

# AZ-400: Designing and Implementing Microsoft DevOps Solutions

- **Formato do curso:** Presencial e Live Training
- **Localidade:** Lisboa
- **Data:** 29 Mai. 2023 a 01 Jun. 2023
- **Preço:** 1580€
- **Horário:** Laboral - 09h00 - 17h00
- **Duração:** 28 horas

This course provides the knowledge and skills **to design and implement DevOps processes and practices**. Students will learn how to plan for DevOps, use source control, scale Git for an enterprise, consolidate artifacts, design a dependency management strategy, manage secrets, implement continuous integration, implement a container build strategy, design a release strategy, set up a release management workflow, implement a deployment pattern, and optimize feedback mechanisms

## Destinatários

Students in this course are interested in designing and implementing DevOps processes or in passing the Microsoft Azure DevOps Solutions certification exam.

## Pré-requisitos

Successful learners will have prior knowledge and understanding of:

- Cloud computing concepts, including an understanding of PaaS, SaaS, and IaaS implementations.
- Both Azure administration and Azure development with proven expertise in at least one of these areas.
- Version control, Agile software development, and core software development principles. It would be helpful to have experience in an organization that delivers software.

If you are new to Azure and cloud computing, consider taking:

- Instructor-led course: [AZ-900: Azure Fundamentals](#)

If you are new to Azure Administration, consider taking:

- Instructor-led courses: [AZ-104: Microsoft Azure Administrator](#)

If you are new to Azure Developer, consider taking:

- Instructor-led course: [AZ-204: Developing Solutions for Microsoft Azure](#)
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## Objetivos

- Prepare for Exam AZ-400: Designing and Implementing Microsoft DevOps Solution
  - Examine the key Git features that organizations must plan for when designing their enterprise DevOps
  - Introduce the continuous integration concept using Azure Pipelines and GitHub Actions and provides instruction on configuring those services and building applications
  - Explain the concepts of continuous delivery and releases strategy considerations for setting up deployment stages and your delivery and deployment cadence, and lastly, setting up your release approvals
  - Implement alerting mechanisms, report on your quality, and get notified by using service hooks
  - Explore the “Infrastructure as Code” (IaC) concept and how to manage your operations environment the same way you do applications or other code for general release
  - Examine dependency management in software development, how to identify them in your codebase and how to package and manage dependencies in package feeds
  - Introduce the continuous feedback concept and describes how to implement it in your DevOps cycle
  - Explore an infrastructure and configuration strategy and appropriate toolset for a release pipeline and application infrastructure
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## Programa

### **Get started on a DevOps transformation journey**

- Introduction to DevOps
- Choose the right project
- Describe team structures
- Choose the DevOps tools
- Plan Agile with GitHub Projects and Azure Boards
- Introduction to source control
- Describe types of source control systems
- Work with Azure Repos and GitHub

### **Development for enterprise DevOps**

- Structure your Git Repo
- Manage Git branches and workflows
- Collaborate with pull requests in Azure Repos
- Identify technical debt
- Explore Git hooks
- Plan foster inner source
- Manage Git repositories

## **Implement CI with Azure Pipelines and GitHub Actions**

- Explore Azure Pipelines
- Manage Azure Pipeline agents and pools
- Describe pipelines and concurrency
- Explore continuous integration
- Implement a pipeline strategy
- Integrate with Azure Pipelines
- Introduction to GitHub Actions
- Learn continuous integration with GitHub Actions
- Design a container build strategy

## **Design and implement a release strategy**

- Introduction to continuous delivery
- Create a release pipeline
- Explore release recommendations
- Provision and test environments
- Manage and modularize tasks and templates
- Automate inspection of health

## **Implement a secure continuous deployment using Azure Pipelines**

- Introduction to deployment patterns
- Implement blue-green deployment and feature toggles
- Implement canary releases and dark launching
- Implement A/B testing and progressive exposure deployment
- Integrate with identity management systems
- Manage application configuration data

## **Manage infrastructure as code using Azure and DSC**

- Explore infrastructure as code and configuration management
- Create Azure resources using Azure Resource Manager templates
- Create Azure resources by using Azure CLI
- Explore Azure Automation with DevOps
- Implement Desired State Configuration (DSC)
- Implement Bicep

## **Design and implement a dependency management strategy**

- Explore package dependencies
- Understand package management
- Migrate consolidating and secure artifacts
- Implement a versioning strategy
- Introduction to GitHub Packages

## **Implement continuous feedback**

- Implement tools to track usage and flow
- Develop monitor and status dashboards
- Share knowledge within teams
- Design processes to automate application analytics
- Manage alerts, blameless retrospectives and a just culture

### **Implement security and validate code bases for compliance**

- Introduction to Secure DevOps
- Implement open-source software
- Software Composition Analysis
- Static analyzers
- OWASP and Dynamic Analyzers
- Security Monitoring and Governance

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Ao concluir com aproveitamento esta formação, cumprindo a percentagem mínima de 70% de assiduidade e após avaliação ao curso, o formando poderá receber o seu Certificado Microsoft de conclusão e o badge digital para partilhar com a sua rede profissional online.