

Cloud Computing Assignment :- 02

Ques 1 Define the following AWS Services in brief ?

- 1) EC2 :- Amazon Elastic Cloud(EC2) is a web service that provides secure, resizable compute capacity in cloud. It is designed to make web-scale cloud computing easier for developers. Its simple interface allows you to obtain and configure capacity with minimal friction, providing complete control of your computing resources.
- 2) Elastic Beanstalk :- it is an easy to use service for deploying and scaling web applications and services developed with Java, .NET, PHP, Node.js, Python, Ruby Gems & Docker on familiar services like Apache, Nginx, Passenger and IIS.
- 3) IAM :- AWS Identity and Access Management (IAM) provides fine-grained access control across all AWS. With IAM, you can specify who can access which services & resources, under which conditions. Also, we can manage permissions to your work force & systems to ensure least-privilege permissions.
- 4) ELB :- Elastic Load Balancing (ELB) automatically distributes incoming application traffic across multiple targets & virtual appliances in one or more Availability Zones (AZs).

- 5) S3 :- Amazon Simple Storage Service is an object storage service offering industry-leading scalability, data security and performance. Customers of all sizes and performance can store and protect any amount of data for virtually any use case, such as data lakes, cloud-native applications & mobile apps.
- 6) EBS :- Amazon Elastic Block Store is an easy to use scalable high-performance block-storage service designed for Amazon Elastic Compute Cloud and is used by Amazon Relational Database Service.
- 7) FSx for Lustre :- provides fully managed shared storage with scalability and performance of popular Lustre file system. The FSx for lustre makes it easy and cost effective to launch, run and scale the world's most high performance file system.
- 8) Glacier :- These are Amazon S3 storage classes that are built for the purpose of data archiving, providing you with the highest performance, most retrieval flexibility and lowest cost archive storage in the cloud. All S3 Glacier storage classes provide virtually unlimited scalability and are designed for 99.9999% of data durability.
- 9) SageMaker :- Amazon SageMaker is a cloud machine-learning platform that enables developers, data scientists to create, train and deploy machine models in the cloud and also to deploy ML models on embedded systems and edge systems.

- 10) Rekognition :- Amazon Rekognition offers pre-trained and customizable computer vision (CV) capabilities to extract information and insights from your images and videos. It makes easy to add image and video analysis to our application highly proven deep learning technology.
- 11) SNS :- Amazon Simple Notification Service is a fully managed messaging service for both application to application (A2A) and application to person (A2P) communication. It provides topics for high throughput push based many-to-many messaging between distributed systems and serverless applications.
- 12) SES :- Amazon Simple Email Service (SES) is cost-effective, flexible and scalable email service that enables developers to send mail from within any application. You can configure Amazon SES quickly to support several email use cases including transactional or mass mail.
- 13) Lambda
Notification :- Aws Lambda is a serverless, event-driven compute service that lets you run code for virtually any type of application or backend service without provisioning or managing servers i.e. it runs the code in response to events and automatically manage computing resources required by that code.

- 14) RDS :- Amazon Relational Database service makes it easy to set up, operate and scale a relational database in the cloud. It provides cost-effective and resizable capacity while automating time consuming administration tasks such as hardware provisioning, database setup, patching and backups.
- 15) Cloud9 :- Aws cloud9 is a cloud based integrated development environment (IDE) that lets you write, run and debug your code with just a browser. It includes a code editor, debugger and terminal. It comes with prepackaged essential tools for popular programming languages including JavaScript, Python, PHP etc.
- 16) Cognito :- Aws cognito lets you add user-sign-up, sign in and access control to your web and mobile apps quickly and easily. It scales to millions of users and supports sign-in with social identity providers like Apple, Google, enterprise identity providers like SAML 2.0 and openid connect.
- 17) VPC ; Amazon Virtual Private Cloud (VPC) gives complete control over your virtual networking including resource placement, connectivity and security. It provides virtual private cloud by logically isolating section of cloud. Enterprise customers are able to access Amazon Elastic Compute Cloud over an IPsec based virtual private network.

8) Route 53 :- It is highly available and scalable cloud Domain Name System (DNS) web service. It is designed to give developers and business an extremely reliable and cost effective way to route end users to Internet applications by translating names into numeric IP address that computers use to connect to each other.

Assignment :- 03

Ques 2 Write down steps for the following :-

1) Create EC2 instance ?

Ans The steps to create EC2 instance are :-

- Open Amazon EC2 console and choose "Launch Instance".
- In above step choose an Amazon Machine Image (AMI) find an Amazon Linux 2 AMI at top of list and choose select.
- Choose Instance Type, choose Next : Configure Instance details
- Configure Instance details providing information like no. of instances, purchasing option, subnet, file system and user data.
- choose Next : Add storage
- choose Next : Add Tags
- Name your instance and choose Next : Configure System group
- In Configure security group, set assign a security group to select and an existing security group. Choose the default security group to make sure that it can access your EFS file system
- choose 'Review' and 'Launch'
- choose Launch
- Select the check box for key pair that you created , and then choose Launch Instances

2) Connect to windows instance Using RDP?

Ans The steps to connect your windows instance using RDP client are:-

- Open Amazon Ec2 console
- In the navigation pane, select Instances . Select the instance and then choose connect.
- On the connect to instance page choose RDP client tab, and then choose Get Password.
- Choose Browser and navigate to private key (.pem) file you created when you launched the instance. Select the file and choose Open to copy the entire contents of file to this windows
- choose Decrypt Password . The console displays the default administrator password for instance under Password replacing Get password link shown previously. Save the password in safe place.
- choose Download remote desktop file . Your browser prompts you to either open or save the RDP shortcut file . When you have finished downloading file , choose cancel to return to Instances page
- choose connect to continue to connect to your instance
- The administrator account is chosen by default . copy paste the password that you saved.
- But Verify the identity of remote computer or simply choose yes or continue if you have the certificate
- Finally login in as prompted using default administrator account and default administrator password that you copied previously .

Ques-3) Connect to Linux instance?

Ans

The steps to connect to Linux instance using ssh client are:-

- In terminal window, use ssh command to connect to instance, you specify the path and file name of the private key (-pem), the user name for your instance and the public DNS name or IPv6 address for your instance. To connect to your instance, use one of the following commands.

- To connect using your instance's public DNS name, enter following command

`ssh -i /path/my-key-pair.pem my-instance-user-name @ my-instance-public-dns-name`

- If your instance has an IPv6 address, to connect using your instance IPv6 address, enter the following command :-

`ssh -i /path/my-key-pair.pem my-instance-user-name @ my-instance-IPv6-address`

- Verify that the fingerprint in the security alert matches the fingerprint that you previously obtained in Get the instance fingerprint. If these fingerprints don't match, some might be attempting a "man-in-the-middle" attack. If they match, continue to next step.
- Enter yes.

Ques 4) Create S3 bucket?

Ans

Steps to create S3 bucket are :-

- Sign in to preview version of AWS Management Console

- Under storage & content delivery choose S3 to open the Amazon S3 console.
- From the Amazon S3 console dashboard, choose Create Bucket.
- In Create a Bucket, type a bucket name in Bucket Name. The bucket name you choose must be globally unique across all existing bucket names in Amazon S3.
- In Region, choose Oregon.
- Choose Create
- When Amazon S3 successfully creates your bucket, the console displays your empty bucket in the Buckets pane.

Ques-5) Send an Email using SES ?

Ans The steps to send an email using SES are :-

- Sign up for AWS.
- Verify your email address
- Send your first email
- Consider how you will handle bounces and the complaints
- Move out of the Amazon SES sandbox -