



AWS COURSE CONTENT

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.
- OTHER SUPPORTED ENDPOINTS.

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.

CLOUD FORMATION

- 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.

DATA SECURITY

- **RECOGNIZE AND IMPLEMENT SECURE PRACTICES FOR OPTIMUM CLOUD DEPLOYMENT AND MAINTENANCE. CONTENT MAY INCLUDE THE FOLLOWING:**
 - AWS SHARED RESPONSIBILITY MODEL
 - AWS PLATFORM COMPLIANCE
 - AWS SECURITY ATTRIBUTES (CUSTOMER WORKLOADS DOWN TO PHYSICAL LAYER)
 - AWS ADMINISTRATION AND SECURITY SERVICES
 - AWS IDENTITY AND ACCESS MANAGEMENT (IAM)
 - AMAZON VIRTUAL PRIVATE CLOUD (VPC)
 - AWS CLOUDTRAIL
 - INGRESS VS. EGRESS FILTERING, AND WHICH AWS SERVICES AND FEATURES FIT
 - “CORE” AMAZON EC2 AND S3 SECURITY FEATURE SETS
 - INCORPORATING COMMON CONVENTIONAL SECURITY PRODUCTS (FIREWALL, VPN)
 - DESIGN PATTERNS
 - DOS MITIGATION
 - ENCRYPTION SOLUTIONS (E.G., KEY SERVICES)
 - COMPLEX ACCESS CONTROLS (BUILDING SOPHISTICATED SECURITY GROUPS, ACLS, ETC.)
 - AMAZON CLOUDWATCH FOR THE SECURITY ARCHITECT
 - TRUSTED ADVISOR
 - CLOUDWATCH LOGS
- **RECOGNIZE CRITICAL DISASTER RECOVERY TECHNIQUES AND THEIR IMPLEMENTATION.**
 - DISASTER RECOVERY
 - RECOVERY TIME OBJECTIVE
 - RECOVERY POINT OBJECTIVE
 - AMAZON ELASTIC BLOCK STORE
 - AWS IMPORT/EXPORT
 - AWS STORAGE GATEWAY
 - AMAZON ROUTE53

BEST PRACTICES

- COST OPTIMIZATION
- CLOUD MIGRATION
- USING 3RD PARTY TOOLS FOR HEALTH AND BILLING MONITORING

