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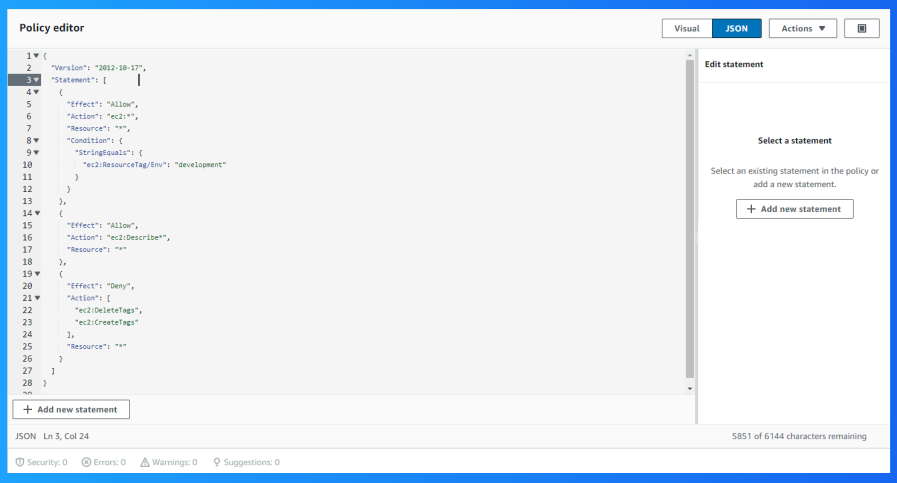
Cloud Security with AWS IAM

Abhishek sanap



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Introducing today's project!

What is AWS IAM?

It is a web service for securely controlling access to AWS resources.

How I'm using AWS IAM in this project

AWS IAM enables you to securely control access to AWS services and resources for your users. Using IAM, you can create and manage AWS users and groups, and use permissions to allow and deny their access to AWS resources.

One thing I didn't expect...

Json code i didnt expect because my process was different with natasha

This project took me...

the project takes necessary time between 1:30 to 1:49 hours

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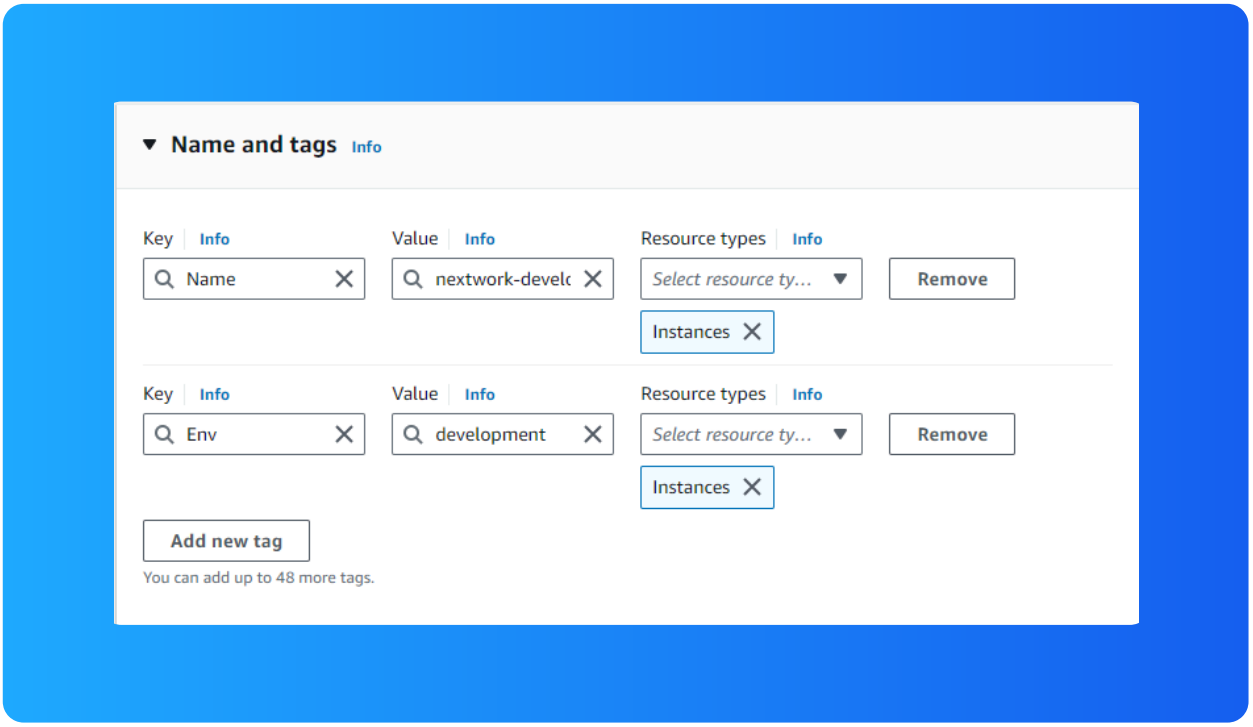
Tags

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

The tag I've used on my EC2 instances is called Env. The value I've assigned for my instances are production, and development. This represents the two different environments that we are using to build and release the NextWork app.



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IAM Policies

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

The policy I set up

For this project, I've set up a policy using the JSON editor.

I've created a Policy that allows all 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.

When writing JSON Policy statements, you have to specify the: Effect: ie. Allow or Deny. Action: ie the specific action that we are wanting to allow or deny. Resource: the specific resource/group of resources in my AWS Account that this policy will

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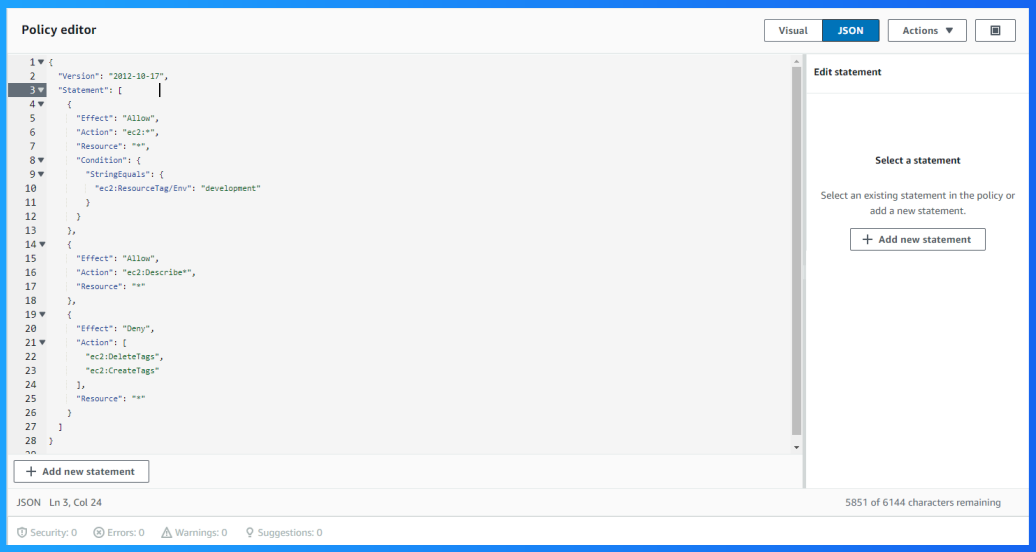
My JSON Policy



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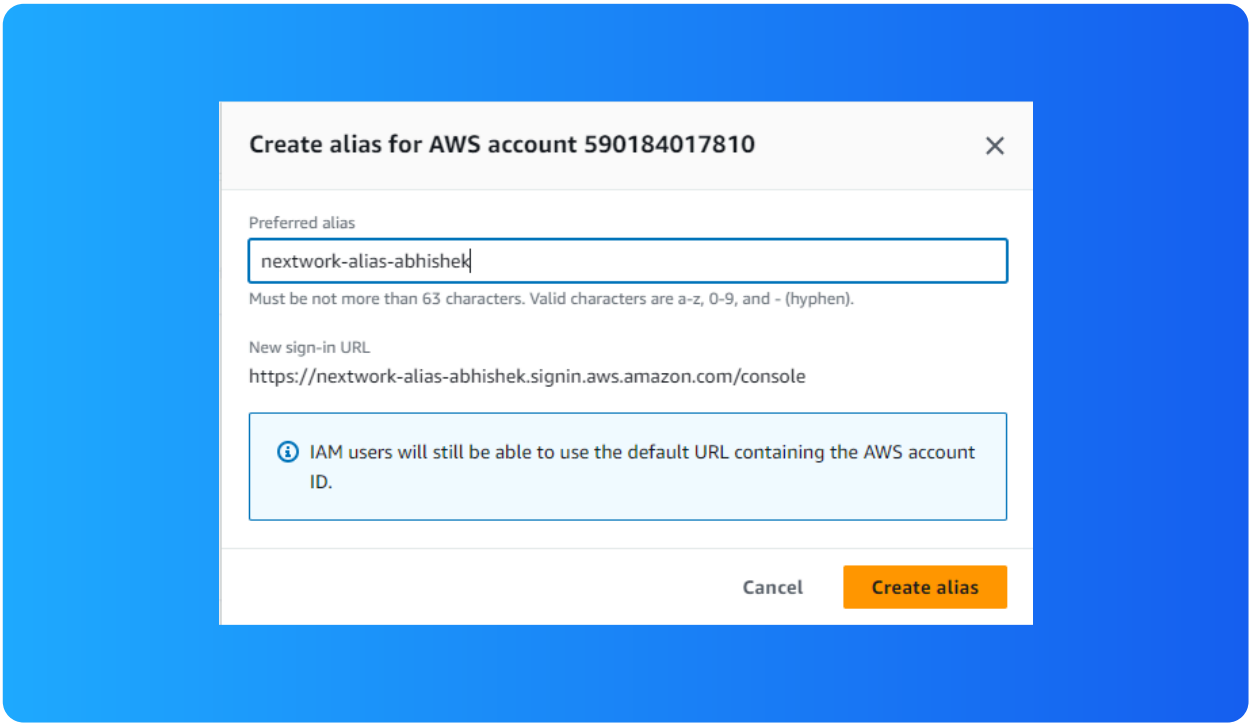
Account Alias

An account alias is a custom name that I can assign to me AWS Account. This custom name would replace my Account ID in my Account's log-in URL

Creating an account alias took me less than a minute-super fast!

Now, my new AWS console sign-in URL is https://nextwork-alias-abhishek.signin.aws.amazon.com/console



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IAM Users and User Groups

Users

IAM Users aro other log-ins/people who have access to my AWS Account. These were users are created by myself using the AWS IAM service! I can designate my IAM users' access to my AWS Account's resources/services

User Groups

I also created a User Group User Groups are useful for grouping and managing users' permissions at a group level. They act similarly to folders when it comes to mass assigning permission/policies

My User Group is called nextwork-dev-group. I attached the Policy I created to this User Group, which means all users that are added to that tuser group will automati inherit the user group's acess permissions

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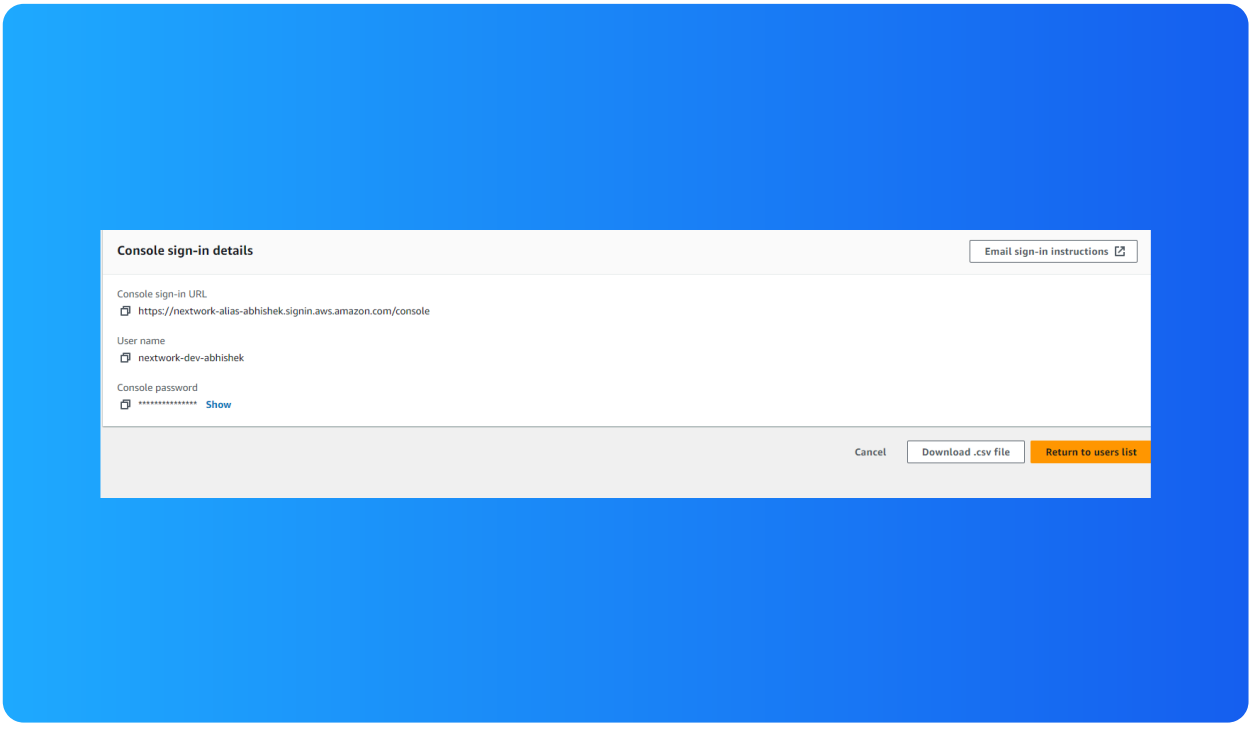
Logging in as an IAM User

Once my new user was set up, there were two ways I could share its sign-in details: firstly, emailing sign-in instructions; secondly, downloading a .csv file. My new user had a unique sign-in URL - this is my Accoun work!

Once I logged in, I noticed that a lot of panels displayed "Access denied". This was a clear difference to the dashboard I usually see in my AWS Account (where I had unrestricted access to resources and wasn't denied access to anything)



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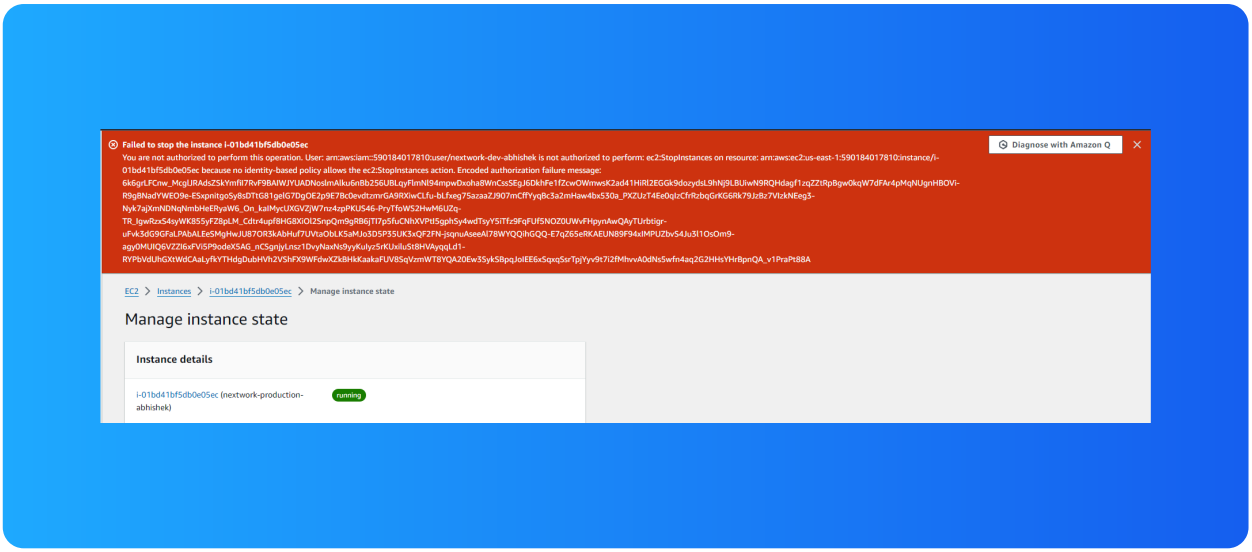
Testing IAM Policies

I tested the JSON IAM policy I set up by trying to Stop the development and production instances ie. triggering 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 authorised to stop the production instance.



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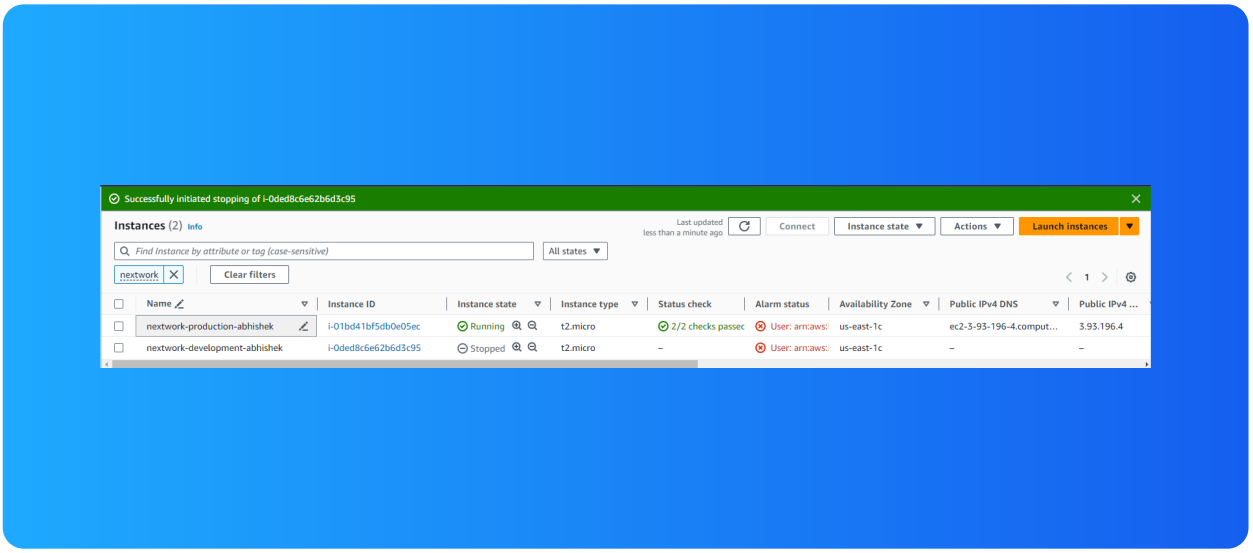
Testing IAM Policies

Stopping the development instance

when I tried to stop the development instance, the development instance could be stopped! This was because the Policy I created (and attached to the User Group that my User is a part of) allowed all EC2 related actions to all EC2 instances/resources.



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