Cloud assignment Module 5

1-How to configure, develop and maintain Security and Privacy in cloud?

Configuring :

Access Control: Implement strong IAM policies to manage who can access resources.

Data Encryption: Encrypt data at rest and in transit using industry standards.

Network Security: Use firewalls, security groups, and VPNs to protect data and applications.

Regular Updates: Keep systems and applications updated with the latest security patches.

Developing :

Secure Development Practices: Adopt secure coding practices and conduct regular security reviews.

Penetration Testing: Regularly test for vulnerabilities and address them promptly.

Maintaining :

Monitoring and Logging: Continuously monitor and log activities for security incidents.

Regular Audits: Perform regular security audits and assessments.

2-What is Portability in cloud?

Portability refers to the ease with which applications and data can be moved across different cloud environments or between on-premises and cloud environments. It involves minimizing dependency on proprietary services or APIs to ensure that workloads can be easily transferred or operated across multiple platforms.

3-What is Reliability and high Availability in cloud?

Reliability is the ability of a cloud service to consistently perform its required functions correctly over time. High Availability refers to the cloud service’s capability to remain operational and accessible with minimal downtime, even in the face of hardware or software failures.

4-Describe Mobility Cloud Computing.

Mobility in cloud computing refers to the ability to access and manage cloud services and data from any location and any device. This includes using mobile applications and services to interact with cloud resources, enabling users to work seamlessly from different environments, whether they're on a laptop, smartphone, or tablet.

5-Describe AWS, Azure, Google cloud Platforms.

AWS (Amazon Web Services):

Offers a broad range of cloud services including computing power, storage options, and databases. It’s known for its extensive service portfolio and global reach.

Azure (Microsoft Azure):

Provides a comprehensive set of cloud services with strong integration with Microsoft products. It’s recognized for hybrid cloud capabilities and enterprise solutions.

Google Cloud Platform (GCP):

Known for its strong data analytics, machine learning, and open-source integrations. It emphasizes scalability and data-driven solutions.

6-Accessing AWS, Azure and Google cloud Platforms (any one portal ).

Portal: AWS Management Console

The AWS Management Console provides a web-based interface for managing AWS services and resources. It offers dashboards, configuration options, and monitoring tools.

7-Create compute, create network, create storage on AWS , Azure and GCP

Compute: Launch an EC2 instance through the EC2 Dashboard by selecting instance type and configuring settings.

Network: Create a Virtual Private Cloud (VPC) via the VPC Dashboard to define IP address ranges and subnets.

Storage: Use S3 to create a bucket for object storage or EBS for block storage attached to EC2 instances.

8-Compare Cloud pricing of resources and services on all platform Amazon Web Services (AWS).

**Compute Services**

| **Service** | **Pricing Model** | **Starting Price** |
| --- | --- | --- |
| Amazon EC2 | Per-hour or per-second | $0.0255/hour (Linux) |
| Amazon Lambda | Per-request | $0.000004 per request |
| Amazon Elastic Container Service (ECS) | Per-hour or per-second | $0.000004 per container |

**Storage Services**

| **Service** | **Pricing Model** | **Starting Price** |
| --- | --- | --- |
| Amazon S3 | Per GB-month | $0.023 per GB-month |
| Amazon EBS | Per GB-month | $0.10 per GB-month |
| Amazon Elastic File System (EFS) | Per GB-month | $0.30 per GB-month |

**Database Services**

| **Service** | **Pricing Model** | **Starting Price** |
| --- | --- | --- |
| Amazon RDS | Per-hour or per-second | $0.0255/hour (MySQL) |
| Amazon DynamoDB | Per GB-month | $0.0065 per GB-month |
| Amazon Redshift | Per-hour or per-second | $0.25/hour |