

Assignment 3 :- Cloud Computing – CS 623-01

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Q1 . What is AWS Cognito?

Solution: - AWS Cognito an IAM solution allows to add user sign-up and authentication modules for our mobile and web application. With the AWS Cognito services we can provide the authentication by using identity provider for temporarily accessing secure resources in our application which are behind the Amazon API Gateway. It will handle the authentication of users without any interventions.

Features of AWS Cognito: -

1) Secure and scalable identity management-

- a. The Amazon Web Services' identity pool can securely store millions of users and scale to meet the needs of an application on demand.
- b. It does not require heavy infrastructure setup and can be easily installed.

2) Identity Federation-

- a. It allows users to sign up with third party applications such as Facebook, LinkedIn, Github, Google, etc.
- b. AWS Cognito can also be accessed through enterprise identity providers such as SAML and OpenID Connect.

3) Standards-based Authentication-

- a. For identity and access management, it utilizes standards-based authentication providers and standards such as SAML 2.0, OAuth 2.0, and OpenID Connection.

4) Easy Integration with any Application-

a. Using the AWS Cognito, users can sign in, sign up, and manage access in a few minutes by federating identity providers.

Q2. What are the alternatives of AWS Cognito in AWS?

Solution :- AWS offers a similar service called AWS Identity and Access Management, which manages all the users' access to the system's resources. IAM (AWS Identity and Access Management) allows restricted users to securely access AWS services. Using AWS IAM, we can create and manage groups of users and control access permissions to the AWS resources. Using AWS IAM, we can control user access to AWS resources. Furthermore, we are able to manage permissions as well as roles and decide which entity is allowed for each role. We give users access to AWS resources. Our Identity Access Management solution also supports multi-factor authentication. This feature seamlessly integrates with the other features of AWS and gives you analysis access as well.

Q3. What is the equivalent service in Google Cloud and Microsoft Azure?

Solution :- Alternative Services in Google Cloud :-

1. Google cloud provides a service called as Identity Platform.
2. It is similar to AWS SaaS Service which is a customer identity and access management platform. It is used in adding the identity and access management to the applications. It also protects the user accounts and also it provides the security while we are scaling our application.
3. It also provides user security as well as multi factor authentication for account protection.
4. It also provides 99.95% SLA which is best in the industry. IT also provides single sign on which is a better choice for cloud users.

Alternative Services in Microsoft Azure:-

1. **Azure Directory** is a Microsoft Azure service which is similar to AWS Cognito.
2. It is a cloud-based identity and access management service. This service enables the user to access the external Microsoft Services like Microsoft 365, Azure Portal and many other SaaS applications.
3. It provides the authentication using access tokens with auth session management capability.
4. It has the feature of single Sign-on along with Multi Factor Authentication.
5. It also has the feature to provide audit logs which provide the data related to user logins as well as user activity especially when an incident response is made.

6. It also has the feature of providing user behavior in their systems.

These are the services that re provided by Google Cloud and Microsoft Azure which are similar in functionality ion many grounds as compared to AWS Cognito.