ASSESSMENT 3 – WINDOWS SERVICES

➢ Introduction:

- Amazon Elastic Compute Cloud (EC2) is a popular cloud computing service that supplies resizable compute ability in the cloud.
- It allows users to rent virtual computing resources (instances) in a scalable and cost-effective way.
- Amazon EC2 is designed to make web-scale computing easier for developers by supplying a simple web interface to create and manage virtual machines.

➢ Types of Instances used in Amazon EC2:

Amazon EC2 supplies many types of instances that are perfected for different workloads. The four main types of instances are:

1. **General Purpose Instances**: These instances supply a balance of compute, memory, and network resources and are suitable for a wide range of applications.

2. **Compute-Optimized Instances**: These instances are designed for applications that require high performance computing such as scientific modelling, machine learning, and gaming.

3. **Memory-Optimized Instances**: These instances are designed for memory-intensive workloads such as large-scale in-memory databases, real-time big data processing, and high-performance computing.

4. **Storage-Optimized Instances**: These instances are designed for storage-intensive workloads such as NoSQL databases, data warehousing, and Hadoop clusters.

➢ Features, Use Cases, and Benefits of Each Instance Type:

1. **General Purpose Instances**: These instances are ideal for applications that require a balance of compute, memory, and network resources such as web servers, microservices, and small databases. General-purpose instances supply a good balance of cost and performance, making them a popular choice for lot of workloads.

2. **Compute-Optimized Instances**: These instances are designed for applications that require high-performance computing such as scientific modelling, machine learning, and gaming. Compute-optimized instances offer high CPU performance and low memory, making them ideal for compute-intensive applications.

3. **Memory-Optimized Instances**: These instances are designed for memory-intensive workloads such as large-scale in-memory

databases, real-time big data processing, and high-performance computing. Memory-optimized instances offer high memory and low CPU performance, making them ideal for memory-intensive applications.

4. **Storage-Optimized Instances**: These instances are designed for storage-intensive workloads such as NoSQL databases, data warehousing, and Hadoop clusters. Storage-optimized instances offer high disk I/O and low CPU and memory performance, making them ideal for storage-intensive applications.

➢ The accuracy of Instance Formation in Amazon EC2:

- Amazon EC2 uses machine learning algorithms, past usage patterns, and other factors to figure out the best hardware configuration for a given instance type.
- Amazon EC2 uses a combination of CPU, memory, network, and storage resources to figure out the best hardware configuration for a given workload.
- Amazon EC2 continuously checks and adjusts the resources distributed to each instance to ensure best performance and cost-efficiency.
- This ensures that customers get the best possible performance at the lowest possible cost.

➢ Conclusion:

- Amazon EC2 supplies a variety of instance types perfected for different workloads. Each instance type has its own unique features, use cases, and benefits.

- Amazon EC2 uses machine learning algorithms, past usage patterns, and other factors to figure out the best hardware configuration for a given workload.

- This ensures that customers get the best possible performance at the lowest possible cost.
