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# Azure DevOps CI/CD training

3 days (21 hours)

## Presentation

[Azure DevOps Server](#) is a Microsoft product that covers the entire application lifecycle and enables DevOps functionality. Azure DevOps can be used as a back-end for many integrated development environments.

Continuous integration, continuous delivery and DevOps have taken the software development world by storm. Today, most companies are implementing continuous integration (CI) and continuous delivery (CD) practices, which are bringing them considerable benefits, such as increased revenues and faster time-to-market.

Azure DevOps CI/CD training aims to teach the [CI/CD](#) process for accelerating software creation using the DevOps methodology. It enables you to learn DevOps and its various tools such as continuous integration and continuous delivery, as well as the principles of automated construction, testing and deployment.

Implementing continuous integration, delivery and deployment helps you support CI/CD pipelines, and modernize your software development lifecycle.

Continuous integration enables you to detect bugs at an early stage and improve the quality of your software products. This, in turn, reduces the overall cost of software development in startups and enterprises alike.

Our training course will teach you the basics of architecture and [design pipelines](#) continuous integration (CI) and continuous deployment (CD). You will learn how to use the tools and services of the Microsoft Azure platform in a DevOps-oriented way. Thanks to this training, you'll be able to implement a sound CI/CD strategy.

Our Azure DevOps CI/CD training course will teach you how to modernize architectures and adopt the CI/CD method to publish better software and accelerate your company's development. We'll introduce you to the latest version of Azure DevOps Server, [Azure DevOps](#)

## Objectives

- Understand and adopt DevOps best practices (automation, security, quality, collaboration, documentation)
- Master the tools of the Azure DevOps suite
- Industrialize application deployment through CI/CD pipelines

## Target audience

- Developer
- Director
- Cloud professionals and solution architects
- Project and technical managers

## Prerequisites

- Some knowledge of Git
- Basic knowledge of application development (API, Front-end, Docker...)
- Familiarity with the YAML language (syntax in particular)
- Basic knowledge of Azure cloud environments (resources, resource , App Services, VMs, etc.)

## Technical requirements

- Have an Azure account
- Install Visual Studio Code
- Installing Git
- Install Terraform
- Installing Docker

## Our Azure DevOps CI/CD training program

### DevOps foundations & getting to grips with Azure DevOps

- Introduction to DevOps culture and CI/CD objectives
- Overview of Azure DevOps (Boards, Rest, Pipelines, Artifacts, Test Plans)
- Creating an Azure DevOps project
- Team structuring and permissions management
- Setting up agile monitoring with Azure Boards
- Using Azure Repos: Git, branch management, merge strategy

### CI/CD pipelines: automation, testing & integration

- Creating and triggering a CI pipeline
- Concepts: agents, pools, variables, secrets, YAML templates
- Automated test integration & code quality analysis
- Release pipelines: Stages, Environments, Gates, Approvals
- Deployment to Azure Web App / App Services

## Advanced deployment & Infrastructure as Code

- Advanced deployment scenarios: blue-green, canary, rolling updates
- Containerized deployment: Azure Container Registry & Azure Kubernetes Service
- Deployment on virtual machines with self-hosted agents
- Introduction to Infrastructure as Code: Bicep vs ARM vs Terraform
- CI/CD security & best practices (secrets, audits, branch strategy)
- Closing: validation quiz & feedback & questions

## Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer technology, or to acquire specific business knowledge or modern methods.

## Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

## Teaching methods

Practical course: 60% Practical, 40% Theory. Training material distributed in digital format to all participants.

## Organization

The course alternates theoretical input from the trainer, supported by examples, brainstorming sessions and group work.

## Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

## Sanction

A certificate will be issued to each trainee who completes the course.

