



APPLIED SKILLS

DevOps foundations: The core principles and practices



Duration	SKILL LEVEL	DELIVERY METHOD	PRODUCT	TECHNOLOGY
1 Day	Beginner	VILT/ILT	Azure Services	Azure

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.

Prerequisites

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

Prepare for the assessment.

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

Upon completion 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

Upon completion 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

Upon completion 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

Upon completion 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.
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- 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

Upon completion 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.

Take the assessment.

You will have 2 hr to complete this assessment.

This assessment will use an interactive lab to evaluate your performance. It will take a few minutes to load the lab, and you may do other activities while it loads. After you launch the lab, you will need to wait 72 hours to launch it again. Your mouse movements and text entered during the lab will be recorded for quality purposes. Learn more.

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