

# MAZR-52 - MOC AZ-400T00 - DESIGNING AND IMPLEMENTING MICROSOFT DEVOPS SOLUTIONS

Categoria: **Azure**

## INFORMAZIONI SUL CORSO



Durata:  
4 Giorni



Categoria:  
Azure



Qualifica Istruttore:  
Microsoft Certified  
Trainer



Dedicato a:  
Professionista IT



Produttore:  
Microsoft

## OBIETTIVI

- Plan for the transformation with shared goals and timelines
- Select a project and identify project metrics and Key Performance Indicators (KPI's)
- Create a team and agile organizational structure
- Design a tool integration strategy
- Design a license management strategy (e.g., Azure DevOps and GitHub users)
- Design a strategy for end-to-end traceability from work items to working software
- Design an authentication and access strategy
- Design a strategy for integrating on-premises and cloud resources
- Describe the benefits of using Source Control
- Describe Azure Repos and GitHub
- Migrate from TFVC to Git
- Manage code quality including technical debt SonarCloud, and other tooling solutions
- Build organizational knowledge on code quality
- Explain how to structure Git repos
- Describe Git branching workflows
- Leverage pull requests for collaboration and code reviews
- Leverage Git hooks for automation
- Use Git to foster inner source across the organization
- Explain the role of Azure Pipelines and its components
- Configure Agents for use in Azure Pipelines
- Explain why continuous integration matters
- Implement continuous integration using Azure Pipelines
- Define Site Reliability Engineering
- Design processes to measure end-user satisfaction and analyze user feedback
- Design processes to automate application analytics
- Manage alerts and reduce meaningless and non-actionable alerts
- Carry out blameless retrospectives and create a just culture
- Define an infrastructure and configuration strategy and appropriate toolset for a release pipeline and application infrastructure
- Implement compliance and security in your application infrastructure
- Describe the potential challenges with integrating open-source software

- Inspect open-source software packages for security and license compliance
- Manage organizational security and compliance policies
- Integrate license and vulnerability scans into build and deployment pipelines
- Configure build pipelines to access package security and license ratings

## PREREQUISITI

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:

- AZ-900: Azure Fundamentals (<https://docs.microsoft.com/en-us/learn/certifications/courses/az-900t00>)

If you are new to Azure Administration and Developer, consider taking:

- AZ-104: Microsoft Azure Administrator (<https://docs.microsoft.com/en-us/learn/certifications/courses/az-104t00>)
- AZ-204: Developing Solutions for Microsoft Azure (<https://docs.microsoft.com/en-us/learn/certifications/courses/az-204t00>)

## CONTENUTI

### Module 1: 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

**Lab : Agile planning and portfolio management with Azure Boards**

**Lab : Version controlling with Git in Azure Repos**

### Module 2: Development for enterprise DevOps

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

**Lab : Version controlling with Git in Azure Repos**

### Module 3: 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

**Lab : Configuring agent pools and understanding pipeline styles**

**Lab : Enabling continuous integration with Azure Pipelines**

**Lab : Integrating external source control with Azure Pipelines**

**Lab : Implementing GitHub Actions by using DevOps Starter**

**Lab : Deploying Docker Containers to Azure App Service web apps**

#### **Module 4: Design and implement a release strategy**

- Introduction to continuous delivery
- Explore release strategy recommendations
- Build a high-quality release pipeline
- 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

**Lab : Creating a release dashboard**

**Lab : Controlling deployments using Release Gates**

#### **Module 5: Implement a secure continuous deployment using Azure Pipelines**

- Create a release pipeline
- Provision and test environments
- Manage and modularize tasks and templates
- Automate inspection of health
- Manage application configuration data
- Integrate with identity management systems
- Implement application configuration

**Lab : Configuring pipelines as code with YAML**

**Lab : Setting up and running functional tests**

**Lab : Integrating Azure Key Vault with Azure DevOps**

#### **Module 6: 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

**Lab : Azure deployments using Azure Resource Manager templates**

**Module 7: 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

**Lab : Implement security and compliance in Azure Pipelines**

**Lab : Managing technical debt with SonarQube and Azure DevOps**

**Module 8: Design and implement a dependency management strategy**

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

**Lab : Package management with Azure Artifacts**

**Module 9: 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

**Lab : Monitoring application performance with Application Insights**

**Lab : Integration between Azure DevOps and Microsoft Teams**

**Lab : Sharing Team Knowledge using Azure Project Wikis**

## INFO

**Esame:** AZ-400 - Designing and Implementing Microsoft DevOps Solutions

**Materiale didattico:** Materiale didattico ufficiale Microsoft in formato digitale

**Costo materiale didattico:** 260 € incluso nel prezzo del corso a Calendario

**Natura del corso:** Operativo (previsti lab su PC)