



# Azure & DevOps

## Learn from Real-Time Experts



Tech Leads IT

### Who We Are

- ❑ We are a team of IT professionals started providing training to the students with a passion to deliver real time knowledge during the classes.
- ❑ We have started Tech Leads IT 12 years back in a small space with few courses and we are now offering multiple courses in different technologies.
- ❑ Our Director Mr.Krishna has vast experience in handling the organization by identifying skill full trainers from the market and selecting them through internal assessment process before onboarding.
- ❑ Tech Leads IT trainers are certainly skilled real time consultants providing quality content and teaching with dedication and enthusiasm.



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Annapurna Block,  
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## Microsoft Azure & DevOps Solutions

### About Course

Microsoft Azure & Azure DevOps Solutions Course is organized systematically by industry leaders and professionals as per the industry requirements and demands. The course gives you a solid foundation to appear for the Microsoft Certified.

This course will help you to implement CI and CD pipelines and infrastructure automation along with great networking and security automation and to clear Azure DevOps Engineer Expert Certification. After this course audience can step out with real time implement and automating infrastructure and configuring network along with IAAS and PAAS and strategies for collaboration, source code management, security, compliance, continuous integration, delivery, and monitoring.



## Course Details

<b>Faculty</b>	Prasanth
<b>Experience</b>	15 Years (Real Time)
<b>Duration</b>	60 Hrs/ 2 Months/ Daily 1.30 Hr
<b>Training Mode</b>	Classroom/Online (Both)
<b>Course Fee</b>	15K
<b>Demo Date &amp; Time</b>	
<b>Batch Date &amp; Time</b>	

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# Program Highlights



1-Year Membership



Material, Case Studies  
& Assignments



Predefined set of Interview  
Questions & Answers



Mock-Up  
Interview Sessions



Real-Time Projects



Certificate from  
Tech Leads IT



Recorded  
Video Access



Resume Preparation &  
Interview Preparation



Placements

## Our students got placed below tie-up companies



Cognizant



LARSEN & TOUBRO



## Cloud & DevOps Services





## Introduction to Azure

- Introduction to Microsoft Azure
- Benefits of Cloud computing
- Types of cloud computing
- Azure Data Centers and Services
- Azure Subscriptions
- Classic Vs Azure Resource Manager
- Cloud Service Models (IaaS, PaaS & SaaS)
- Azure Market Place
- Azure PowerShell
- Azure CLI

## Azure subscriptions and Resources

- Create and Manages Azure subscriptions
- Access Control on the subscription
- Overview of Azure resource manager
- Create and manage Resource groups
- move resources across resource groups

## Azure virtual machines

- Deploying virtual machine from Azure portal.
- Different ways to create Virtual machine in Azure
- Deploy VM's using Terraform templates
- Virtual machines configuration.
- Choosing Right VM configuration.
- VM High Availability and Backup and restore

## Azure storage

- Types of Azure storage
- Types of Storage Accounts
- Storage replication in Azure

- Managed vs unmanaged storage
- Different types of disks in Azure and benefits
- Choosing the right storage for different workloads

## Azure Networking

- Overview of Virtual Networks
- Creating Virtual networks and subnets
- Setup connectivity to Azure resources
- Configuring Point to site VPN
- Creating Site to site VPN.
- Global Vnet Peering
- Azure load balancers (Standard LB, App Gateway, Front Door, Traffic Manager)

## High availability Services

- Azure Availability sets
- Azure Availability Zones
- Azure scale sets
- Azure disaster recovery

## Azure PaaS services

- Overview of Azure PaaS Services
- Azure App services
  - Azure Web Apps
  - Function Apps
  - API Management
- Monitoring and securing App services
- Restricting traffic to apps using Azure Application Gateway
- Auto scaling of App service
- Manage High Availability of App service using Traffic Manager



## ✔ Azure Key Vault

- ✔ Create Azure Key Vault
- ✔ Access policies
- ✔ Assign to private network
- ✔ Create the secrets

## ✔ Infrastructure as code

- ✔ Introduction to terraform
- ✔ Terraform Providers
- ✔ Terraform State Config
- ✔ Terraform Variables (Locals)
- ✔ Meta Arguments
- ✔ Terraform loops (Count & For Each)
- ✔ Terraform Security
- ✔ Terraform Provisioners
- ✔ Terraform State Import
- ✔ Terraform code reusability (Modules)
- ✔ Terraform Dynamic Blocks etc .....

## ✔ Version Control System

- ✔ Introduction to Git
- ✔ Git Architecture
- ✔ Git Rebase
- ✔ Remove files
- ✔ Git Revert
- ✔ Git Stash
- ✔ Git Cherry-Pick
- ✔ Tagging
- ✔ Remote Repository

## ✔ Containerization

- ✔ Introduction to Docker
- ✔ Docker installation
- ✔ Docker components
- ✔ Building Docker Image
- ✔ Creating Docker Registry
- ✔ Docker networking
- ✔ Docker Volumes

## ✔ Azure Kubernetes Service

- ✔ Kubernetes Introduction
- ✔ Create Azure AKS Cluster using Azure Portal
- ✔ Kubernetes Namespaces
- ✔ Azure Disks for AKS Storage
- ✔ Ingress and Ingress Controller
- ✔ Ingress Domain Name based Routing with External DNS
- ✔ Azure Container Registry for AKS
- ✔ Azure AKS Cluster Autoscaling
- ✔ Azure AKS - Horizontal Pod Autoscaler HPA
- ✔ Kubernetes Services etc .....

## ✔ Introduction to Azure DevOps

- ✔ Introduction to DevOps Introduction to Azure DevOps
- ✔ Introduction to Transformation Planning
- ✔ Introduction to Source Control Migrating to Azure DevOps
- ✔ Git Authentication in Azure Repos

## ✔ Building Containers with Azure DevOps

Create and deploy a multi-container application on an AKS Cluster. Also, utilize Azure Container and container registry services.

- ✔ Create pipeline for azure web app container
- ✔ Create pipeline for AKS cluster

## ✔ Tasks:

- ✔ Deploy multi container to AKS
- ✔ Modernizing ASP.NET Application to Azure

## ✔ Implementing Continuous Integration

Create and implement a Build Strategy for your Azure Pipeline to implement continuous integration.

- ✔ Azure DevOps Pipeline
- ✔ Hosted and Private Agents
- ✔ Pipeline and Concurrency
- ✔ Azure Pipeline YAML and Classic Pipelines (Visual Designer)
- ✔ Continuous Integration
- ✔ Build Strategy Implementation
- ✔ Integrating Azure Pipelines
- ✔ Setting up Private Agents
- ✔ Analyze and Integrate Docker Multi-Stage Builds

### Tasks:

- ✔ Implement Continuous Integration with Azure Pipelines
- ✔ Integrate External Source Control with Azure Pipelines

## ✔ Release Management Workflow

Configure a CI/CD pipeline using classic and manage your secrets using Azure Vault. Also, configure Azure Monitor as a part of the Release Deployment and create a release dashboard to collect and share information.

### Topics:

- ✔ Continuous Delivery
- ✔ Azure Release Pipeline
- ✔ Deployment Patterns
- ✔ Release Tools
- ✔ Integrating Secrets with Release Pipeline
- ✔ Automating Health Inspection

### Tasks:

- ✔ Configuring CI/CD Pipeline as Code with YAML & Classic Editor
- ✔ Using secrets in the pipeline with Azure Key vault Setting up and Running Functional Tests
- ✔ Release deployment control using Azure Monitor as release gate
- ✔ Create a release Dashboard to share information, monitor progress, & trends



## ✔ Find and Fix Open Source Vulnerabilities

Manage information on security vulnerabilities and suggested fixes for quick remediation.

- ✔ White Source Bolt Introduction
- ✔ Open-source software
- ✔ License and vulnerability scan integration

### Tasks:

- ✔ Using White Source to Manage Open Source Security and License

## ✔ Implementing Deployment Models and Services

Configure IaaS and PaaS services on Azure. Also, deploy a containerized Docker application on Azure Web Apps using the Container registry

### Topics:

- ✔ Deployment Modules and Deployment Options
- ✔ Deployment Patterns

### Tasks:

- ✔ Feature Flag Management using Launch Darkly
- ✔ Deploying a Dockerized app to Azure Web App for Containers

## ✔ Implementing Continuous Deployment

Configure deployment process using approval mechanism and automating the deployments

### Topics:

- ✔ Configure pre and post approval mechanism
- ✔ Configuring gates

## ✔ Implementing Compliance and Security

Manage and check the code quality with Sonar Cloud on Azure DevOps. Also, integrate Azure Key Vault with Azure DevOps to access secrets in Azure Pipeline.

### Topics:

- ✔ Secure and Compliant Development Process & Application Config Data
- ✔ Security and Compliance in a Pipeline Code Quality
- ✔ Security Policies

### Tasks:

- ✔ Manage Technical Debt with Azure DevOps and Sonar Cloud
- ✔ Integrate Azure Key Vault with Azure DevOps
- ✔ Implement Security and Compliance in an Azure DevOps pipeline

## ✔ Project Management and Real Time examples

### Pre-Requisites:

- ✔ Azure subscription
- ✔ Memory – Minimum 8 GB RAM
- ✔ Processor – Intel Core i3 CPU @2.00 GHz or later Storage – 250 GB HDD/SDD or later
- ✔ Visual studio code
- ✔ PowerShell 5.0

## ✔ Practical Sessions:

Post completion of session every day, we will give one real time example to perform the tasks from the audience.

After completion of course we will provide real time artifacts and architecture diagrams for future reference in terms of terraform and devops pipelines and containers etc..

# Contact us

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