Amazon Web Services

Introduction to Cloud Computing

- Introduction cloud computing world
- History
- Cloud business models
- Public, Private and Hybrid cloud models
- Advantages of cloud computing

AWS Overview

- AWS Regions and Availability zones.
- Tools to access services.
- Overview of the console.

AWS EC2(Elastic Compute Cloud)

- Introduction to EC2.
- Pricing models On-demand vs Reserved vs Spot instances.
- Using Amazon Machine Images (AMIs) to create the instances.
- Public vs Private Images.
- Sharing Images to other accounts.
- Logging into instances using key pairs.
- Converting PEM files to ppk.
- Volumes and types.
- Using snapshots for backup.
- Increasing the size of the volumes.
- Backup and restore process of the EC2 instances.
- Adding network interfaces.
- Assigning static IPs using Elastic IPs.
- Control access to instances using Security Groups.

Elastic Load Balancer

- Introduction to Elastic Load Balancing.
- Creating ELB from Console.
- Attaching instances to ELB.
- Configuring Ports, Protocols and health checks.
- Enabling sticky session.
- Connection draining.
- Enabling SSL Certificates for https transactions.

Cloud Watch

- Introduction to CloudWatch monitoring service.
- Monitoring CPU, Memory and network utilization of different resources.
- Creating notifications.

Simple Notification Services

- Introduction to notifications
- Creating Topics
- Subscribing to Topic
- Publishing to SNS Topic
- Testing e-mail and SMS functionality.

Relational Database Service

- Introduction to Managed database.
- Creating RDS instances using AWS console.
- Choosing an RDS engine and version.
- Public vs Private database instances.
- Multi-AZ setup.
- Backup using snapshots and point in restore.
- Parameter Group.
- Options Group.
- Control access to instances using Security Groups.

Auto-scaling

- Overview.
- Creating launch configuration.
- Creating auto-scaling group.
- Auto-scaling policies.

AWS S3(Simple Storage Service)

- Introduction to Simple Storage Server (S3).
- Storage options (default vs reduced redundancy vs Glacier).
- Creating buckets using Console.
- Uploading and downloading data tS3.
- Building static websites using S3.
- Enable version control on S3.
- S3 access policies.

Storage(Glacier)

- Introduction to Glacier.
- Moving data from S3 to Glacier.
- Setting archiving policies on S3.

Cloud Front (Content Delivery Network)

- Introduction to Content Delivery Networks.
- Overview of Amazon CDN
- Origins and Edge locations
- Configure S3 backend for CloudFront.
- Configure ELB backend from CloudFront.

Simple Email Services(SES)

- Introduction to SES.
- Advantages

Identity Access Management (IAM)

- Introduction to IAM.
- Access controls using IAM.
- Creating users, groups and roles.
- Assigning policies.
- Inline vs Managed policies.

Virtual Private Cloud (VPC)

- Introduction.
- Choosing a network design and CIDR.
- Design a simple network.
- Creating Subnets and setup routing as per the design.
- Using IGW tenable internet access.
- Access controls using Network ACLs.
- Network ACLs vs Security Groups.
- Creating Private connections from data center to AWS.
- Enabling VPC peering between VPCs.

CloudFormation

- Introduction.
- Understanding the template format.
- CloudFormation designer.
- Create a simple CloudFormation template.
- Managing dependencies.
- Updating the existing stacks.
- Intrinsic functions.
- Pseudo parameters.
- Updating CloudFormation stacks.
- Understanding event.
- Cloudformer.

Using CLI

- Installing AWSCli
- Installing CLI tools using rpm or pip
- Configuring credentials
- AWS CLI syntax
- Creating and managing resource using CLI
- Examples

Best practices

- Cost optimization
- Cloud migration
- Using 3rd party tools for health and billing monitoring