



AZ – 400

Designing and Implementing Microsoft DevOps solutions

Overview

This course provides 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

Course Objectives

By the end of this course, participants will be able to:

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

Prerequisites

Successful learners will have prior knowledge and understanding of the following:

- Version control, Agile software development, and core software development principles. It would be helpful to have experience in an organization that delivers software.
- Both Azure administration and Azure development with proven expertise in at least one of these areas.
- Cloud computing concepts, including an understanding of PaaS, SaaS, and IaaS implementations.

Audience Profile

Students in this course are interested in designing and implementing DevOps processes or in passing the Microsoft Azure DevOps Solutions certification exam.

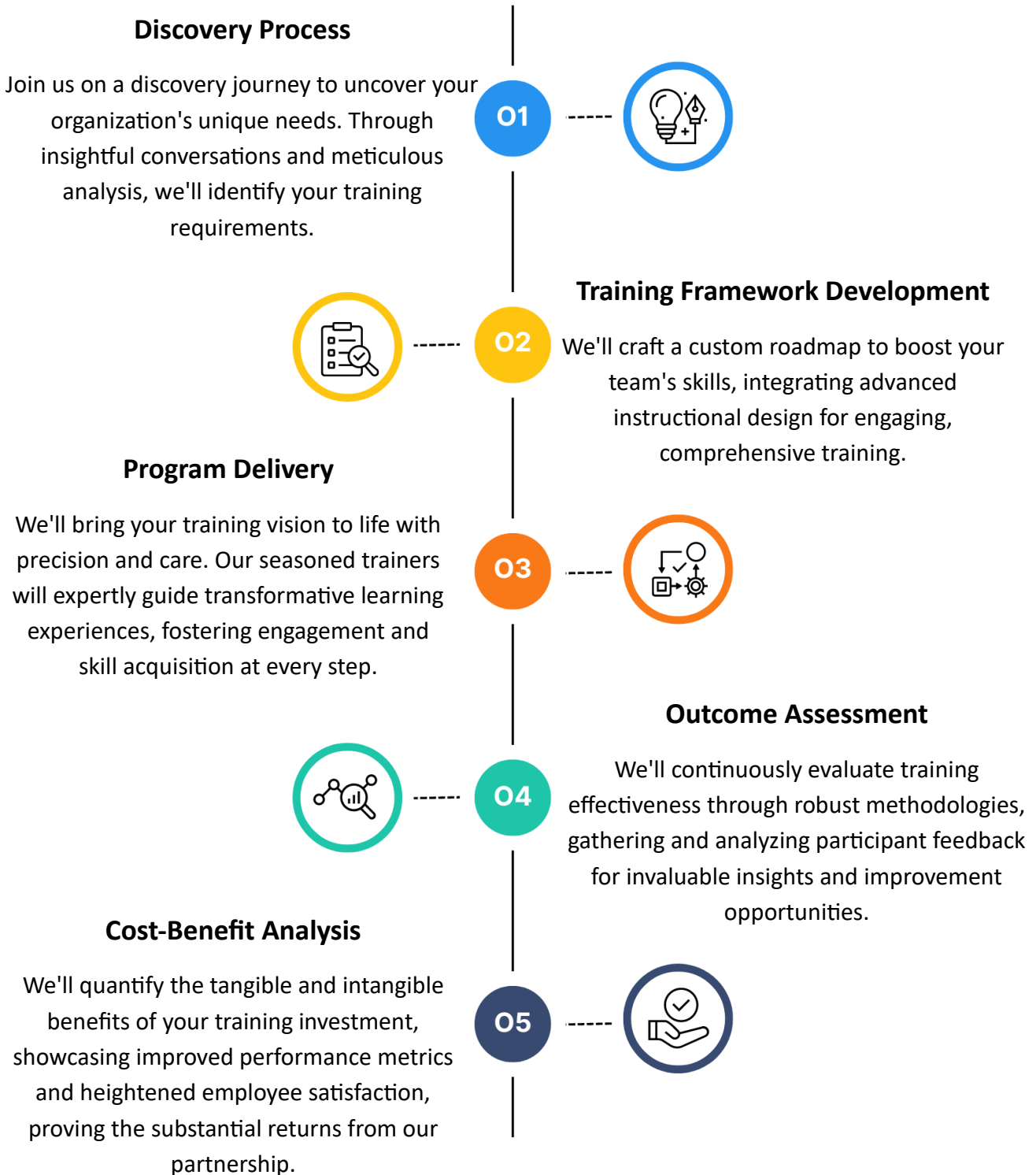
Course Level

- Advanced

Course Duration

- 4 Days – 32 Hours

Creating Tailor - Made Training Programs to Meet Your **Specific Goals**



Course Outline

As a DevOps engineer, you're a developer or infrastructure administrator who also has subject matter expertise in working with people, processes, and products to enable continuous delivery of value in organizations.

Your responsibilities for this role include delivering Microsoft DevOps solutions that provide continuous security, integration, testing, delivery, deployment, monitoring, and feedback. You design and implement flow of work, collaboration, communication, source control, and automation.

As a DevOps engineer, you work on cross-functional teams that include:

- Developers
- Site reliability engineers
- Azure administrators
- Security engineers

You must have experience both administering and developing in Azure, with strong skills in at least one of these areas. You should also have experience implementing both GitHub and Azure DevOps solutions.

Module 1: Get started on a DevOps transformation journey

- Lesson: Introduction to DevOps.
- Lesson: Choose the right project.
- Lesson: Describe team structures.
- Lesson: Choose the DevOps tools.
- Lesson: Plan Agile with GitHub Projects and Azure Boards.
- Lesson: Introduction to source control.
- Lesson: Describe types of source control systems.
- Lesson: Work with Azure Repos and GitHub.
- **Labs & Learning Path review and takeaways.**

Module 2: Development for enterprise DevOps

- Lesson: Structure your Git Repo.
- Lesson: Manage Git branches and workflows.
- Lesson: Collaborate with pull requests in Azure Repos.
- Lesson: Explore Git hooks.
- Lesson: Plan foster inner source.
- Lesson: Manage Git repositories.
- Lesson: Identify technical debt.
- **Labs & Learning Path review and takeaways.**

Module 3: Implement CI with Azure Pipelines and GitHub Actions

- Lesson: Explore Azure Pipelines.
- Lesson: Manage Azure Pipeline agents and pools.
- Lesson: Describe pipelines and concurrency.
- Lesson: Explore Continuous integration.
- Lesson: Implement a pipeline strategy.
- Lesson: Integrate with Azure Pipelines.
- Lesson: Introduction to GitHub Actions.
- Lesson: Learn continuous integration with GitHub Actions.
- Lesson: Design a container build strategy.
- **Labs & Learning Path review and takeaways.**

Module 4: Design and implement a release strategy

- Lesson: Introduction to continuous delivery.
- Lesson: Create a release pipeline.
- Lesson: Explore release strategy recommendations.
- Lesson: Provision and test environments.
- Lesson: Manage and modularize tasks and templates.
- Lesson: Multi-stage YAML.
- Lesson: Automate inspection of health.
- **Labs & Learning Path review and takeaways.**

Module 5: Implement a secure continuous deployment using Azure Pipelines

- Lesson: Introduction to deployment patterns.
- Lesson: Implement blue-green deployment and feature toggles.
- Lesson: Implement canary releases and dark launching.
- Lesson: Implement A/B testing and progressive exposure deployment.
- Lesson: Integrate with identity management systems.
- Lesson: Manage application configuration data.
- **Labs & Learning Path review and takeaways.**

Module 6: Manage infrastructure as code using Azure and DSC

- Lesson: Explore infrastructure as code and configuration management.
- Lesson: Create Azure resources using Azure Resource Manager templates.
- Lesson: Implement Bicep.
- Lesson: Create Azure resources by using Azure CLI.
- Lesson: Explore Azure Automation with DevOps.
- Lesson: Implement Desired State Configuration (DSC).
- **Labs & Learning Path review and takeaways.**

Module 7: Implement security and validate code bases for compliance

- Lesson: Introduction to Secure DevOps.
- Lesson: Implement open-source software.
- Lesson: Software Composition Analysis.
- Lesson: Static analyzers.
- Lesson: OWASP and Dynamic Analyzers.
- Lesson: Security Monitoring and Governance.
- **Labs & Learning Path review and takeaways**

Module 8: Design and implement a dependency management strategy

- Lesson: Explore package dependencies.
- Lesson: Understand package management.
- Lesson: Migrate, consolidating and secure artifacts.
- Lesson: Implement a versioning strategy.
- Lesson: Introduction to GitHub Packages.
- **Labs & Learning Path review and takeaways.**

Module 9: Implement continuous feedback

- Lesson: Implement tools to track usage and flow.
- Lesson: Develop monitor and status dashboards.
- Lesson: Share knowledge within teams.
- Lesson: Design processes to automate application analytics.
- Lesson: Manage alerts, Blameless retrospectives and a just culture.
- **Labs & Learning Path review and takeaways.**

Indus Tech Services

Who We Are....

Indus Tech Services is an IT company that specializes in providing comprehensive training, consulting & implementation services for software solutions designed to address the diverse business challenges faced by organizations today. With a passion for technology and a deep understanding of business processes, Indus Tech is committed to empowering businesses to optimize their operations, boost productivity, and drive sustainable growth.

Indus Tech Services and Microsoft Partnership

As a proud **Microsoft Partner**, **Indus Tech Services** is uniquely equipped to deliver top-tier training and certification programs designed to meet the evolving needs of today's workforce. Our partnership with Microsoft allows us to offer direct access to the latest tools, resources, and industry insights, ensuring that our courses are aligned with the most current technology trends. This collaboration enables us to provide unparalleled support to our students, helping them gain the skills and knowledge required to excel in their careers. By choosing Indus Tech Services, you're not just learning; you're gaining a competitive edge with Microsoft-backed expertise and certification.

Why Choose Us...

From time to time, life serves up a profound nudge, urging us to step beyond our routines and make a difference in the world. Indus Tech Services emerged from one such compelling wake-up call. We are not just a company; we are a dedicated force with a belief in providing solutions to organizations, regardless of their size, and we infuse a human touch into everything we do.

Our Expertise

With over 25 years of collective experience navigating the intricacies of daily business transactions, irrespective of geographical, cultural, time zone, or language barriers, our team has honed their expertise to meet any challenge head-on. This wealth of experience has armed our resources with an unparalleled understanding and skill set to tackle a broad spectrum of obstacles.

Training

With two decades of unwavering commitment and a global footprint, our company is a true pioneer in the fields of linguistic, transactional, technical, and behavioural training for some of the world's largest corporate entities. Our unparalleled expertise has been refined through years of dedication and innovation, making us the go-to choice for businesses seeking transformative training solutions.

Consulting

Our company has been at the forefront of providing world-class IT consulting services to organizations spanning the globe. With an extensive and proven track record, we have honed our expertise to meet the ever-evolving technological needs and challenges faced by businesses, regardless of their scale or industry.

Implementation

Our experience covers a broad spectrum of IT implementation services, including system integration, software deployment, network architecture, cloud migration, and infrastructure setup. We understand that the successful execution of IT projects is pivotal to an organization's growth and efficiency. Therefore, we bring a depth of knowledge and a commitment to delivering results that set us apart.

To know more contact us at info@industechservices.com or call us at +91 - 99961 61170.