

AWS-IAM-Cohort-10

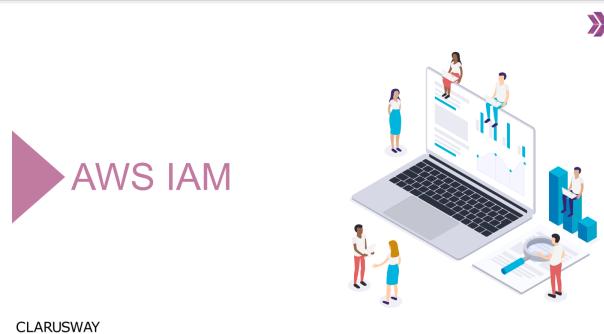
Pear Deck Session
Training Clarusway
Pear Deck - January 24, 2022 at 8:15PM

Part 1 - Summary

Use this space to summarize your thoughts on the lesson

Part 2 - Responses

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Use this space to take notes:

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- ▶ Introduction to IAM
- ▶ IAM - Users
- ▶ IAM - Policies
- ▶ IAM - User Groups
- ▶ IAM - Roles

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1 Introduction to IAM

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▶ What Is IAM?

 IAM = Identity & Access Management

Authentication
 Prove your identity

- Username + Password + MFA
or
- Access Key + Secret Key
or
- Access Key + Secret Key + Session Token

Authorization
 Permission to access resources

- IAM Policies
and/or
- Resource Policies

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▶ Introduction to IAM

Categorizing IAM Components

```

graph LR
    Identities[Identities] --- UserIcon[User]
    Identities --- UserGroupIcon[User Group]
    Identities --- RoleIcon[Role]
    Permissions[Permissions] --- PolicyIcon[Policy]
    UserIcon --- User
    UserGroupIcon --- UserGroup
    RoleIcon --- Role
    PolicyIcon --- Policy
  
```

- IAM components can be mainly categorized under two terms; Identities and Permissions.

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2 IAM Users

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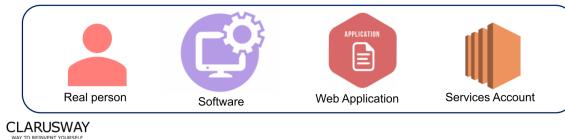
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► IAM Users What is IAM User?



(IAM) user is an entity that you create in AWS to represent the person or application that uses it to interact with AWS



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► IAM Users

What is Root User and IAM User.

AWS Account Owner - Root User (You)

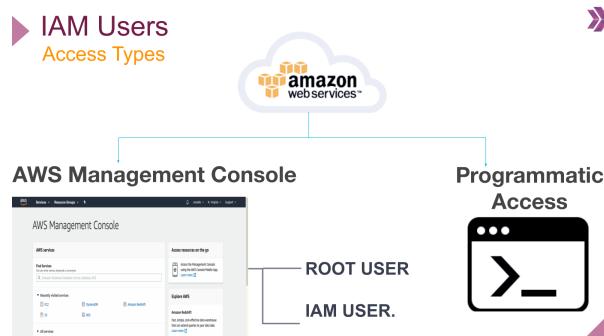
You-IAM User
Bill-IAM User
Tom-IAM User
John-IAM User
Kath-IAM User

- Root User is a special user
- Username is **email** used to create account
- Generally, **cannot limit permissions** of Root User
- **Cannot delete** Root User
- Best practices:
 - **Enable MFA** for Root User
 - Don't user Root User for **day-to-day work**
 - Keep **password** in a secure location

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► IAM Users

Sign in with Root User- AWS Management Console Access

E-mail
Password

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► IAM Users

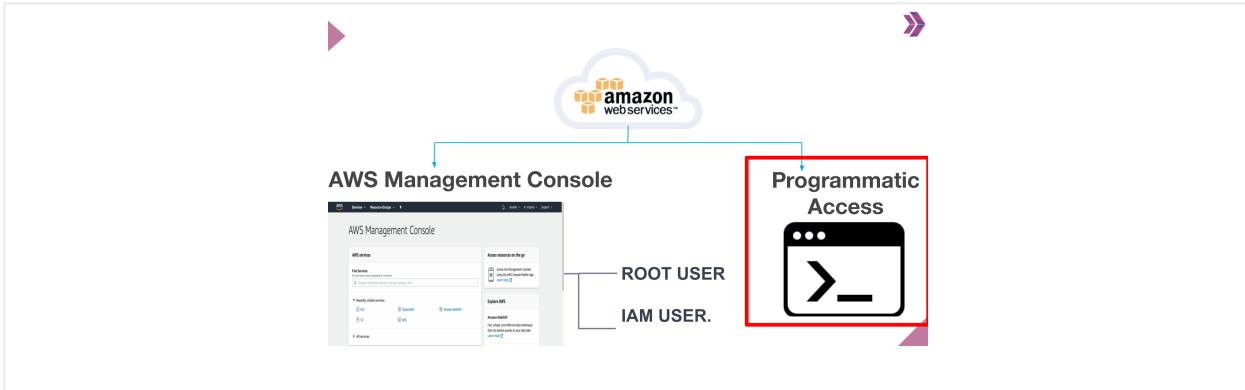
Sign in with IAM User- AWS Management Console Access

Account ID/Alias
User name
Password

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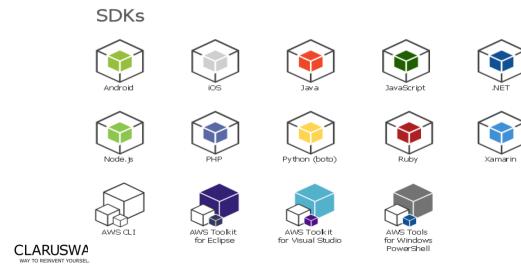
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► IAM Users Sign in with IAM User- Programmatic Access



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► IAM Users

Sign in with IAM User- Programmatic Access

```
Last login: Fri Apr 24 22:44:56 on ttys000
Clarusway-MacBook-Air:- user$  
  
Access Key ID !!!!!  
Secret Access Key !!!!!
```



**ROOT USER
IAM USER.

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► IAM Users

Sign in with IAM User- AWS CLI



YOUR TERMINAL



SECRET ACCESS KEY
ACCESS KEY ID



AWS CLI

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3 IAM Policies

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► IAM Policies What is a Policy?



- A policy is an object used to define the **permissions** of an identity or resource in AWS
- Permissions in the policies determine whether the request is **allowed** or **denied**.
- Policies are stored in AWS as **JSON** documents.

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► Policy Structure - E-PARC

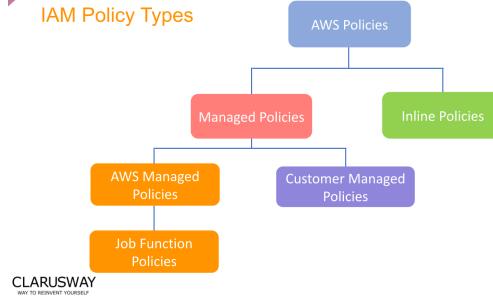


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► IAM Policies IAM Policy Types

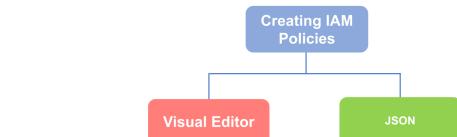


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► IAM Policies

Creating IAM Policies

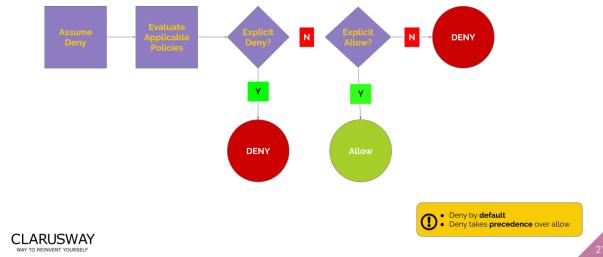


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► Policy Evaluation



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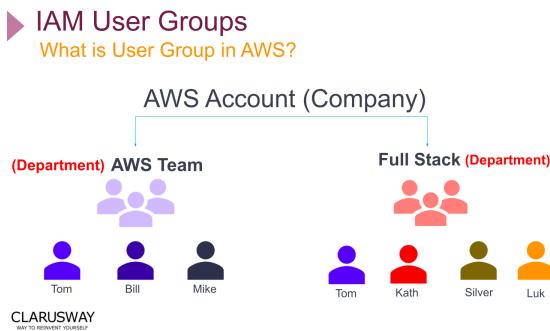


4 IAM User Groups

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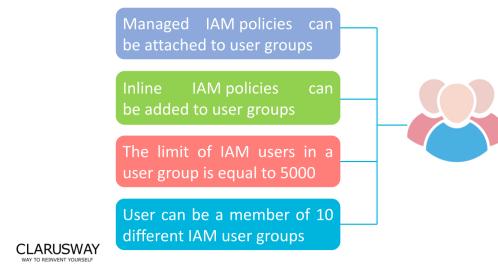


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► IAM User Groups

IAM User Group Features



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5 ► IAM Roles

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► IAM Roles

What is a Role in AWS?



- The authorization system where we determine how an identity can access the **AWS resources**.
- An IAM role, similar to an IAM user, is an IAM identity that **has specific permissions** that you can create in your account.

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► IAM Roles

Who can assume an IAM Role?



Another AWS account
Belonging to you or 3rd party

AWS service
EC2, Lambda and others

Web identity
Cognito or any OpenID provider

SAML 2.0 federation
Your corporate directory

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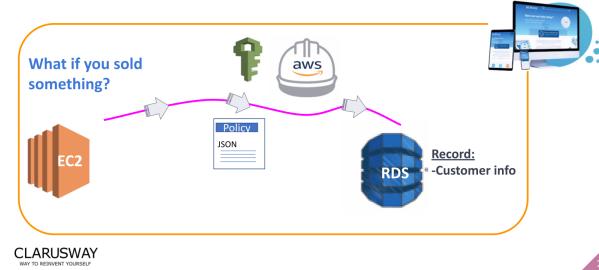
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► IAM Roles

What does IAM ROLE do ?



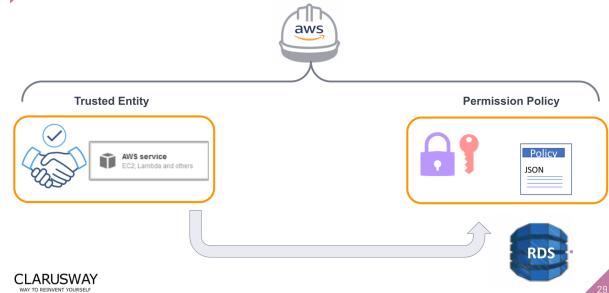
www.e-commerce...

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► IAM Roles Anatomy of a Role



Permission Policy

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► Role Credentials

Once an entity assumes a role, it receives **temporary credentials** in the form of an **access key**, **secret key** and **session token**.

Note that with an IAM user, there is no session token, since the credentials are permanent

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6 Implication of AWS SSO

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► Implication of AWS SSO



- ▶ Today, most organizations use **AWS SSO to authenticate** users into AWS
- ▶ Users are given permanent credentials to log in to SSO
- ▶ Those permanent credentials (e.g. email & password) enable the **SSO user to assume an IAM role** by way of short term AWS credentials
- ▶ Bottom line:
 - Most organizations today **discourage the use of IAM users**
 - Instead, **roles are used** which map to SSO users

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Video on Multi-Factor Authentication (MFA)

<https://lms.clarusway.com/mod/lesson/view.php?id=7626&pageid=7570>

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Link(s) on this slide:

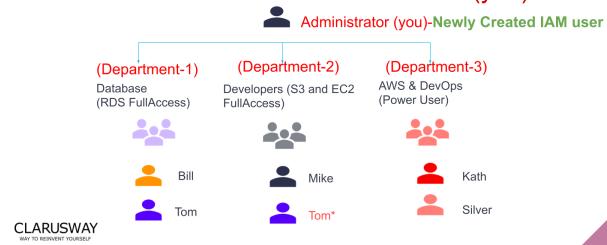
- <https://lms.clarusway.com/mod/lesson/view.php?id=7626&pageid=7570>

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Let's get our hands dirty!

AWS Account owner - Root User (you)



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THANKS!

Any questions?

You can find me at:

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- ▶ osvaldo@clarusway.com

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