

Cloud Computing

Introduction to Cloud Computing

- What is Cloud Computing?
- Benefits of Cloud Computing

Cloud Service Models

- Overview of IAAS, PAAS, SAAS

Types of Cloud

- Private Cloud
- Public Cloud
- Hybrid Cloud

Amazon Web Services (AWS)

Introduction to AWS

- Introduction to Amazon Web Services – Services Overview and AWS Infrastructure Overview
- Preparatory Topics – Virtualization, Networking, and Storage Concepts
- AWS Management Console and AWS Account

AWS Compute and Networking Services

- Amazon EC2
- Amazon EBS
- Amazon VPC
- Hands-on Activity: Creating a VPC, Creating instances (VMs) on EC2 and configuring all necessary services, attaching EBS volumes, Elastic IPs, etc.

AWS Storage Services

- Overview – Object Storage, file shares, and their use cases
- Amazon S3, Glacier, (File Share Service), CloudFront
- Hands-on Activity: Creating S3 buckets, putting and getting objects from S3, hosting a static website on S3

AWS Monitoring and Scaling

- Amazon CloudWatch – Monitoring Service

- Amazon ELB
- Amazon Auto-scaling
- Hands-on Activity – Configuration of auto-scaling rules and using them to automatically scale EC2 instances

AWS Database Services

- AWS Database Services Overview
- Hands-on Activity – Creating RDS instances, configuring Multi-AZ failover, accessing a database hosted on RDS

AWS Security and DevOps Services

- AWS IAM Overview
- AWS DevOps Services Overview
- Hands-on Activity – Configuring a Git repository on CodeCommit and working with the repository

AWS Infrastructure and Application Services

- Brief Introduction to Infrastructure
- AWS Services Overview – Application Services
- Hands-on Activity – Creating and working with CloudFormation templates and deploying a Stack using them

Architecting with AWS

- High Availability Design, Backup, and Disaster Recovery
- Cost Estimation using Simple Monthly Calculator
- Hands-on Activity – Configuring Simple Email Service (SES)

Advanced AWS Topics

- Brief Introduction to Hadoop and Big Data
- AWS Service Overview – Elastic MapReduce (EMR)

AWS Certification Preparation

- Q&A Session for all previously covered topics
- Preparation Tips for AWS SA-Associate Level Certification Exam

AWS Project Workshops

- Hands-on Workshop/Project: Deploying a 3-tier web-application using AWS services
- Bonus: Brief Introduction to Vagrant and Chef
- Hands-on Workshop/Project: Automated deployment of Test/Dev environments using Vagrant, Chef, and AWS

Microsoft Azure

Introduction to Azure

- Introduction to Azure
- Azure Hosting Models

Azure Services and Subscriptions

- Azure Services
- Subscribing to Microsoft Azure
- Azure Portals
- Azure Resource Group
- Installing Microsoft Azure SDK

Azure Application Development

- App Types
- Deploying Web App directly from Visual Studio
- Monitoring, Debugging, and Diagnosis

Azure Databases

- Comparing SQL Azure Database to Azure / On-Premise SQL Server
- Creating and Using SQL Server and SQL Database
- Azure SQL Database Tools

Azure Storage

- About Azure Storage
- REST API
- Working with Storage Tables
- Working with Azure Queues

Azure Messaging Services

- Azure Service Bus
- Service Bus Basics
- Hosting WCF Service in Azure
- Relayed Messaging
- Service Bus Queues
- Topics and Subscriptions

Azure IAAS Virtual Machine

- Introduction
- Comparing VM with Web Apps and Cloud Services
- Create a Windows Virtual Machine using Portal / PowerShell
- Understanding and Capture VM Images
- Deploy a New VM Instance from the Captured Image
- Deploy Popular Application Frameworks by using Azure Resource Manager Templates
- Understanding and Creating Availability Sets
- Load Balancing between Multiple Virtual Machines