

## Fundamentals of DevOps With Azure

This course covers the essential topics for mastering **DevOps** practices using **Microsoft Azure**. Each module can be adjusted in depth and complexity based on the audience's background and the duration of the crash course. Hands-on labs and practical exercises will be crucial to reinforcing the theoretical concepts covered in these courses.

### Tech Stack To Be Covered



Azure



Devops

## Devops With Azure

### Outline:

1. Introduction to DevOps and Azure
2. Infrastructure as Code (IaC) with Azure
3. Continuous Integration and Continuous Deployment (CI/CD) on Azure
4. Monitoring and Logging
5. Security and Compliance in Azure DevOps
6. Best Practices and Case Studies

## **Detailed Syllabus:**

### **Module 1: Introduction to DevOps and Azure**

- Understanding DevOps principles and practices
- Overview of Azure services relevant to DevOps
- Setting up an Azure account and navigating the Azure Portal
- Introduction to Azure DevOps services

### **Module 2: Infrastructure as Code (IaC) with Azure**

- Introduction to Infrastructure as Code (IaC) and its benefits
- Azure Resource Manager (ARM) templates basics
- Using Azure Bicep for declarative resource provisioning
- Automating infrastructure with Terraform on Azure

### **Module 3: Continuous Integration and Continuous Deployment (CI/CD) on Azure**

- Introduction to CI/CD concepts
- Setting up Azure Pipelines for CI/CD
- Using Azure Repos for source control
- Build automation with Azure Pipelines
- Deploying applications with Azure Pipelines
- Integrating GitHub with Azure Pipelines

### **Module 4: Monitoring and Logging**

- Monitoring applications with Azure Monitor
- Centralized logging with Azure Log Analytics and Azure Monitor Logs
- Application performance monitoring with Azure Application Insights
- Using Azure Alerts for proactive monitoring

### **Module 5: Security and Compliance in Azure DevOps**

- Azure Identity and Access Management (IAM) fundamentals
- Implementing security best practices in Azure
- Managing secrets with Azure Key Vault
- Ensuring compliance with Azure Policy and Azure Security Center

#### **Module 6: Best Practices and Case Studies**

- DevOps best practices on Azure
- Cost management and optimization strategies
- Real-world case studies of DevOps implementations on Azure