?
- Explore DevOps culture
- Explore DevOps goals and benefits

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

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

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

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

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