BIZTECH LABS LABS

DevOps Engineering Course With Microsoft DevOps Certification (Az-400)

Biztech Labs presents a comprehensive DevOps Engineering Course with Microsoft DevOps Certification (AZ-400), designed to equip you with the skills and knowledge needed to excel in the field of DevOps engineering using Microsoft Azure technologies.

Course Structure and Content

Course Overview and Introduction (1 hour)

- Introduction to Azure certifications (AZ-104 & AZ-400)
- Course objectives and learning outcomes
- Course structure, schedule, and lab environment setup (Azure subscription requirements)
- Overview of required tools: Azure CLI,
 PowerShell, Visual Studio Code, Git

Identity and Access Management (5 hours)

- Azure Active Directory (Azure AD):
 Users, Groups, Roles, Enterprise
 Applications
- Azure AD Connect: Synchronization options, configuring hybrid identity
- Multi-Factor Authentication (MFA):
 Implementation and configuration
- Role-Based Access Control (RBAC):
 Custom roles, assigning permissions

Labs: Setting up Azure AD Connect; Configuring MFA; Implementing RBAC for resource access

Azure DevOps Fundamentals and Source Control (6 hours)

- Introduction to Azure DevOps: Boards,
 Repos, Pipelines, Test Plans, Artifacts
- Source Control with Git: Branching strategies, pull requests, code review

Labs: Creating and managing Azure
DevOps projects; Setting up a Git
repository; Implementing branching and
pull request workflows



- Azure Resource Manager (ARM) and Resource Groups: structure, scope, best practices
- Compute Services: Virtual Machines (VMs), Azure App Service, Azure Functions, Containers (Azure Container Instances, Azure Kubernetes Service - AKS)
- Networking: Virtual Networks (VNets),
 Network Security Groups (NSGs),
 Azure Load Balancer, Azure DNS
- Storage: Storage Accounts (Blob, File, Queue, Table), Azure Disks, Azure
 Files, Azure Backup

Labs: Creating and managing resources using the Azure portal and CLI; Deploying a simple web application to Azure App Service; Configuring network security groups

Infrastructure as Code (IaC) with ARM Templates and Azure Bicep (6 hours)

- Introduction to IaC principles and benefits
- ARM Templates: Structure, parameters, variables, outputs
- Azure Bicep: Syntax, modules, deploying resources

Labs: Deploying infrastructure using ARM Templates; Converting ARM Templates to Bicep; Creating reusable Bicep modules





Advanced Topics and Certification Preparation

Continuous Integration (CI) with Azure Pipelines (8 hours)

- · CI concepts and benefits
- Azure Pipelines: YAML syntax, triggers, tasks, agents
- Building and testing applications: Integrating with build tools (e.g., Maven, npm)

Labs: Creating CI pipelines to build and test applications; Integrating static code analysis tools; Configuring pipeline triggers

Continuous Delivery (CD) with Azure Pipelines (10 hours)

- CD concepts and benefits
- Deployment strategies: Blue/Green, Canary,
 Rolling updates
- Azure Pipelines: Release pipelines, environments, approvals
- Deploying to Azure services: App Service, Kubernetes Service (AKS)

Labs: Creating CD pipelines to deploy applications to Azure; Implementing deployment strategies; Integrating automated testing

Monitoring and Logging (5 hours)

- Azure Monitor: Metrics,
 Alerts, Log Analytics
- Application Insights:
 Monitoring application
 performance and
 availability

Labs: Configuring Azure
Monitor to collect metrics
and logs; Creating alerts
based on performance
thresholds; Implementing
Application Insights in a web
application

Security and Compliance (7 hours)

- Azure Security Center:
 Threat detection,
 vulnerability assessment
- Azure Policy:
 Implementing and enforcing compliance policies
- Azure Key Vault:
 Managing secrets and certificates

Labs: Configuring Azure
Security Center;
Implementing Azure Policy;
Storing and retrieving secrets
using Azure Key Vault

Course Review, Exam Preparation, and Next Steps (7 hours)

- Review of key concepts and hands-on exercises
- Practice exams and mock tests
- Tips and strategies for passing the AZ-104 and AZ-400 exams
- Resources for continued learning and professional development
- Q&A and open discussion

Contact Us

If you have any questions or need assistance, please reach out to us using the information below or send us a message using the contact form.

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