Getting Started with Amazon Web Services (AWS)

Version 1.0

Copyright

Table of Content

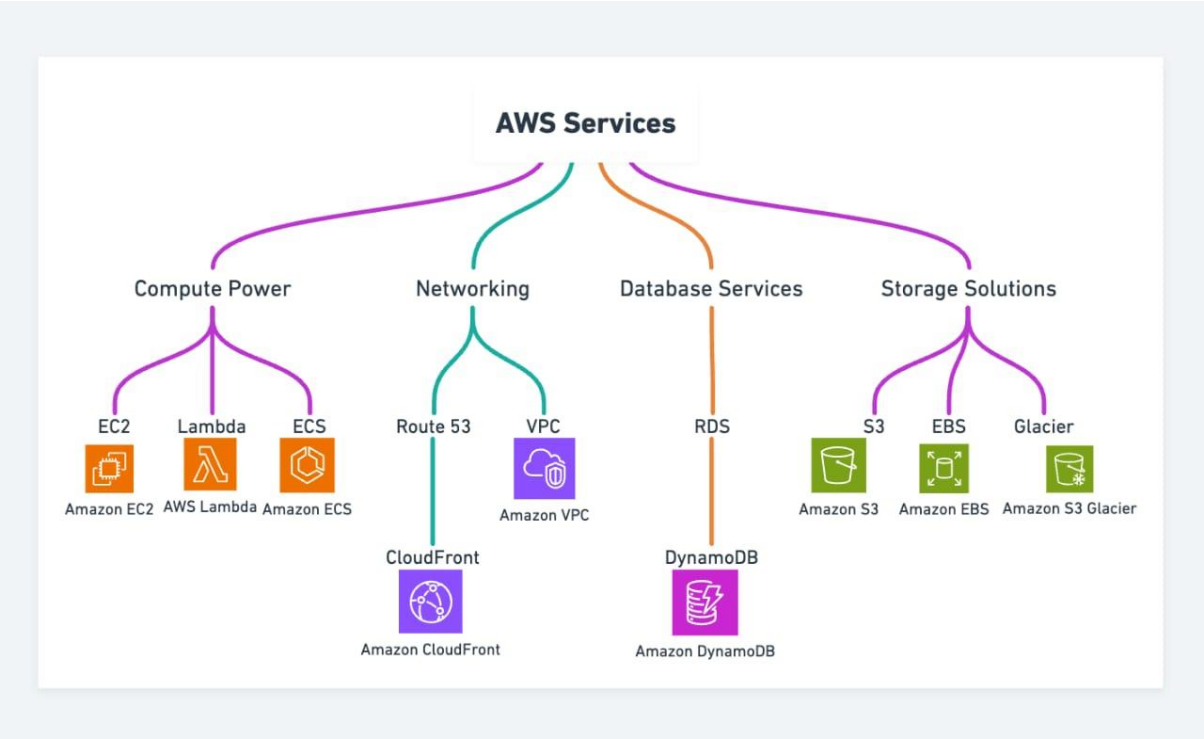
Overview

AWS (Amazon Web Services) is a cloud computing platform provided by Amazon. AWS offers a wide range of cloud-based services and APIs to individuals, businesses, and governments using a pay-as-you-go pricing model. You can use AWS cloud services to run applications, store data, and manage IT infrastructure without the need for physical hardware.

This guide provides instructions on creating an AWS account, securing the root user account, and setting up IAM users.

AWS Services

AWS offers the below cloud computing services enabling users to build applications with increased flexibility, scalability, and reliability.



- **Compute Power**
  Provides services like EC2 for virtual servers, Lambda for serverless code execution, and ECS for managing containerized applications.
- **Storage Solutions**
  Provides flexible data storage with S3 for scalable object storage, EBS for block storage, and Glacier for low-cost archival storage.
- **Networking**
  Provides secure and fast connectivity with VPC for network isolation, Route 53 for scalable DNS management, and CloudFront for global content delivery.

- **Database Services**
  Supports various databases, including RDS, DynamoDB, and Aurora for high-performance workloads.

Benefits

AWS offers a reliable, secure, and scalable cloud platform helping businesses and individuals manage their IT needs efficiently. Here are some key benefits:

- **Scalability**
  Easily scale resources up or down based on demand without upfront investments.
- **Security**
  Provides robust security with encryption, IAM, firewalls, and compliance certifications.
- **Cost-effective**
  Pay only for what you use with AWS pay-as-you-go pricing model.
- **Reliability**
  Ensures high availability with multiple data centres and backup solutions.
- **Flexibility & Speed**
  Supports multiple operating systems, programming languages, and rapid deployment.

Key System Requirements

For optimal performance, we recommend the following browsers and operating systems:

Supported Browsers	Latest stable versions of Google Chrome, Microsoft Edge, Mozilla Firefox, and Safari (Mac only)
Operating Systems	Windows 10 or later, macOS 10.15 (Catalina) or later, and Linux distributions.

Getting Started with AWS Cloud

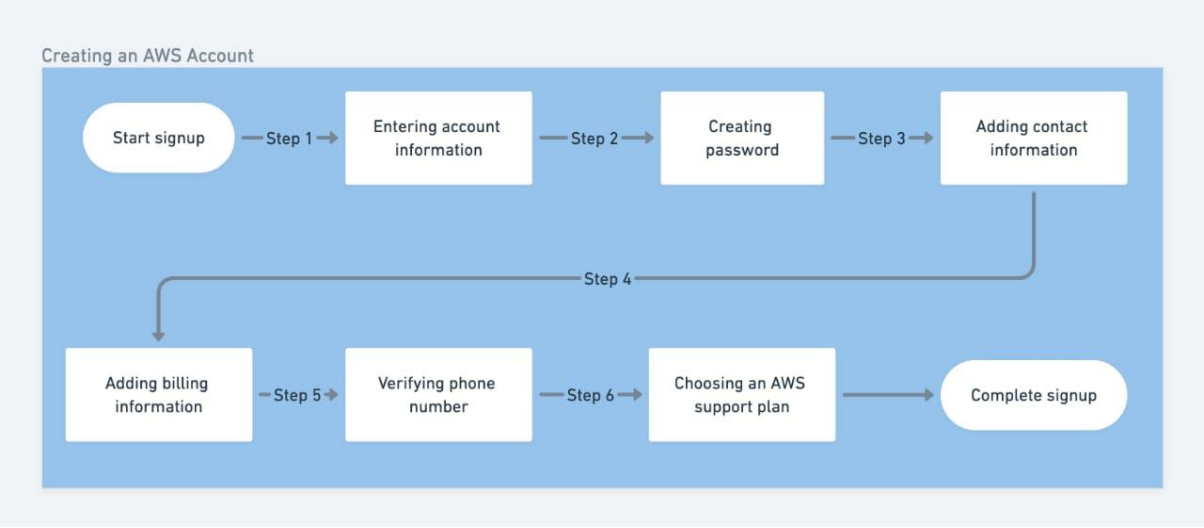
To get started with AWS Cloud and ensure a secure, well-managed environment, follow these key steps:

1. **Create an AWS Account**
   Sign up for AWS for accessing its cloud services.
2. **Secure the Root User Account**
   Enable multi-factor authentication (MFA) and set up strong credentials to strengthen security.
3. **Create IAM Users**
   Set up IAM users with appropriate permissions to enhance security and control.

Create an AWS Account

An AWS account is a unique account that gives you access to Amazon Web Services and its cloud computing resources. Each AWS account includes billing management, security settings, and access control features. You can create and manage multiple AWS accounts for different regions and environments.

The below flowchart shows the process of creating an AWS account.



Prerequisites

Before creating an AWS account, ensure you have:

- A valid email address.
- A valid phone number.
- An active credit or debit card.
- A stable internet connection.

To create an AWS account, perform the following steps:

1. On your browser, open Amazon Web Services (AWS).
2. On the top-right, select **Create an AWS account**.
3. On the Sign up for AWS screen, perform the following steps to enter your account information:
    a. In the **Root user email address** box**,** enter your primary email address.
    b. In the **AWS Account Name** box, enter an account name to easily identify and manage your AWS account.
    c. Select **Verify email address**.
    d. In the **Verification code** box, enter the verification code and select **Verify**.

    Your account information is verified successfully, and AWS navigates to the Create your password screen.

4. On the Create your password screen, perform the following steps to create your password:
    a. In the **Root user password** box, enter a password.

b. In the **Confirm root user password** box**,** re-enter the password to confirm your password.
c. Select **Continue (step 1 of 5)**.

Your password is created successfully, and AWS navigates to the Contact Information screen.

5. On the Contact Information screen, perform the following steps to add your contact information:
    a. For the question, **How do you plan to use AWS?** Select one of the following options:
        - Business (for your work, school, or organization)
        - Personal (for your own projects)
    b. For the question, **Whom should we contact about this account?** Enter the following details:
        - Full Name
        - Country Code
        - Phone Number
        - Country or Region
        - Address line 1
        - City, Province, or Region
        - Postal Code
    c. Read and accept the AWS Customer Agreement.
    d. Select **Continue (step 2 of 5)**.

    Your contact information is added successfully, and AWS navigates to the Billing Information screen.

6. On the Billing Information screen, perform the following steps to add your billing information:
    a. Enter the following credit card details:
        - Credit or Debit card number
        - Expiration date
        - Cardholder's name
    b. (Optional) Select **Use a new address** if you want to use a different billing address for your AWS billing information.
    c. Select **Continue (step 3 of 5)**.
    AWS redirects to your bank's website to authorize the verification charge.
    d. Authorize the verification charge.
    Note: AWS temporarily holds $1 USD/EUR from your card for 3–5 days to verify your identity, which is released after your identity is verified.

    Your billing information is added successfully, and AWS navigates to the Confirm your identity screen.

7. On the Confirm your identity screen, perform the following steps to verify your phone number:
    a. For the question, **How should we send you the verification code?** Select one of the following options.
        - Text message (SMS)

- Voice call

b. Enter **Country or region code** and **Mobile phone number**.
c. Select **Send SMS (step 4 of 5)**.
d. Follow the on-screen instructions to complete the security verification process and select **Submit**.
e. In the **Verify code** box, enter the verification code.
f. Select **Continue (step 4 of 5)**.

Your phone number is verified successfully, and AWS navigates to the Select a support plan screen.

8. On the Select a support plan screen, perform the following steps to choose your support plan:
    a. Select a support plan from one of the following options:
        - Basic support – Free
        - Developer support - From $29/month
        - Business support - From $100/month
    b. Select **Complete sign up**.

Your AWS root user account is created and activated successfully. You can now use the other AWS services as per your requirement.

Secure the Root User Account

The root user account is the initial account you create when you first set up AWS. Activating MFA secures your root user account and prevents unauthorized access.

AWS allows you to add multi-factor authentication (MFA) using one of the following options:

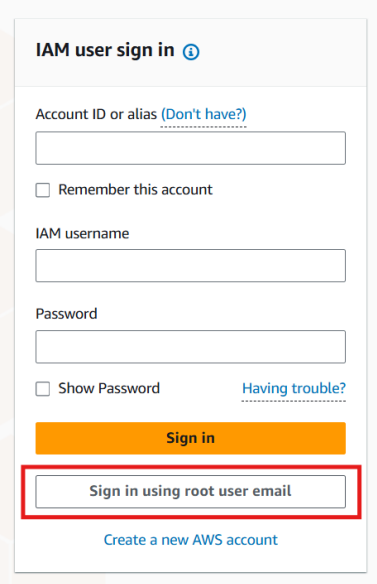
- **Authenticator app**
  Authenticates with a code generated from an app installed on your mobile device or computer.
- **Hardware TOTP Token**
  Authenticates using a code generated from a hardware TOTP token or other hardware devices.
- **Passkey or Security key**
  Authenticates using your fingerprint, face, or screen lock.

Prerequisite

- An active root user account.
- A mobile device.

To secure the root user account using authenticator app,

1. On your browser, open Amazon Web Services (AWS).
2. On the global menu, at the top-right, select **Sign In to the console**.
3. On the IAM user sign in screen, perform the following steps to sign in to the console:
    a. Select **Sign in using root user email**.



   b. In the **Root user email address** box, enter your email address and select **Next**.
   c. In the **Password** box, enter your password and select **Sign in**.
4. On the AWS console, in the global menu, select your account name.
5. From the list, select **Security credentials**.
6. In the Multi-Factor Authentication (MFA) pane, select **Assign MFA device**.
7. On the Assign MFA device screen, perform the following steps:
   a. Under MFA device name, in the **Device name** box, enter a device name.
   b. Under MFA device, select **Authenticator app** and select **Next**.
8. On your mobile device, install any one of the following authenticator App:
   - Google Authenticator
   - Duo Mobile
   - Authy App
9. Open your authenticator app.
10. On the Set up device screen, perform the following steps:
    a. Select **Show QR code**.
    b. Scan the QR code displayed on the AWS console using your authenticator app.
    Note: Alternatively, you can select **Show secret key** on the Set up your authenticator app screen and enter a secret key into your authenticator app.
    c. In **MFA code 1** and **MFA code 2** box, enter the two consecutive six-digit code displayed on your authenticator app.
    d. Select **Add MFA**.

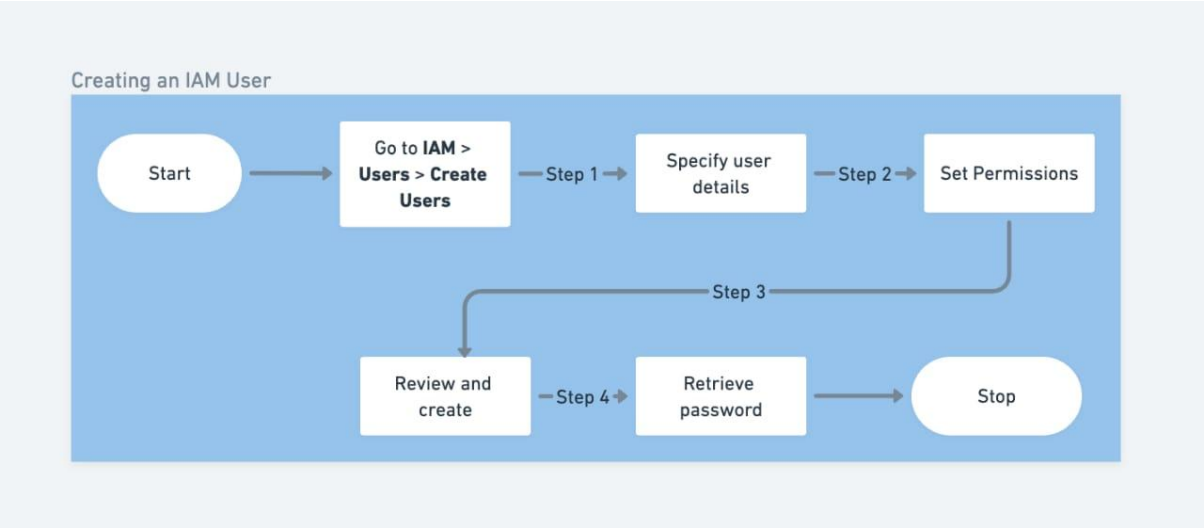
The MFA is added successfully, securing your root user account.

Create an IAM User

An Identity and Access Management (IAM) user is an entity you create in AWS to represent the person or application that interacts with AWS resources.

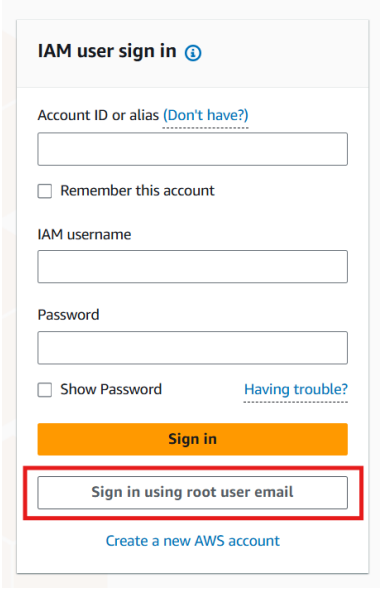
AWS recommends using an IAM user to perform your daily administrative tasks. This approach ensures that users have only the necessary permissions for their roles while protecting critical account settings and resources.

The below flowchart shows the process of creating an IAM user.



To create an IAM user,

1. On your browser, open Amazon Web Services (AWS).
2. On the global menu, at the top-right, select **Sign In to the console**.
3. On the IAM user sign in screen, perform the following steps to sign in to the console:
    a. Select **Sign in using root user email**.



    b. In the **Root user email address** box, enter your email address and select **Next**.
    c. In the **Password** box, enter your password and select **Sign in**.
4. On the AWS console, in the search bar, enter IAM.
5. In the search list, select **IAM**.
6. On the IAM screen, on the left pane, under Access management, select **Users**.
7. On the Users screen, on the top right, select **Create Users**.
8. On the Specify user details screen, perform the following steps:
    a. In the **User name** box, enter a user name.
    b. Select Provide user access to the AWS Management Console – optional.
    c. Select I want to create an IAM user.

    d. In **Console password**, select Custom password.
    e. In the **Custom password** box, enter a password.
    f. Uncheck Users must create a new password at next sign-in – Recommended.
    g. Select **Next**.
9. On the Set permissions screen, perform the following steps:
    a. In the Permissions options, select **Attach policies directly**.
    b. In the Permission policies, select **Administrator Access**.
    c. Select **Next**.
10. On the Review and create screen, review your choices and select **Create User**.
11. On the Retrieve password screen, select the **Download .csv file** to download the following information for subsequent sign-ins:
    - Console sign-in URL
    - User name
    - Console password
12. Select **Return to users list**.

An IAM user is created successfully with the specified permissions. You can now add MFA to secure your IAM users.

What's Next?

Take the next step in your AWS journey with these resources to explore services, enhance your skills, and start building in the cloud.

Exploring AWS Services
Explore AWS services to discover powerful cloud solutions for computing, storage, databases, AI, and more. For more information, refer AWS Services.

Learning AWS
Learn AWS through hands-on labs and tutorials for practical experience and deeper understanding. For more information, refer Hands-On Tutorials - AWS

AWS Training and Certification resources.
Explore AWS Training and Certification resources to build your cloud skills and validate your expertise. For more information, refer Training and Certification - AWS.

FAQs

- **Is payment required for an AWS account?**
  Creating an AWS account is free. AWS offers a Free Tier with limited usage of many services for 12 months. You'll only be charged if you exceed the Free Tier limits or use services not included in the Free Tier.
- **Can I have multiple AWS accounts?**
  Yes, you can create multiple AWS accounts. Many organizations use multiple accounts to set up different environments, such as development, testing, and production.

- **What is the AWS root user account?**
  The root user account is the initial account created when you first set up AWS. It has complete access to all AWS services and resources.
- **Why should I secure my root user account?**
  The root user has unrestricted access to your entire AWS environment. If compromised, an attacker could access all your resources, incur large charges, or delete your entire infrastructure.
- **Why should I create IAM users instead of using the root account?**
  IAM users allow you to apply the principle of least privilege by granting only the specific permissions. This improves security and helps track who or what is performing actions in your AWS account.
- **When should I use the root user account?**
  You can use the root user for a limited set of tasks that require root access, such as changing your account settings, modifying billing information, closing your account, or restoring IAM user permissions.
- **What permissions should I give to my IAM user?**
  Start with minimal permissions based on the principle of least privilege. You can assign permissions directly, add the user to IAM groups with attached policies, or copy permissions from an existing user.
- **Should I enable MFA for IAM users as well?**
  Yes, it is recommended to enable MFA for all IAM users who have console access, especially those with elevated privileges.