



Cloud Security with AWS IAM



Pietfontein Nhlanhla

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "ec2:...",
      "Resource": "*",
      "Condition": {
        "StringEquals": {
          "ec2:ResourceTag/Env": "development"
        }
      }
    },
    {
      "Effect": "Allow",
      "Action": "ec2:Describe*",
      "Resource": "*"
    },
    {
      "Effect": "Deny",
      "Action": [
        "ec2:DeleteTags",
        "ec2:CreateTags"
      ],
      "Resource": "*"
    }
  ]
}
```



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Introducing today's project!

What is AWS IAM?

a service that allows you to manage access to AWS resources securely. IAM enhances the security of your AWS environment by controlling who can access what resources and under what conditions.

How I'm using AWS IAM in this project

Greatly

One thing I didn't expect...

For it to go successful

This project took me...

60 minutes



Tags

Tags consist of a key-value pair, where the key is a category or identifier, and the value is the specific detail or attribute associated with that key.

The value I've assigned for my instances are'... Production and Development

Tags

Key	Value
Env	development
Name	nextwork-production-nhlanhla



IAM Policies

policies specify what actions are allowed or denied on which AWS resources.

The policy I set up

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

'I've created a policy that'Allow: Grants permission to perform the specified actions on the specified resources. Deny: Explicitly denies permission to perform the specified actions on the specified resources.

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 'This element specifies whether the policy statement allows or denies access, This element lists the specific actions that are allowed or denied by the policy.'



My JSON Policy

```
    "Version": "2012-10-17",
    "Statement": [
        {
            "Effect": "Allow",
            "Action": "ec2:*",
            "Resource": "*",
            "Condition": {
                "StringEquals": {
                    "ec2:ResourceTag/Env": "development"
                }
            }
        },
        {
            "Effect": "Allow",
            "Action": "ec2:Describe*",
            "Resource": "*"
        },
        {
            "Effect": "Deny",
            "Action": [
                "ec2:DeleteTags",
                "ec2:CreateTags"
            ],
            "Resource": "*"
        }
    ]
}
```



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Account Alias

AWS is a user-friendly name that you can assign to your AWS account to make it easier to identify

5 minutes

AWS Account

Account ID

565393042582

Account Alias

nextwork-alias-nhlanhla [Edit](#) | [Delete](#)

Sign-in URL for IAM users in this account

<https://nextwork-alias-nhlanhla.signin.aws.amazon.com/console>



IAM Users and User Groups

Users

users are entities that you create to represent individual people or applications that need to interact with AWS resources

User Groups

user groups are collections of IAM users.

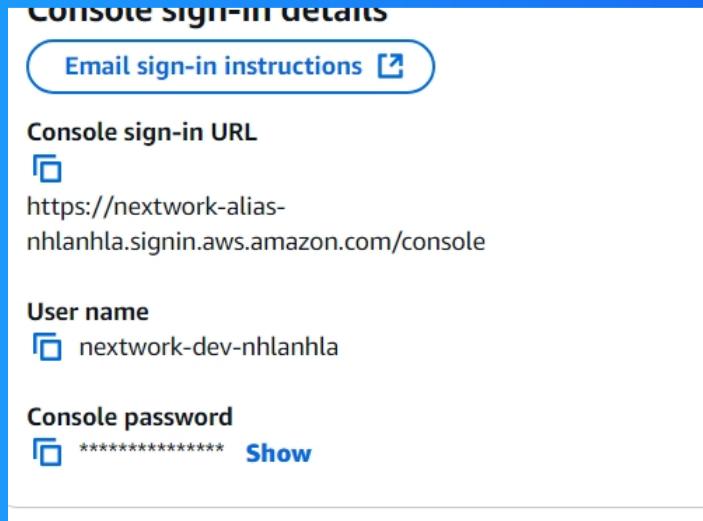
I attached the policy I created to this user group, which means 'This means they can perform the actions and access the resources defined in the policy. This helps maintain consistency and reduces the risk of individual misconfigurations.



Logging in as an IAM User

The first way is 'You can securely send this credentials file to the new user so they can access their sign-in information. AWS also provides an option to send the user's login instructions via email directly from the console.'

Once I logged in as my IAM user, I noticed... This was because'..Access denied to servicecatalog>ListApplications.





Testing IAM Policies

I tested my JSON IAM policy by'.configure it then change it

Stopping the production instance

When I tried to stop the production instance... This was because' The instances gave me an option to choose

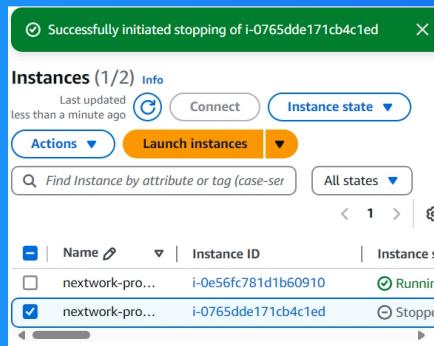




Testing IAM Policies

Stopping the development instance

Next, when I tried to stop the development instance... This was because'.the JSON policy was not included.





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