

## Questions on IAM

### 1. What is IAM (Identify and Access management) ?

- We can control the entire AWS by using proper permissions to the IAM users.
- IAM is global Service
- It is a web service that helps you securely control access to Aws resources.

### 2. IAM Service Resources

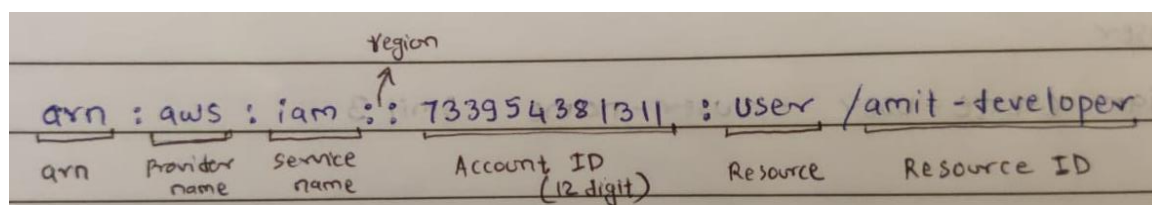
- User
- Group
- Policies
- Roles
- Identity providers
- Account Settings

### 3. Types of Access in IAM ?

- Console Access (ID & Password) – in Graphical interface
- Programmatic Access (Access Key & Secret Key) – in Command line interface.

### 4. What is ARN (Amazon Resource Name) ?

- It is a string that uniquely identifies an AWS resource, Such as EC2 instance, S3 buckets, accounts, lambda functions.
- AWS requires an ARN when you want to specify a resource not open to more than one interpretation across all to Aws- Such as in IAM Policies, Amazon Relational Data base Service (Amazon RDS) and API Calls.



### 5. Why is IAM important ?

As security threats rise and user privacy preferences become more difficult to control, IAM is becoming more essential to organizations of all sizes and in all industries. IAM is crucial at a time when passwords can be hacked in minutes, corporate data breaches occur frequently, and criminals have infiltrated many organizations and government agencies. Only one set of credentials needs to be hacked for a bad actor to infiltrate an enterprise network.

### 6. What is MFA (Multi – Factor Authentication) ?

MFA is a second form of authentication that verifies a user's identity before granting them access. With MFA, admins can deploy authentication policies that implement additional security while respecting employee's time and work.

MFA factors include :-

- Mobile device push notifications (Authenticator App)
- Security Key

- Hardware TOTP token.

## 7. Difference between Account ID and Conanical ID.

<u>Account ID</u>	<u>Conanical ID</u>
12 digit numbers that uniquely identifies on AWS account.	A conanical user ID is an Alpha-numeric identifier on AWS Account.
Account ID can be known by ARN (Amazon Resource Name)	Conanical ID can be known by conanical user ID.

## 8. Difference between Cache and Cookies.

<u>Cache</u>	<u>Cookies</u>
Cache is employed to store the web site content for the long run purpose.	While cookie is employed to store user choices.
Cache's website contents are stored in browser only.	While cookie's contents are stored in both server and browser.
It consumes large space in terms of capacity.	While it consumes less space in terms of capacity.
the types of cache are: Browser cache and proxy cache.	While the types of cookies are: Transient and persistent cookies.

## 9. What IAM Entities

- The IAM resource objects that AWS user for authentication.
- These include IAM users and roles.

## 10. What is Permission Boundaries ?

A permission boundaries is designed to restrict permissions on IAM principals, such as roles, such that permissions don't exceed what was originally intended.

## 11. What is Granular Permissions ?

- Can grant different permissions to different people for different resources.
- For Example – you might allow some users complete success to EC2 and for other users, you can allow read-only access to S3 buckest.

## 12. What is Identity Federation ?

AWS Identity Federation is the concept of using external authorization sources to permit access to AWS console and AWS resources.

### 13. Difference between Authentication and Authorization .

Authentication	Authentication
In the authentication process, the identity of users are checked for providing the access to the system.	While in authorization process, a the person's or user's authorities are checked for accessing the resources.
In the authentication process, users or persons are verified.	While in this process, users or persons are validated.
It needs usually the user's login details.	While it needs the user's privilege or security levels.
Authentication determines whether the person is user or not.	While it determines What permission does the user have?
The user authentication is identified with username, password, face recognition, retina scan, fingerprints, etc.	The user authorization is carried out through the access rights to resources by using roles that have been pre-defined.

### 14. Difference between Role and Policy.

Role	Policy
Roles manage who has access to AWS resources.	Policies control their permissions.
It is an identity with permission policies that determine what the identity can and cannot do in AWS.	Determine what actions a user,role or member of a user group can perform on which AWS resources & under what conditions.

### 15. What is Application Program Interface (API)

- It is a code that allows communication between two software program.
- It delivers a request from the source to the destination and then brings back the response to the source.
- It transfers the data between the two systems.
- The most common APIs are REST API and SOAP API
- A real time example of an API is booking a flight, pay with paytm, telegram bots.

### 16. What is IAM Role ?

- 1 EC2 instance can have only 1 role attached at same time.
- 1 Role can be attach to multiple EC2 instance at the same time.

### 17. What is IAM Tags ?

- Tags is a custom attribute label that you can assign to an AWS resource.
- Tags are used for identification purpose, Automation purpose, cost optimization.
- Per resource = 50 tags

### 18. Types of Policy

1. **Identify Based Policy** – You can attach managed and inline policies to IAM identities (user, group and roles).
2. **Resource Based Policy** – We can attach inline policies to resource in some AWS services. Ex:- Amazon S3 buckets, IAM role trust.
3. **Organizations SCP's** – We can use on AWS organization service control policies (SCP) to apply a permission boundary to an AWS organization.
4. **Access Control list (ACL)** – ACL are similar to resource based policies. ACL does not use the JSON policy document structure.

### 19. What is Service ?

A system or organization that provides the public with something that it need, the job that an organization does. (Storage, database, analytics, networking, ML & AI)

### 20. What is Wavelength ?

Aws wavelength utilizes the high bandwidth and ultra-low latency of 5G in combination with its own services like computer & storage to deliver a highly capable infrastructure.