

1. Configuring and launching EC2 instance on AWS.

The screenshot shows the AWS EC2 'Launch an instance' wizard. The process is divided into several steps:

- Step 1: Name and tags**
 - Name: My-first-web-server
 - Add additional tags
- Step 2: Application and OS Images (Amazon Machine Image)**
 - Search bar: Search our full catalog including 1000s of application and OS images
 - Quick Start grid: Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux, Debian
 - Browse more AMIs: Including AMIs from AWS, Marketplace and the Community
- Step 3: Instance type**
 - t3.micro selected (Free tier eligible)
 - Family: t3 2 vCPU 1 GiB Memory Current generation: true
 - On-Demand Linux base pricing: 0.0112 USD per Hour On-Demand SUSE base pricing: 0.0112 USD per Hour
 - On-Demand Windows base pricing: 0.0204 USD per Hour
 - On-Demand Ubuntu Pro base pricing: 0.0147 USD per Hour On-Demand RHEL base pricing: 0.04 USD per Hour
 - All generations checkbox
 - Compare instance types link
- Step 4: Key pair (login)**
 - Key pair name - required: myserver-key
 - Create new key pair link
- Step 5: Network settings**
 - Network: vpc-024219f6c2da46e48
 - Subnet: No preference (Default subnet in any availability zone)
 - Auto-assign public IP: Enable
 - Firewall (security groups):
 - Create security group (selected)
 - Select existing security groupA 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.
- Step 6: Summary**
 - Number of instances: 1
 - Software Image (AMI): Canonical, Ubuntu, 24.04, amd64... (ami-02b8269d5e85954ef)
 - Virtual server type (instance type): t3.micro
 - Firewall (security group): New security group
 - Storage (volumes): 1 volume(s) - 8 GiB
 - Launch instance button
 - Preview code link

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

- Allow SSH traffic from
 - Helps you connect to your instanceAnywhere
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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 - To set up an endpoint, for example when creating a web server

Instances (1) Info

Last updated less than a minute ago

Connect Instance state Actions Launch instances

Find Instance by attribute or tag (case-sensitive)

All states

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4
My-first-web-s...	i-06159cfa92f05cb28	Running	t3.micro	Initializing	View alarms +	ap-south-1b	ec2-15-206...

Connect Info

Connect to an instance using the browser-based client.

EC2 Instance Connect Session Manager **SSH client** EC2 serial console

Instance ID **i-06159cfa92f05cb28 (My-first-web-server)**

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is myserver-key.pem
3. Run this command, if necessary, to ensure your key is not publicly viewable.
chmod 400 "myserver-key.pem"
4. Connect to your instance using its Public DNS:
ec2-15-206-127-34.ap-south-1.compute.amazonaws.com

Command copied

ssh -i "myserver-key.pem" ubuntu@ec2-15-206-127-34.ap-south-1.compute.amazonaws.com

Note: In most cases, the guessed username is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

2. Opened Windows PowerShell and navigated to the directory containing ".pem" key.

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

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

PS C:\Users\Ashwin> ssh
usage: ssh [-46AaCFGgKkMNnqsTtVvXxYy] [-B bind_interface] [-b bind_address]
           [-c cipher_spec] [-D [bind_address:]port] [-E log_file]
           [-e escape_char] [-F configfile] [-I pkcs11] [-i identity_file]
           [-J destination] [-L address] [-l login_name] [-m mac_spec]
           [-O ctl_cmd] [-o option] [-P tag] [-p port] [-Q query_option]
           [-R address] [-S ctl_path] [-W host:port] [-w local_tun[:remote_tun]]
           destination [command [argument ...]]
PS C:\Users\Ashwin>

PS C:\Users\Ashwin> cd Downloads
PS C:\Users\Ashwin\Downloads> ls myserver-key.pem

Directory: C:\Users\Ashwin\Downloads

Mode                LastWriteTime          Length Name
----                -----          ----  --
-a----  02-01-2026      10:54        1674 myserver-key.pem

PS C:\Users\Ashwin\Downloads> |
```

3. After having navigated to the key, using SSH command to connect my local computer to EC2 instance.

```
PS C:\Users\Ashwin\Downloads> ssh -i "myserver-key.pem" ubuntu@ec2-15-206-127-34.ap-south-1.compute.amazonaws.com
Welcome to Ubuntu 24.04.3 LTS (GNU/Linux 6.14.0-1015-aws x86_64)

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

System information as of Fri Jan 2 05:55:19 UTC 2026

System load: 0.0 Temperature: -273.1 C
Usage of /: 26.2% of 6.71GB Processes: 113
Memory usage: 23% Users logged in: 0
Swap usage: 0% IPv4 address for ens5: 172.31.4.85

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

Last login: Fri Jan 2 05:51:23 2026 from 122.161.72.230
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-4-85:~$ |
```

4. Used “sudo apt update” and “sudo apt upgrade” for latest security patches and stability for system before installing the server.

```
ubuntu@ip-172-31-4-85:~$ sudo apt install apache2
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
    liblua5.4-0 ssl-cert
Suggested packages:
  apache2-doc apache2-suexec-pristine | apache2-suexec-custom www-browser
The following NEW packages will be installed:
  apache2 apache2-bin apache2-data apache2-utils libapr1t64 libaprutil1-dbd-sqlite3 libaprutil1-ldap libaprutil1t64
    liblua5.4-0 ssl-cert
0 upgraded, 10 newly installed, 0 to remove and 0 not upgraded.
Need to get 2086 kB of archives.
After this operation, 8090 kB of additional disk space will be used.
Do you want to continue? [Y/n] |
```

5. “curl ifconfig.me” command for verifying server has internet access and reveals its Public IP.

```
ubuntu@ip-172-31-4-85:~$ curl ifconfig.me
15.206.127.34ubuntu@ip-172-31-4-85:~$ |
```

6. **Critical Configuration:** To ensure the web server was accessible to the public, I manually updated the EC2 Security Group's inbound rules. I added a rule to allow traffic on **Port 80 (HTTP)** from any source (0.0.0.0/0), resolving initial connectivity issues.

Name	Security group rule ID	Port range	Protocol	Source	Security groups
	sgr-06dc33327aca648b2	22	TCP	0.0.0.0/0	launch-wizard-1
	sgr-0ba9fa36275ea9d44	443	TCP	0.0.0.0/0	launch-wizard-1
	sgr-0842fe5e2395cd249	80	TCP	0.0.0.0/0	launch-wizard-1

7. Final Result

Name	Last modified	Size	Description
myproject.html	2026-01-02 06:24	154	

Index of /

Name	Last modified	Size	Description
<hr/>			
myproject.html	2026-01-02 06:24	154	

Apache/2.4.58 (Ubuntu) Server at 15.206.127.34 Port 80

Hello! My name is Ashwin. This is my first project and I am hosting a website by deploying a "Apache2" web server using Linux (ubuntu) on AWS.