

MS-AZ2008: DEVOPS FOUNDATIONS: THE CORE PRINCIPLES AND PRACTICES



DURATION	LEVEL	TECHNOLOGY	DELIVERY METHOD	TRAINING CREDITS
1 Day	Beginner	Microsoft 365	Instructor Led	NA

INTRODUCTION

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.

* You need an Azure subscription to complete the exercises. If you don't have an Azure subscription, create a free account and add a subscription before you begin. If you're a student, you can take advantage of the Azure for students offer.

AUDIENCE PROFILE

This course is designed for individuals who are interested in learning the foundational principles and practices of DevOps. The primary audience for this course includes:

- IT Professionals: Those who are currently working in IT and want to understand how DevOps can improve their workflows and processes.
- Developers: Software developers who want to learn how to integrate DevOps practices into their development cycles.
- System Administrators: Individuals responsible for managing and maintaining IT infrastructure who want to learn how to automate and streamline their operations.
- Project Managers: Those overseeing software development projects who need to understand DevOps to better manage their teams and projects.
- Learners and Students: Individuals who are new to DevOps and want to gain a foundational understanding of its principles in real-world scenarios.

PREREQUISITES

Before attending this course, delegates must have:

- An Azure Subscription. You need to bring your own subscription.
- Basic familiarity with IT terms and concepts.

COURSE OBJECTIVES

After completing this course, you will be able to:

- Describe the DevOps approach: Understand the fundamental principles and practices of DevOps.
- Identify DevOps goals and benefits: Recognize the advantages and objectives of implementing DevOps.
- Understand the DevOps application lifecycle: Gain insights into the stages of the application lifecycle within a DevOps framework.
- Describe the components of and the path to a DevOps culture: Learn about the elements that contribute to a DevOps culture and how to cultivate it.
- Define the frameworks and methods of the Agile methodology: Understand Agile practices and how they integrate with DevOps.
- Implement DevOps practices: Apply DevOps principles in real-world scenarios.
- Use GitHub to plan a project: Utilize GitHub for project planning and management.
- Define source control and version control: Learn about managing code changes and versions.
- Describe how to manage source control with GitHub Flow: Implement GitHub Flow for efficient source control.
- Define the concept of continuous integration: Understand and apply continuous integration practices.
- Explore DevOps shift-left testing and security scenarios: Implement early testing and security measures in the development process.
- Define the concept of continuous delivery: Learn about continuous delivery and its implementation.
- Describe the concept and implementation methods of Infrastructure as Code (IaC): Understand and apply IaC practices.
- Review progressive exposure techniques and deployment practices: Explore methods for gradual deployment and exposure.
- Describe how to implement continuous delivery with GitHub Actions: Use GitHub Actions for continuous delivery.

- Explore the concepts of operational excellence: Learn about maintaining high standards in operations.
- Review infrastructure and application monitoring solutions: Implement monitoring solutions for infrastructure and applications.
- Review infrastructure and application security monitoring solutions: Ensure security through monitoring practices.

COURSE CONTENT

Module 1: Discover DevOps

Optimize application lifecycle management through DevOps practices such as collaboration, continuous learning, agility, and automation. Your organization benefits from accelerated time to market, stability and reliability in operations, and minimize mean time to recovery.

Learning objectives

- Introduction.
- What is DevOps?
- Explore DevOps culture.
- Explore DevOps goals and benefits.
- Explore DevOps application lifecycle.
- Knowledge check.

By the end of this module, you'll be able to:

- Describe the DevOps approach.
- Explore best practices for fostering DevOps culture.
- Identify DevOps goals and benefits.
- Understand the DevOps application lifecycle.

Module 2: Plan with DevOps

Plan your software development projects agilely using GitHub Projects boards. You'll facilitate collaboration, shared responsibility, continuous learning, and optimization through version control, continuous integration and continuous testing, and Infrastructure as Code.

Learning objectives

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

By the end of this module, you'll be able to:

- 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.

Module 3: Develop with DevOps

Streamline updates to your software development projects by applying version control with Git and GitHub. Your software lifecycle improves through the implementation of continuous integration, shift-left testing, and shift-left security.

Learning objectives

- Introduction.
- 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.
- Knowledge check.

By the end of this module, you'll be able to:

- 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 scenarios.
- Explore DevOps shift-left security scenarios.

Module 4: Deliver with DevOps

Build and run continuous integration and continuous delivery workflows using GitHub Actions.

Your workflows will have accelerated release cycles, increased resiliency, improved collaboration and reusability, and infrastructure as code..

Learning objectives

- Introduction.
- 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.
- Knowledge check.

By the end of this module, you'll be able to:

- 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.

Module 5: Operate with DevOps

Achieve operational excellence and enhance developer experience in your organization through DevOps. Your operational and development practices improve by implementing shift-right testing, observability through performance and security monitoring, Site Reliability Engineering and platform engineering.

Learning objectives

- Introduction.
- 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.
- Knowledge check.

By the end of this module, you'll be able to:

- 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.

ASSOCIATED CERTIFICATIONS & EXAM

There is no Associated Certification or Exam for this course.