



AZ-400 Designing and Implementing Microsoft DevOps Solutions

www.cognixia.com



About Cognixia

Cognixia- A Digital Workforce Solutions Company is dedicated to delivering exceptional trainings and certifications in digital technologies. Founded in 2014, we provide interactive, customized training courses to individuals and organizations alike, and have served more than 130,000 professionals across 45 countries worldwide.

Our team of more than 7000 industry experts facilitate more than 450 comprehensive digital technologies courses, along with state-of-the-art infrastructure, to deliver the best learning experience for everyone. Our comprehensive series of instructor-led online trainings, classroom trainings and on-demand self-paced online trainings cover a wide array of specialty areas, including all of the following:

- IoT
- Big Data
- Cloud Computing
- Cyber Security
- Machine Learning
- AI & Deep Learning
- Blockchain Technologies
- DevOps

Cognixia is ranked amongst the top five emerging technologies training companies by various prestigious bodies. We're also RedHat Enterprise Partner, Microsoft Silver Learning Partner and an authorized training partner for ITIL, Automation Anywhere and ISC2.



OUR AWARDS & AFFILIATIONS



AUTHORIZED TRAINING PARTNERS FOR



AUTOMATION
ANYWHERE



Silver
Microsoft
Partner



Microsoft Azure DevOps Market Outlook

The cloud-based DevOps service offered by Microsoft is called Azure DevOps.

Some of the most recognizable names using Azure DevOps include Axonize, Cargill, Chevron, and Itron.

In a recent survey by JetBrains, over 9% of respondents chose Azure DevOps as their chosen tool for CI, over 6% for version control, and over 5% for issue tracking.

Cognixia's AZ-400: Designing and Implementing Microsoft DevOps Solutions Training

Cognixia's AZ-400: Designing and Implementing Microsoft DevOps Solutions online instructor-led live certification course covers the skills and concepts required to design and implement DevOps processes and practices. In this course, participants 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.

Who should take this course?

The course is intended for professionals who design and implement strategies in the enterprise for collaboration, code, infrastructure, source control security, compliance, continuous integration, testing, delivery, monitoring, and feedback.

Prerequisites

Learners for the AZ-400: Designing and Implementing Microsoft DevOps Solutions live online training must have prior knowledge and understanding of:

- Cloud computing concepts like PaaS, IaaS, and SaaS implementations
- Azure administration and Azure development with proven expertise in at least one of these areas. This would require the individual to have either the Microsoft Azure Administrator Associate certification or the Microsoft Azure Developer Associate certification
- Version control, Agile software development, and core software development principles

Experience in an organization that delivers software is helpful, though not mandatory.

Program Structure

- 40 hours of live online instructor-led training
- Industry experienced instructor
- 24x7 dedicated PoC support
- Multiple hands-on labs as recommended by Microsoft

Detailed Curriculum: Modules

Module 1: Get started on a DevOps transformation journey

- Introduction to DevOps
- Choose the right project
- Describe team structures
- Migrate to DevOps
- 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: Work with Git 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
- **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
- **Lab: Configuring agent pools and understanding pipeline styles**

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 : Controlling deployments using Release Gates**
- **Lab : Creating a release dashboard**
- **Lab : Feature flag management with LaunchDarkly and Azure DevOps**

Detailed Curriculum: Modules

Module 5: Implement a secure continuous deployment using Azure pipelines

- Create a release pipeline
- Configure and provision environments
- Manage and modularize tasks and templates
- Automate inspection of health
- Manage application configuration data
- Integrate with identity management systems
- Implement application configuration
- **Lab: Integrating Azure Key Vault with Azure DevOps**
- **Lab: Setting up and running functional tests**
- **Lab : Configuring pipelines as code with YAML**

Module 6: Manage infrastructure as code using Azure, DSC, and third-party tools

- 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)
- Introduction to Chef and Puppet
- Implement Ansible
- Implement Terraform
- **Lab: Deployments using Azure Resource Manager templates**

- **Lab : Ansible with Azure**
- **Lab : Automating infrastructure deployments in the cloud with Terraform and Azure Pipelines**

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 : Managing technical debt with SonarQube and Azure DevOps**
- **Lab : Implement security and compliance in Azure DevOps Pipelines**

Module 8: Design and implement a dependency management strategy

- Explore package dependencies
- Understand package management
- Migrate, consolidating and secure artifacts
- Implement a versioning strategy
- **Lab : Package management with Azure Artifacts**

Detailed Curriculum: Modules

Module 9: Create and manage containers using Docker and Kubernetes

- Design a container build strategy
- Implement Docker multi-stage builds
- Implement Azure Kubernetes Service (AKS)
- Explore Kubernetes tooling
- Integrate AKS with Pipelines
- **Lab : Deploying Docker Containers to Azure App Service web apps**
- **Lab : Deploying a multi-container application to Azure Kubernetes Services**

Module 10: Implement continuous feedback

- Implement tools to track usage and flow
- Implement route for mobile application crash report data
- Develop monitor and status dashboards
- Share knowledge within teams
- Explore SRE and design practices to measure end-user satisfaction
- Design processes to capture and analyze user feedback
- Design processes to automate application analytics
- Manage alerts, Blameless retrospectives and a just culture
- **Lab : Integration between Azure DevOps and Microsoft Teams**
- **Lab : Monitoring application performance with Application Insights**

Cognixia USPs



LIFETIME LMS ACCESS



24 x 7 SUPPORT



REAL-LIFE PROJECTS & CASE STUDIES



INDUSTRY EXPERTS AS TRAINERS



INDUSTRY STANDARD CERTIFICATE



POTENTIAL CAREER OPTIONS

Cloud architects

Azure DevOps engineers

Solution engineers

Implementation specialists

Technical architecture delivery specialists

Cloud operations architects

Cloud operations administrators

Cloud migration and implementation delivery specialists



AZ-400: Designing and Implementing Microsoft DevOps Solutions



To learn more visit
www.cognixia.com