# EC2 Instance Setup Documentation

## Getting Started with EC2 from the AWS Console

### Logging In & Navigating EC2 Dashboard

• Log in to AWS Management Console
• Select your region (e.g., Asia, Pakistan)
• Navigate to EC2 Dashboard: Go to Services > Compute > EC2
• Click "Launch Instance" to begin setup

## From AMI Selection to Security Configuration

### Launching Your EC2 Instance – Step-by-Step

• Choose AMI: e.g., Ubuntu 22.04 LTS, Amazon Linux 2025
• Choose Instance Type: e.g., t3.micro (Free Tier)
• Add Storage: e.g., 8 GB EBS (default)
• Add Tags: Name your instance (e.g., "webserver")
• Configure Security Group:
  1. Allow SSH (22) from your IP
  2. Allow HTTP (80) for web traffic (optional)
• Review & Launch
• Create or choose an existing key pair (for SSH)

# Managing and Connecting to Your EC2 Instance

## Post-Launch – Instance State & Access

• After launch, go back to EC2 Dashboard > Instances
• View:
  1. Instance State (running, stopped, terminated)
  2. Public IPv4, instance ID, AMI ID, etc.
• Common Actions:
  1. Start/Stop: Pause/restart your server
  2. Terminate: Permanently delete instance
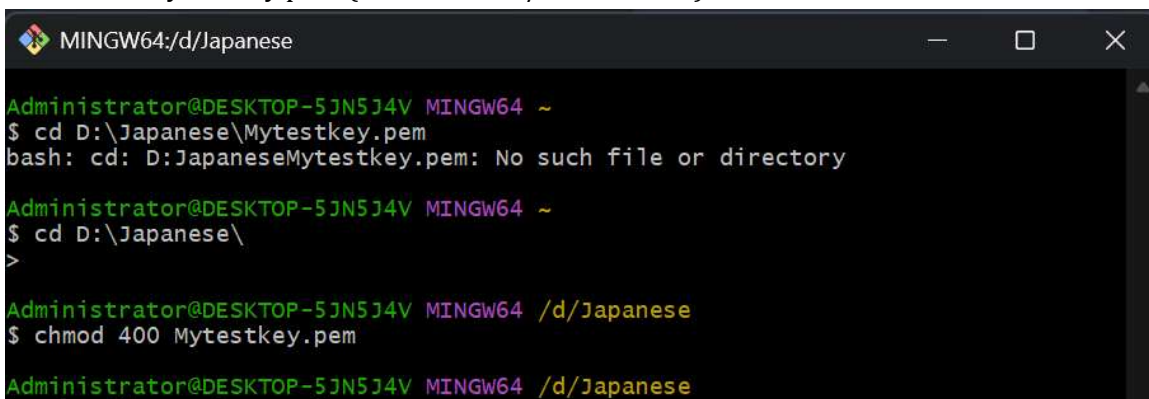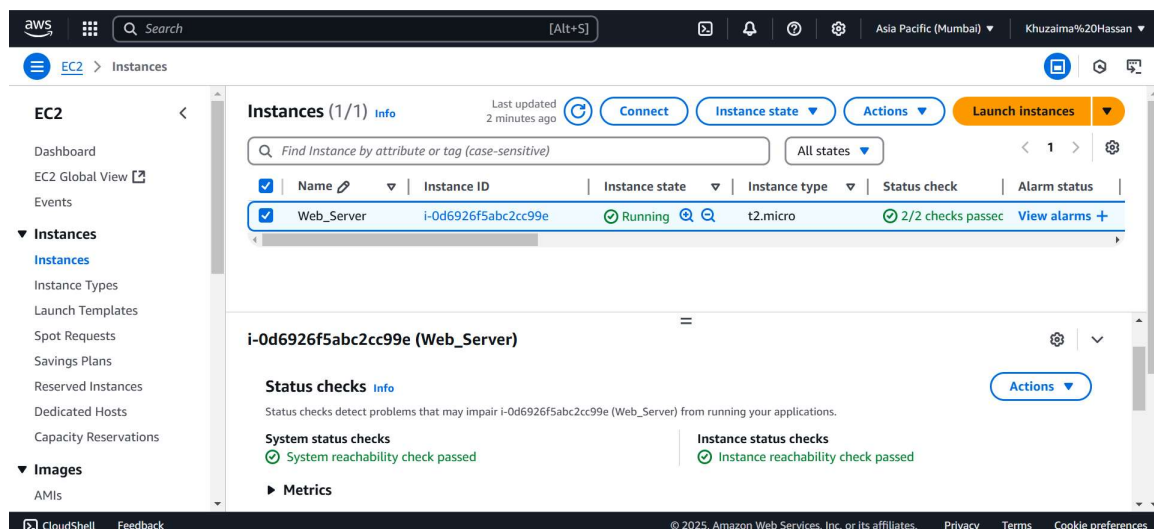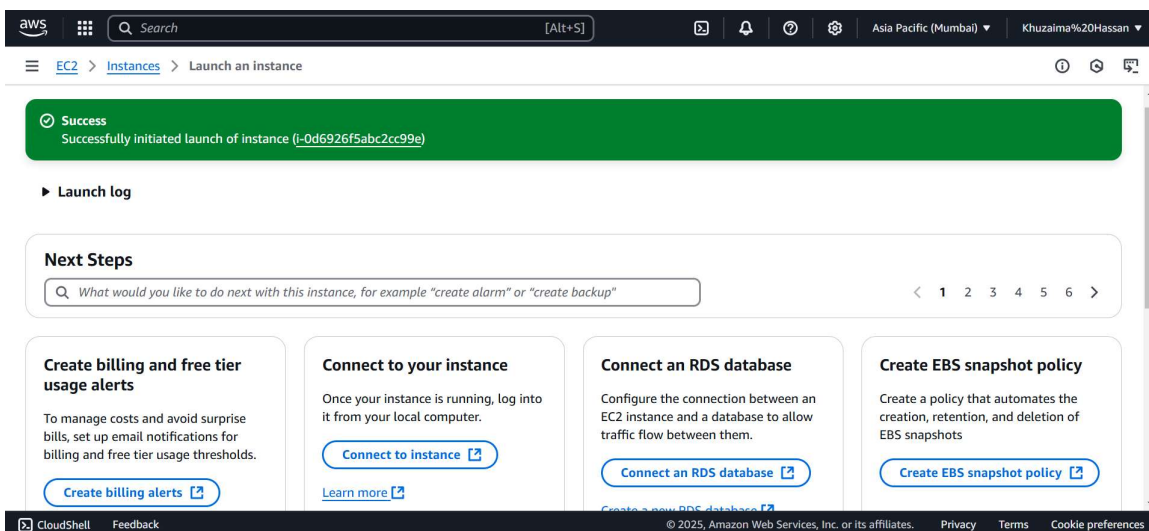
## Creating, Using & Securing Key Pairs

### Creating Key Pairs in AWS:

• Go to EC2 Dashboard > Key Pairs > Create key pair
• Choose format: .pem (for OpenSSH/Linux) or .ppk (for PuTTY/Windows)
• Choose algorithm: RSA (widely used), ED25519 (faster, newer)
• Download the private key immediately (cannot be retrieved later)

### Secure the Key File:

Run this below command:
chmod 400 your-key.pem (restricts read/write access)

```
MINGW64:/d/Japanese                                         —    □    ✕

Administrator@DESKTOP-5JN5J4V MINGW64 ~
$ cd D:\Japanese\Mytestkey.pem
bash: cd: D:JapaneseMytestkey.pem: No such file or directory

Administrator@DESKTOP-5JN5J4V MINGW64 ~
$ cd D:\Japanese\
>

Administrator@DESKTOP-5JN5J4V MINGW64 /d/Japanese
$ chmod 400 Mytestkey.pem

Administrator@DESKTOP-5JN5J4V MINGW64 /d/Japanese
```

## Set Up Git to Work with EC2 via SSH

### Installing Git on Your Local Machine
Download and Install Git:
Windows: https://git-scm.com/download/win
Mac: Install using Homebrew: brew install git
Linux Ubuntu:
• sudo apt update
• sudo apt install git
Verify Installation:
• git --version

### Connect to EC2 Using SSH Command in Git Bash
Steps to Connect:
1. Open Git Bash (Windows) or Terminal (Mac/Linux)
2. Navigate to the directory where your .pem is saved
3. Set permissions for key (first time only): chmod 400 your-key.pem
4. Use SSH to connect:
ssh -i "your-key.pem" ec2-user@<your-public-ip>

## Connection to EC2 Instance:

```
Administrator@DESKTOP-5JN5J4V MINGW64 /d/Japanese
$ ssh -i"Mytestkey.pem" ubuntu@15.207.221.214
Welcome to Ubuntu 24.04.2 LTS (GNU/Linux 6.8.0-1024-aws x86_64)

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

 System information as of Sun Apr 27 11:51:44 UTC 2025

  System load:  0.0                Processes:             103
  Usage of /:   24.9% of 6.71GB    Users logged in:       0
  Memory usage: 19%                IPv4 address for enX0: 172.31.2.27
  Swap usage:   0%

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


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-172-31-2-27:~$ |
```

## Exiting the Instance:

```
ubuntu@ip-172-31-2-27:~$ exit
logout
Connection to 15.207.221.214 closed.

Administrator@DESKTOP-5JN5J4V MINGW64 /d/Japanese
$
```