

Azure DevOps Syllabus**1. Overview of DevOps**

- Why DevOps?
- What is DevOps?
- DevOps Market Trends
- DevOps Engineer Skills
- DevOps Delivery Pipeline
- DevOps Ecosystem

2. Version Control with Git

- What is version control
- What is Git
- Why Git for your organization
- Install Git
- Common commands in Git
- Working with Remote Repositories

3. Azure DevOps CI/CD pipelines

- Introduction to CI/CD
- Tasks
- YAML Templates
- Create .NET Core CI pipeline
- Create .NET Core CD pipeline
- Sonar cloud integration

4. Implement and manage build infrastructure

- Private and hosted agents
- Integrate third party build systems
- Recommend strategy for concurrent pipelines
- Manage Azure pipeline configuration (e.g. agent queues, service endpoints, pools, webhooks)

5. Deploying ARM Template in Azure

- Introduction to CI-CD ARM templates

- Create ARM template
- Create and Run ARM deployment CI pipeline
- Create and Run ARM deployment CD pipeline

6. Application Secrets in the pipelines

- Introduction to Azure Key vault
- Accessing Secrets from Azure Key Vault
- Linking Secrets from Azure Key Vault

7. Azure Artifacts

- Introduction to Azure Artifacts
- Create NuGet packages and Versioning
- Package management with DevOps
- Maven packages

8. Continuous Integration using Jenkins

- Jenkins Management
- Adding a slave node to Jenkins
- Building Delivery Pipeline
- Pipeline as a Code

9. Implementation of Continuous Testing with Selenium

- Introduction to Selenium
- Why Selenium?
- Selenium – Webdriver
- Creating Test Cases in Selenium WebDriver (Waits)
- What and why X-Path
- Handling different controls on Webpage
- Framework in Selenium
- Selenium Integration with Jenkins
- Integrating Selenium with Jenkins

10. Continuous Deployment: Containerization with Docker

- Shipping Transportation Challenges
- Introducing Docker
- Understanding images and containers

- Running Hello World in Docker
- Introduction to Container
- Container Life Cycle
- Sharing and Copying
- Base Image
- Docker File
- Working with containers
- Publishing Image on Docker Hub

11. Containerization with Docker: Ecosystem and Networking

- Introduction to Docker Ecosystem
- Docker Compose
- Docker Swarm
- Managing Containers
- Running Containers
- Introduction to Docker Networking
- Network Types
- Docker Container Networking

12. Configuration Management with Ansible

- Introduction to Ansible
- Ansible Installation
- Configuring Ansible Roles
- Write Playbooks
- Executing adhoc command
- Hands On:
- Installing Ansible
- Configuring Ansible Role
- Write Playbooks
- Execute adhoc commands