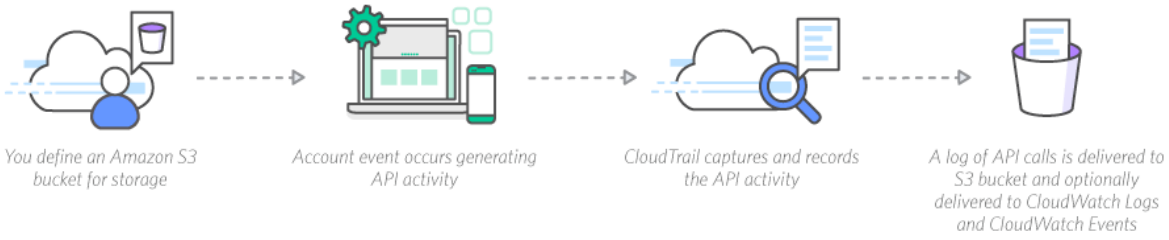
Overview:

If an attacker adds an IAM user they could give this new user all privileges
With these privileges in the new account the hacker could sign in and exfiltrate both the company and consumer data

Creating IAM should be done through automated process - privileged operation. Want to be able to prevent regular users from adding other users

Discovery:



It is important to keep track of all ongoing activity logs of users to make sure that they are only using the applications that they have been given permission to.

AWS has logging features that can determine what actions users are taking as well as the resources they are using.

What Do Log Files Show?
The log files show:

- Time and date of actions
- Source IP for an action
- Actions that failed due to inadequate permissions, and more.

AWS CloudTrail
AWS IAM, Identity and Access Management, is integrated with CloudTrail logs. CloudTrail "logs AWS API calls and related events made by or on behalf of an AWS account."

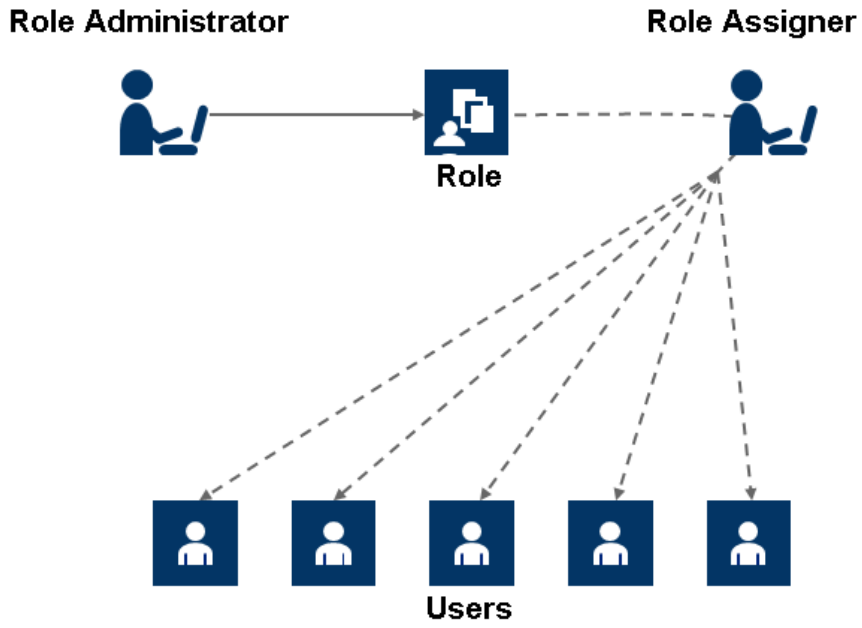
If a user adds an IAM user the action will be saved in the CloudTrail logs.

More Information: https://aws.amazon.com/cloudtrail/ and http://docs.aws.amazon.com/IAM/latest/UserGuide/cloudtrail-integration.html#cloudtrail-integration-iam-information

Taken directly from http://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html

Remediation:

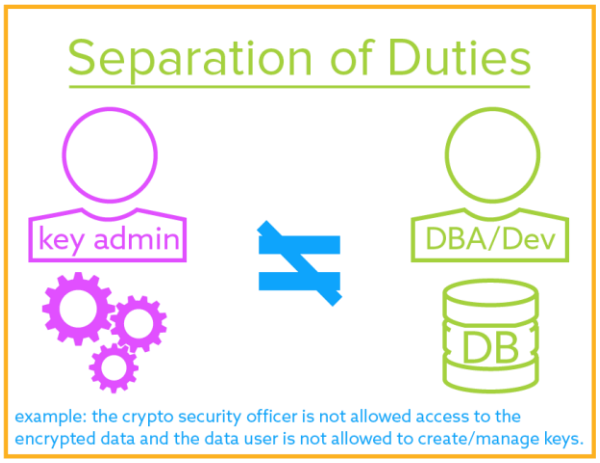
To remediate an AWS role or group attack on AWS, it is important to limit the access on who can change and/or create roles and groups on AWS. Another important thing to consider is separation of duties, the act of requiring multiple people to complete a task. Separation by sharing a task is a great internal control that will help prevent attacks on AWS IAM users.



Prevention:

By default, AWS IAM is secure. When an IAM user is created, they have no access to any services. Users are given access only when permissions are explicitly set.

The best way to secure this is to Grant least privilege.



In the creation of IAM policies it is important to grant least privilege. Granting least privilege consists of granting only the permissions required to perform a task. It is important to determine what specifically the user will be doing and create policies that will allow them to perform **only** the necessary things in those tasks.

It is more secure to start by granting just the minimum permissions for each user and granting additional permission when necessary.

It is vital to be able to properly determine what it required for each task. Such as, what actions services support, and what permissions will be required by those actions.

Useful Tool:

Access Advisor tab:
Available in the IAM console summary page. The tab includes information about which services are used by a *user, group, role* or *policy*. This information can be used to identify what permissions will be necessary and what may be unnecessary. This allows you to keep IAM policies to the least privilege policy.