Day 1 - Basic Cloud Concepts

What is Cloud Computing?

Definition (As mentioned by NIST) : a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction

Cloud Characteristic:

1. On Demand Self Service : Users should be able to provision and release resources without any human interaction (Any cloud administrative personnel).
2. Broad Network Access : Cloud resources should be available over the network for users and accessed through standard mechanisms such as HTTPS.
3. Resource Pooling : Resources should be pooled and should be available to users with abstraction so that users can easily provision and release resources they need.
4. Rapid Elasticity : Users should be easily able to provision and release resources they need.
5. Measured Service : The cloud provider should optimize and control the usage of resources and measure the resources and services used.

Cloud Categorized by "..As a service" :

1. Software as a service : user runs an application and infrastructure and everything required is managed by cloud provider
2. Platform as a service : a user uses the infrastructure provided by the cloud provider to run the application and management of infrastructure is the responsibility of the cloud provider.
3. Infrastructure as a service : This allows users to provision fundamental computing resources such as processing, storage, networks.

Cloud Categorized By Deployment Method :

1. Private Cloud
2. Community Cloud
3. Public Cloud
4. Hybrid Cloud

AWS Cloud Basics

Compute Services

1. Elastic Compute Cloud (EC2)
2. Lambda
3. Elastic Beanstalk
4. Elastic Container Service (ECS)

Storage Services

1. Simple Storage Service (S3)
2. Elastic Block Store (EBS)
3. Glacier
4. Elastic File System (EFS)

Network Services

1. Virtual Private Cloud
2. Route 53
3. CloudFront
4. API Gateway
5. Direct Connect

Database Services

1. Relational Database Service (RDS)
2. DynamoDB
3. ElastiCache
4. Redshift

Security Services

1. Identity and Access Management
2. Security groups
3. Network ACLs

Automation and Application Support

1. CodeDeploy
2. CloudFormation

3. OpsWorks

Management Tools

1. Service Catalog
2. System Manager
3. Trusted Advisor

Monitoring

1. CloudWatch
2. CloudTrail