



LOGICLABS TECHNOLOGIES

Azure Devops Course Content

Trainer: Ankit Narula

Course Duration: Near about 45 Days

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Azure Devops Course Content

➤ Introduction to DevOps

- Why DevOps and roles and responsibilities
- How DevOps and Cloud exists in today's world
- What is Continuous Integration and Delivery how it's related to DevOps

➤ Linux

- Linux Introduction
- Command line utilities and basic commands
- Linux File system introduction
- Text Editors
- Filters and Redirections
- Users & Groups and Permissions

➤ Git

- What is version control system?
- Compare Git with others and why is it called Distributed Version Control System?
- Create an Local Git Repository
- Operations like commit, pull, push, clone, merge, cherry pick and rebase
- Git Branches and how to use
- Git Hub a remote repository

➤ Devops Organization

- Usage of Azure Devops Organization
- Creation of Organization & Project.
- Create New Process

➤ Azure Boards

- Creation of EPIC
- Creation of Features
- Creation of Project Backlog Items
- Creation of Tasks
- Sprints
 - * Adding Column
- Link Items
- Create Users
- Managing Dashboard

Azure Devops Course Content

- Adding Column in Boards
- Queries
 - * My Queries
 - * Shared Queries
- Permissions
 - * Organization Level
 - * Project Level
- Delivery Plan

➤ Azure Repos

- Introduction to Azure Repos
- Azure Repos Integration (Visual Studio Code)
- Files
- Commits
- Pushes
- Branches
 - * Merge Branch
 - * Branch Policy
 - * Branch Security
- Pull
- Clone Repos to GITHUB
- Clone Repos From GITHUB
- Repositories Level Security

➤ Azure Pipelines

- Pipelines
- Releases
 - * Stages
 - * Approval
- Azure Pipeline with Azure App Services
- YAML Pipeline

➤ Docker

- Introduction of Docker
- Virtualization and Containerization differences
- Architecture and main components in Docker

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- Download & Installation
 - * Windows
 - * Linux
- Docker CLI
- Running Docker Commands
 - * Create Container
 - * Pull Images
 - * Drop Container
 - * Delete Images
- Automatic Port Mapping
- Using Environment Variable
- Database Installation with Docker Image
- Multi Container Architecture
 - * Link
 - * Docker Compose
- Delete Container
- Delete Images
- Implementing WordPress using Docker
- Implementing LAMP Architecture using Docker
- GUI Based Container
- Docker Volume
 - * Simple Docker Volume
 - * Sharable Volume
- Creating Own images
 - * Docker Commit
 - * Docker File
- Version Controlling on Docker File
- Cache Busting
- Docker Registry
- Container Orchestration
 - * Load Balancing
 - * Scaling of containers
 - * Performing Rolling updates

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- * Handling failover scenarios
- Remove Node from docker swarm
- Docker Networking
 - * Bridge
 - * Host
 - * None
 - * Overlay
- Connecting to Azure Container Registry (ACR) from Docker
- Pushing the image to Azure Container Registry (ACR) from Docker
- Create CI/CD Pipelines to create an image, Push to ACR & Deploy to app services

➤ **Kubernetes**

- Introduction to Kubernetes
- Understanding the components of Kubernetes Master (Control Plane)
- Understanding the components of Kubernetes Node (Minion)
- Install Kubectl
- Create Kubernetes cluster in Azure (Azure Kubernetes Service)
- Running Commands
 - * Connecting to Kubernetes Environment
 - * Get Pods
 - * Get Nodes
 - * Get Kubernetes List
 - * Get Services
 - * Running Pods
- Working with Pod
- Introduction to YAML Files in Kubernetes environment
 - * Creating of Pod YAML
 - * Introduction & creating of service YAML
 - * Creating Replication Controller
 - * Creating Replica Set
 - * Performance Scaling
 - * Deployment Object
 - ❖ Updating a Deployment

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❖ Rolling Back

- * Service Object

➤ Ansible

- Introduction About Ansible
- Install Ansible
- Performing configuration
 - * Using Adhoc Commands
 - * Using Playbooks
- Creating new inventory file
- Adding a new Node
- Modules in Ansible
 - * Shell module
 - * User module
 - * apt module
 - * File Module
 - * Copy Module
 - * Fetch Module
 - * Git Module
 - * Service Module
 - * Replace Module
 - * URI Module
- Performing related operations using multiple Module
- Creating a playbook and running it
- Playbook to configure tomcat9
- Variables in Playbook
 - * Global scope variables
 - * Play scope variables
 - * Host scope variables
- Grouping of Inventory file
- Implementing loops
- Vault
- Handlers
- Error Handling

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- Ansible Roles

➤ Terraform

- Introduction to Terraform
 - * Understanding Providers
 - * Installation to terraform
- Main Commands of Terraform
 - * Terraform INIT
 - * Terraform Plan
 - * Terraform Apply
 - * Terraform Destroy
- Create Resource Group
- Create Virtual Machine
- Create Azure Container Registry (ACR)
- Terraform Variable
- Creation of Storage Account
- Delete the Storage account
- Create Container in Storage account
- Create Git Repository
- Importance of Terraform State File

➤ Azure Devops Quiz