



Amazon EC2



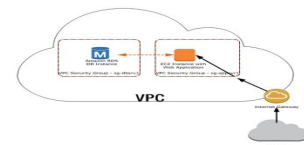
Amazon RDS



AWS IAM



Elastic Load Balancer



### AWS course Objective

- |                              |                       |
|------------------------------|-----------------------|
| 1. EC2                       | 9. Route 53           |
| 2. IAM                       | 10. Elastic Beanstalk |
| 3. S3                        | 11. Cloud front       |
| 4. RDS                       | 12. Cloud watch       |
| 5. VPC                       | 13. Cloud trail       |
| 6. EBS                       | 14. SNS               |
| 7. Auto scaling              | 15. SES               |
| 8. ELB(Elastic Load Balance) | 16. SQS               |

### DevOps on AWS-Cloud

- 17. Code commit
- 18. Code Build
- 19. Code deploy
- 20. Code pipeline

## ❓ **Introduction to Cloud Computing**

- o Client Server Computing Concepts
- o Challenges with Distributed Computing
- o Introduction to Cloud Computing
- o Why Cloud Computing?
- o Benefits of Cloud Computing

## ❓ **Cloud Computing Deployment Models**

- o Private Cloud
- o Public Cloud
- o Hybrid Cloud

## ❓ **Cloud Service Models**

- o Software as a Service (SaaS)
- o Platform as a Service(PaaS)
- o Infrastructure as a Service (IaaS)

## ❓ **Elastic Compute Cloud (EC2)**

- o Regions and Availability Zones – Choose the right Region
- o Amazon Machine Images (AMI)
- o Working with AMIs
- o Choosing the right AMI
- o Deciding what goes into an AMI
- o Finding the right AMI
- o Pricing model in EC2 instances
- o On-demand, Reserved, Spot instances, Scheduled, Dedicated Hosts
- o EC2 Reserved Instance Marketplace
- o Importing and Exporting Instances

## ❓ **Identity and Access management (IAM)**

- o Creation of user accounts
- o Setting up multi factor Authentication (MFA)
- o Roles in IAM
- o Groups in IAM
- o Delegation of permissions for users
- o Creation of custom policies for delegation
- o Using Identity Providers
- o Cross-Account Access
- o Account settings
- o Credential Report

## ? **Simple Storage Service (S3)**

- o Creating and deleting buckets
- o Adding objects to buckets
- o Getting objects
- o Deleting objects
- o Notifications
- o Uses of S3 storage
- o Working with Permissions of S3, Access Control, Bucket policy
- o S3 Data encryption types
- o Enable Versioning, Logging for S3 objects
- o Lifecycle rules in s3
- o Accessing S3 storage with Tools
- o Hosting a Static Website
- o Cross-Origin Resource Sharing
- o Cross-region replication

## ? **Elastic Block Store (EBS)**

- o EBS Volume Types
- o EBS Encryption
- o EBS Performance
- o Instance Store volumes
- o Instance Stores Available on Instance Types
- o Instance Store Usage Scenarios
- o Adding Instance Store Volumes to an AMI
- o Optimizing Disk Performance
- o Creating and deleting volumes
- o Attaching and detaching volumes
- o Mounting and Unmounting the attached volume
- o Increasing the volume size
- o Creating snapshots
- o Creating Volumes & AMIs from Snapshots.
- o Cross-Region snapshot copy & use cases.

## ? **Relational Database Service (RDS)**

- o DB Instances
- o Selecting the DB-Engine
- o Configuring the Database Server
- o Creating your Database
- o Setting up automatic backups, snapshots & restores
- o Authorizing access to the DB with RDS Security Groups

- o DB Instance Replication
- o Security: Using IAM to Manage Access to Amazon RDS Resources
- o RDS Limits

## 🔍 Virtual Private Cloud (VPC)

- o Different types of networks that can be setup in AWS
- o Creating a custom VPC
- o NACLs & Security Groups
- o Creation of Internet Gateway(IGW)
- o Connecting to instances in the gateway
- o Subnets, Route Tables & Association
- o NAT Instances & NAT-Gateways
- o DHCP Options Sets & DNS
- o VPC Peering
- o VPN overview & components

## 🔍 Cloud Front

- o How CloudFront Delivers Content
- o Working with Distributions
- o Working with Web Distributions
- o Working with Objects
- o Request and Response Behaviour
- o Serving Private Content through CloudFront
- o Using an HTTPS Connection to Access Your Objects

## 🔍 Cloud watch

- o Debugging cloud related issues
- o Monitoring the AWS Service Health Dashboard
- o Monitoring with Cloud watch
- o Getting statistics for a specific EC2 instance
- o Getting aggregated statistics
- o Metrics for other AWS Services and related namespaces
- o Setting up notifications

## 🔍 Cloud Tail

- o Event history activity
- o Monitor logs
- o Operational activity
- o Risk auditing

## ? Elastic Load Balancer (ELB)

- o What Is Elastic Load Balancing
- o How Elastic Load Balancing Works
- o Classic & App ELB types.
- o Creating load balancer
- o Internal & External Load balancers
- o Load balancing protocols
- o Listener Configurations
- o SSL Negotiation Configurations
- o Attach & Detach Subnets
- o Security groups for the load balancer
- o Configure health check for the load balancer
- o Adding multiple instance to the load balancer
- o Custom Domain Names
- o Cross-Zone Load Balancing
- o DNS Failover
- o Sticky Sessions

## ? Auto Scaling

- o What is auto scaling
- o Auto scaling components
- o Benefits of auto scaling
- o Creating launch configuration, and its prerequisites.
- o Using Auto scaling with Elastic Load balancer (ELB).
- o Temporarily Removing Instances
- o Suspend and Resume Process
- o Shut Down Your Auto Scaling Process
- o Monitoring Your Auto Scaling Instances
- o Health Checks
- o Getting Notifications When Your Auto Scaling Group Changes

## ? Configuring Amazon Route 53 as Your DNS Service

- o Registering a Domain Name and Configuring
- o Working with Public Hosted Zones
- o Working with Private Hosted Zones
- o Working with Resource Record Sets
- o Health Checks and DNS Failover
- o Creating, Updating, and Deleting Health Checks

### ? **Elastic Beanstalk**

- o Creation of Web-App using Elastic Beanstalk
- o Building a sample application using Beanstalk
- o Modifying the properties of the deployment.

### ? **Simple Notification Services (SNS)**

- o Creation of a topic
- o Subscribing to topic via Email
- o Setting notification for EC2 instance changes

### ? **Simple Queue Service (SQS)**

- o Creation of a queue
- o Sending messages to the queue
- o Sending SNS to SQS
- o Retrieving messages from SQS

### ? **Simple Email Services (SES)**

- o Setting up email domain
- o Limits of SES
- o Test Email setup

## **DevOps on AWS-Cloud**

### ? **Code commit**

- o Create repository
- o Commit source on to repository
- o Pull from repository

### ? **Code Build**

- o Code build

- o Code package

### ? **Code deploy**

- o Build source

- o Deploy packages

### ? **Code pipeline**

- o Create pipeline
- o Manage pipelines
- o Schedule pipelines

