IAM Service:- (Identity And Access Management)

Four main components:-

1. **Users :-** IAM users in AWS are used to represent individuals, applications, or services that need to interact with AWS resources.

2. **User Groups :-** It consists the collection of IAM users.

3. **Policies:-** IAM policies are JSON documents that define permissions. Policies can be attached to users, groups, or roles to grant or deny access to AWS resources. They specify what actions are allowed or denied and which resources those actions can be performed on.

4. **Roles:-** IAM roles are similar to users but are not associated with a specific person. Roles are meant to be assumed by entities such as AWS services, applications, or other AWS accounts. Roles define a set of permissions, and when a role is assumed, it temporarily inherits those permissions.

What is ARNs:- (Amazon Resource Name)

It is a identifier that is used in Amazon Web Services (AWS) to uniquely identify and name AWS resources. ARNs are used across various AWS services to specify resources, such as EC2 instances, S3 buckets, Lambda functions, and more.

ARN FORMATE:- arn:partition:service:region:account-id:resource

EXAMPLE:- arn:aws:s3:::my-bucket-name arn: This is a constant

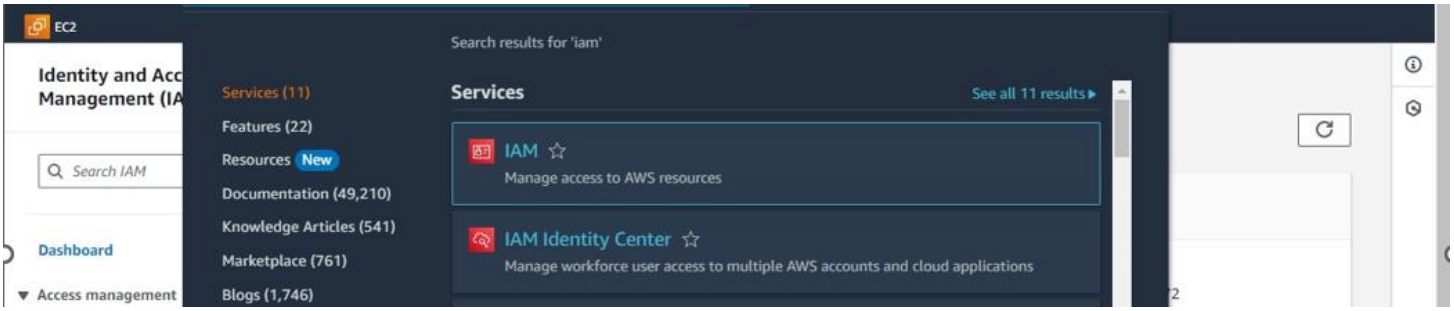
that indicates it's an Amazon Resource Name.

partition: Represents the partition in which the resource is located (e.g., aws, aws-cn, or awsus-gov). service: Specifies the service that manages the resource (e.g., s3, ec2, lambda).

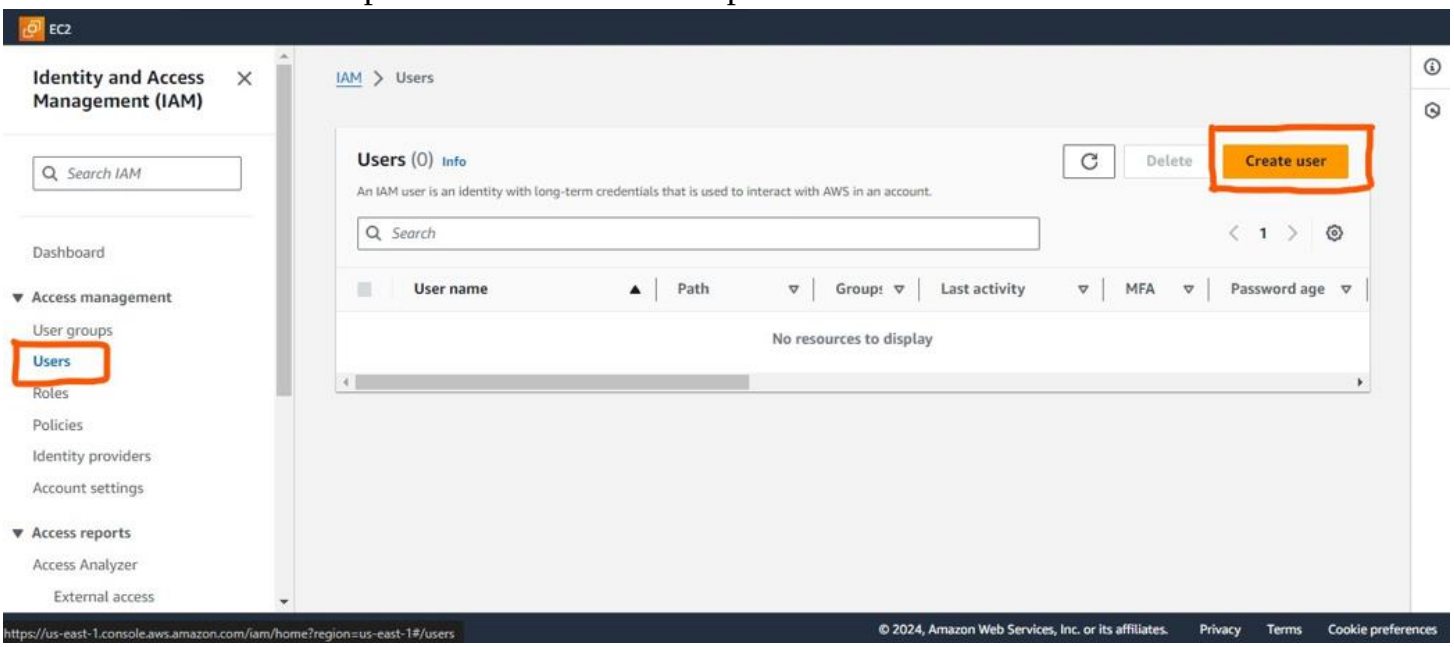
region: Specifies the AWS region where the resource is located. This part is optional and may be omitted for some global services or resources. account-id: Represents the AWS account ID that owns the resource. resource: Specifies the specific resource within the service.

❖ Creating A user :-

1. Search IAM service and click on it.

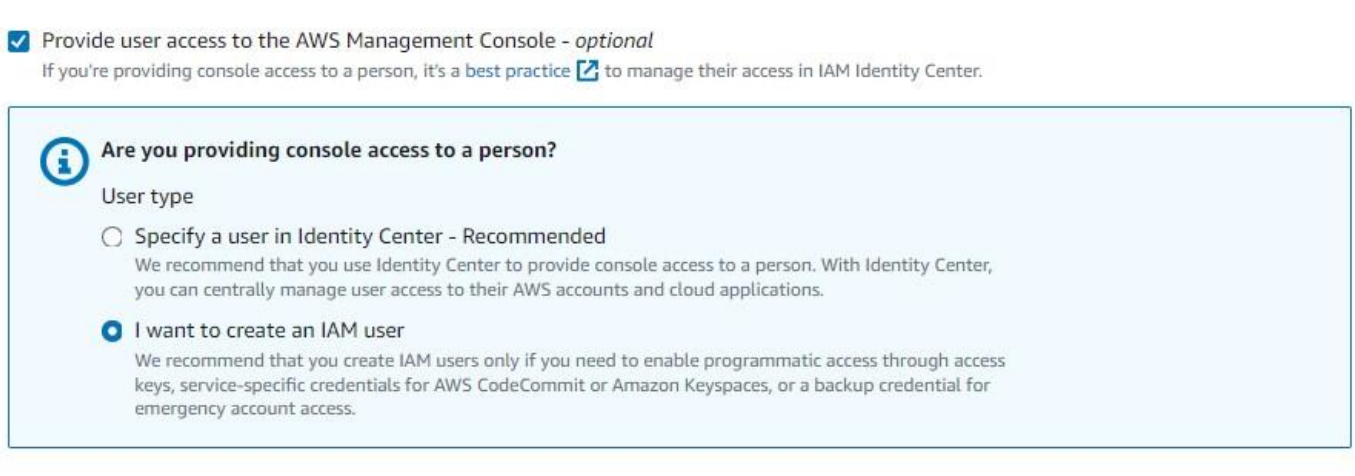


2. Click on **users** option and **Create user** option

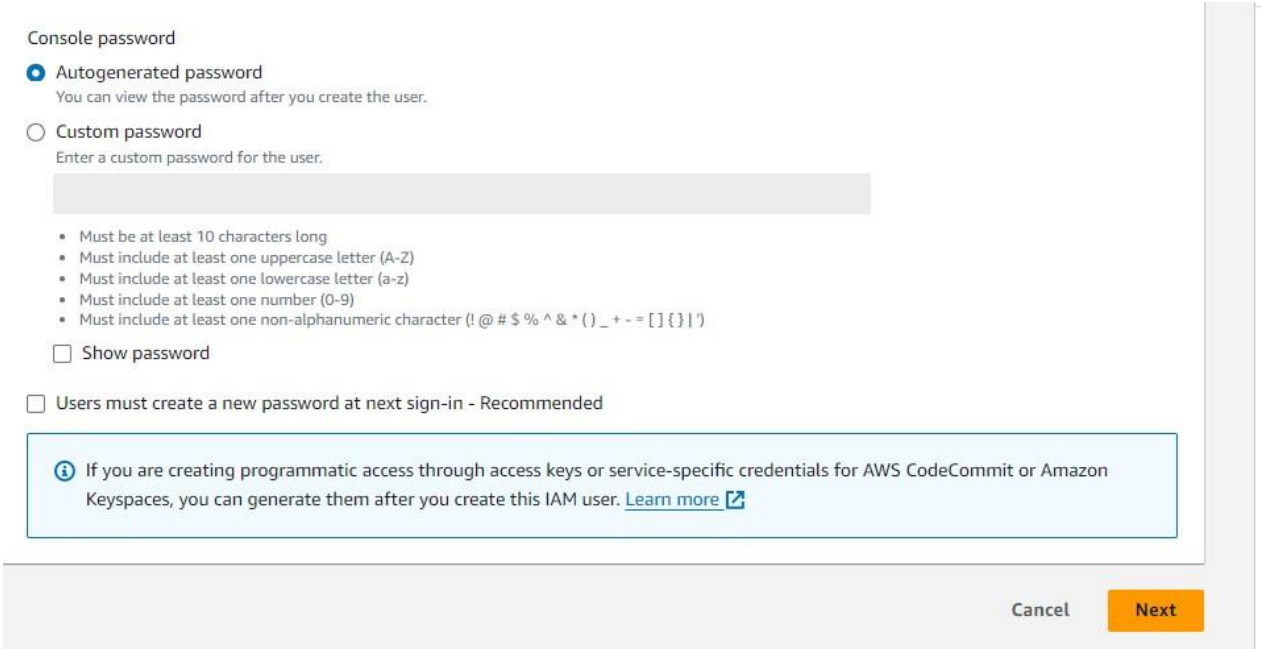


3. Specify the username as per your choice

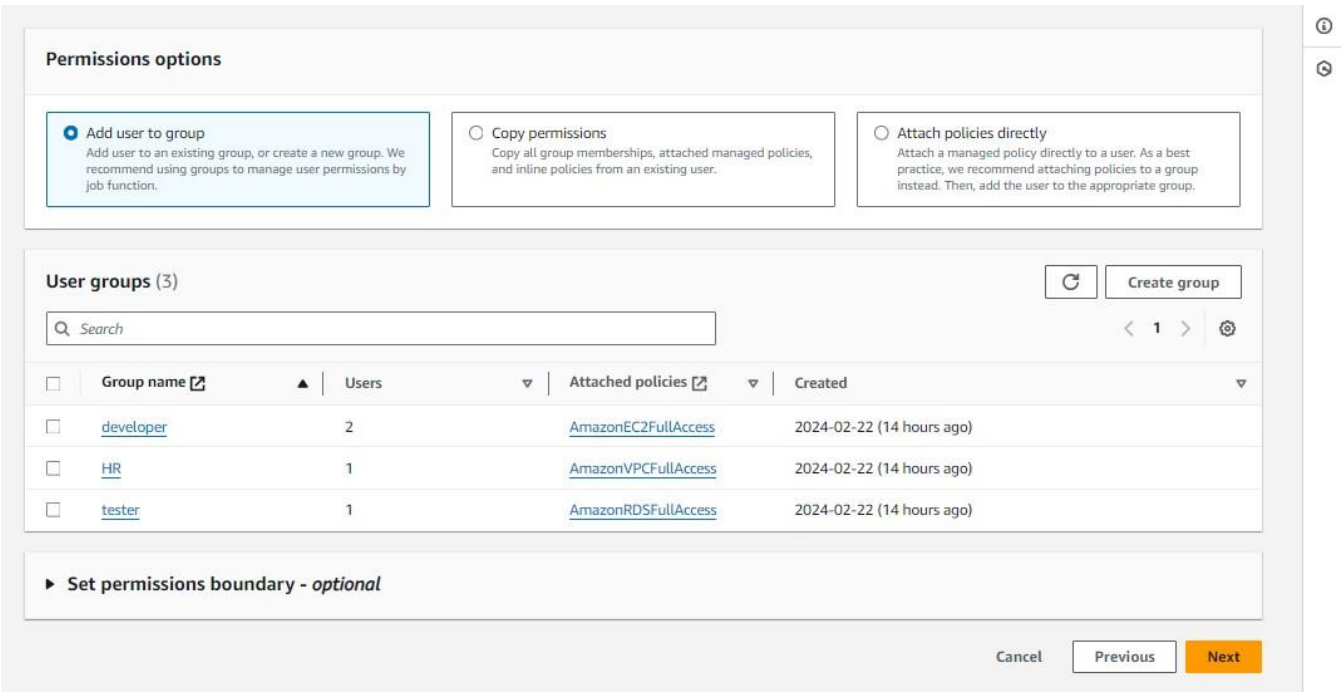
4. Click on the checkbox (It provide the AWS console to the user) , And also click on **I want to create user**



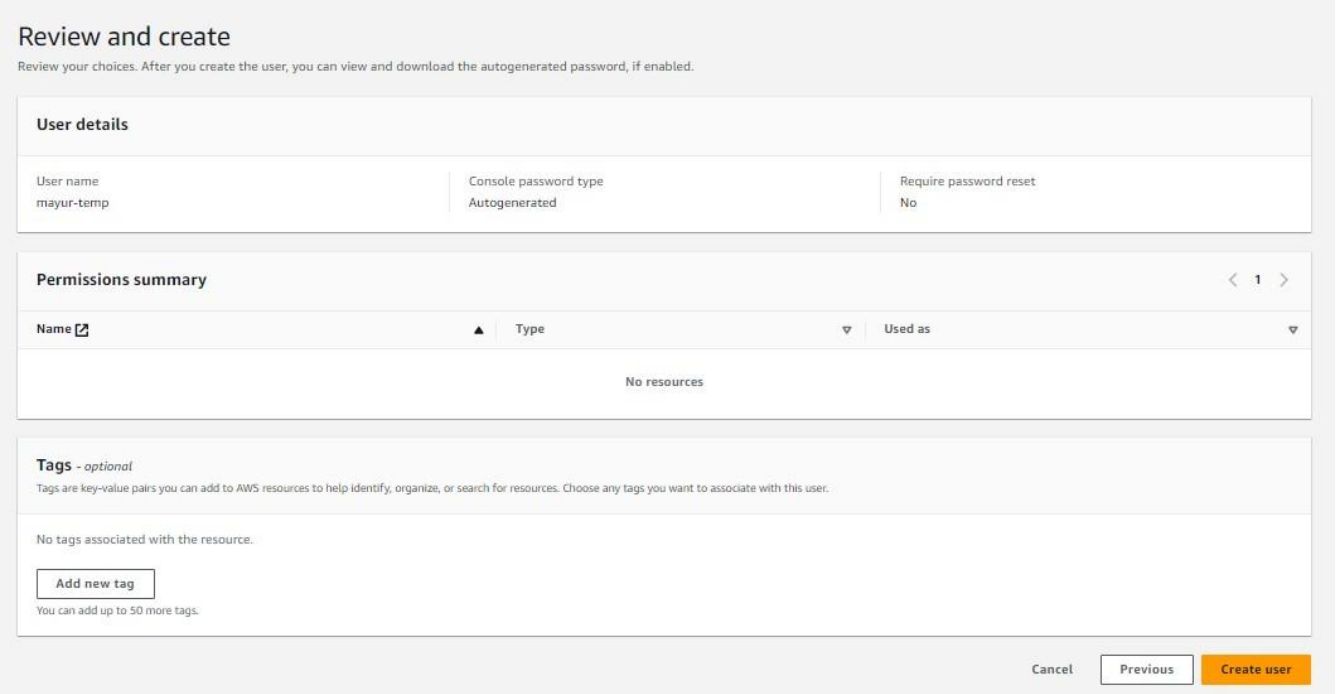
5. Create a password and click on next



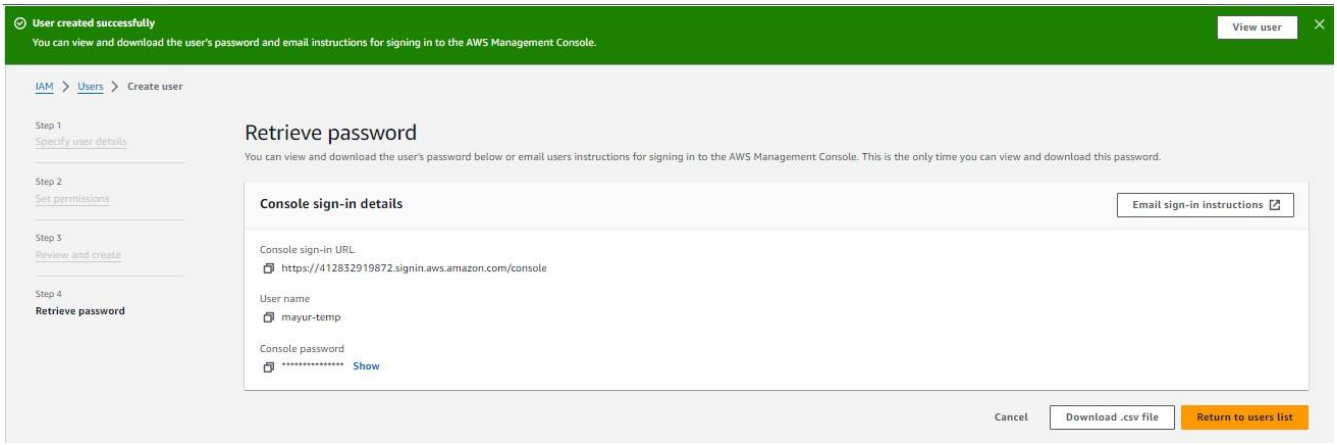
6. Assign the permissions as per your requirement



7. Review and create (summary of your user details)

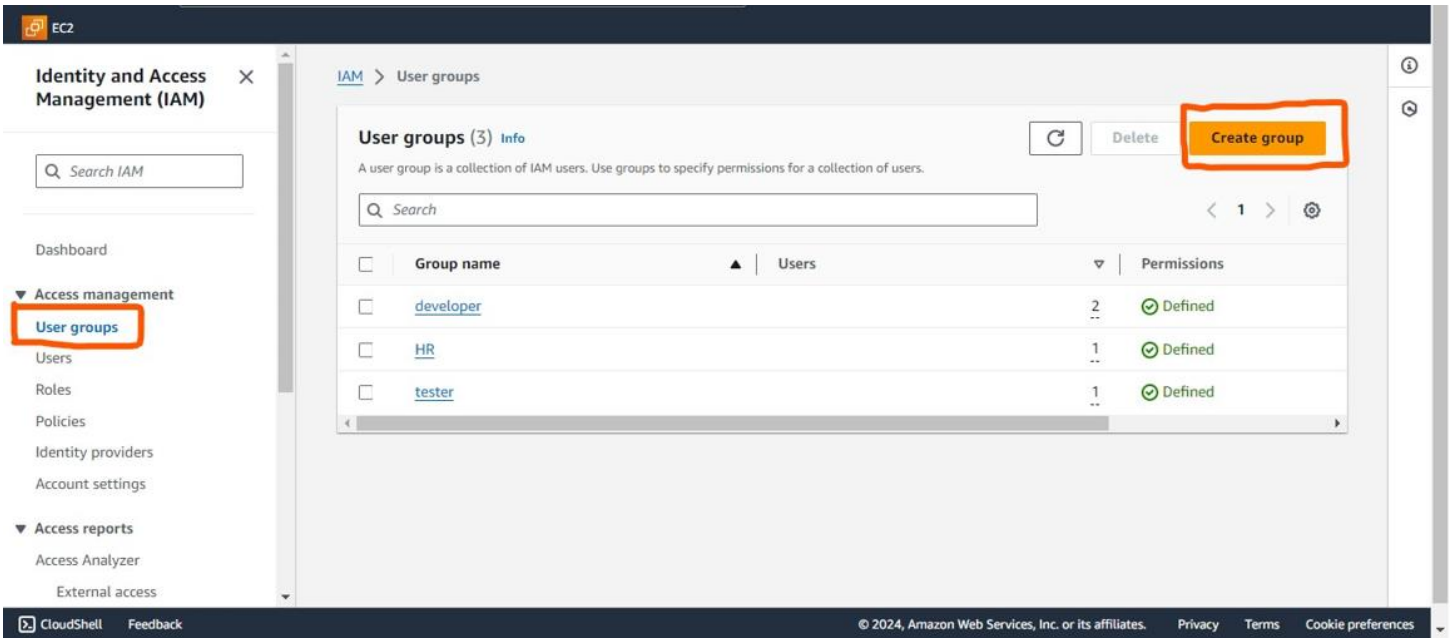


8. User is created (download the **.csv** file which consist the username and password and user id)



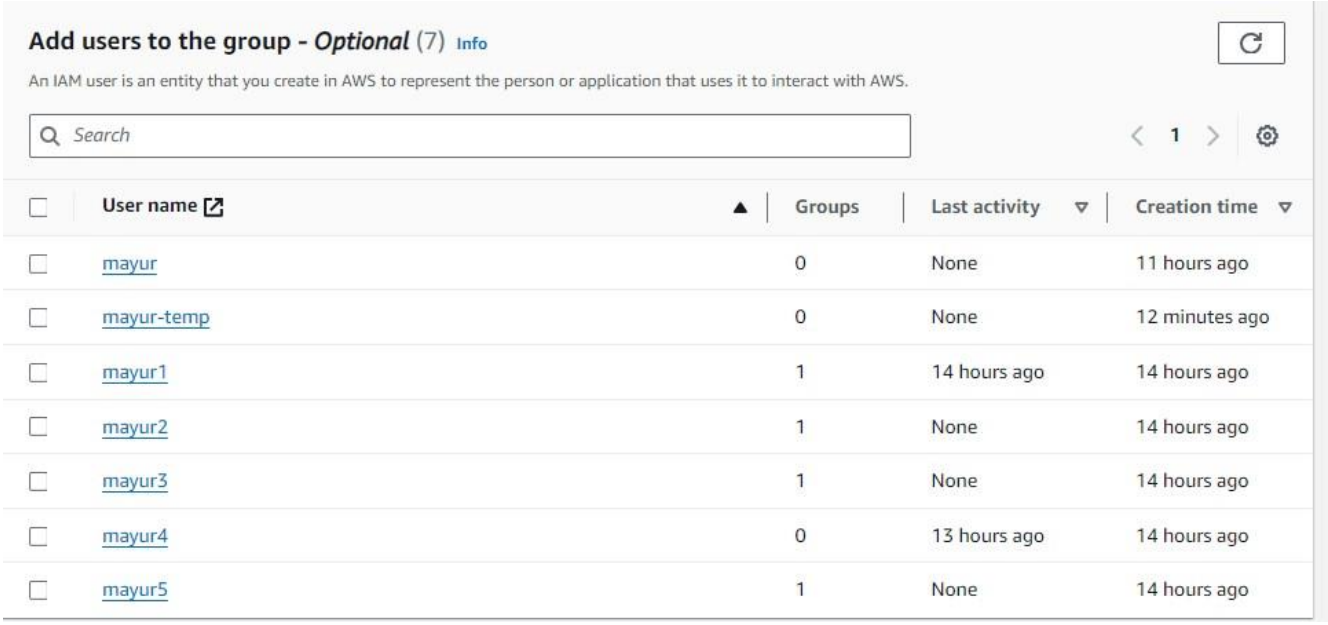
❖ Creating a group And assigining Aws policy:-

1. Click on **user group** and **create group** in IAM Service Dashboard

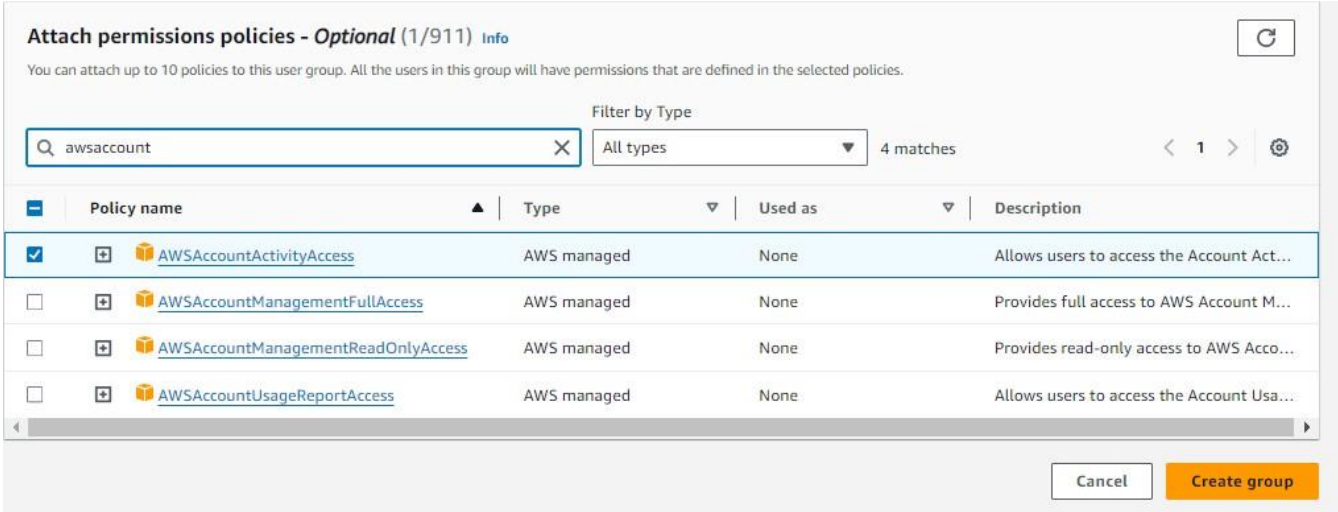


2. Assign a group name as per your choice

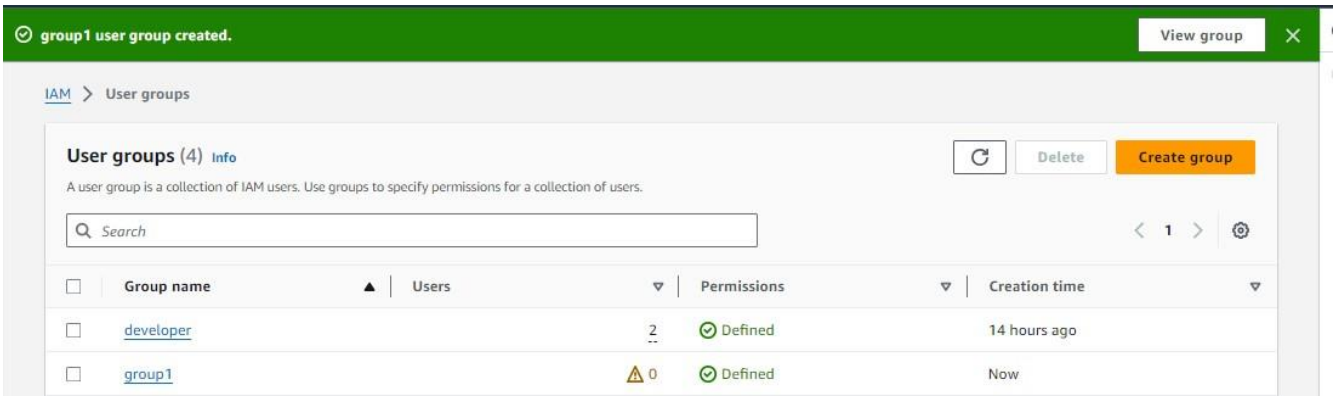
3. Add existing user to group (optional)



4. Attach policies As per your requirement and click on **Create group**

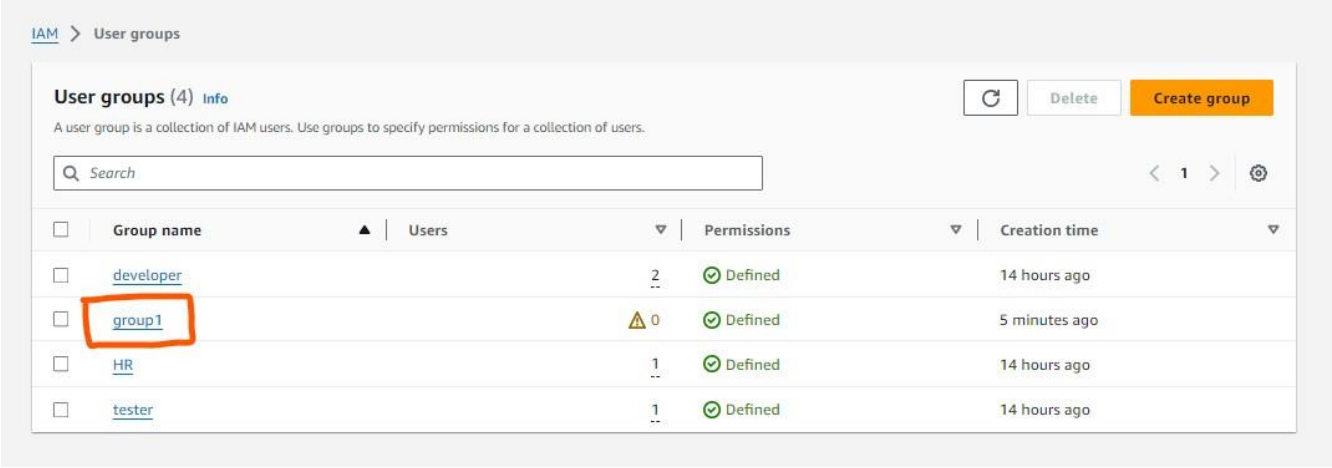


5. Group created successfully

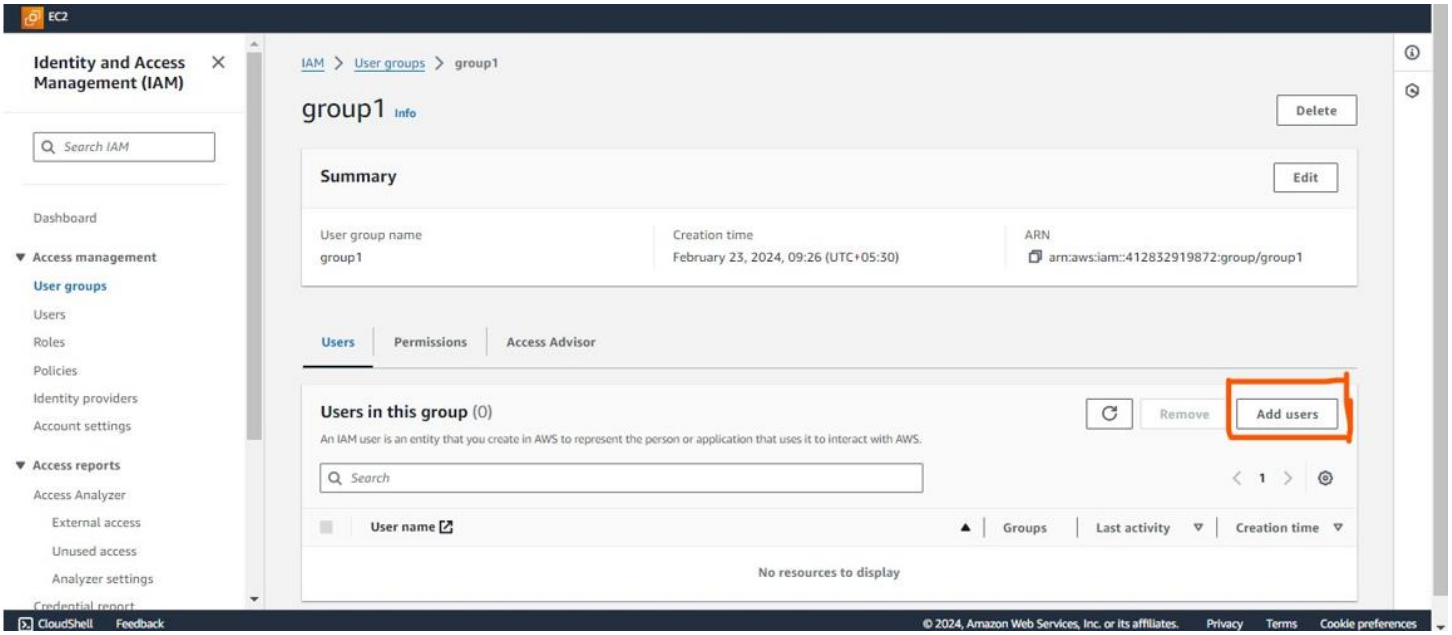


❖ Adding user into group :-

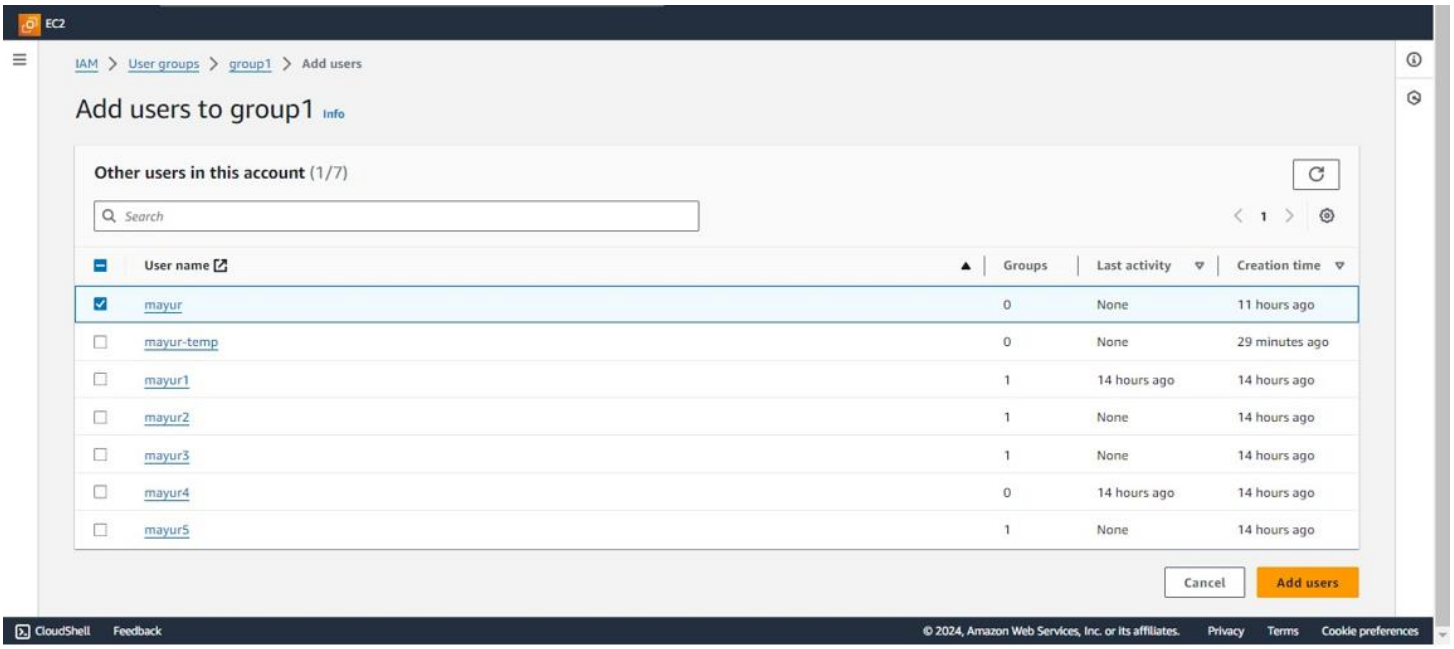
1. Select a group (in our case group1)



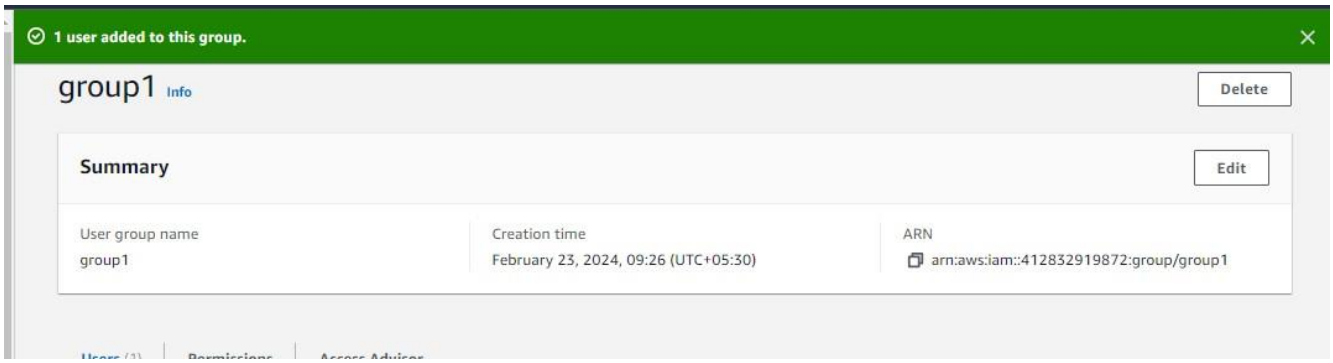
2. Click on **Add user** option



3. Select any user you want to add and click on **Add user** option

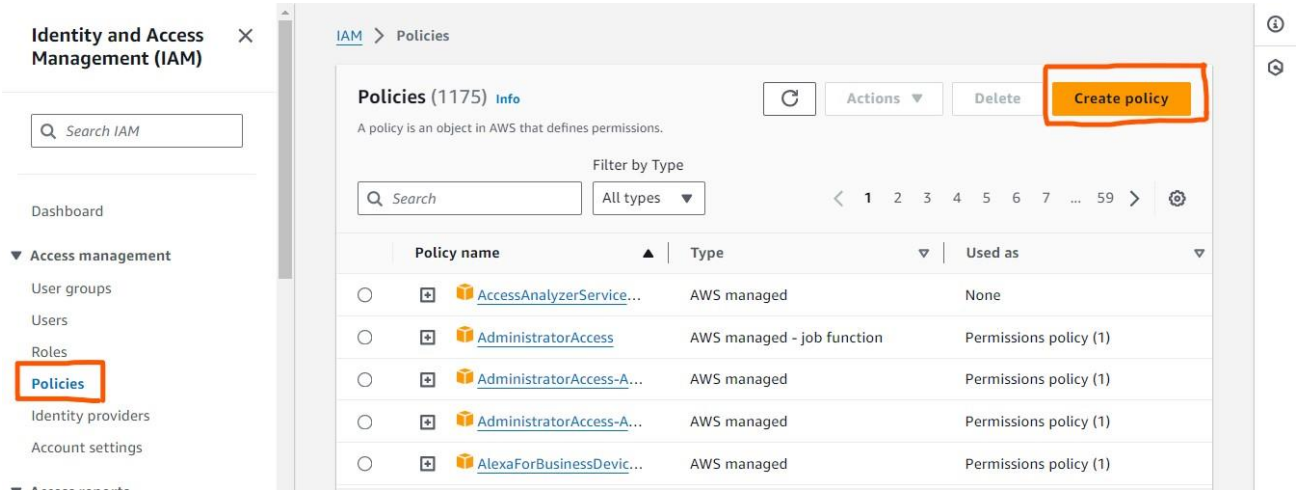


4. User added successfully

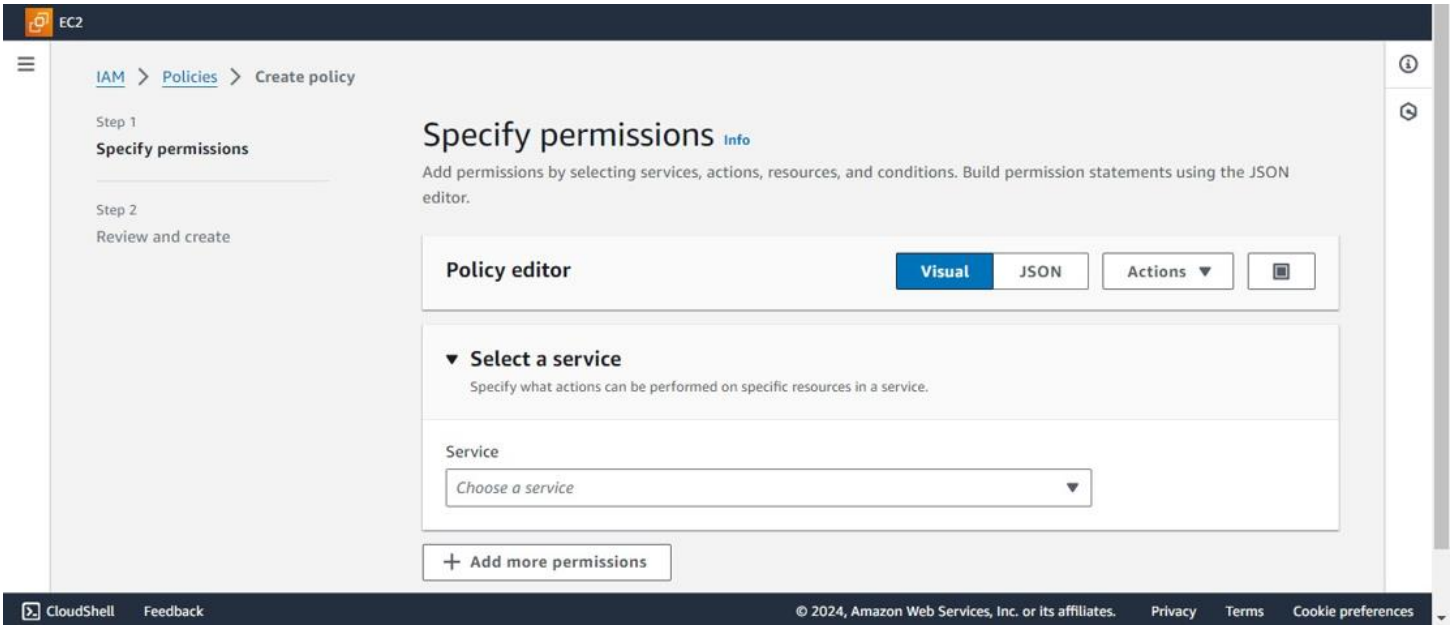


Creating custom policy :-

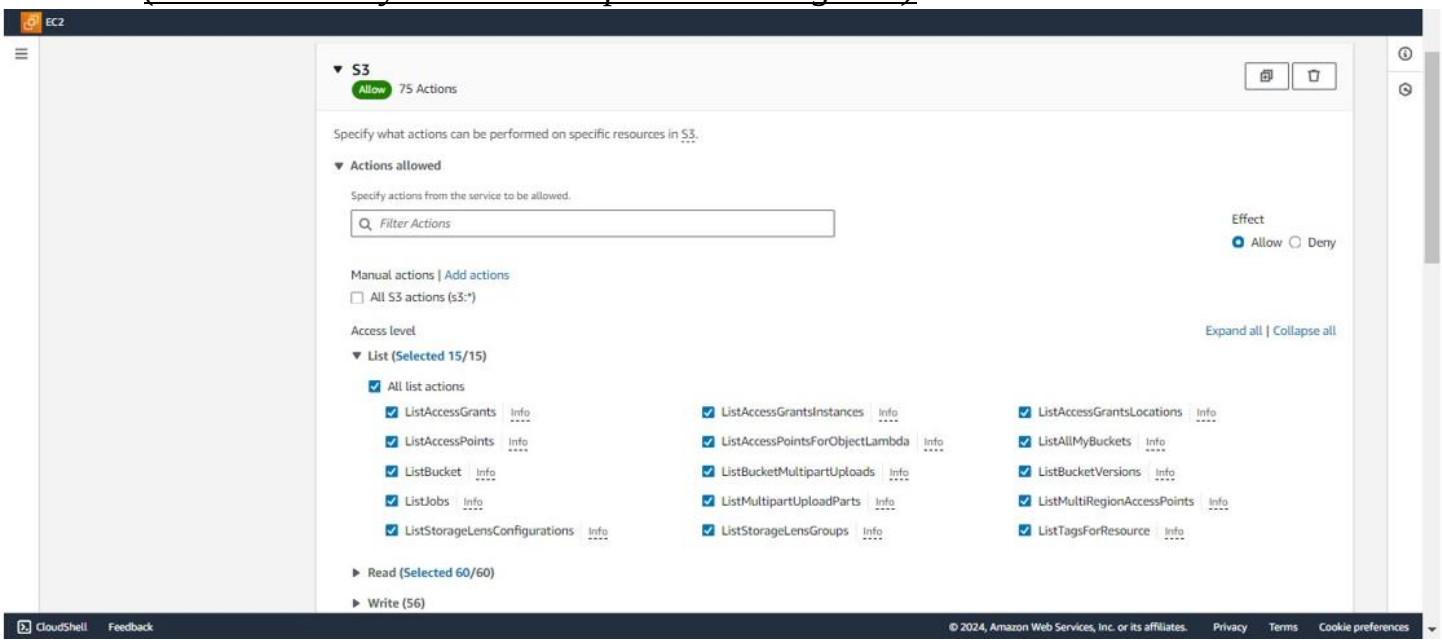
1. Click on **Policies** and **Create policy** option.



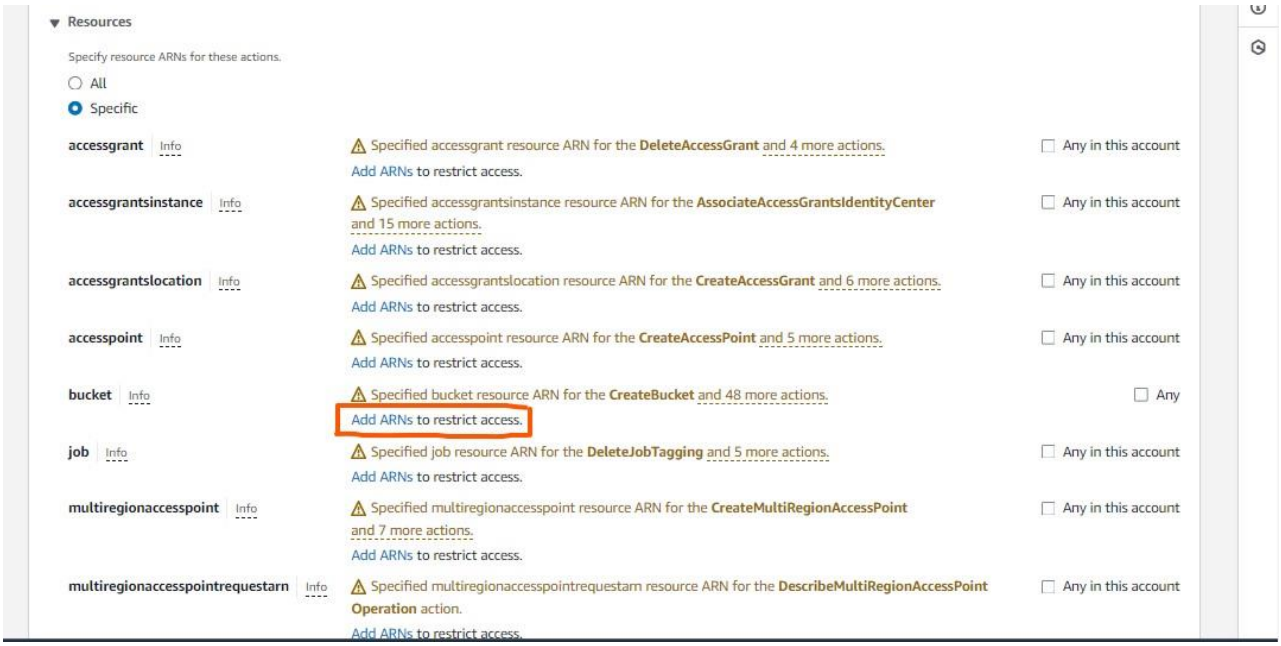
2. Select a service



3. Select the permissions or the actions you want to allow
   (in this case only list and read permission is given)

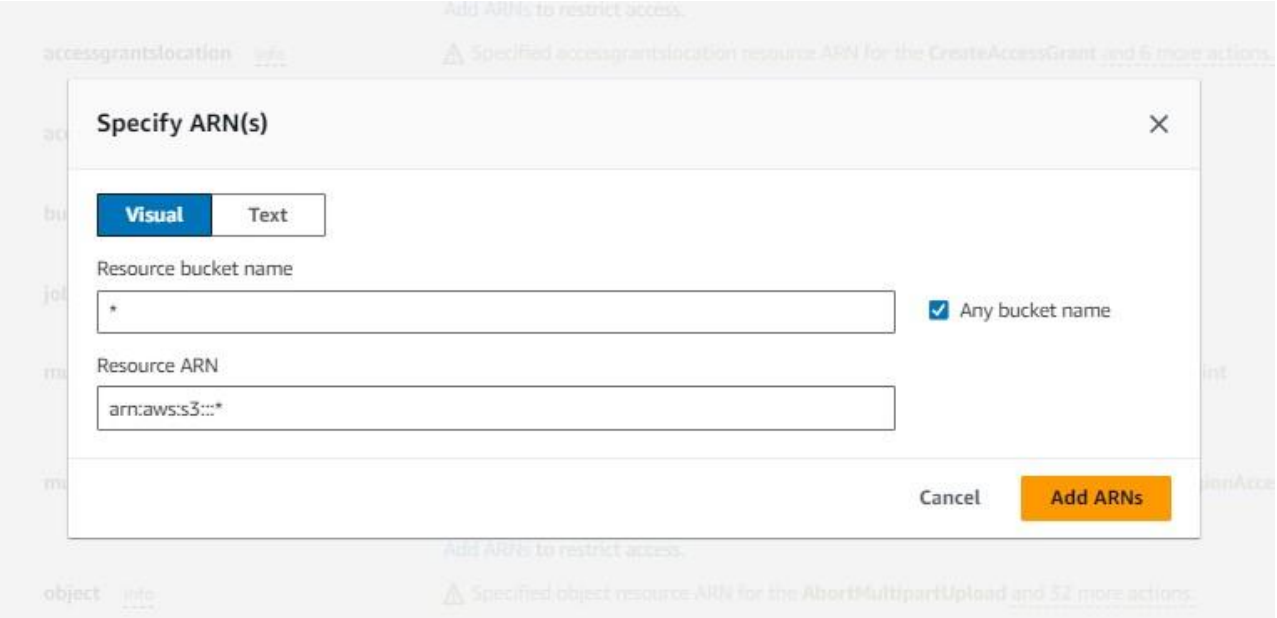


4. Click on Add ARNs option.



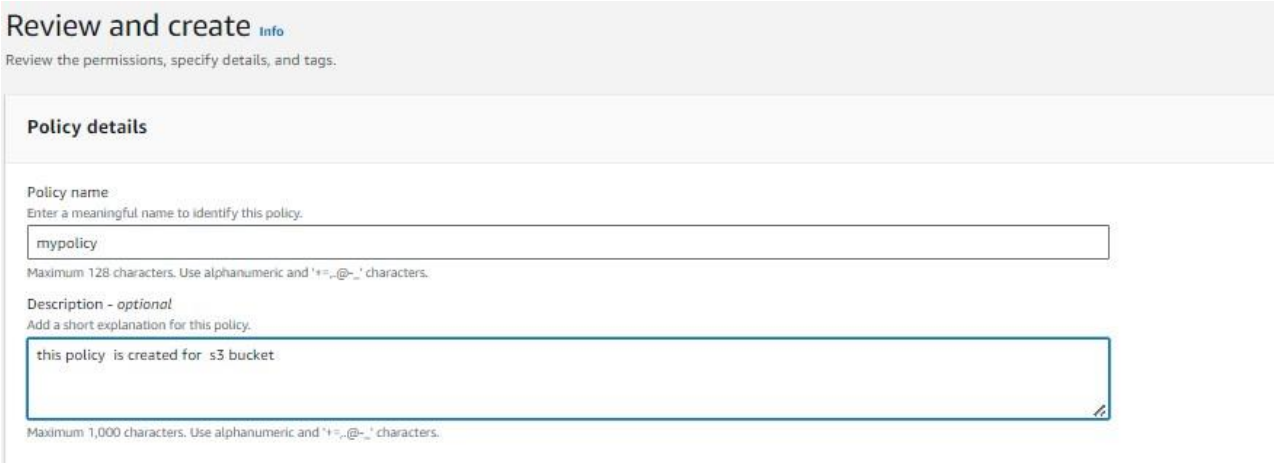
Note:- we can select ALL option also but Allowing specific ARNs for specific service resources can improve security.

5. Select the bucket name and click on **Add ARNs** button

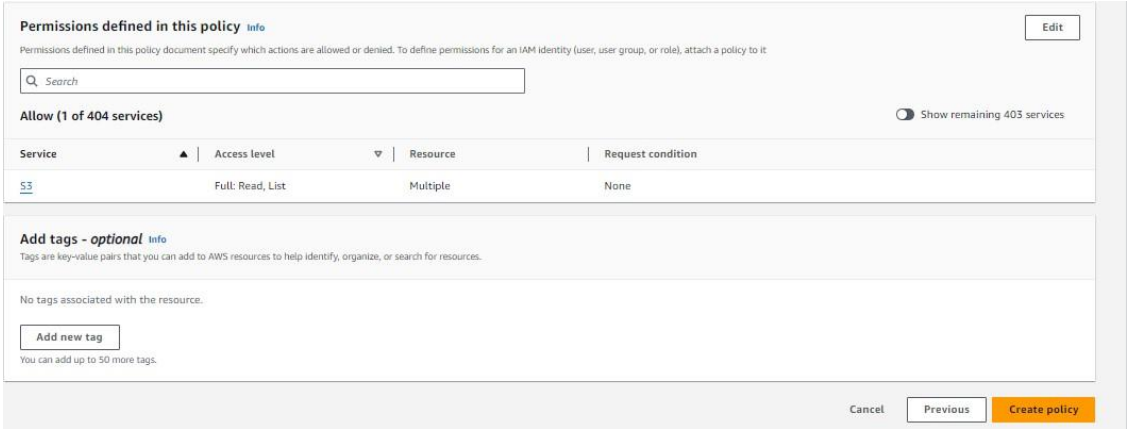


6. Click on next

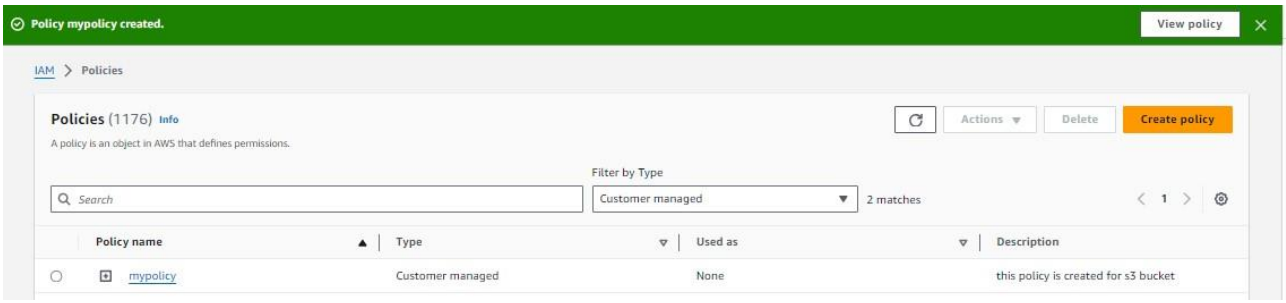
7. Assign policy name and give description (description is optional)



8. Click on create policy

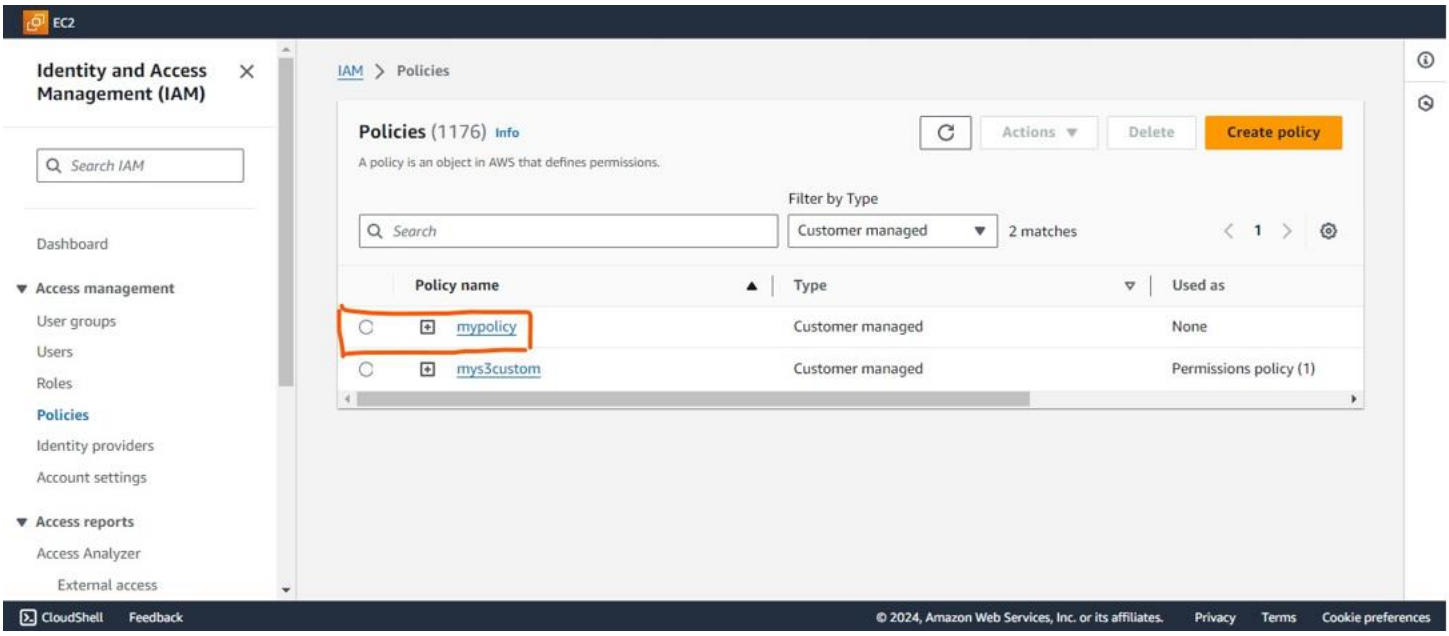


9. Policy Created successfully

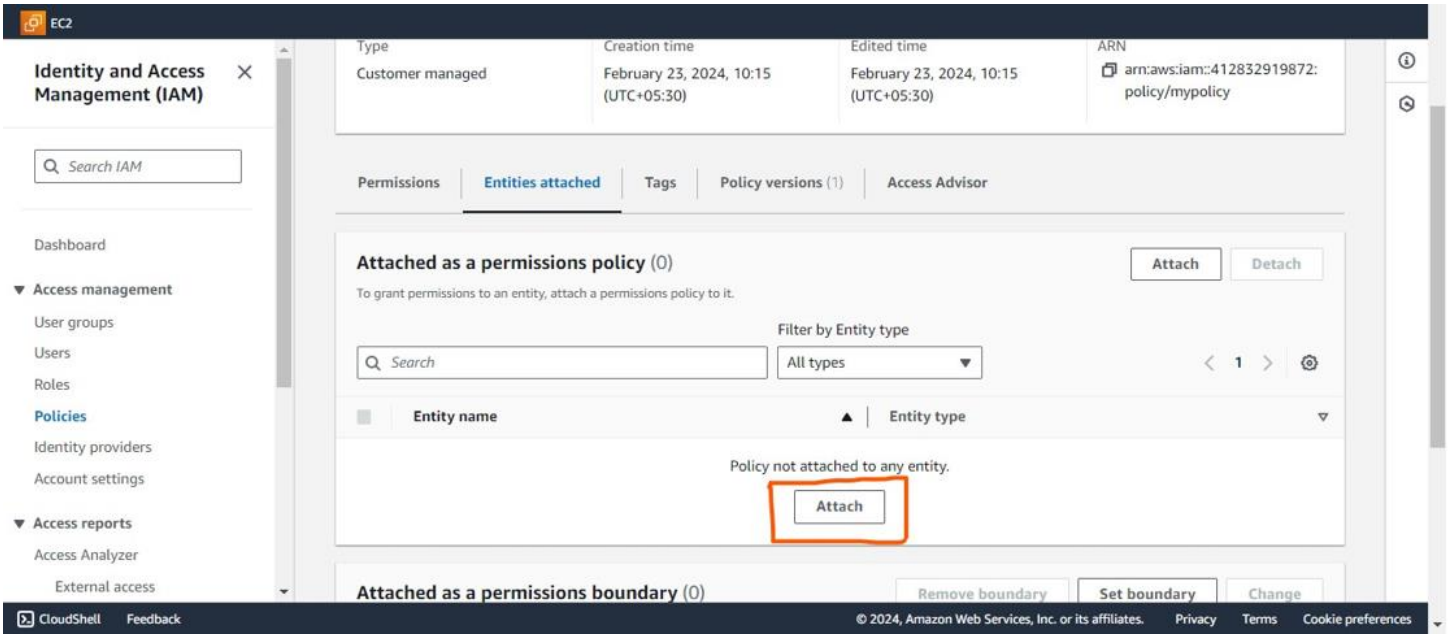


Assigning custom policy to group and user :-

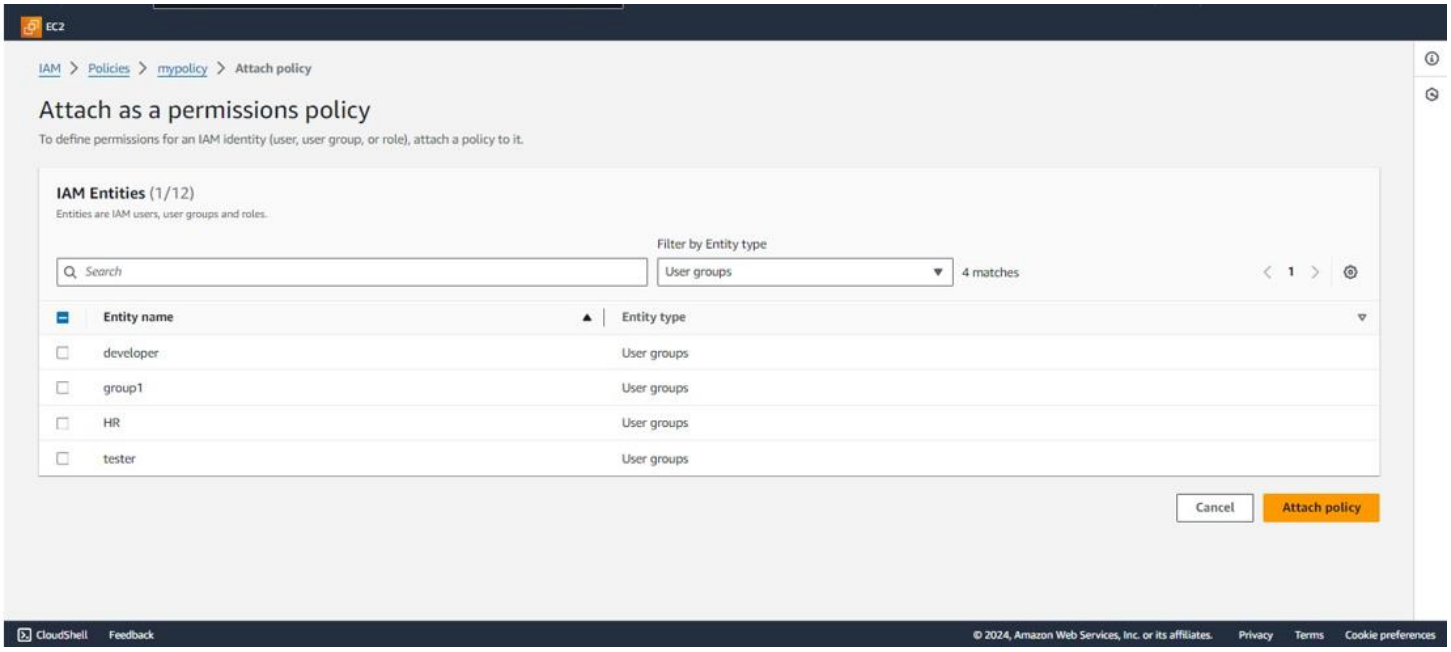
1. Select the policy



2. Click on **Entities attached** option and click on **Attach** button



3. Select the entity (user , group, and roles) you want to attach and click on **<u>attach policy</u>**



4. Policy attached successfully