



## AZ-400: Designing and Implementing Microsoft DevOps solutions

Microsoft - Azure Apps & Infrastructure

Live Training ( também disponível em presencial )

- **Localidade:** Lisboa
- **Data:** 09 Oct 2023
- **Preço:** 1660 € ( Os valores apresentados não incluem IVA. Oferta de IVA a particulares e estudantes. )
- **Horário:** Laboral das 09h00 - 17h00
- **Nível:** Avançado
- **Duração:** 40h

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### Sobre o curso

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

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### Destinatários

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

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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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## 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 take [AZ-900: Azure Fundamentals](#)
  - If you are new to Azure Administration, consider take [AZ-104: Microsoft Azure Administrator](#) and [AZ-010: Azure Administration for AWS SysOps](#)
  - If you are new to Azure Developer, consider take [AZ-204: Developing Solutions for Microsoft Azure](#)
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## Programa

- Get started on a DevOps transformation journey
- Development for enterprise DevOps
- Implement CI with Azure Pipelines and GitHub Actions
- Design and implement a release strategy
- Implement a secure continuous deployment using Azure Pipelines
- Manage infrastructure as code using Azure and DSC
- Design and implement a dependency management strategy
- Implement continuous feedback
- Implement security and validate code bases for compliance

### 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