

Introduction to Cloud Computing

Learning Objectives:

- Understand the basics of cloud computing
- Learn about different cloud vendors and types of cloud service models

Topics:

- What is Cloud Computing?
- Why Cloud Computing?
- What are the characteristics of Cloud Computing?
- What are the types of Cloud Computing?
- What are the types of cloud implementation models?
- What are the advantages of Cloud Computing?
- What is Virtualization?
- What are the types of Virtualization?
- What are the benefits of Virtualization?

Microsoft Azure Fundamentals

Learning Objectives:

- An understanding of Azure services.
- Understand the pricing and costs of using Azure.

Topics:

- Introduction to Azure Portal and Subscription
- Learn about Azure Architecture
- Azure Compute Services
- Azure Networking Services
- Learn about Load Balancers
- Learn about Auto Scaling
- Learn about Azure Storage Services
- Azure Database Services
- Azure Security Practices
- Introduction to Azure AI and Azure Bigdata
- Azure Pricing and Support Centre

Hands-on:

- Create Free Azure Account
- Create Virtual Networks
- Create Load Balancers
- Create Traffic Manager
- Create Azure DNS Services
- Create Storage Accounts
- Create Cosmos DB
- Work with Azure Active Directory
- Use Azure AI Services
- Work with Azure monitor
- Use Azure pricing Calculator

Git Fundamentals

Learning Objectives:

- Manage Code Repositories using Git
- Work with Git commands and resolve any code conflicts
- Work with Linux

Topics:

- Git Setup
- Linux Basic commands
- Git Introduction
- Learn about Git Branches
- Git Remotes
- Resolve Git Merge conflicts
- Work with Azure DevOps

Hands-on:

- Setup a Git Repository
- Work with a Git Repository on Azure DevOps and handle merge conflicts, pull requests, and perform code review

Azure Resource Manager Templates

Learning Objectives:

- Create and deploy your first ARM template Fundamentals
- Understand the need of ARM Templates
- Create, Deploy, Share ARM Templates

Topics:

- What is ARM templates?
- What are ARM templates?
- Why choose ARM templates?
- Template file
- Template deployment process
- Template design
- Share templates

Hands-on:

- Create and deploy your first ARM template
- Editor : Visual Studio Code
- Command-line deployment
- Create your first template
- Sign in to Azure
- Create resource group
- Deploy template
- Verify deployment
- Clean up resources
- Best practices

Power-shell Fundamentals

Learning Objectives:

- Understand the Use basics of PowerShell
- An understanding of how to use PowerShell to Create resources on Azure
- Automating daily activities on Azure using PowerShell

Topics:

- Decide if Azure PowerShell is the right tool for your Azure administration tasks
- Install Azure PowerShell on Linux, macOS, and/or Windows
- Connect to an Azure subscription using Azure PowerShell
- Create Azure resources using Azure PowerShell

Hands-on:

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- Create Free Azure Account
- Use Power-shell to interact with Azure Resources.
- Creating of Virtual Machines using PowerShell
- Creating of Storage using PowerShell
- Calculate Container size using PowerShell and many more
- Use Power-shell to Automate daily activities

Shell Scripting Fundamentals

Learning Objectives:

- Understand the Use basics of different Shell environments
- An understanding of how to use shell script to Create resources on Azure
- Automating daily activities on Azure using shell scripting

Topics:

- Getting Started
- Core Concepts
- Conditional Statements
- Input and Output Operators
- Debugging and Error Handling
- Functions

Hands-on:

- Create shell script and execute on Azure Cloud
- Provision Infrastructure using Shell Scripting
- Resource Group
- VNet
- Subnets
- Network Security Groups
- Virtual Machines
- Load Balancers
- Hosted Zones
- Database and many more

Python Fundamentals

Learning Objectives:

- A working foundation of basic Python.
- An understanding of how to use Python to control Azure resources

Topics:

- Python Setup
- Python Data Structures and functions
- Python Programming Patterns
- Understand python standard library
- Azure SDK and Python

Hands-on:

- Use Python to interact with Azure Resources.
- Use Python to Automate file transfer to and from Blob storage

Docker for DevOps

Learning Objectives:

- Understand Docker
- Dockerize Applications

- Create different environments with Docker

Topics:

- Introduction to Docker
- Build a Dockerized Web application
- Creating different environments using Docker
- Logging techniques
- Exploring Scalability with Docker

Hands-on:

- Creating a dockerized Web Application

Kubernetes for DevOps

Learning Objectives:

- Understand Orchestration platforms.
- Understand Deployment and Management of Kubernetes Clusters

Topics:

- Introduction to Kubernetes
- Understand the Kubernetes API
- Kubernetes Application Architecture
- Kubernetes Networking
- Storage in Kubernetes
- Kubernetes Deployment and Scaling
- Security in Kubernetes

Hands-on:

- Deploy WebServer on Azure Kubernetes Service
- Auto Scaling Containers on Azure Kubernetes Service
- Configuring the Load Balancers on Azure Kubernetes Service
- Troubleshooting the Issues on Kubernetes Cluster

Azure DevOps

Learning Objectives:

- Learn to implement a complete Project Lifecycle in Azure DevOps

Topics:

- Azure Boards
- Azure Repos
- Azure Pipelines
- Azure Test Plans
- Azure Artefacts
- Azure Extensions Marketplace
- Implement CI/CD in Azure DevOps

Hands-on:

- Setting up automated pipelines to build, test and deploy the code.

Azure Serverless Computing

Learning Objectives:

- Build fully managed serverless applications that can scale automatically.

Topics:

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- Introduction to Serverless computing
- Azure Functions
- Build, deploy and scale web apps on a fully managed platform – Azure App Service

Hands-on:

- Build a fully managed Web app on Azure App Service.

Exam Preparation

- Overview of Exam
- Preparing for Exam
- Various Resources
- Register For the Exam
- All The Best

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