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Cloud Security with AWS IAM

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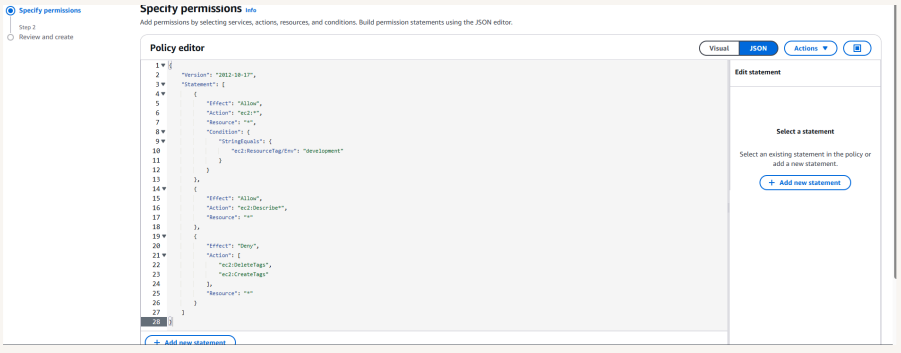


Introducing today's project!

What is AWS IAM?

Services I used were IAM Key concepts I learnt include IAM user and IAM roles, IAM plicies

How I'm using AWS IAM in this project

This project took me approximately 1 hour The most challenging part was to create policy and user It was most rewarding to see creating new users and their login using alias.

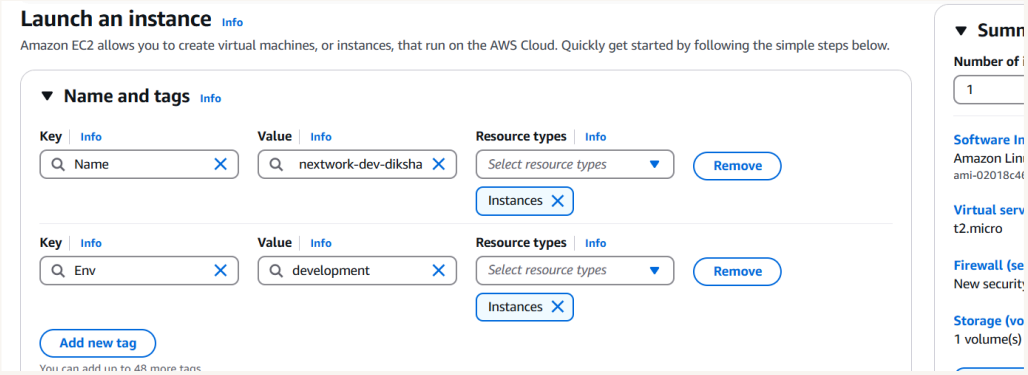
One thing I didn't expect...

I chose to do this project today because I wanted to learn about IAM. Something that would make learning with NextWork even better is to provide step by step explaianation of every part

Tags

Tags are like labels you can attach to AWS resources for organization.Tagging helps us with identifying all resources with the same tag at once , cost allocation, and applying policies base

'The tag I've used on my EC2 instances is called Env. The value I've assigned for my instances are develeopment and production.



IAM Policies

IAM Policies are all about giving permissions to IAM users, groups, or roles, saying what they can or can't do on certain resources, and when those rules kick in.

The policy I set up

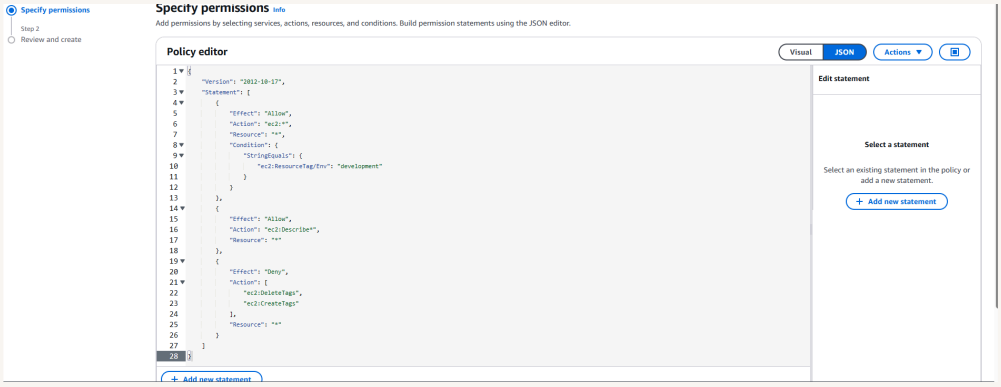
For this project, I've set up a policy using JSON

I've created a policy that allows some actions (like starting, stopping, and describing EC2 instances) for instances tagged with "Env = development" while denying the ability to create or delete tags for all instances.

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

Effect: either Allow or Deny - to indicate whether the policy allows or denies a certain action. Deny has priority.Action:A list of the actions that the policy allows or denies. resource: Which resources does this policy apply to

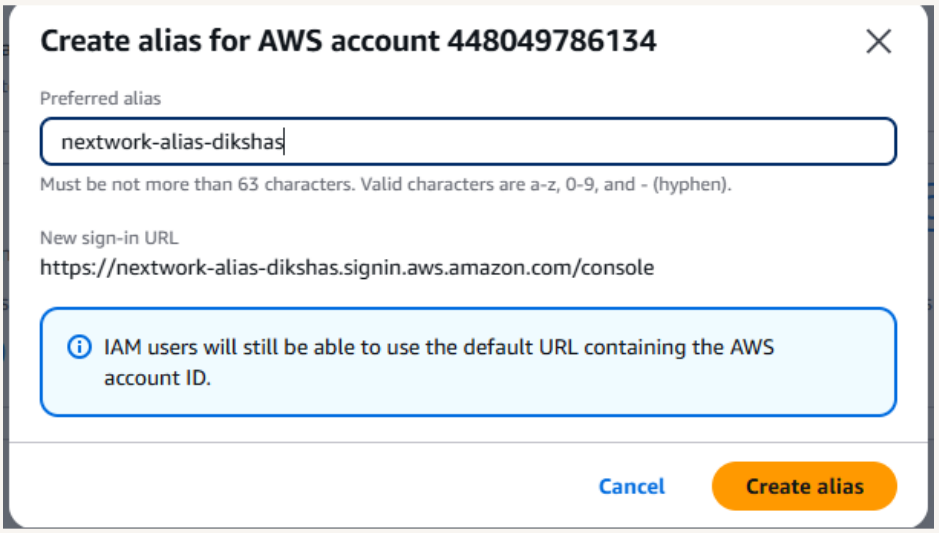
My JSON Policy



Account Alias

An account alias is a friendly name for your AWS account that you can use instead of your account ID (which is usually a bunch of digits) to sign in to the AWS Management Console.

Creating an account alias took me 30 seconds Now, my new AWS console sign-in URL is https://nextwork-alias-dikshas.signin.aws.amazon.com/console



IAM Users and User Groups

Users

IAM users are identities created within an AWS account that have specific permissions to interact with AWS resources. These users are granted custom permissions, typically defined by policies, and use a username and password for authentication.

User Groups

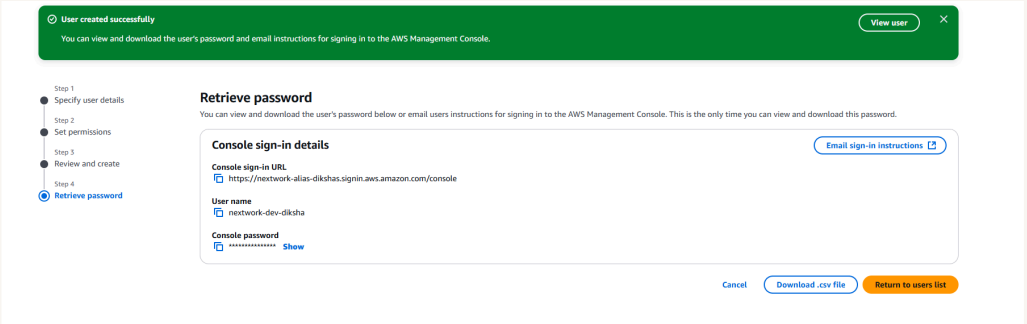
IAM user groups are collection/folder of IAM users.

I attached the policy I created to this user group, which means managing permissions and ensures consistency across users who have similar access to AWS resources.

Logging in as an IAM User

The first way is IAM group and IAM user

Once I logged in as my IAM user, I noticed some of the panesla re access denied. This was because as a new user, the AWS console will treat you as someone that is starting from 0 again.

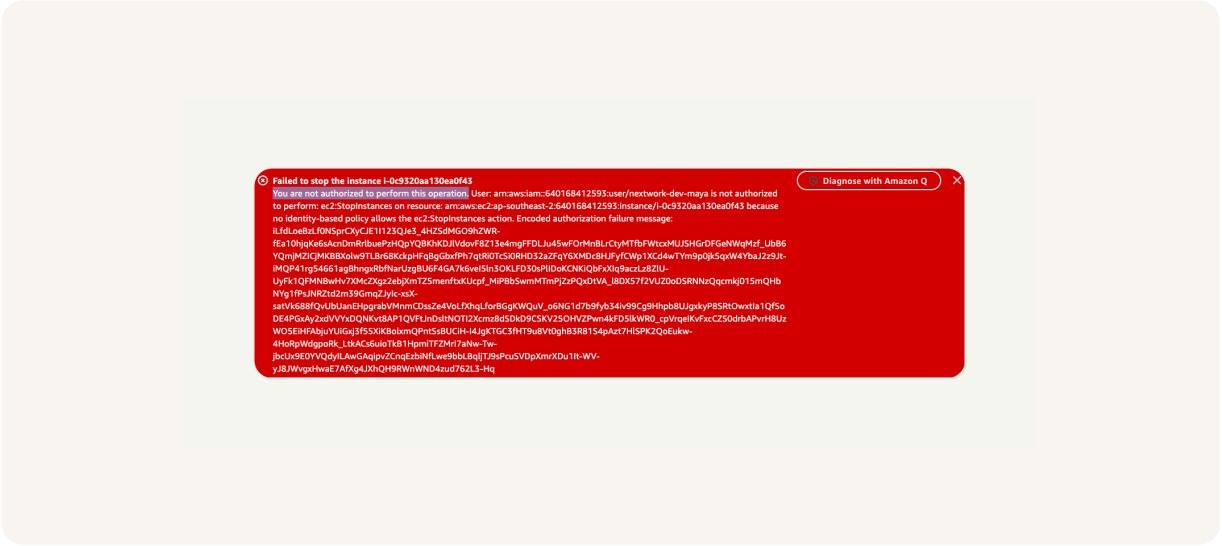


Testing IAM Policies

I tested my JSON IAM policy by creating and editing AWS policies

Stopping the production instance

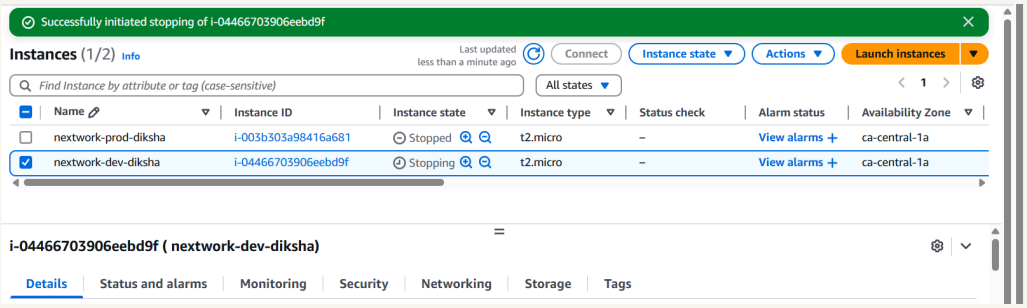
When I tried to stop the production instance banner tells me we've failed to stop this instance. This was because we're not authorized! We don't have permission to stop any instance with the production tag.



Testing IAM Policies

Stopping the development instance

Next, when I tried to stop the development instance it was not succesfull and was giving not autorise error . This was because We don't have permission to stop any instance with the production tag.



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