**AWS Assignment 3**

1. Explain the concept of auto-scaling.

Autoscaling is a cloud computing feature that enables organizations to scale cloud services such as server capacities or virtual machines up or down automatically, based on defined situations

An instance is a single server or machine that is subject to auto scaling rules created for a group of machines. The group itself is an auto scaling group, with each instance in the group subject to those auto scaling policies.

For example, the Elastic Compute Cloud (EC2) is the compute platform of the AWS ecosystem. EC2 instances offer scalable, customizable server options within the AWS cloud. Amazon EC2 instances are virtual, elastically scaled on demand, and seamless to the end user.

An auto scaling group is a logical collection of Amazon EC2 instances for automatic scaling purposes. Each Amazon EC2 instance in the group will be subject to the same auto scaling policies.

1. Explain Cloud Formation Solution.

AWS CloudFormation is an AWS service that uses template files to automate **the setup of** AWS resources.You can use CloudFormation to automate the configuration of workloads that run on the most popular AWS services, like the EC2 compute service, the S3 storage service, and the IAM service for configuring access control.

AWS CloudFormation enables you to manage your complete infrastructure or AWS resources in a text file, or template. A collection of AWS resources is called a stack. AWS resources can be created or updated by using a stack.

1. Mention and explain AWS services that are not specialized to a specific location.

AWS Support is available in all regions, including AWS GovCloud (US).

As an AWS GovCloud (US) customer, you have access to AWS Support engineers 24 hours a day by email, chat, and phone. AWS GovCloud (US) protected resources are accessible only by ITAR-vetted and trained support engineers residing within the US. Non-ITAR-vetted support engineers residing outside the US can assist with basic support cases and escalate to US-based, ITAR-vetted support engineers for assistance with protected resources.

1. What's the difference between pausing and terminating an Amazon Elastic Compute Cloud instance?

Pausing is a temporary shutdown for when you are not using an instance, but you will need it later. The attached bootable EBS volume will not be deleted.

To terminate, on the other hand, is a permanent deletion. Use this when you are finished with an instance, as terminated instances can’t be recovered.

1. Describe how to set up CloudWatch to recover an EC2 instance.
   1. Open the [Amazon EC2 console](https://console.aws.amazon.com/ec2/).
   2. In the navigation pane, choose Instances.
   3. Select the instance that you want to configure.
   4. Choose Actions, and then choose Monitor and troubleshoot. Then, choose Manage CloudWatch alarms.
   5. Choose Create an alarm.  
      Note: To create an alarm, you must have AWS Identity and Access Management (IAM) permissions to stop and start the associated instance. For more information, see [Creating IAM roles](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_create.html).
   6. For Alarm notification, choose an existing Amazon Simple Notification Service (Amazon SNS) topic. To create a new topic, see [Creating an Amazon SNS topic](https://docs.aws.amazon.com/sns/latest/dg/sns-create-topic.html).  
      Note: To receive notifications when an alarm is triggered, you must be [subscribed to the SNS topic](https://docs.aws.amazon.com/sns/latest/dg/sns-create-subscribe-endpoint-to-topic.html).
   7. Toggle on Alarm action, and then choose Recover.
   8. For Group samples by and Type of data to sample, choose an appropriate statistic and metric for your use case.
   9. For Consecutive period and Period, specify the evaluation period for the alarm.
   10. (Optional) Modify the automatically created Alarm name.
   11. Choose Create.