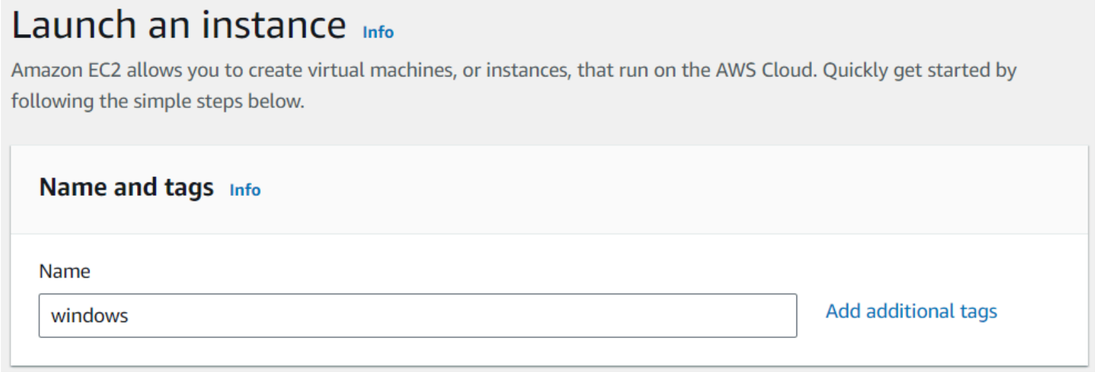
AWS Cloud and DevOps Training
by Mr. Mahendran Selvakumar

Organized by KPR Institute of Engineering and Technology
Department of Computer Science and Engineering

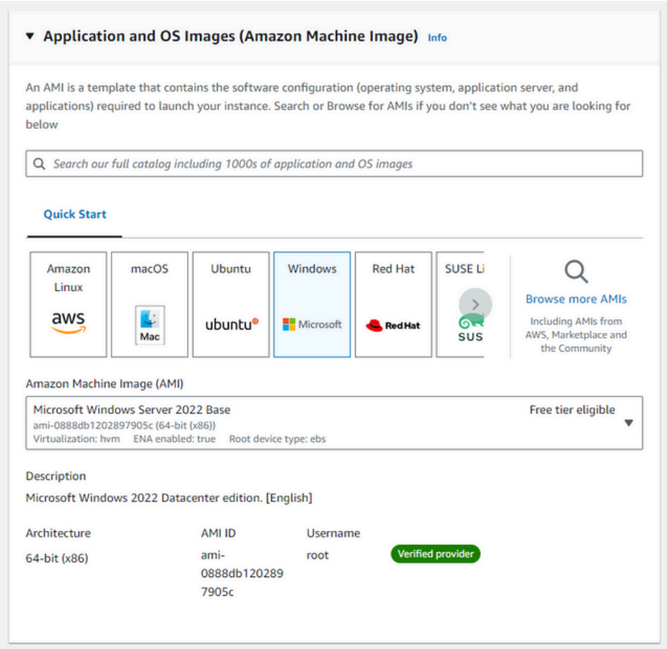
Set Up and Access a Windows Web Server on AWS EC2 with Elastic IP

Sooriya N
III - CSE



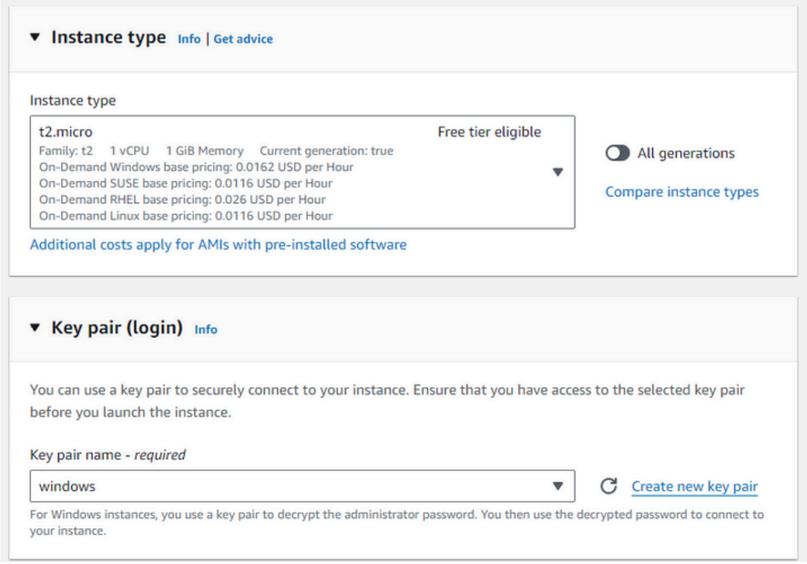
Step 1: Create a Name for Your Instance

Naming your instance helps you easily identify and manage multiple instances within your AWS environment.



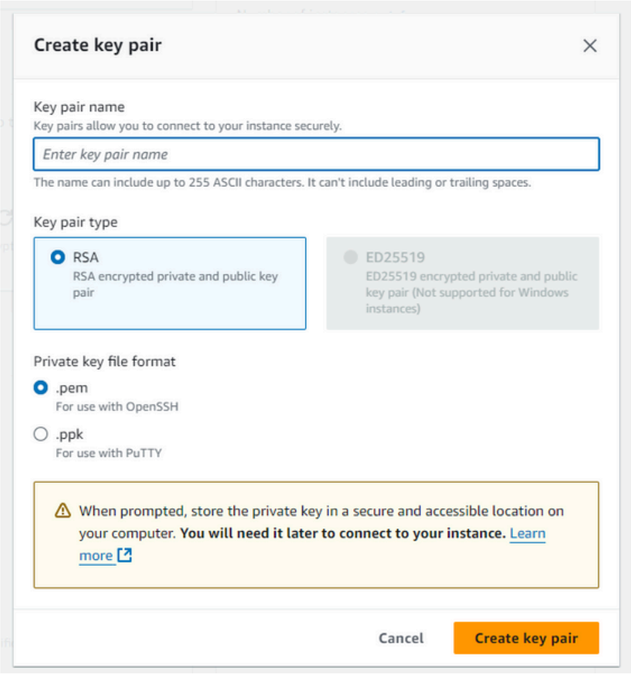
Step 2: Choose an AMI (Windows, Free Tier eligible)

An AMI (Amazon Machine Image) provides a pre-configured operating system and application software, simplifying deployment. I selected a Windows AMI that is eligible under the Free Tier.



Step 3: Choose an Instance Type (Free Tier eligible)

The instance type determines the resources (CPU, memory) allocated to your instance. I chose t2.micro, which is free-tier eligible and suitable for low-traffic applications.

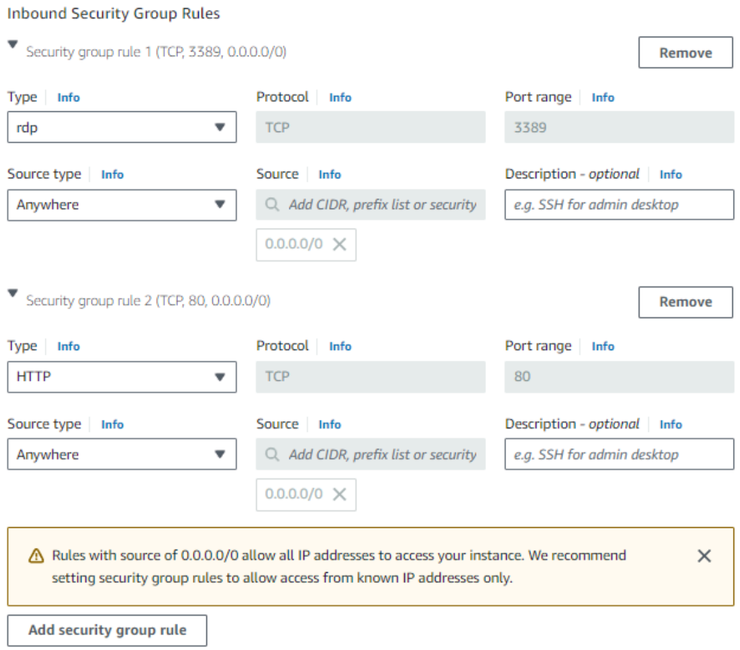


Step 4: Create a New Key Pair

A key pair ensures secure login using public-private encryption. The private key (.pem file) is required to access the instance securely using RDP (Remote Desktop Protocol).

Step 5: Set the Network Settings

Network settings configure how your instance connects to the internet and other resources. I used a Virtual Private Cloud (VPC) with a public IP to allow remote access.

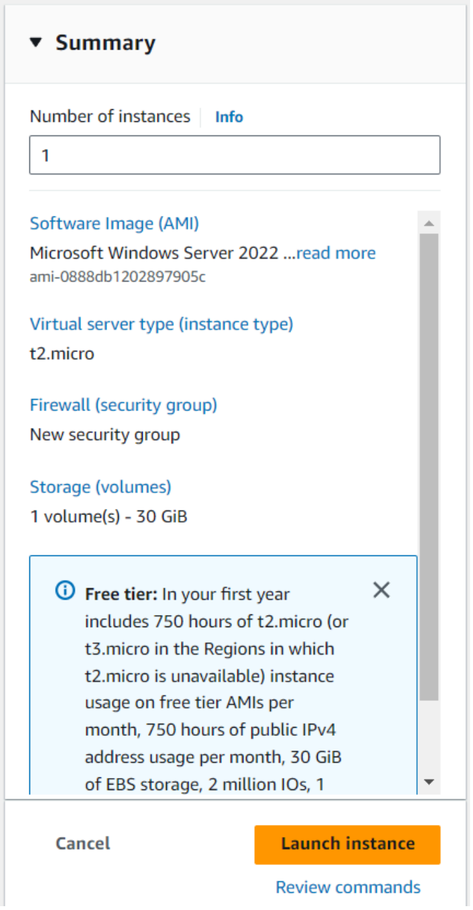


Step 6: Security Group

RDP (Port 3389): Allows remote management of the Windows EC2 instance via Remote Desktop.
HTTP (Port 80): Enables public access to the web server for serving content.

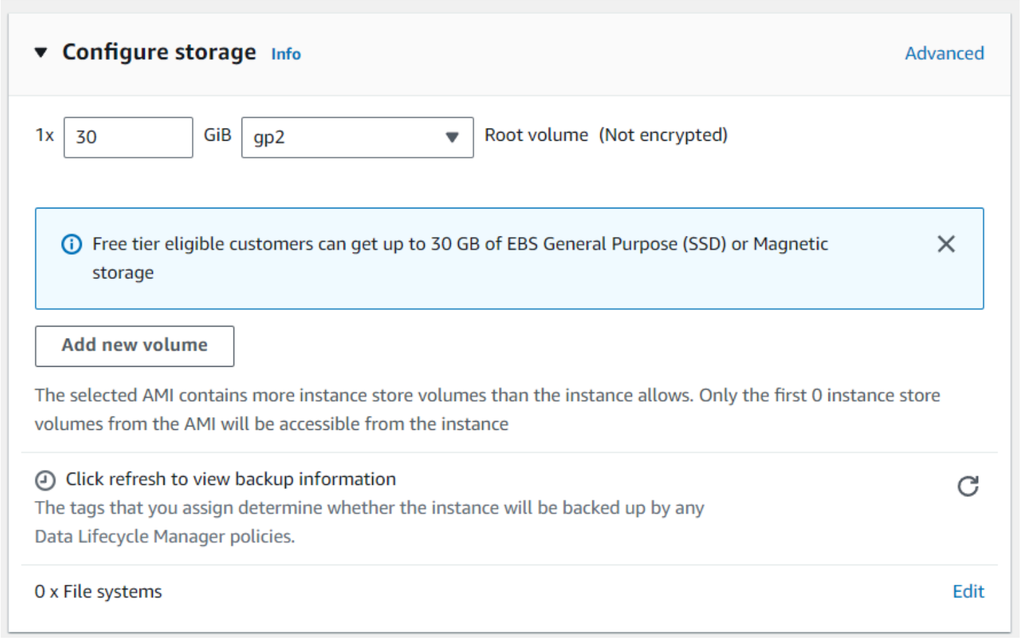
Step 8: Launch Instance

After configuring your AMI, instance type, key pair, network, security group, and storage, the next step is to launch your instance. Clicking "Launch" will initiate the creation of your instance based on the specified configurations.



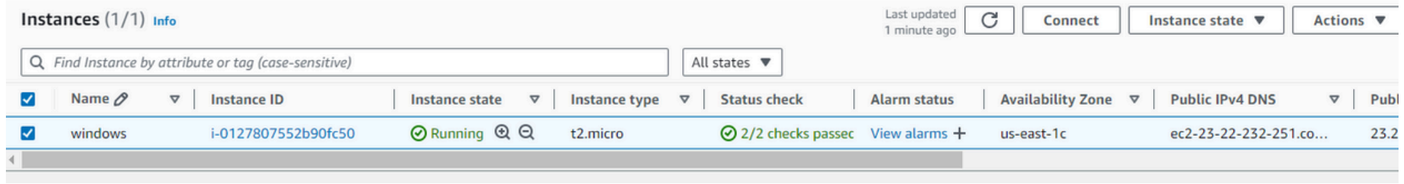
Step 7: Configure Storage (30GB for Windows)

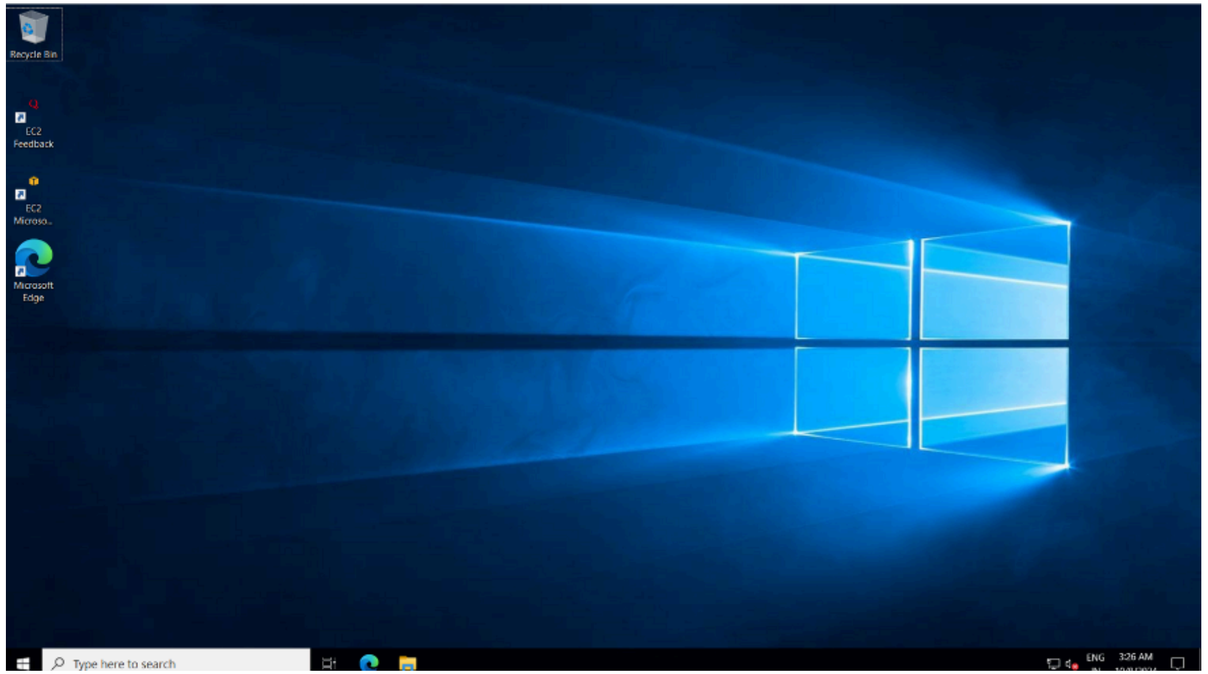
AWS uses Elastic Block Store (EBS) for storage. I configured 30GB, which is typical for Windows instances and falls within Free Tier limits.



Step 9: Connect to Windows EC2 Instance

Set Up Windows EC2 Instance and Web Server: Launch a Windows EC2 instance, configure the required security groups for RDP and HTTP (ports 3389 and 80)





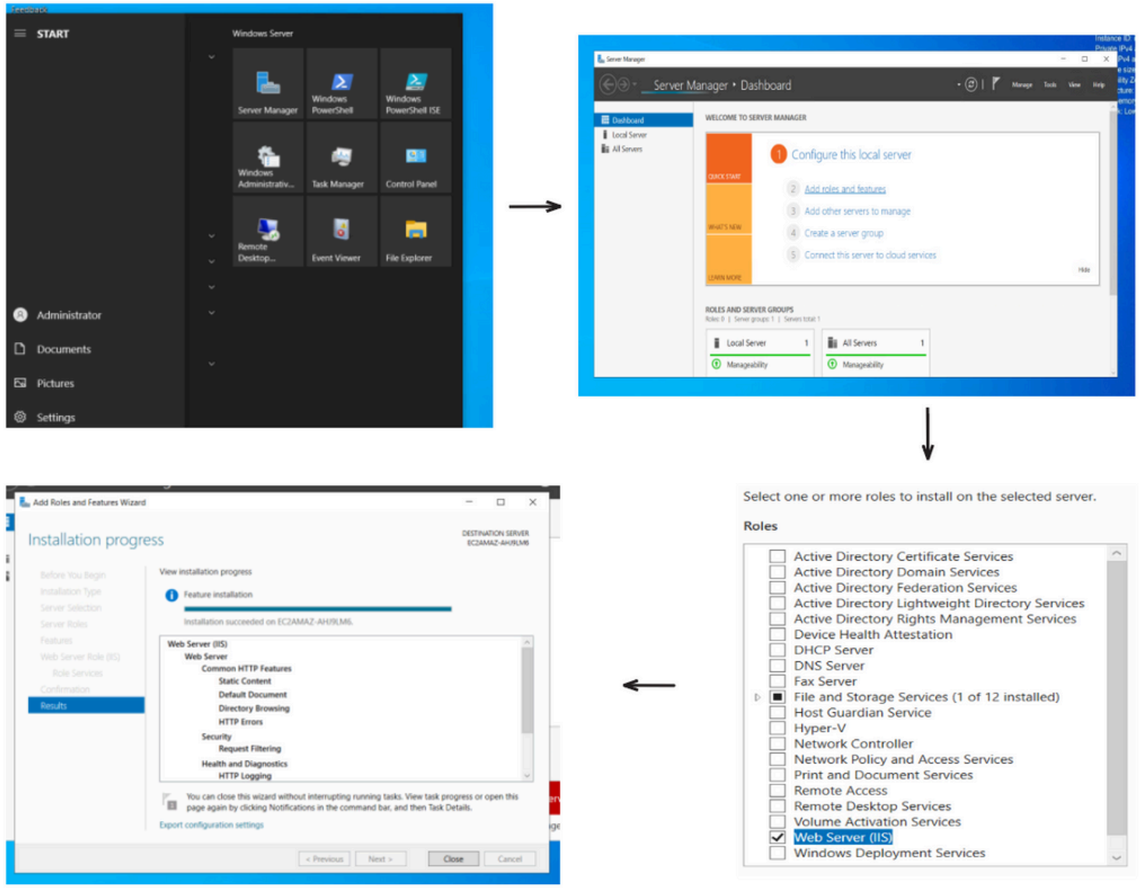
You can now connect to the instance using Remote Desktop Protocol (RDP):

- Open the Remote Desktop Connection app on your local Windows machine.
- Enter the public IP address of your EC2 instance (visible in the EC2 console under instance details).
- When prompted, enter the username (Administrator) and the decrypted password obtained from the previous step.
- You will be logged into the Windows instance running in the AWS cloud.

Step 10: Install IIS (Web Server) on the Windows Instance

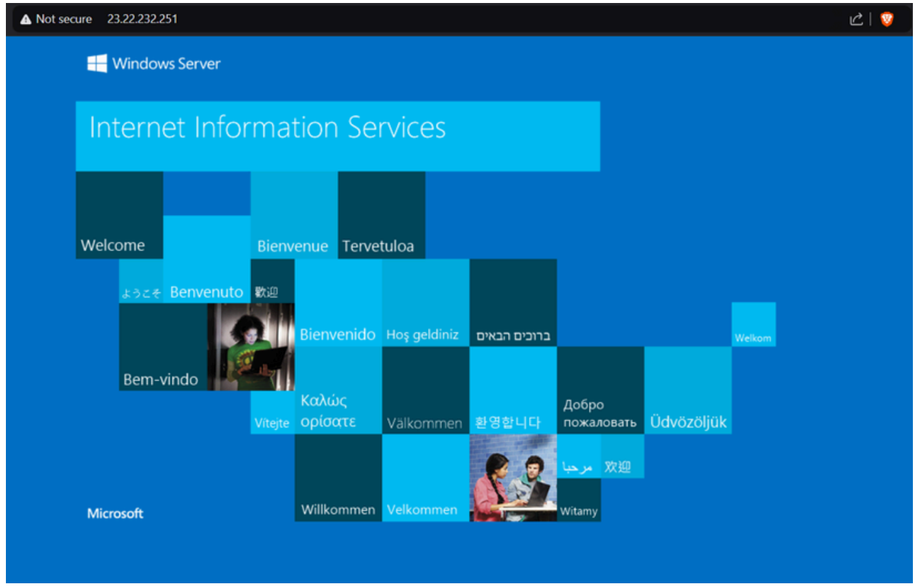
Step 1: Use Remote Desktop (RDP)to connect to your Windows instance:
Open the RDP client on your local machine.
Use the Public IP of your instance (you can find it in the EC2 Dashboard).
Provide the username (usually Administrator) and the key pair to decrypt the password and log in.
Step 2: Once logged in, open Server Manager.
Step 3: Click Manage > Add Roles and Features.
Step 4: In the Add Roles and Features Wizard, select the Web Server (IIS) role.
Step 5: Continue through the wizard, and click Install to install IIS.

After installation, IIS should automatically start.



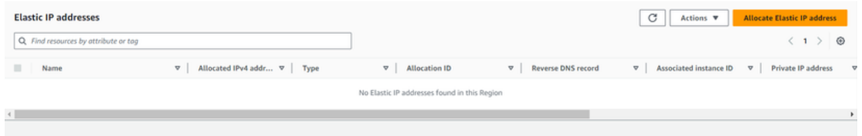
Step 11: Access the Web Server Using the Public IP

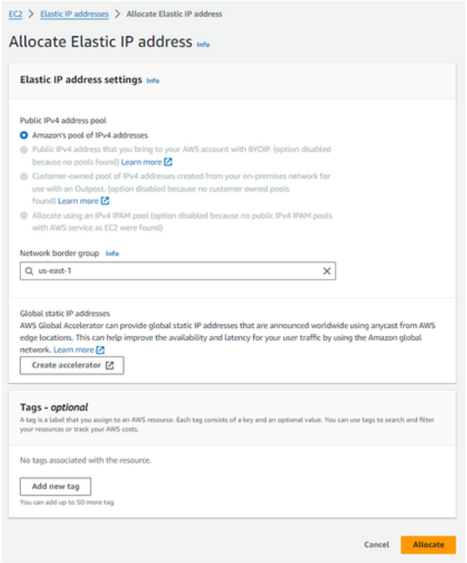
Step 1: Copy the Public IP of your EC2 instance from the EC2 Dashboard.
Step 2: Open a browser and enter http://<Public_IP> to verify the IIS default page is accessible, confirming the web server is running.



Step 12: Create an Elastic IP Address (EIP)

Step 1: Click on Elastic IPs under the "Network & Security" section.
Step 2: Click on Allocate Elastic IP address.

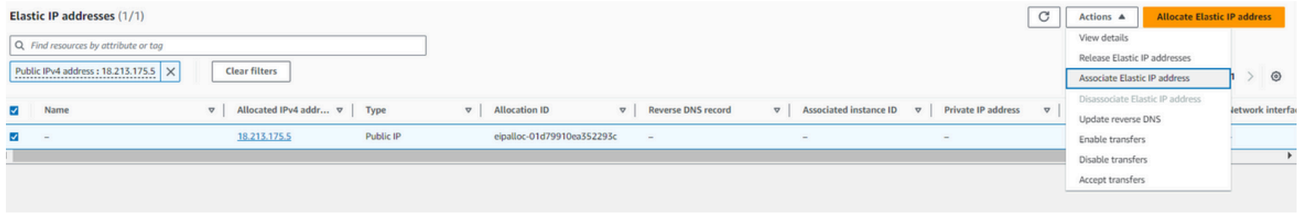


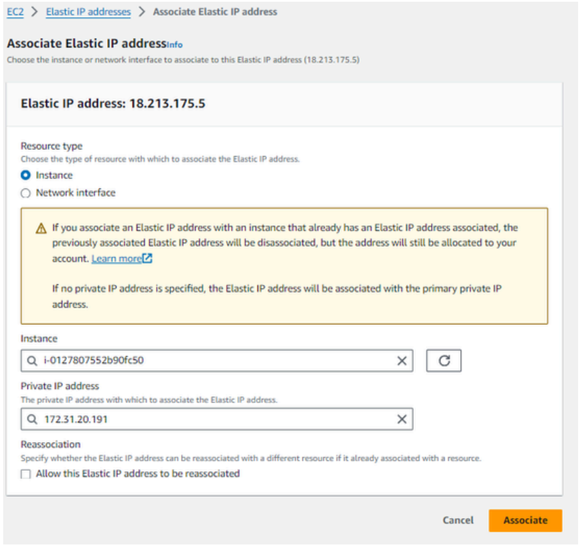


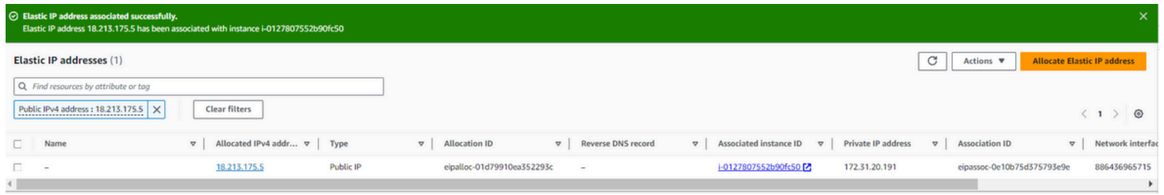
Step 13: Assign Elastic IP to a Windows Web Server

Step 1: On the Elastic IPs page, select the newly created Elastic IP.
Step 2: Click on Actions > Associate Elastic IP address.
Step 3: In the Associate Elastic IP address window, choose the Instance option and select your Windows web server instance.
Step 4: Click on Associate to assign the Elastic IP to the Windows instance.

The importance of checking the private IP address when associating an Elastic IP is to ensure that the Elastic IP is correctly mapped to the right network interface on the EC2 instance.

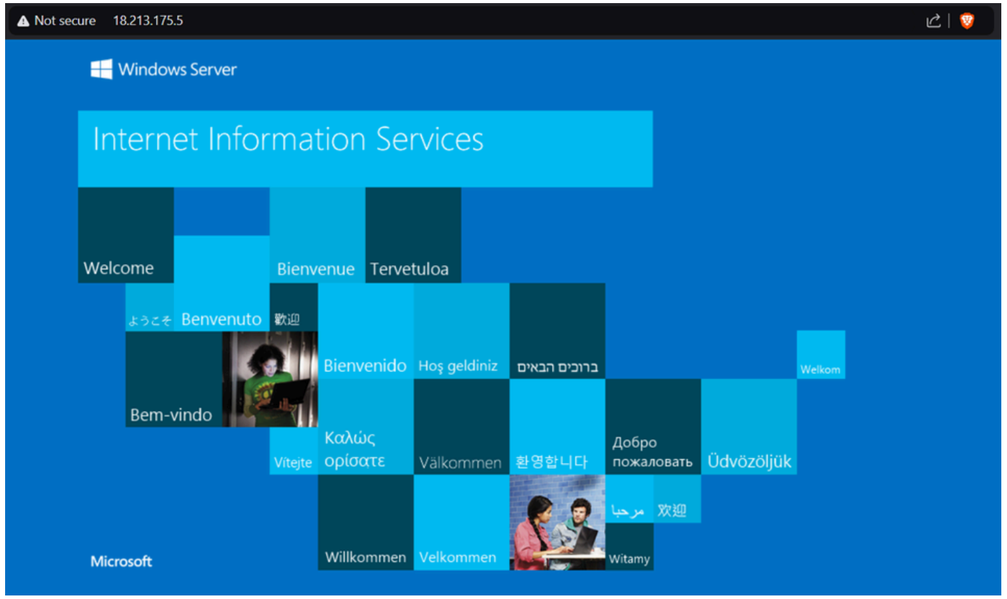






Step 14: Access the Windows Web Server using the Elastic IP

Step 1: After associating the Elastic IP with your instance, note down the public Elastic IP.
Step 2: Now, you should be able to access the website hosted on your Windows web server by navigating to the Elastic IP address in a browser (e.g., http://<Elastic_IP>).



Key advantages of using an Elastic IP in AWS:
Static IP Address: *Unlike regular public IPs that can change when an instance is stopped or restarted, Elastic IP remains static. This ensures consistent access to your EC2 instance or services.*
Reliability: *If you need to move your application or service to another instance (e.g., for scaling or maintenance), you can easily reassign the Elastic IP without any downtime.*
Easy Management: *Elastic IP allows better control over your instance's connectivity, making it easier to manage public-facing resources in the cloud.*