

Problem Statement:

You work for XYZ Corporation. To maintain the security of the AWS account and the resources you have been asked to implement a solution that can help easily recognize and monitor the different users.

Tasks To Be Performed:

1. Create 4 IAM users named “Dev1”, “Dev2”, “Test1”, and “Test2”.
2. Create 2 groups named “Dev Team” and “Ops Team”.
3. Add Dev1 and Dev2 to the Dev Team.
4. Add Dev1, Test1 and Test2 to the Ops Team

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Tasks To Be Performed:

1. Create policy number 1 which lets the users to:
  - a. Access S3 completely
  - b. Only create EC2 instances
  - c. Full access to RDS
2. Create a policy number 2 which allows the users to:
  - a. Access CloudWatch and billing completely
  - b. Can only list EC2 and S3 resources
3. Attach policy number 1 to the Dev Team from task 1
4. Attach policy number 2 to Ops Team from task 1

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Tasks To Be Performed:

1. Create a role which only lets user1 and user2 from task 1 to have complete access to VPCs and DynamoDB.
2. Login into user1 and shift to the role to test out the feature

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Tasks To Be Performed:

1. Create a dashboard which lets you check the CPU utilization and networking for a particular EC2 instance.

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#### Tasks To Be Performed:

1. Create a CloudWatch billing alarm which goes off when the estimated charges go above \$500.
2. Create a CloudWatch alarm which goes off to an Alarm state when the CPU utilization of an EC2 instance goes above 65%. Also add an SNS topic so that it notifies the person when the threshold is crossed

### Case Study

#### Problem Statement:

You work for XYZ Corporation that uses on premise solutions and a limited number of systems. With the increase in requests in their application, the load also increases. So, to handle the load the corporation has to buy more systems almost on a regular basis. Realizing the need to cut down the expenses on systems, they decided to move their infrastructure to AWS.

#### Tasks To Be Performed:

1.
  - a. Create a user account that can login to the console
  - b. Create a group and make sure that the group can only launch and stop EC2 instances using that previously created account
2.
  - a. Provide permission to let the user of a previously created account to create VPCs, Subnets, NACL and security groups
  - b. Further add the permission so that the user can create RDS instance
  - c. Explore security options to protect the AWS resources and secure the permissions provided to the group