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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 of](#) continuous integration (CI) and continuous deployment (CD) [pipelines](#). 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

- Automate testing and deployment with continuous integration and continuous deployment (CI/CD)
- Use DevOps Starter to create a CI/CD pipeline
- Configure access to your Git repo
- Examine the CI/CD pipeline

## Target audience

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

## Prerequisites

- Knowledge of Git
- Knowledge of Visual studio community 2022
- Knowledge of Visual studio code
- Knowledge of Terraform
- Knowledge of Bicep

## Technical requirements

- Have an Azure Administrator account
- Having an Azure Devops organization

## Our Azure DevOps CI/CD training program

### INTRODUCTION TO AZURE DEVOPS

- Explaining the DevOps lifecycle
- Overview of Azure DevOps possibilities

### PLANNING AND COMMUNICATION

- Understanding Azure board
- Creating a team
- Project configuration and management
- Permission management

## SOURCE CODE MANAGER

- Description of a source code manager
- Knowing what git is
- Publish code from your local environment
- Linking a commit and an Azure board ticket
- Create branches and perform pull requests
- Choosing a branch strategy
- Clean history
- Policies and Branch Safety

## BUILD PIPELINE

- Continuous integration explained
- Azure pipeline overview
- Agents (Microsoft and self-hosted)
- Understanding how the agent works with the work directory

## Creating a pipeline

- Trigger a pipeline
- Launch a pipeline
- Adding tests
- Using environment variables
- Managing secrets
- Launching parallel pipelines
- Use and difference of the graphic designer
- Integrating a code analyzer

## RELEASE PIPELINE

- Continuous deployment explained
- Introducing Azure Release
- Use of several courses
- Setting up Gates
- Using deployment groups
- Continuous deployment
- Deployment on Azure PAAS service
- Container deployment on Azure

- Deployment on an Azure vm (IAAS)

## CREATING AN INFRASTRUCTURE WITH IAC

- Introduction to infrastructure management
- Infrastructure as code presentation
- Bicep and how to use it
- Terraform and how to use it

## DEPLOYMENT AND TESTING

- Overview of deployment strategies
- Implementing blue-green deployment
- Implementing canary deployment
- Deploy reusable code packages (nuggets)

## Companies concerned

This training 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, with brainstorming sessions and group work.

## Validation

At the end of the session, a multiple-choice questionnaire is used to check correct acquisition.

skills.

## Sanction

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