



AWS Course Content

Date: Timings:.....

Duration:..... Fee:

Faculty:.....

- ✓ **Amazon Elastic Compute Cloud(EC2)**
- ✓ **Amazon Simple Storage Service (S3)**
- ✓ **Elastic Block Storage (EBS)**
- ✓ **Elastic Load Balancing (ELB)**
- ✓ **Amazon Relational Database Service (RDS)**
- ✓ **Auto Scaling**
- ✓ **Identity and Access Management (IAM)**
- ✓ **Virtual Private Cloud (VPC)**
- ✓ **AWS CLI**
- ✓ **Cloud Watch**
- ✓ **Route-53**
- ✓ **Cloud Formation**

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- ✓ **Simple Email Services (SES)**
 - ✓ **Simple Queue Services (SQS)**
 - ✓ **Simple Notification Services (SNS)**
 - ✓ **Cloud Trail**
 - ✓ **Terraform**
 - ✓ **Linux**
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→ **Introduction**

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

→ **Cloud Delivery/Service Models**

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

→Elastic Compute Cloud (EC2) Essentials

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

→ EC2 Instances

- Building an EC2 Windows instance & Linux Instance
- Boot strapping with user-data
- Setting up security
- Security with Key Pairs
- Working with the Security Group
- Different IPs assigned to an EC2 instance
- Assigning Elastic IPs
- Login/Access to the instance
- Creating your own custom AMI, Registering & Granting access to the AMI
- Placement groups
- EC2 instance protection
- Instance Roles
- Importing and Exporting Instances
- Elastic Network Interfaces(ENIs)
- Resources and Tags
- Accessing Meta-Data & use cases.

→Elastic Block Store (EBS)

- EBS Volume Types
- EBS Encryption
- EBS Performance
- Instance Store volumes
- Instance Stores Available on Instance Types
- Instance Store Usage Scenarios
- Adding Instance Store Volumes to an AMI
- Optimizing Disk Performance
- Creating and deleting volumes
- Attaching and detaching volumes

- Mounting and Unmounting the attached volume
- Increasing the volume size
- Creating snapshots
- Creating Volumes & AMIs from Snapshots.
- Cross-Region snapshot copy & use cases.

→ **Elastic File System (EFS)**

- What Is EFS
- How EFS Works
- How to Create EFS
- How to attach EFS to EC2
- Drawbacks of EFS

→ **Elastic Load Balancer (ELB)**

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

→ **Auto Scaling**

- What is auto scaling
- Auto scaling components
- Benefits of auto scaling

- Creating launch configuration, and its prerequisites.
- Creating Auto Scaling Groups (ASG)
- Attach & Detach EC2 Instances in ASG
- Configuration of auto scaling policies based on the Load on EC2 instances.
- Using Auto scaling with Elastic Load balancer (ELB).
- Temporarily Removing Instances
- Suspend and Resume Process
- Shut Down Your Auto Scaling Process
- Monitoring Your Auto Scaling Instances
- Health Checks
- Getting Notifications When Your Auto Scaling Group Changes

→ **Simple Storage Service (S3)**

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

→ **Glacier Storage**

- Creating Vaults
- Working with Archives
- Accessing the Glacier vault using tools
- Using Glacier for backups
- Job Operations
- Data Retrieval Policy Operations

→ **Identity and Access management (IAM)**

- Creation of user accounts
- Setting up multi factor Authentication (MFA)
- Roles in IAM
- Groups in IAM
- Delegation of permissions for users

- Creation of custom policies for delegation
- Using Identity Providers
- Cross-Account Access
- Account settings
- Credential Report
- Encryption - Key Management Service (KMS)
- **Virtual Private Cloud (VPC)**
- Different types of networks that can be setup in AWS
- Creating a custom VPC
- NACLs & Security Groups
- Creation of Internet Gateway(IGW)
- Connecting to instances in the gateway
 - Subnets, Route Tables & Association
- NAT Instances & NAT-Gateways
- DHCP Options Sets & DNS
- VPC Peering
- VPN overview & components
- **Route 53**
- Configuring Amazon Route 53 as Your DNS Service
- Registering a Domain Name and Configuring Amazon Route 53 as the DNS Service
- Migrating DNS Service for an Existing Domain to Amazon Route 53
- Creating a Subdomain That Uses Amazon Route 53 without Migrating the Parent Domain
- Working with Public Hosted Zones
- Working with Private Hosted Zones
- Working with Resource Record Sets
- Health Checks and DNS Failover
- Creating, Updating, and Deleting Health Checks
- Transferring a Domain from a Different AWS Account or Registrar
- Using IAM to Control Access to Amazon Route 53 Resources
- **AWS CLI**
- Introduction to AWS CLI
- Install AWS CLI on Windows
- Install AWS CLI on Linux
- Configure AWS CLI
- AWS CLI output formats
- **AWS CLI setup**
- AWS CLI auto completion
- AWS CLI filter option
- AWS CLI query option

AWS CLI dry-run option

AWS CLI COMMANDS

- AWS CLI Commands For AWS EC2
- AWS CLI Commands For AWS S3
- AWS CLI Commands For AWS IAM
- AWS CLI Commands For AWS ELB
- AWS CLI Commands For AWS SNS & AWS SQS
- AWS CLI Commands And Shell Scripting
- Cloud watch**
- Cloud Formation (CF)**

- What is Cloud Formation?
- Cloud Formation Template Options
- Cloud Formation Building Blocks
- Deploying Cloud Formation Templates
- Cloud Formation Parameters
- Cloud Formation Resources
- Cloud Formation Mappings
- Cloud Formation Conditions
- Conditions Functions
- Fn::GetAtt (get attribute function)
- Ref Function
- Cloud Formation Metadata
- Creating Ec2 Instance
- Creating Security Group Instance
- Creating EIP and Attach it to EC2 Instance
- Map security group to Ec2 Instance
- Creating Complete VPC(Subnet,Route Tables,NACL,NAT)
- more examples
- **Simple Notification Services (SNS)**
- Creation of a topic
- Subscribing to topic via Email
- Setting notification for EC2 instance changes
- **Simple Queue Service (SQS)**
- Creation of a queue
- Sending messages to the queue
- Sending SNS to SQS

- Retrieving messages from SQS
- **Simple Email Services (SES)**
- Setting up email domain
- Limits of SES
- Test Email setup
- **Relational Database Service (RDS)**
- DB Instances
- Selecting the DB-Engine
- Configuring the Database Server
- Creating your Database
- Setting up automatic backups, snapshots & restores
- Authorizing access to the DB with RDS Security Groups
- DB Instance Replication
- Security: Using IAM to Manage Access to Amazon RDS Resources
- RDS Limits
- Managing MySQL Database server
- DB Instance Life Cycle: Renaming a DB Instance
- Deleting or Rebooting a DB Instance
- Working with Storage Types
- Upgrading a DB Instance
- Working with Option Groups & DB Parameter Groups