

## Step-by-Step Guide: Creating an EC2 Instance in AWS

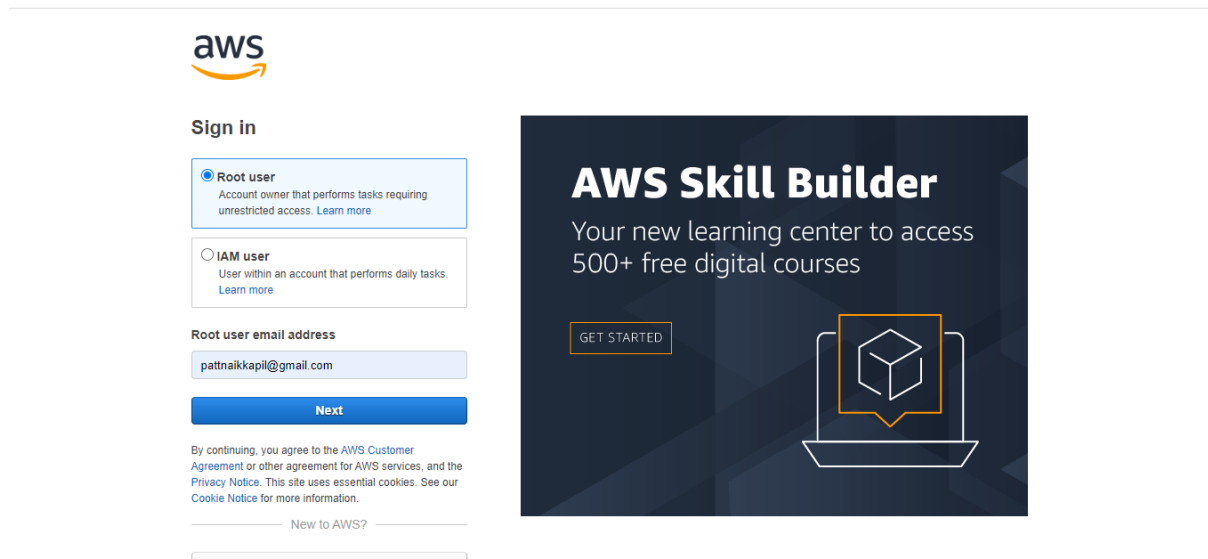
### What is EC2?

Amazon Elastic Compute Cloud (EC2) is a web service provided by Amazon Web Services (AWS) that allows users to rent virtual servers (referred to as "instances") on which they can run their applications. EC2 instances are essentially virtual machines that can be launched in the cloud and scaled up or down as needed. EC2 provides a wide range of instance types to choose from, allowing users to select the instance size and configuration that best fits their needs.

### Why do we need an EC2 instance?

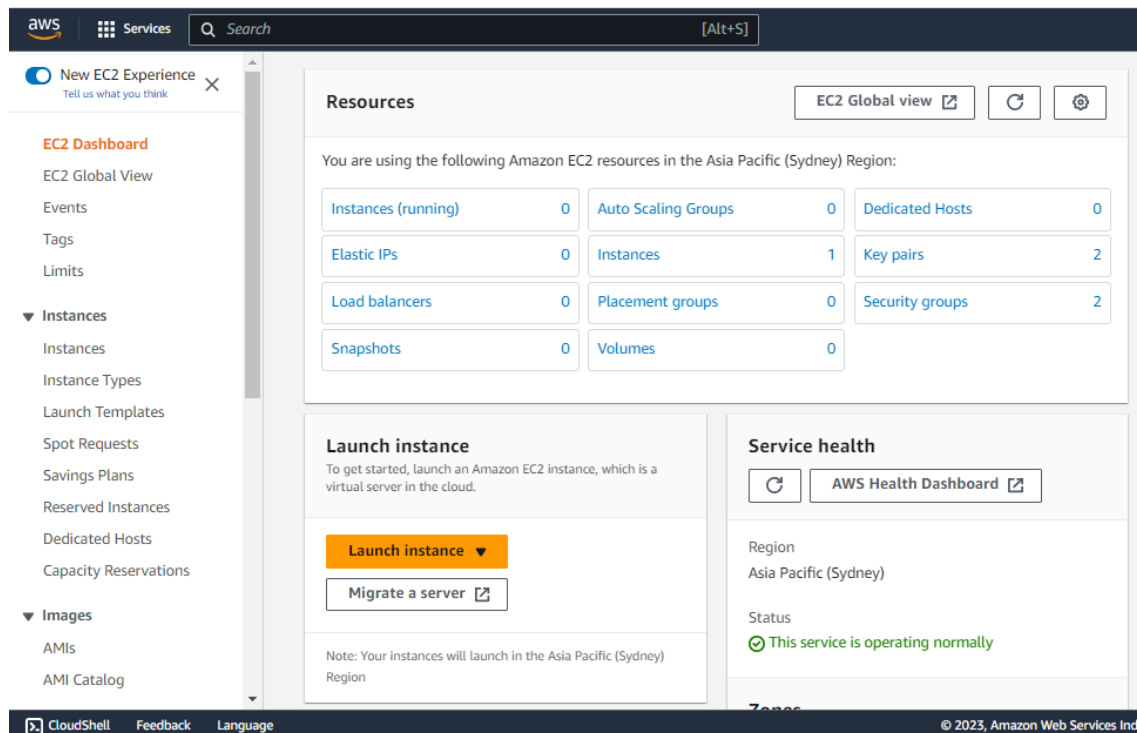
One of the main reasons we need EC2 instances is because they offer scalability and flexibility. We can launch EC2 instances on demand and scale up or down as needed to match our workload requirements. This means we can easily provision resources when we need them and only pay for what we use.

### Creating an EC2 instance.

A screenshot of the AWS Management Console sign-in page. The page features the AWS logo at the top left. Below it, the "Sign in" section has two radio button options: "Root user" (selected) and "IAM user". The "Root user" option is described as "Account owner that performs tasks requiring unrestricted access." and includes a "Learn more" link. The "IAM user" option is described as "User within an account that performs daily tasks." and also includes a "Learn more" link. Below these options is a text input field for the "Root user email address" containing the email "pattnaikkapil@gmail.com". A blue "Next" button is positioned below the email field. At the bottom of the sign-in section, there is a link for "New to AWS?" and a button for "Create a new AWS account". To the right of the sign-in section is a large promotional banner for "AWS Skill Builder" with the text "Your new learning center to access 500+ free digital courses" and a "GET STARTED" button. The banner also features an icon of a laptop with a cube on its screen.

### Step 1: Sign in to the AWS Management Console

# Creating an EC2 Instance in AWS



## EC2 dashboard

To create an EC2 instance, you first need to sign in to the AWS Management Console. If you don't already have an AWS account, you'll need to create one. Once you're signed in, navigate to the EC2 dashboard and Launch an instance.

## Step 2: Choose a name of your instance

# Creating an EC2 Instance in AWS

The screenshot shows the AWS Management Console interface for launching an EC2 instance. The top navigation bar includes the AWS logo, 'Services', a search bar, and a keyboard shortcut '[Alt+S]'. The breadcrumb trail indicates the path: EC2 > Instances > Launch an instance. The main heading is 'Launch an instance' with an 'Info' link. Below the heading is a descriptive paragraph: 'Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.' The form is divided into sections. The first section, 'Name and tags', has a 'Name' input field with the placeholder text 'e.g. My Web Server' and an 'Add additional tags' link. The second section, 'Application and OS Images (Amazon Machine Image)', includes a search bar with the placeholder text 'Search our full catalog including 1000s of application and OS images' and a 'Quick Start' link.

Select a name of your instance as per your likability

## Step 3: Choose an Amazon Machine Image (AMI)

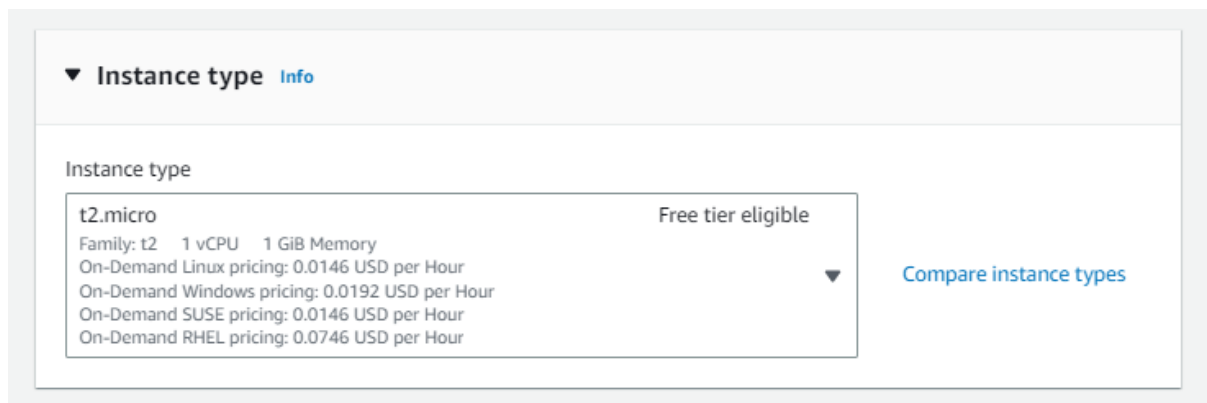
This screenshot shows the 'Application and OS Images (Amazon Machine Image)' section of the AWS console. It features a search bar with the placeholder text 'Search our full catalog including 1000s of application and OS images'. Below the search bar is a 'Quick Start' section. This section contains a horizontal carousel of AMI categories: Amazon Linux, macOS, Ubuntu, Windows, and Red Hat. Each category has a corresponding logo and a brief description. To the right of the carousel is a 'Browse more AMIs' link with a magnifying glass icon. Below the carousel, the text 'Amazon Machine Image (AMI)' is displayed. At the bottom, a specific AMI is highlighted: 'Amazon Linux 2023 AMI'. This entry includes the AMI ID 'ami-0d0175e9dbb94e0d2 (64-bit (x86), uefi-preferred) / ami-0f9027638c7635698 (64-bit (Arm), uefi)', the virtualization type 'hvm', and other details like 'ENA enabled: true' and 'Root device type: ebs'. A 'Free tier eligible' badge is also present.

Selecting AMI for your instance

# Creating an EC2 Instance in AWS

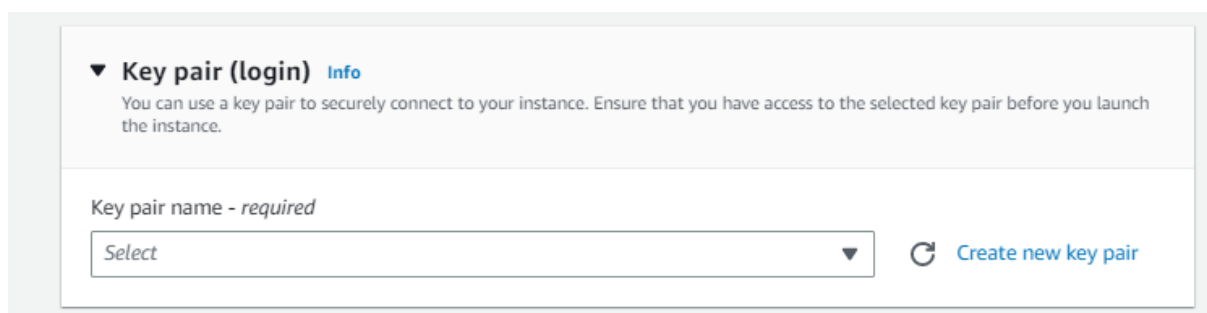
An Amazon Machine Image (AMI) is a pre-configured virtual machine that serves as a template for your EC2 instance. You'll be prompted to choose an AMI from a list of available options. You can choose from Amazon Linux, Ubuntu, Windows, and many other options.

## Step 4: Choose an Instance Type



An instance type determines the computing resources (CPU, RAM, storage, etc.) available to your EC2 instance. There are a variety of instance types to choose from, ranging from small and low-cost to large and high-performance. Select the instance type that best fits your needs and budget.

## Step 5: Create a key pair



Create a key pair if you have never created one and store it in a safe place because it will act as a key to log in to your instance.

# Creating an EC2 Instance in AWS

## Step 6: Configure Security Group

**Firewall (security groups)** [Info](#)  
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group



We'll create a new security group called 'launch-wizard-2' with the following rules:

☒ Allow SSH traffic from  
Helps you connect to your instance 

Anywhere  
0.0.0.0/0

☐ Allow HTTPS traffic from the internet  
To set up an endpoint, for example when creating a web server

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 Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only. 

Security groups act as virtual firewalls for your EC2 instance, controlling inbound and outbound traffic. You can configure security groups to allow or deny traffic from specific IP addresses, protocols, and ports. In this step, you'll need to create a new security group or select an existing one.

## Step 7: Add Storage

**▼ Configure storage** [Info](#) [Advanced](#)

1x  GiB  Root volume (Not encrypted)

 Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage 

0 x File systems [Edit](#)

# Creating an EC2 Instance in AWS



EC2 instances require storage for the operating system, applications, and data. In this step, you can add and configure storage volumes for your instance. You can choose from different types of storage, including Amazon Elastic Block Store (EBS) volumes and instance store volumes.

## **Step 8: Review and Launch**

# Creating an EC2 Instance in AWS

▼ Summary

Number of instances [Info](#)

Software Image (AMI)

Amazon Linux 2023 AMI 2023.0.2...[read more](#)  
ami-0d0175e9dbb94e0d2

Virtual server type (instance type)


t2.micro


Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

 Free tier: In your first year includes 750 hours of t2.micro for t2.micro in the



Cancel

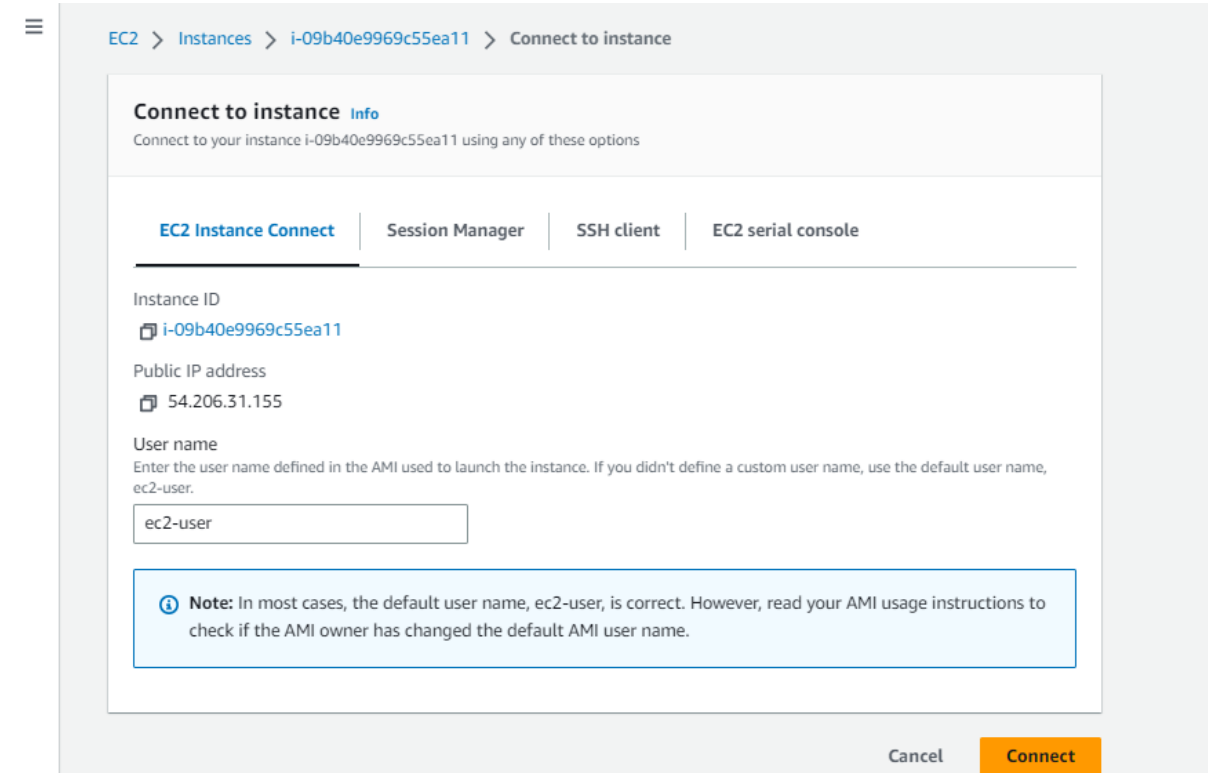
Launch instance

[Review commands](#)

Before launching your instance, review all the details to make sure everything is correct. You can also modify any settings that need to be changed. Once you're ready, click the "Launch" button to start your EC2 instance.

# Creating an EC2 Instance in AWS

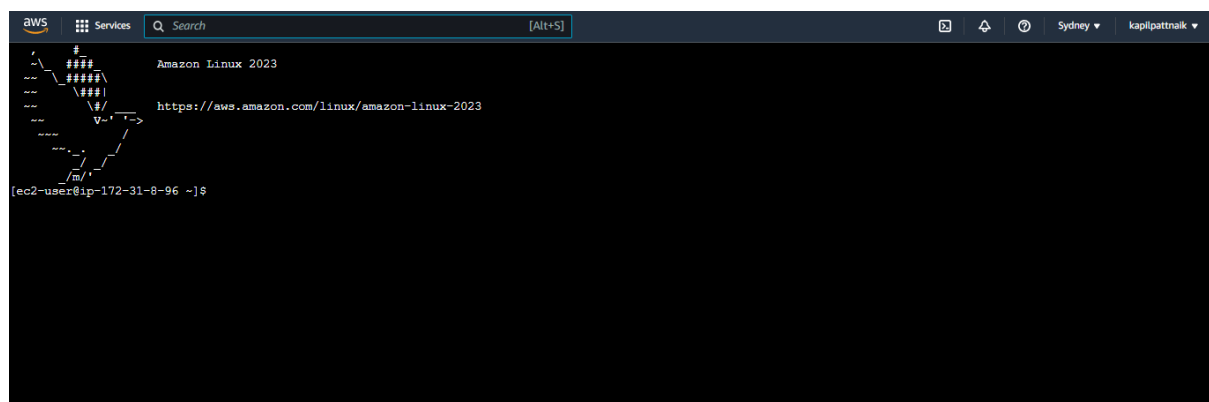
## Step 9: Connect to Your Instance



The screenshot shows the AWS Management Console interface for connecting to an EC2 instance. The breadcrumb navigation at the top reads: EC2 > Instances > i-09b40e9969c55ea11 > Connect to instance. The main heading is "Connect to instance" with an "Info" link. Below it, a subtitle says "Connect to your instance i-09b40e9969c55ea11 using any of these options". There are four tabs: "EC2 Instance Connect" (selected), "Session Manager", "SSH client", and "EC2 serial console". Under the "EC2 Instance Connect" tab, the following information is displayed: Instance ID (i-09b40e9969c55ea11), Public IP address (54.206.31.155), and User name (ec2-user). A note box states: "Note: In most cases, the default user name, ec2-user, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name." At the bottom right, there are "Cancel" and "Connect" buttons.

After launching your instance, you can connect to it using various methods, such as SSH or Remote Desktop Protocol (RDP). You can also use the AWS Systems Manager Session Manager to connect to your instance securely without the need for a public IP address.

## Conclusion



Creating an EC2 instance in AWS is a simple and straightforward process. With just a few clicks, you can launch a virtual machine in the cloud and start using it right away.



# Creating an EC2 Instance in AWS



By following the steps outlined in this guide, you can create your own EC2 instance in no time.