AWS Basics – Completed Task

1. What is AWS?
Amazon Web Services (AWS) is a cloud computing platform provided by Amazon.
It offers on-demand computing resources like servers, storage, and databases.
Users can pay only for what they use without buying physical hardware.

2. Cloud Computing
Cloud computing means using internet-based resources instead of local servers.
It helps reduce infrastructure cost and improves scalability.
AWS provides public cloud services to individuals and companies.

3. AWS Global Infrastructure
AWS has Regions, Availability Zones (AZs), and Edge Locations.
A Region is a geographical area with multiple AZs.
This design ensures high availability and fault tolerance.

4. EC2 (Elastic Compute Cloud)
EC2 provides virtual servers to run applications.
Users can choose instance type, OS, CPU, and memory.
It supports scaling up or down based on requirement.

5. S3 (Simple Storage Service)
S3 is an object storage service used to store files and data.
It offers high durability and availability.
Commonly used for backups, media files, and logs.

6. IAM (Identity and Access Management)
IAM is used to manage users and permissions in AWS.
It allows secure access using roles, users, and policies.
Helps follow least privilege security principle.

7. RDS (Relational Database Service)
RDS provides managed relational databases like MySQL and PostgreSQL.
AWS handles backups, patching, and maintenance.
It supports high availability using Multi-AZ.

8. VPC (Virtual Private Cloud)
VPC allows you to create a private network in AWS.
You can control IP range, subnets, and routing.
It improves network security and isolation.

9. Security Groups
Security Groups act as virtual firewalls for EC2 instances.
They control inbound and outbound traffic.
Rules are defined based on ports and IPs.

10. Load Balancer
Load Balancer distributes traffic across multiple servers.
It improves application availability and performance.
AWS provides ALB, NLB, and CLB.

11. Auto Scaling
Auto Scaling automatically adjusts EC2 instances.
It helps handle traffic changes efficiently.
Ensures cost optimization and performance.

12. CloudWatch
CloudWatch is a monitoring service in AWS.
It collects metrics, logs, and alarms.
Used to track performance and system health.

13. Pricing Model
AWS follows a pay-as-you-go pricing model.
Users pay only for resources they use.
Helps reduce upfront infrastructure cost.

14. Advantages of AWS
Highly scalable and flexible platform.
Provides strong security and global reach.
Suitable for startups and enterprises.

15. Use Cases of AWS
Web hosting and application deployment.
Data backup and disaster recovery.
Big data, analytics, and machine learning.

Status:
I have completed AWS basics and reviewed core services like EC2, S3, IAM, RDS, VPC, and monitoring.