



AWS introduction

Introduction:

Power shell and Linux Essentials:

Powershell, Linux, and AWS:

- ❖ Install Tools for Connectivity
- ❖ Connect and Load Modules
- ❖ Create new Resources
- ❖ Environment Parsing
- ❖ User Manipulation
- ❖ Security, PowerShell and AWS

Virtual Private Cloud (VPC)

- ❖ AWS Global Infrastructure
- ❖ VPC Basics
- ❖ Internet Gateways(IGW)
- ❖ Route Tables (RTs)
- ❖ Network Access Control Lists (NACLs)
- ❖ Subnets o Availability Zones
- ❖ Introduction to VPC and AWS Networking o Building A VPC From Scratch
 - VPC Networking
 - VPC Security
- ❖ Configuring a NAT Instance
- ❖ DB Subnet Groups
- ❖ Elastic IP Addresses and Elastic Network Interfaces
- ❖ Configure a Web Application In VPC
- ❖ Extending the VPC to On-Premise Networks
- ❖ VPC Peering o Troubleshooting scenarios
- ❖ Network and Data Security o Network Monitoring with Flow Logs

Extending On-Premise Networks with VPN :



- ❖ Using Directory Service to Connect Hybrid Architectures
- ❖ Security Zones
- ❖ Understanding AWS IP Subnet Reservations
- ❖ Hybrid Cloud AWS
 - Overview
 - AWS Hybrid Cloud Scenario
 - Network Integration in to AWS VPC
 - Best Practices
 - AWS VPC Wizard Creation
 - Creating an OpenVPN Instance for Client Connections

AWS Direct Connect :

- ❖ Understanding AWS Direct Connect
- ❖ Working with AWS Direct Connect Virtual Interfaces
- ❖ Accessing Remote Regions

Amazon CloudFront :

- ❖ CloudFront Essentials
- ❖ Key Concepts and Overview
- ❖ Architecting Applications with CloudFront
- ❖ Dynamic Content with CloudFront
- ❖ CloudFront Reporting
- ❖ CloudFront Security
- ❖ Performance Considerations with CloudFront
- ❖ Streaming Media with CloudFront
- ❖ Forcing HTTPS to the origin
- ❖ Creating Multi-Region CloudFront Solution

Cloud Formation:

- ❖ Cloud Formation Essentials
- ❖ Creation and deployment of VPC Using Cloudformation

Cloud Watch:

- ❖ Cloud Watch Basics
- ❖ Monitoring Security Groups using CloudWatch
- ❖ Creating SNS to communicate to Users

Billing:

- ❖ Cost Optimizing

AWS VPC CLI:

- ❖ Creation and management of VPC resources using CLI



Elastic Compute Cloud (EC2)

- ❖ EC2 Basics
- ❖ Amazon Machine Images (AMIs)
- ❖ Instance types
- ❖ Elastic Block Store (EBS)
- ❖ Security Groups
- ❖ IP Addressing
- ❖ Launching and using an EC2 instance
- ❖ EC2 Essentials
- ❖ Understanding Reserved Instances
- ❖ Selecting and Building EC2 Instances
- ❖ Working with public and private IP Addresses
- ❖ Cloud-initUserdata and Metadata
- ❖ CloudWatch and EC2
- ❖ EC2 Placement Groups o Serving Traffic to Private Web Servers
- ❖ Working with Elastic Block Storage
 - Understanding AWS Storage Types
 - Increasing IOPS Performance
 - Configuring Optimized Instances

EBS Volumes And Snapshots:

- ❖ EBS Snapshots and Replication
 - EBS Snapshots Characteristics
 - Working with Snapshots in the AWS Management Console
- ❖ AWS Command Line Interface
 - Working with EC2 using CLI
- ❖ EC2 Troubleshooting Scenarios

Monitoring and Metrics

- ❖ Understanding AWS Instance types, Utilization and Performance
- ❖ EC2 Instance and System Status Checks
- ❖ Creating Cloud Watch Alarms
- ❖ Installing and Configuring Monitoring Scripts for EC2 Instances
- ❖ Dedicated an instance to monitoring
 - Monitoring EBS for performance and availability
- ❖ High Availability And Fault Tolerant Tools with EC2
 - Working with AMI's
 - ELB with High Availability Hands On
 - Troubleshooting Connectivity Issues
 - Applying Auto Scaling and ELB To Create High Availability and Fault Tolerance



Elastic Load Balancer o ELB Basics:

- ❖ Creating an ELB
- ❖ Monitoring ELB for performance and availability
- ❖ ELB Troubleshooting scenarios
- ❖ Maintaining Session State on ELB applications

Auto Scaling:

- ❖ Basics
- ❖ Using Auto Scaling
- ❖ Auto Scaling Troubleshooting scenarios
- ❖ Auto Scaling Features
- ❖ How Auto Scaling Works
- ❖ Configuring Auto Scaling

Elastic File Storage:

- ❖ Demonstrate ability to create backups for different services
- ❖ Overview of Backup Services on AWS and Services that Include Backups
- ❖ Creating and Scripting Automation for EC2 Snapshots

Route 53:

- ❖ Route 53 Basics
- ❖ Using Route 53
- ❖ Route 53 and DNS Failover
- ❖ Latency Based Routing
- ❖ Weighted Routing Policies In Route 53
- ❖ Configuring DNS with Route 53
 - Where we are in the reference architecture
 - The role of DNS in a distributed cloud system
 - Using Route 53 with ELB, CloudFront, S3
 - How is failure handled?
 - Configuring Route 53
 - Route 53 Best Practices

Billing:

- ❖ AWS Billing and linking AWS Accounts
- ❖ AWS Billing Dimensions and metrics for Cloud Watch
- ❖ Cost Optimizing
- ❖ Using the AWS Price List API and Cost Explorer

Cloudwatch:



- ❖ Creating Cloud Watch Alarms for EC2 Monitoring
- ❖ Creating custom cloudwatch metrics
- ❖ Configuring Alarms

Cloud Formation:

- ❖ Creation and Deploying EC2 Resources with Cloudformation
- ❖ Creation of SSH Bastion Host

AWS EC2 CLI

- ❖ Creation and management of EC2 resources using CLI

EC2 Container Service:

Introduction

- ❖ What is a Container?
- ❖ Container Architecture
- ❖ Amazon Web Services - EC2 Container Service Introduction
 - Setup and Configuration
- ❖ Creating an ECS User and Group
- ❖ Logging Into the Console: Aliases and IAM Accounts
- ❖ Creating Instance Key Pairs
- ❖ Creating a Cluster Virtual Private Cloud
- ❖ Security Groups and ECS Clusters
- ❖ Install and Configure the AWS CLI
- ❖ AWS CLI - Installing Docker for ECS Container Management o Components and Usage
- ❖ AWS ECS - Using the Wizard for Sample Cluster Creation
- ❖ AWS ECS - Exploring the Sample Container Cluster
- ❖ Customizing the ECS Cluster
- ❖ Cluster Security Group Customization
- ❖ Container Instance Scaling
- ❖ Container Repositories: The DockerHub
- ❖ Containers: Docker Basics
- ❖ ECS: Creating a Custom Container
- ❖ ECS: Creating a Custom Task Definition for our Containers
- ❖ ECS: Running Multiple Container Types in the Cluster
 - Troubleshooting o Performance Metrics
 - Service Limits

Simple Storage Service (S3)

- ❖ S3 Basics
- ❖ Buckets and objects



- ❖ Storage Classes
- ❖ Object Lifecycles
- ❖ Permissions
- ❖ Object Versioning
- ❖ S3 Essentials
- ❖ S3 Bucket/Object Versioning and Policies
- ❖ Website Hosting with S3
- ❖ AWS Command Line Interface
 - Working with S3 using CLI
- ❖ Introduction To S3 Developer Requirements
- ❖ Creating a static hosting Website with S3
- ❖ Enabling CORS configuration
- ❖ S3 IAM & Bucket Policies
- ❖ Logging S3 API Calls o S3 Encryption

Glacier :

- ❖ Overview
- ❖ Introduction to Glacier
- ❖ Creating a Glacier Vault
- ❖ Storing Archives in Glacier
- ❖ Understanding Glacier's Retrieval Pricing
- ❖ Restoring Archives from Glacier

Cloud Formation:

- ❖ Creation and deployment of S3 buckets from Cloud formation
- ❖ Creation of Bucket policies using Cloud Formation
- ❖ Creating SNS to communicate to Users

Billing:

- ❖ Cost Optimizing

Identity access management (IAM)

- ❖ What is IAM
- ❖ Create User
- ❖ Create Groups
- ❖ Roles
- ❖ Policies
- ❖ Custom policies
- ❖ Create/Set an IAM Policy for an IAM User

Relational Database Service (RDS)



- ❖ Overview
- ❖ Essentials
- ❖ Working with RDS
- ❖ Subnet Groups
- ❖ Security Options
- ❖ RDS Security Groups and Connecting to RDS from EC2
- ❖ Monitoring RDS for performance and availability
- ❖ MySQL and Maria DB on RDS
- ❖ Oracle DB on RDS
- ❖ MSSQL on RDS

Amazon Dynamo DB:

- ❖ Getting Started with Dynamo DB
- ❖ Local and Global Secondary Indexes
- ❖ Dynamo DB overview and Limits
- ❖ Provisioned Throughput o Query vs Scan API Calls
- ❖ Conditional Writes And Atomic Counters o Connect to Dynamo DB from APP using Identity Providers
- ❖ Dynamo DB Multi-Region Replication
- ❖ AWS Data Pipeline
 - To Data Pipeline
 - Using Data Pipeline To Replicate DynamoDB Data Across Regions
 - Using Data Pipeline to Copy DynamoDB Data to S3

CloudFormation

- ❖ Creation of EBS & EFS using CloudFormation
- ❖ Creation of Databases using CloudFormation
- ❖ Configuring Database specific events

Cloudwatch

- ❖ Monitoring DB using Cloud Watch
- ❖ Configuring SNS Topics

Billing

- ❖ AWS Billing and linking AWS Accounts
- ❖ AWS Billing Dimensions and metrics for Cloud Watch
- ❖ Cost Optimizing o Using the AWS Price List API and Cost Explorer

AWS CLI

- ❖ Creation & Managing EBS & EFS using CLI
- ❖ Creation and Management of DB Services using CLI

Developer Tools and SysOps



AWS Code Commit

- ❖ Introduction
 - What is CodeCommit?
 - Setup & Configuration
 - Configure IAM Users, Access Keys & Policies
 - Windows: GIT & AWS CLI Installation
 - Windows: Configure SSH Credentials (SSH)
 - Windows: Configure the Credential Helper (HTTPS)
 - Linux: GIT Installation
 - Linux: AWS CLI Installation
- ❖ CodeCommit Basics
 - Create, View, Edit, and Delete a Repository
 - Cloning Repositories, Commits, Push, and Pulls
 - Merging Basic Conflicts
 - Branches (local)
 - Tags

AWS CodeDeploy :

- ❖ CodeDeploy Introduction
- ❖ Setup & Configuration
- ❖ CodeDeploy Basics
 - Configuring an EC2 Instance for Use with CodeDeploy
 - Creating an Application, Deployment Group & Deployment Configuration
 - Editing and Deleting an Application
 - Adding, Editing, and Deleting Application Elements (Deployment Groups & Configurations)
 - Creating, Viewing, and Deleting a Custom Deployment Configuration
 - Creating and Configuring the AppSpec File
 - Creating and Uploading a Revision to S3
 - Deploying a Revision from S3
 - Monitoring Deployments via SNS Triggers
 - Viewing Deployment Details and Error Logs
 - Stopping Deployments, Roll-Backs, and Redeployments
 - Automating Deployments from S3 Using Lambda

AWS CodePipeline

- ❖ CodePipeline Introduction
- ❖ Setup & Configuration
- ❖ CodePipeline Basics

Lambda:

- ❖ AWS Lambda Core Concepts
 - Lambda Essentials



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- Event-driven Fundamentals
- Understanding Lambda Limits
- ❖ Understanding Serverless Functions
 - Contextualizing Serverless
 - Key Elements of Serverless Functions
 - Looking at Serverless Function Providers
 - Demo Overviews - What Are You Building
- ❖ Starting with Lambda Functions
 - Considerations and Limitations for Lambda Functions
 - Lambda Prerequisites
 - Creating and Configuring Your First Lambda Function
 - Monitoring and Alerting for Your First Lambda Function

For any further details please email to info@testalogix.com