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Azure DevOps Engineer Learning Pathway

www.aka.ms/pathways

Getting Started

Gain the knowledge and skills to design and implement DevOps processes and practices. Students 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

- Get started with Windows PowerShell
- Get started with Azure DevOps
- DevOps resource center
- Want to get Started learning GitHub and DevOps?
- DevOps foundations: The core principles and practices
- Explore DevOps Technology
- Azure and GitHub integration

Microsoft Certified: **Azure Administrator** or Microsoft Certified: **Azure Developer** are prerequisites for this certification.

Check out the Administrator and Developer Pathways for more information on this training and certification

Azure DevOps Documentation

Microsoft Learn

Continuous Integration

- Key concepts for new Azure Pipelines users
- Pipeline Tasks | Pipeline Agents
- Run functional tests in Azure Pipelines
- Overview of testing with Azure DevOps
- Create test plans and test suites
- Release approvals and gates overview
- Manage build dependencies with Azure Artifacts
- **Azure Artifacts:** Feeds | Views
- Semantic Versioning (SemVer)
- Use a PowerShell script to customize your pipeline
- Desired State Configuration (DSC)
- Azure Pipelines: Agents | Triggers

Continuous Delivery

- Infrastructure as code
- Create a release pipeline in Azure Pipelines
- Migrate from Jenkins to Azure Pipelines
- Automate deployments with Release Management
- What is Azure Pipelines?
- Continuous integration and continuous deployment to Azure IoT Edge devices (classic editor)
- Deploy applications with Azure DevOps
- Deploy applications with Azure DevOps
- Azure Automation State Configuration overview
- Exercise - Push a change through the pipeline

Site Reliability Engineering (SRE)

- SRE principles and practices: virtuous cycles
- **Azure Monitor:** Action Groups | Schema
- Health monitoring

Communication & Collaboration

- About dashboards/ charts/reports/widgets
- DevOps Dashboards | Adding a Chart
- Analytics & Reporting documentation
- Azure Boards documentation
- Link GitHub commits, pull requests, and issues to work items
- Tutorial: Follow changes made to a user story, bug, or other work item or pull request
- Artifact sources in Classic release pipelines
- Integrate with service hooks
- Azure DevOps integration with Microsoft Teams
- Create a service hook for Azure DevOps with Slack
- Integrate third-party services
- Webhooks

Instrumentation and monitoring

- Microsoft Azure Well-Architected Framework - Operational excellence
- Design a Log Analytics workspace architecture
- Roles, permissions, and security
- Microsoft Azure Well-Architected Framework - Performance efficiency
- Monitoring solutions in Azure Monitor
- Analyse alerts to establish a baseline
- Analyse and understand mobile application use

Security/Compliance

- Manage users and groups in Microsoft Entra ID
- Manage service connections
- What is Azure Key Vault?
- Azure Key Vault – Overview
- Configure and manage secrets in Key Vault
- Key Vault certificates
- Protect Mitigate threats using Microsoft Defender for Cloud

Role based Certification

AZ-400: DevOps Engineer

Skills Measured

- Design and implement processes and communications
- Design and implement a source control strategy
- Design and implement build and release pipelines
- Develop a security and compliance plan
- Implement an instrumentation strategy

Self Study:

- Development for enterprise DevOps
- Implement CI with Azure Pipelines and GitHub Actions
- Design and implement a release strategy
- Implement a secure continuous deployment using Azure Pipelines
- Manage Infrastructure as code using Azure and DSC
- Design and implement a dependency management strategy
- Implement continuous feedback
- Implement security and validate code for compliance

Practice Assessment | Exam Page

Course Page | Exam Study Guide