St. JOSEPH'S GROUP OF INSTITUTIONS
OMR, CHENNAI - 119

Placement Empowerment Program

Cloud Computing and DevOps Centre

Set Up a Virtual Machine in the CloudCreate a free-tier AWS, Azure, or GCP account. Launch a virtual machine and SSH into it.

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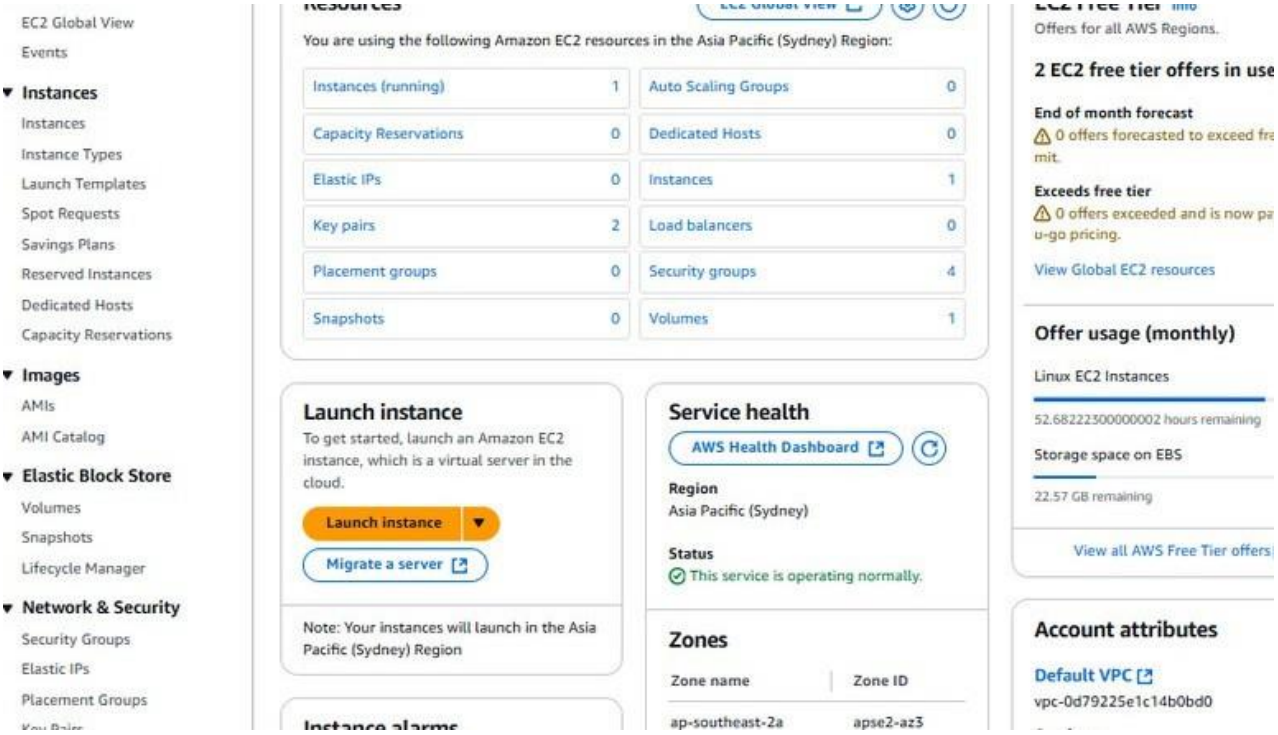
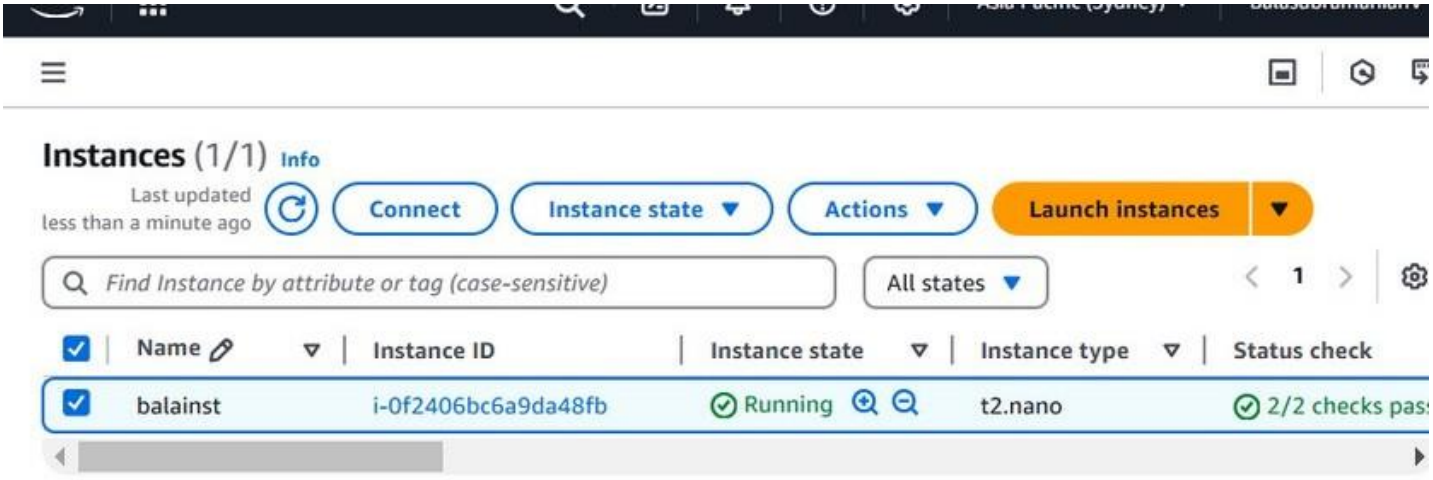
Introduction: AWS (Amazon Web Services) offers a Free Tier that allows users to create and use virtual machines (EC2 instances) at no cost for up to 750 hours per month. This guide will walk you through setting up an EC2 instance and connecting to it using SSH.

Step 1: Create a Free-Tier AWS Account

- *Go to AWS Free Tier.*
- *Click "Create an AWS Account."*
- *Enter your email, create a password, and choose an AWS account name.*
- *Provide billing information (AWS requires a credit card but will not charge you under the Free Tier).*
- *Verify your phone number.*
- *Select "Basic Support - Free" and complete the setup.*
- *Sign in to the AWS Management Console.*

Step 2: Launch an EC2 Virtual Machine (Instance)





- ***Open the AWS Management Console and go to EC2 by searching for it in the search bar. Click "Launch instance." Set up the instance: Name: Enter a name for your instance (e.g., "MyFirstVM"). AMI (Amazon Machine Image): Choose Amazon Linux 2 (free-tier eligible). Instance type: Select t2.micro (1 vCPU, 1GB RAM, free-tier eligible). Create a Key Pair (For SSH Access) Click "Create a new key pair." Name it (e.g., "my-key-pair"). Choose RSA as the key type. Click "Create key pair" (it will download a .pem file). Keep this .pem file safe; you will need it to connect via SSH. Security Group Configuration: Select "Create new security group." Allow SSH traffic by adding a rule: Type: SSH Protocol: TCP Port Range: 22 Source: Your IP (recommended) or Anywhere (0.0.0.0/0) Launch the instance by clicking "Launch Instance." Go to EC2 Dashboard > Instances, and wait for the instance to show the status "Running."***

Name and tags Info

Name

balains

Add additional tags

▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application s
required to launch your instance. Search or Browse for AMIs if you don't see what you are look

Search our full catalog including 1000s of application and OS images

Recents | Quick Start

Amazon Linux | macOS | Ubuntu | Windows | Red Hat | SUSE Linux

▼ Instance type Info | Get advice

Instance type

t2.micro — Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand SUSE base pricing: 0.0146 USD per Hour
On-Demand Linux base pricing: 0.0146 USD per Hour
On-Demand Windows base pricing: 0.0192 USD per Hour
On-Demand RHEL base pricing: 0.029 USD per Hour
On-Demand Ubuntu Pro base pricing: 0.0164 USD per Hour

All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

Summary

Number of instances | Info

1

Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...read more
ami-09e143e99e8fa74f9

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Cancel

Launch instance

Preview code

Create key pair

Key pair name
Key pairs allow you to connect to your instance securely.

bOKI

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

- (•) RSA
  RSA encrypted private and public key pair
- ( ) ED25519
  ED25519 encrypted private and public key pair

Private key file format

- (•) .pem
  For use with OpenSSH
- ( ) .ppk
  For use with PuTTY

⚠ When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** Learn more

Cancel

Create key pair

Step 2: Launch an EC2 Virtual Machine (Instance)

- *Open the AWS Management Console and go to EC2 by searching for it in the search bar. Click "Launch instance."*
- *Set up the instance: Name: Enter a name for your instance*
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- *.pem file safe; you will need it to connect via SSH. Security*
- *Group Configuration: Select "Create new security group."*
- *Allow SSH traffic by adding a rule: Type: SSH Protocol: TCP*
- *Port Range: 22 Source: Your IP (recommended) or*
- *Anywhere (0.0.0.0/0) Launch the instance by clicking* • *"Launch Instance." Go to EC2 Dashboard > Instances, and wait for the instance to show the status "Running."*
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Step 3: Connect to Your Virtual Machine via SSH

- ***For Windows (Using PowerShell or Git Bash)***
- ***Open a terminal (PowerShell or Git Bash).***
- ***Navigate to the folder where your .pem key file is saved.***
- ***Run the following command to connect:***
- ***sh***
- ***CopyEdit***

```
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\ASUS> ssh -i "my-key-pair.pem" ec2-user@your-public-ip
```

- ***Replace my-key-pair.pem with your key file name.***
- ***Replace your-public-ip with the Public IPv4 address from the EC2 instance details***

Step 4: Verify Connection

If the connection is successful, you should see a prompt like:

```
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\ASUS> [ec2-user@ip-192.168.0.0432 ~]$
```

- ***Next Steps***
- ***Install software using yum or apt (depending on the OS).***
- ***Set up a web server (Apache, Nginx).***
- ***Configure firewall settings.***

Conclusion:- Setting up a virtual machine on AWS Free Tier is a straightforward process that allows users to explore cloud computing at no cost. By following the steps outlined—creating an AWS account, launching an EC2 instance, configuring SSH access, and connecting via the terminal—you now have a functional cloud-based server. This virtual machine can be used for various applications, such as web hosting, development, or data processing.

As a next step, consider securing your instance, installing necessary software, and optimizing its performance for your specific use case. AWS provides a scalable environment, making it easy to upgrade or expand your infrastructure as needed. Happy cloud computing!