

★ Amazon EC2 Windows Instance ★

An EC2 (Elastic Compute Cloud) instance is a virtual server in Amazon's Elastic Compute Cloud (EC2) for running applications on the Amazon Web Services (AWS) infrastructure. It is one of the most fundamental services provided by AWS, allowing users to rent virtual computers on which to run their own computer applications.

Key Features of EC2 Instances

1. **Scalability:** EC2 instances can be easily scaled up or down based on your application requirements. You can start with a small instance and scale up to a larger one as your needs grow.
2. **Variety of Instance Types:** EC2 offers a wide variety of instance types optimized for different use cases. This includes general-purpose instances, compute-optimized instances, memory-optimized instances, storage-optimized instances, and GPU instances.
3. **Flexible Pricing:** AWS provides several pricing models for EC2 instances, including On-Demand Instances, Reserved Instances, Spot Instances, and Dedicated Hosts.
4. **Customizable and Configurable:** EC2 instances can be customized with different amounts of CPU, memory, storage, and networking capacity. You can also configure your instance with the operating system and software you need.
5. **Elastic Load Balancing (ELB):** EC2 can be combined with ELB to automatically distribute incoming application traffic across multiple instances, ensuring high availability and reliability.
6. **Security:** EC2 provides robust security features including virtual private clouds (VPCs), security groups, and key pairs to ensure secure access to your instances.
7. **Integration with AWS Services:** EC2 integrates seamlessly with other AWS services such as Amazon S3, RDS, DynamoDB, and CloudWatch, making it easier to build and manage complex applications.

Common Use Cases

1. **Web Hosting:** Hosting websites and web applications.
2. **Batch Processing:** Running large-scale batch processing jobs.
3. **High-Performance Computing (HPC):** Performing complex calculations and simulations.
4. **Big Data Analysis:** Analyzing large datasets with tools like Hadoop and Spark.
5. **Machine Learning:** Training and deploying machine learning models.
6. **Development and Testing:** Setting up development and testing environments.

How EC2 Works

1. **Launch:** Users launch an EC2 instance by selecting an Amazon Machine Image (AMI) that includes the operating system and software they need. They also choose an instance type based on the desired performance and pricing.
2. **Configure:** Users configure the instance with storage, security groups, and key pairs for secure access.

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3. **Deploy:** Once launched, the instance can be accessed and managed using standard methods such as SSH for Linux instances or Remote Desktop Protocol (RDP) for Windows instances.
4. **Manage:** Users can monitor the performance and health of their instances using AWS CloudWatch, and make adjustments as needed. Instances can be stopped, started, or terminated based on requirements.
5. **Scale:** Users can scale their application by adding more instances or resizing existing instances to handle increased traffic or processing demands.

Benefits of Using EC2

- **Cost Efficiency:** Pay only for the compute power you use, with the flexibility to scale up or down as needed.
- **Performance:** Choose from a range of instance types optimized for various workloads.
- **Reliability:** Built on a global infrastructure with redundancy and failover capabilities.
- **Security:** Comprehensive security features to protect your data and applications.
- **Flexibility:** Run virtually any application, using any operating system, on a highly configurable platform.

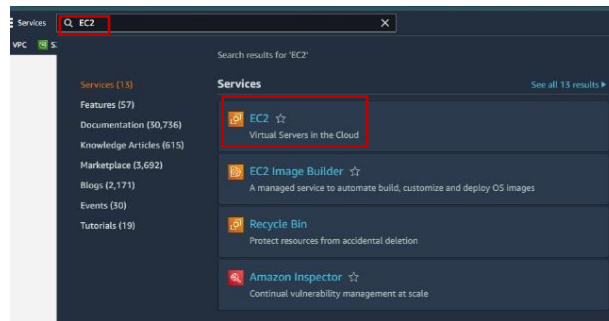
Step-by-Step Guide to Create an EC2 Windows Instance

Step 1: Sign In to AWS Management Console

1. Open the AWS Management Console: [AWS Management Console](#)
2. Sign in with your AWS account credentials. If you don't have an account, you need to create one.

Step 2: Navigate to EC2 Dashboard

1. In the AWS Management Console, navigate to the EC2 Dashboard.
 - You can find EC2 under "Compute" services, or you can type "EC2" in the search bar and select it.

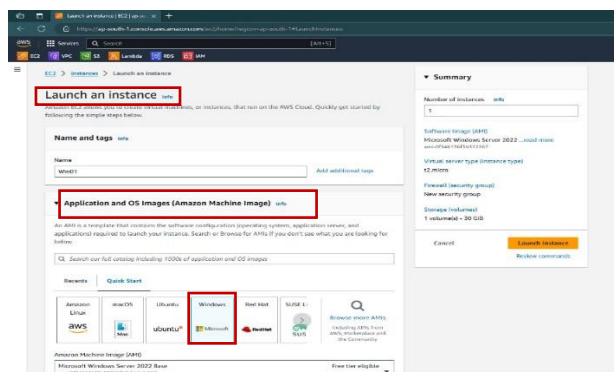


Step 3: Launch an Instance

1. Click the "Launch Instance" button on the EC2 Dashboard.
2. You will be directed to the "Choose an Amazon Machine Image (AMI)" page.

Step 4: Choose an Amazon Machine Image (AMI)

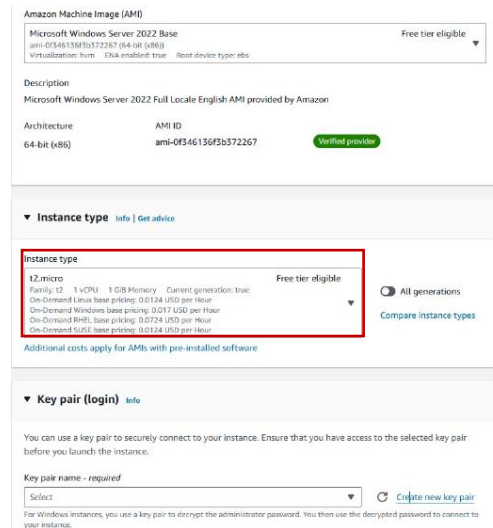
1. In the AMI selection screen, select "Microsoft Windows Server" from the list.
2. Ensure that you select an AMI that is marked as "Free tier eligible".



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Step 5: Choose an Instance Type

1. Select the "t2. micro" instance type, which is free tier eligible.
2. Click the "Next: Configure Instance Details" button.



Amazon Machine Image (AMI)

Microsoft Windows Server 2022 Base
ami-0F546136f5b72267 (64-bit x86)
Virtualization: hvm, ENA, enable-ipv6: true, Root device type: ebs

Free tier eligible

Description
Microsoft Windows Server 2022 Full Locale English AMI provided by Amazon

Architecture: 64-bit (x86) AMI ID: ami-0F546136f5b72267 Verified provider

▼ 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: 0.0724 USD per Hour

On-Demand SUSE base pricing: 0.0124 USD per Hour

Additional costs apply for AMIs with pre-installed software

▼ 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.

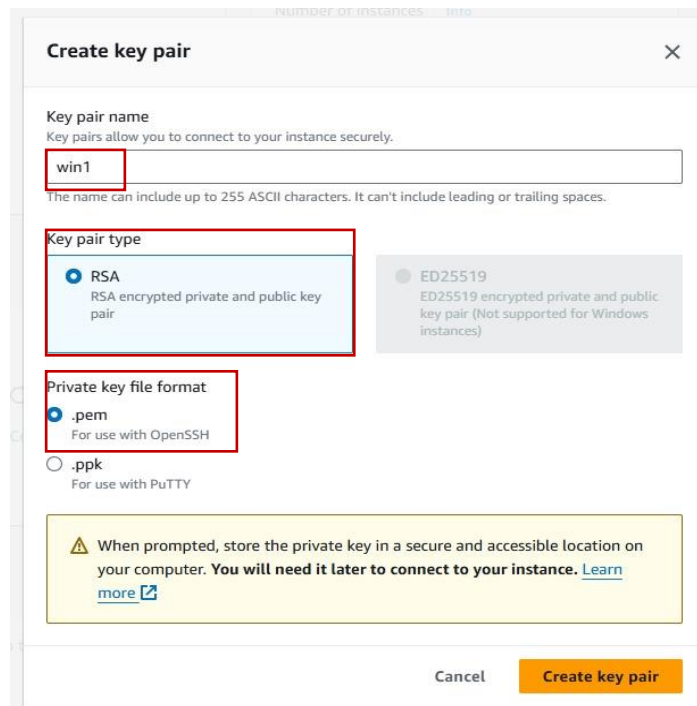
Key pair name -- required

Select Create new key pair

For Windows instances, you use a key pair to decrypt the administrator password. You then use the decrypted password to connect to your instance.

Step 6: Key Pair (login)

1. Select the "create new key pair".
2. Name the key pair, choose "key pair type" RSA & key file format ".pem". and create key pair.



NUMBER OF INSTANCES: 1 [info](#)

Create key pair

Key pair name

Key pairs allow you to connect to your instance securely.

win1

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 (Not supported for Windows instances)

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

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Step 7: Add Storage

1. The default storage configuration is typically sufficient (30 GB of General Purpose SSD (gp2) is free tier eligible).
2. Adjust the storage size if necessary (ensure it remains within the free tier limits).

The screenshot shows the 'Configure storage' section of the AWS Management Console. It features a '▼ Configure storage' header with an 'Info' link and an 'Advanced' toggle. Below this, there are two storage configurations: a root volume (1x 30 GiB gp2, Not encrypted) and an EBS volume (1x 8 GiB gp3, Not encrypted). A red box highlights the 'Add new volume' button. Below the button, a warning message states: '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'. There is also a section for backup information with a 'Click refresh to view backup information' link and a refresh icon. At the bottom, it shows '0 x File systems' and an 'Edit' link.

Step 8: Review Instance Launch

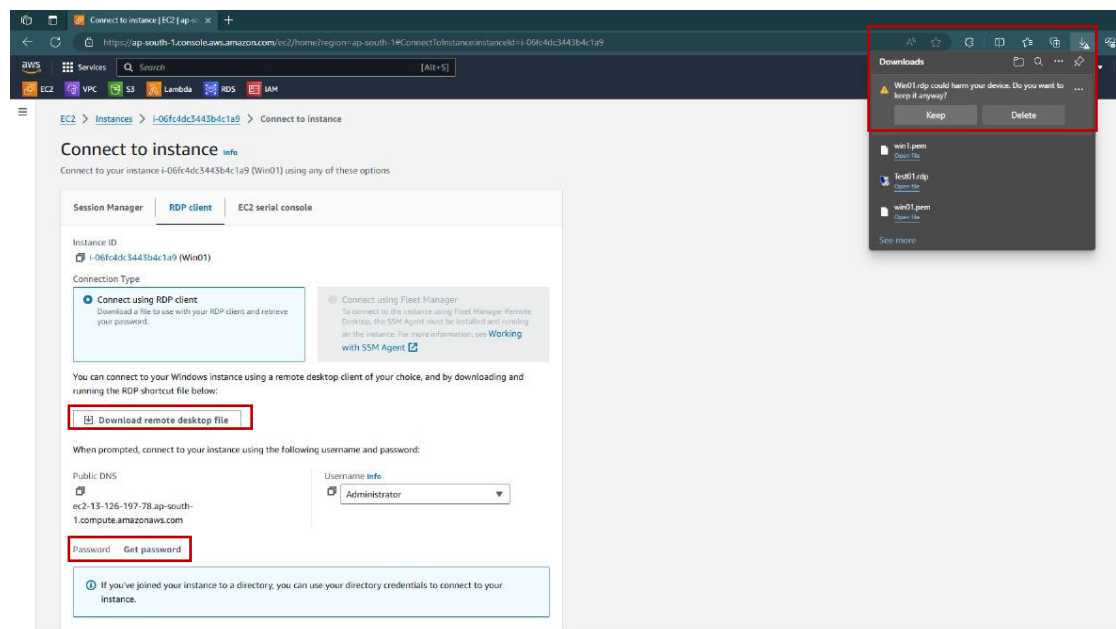
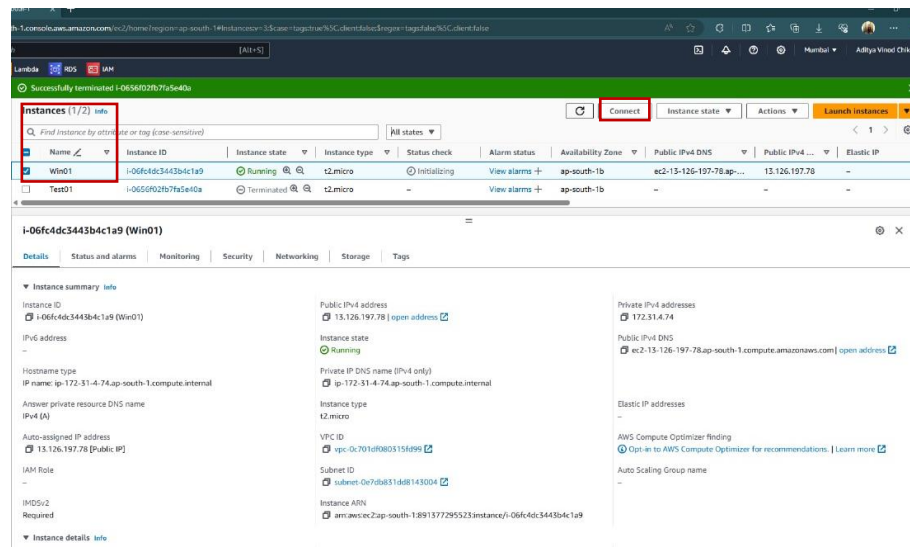
1. Review all the settings you have configured.
2. Click "Launch" to proceed.

The screenshot shows the 'Launch instance' wizard in the AWS Management Console. It includes a 'Summary' section on the right, which is highlighted with a red box. The summary lists: 'Number of instances: 1', 'Software Image (AMI): Microsoft Windows Server 2022', 'Virtual server type (instance type): t2.micro', 'Firewall (security group): New security group', and 'Storage (volumes): 2 volume(s) - 38 GiB'. The main area shows the 'Configure storage' section, which is identical to the one in Step 7. At the bottom right, there are 'Cancel', 'Launch instance', and 'Review commands' buttons.

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Step 9: Access Your Instance

1. Once the instance is launched, go to the "Instances" page in the EC2 Dashboard.
2. Select your instance, and click "Connect".
3. Follow the instructions provided to connect to your Windows instance using Remote Desktop (RDP).
 - Download remote desktop file
 - You will need to use the key pair (.pem file) to decrypt the administrator password provided by AWS.
 - Tap on "Get password"



Step 10: Password

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- The screenshot shows the AWS Management Console interface for the 'Get Windows password' page. The breadcrumb navigation at the top reads: **EC2** > **Instances** > **i-06fc4dc3443b4c1a9** > **Get Windows password**. The main heading is 'Get Windows password' with an 'info' icon. Below this, a message states: 'Use your private key to retrieve and decrypt the initial Windows administrator password for this instance.'
- The instance details are as follows:
- Instance ID:** i-06fc4dc3443b4c1a9 (Win01)
 - Key pair associated with this instance:** win1
 - Private key:** win1.pem (1,678Ki)
- A red rectangular box highlights the 'Upload private key file' button and the 'win1.pem' file entry. Below this, a section titled 'Private key contents - optional' contains a text area with the following content:
- ```
-----BEGIN RSA PRIVATE KEY-----
MIIEpAIBAAKCAQEA+upnHmYH540eqLVHGX8JAEWNqVru/cbs3dICDD0LZaYmp2
FJTA4Xdyb4+40hbPIK+/gBqa93GGLgn0W5ZzW5dnFYaZWB3I59mYJ7Dwf6a/dP
8LCd0KM6LtGvX8GYWlmmH+3zAtBGHkZp+JyYAFg2CU4hARPTd4tLCSYFFN/NWC
TUv+HKHlkmLHvmVXG6C4L3d5JXuYAT5tpj9+IQ6LueUG/P4mfmdch9CRloxt
R0Z85+VXPAJDFBEKToxHx9Y0wUzW+Y0e80e/BNIZE+/jexTxBdyb7qUeJ1zXCOR
Lw8DaaJ/TLf6avIA3/aVtOQ5i4V8HF8lQ/4PzQIDAQABoIBAC1VZtIvB4IXbCd
wLHcQxLhX1ITtja1R8OZ0n1ml+cnt+HvAN692jKjg/KG4rXGdpJrobpRV27I

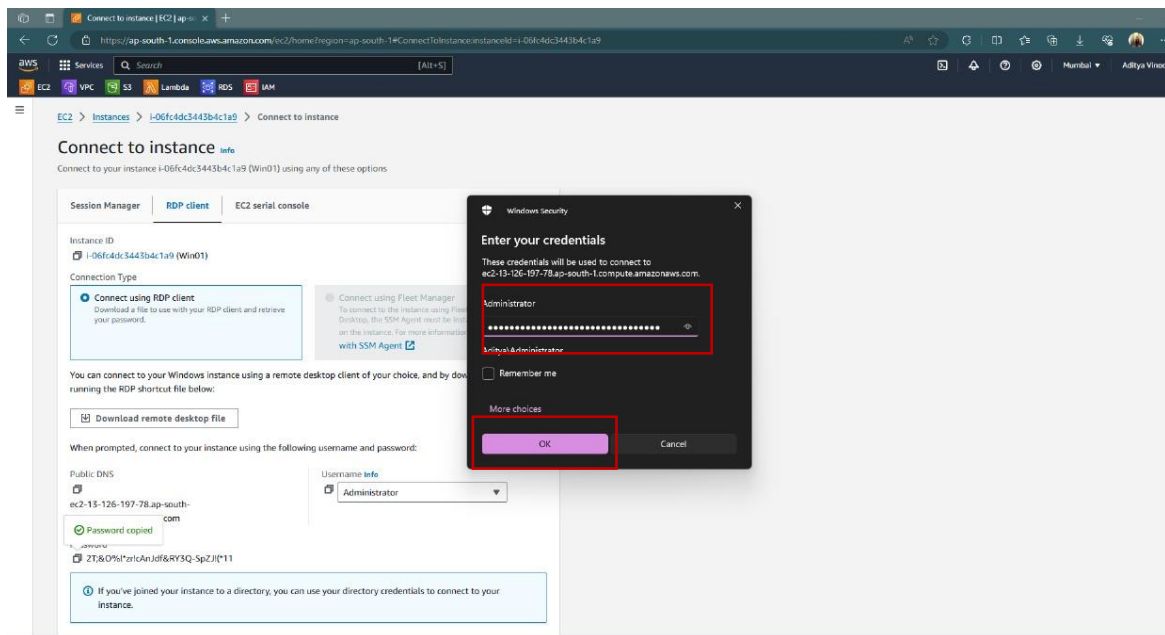
```
- At the bottom right of the page, there are two buttons: 'Cancel' and 'Decrypt password'. A red rectangular box highlights the 'Decrypt password' button.

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- The screenshot displays the AWS Management Console interface for connecting to an EC2 instance. The 'Connect to instance' page is active, with the 'RDP client' tab selected. The 'Connection Type' section shows 'Connect using RDP client' as the chosen method. The 'Download remote desktop file' button is highlighted with a red box. The 'Public DNS' section shows the instance's public IP address. The 'Password' field is highlighted with a red box, showing a generated password. A red box also highlights the 'Downloads' folder in the Windows taskbar, showing the downloaded RDP file.

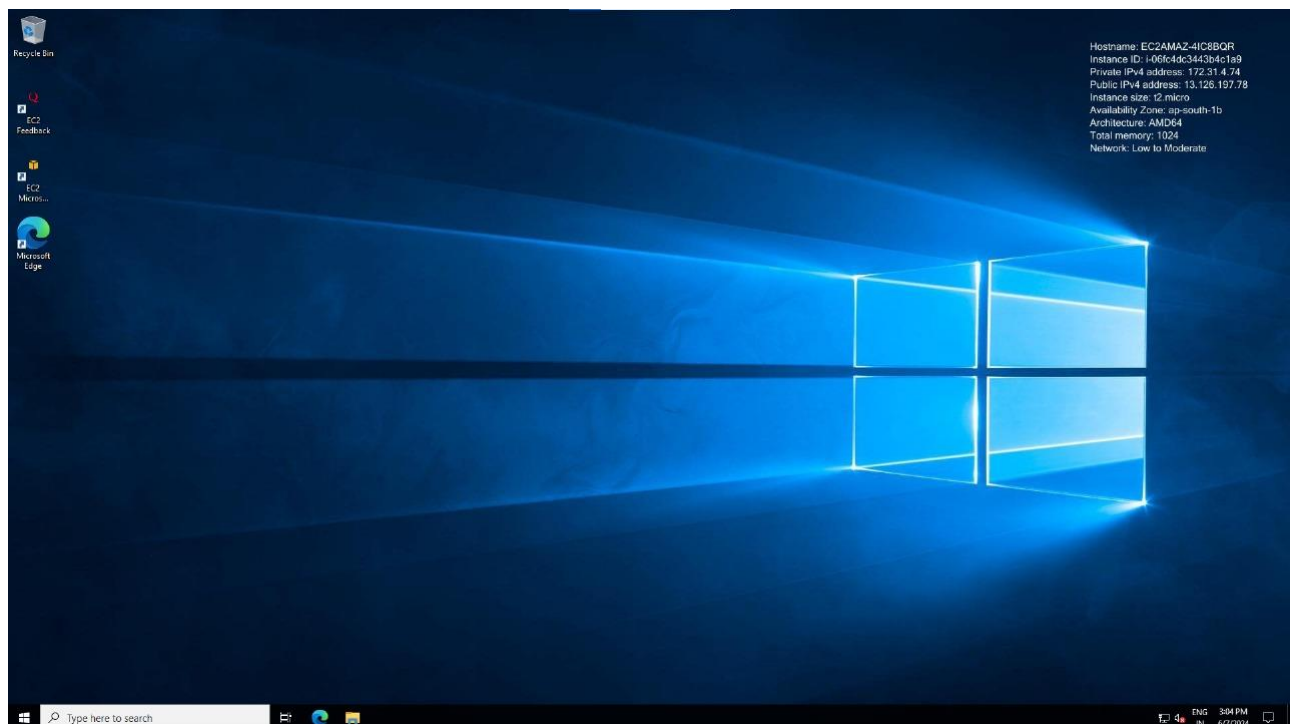


## AWS Ec2 Windows Instance

6. After entering that “credentials” tap OK, & boom your windows EC2 instances getting started



7. ★ Congrats you successfully created a “Amazon Ec2 windows instance” ★

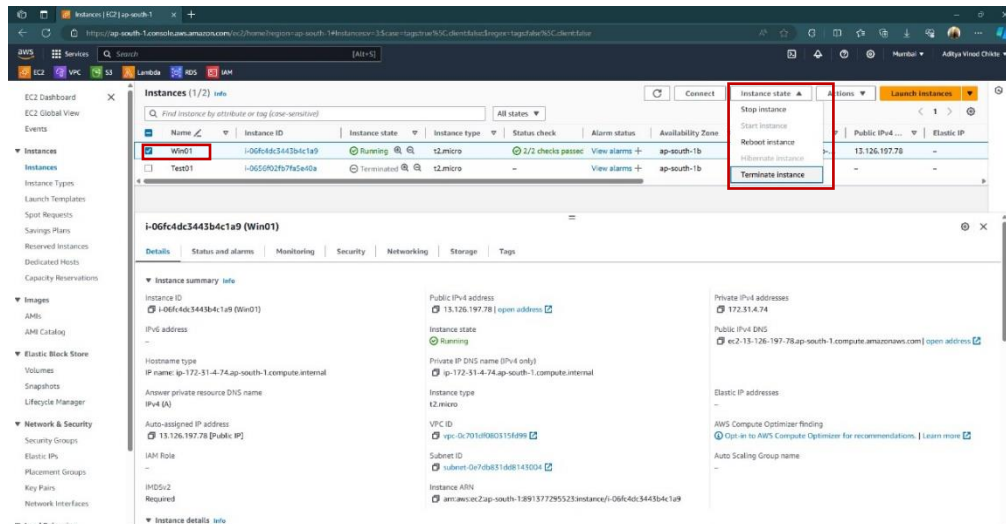




## AWS Ec2 Windows Instance

### Step 11: Terminate the Instance

1. When you no longer need the instance, you should terminate it to avoid any potential charges.
2. Go to the "Instances" page in the EC2 Dashboard.
3. Select the instance you want to terminate.
4. Click the "Instance State", and then choose "Terminate".



5. Confirm the termination when prompted.

