# AWS EC2 Tasks

Introduction

Amazon EC2 (Elastic Compute Cloud) is a web service that provides resizable compute capacity in the cloud. It allows you to launch virtual servers (EC2 instances), which are customizable in terms of CPU, memory, storage, and networking. It's used to host applications, process data, run databases, or any other task that requires computational resources.

Steps to Create and Configure an EC2 Instance
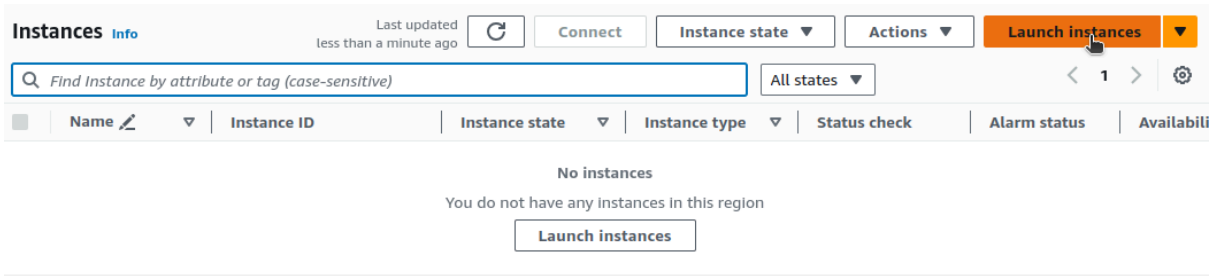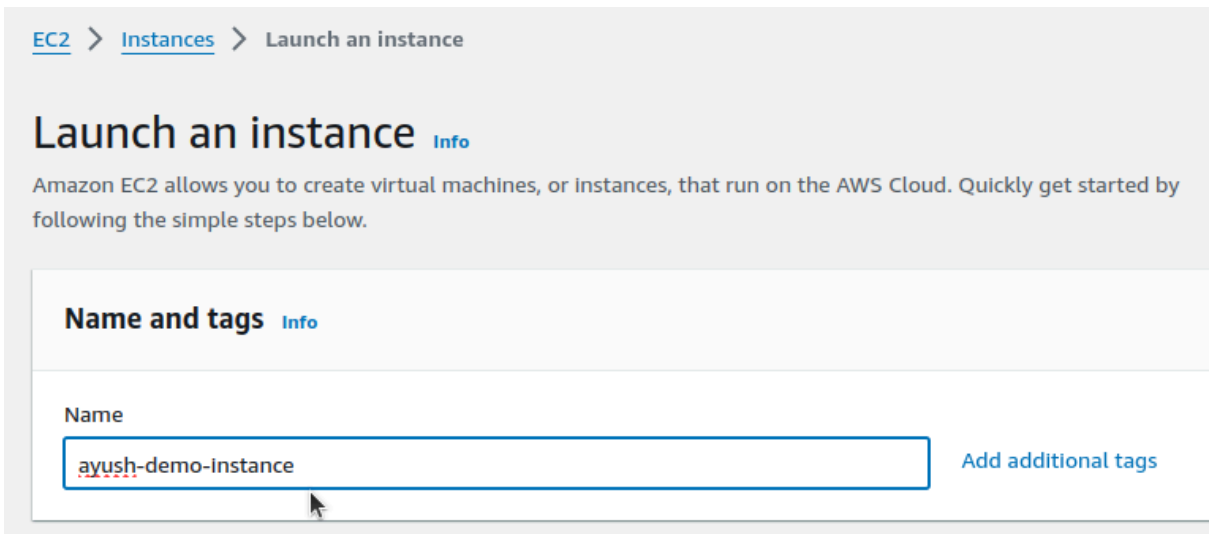
Navigate to EC2 Dashboard
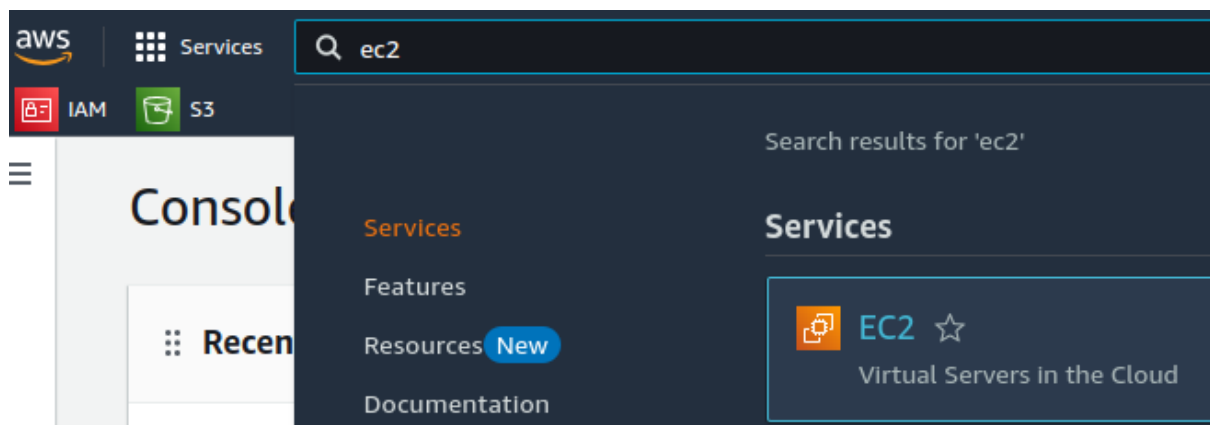
Click on Instances
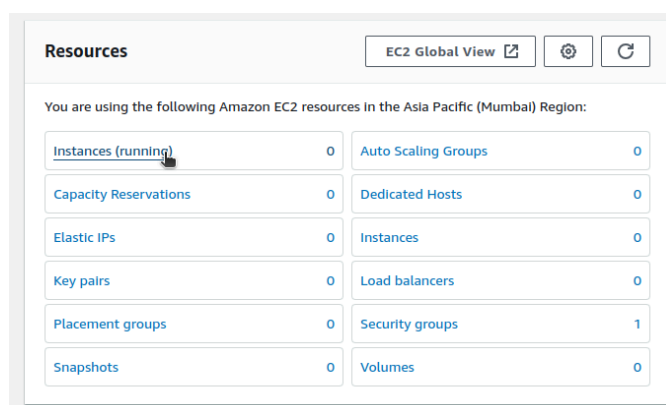
Launch Instance

In the EC2 dashboard, click the **Launch Instance** button.

Configure Instance

Add instance name

Choose an Amazon Machine Image (AMI)

Quick Start

Amazon Linux	macOS	Ubuntu	Windows	Red Hat	SUSE Li
aws	Mac	ubuntu®	■■ Microsoft	● Red Hat	SUS

🔍 **Browse more AMIs**

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Ubuntu Server 24.04 LTS (HVM), SSD Volume Type	Free tier eligible
ami-0522ab6e1ddcc7055 (64-bit (x86)) / ami-0000791bad666add5 (64-bit (Arm))	▼
Virtualization: hvm ENA enabled: true Root device type: ebs	

Description

Ubuntu Server 24.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services).

Architecture

64-bit (x86) ▼

AMI ID

ami-0522ab6e1ddcc7055

✓ Verified provider

Choose an Instance Type

Select free tier instance

▼ **Instance type** Info | Get advice

Instance type

t2.micro	Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true	
On-Demand Linux base pricing: 0.0124 USD per Hour	▼
On-Demand Windows base pricing: 0.017 USD per Hour	
On-Demand RHEL base pricing: 0.0268 USD per Hour	
On-Demand SUSE base pricing: 0.0124 USD per Hour	

⚪ All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

Create key pair login

Create key pair   ✕

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

```
ayush-instance-access
```

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**

▼ **Key pair (login)** Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*

```
ayush-instance-access                          ▼
```
⟳ Create new key pair

Configure Network Settings

▼ **Network settings** Info

Network | Info

vpc-0ae1f952fa378d26d

Subnet | Info

No preference (Default subnet in any availability zone)

Auto-assign public IP | Info

Enable

Additional charges apply when outside of free tier allowance

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 instance.

| ● Create security group | ○ Select existing security group |

We'll create a new security group called '**launch-wizard-1**' with the following rules:

☑ **Allow SSH traffic from**
Helps you connect to your instance

| Anywhere ▼ |
| 0.0.0.0/0 |

Configure Storage

▼ **Configure storage** Info   Adva

1x | 8 | GiB | gp3 ▼ | Root volume (Not encrypted)

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

Add new volume

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

Summary of Instance

▼ Summary

Number of instances | Info

```
1
```

Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...read more
ami-0522ab6e1ddcc7055

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 (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per ✕

Cancel   **Launch instance**

Instances (1) Info

Last updated less than a minute ago   ↻   Connect   Instan

🔍 Find Instance by attribute or tag (case-sensitive)

Name ✎	▽	Instance ID	Instance state	▽	Instance type	▽
ayush-demo-i...		i-035cd516f3164cb0b	⊘ Running ⊕ ⊖		t2.micro	

Instance Details

Instance summary for i-035cd516f3164cb0b (ayush-demo-instance) Info

Updated less than a minute ago

Instance ID
⎘
i-035cd516f3164cb0b (ayush-demo-instance)

Public IPv4 address
⎘ 15.206.148.229 | open address ↗

Private IPv4 addresses
⎘ 172.31.10.90

IPv6 address
–

Instance state
⊘ Running

Public IPv4 DNS
⎘
ec2-15-206-148-229.ap-south-1.compute.amazonaws.com
| open address ↗

Hostname type
IP name: ip-172-31-10-90.ap-south-1.compute.internal

Private IP DNS name (IPv4 only)
⎘
ip-172-31-10-90.ap-south-1.compute.internal

Answer private resource DNS name
IPv4 (A)

Instance type
t2.micro

Elastic IP addresses
–

Auto-assigned IP address
⎘ 15.206.148.229 [Public IP]

VPC ID
⎘ vpc-0ae1f952fa378d26d ↗

AWS Compute Optimizer finding
ⓘ Opt-in to AWS Compute Optimizer for recommendations.
| Learn more ↗

Connect via Putty

Install putty

sudo apt install putty

Start putty

Type putty
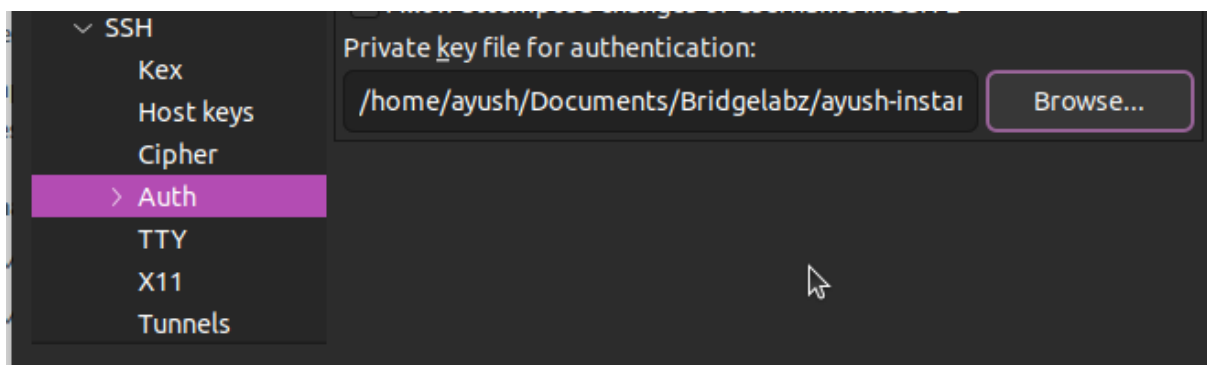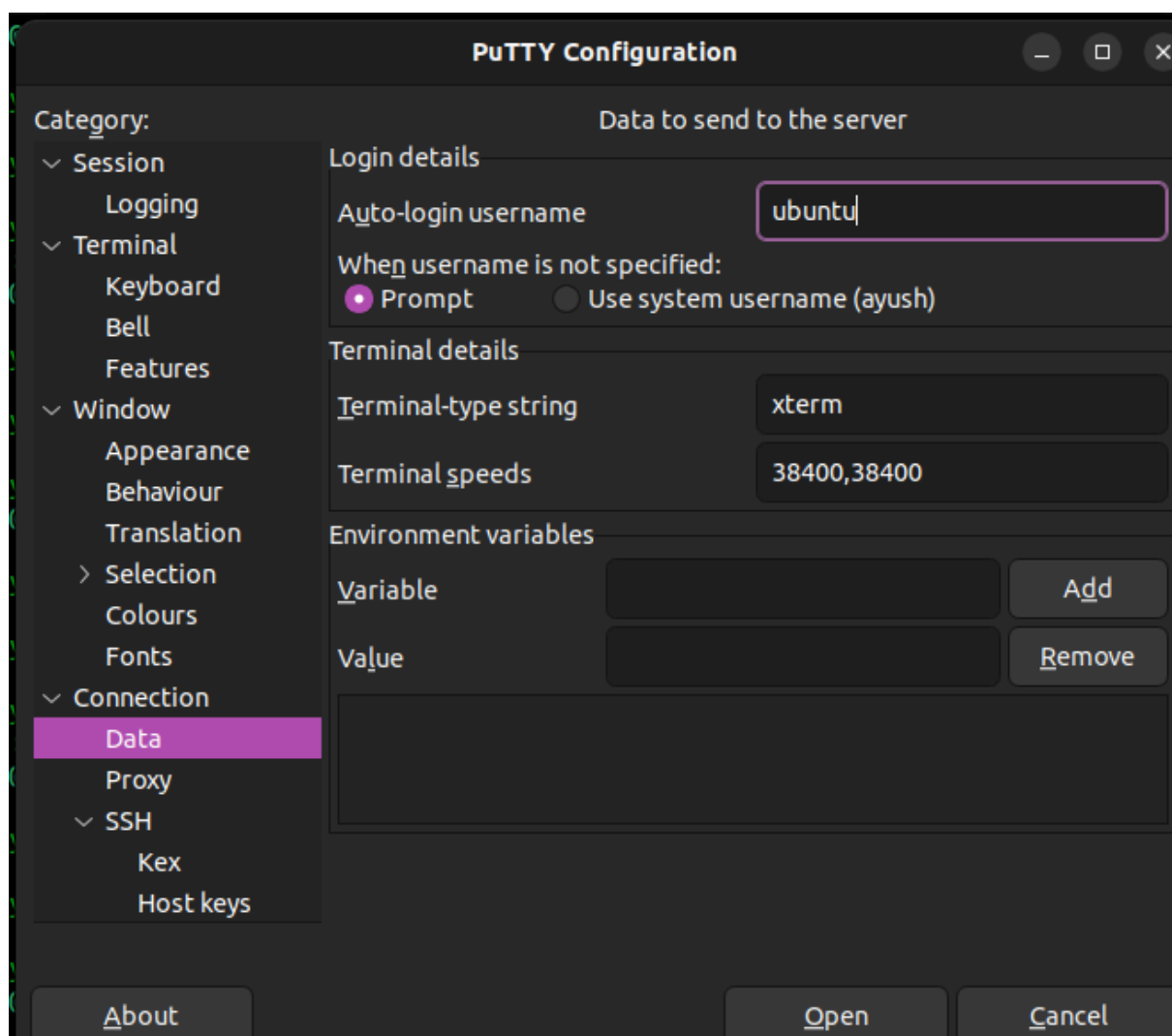

Enter EC2 Public IP

Enter ppk key

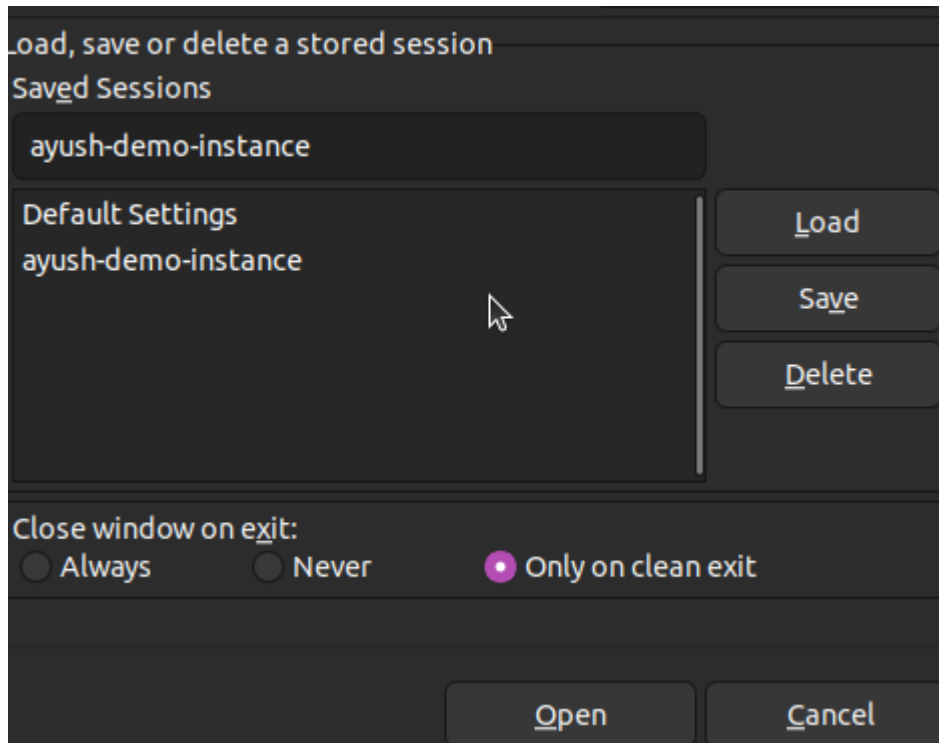Navigate to Auth(don't expand) and add location of ppk key

Enter login username

Navigate to Data(inside Connection) and add respective username, 'ubuntu' in this case

Save the session

Saving session helps to instantly connect to ec2 instance with adding all the details that we added above

Load, save or delete a stored session
Saved Sessions

> ayush-demo-instance

Default Settings
ayush-demo-instance

Load

Save

Delete

Close window on exit:
○ Always   ○ Never   ◉ Only on clean exit

Open   Cancel

Open the session

```
Using username "ubuntu".
Authenticating with public key "ayush-instance-access"
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 System information as of Thu Sep 12 08:36:01 UTC 2024

  System load:  0.0                Processes:              104
  Usage of /:   22.7% of 6.71GB    Users logged in:        0
  Memory usage: 20%                IPv4 address for enX0: 172.31.10.90
  Swap usage:   0%
```

Using the EC2 instance

```
The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-10-90:~$ ls
ubuntu@ip-172-31-10-90:~$ whoami
ubuntu
ubuntu@ip-172-31-10-90:~$ █
```

Connect via Terminal

Install putty tools

sudo apt-get install putty-tools

Convert ppk to pem

puttygen ayush-instance-access.ppk -O private-openssh -o
ayush-instance-access.pem

Connect to ssh

ssh -i ayush-instance-access.pem ubuntu@15.206.148.229

```
ayush@kr1spypotato:~/Documents/Bridgelabz$ sudo apt-get install putty-tools
[sudo] password for ayush:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
putty-tools is already the newest version (0.76-2).
putty-tools set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 21 not upgraded.
ayush@kr1spypotato:~/Documents/Bridgelabz$ puttygen ayush-instance-access.ppk -O private-openssh -o ayush-instance-access.pem
ayush@kr1spypotato:~/Documents/Bridgelabz$ ssh -i ayush-instance-access.pem ubuntu@15.206.148.229
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1012-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

 System information as of Thu Sep 12 08:54:57 UTC 2024

  System load:  0.0                Processes:              105
```

If permission error arises


```
ayush@kr1spypotato:~/Documents/Bridgelabz$ ssh -i ayush-instance-access.ppk ubuntu@15.206.148.229
The authenticity of host '15.206.148.229 (15.206.148.229)' can't be established.
ED25519 key fingerprint is SHA256:8GOwOcNN6mtJB69XmeqsyFQfj/0LVgkmVo6plV40XzM.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '15.206.148.229' (ED25519) to the list of known hosts.
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
@         WARNING: UNPROTECTED PRIVATE KEY FILE!          @
@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
Permissions 0664 for 'ayush-instance-access.ppk' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "ayush-instance-access.ppk": bad permissions
ubuntu@15.206.148.229: Permission denied (publickey).
ayush@kr1spypotato:~/Documents/Bridgelabz$
```

chmod 400 ayush-instance-access.pem

Shutdown Instance

sudo shutdown -h now


```
ubuntu@ip-172-31-10-90:~$ sudo shutdown now

Broadcast message from root@ip-172-31-10-90 on pts/1 (Thu 2024-09-12 09:33:48 UTC):

The system will power off now!

ubuntu@ip-172-31-10-90:~$
```