

AZ-400: Azure DevOps Engineer Expert

Design and run delivery pipelines that are fast, secure and observable — and prepare for the AZ-400 DevOps Engineer Expert exam.

DURATION

5 days · 40 hours

LEVEL

Advanced

CURRICULUM

15 modules · 12 labs

DELIVERYLive online, Onsite,
Corporate

Course overview

A DevOps engineer is judged by how safely and how often a team can ship. That depends on choices across the whole delivery flow: how work is planned, how code is branched and reviewed, how builds and releases are automated, how security checks are built in and how teams learn from production. This five-day course works through each of those choices with hands-on labs in both Azure DevOps and GitHub.

Day one covers processes and collaboration — Azure Boards, GitHub Projects, metrics and documentation as code. Day two is dedicated to source control strategy: branching models, pull request policies, repository structure and handling large files. Days three and four build a full delivery pipeline, from build agents and package feeds to multi-stage YAML releases, deployment strategies and infrastructure as code with Bicep.

Day four also introduces DevSecOps: secret and dependency scanning, code analysis, secure service connections and environment approvals. Day five covers instrumentation with Azure Monitor and Application Insights, feedback loops into the backlog, and a session on exam technique.

Every lab contributes to one application and pipeline, so by the end you have a working, documented delivery system you can use as a reference in your own organisation.

This course is aligned to the AZ-400 exam. The DevOps Engineer Expert certification also requires an associate-level prerequisite; because Microsoft's associate line-up changed in 2026, check the current prerequisite list on Microsoft Learn.

Highlights

- 40 hours of live, pipeline-building sessions
- Works with both Azure DevOps and GitHub Actions
- Builds a multi-stage pipeline to a real Azure environment
- DevSecOps: secret scanning, dependency checks and approvals
- Mapped to the five AZ-400 skill areas

What's included

- Labs in both Azure DevOps and GitHub Actions
- Multi-stage YAML pipelines with environments and approvals
- Blue-green, canary and feature-flag deployments
- Infrastructure as code with Bicep in the pipeline
- Security scanning integrated into pull requests
- Observability with Application Insights and dashboards
- Exam strategy session with practice questions
- 30 days of post-training doubt support

Who this course is for

Who should attend

- DevOps and platform engineers
- Developers responsible for build and release automation
- Azure administrators moving into DevOps roles
- Release managers and site reliability engineers
- Technical leads standardising delivery practices

Prerequisites

- Experience administering Azure or developing applications for Azure
- Working knowledge of Git
- Familiarity with YAML and a scripting language (PowerShell or Bash)
- An associate-level Azure certification is recommended

Detailed curriculum — 5 days, 40 hours, 15 modules, 12 hands-on labs

Day 1 Processes, Collaboration and Planning

8 hours

1.1 DevOps foundations

- Flow, feedback and continuous learning
- DORA metrics and how to use them
- Value stream mapping
- Choosing between Azure DevOps and GitHub

1.2 Work tracking

- Azure Boards process templates and queries
- Linking work items to commits and pull requests
- GitHub Projects and issues
- Dashboards for cycle time and lead time

LAB Set up a backlog with linked GitHub commits · 45 min

1.3 Documentation and communication

- Wikis and documentation as code
- Webhooks and chat integrations
- Release notes generation

LAB Automate release notes from merged pull requests · 35 min

Day 2 Source Control Strategy

8 hours

2.1 Branching and merging

- Trunk-based development vs GitFlow
- Merge strategies and history
- Feature branches and short-lived branches
- Release branches and hotfixes

LAB Implement a trunk-based workflow with feature flags · 45 min

2.2 Pull requests and policies

- Branch protection and required reviewers
- Code owners
- Status checks and build validation
- Commit signing

LAB Configure branch policies with build validation · 40 min

2.3 Repository management

- Monorepo vs multi-repo
- Removing sensitive data from history
- Git LFS and large files
- Repository permissions and tags

Day 3 Build and Package Pipelines

8 hours

3.1 Pipeline fundamentals

- YAML pipelines in Azure Pipelines and GitHub Actions
- Triggers, stages, jobs and steps
- Templates and reusable workflows
- Variables, variable groups and secrets

LAB Build and test an application with a YAML pipeline · 50 min

3.2 Agents and runners

- Microsoft-hosted vs self-hosted agents
- GitHub-hosted and self-hosted runners
- Agent pools and scaling
- Caching to speed up builds

3.3 Packages and testing

- Azure Artifacts and GitHub Packages
- Semantic versioning
- Unit, integration and load testing in pipelines
- Code coverage gates

LAB Publish a versioned package to a feed · 35 min

LAB Add test results and coverage gates · 35 min

Day 4 Release, Infrastructure as Code and DevSecOps

8 hours

4.1 Release strategies

- Multi-stage deployments with environments
- Approvals and checks
- Blue-green, canary and ring deployments
- Feature flags with Azure App Configuration

LAB Multi-stage release to dev, test and production with approvals · 60 min

4.2 Infrastructure as code

- Bicep and ARM in pipelines
- Terraform overview
- Desired state configuration concepts
- Deployment environments

LAB Provision infrastructure with Bicep from the pipeline · 40 min

4.3 Security and compliance

- Workload identity federation for service connections
- Secret scanning and push protection
- Dependency scanning and licence compliance
- Static code analysis
- Key Vault in pipelines

LAB Add secret, dependency and code scanning to pull requests · 45 min

Day 5 Instrumentation, Feedback and Exam Readiness

8 hours

5.1 Monitoring and observability

- Azure Monitor and Log Analytics
- Application Insights telemetry and distributed tracing
- KQL for operational questions
- Alerts and dashboards

LAB Instrument the app and query telemetry with KQL · 45 min

5.2 Feedback loops

- Linking alerts to work items
- Release health and automated rollback
- Blameless post-incident reviews

LAB Configure a release gate based on Application Insights alerts · 40 min

5.3 Exam readiness

- Exam structure and case studies
- Scenario questions comparing Azure DevOps and GitHub
- Practice questions with review

Skills and tools

Skills you will build

Azure Pipelines

Git branching strategies

Deployment strategies

DevSecOps

KQL

GitHub Actions

YAML pipelines

Feature flags

Secret scanning

DORA metrics

Azure Boards

Azure Artifacts

Bicep

Application Insights

Tools used in class

Azure DevOps

Visual Studio Code

Azure Monitor

GitHub

Git

Application Insights

GitHub Actions

Azure CLI

Bicep

Certification exam

This course is aligned to the exam below and prepares you for it. The exam itself is booked and taken with the vendor.

Exam	Microsoft Certified: DevOps Engineer Expert
Exam code	AZ-400
Duration	100 minutes
Passing score	700 / 1000 (scaled)
Format	Multiple choice, Multiple response, Drag and drop, Case study
Delivery	Online proctored, Test centre
Validity	1 year (free online renewal assessment)
Official page	https://learn.microsoft.com/credentials/certifications/exams/az-400/

Exam skill areas covered

DevOps and Infrastructure as Code, CI/CD, Cloud native, Containers, Kubernetes, Azure DevOps, GitHub Actions, Azure Pipelines, Azure Boards, Azure Artifacts, Bicep, Application Insights, KQL, DORA metrics

Exam details are pending verification. Confirm the current exam code, format and fee on the official vendor page before booking.

Frequently asked questions

Do I need both Azure DevOps and GitHub experience?

No. The course covers both from the basics, but you should be comfortable with Git and have used Azure before.

What prerequisite certification does the expert badge need?

Microsoft requires an associate-level certification alongside AZ-400. The accepted list changed during 2026, so check Microsoft Learn before booking.

Will I keep the pipelines I build?

Yes. Labs run against repositories in your own account, so the YAML, templates and documentation remain available after the course.

What happens if Microsoft updates the AZ-400 exam?

We map the curriculum to the current published skills outline and revise it when Microsoft changes the exam. Always check the latest outline on Microsoft Learn before booking.

Do you run weekend batches?

Yes. Weekend batches cover the same 40 hours across consecutive Saturdays and Sundays, with timings in IST that also suit learners in the Gulf.

Can you run a private batch for our team?

Yes. We run private online or onsite batches for corporate teams, and we can weight the labs towards your existing toolchain. Request a corporate quote with your team size and preferred dates.

Book a batch or talk to an advisor

Course page: aceskillsconsulting.com/course/az-400-azure-devops-engineer-expert · Email: info@aceskillsconsulting.com

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