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Cloud Security with AWS IAM

TA tahirgroot@gmail.com

TA
tahirgroot@gmail.com
NextWork Student

Introducing today's project!

What is AWS IAM?

AWS IAM stands for Identity and Access Management. It acts like a digital doorman, controlling who can access your AWS resources and what they can do. This ensures security and lets you follow the principle of least privilege, granting only necessary

How I'm using AWS IAM in this project

ð▤▤» Create EC2 instances ð▤▤▤ Create IAM Policies ð▤▤©â▤▤ð▤▤©â▤▤ð▤▤§â▤▤ð▤▤§ Create IAM Users and User Groups ð▤▤▤ Create AWS Account Alias

One thing I didn't expect...

the aws IAM Policy Simulator

This project took me...

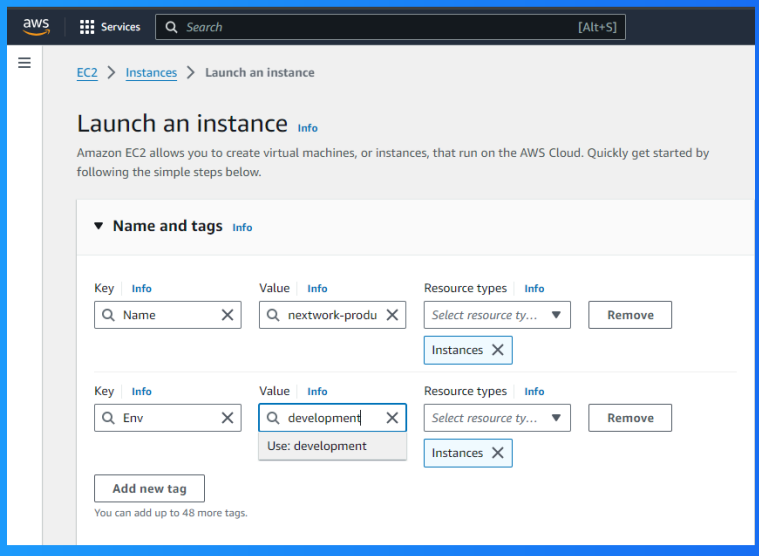
1 hour

TA
tahirgroot@gmail.com
NextWork Student

Tags

Tags are labels to help aws account users identify and manage their resources. Tags are useful for grouping mass management and applying security policies

he tag lâ▤▤ve used on my EC2 instances is called env The value lâ▤▤ve assigned for my instances are production and development. This represent the two different environments that we are using to build and relase my app



TA
tahirgroot@gmail.com
NextWork Student
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IAM Policies

IAM Policies are rules that help to allow/deny'resources' permissions to perform certain actions to my AWS account's resources

The policy I set up

For this project, Iâ▤▤ve set up a policy using the JSON editor

Iâ▤▤ve created a policy that that allows EC2 related actions to all EC2 instances that have the environment ("ENV") tag "development". But, it also denies creating and deleting tags for ALL EC2 instances.

When creating a JSON policy, you have to define its Effect, Action and Resource.

The Effect, Action, and Resource attributes of a JSON policy means you have to specify the Effect:i.e Allow or Deny. Action: i.e. the specific action that we are wanting to allow or dent. Resoruces: the specific resources/group of resources in my AWS

TA
tahirgroot@gmail.com
NextWork Student

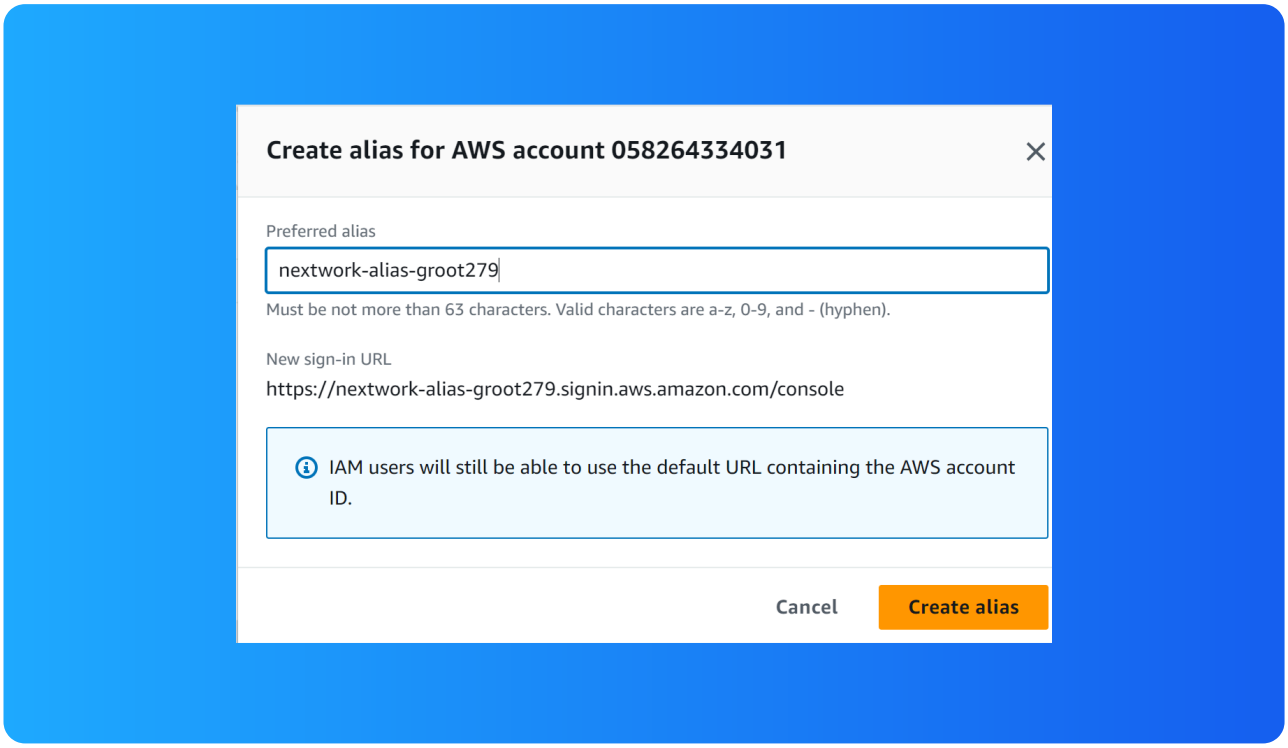
My JSON Policy

Account Alias

An account alias is a user-friendly name you can assign to your AWS account ID. The standard AWS account ID is a long string of 12 digits, which can be difficult to remember and type.

less than a minute

nextwork-alias-groot279



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IAM Users and User Groups

Users

IAM users are virtual identities created within AWS Identity and Access Management (IAM) that allow users or applications to securely access AWS resources.

User Groups

IAM user groups are collections of IAM users within AWS Identity and Access Management (IAM). They function as a way to simplify permission management for multiple users with similar access needs.

I attached the policy you created to this user group, which means the users within that group will now inherit the permissions defined in the policy.

TA
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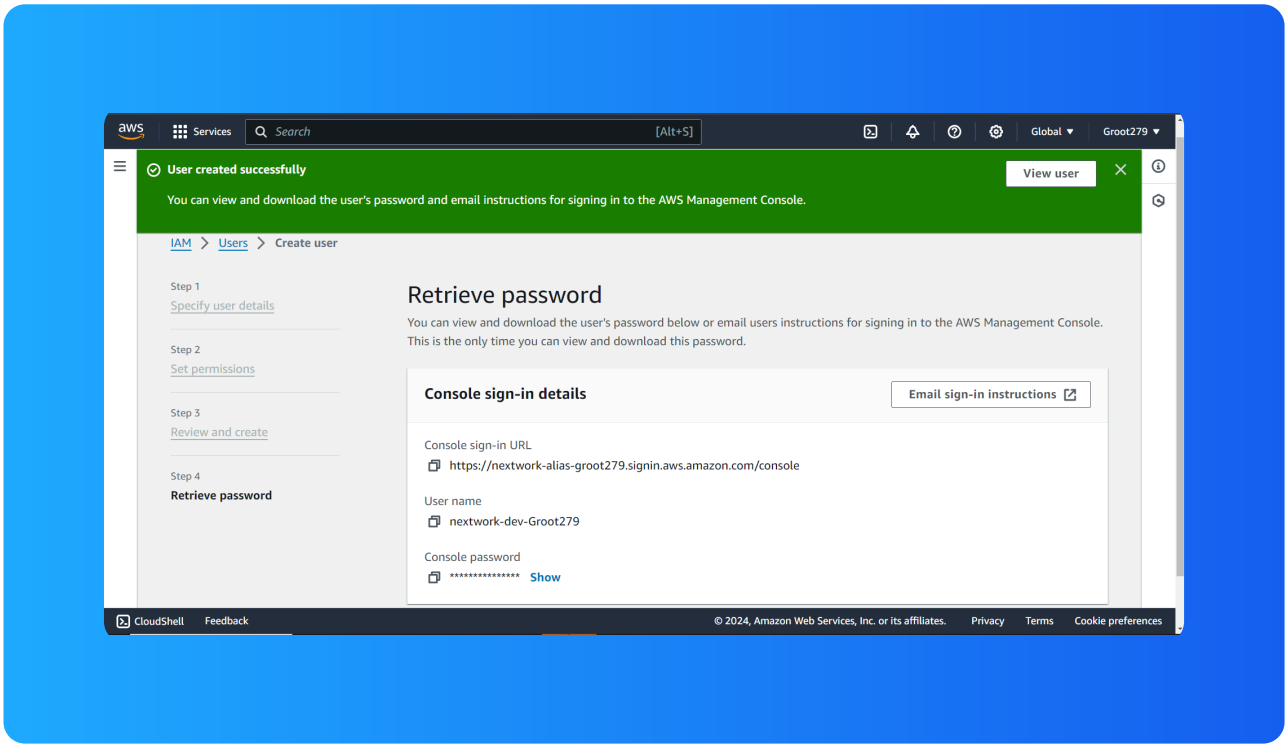
NextWork Student

Logging in as an IAM User

The first way is Emailing sign-in instructions and secondly Downloading .csv file

Once I logged in as my IAM user, I noticed that a lot of panels displayed "Access denied". This was a clear difference to the dashboard i usally see in my AWS Account (where i had unrestricted access to resources and wasnt denied access to anything



TA
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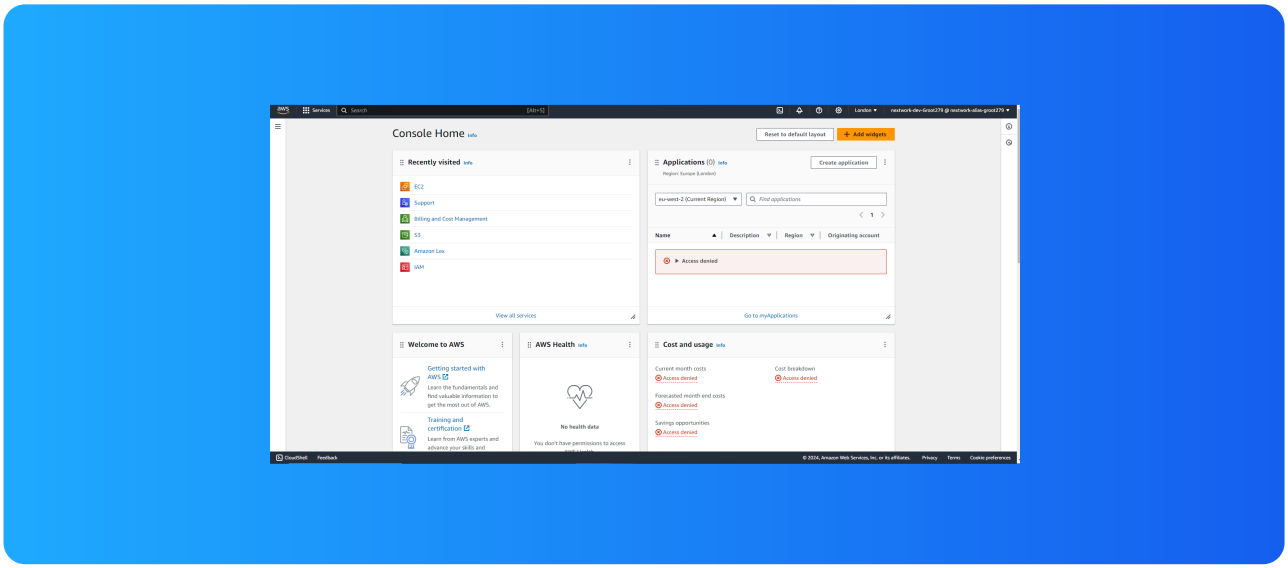
Testing IAM Policies

I tested my JSON IAM policy by trying to stop the devlopment and production instance i.e. trigfering the StopInstances action.

Stopping the production instance

When I tried to stop the production instance, an error message stopped me and explained that i am not authorized to stop production instance.



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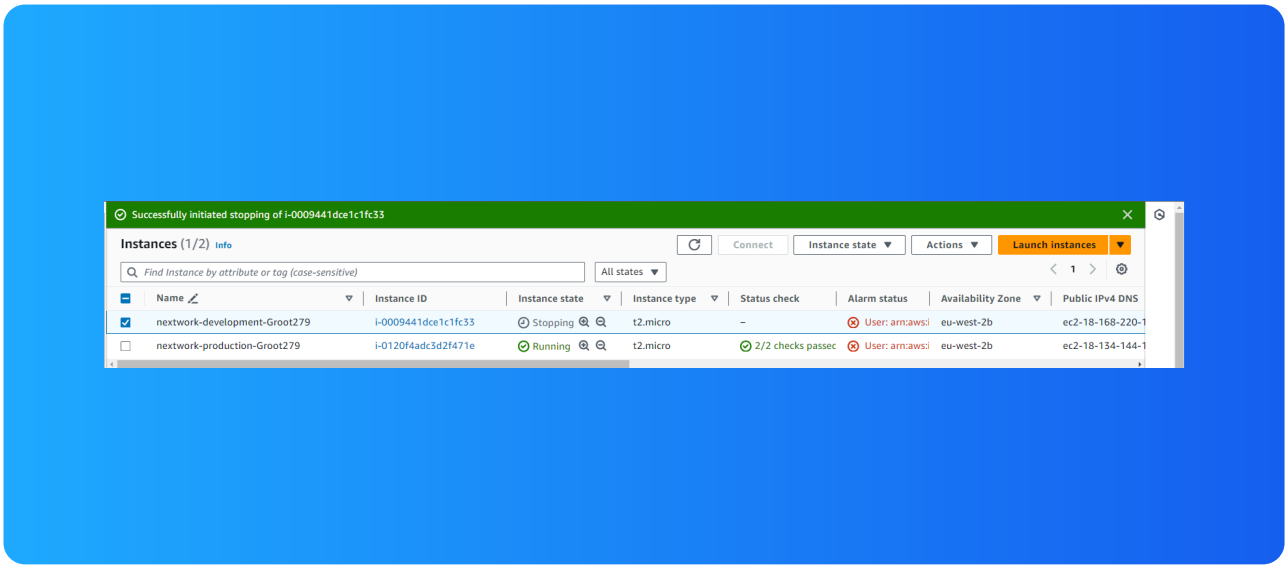
Testing IAM Policies

Stopping the development instance

When I tried to stop the development instance, the deelopment instance could be stopped! could be stopped. This was because the policy i created earlier allowed all ec2 related actions to all ec2 instances with the env tag development.



Everyone should be in a job they love.

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