

Azure DevOps Repos and Pipelines

Training Course

Agilist IT
INFORMATION TECHNOLOGIES

1 Azure DevOps Repos and Pipelines Training Course

1.1 Course Description

This two-day course provides a practical introduction to version control and continuous delivery using Azure DevOps. It begins with a focused overview of Git-based workflows supported by Azure Repos, demonstrating how teams can collaborate efficiently using branches, pull requests, and built-in review and traceability features—all directly within the Azure DevOps interface and supported development tools.

Building on this foundation, the course introduces Azure Pipelines and explores how to automate build and release processes using both Classic and YAML pipelines. Participants will learn to define and structure pipelines, manage artifacts, configure triggers, and deploy to multiple environments. All concepts are accompanied by best practices for authoring, running, monitoring, securing, and maintaining efficient and reliable pipelines.

The course emphasizes hands-on application through lectures, demonstrations, and guided cloud-based labs. While technical in nature, it is designed to be accessible to all participants in the development process, including developers, testers, DevOps engineers, and technical team leads. It is designed to build confidence in using Azure Repos and Pipelines effectively, focusing on day-to-day usage rather than in-depth technical setup or configuration.

1.2 Course Objectives

- Gain a practical understanding of Azure DevOps version control and delivery capabilities through Azure Repos and Pipelines.
- Learn to use Git-based repositories for branching, collaborating via pull requests, and maintaining end-to-end traceability.
- Build foundational skills to define and manage automated build and release pipelines using both Classic and YAML formats.
- Understand deployment to multiple environments and manage artifacts, triggers, approvals, and gates.
- Explore key DevOps concepts such as infrastructure as code, secure secret management, and pipeline diagnostics.
- Engage in hands-on exercises to practice Azure Repos and Pipelines in realistic team-based development and delivery scenarios.

1.3 Course Topics

- **Understanding Azure Repos**
  - Creating and configuring Git repositories in Azure Repos
  - Importing and cloning repos
  - Working with repos from the command line and IDEs
  - Understanding repository permissions and security
  - Hands-on exercises
- **Collaborating in Code Using Azure Repos**
  - Creating and managing branches
  - Configuring Branch Policies (reviewers, build verifications)
  - Creating and managing Pull Requests (PRs)
  - Performing code reviews using PRs
  - Understanding and using merge strategies
  - Associating work items with commits for E2E traceability
  - Advanced Git operations in the UI: Tagging, Reverting, Cherry-Picking
  - Hands-on exercises
- **Introduction to Azure Pipelines**
  - Comparing Classic vs YAML pipelines
  - Understanding pipeline agents
  - Key pipeline concepts: stages, jobs, steps, tasks
  - Monitoring pipeline results using dashboards
- **Practicing Continuous Integration (CI)**
  - Authoring Classic and YAML build pipelines
  - Defining build triggers (CI, PR, scheduled)
  - Managing build artifacts
  - Running build pipelines and monitoring build execution
  - Analyzing build results
  - Traceability from work items to builds
  - Running tests in build pipelines
  - Hands-on exercises
- **Practicing Continuous Delivery (CD)**
  - Authoring Classic and YAML release pipelines
  - Working with artifacts and variables
  - Using stages and environments to promote releases
  - Deploying to multiple environments (Dev, Test, QA)
  - Using triggers and conditions
  - Integrating pre/post automated release gates
  - Integrating pre/post manual approvals
  - Viewing and managing release deployments
  - Analyzing release results
  - Traceability from work items to releases
  - Running tests in release pipelines
  - Hands-on exercises
- **CI/CD Best Practices and Advanced Topics**
  - Automating the Definition of Done (DOD) checks
  - Infrastructure as Code (IaC) strategies in pipelines
  - Managing secrets and secure variables (Azure Key Vault integration)
  - Reusing components with templates and task groups
  - Deployment and rollback strategies overview
  - Pipeline diagnostics and logs
  - Avoiding anti-patterns in pipeline design

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1.4 Who Should Attend

If you're a developer, tester, DevOps engineer, or technical team lead involved in code collaboration or automating software delivery, this course is designed for you. While no programming is required, a basic understanding of Git and comfort with light scripting (such as YAML or PowerShell) will help you make the most of the hands-on labs. The course focuses on practical usage and does not cover environment setup or advanced configuration tasks.

1.5 Prerequisites

This course assumes familiarity with the Azure Boards service and general experience working on a software development project. Prior exposure to version control concepts is expected, and basic experience with Git is recommended.

While no programming is required, comfort with reading and editing simple scripts (such as YAML or PowerShell) will help participants fully engage with the hands-on labs. Experience with Visual Studio Code is helpful but not mandatory.

1.6 What Is Included

- **Digital Course Materials:** Complete course materials to support your learning during and after the course.
- **Prepared Environment for Hands-on Exercises**: A cloud-based setup to apply what you learn in real-time, ensuring a practical understanding of Azure DevOps services.

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2 About Agilist IT Ltd.

2.1 Company Info

Agilist IT Ltd is a consulting and training company specializing in Agile, Scrum, and DevOps. We train, coach, and consult development teams about agile processes to ensure their continuous growth and help them implement DevOps tools that support their everyday workflows. In addition, we introduce new and enhance existing agile, lean, and DevOps practices at all levels within larger organizations to optimize their value streams and deliver higher value to their customers. Agilist IT Ltd is a Microsoft Partner and Scrum.org Professional Training network member.

2.2 Experts

Our experts, Ana Roje Ivančić and Ognjen Bajić, have over 25 years of experience in professional software development and have worked in every role within traditional and agile development processes. Over the years, they have developed a strong competence in DevOps, Agile, and Scrum practices and tools. Due to their unique combination of knowledge and experience in software development, including DevOps and Scrum, they provide expert guidance and proven solutions that are directly applicable to everyday scenarios.

They facilitated agile transformations of companies of various sizes, helping them transition from traditional to modern agile processes. In various engagements, they modeled and supported the transition from loosely coupled development toolsets into integrated DevOps platforms that support end-to-end traceability and fast feedback loops.

Ognjen and Ana are both Professional Scrum Trainers accredited by Scrum.org and Microsoft Most Valuable Professional (MVP) for Development Technologies in the area of DevOps.

2.3 Certified Scrum.Org Courses

Our experts, Ana Roje Ivančić and Ognjen Bajić are licensed to teach the following private and public certified Scrum.org courses:

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