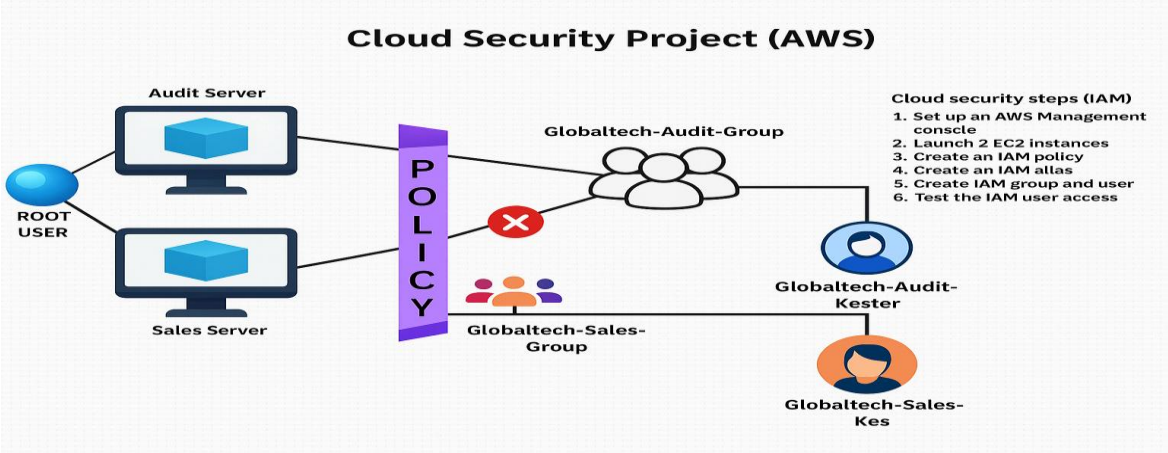
AWS IAM Cloud Security Project

1. Project Overview

I completed this project on cloud security controls in Amazon Web Services (AWS), focusing on Identity and Access Management (IAM). The goal was to create a least-privilege policy, attach it to a user group, and verify that the policy correctly restricts actions on two Amazon EC2 instances (audit and sales).

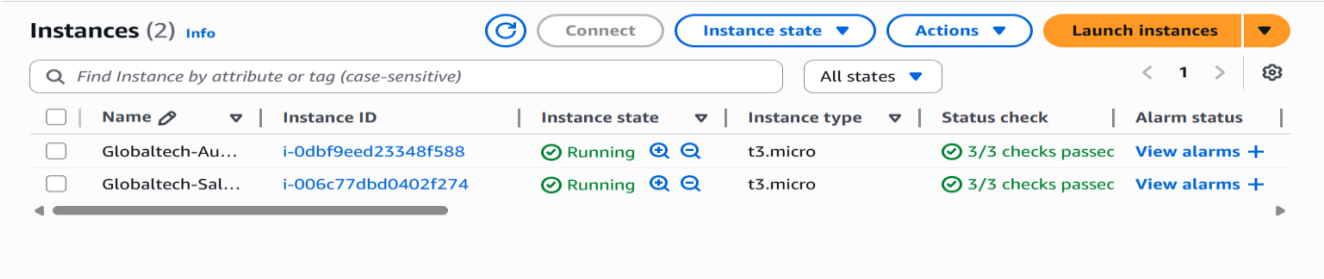


2. Tools & Concepts

- AWS IAM – users, groups, policies, account alias
- Amazon EC2 – instance tagging and lifecycle actions
- JSON policy syntax – Effect, Action, Resource
- Principle of least privilege and policy testing

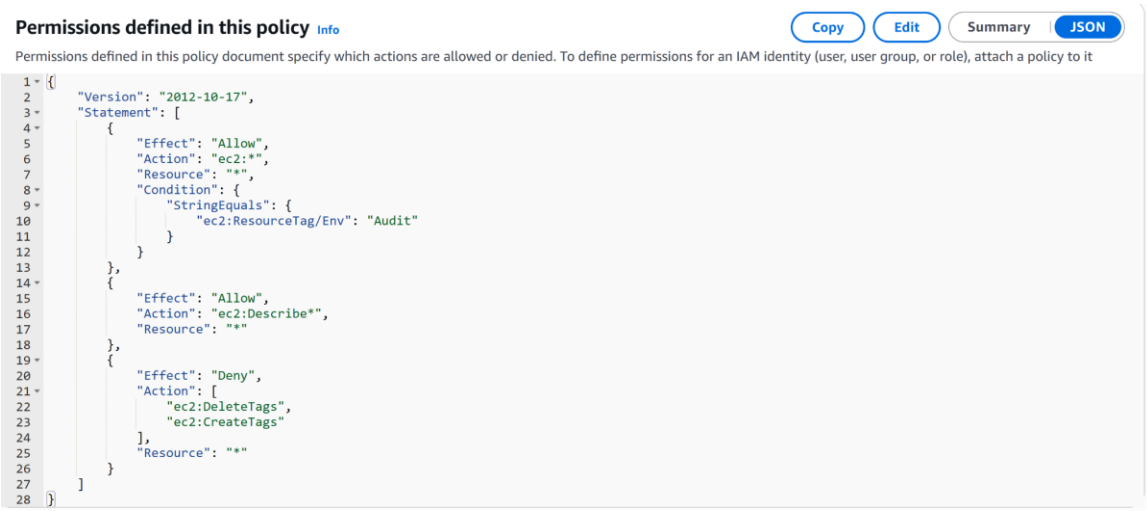
3. Tagging Strategy

I applied a descriptive tag to each EC2 instance:
Instance | Tag Key | Tag Value
audit | Environment | Audit
sales | Environment | Sales



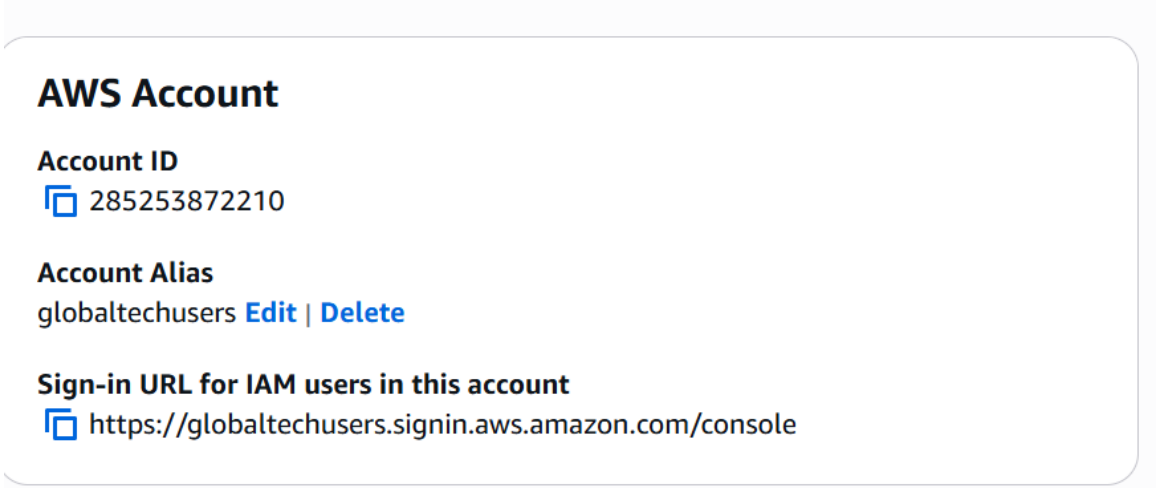
4. Creating the IAM Policy

I authored the following JSON policy to block instance stop/start actions on the audit server but allow those actions on the sales server:



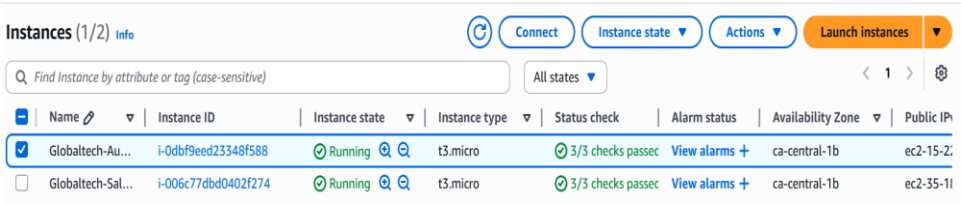
5. Account Alias

I set a memorable account alias to replace the default numeric URL, making sign-in easier for team members.



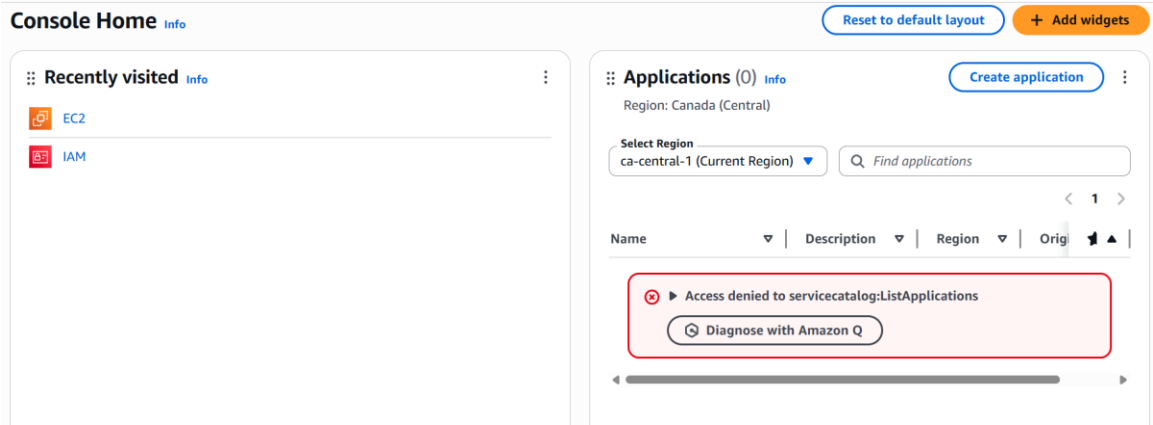
6. IAM Users & Groups

1. Created an IAM user group called Developers.
2. Attached the **CybertechAuditEnvPolicy** policy to the group.
3. Added individual IAM users who require controlled EC2 access.



7. Logging in as an IAM User

IAM users can sign in through:
- AWS Management Console (using the new alias URL)
- AWS CLI via programmatic keys



8. Testing the Policy

Test Action | Expected Result | Actual Result
Stop audit instance | Denied | Access denied error displayed
Stop sales instance | Allowed | Instance stopped successfully
Start audit instance | Denied | Access denied error displayed
Start sales instance | Allowed | Instance started successfully