Amazon Web Services (AWS)

Course Content

AWS Cloud

1. Introduction to Cloud Computing
2. Introduction & Overview
3. What You'll Need Getting Started
4. Essential Characteristics of Cloud Computing
5. Service Models in Cloud computing
6. Introduction to AWS
7. AWS Account creation
8. Fee tier limitations overview
9. What is cloud computing?
10. Global Infrastructure of AWS
11. AWS Services Walkthrough-High-level
12. Management Console Walkthrough
13. Basic Account Management Setting
14. Introduction to Billing Dashboard & Cost Explorer
15. What is Regions in AWS?
16. What is Availability Zones in AWS?
17. What used to happen when there was no cloud?
18. What are the advantages of cloud?
19. Why we should learn only AWS?
20. Service Level Agreement (SLA) of AWS over data and its security
21. How AWS is leading cloud market?
22. AWS Certifications
23. Gartner Magic Quadrant
24. Setting up Billing Alarm & Budget
25. Exam Blue Print

EC2 (Elastic Compute Cloud)

1. EC2 - The Backbone of AWS
2. What is EC2 (Elastic Compute Cloud)
3. Scaling features of EC2
4. Limitations of EC2
5. Types of Operating systems
6. Windows and its versions
7. Unix and its flavors
8. Linux and its flavors
9. Instance types
10. Free tire limitations of EC2
11. What is EBS (Elastic Block Store)?
12. Types os Storages
13. Difference between Object and Block stores
14. Launching Windows Server
15. Launching Linux Server
16. Launching Web Server (Apache)
17. How to crate simple website?
18. System Ports & Security groups
19. Key pairs (Pem & PPK)
20. Putty Tool installation and configuration
21. Putty Gen Tool installation and configuration
22. Stopping & Terminating EC2 Instances
23. Load Balancer Theory
24. Types of Load Balancer in AWS
25. Load Balancers and Health Checks
26. User data

27. Web traffic flow
28. Attaching servers to Load Balancer
29. What is Launch configuration
30. How to configure Launch configuration
31. What is Auto Scaling
32. Configuration of Auto Scaling
33. Scale up & Scale down policies
34. Setting Alarms
35. Status Checks
36. Instance Status Checks
37. Instance Status Checks
38. Protection from Accidental Termination
39. Encryption of EBS Volumes
40. Delete on Termination of EBS Volumes
41. Pricing models of EC2 Instances
42. Types of EBS Volumes
43. Difference between SSD & HDD
44. Upgrading EBS volumes
45. Converting the type of EBS Volumes
46. Attaching & Detaching EBS volumes to EC2 instances
47. Amazon Machine Images (AMIs)
48. Snapshots
49. Creating our own Amazon Machine Images (AMIs)
50. Deletion sequence as per dependencies

S3 (Simple Storage Service)

1. S3 (Simple Storage Service)
2. What is S3?
3. What is Object storage?
4. Benefits of using S3
5. Limitations of S3
6. S3 bucket naming convention
7. Public & private options
8. Security & Reliability of S3
9. Tiered Storage
10. Static website hosting
11. S3 bucket Tags
12. Cross Origin Resource Sharing (CORS)
13. Lifecycle Management
14. Versioning
15. Encryption
16. Bucket Permissions
17. Access control lists
18. Bucket policy
19. Storage Classes/Tiers
20. S3 Glacier
21. S3 Storage Classes/Tiers - Prices
22. S3 - Charges
23. Transfer Acceleration
24. Edge locations/End Points
25. Cross Region Replication
26. Object Metadata
27. Summary

IAM (Identity & Access Management)

1. Introduction to Identity & Access Management
2. Components of IAM
3. Root Access Keys
4. Setting up password rotation policy
5. Centralized & Sharing access
6. Creating and Managing Users & Groups
7. Creating and Managing IAM Policies/Permissions
8. Inline Policies
9. Managed Policies
10. Custom Policies
11. How to Generate own Policy
12. How to recover lost passwords

13. Graphical (GUI) & Command line (CLI) access
14. Roles and its use cases
15. Multi-Factor Authentication - [MFA]
16. Security Features in IAM
17. Create A Billing Alarm
18. Best Practices of IAM

AWS CLI (Command Line Interface)

1. AWS CLI (Command Line Interface)
2. What is AWS CLI?
3. Advantages of CLI
4. How to access AWS through CLI
5. How to generate root access keys?
6. AWS CLI package installation
7. Using CLI through windows & Linux servers
8. Access key & Secret keys
9. Launching EC2 instances through AWS CLI
10. Creating S3 buckets through AWS CLI
11. Managing IAM users through AWS CLI
12. Managing IAM groups through AWSCLI
13. Using IAM Roles in AWS CLI

VPC (Virtual Private Cloud)

1. VPC (Virtual Private Cloud)
2. What is Network?
3. Network components
4. Network Topology
5. Network Media
6. Network Interface Card
7. Network Protocol
8. TCP/IP Vs UDP ports
9. IP Addressing
10. Classes of IP addresses
11. Reserved IP Addresses
12. CIDR (Classless Inter Domain Routing)
13. Loopback IP Range
14. Subnet/Subnet Mask
15. Public IP & Private IP
16. Introduction to Virtual Private Cloud - VPC
17. Build Your Own Custom VPC
18. Assigning IP addresses to VPC
19. What is Subnet?
20. Public & Private Subnets
21. Enabling Public IP
22. Internet Gateway
23. VPC Routers
24. Web Server & Database Server in VPC
25. Restricting ports to specific users
26. Bastion server / Jump server
27. NAT (Network Address Translation) Gateway
28. What is Elastic IP?
29. Public IP Vs Elastic IP Vs Private IP
30. MySQL port connection
31. NACL (Network Access Control Lists)
32. Inbound & Outbound rules
33. State full & State less
34. Ephemeral ports
35. Security Groups Vs NACLs
36. VPC Peering
37. Peering Limitations
38. What is Transitive peering
39. VPC Flow logs
40. VPC Flow Logs limitations
41. Exempted IP addresses from Flow logs
42. What is Instance Metadata?
43. VPC End Points
44. VPC Clean Up
45. VPC Summary

Route 53

1. Route 53
2. DNS
3. What is DNS (Domain Name System)
4. Purpose of DNS
5. Types of Domains
6. How to buy Domains
7. Domain sellers
8. IANA (Internet Assigned Numbers Authority)
9. Route 53 Register A Domain Name
10. How Route53 Works
11. Setup Our EC2 Instances Lab
12. Health Checks in Route53
13. Alarms and Notifications in Route53
14. Different Routing Policies
15. Simple Routing Policy
16. Weighted Routing Policy
17. Latency Routing Policy
18. Failover Routing Policy
19. Geolocation Routing Policy
20. DNS Exam Tips

RDS (Relational Database Service)

1. Databases on AWS
2. What is Database
3. What is RDS (Relational Database Service)
4. What is SQL
5. What is NoSQL
6. what is Data warehouse
7. AWS supporting Databases
8. Create our first RDS Instance (MySQL)
9. RDS Back-ups
10. Automated Backups
11. DB Snapshots
12. Database Retention period
13. DB Transactional Logs
14. Multi-AZ
15. Read Replicas
16. Copy snapshot
17. Migrate snapshot

Dynamo DB

1. Dynamo DB
2. What is NoSQL
3. Connecting web server with database server
4. Using IAM Role in Dynamo DB
5. Injecting data into Dynamo DB
6. Pulling data from GitHub

Redshift

1. What is Redshift
2. What is Data Warehousing
3. OLTP(Online Transaction Processing)
4. OLAP (Online Analytics Processing)
5. Redshift Configuration
6. Massive Parallel Processing (MPP)

Elasticache

1. What is Elasticache
2. Types of Elasticache
3. Mem Cached
4. Redis (Open source)
5. Databases Summary

Cloud Watch

1. Cloud Watch
2. Monitoring, Metrics and Analysis
3. Cloud Watch Introduction
4. What is monitoring?
5. Why we should monitor?
6. What is the need of monitoring tool?
7. Default Monitoring
8. Detailed Monitoring
9. Create Alarms
10. Create Billing Alarms
11. Cloud Watch graphs
12. How to create Dash board?
13. Line Graph
14. stacked area Graph
15. Number Graph
16. Text Graph
17. Monitoring EC2
18. Monitoring RDS

EFS (Elastic File System)

1. EFS (Elastic File System)
2. What is EFS
3. What is Shared Storage
4. How EFS works
5. EFS architecture
6. EFS Volume mounting process
7. Testing EFS
8. EFS Summery

SNS (Simple Notification Service)

1. SNS (Simple Notification Service)
2. What is SNS?
3. Need of notifications
4. Formats of SNS
5. Topics in SNS
6. Subscribers in SNS
7. Subscription in SNS
8. SNS integration with Auto Scaling
9. SNS integration with Route 53
10. How to clean up SNS

SQS (Simple Queue Service)

1. SQS (Simple queue Service)
2. What is SQS
3. SQS Work flow
4. SQS Queue Types
5. Standard Queue
6. FIFO (First-In-First-Out)
7. Decoupling mechanism
8. Visibility Time Out
9. SQS Long Polling

SES (Simple Email Service)

1. SES (Simple Email Service)
2. What is SES
3. Purpose of SES
4. SNS Vs SES

Cloud Formation

1. Cloud Formation
2. What is Cloud Formation
3. IAC (Infrastructure As Code)
4. Cloud Formation Template
5. Cloud Formation Stack
6. Languages used in Cloud Formation
7. Creating a Sample Cloud Formation stack
8. Ways of creating Cloud Formation stack

9. Cleaning up of Cloud Formation

Elastic Beanstalk

1. Elastic Beanstalk
2. What is Elastic Beanstalk
3. What is the need of Elastic Beanstalk
4. Why developers need to learn Elastic Beanstalk
5. Supported languages
6. Cleaning up of Elastic Beanstalk

Snow ball

1. Snow ball
2. Why the need of Snow ball
3. Data migration service
4. Snow ball edge
5. Snow mobile

Trusted Advisor

1. What is Trusted Advisor
2. Cost Optimization
3. Performance
4. Security
5. Fault Tolerance
6. Service Limits

Cloud Front

1. What is Cloud Front
2. Setting up of Cloud Front
3. Architecture of Cloud Front
4. Content delivery network (CDN)
5. Edge Locations
6. Origin
7. Distribution
8. TTL (Time To Live)

Cloud Trail

1. Cloud Trail
2. What is Cloud trail
3. What is Auditing in AWS
4. Cloud trail Vs Cloud watch
5. How to verify logs

Elastic Transcoder

1. Elastic Transcoder
2. Purpose of Elastic Transcoder
3. Advantages of Elastic Transcoder

Whitepapers

1. Whitepapers & The Well Architected Framework
2. Security
3. Reliability
4. Performance Efficiency
5. Cost Optimization
6. Operational Excellence
7. Service Models
8. IAAS (Infrastructure As A Service)
9. PAAS (Platform As A Service)
10. SAAS (Software As A Service)
11. Security credentials
12. Amazon Corporate Segregation
13. Shared Responsibility Model
14. AWS Responsibility
15. User Responsibility

16. Storage De-commissioning
17. Scale up & Scale down
18. Scale Out & Scale In
19. De-Coupling mechanism
20. Types of Elasticity
21. Compliance
22. Summary

Opswork

1. Opswork
2. Opsworks Overview
3. Chef architecture
4. Working of Opswork
5. Cookbooks
6. Recipes
7. Chef Work station
8. Chef Server
9. Chef Node
10. Ohai tool (System Discovery Tool)
11. Knife tool
12. Bootstrapping of nodes
13. Chef-client tool
14. Pull mechanism
15. Idempotency
16. Chef Supermarket
17. Language used in Chef

AWS Certifications

1. AWS Certifications
2. AWS Certified Solutions Architect
3. AWS Certified Developer
4. All about exam
5. Do's and Don'ts
6. How to apply for an exam
7. Points to be remember
8. Sample Exam Dumps

Lambda

1. What is Lambda?
2. Architecture of Lambda
3. Function As A Service (FAAS)
4. What is a Lambda Function?
5. Different ways of creating a Lambda Function
6. Creating a custom Lambda Function from scratch using Python
7. Deploying custom Lambda Function for automation
8. What is a Trigger?
9. Integrating Lambda with Cloudwatch
10. What is Cron job?
11. Use cases of Lambda
12. Pricing models of Lambda

Terraform

1. What is terraform
2. What are the advantages of terraform
3. why we have to use terraform
4. What is IAC?
5. What are the advantages of IAC?
6. list of cloud providers
7. what are the cloud providers support terraform
8. how to download terraform software
9. Terraform installation on windows & Linux Servers
10. how to set terraform path temporarily and permanently
11. What is IAM in AWS?
12. How to create IAM user?
13. how to launch windows instance
14. how to launch Linux instance
15. creation of S3 bucket

Projects

- **AWS Real time live project**
- **(Building AWS Infrastructure from scratch)**
- **Interview questions (Technical, Manager & HR)**
- **Resume preparation & Evaluation**
- **Real time Scenarios**
- **Day-to Day activities**
- **Provide Material**
- **Certification Questions**

My way of Teaching

- **Theoretical Knowledge**
- **Practical Knowledge**
- **Interview & Exam Points**
- **Provide material**
- **Provide regular recorded video of class**
- **Resume preparation (Fresher's & Experience)**
- **Provide project**
- **Interview cracking tips**

Thank you