K21Academy
Learn Cloud from Experts

amazon web services

Host Website On Windows EC2 Instance Using IIS

[Edition 06]

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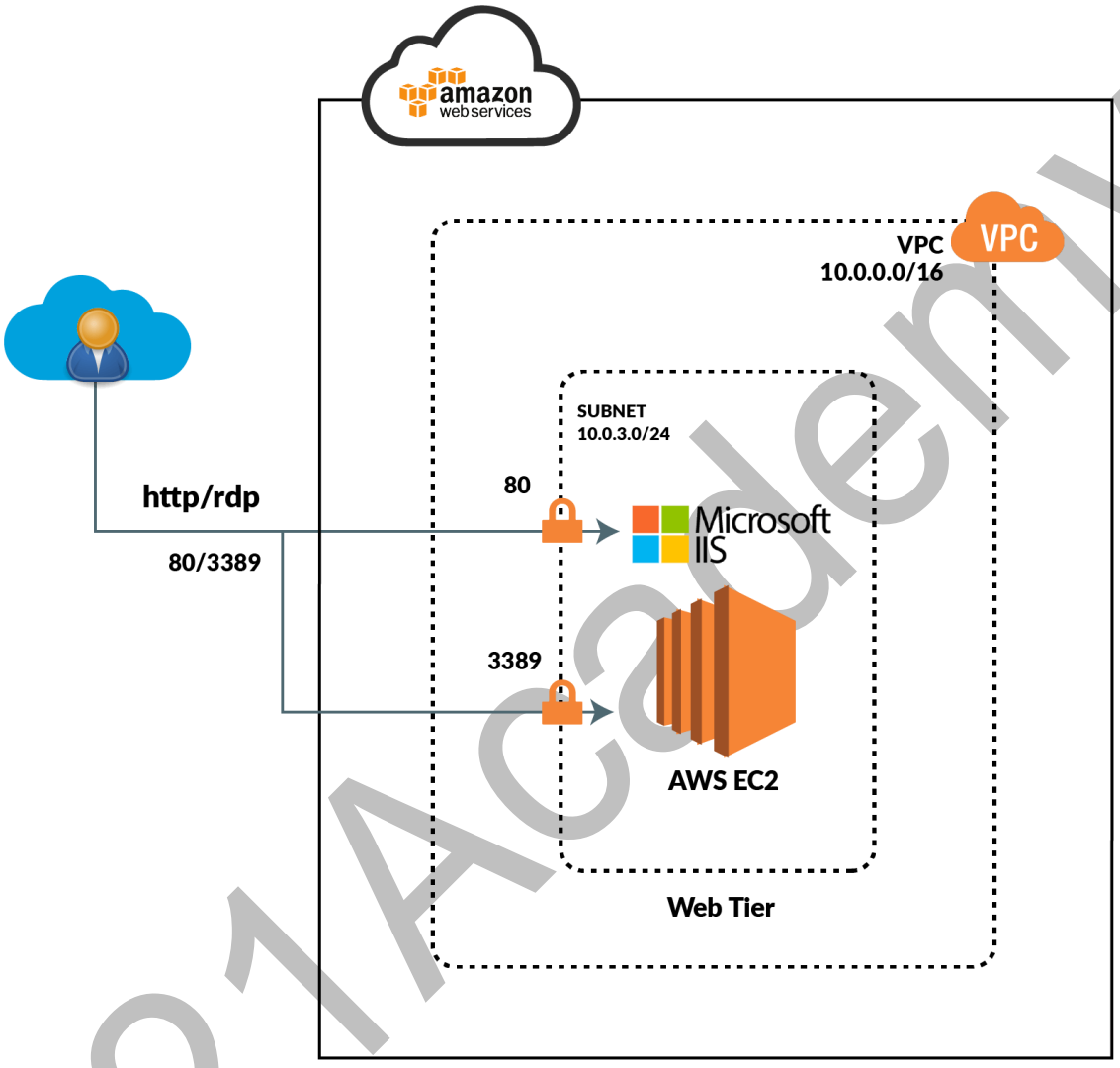
1 INTRODUCTION

Amazon EC2 presents a true virtual computing environment, allowing you to use web service interfaces to launch instances with a variety of operating systems, load them with your custom application environment, manage your network's access permissions, and run your image using as many or few systems as you desire.

To use Amazon EC2, you are simply:

1. Select a pre-configured, templated Amazon Machine Image (AMI) to get up and running immediately, or create an AMI containing your applications, libraries, data, and associated configuration settings.
2. Configure security and network access on your Amazon EC2 instance.
3. Choose which instance type(s) you want, then start, terminate, and monitor as many instances of your AMI as needed, using the web service APIs or the variety of management tools provided.
4. Determine whether you want to run in multiple locations, utilize static IP endpoints, or attach persistent block storage to your instances.
5. Pay only for the resources that you consume, like instance-hours or data transfer.

Architecture Diagram:



This activity guide cover steps for:

1. Create Windows EC2 Instance
2. Connect to Windows EC2 Instance
3. Install Web Server (IIS) in Windows EC2 Instance
4. Access Webpage through Server Manager
5. Delete Resources

2 DOCUMENTATION LINKS

1. Amazon EC2
   https://aws.amazon.com/ec2/
2. Features of Amazon EC2
   https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/concepts.html
3. Amazon EC2 FAQs
   https://aws.amazon.com/ec2/faqs/
4. Creating a Windows Instance Using Amazon EC2
   https://docs.aws.amazon.com/AWSEC2/latest/WindowsGuide/EC2_GetStarted.html#ec2-launch-instance

3 PREREQUISITE

1. An AWS Account (Free or Paid).

4 CREATE A WINDOWS EC2 INSTANCE

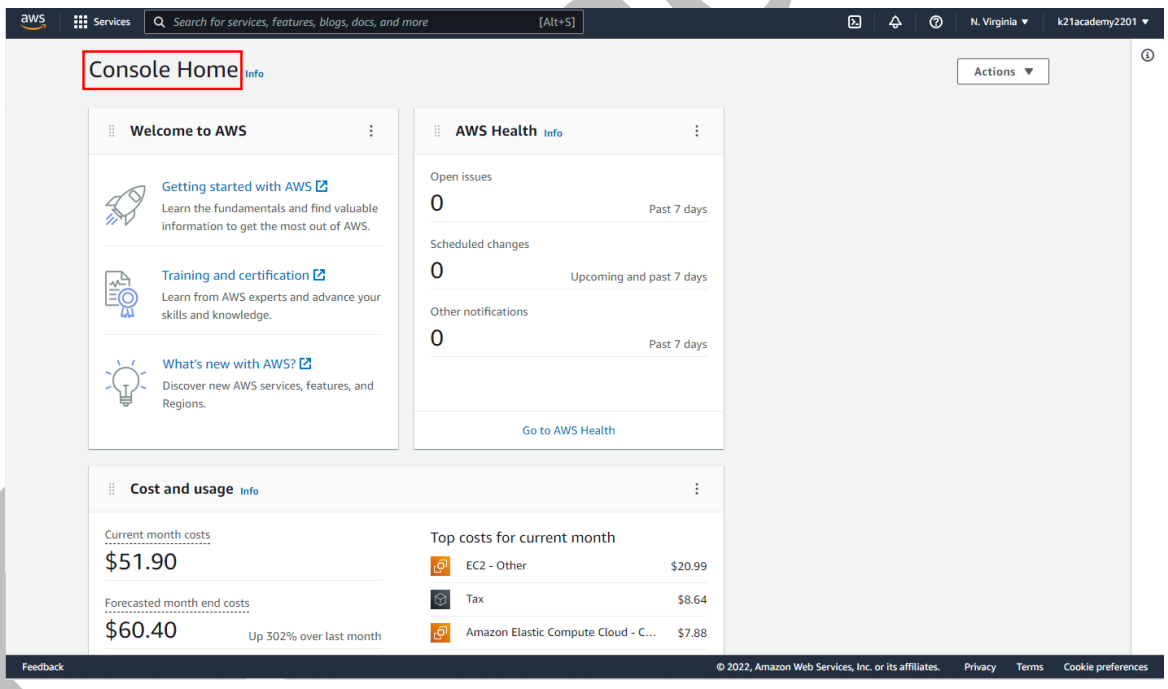
An **EC2 Instance** is a virtual server in Amazon's Elastic Compute Cloud (EC2) for running applications on the Amazon Web Services infrastructure. Amazon provides a variety of types of instances with different configurations of CPU, memory, storage, and networking resources to suit user needs. Each type is also available in two different sizes to address workload requirements.

4.1 Launch a Windows Instance

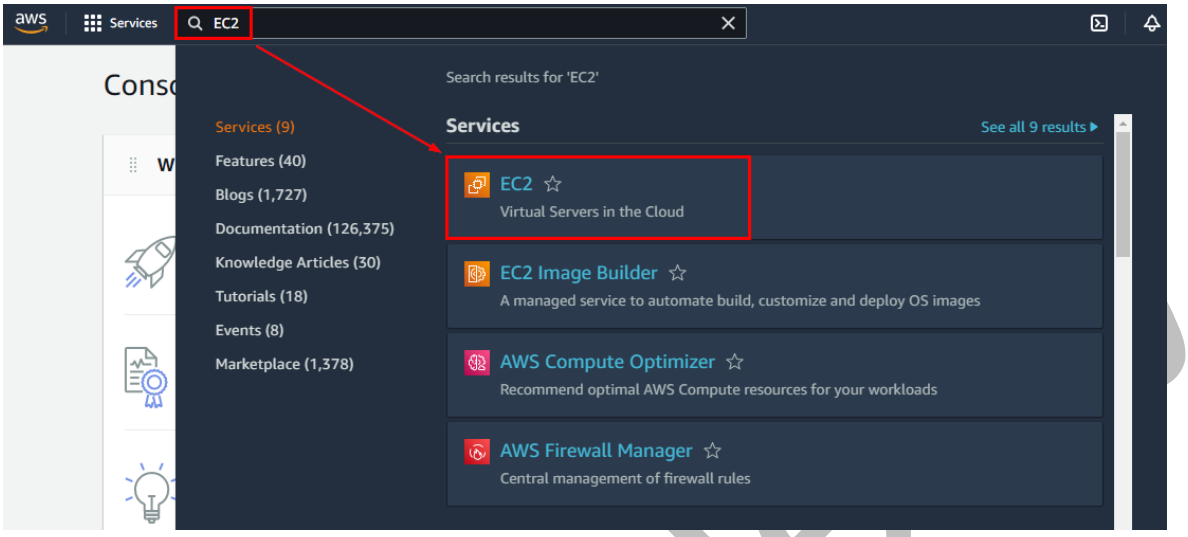
Note: In this section we will be providing detailed steps for creating a Windows Server 2019 Base

For this lab, we are using **N. Virginia Region**. You can select any region according to your choice.

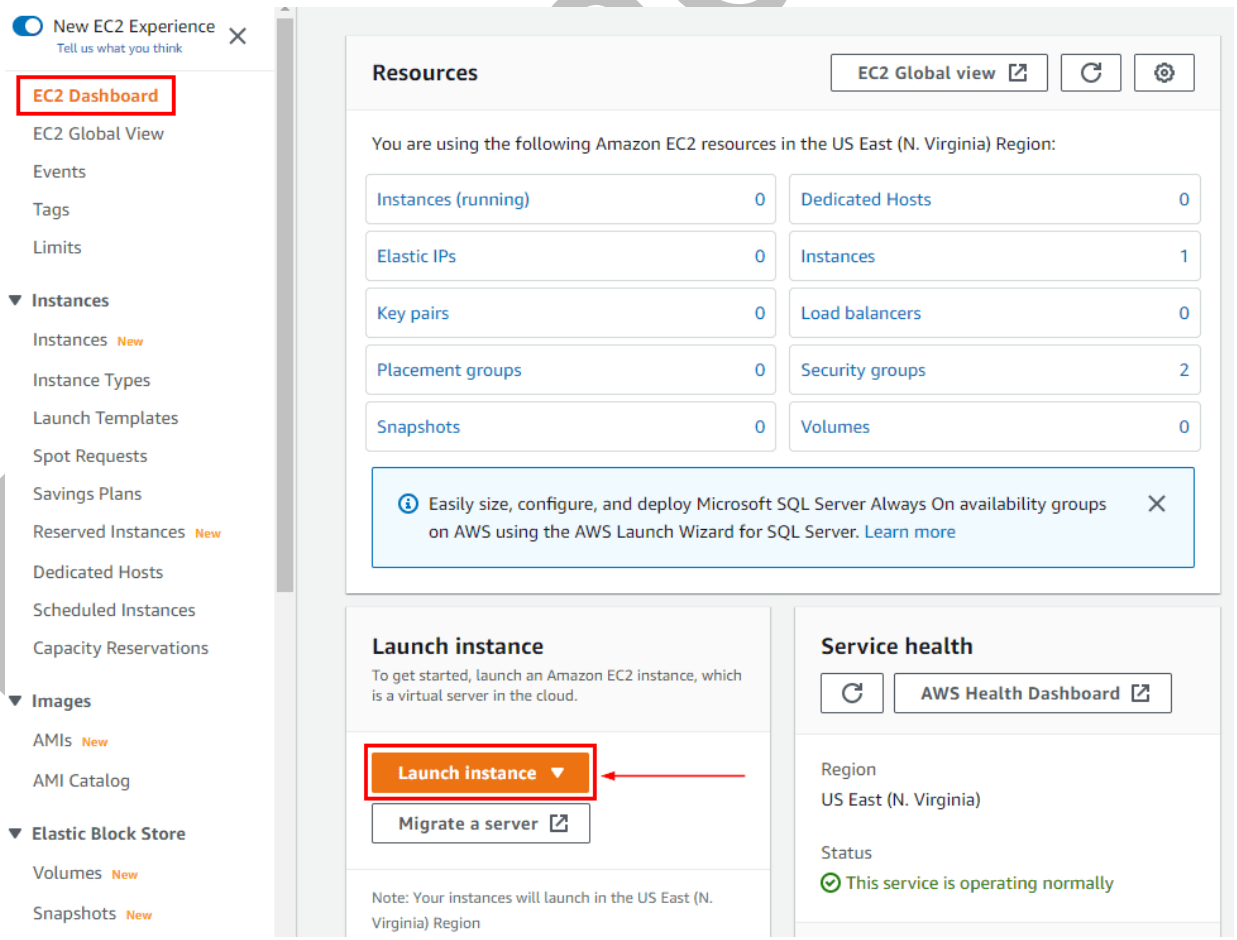
1. Log in to your **AWS Management Console**.



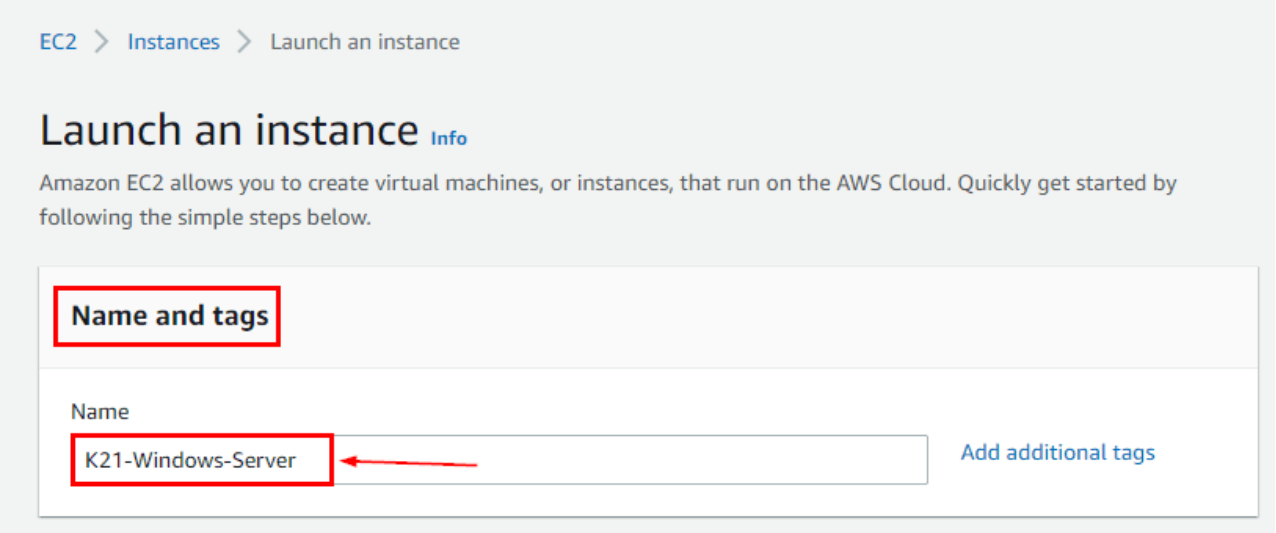
2. Search for **EC2** in the search box and click on it to open it.



3. Once you are at the EC2 Dashboard, click on **Launch** to launch an instance.

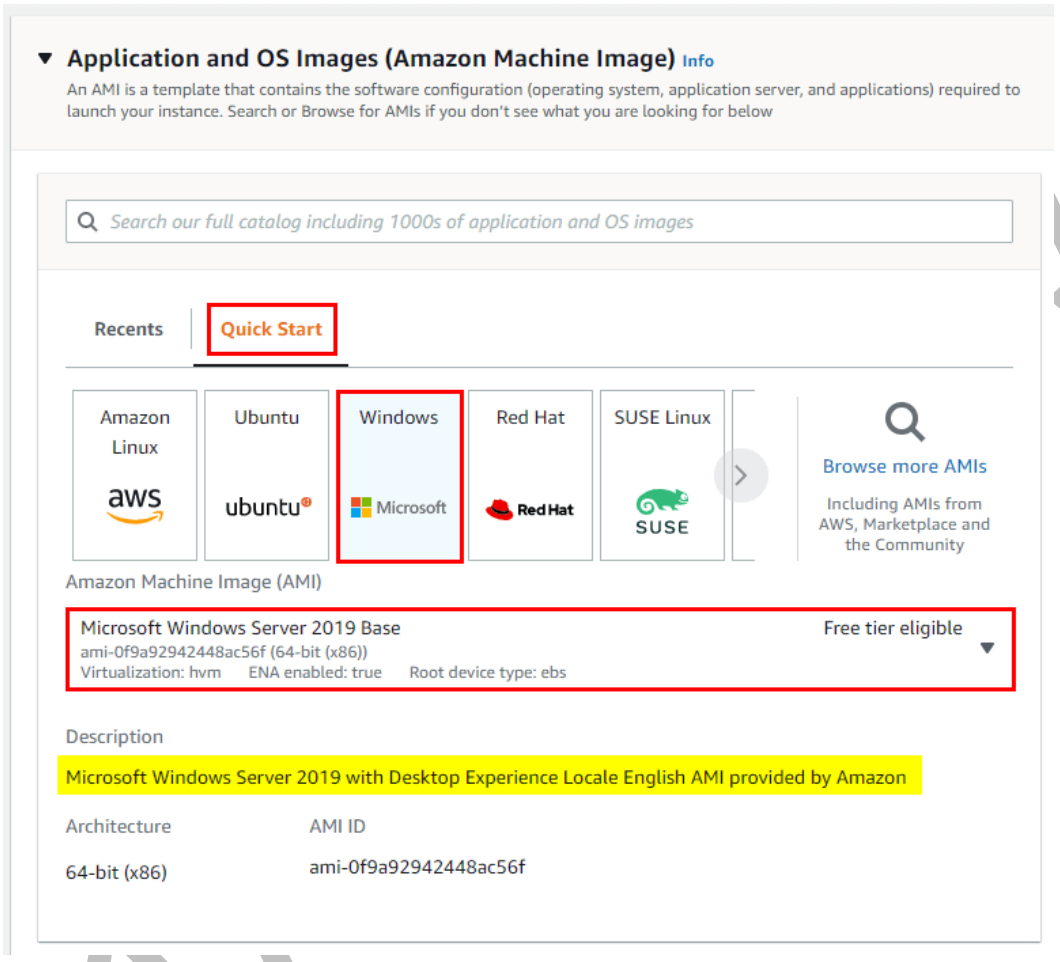


4. In the Name and Tags step you can add tags to an instance, here tags help you to enable categorize AWS resources in different ways, for example, by owner, environment, or purpose.

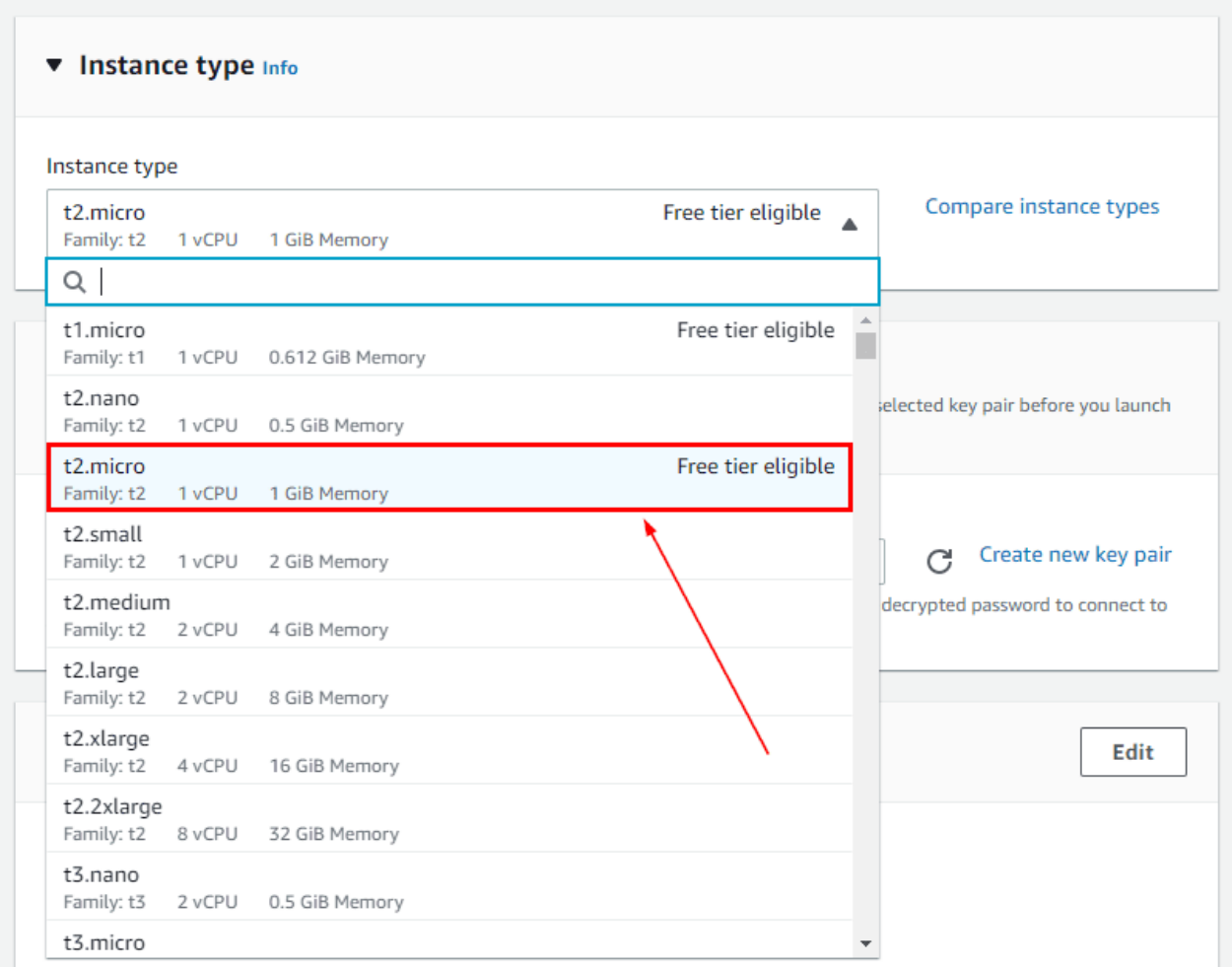


Note: A **tag** is a label that you assign to an AWS resource. Tags enable you to categorize your AWS resources in different ways, for example, by purpose, owner, or environment. For example, you could define a set of tags for your account's Amazon EC2 instances that helps you track each instance's owner and stack level.

5. In Select **Windows** under QuickStart and Select **Microsoft Windows Server 2019 Base** AMI. You can also select other AMI as per your need but here we are launching a Windows Server, so we have to select the Windows Server 2019 Base AMI.

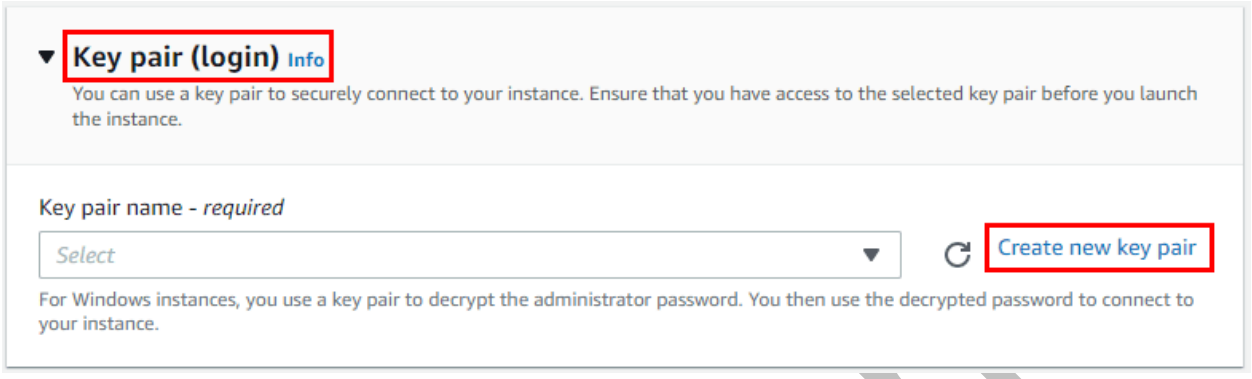


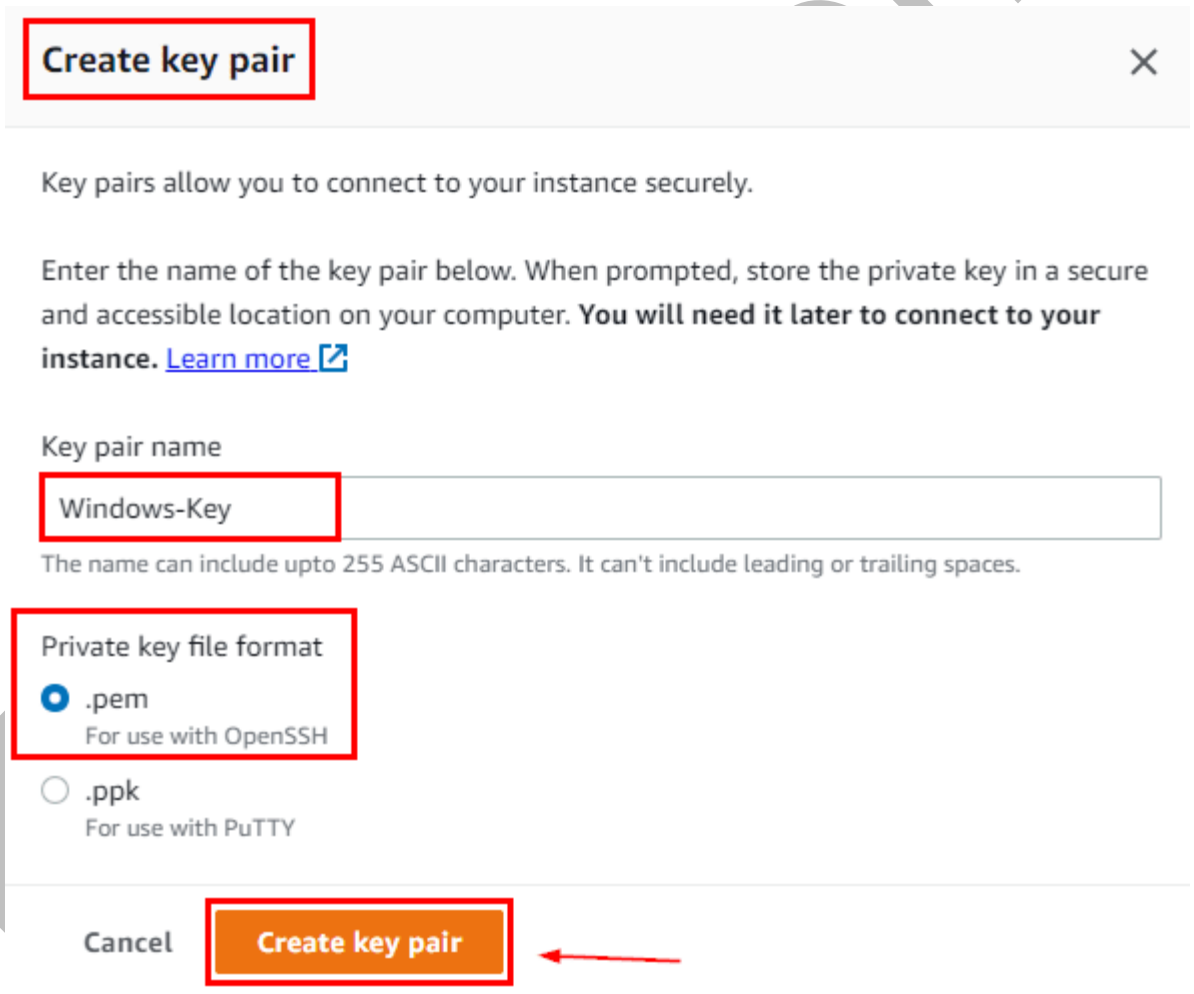
6. Select the **t2.micro** instance type, if you want you may select another instance type but they are chargeable so we choose the t2.micro instance type which is eligible for the free tier and limited resources.



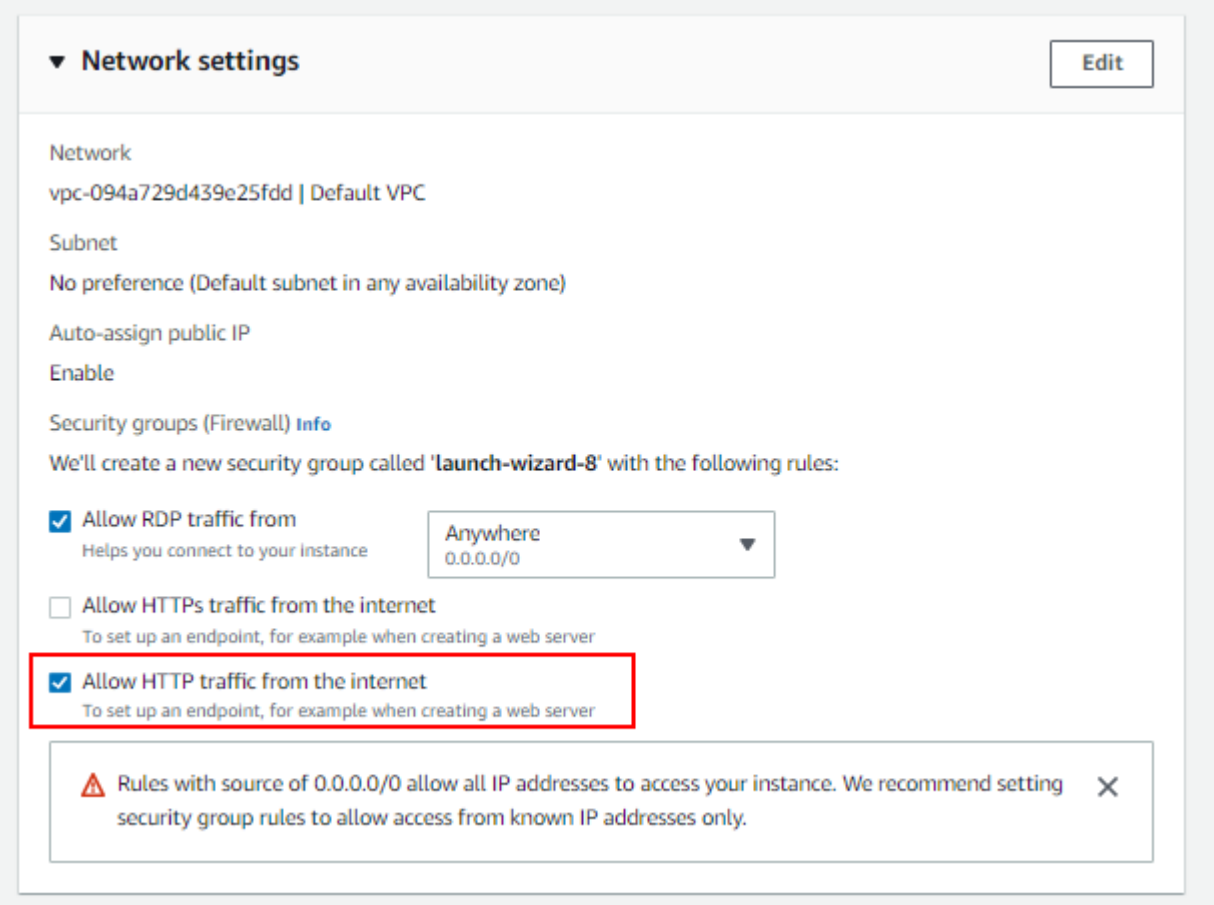
Note: T2 instances are a new low-cost, General Purpose instance type that are designed to provide a baseline level of CPU performance with the ability to burst above the baseline. **T2** instances are engineered specifically for these use cases. **T2** instances are available in three sizes: **t2**. **micro**, **t2**.

7. Select an existing key pair or create a new one, we will Create a new one, enter the name of the Key-pair as Windows-Key and Create the Key Pair.



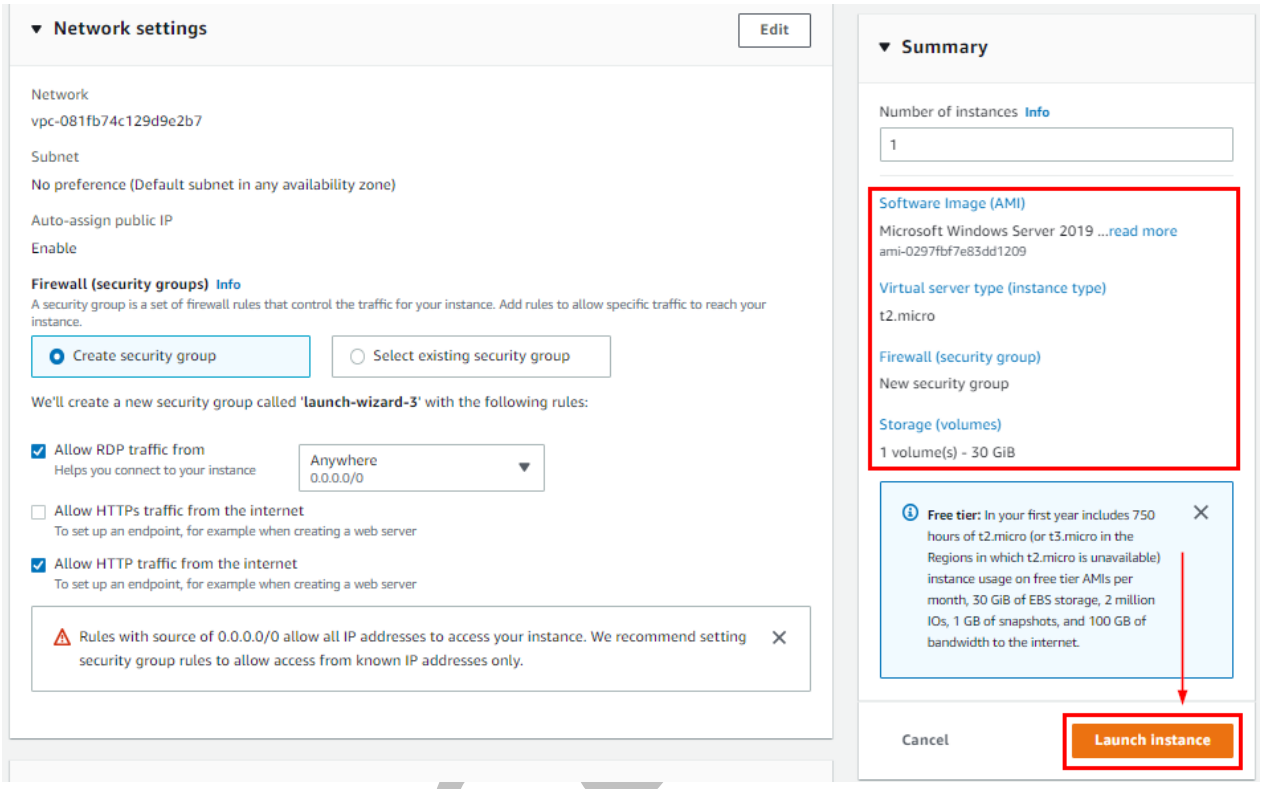


8. Since it is a Windows Instance, we will require **RDP** on port **3389** which is selected by default. Also, for accessing the web page we will add **HTTP** rule by clicking on **Add Rule.**

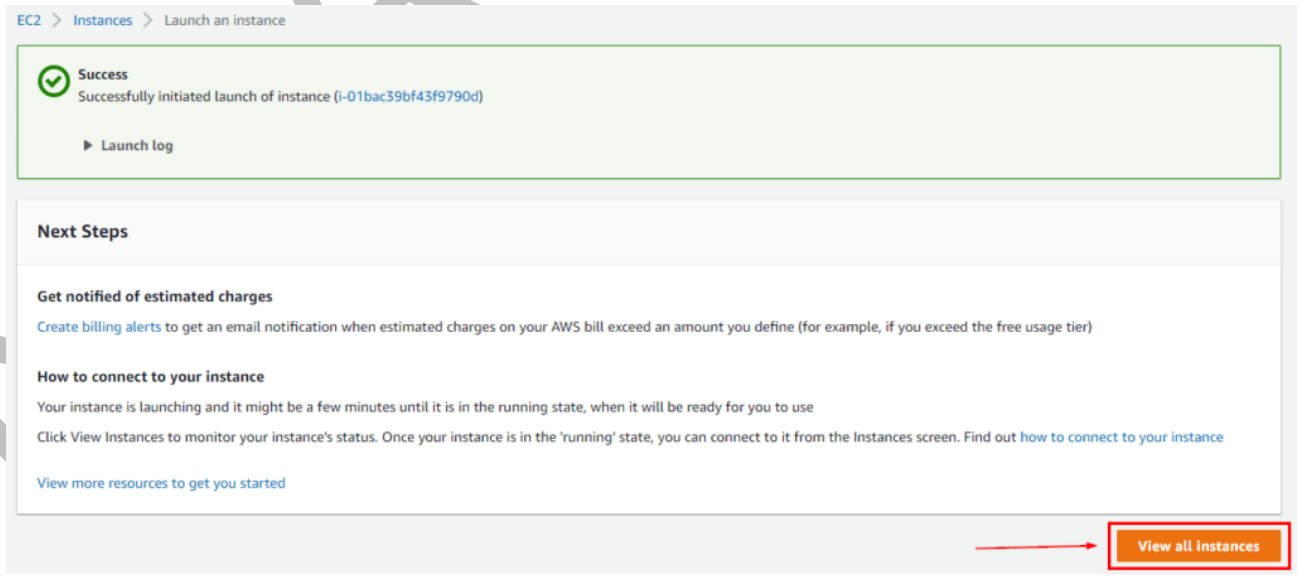


Note: A **security group** acts as a virtual firewall for your instance to control inbound and outbound traffic. For, each security group, you add rules that control the inbound traffic to instances, and a separate set of rules that control the outbound traffic.

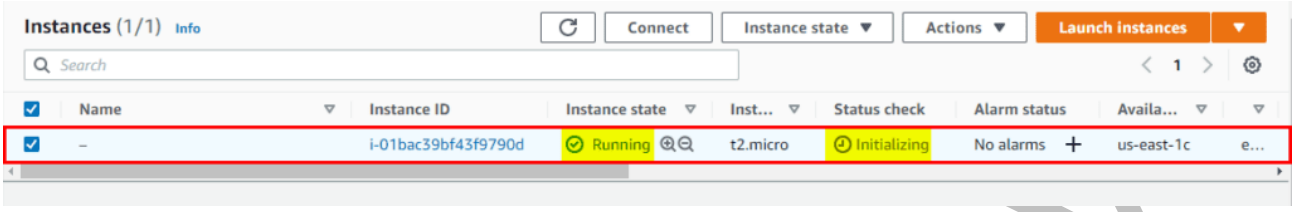
9. Now, keep everything default and click on **Launch Instance.**



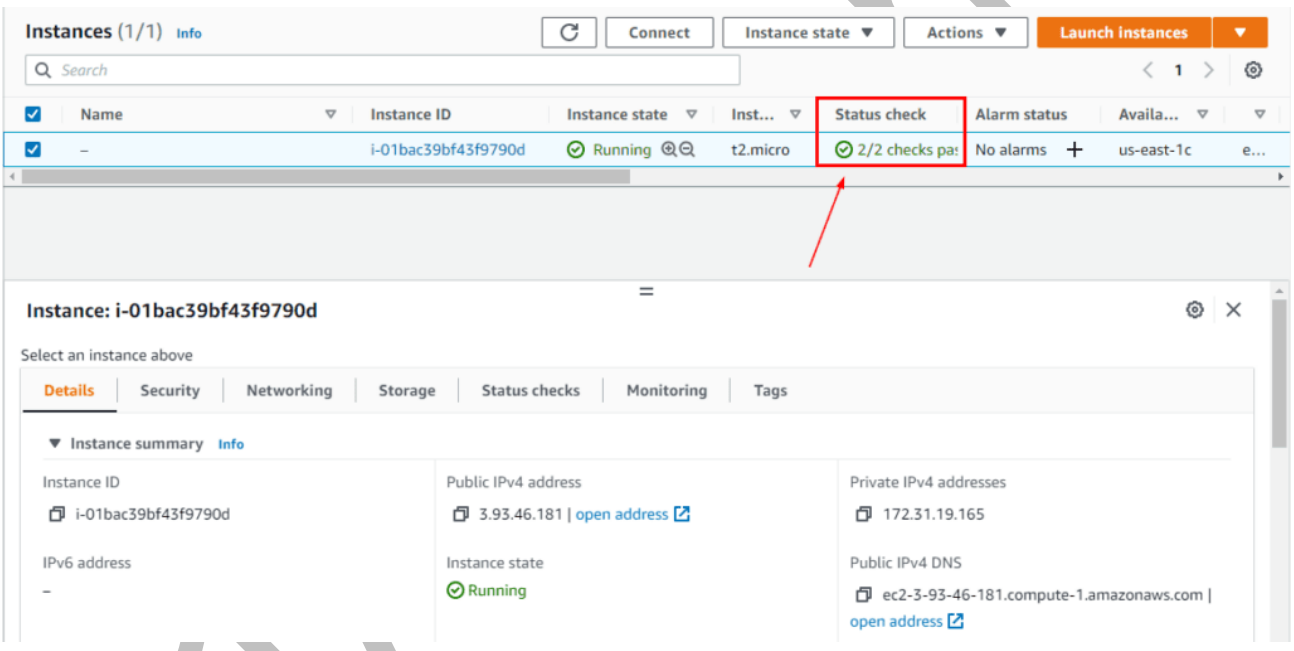
10. Now click on **View all Instances.**



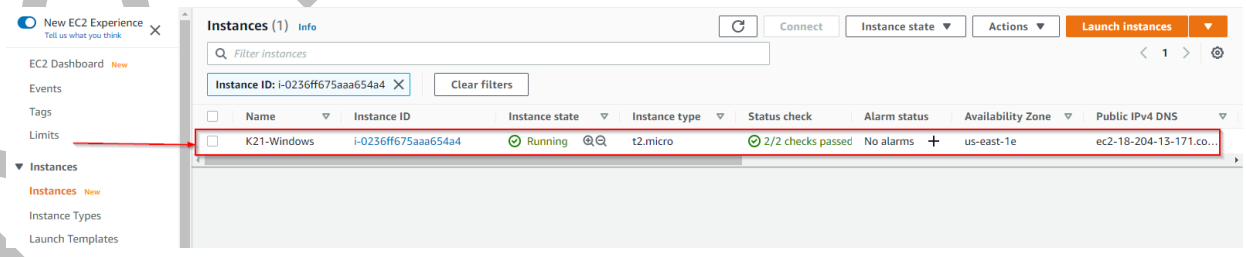
11. Here, you shall see your instance is launching and the Status check is **Initializing**, wait for some time.



12. Refresh and you shall see your instance is Up and Running, and the Status check has changed to **2/2 checks.**



13. Now we have successfully created our **Windows EC2 Instance**.

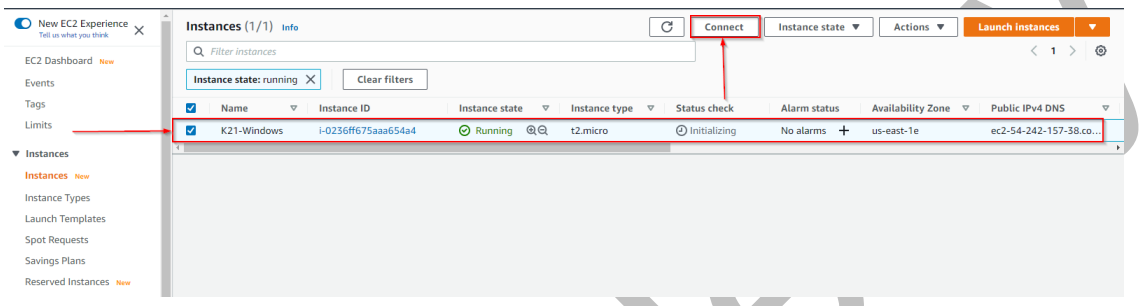


Thus we have successfully created the Windows Instance

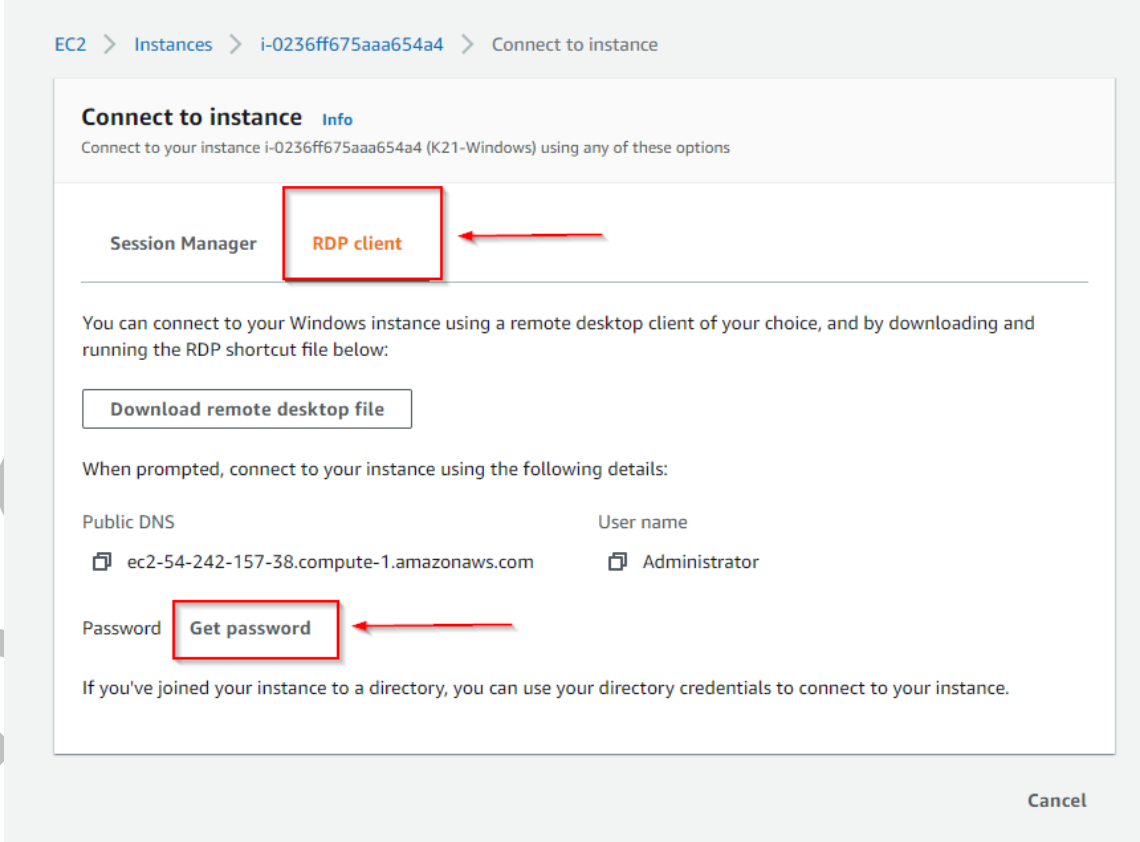
4.2 Connect to the Windows Instance

Note: In this section we will be providing detailed steps for connecting to our Windows Instance using Remote Desktop Connection.

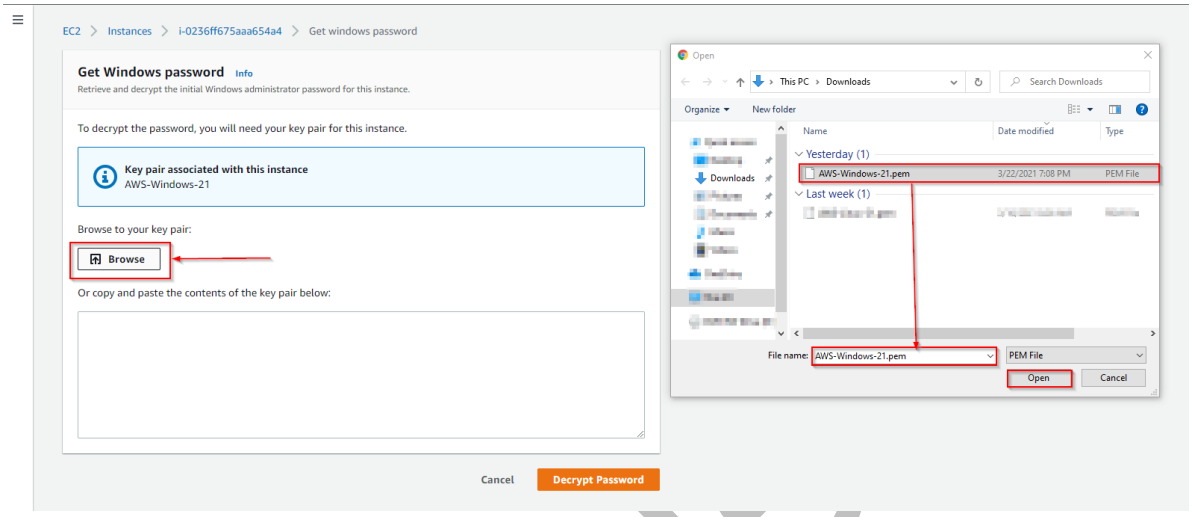
1. Select the **Windows Instance** we just created and click on **Connect**



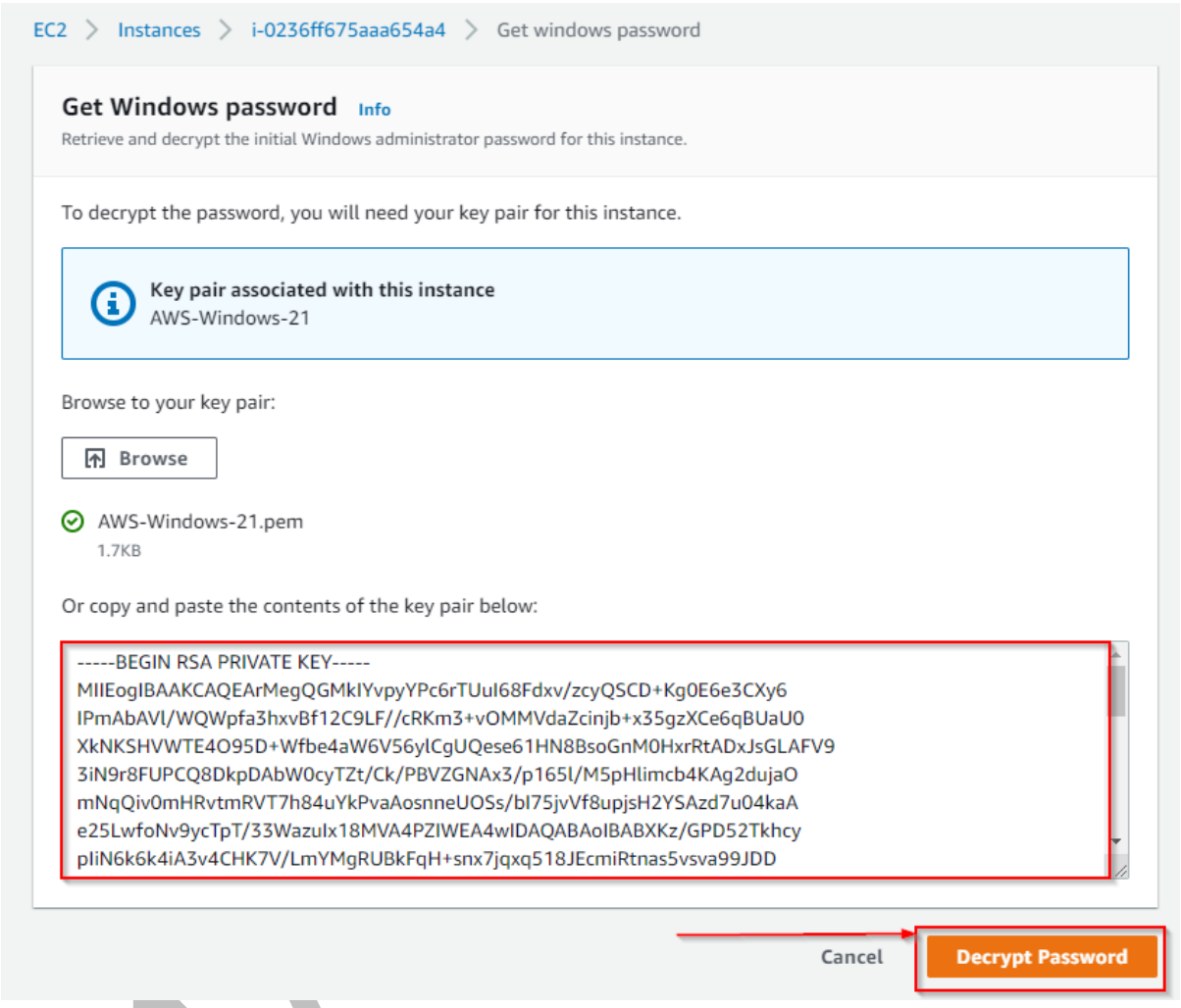
2. Click on **RDP Client** and then click on **Get Password.**



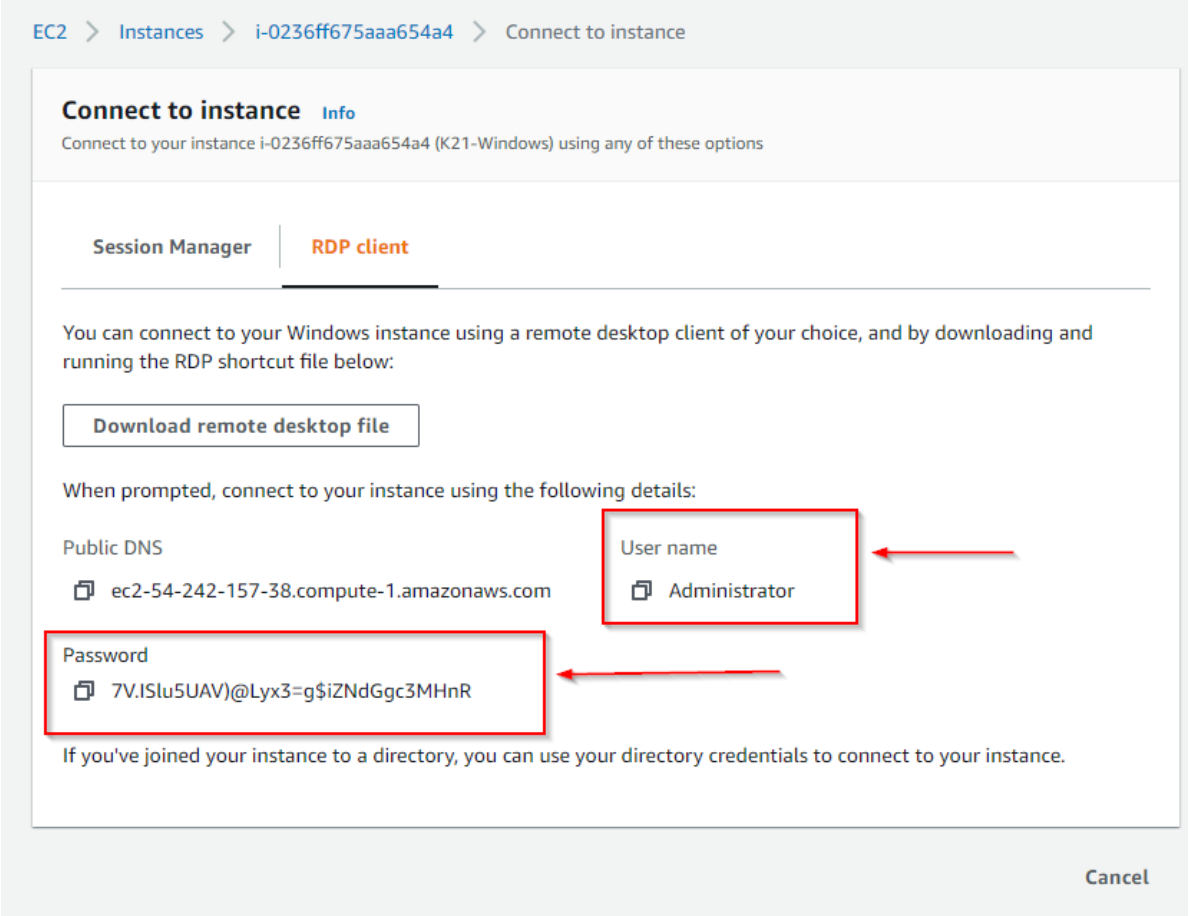
3. Now click on Browse and select the **key pair** we just created at the time of instance launching. Then click on **Open**



4. Click on **Decrypt Password**

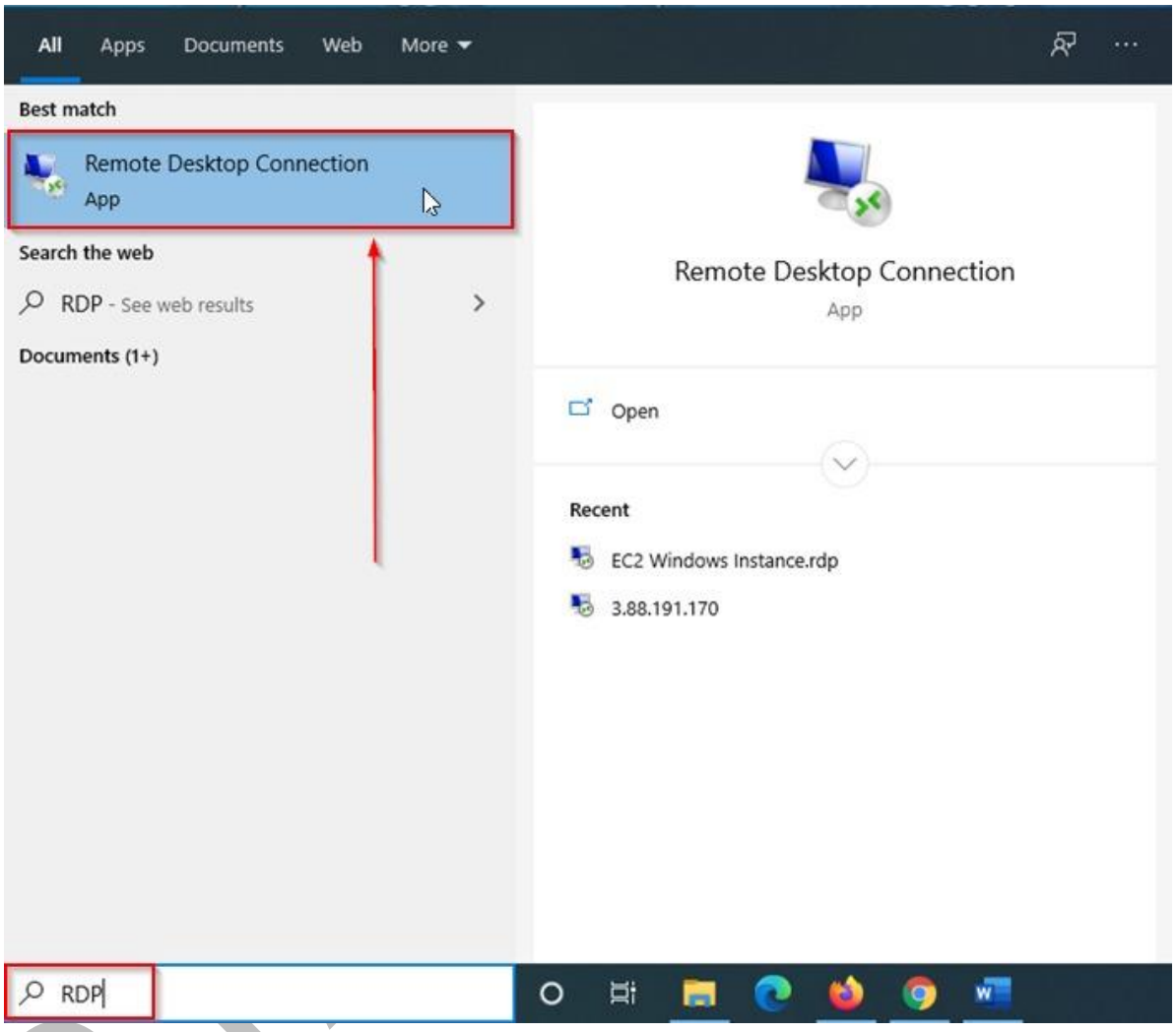


5. After this you will get the **decrypted password** for the instance.

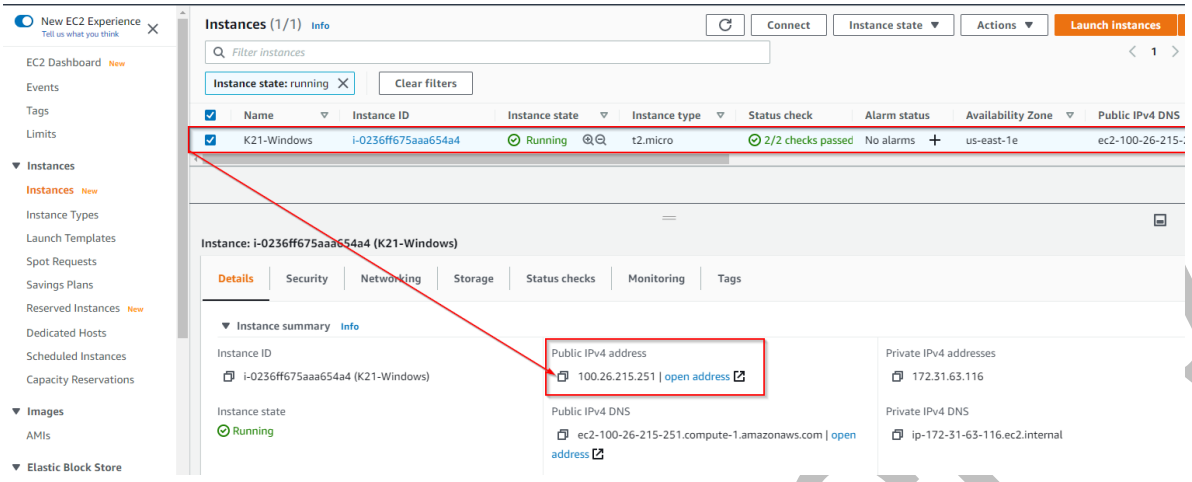


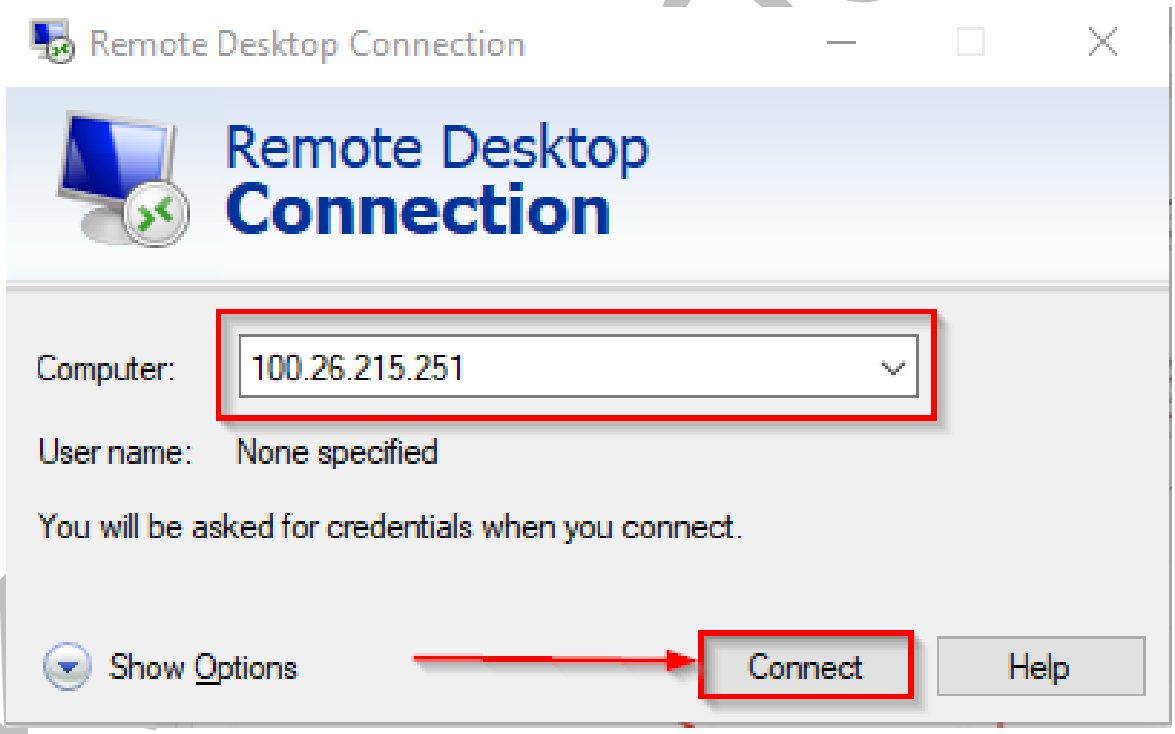
Note: Make a note of this **Username and Password** as we will be using this password for connecting to the Windows Instance.

6. In order to connect to the instance again, search for **RDP** in the Start menu and open it.

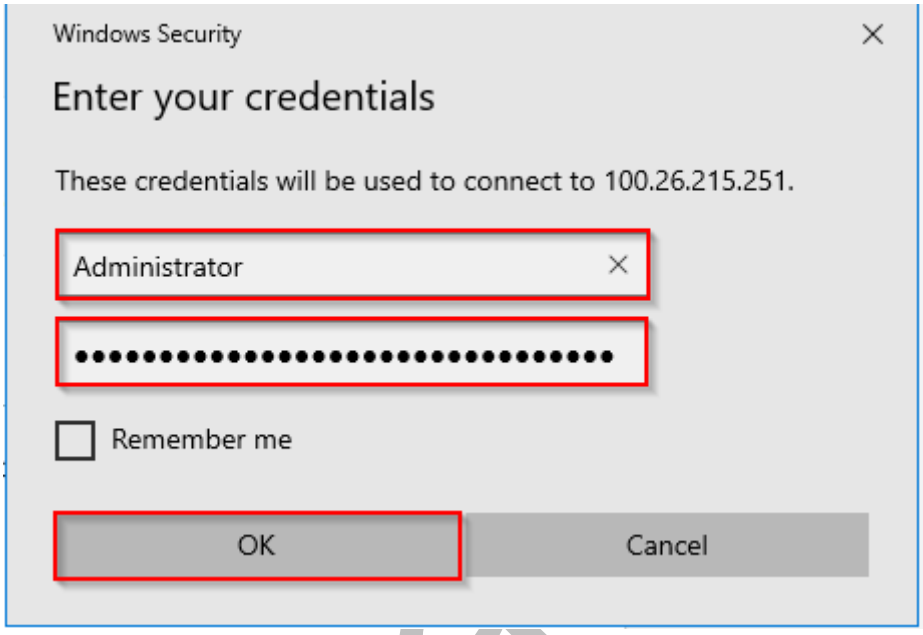


7. Now copy the **Public IP** of the Windows Instance and paste it and click on **Connect**

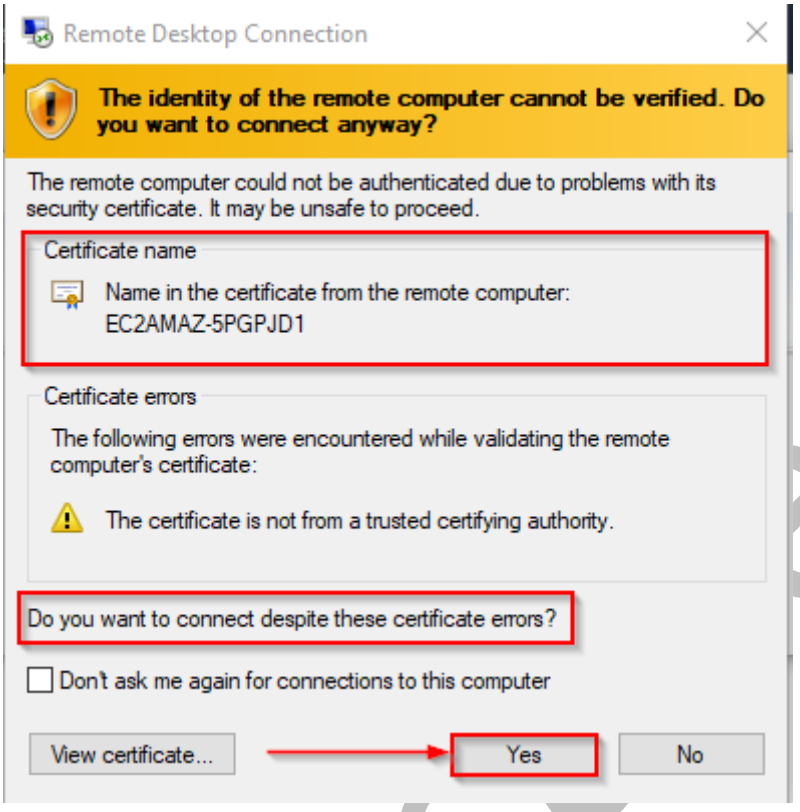




8. Now enter the **Username** (Administrator by default) and the **Password** that you had decrypted earlier.



9. Click on **Yes.**



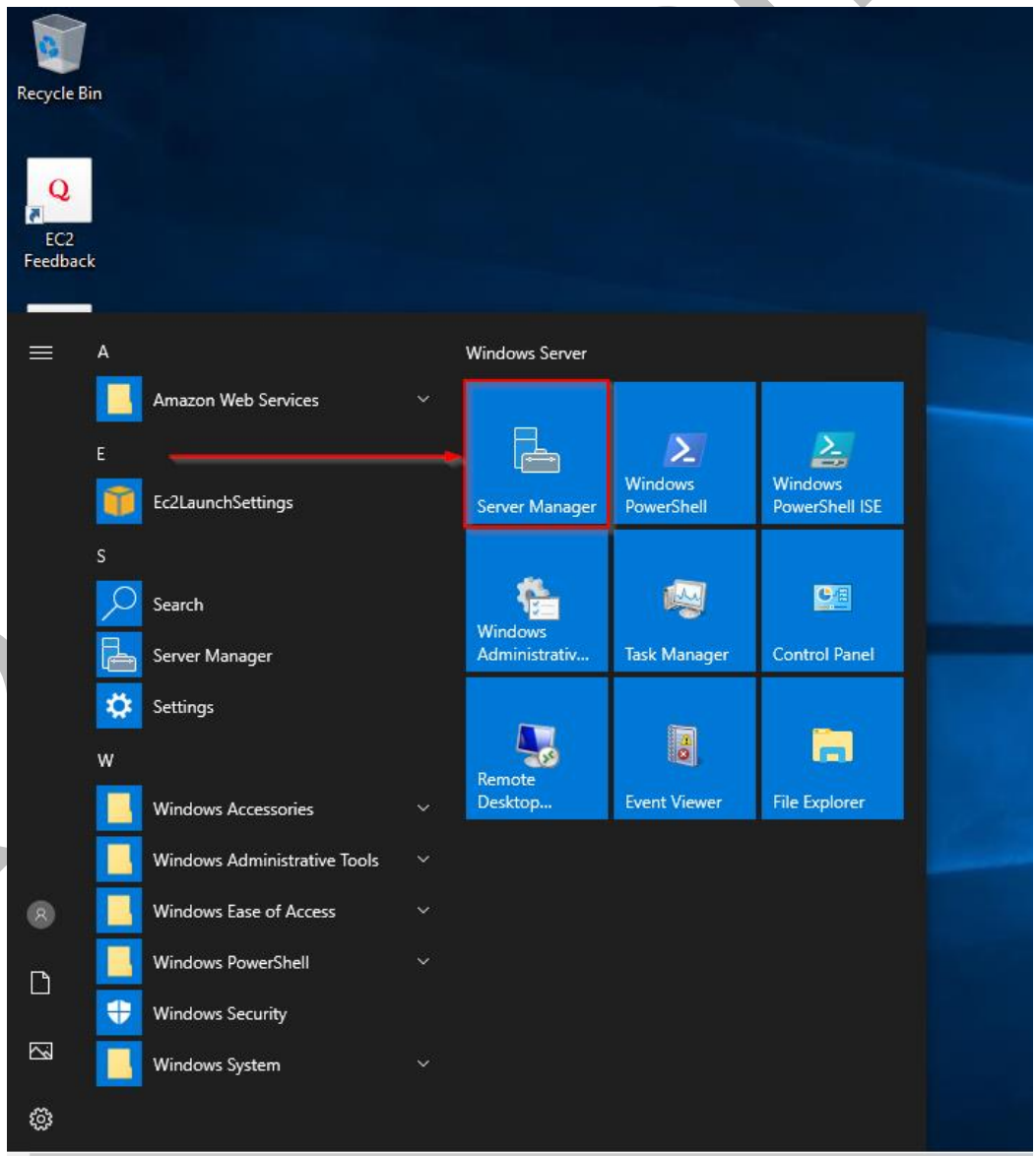
10. You will be logged in to the **Windows Instance**

Thus, we have successfully logged in to the Windows Instance

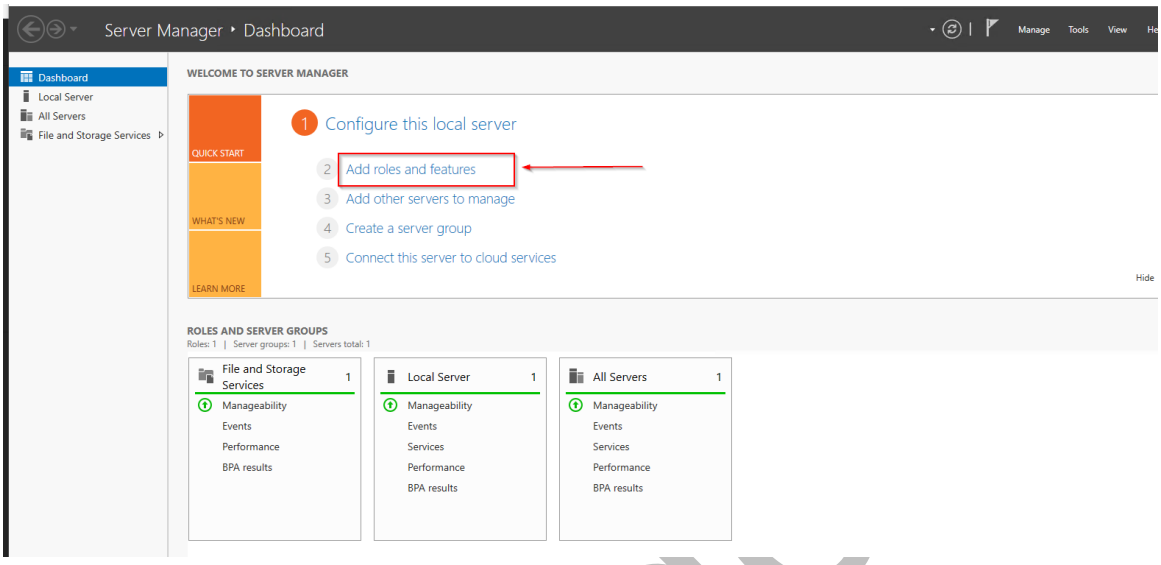
5 INSTALL WEB SERVER (IIS) ON WINDOWS EC2 INSTANCE

Internet Information Services (**IIS**, formerly Internet Information **Server**) is an extensible web **server** software created by **Microsoft** for use with the **Windows** NT family. IIS is used to host ASP.NET web **applications** and static websites. It can also be used as an FTP server, host WCF services, and be extended to host web applications built on other platforms such as PHP. There are built-in authentication options such as Basic, ASP.NET, and Windows auth.

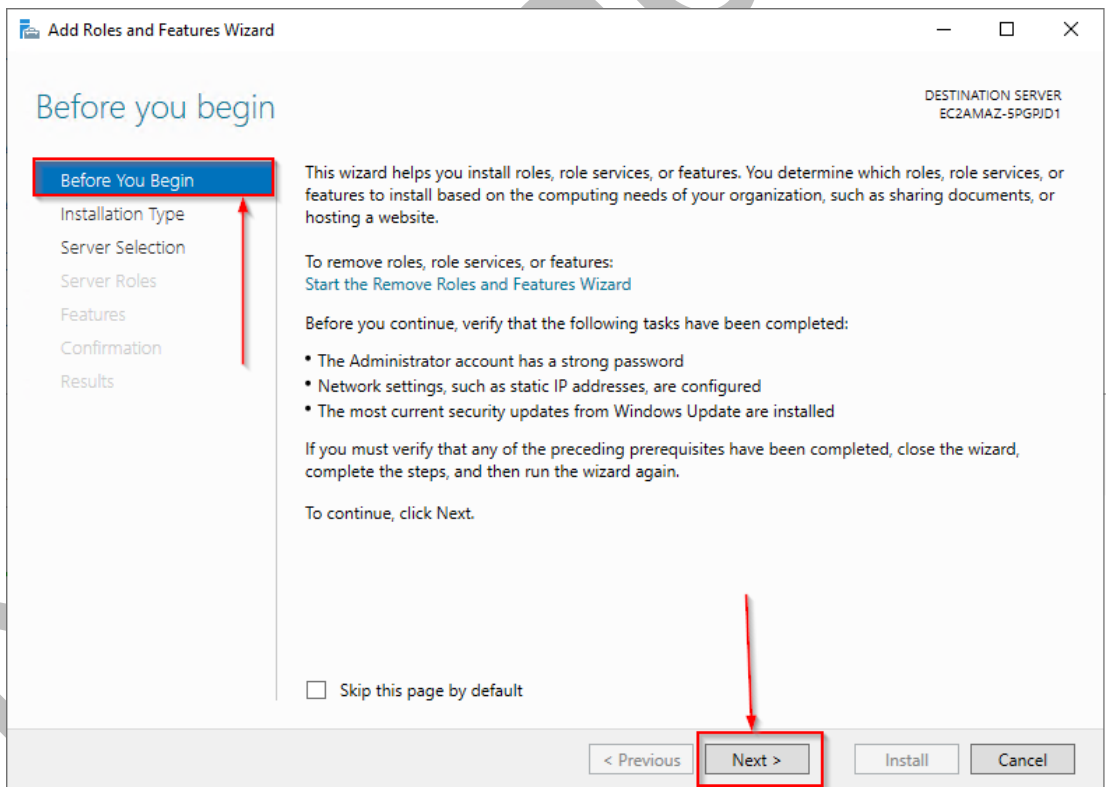
1. Once logged in to the Windows Instance, click on **Start button** and then click on **Server Manager**.



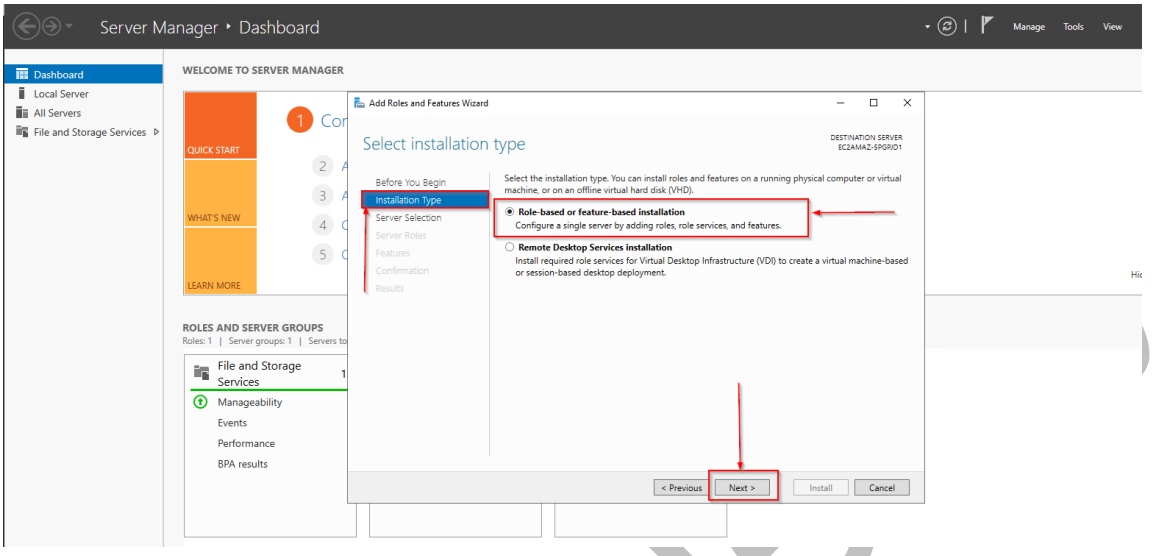
2. Click on **Add roles and features.**



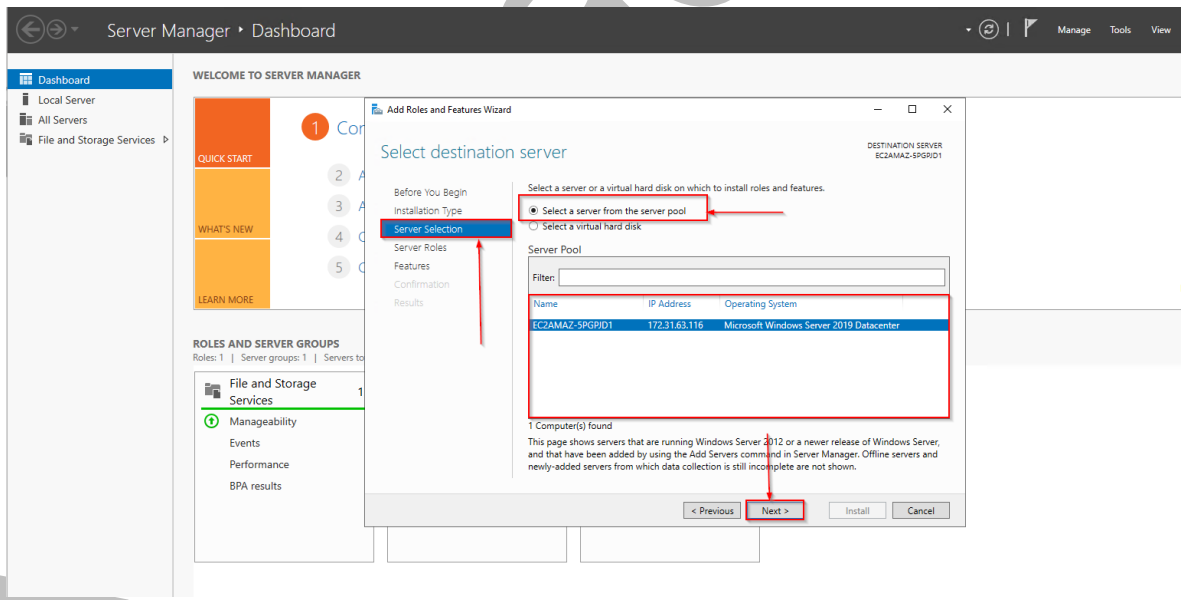
3. Click on **Next.**



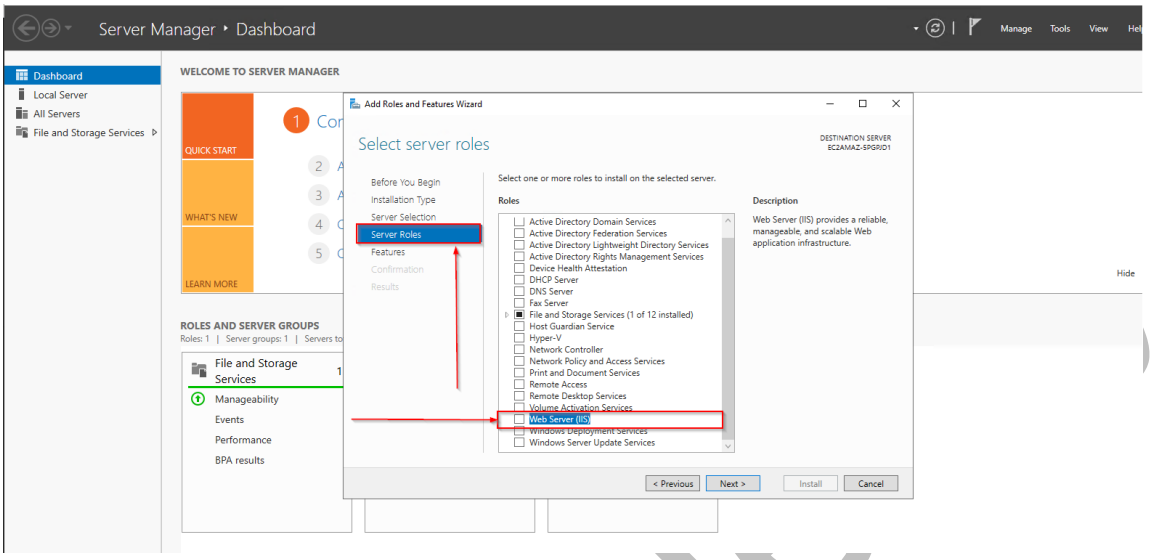
4. Click on **Role based or feature based Installation** and then click on **Next**



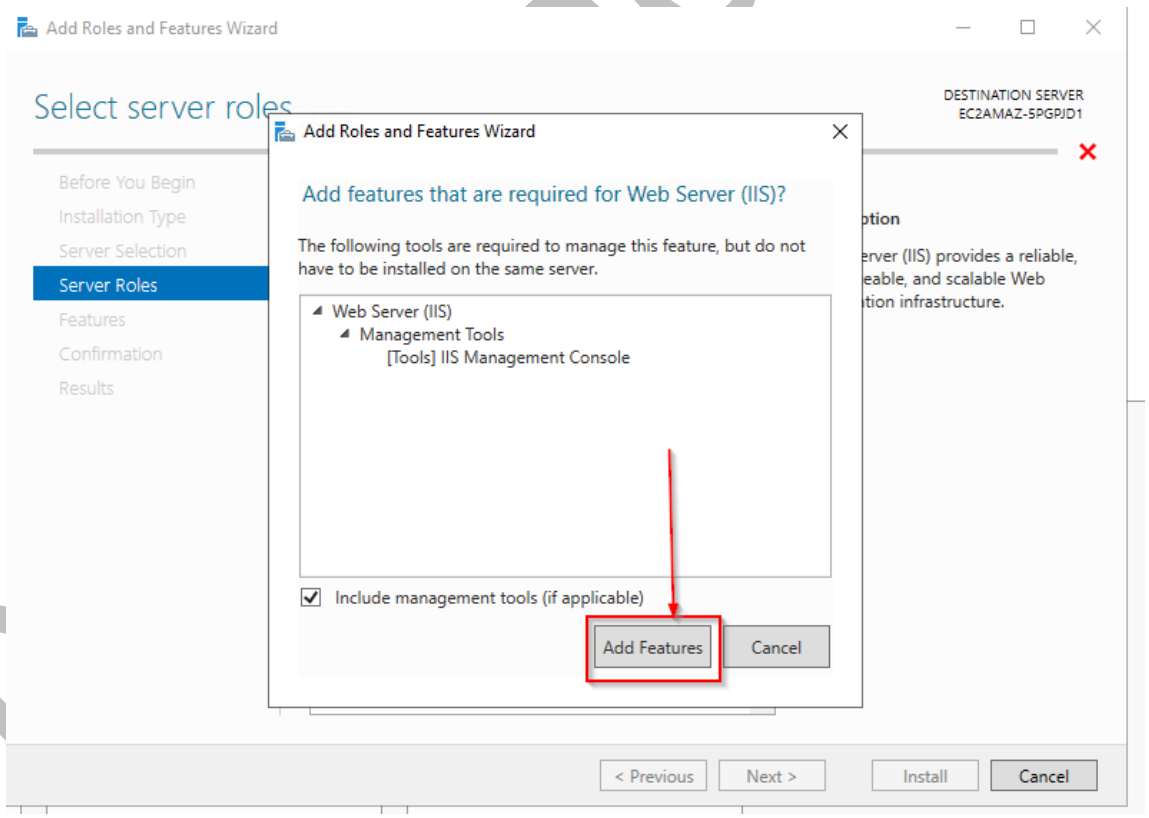
5. Keep everything **default** and click on **Next**



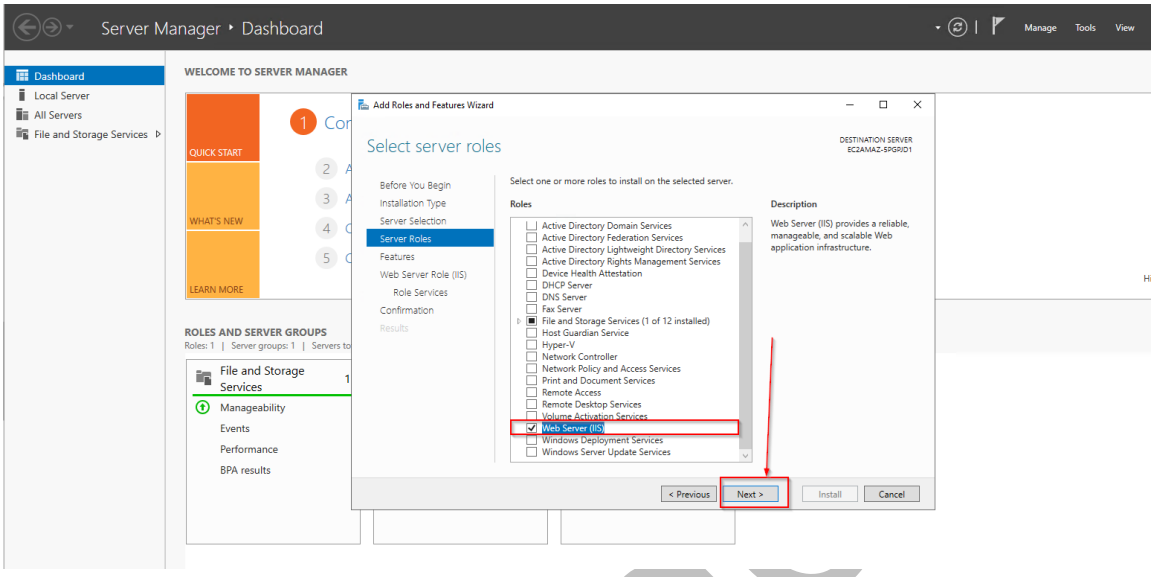
6. Scroll down a bit and click on **Web Server (IIS)**



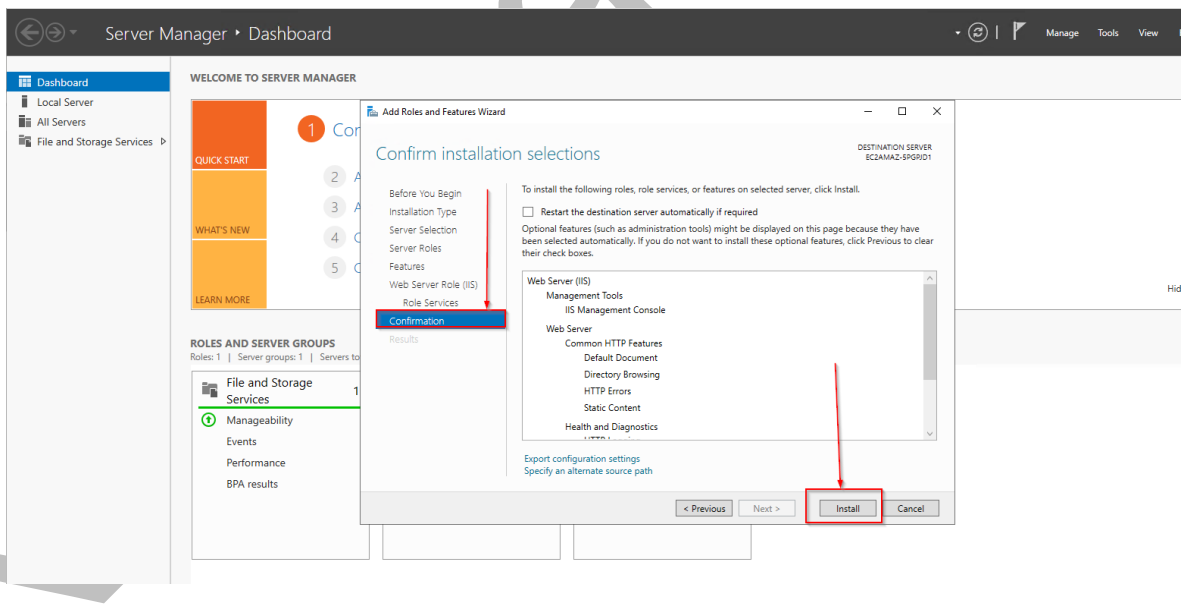
7. As you click on **Web Server (IIS)**, a small dialog box will open. Click on **Add Features**



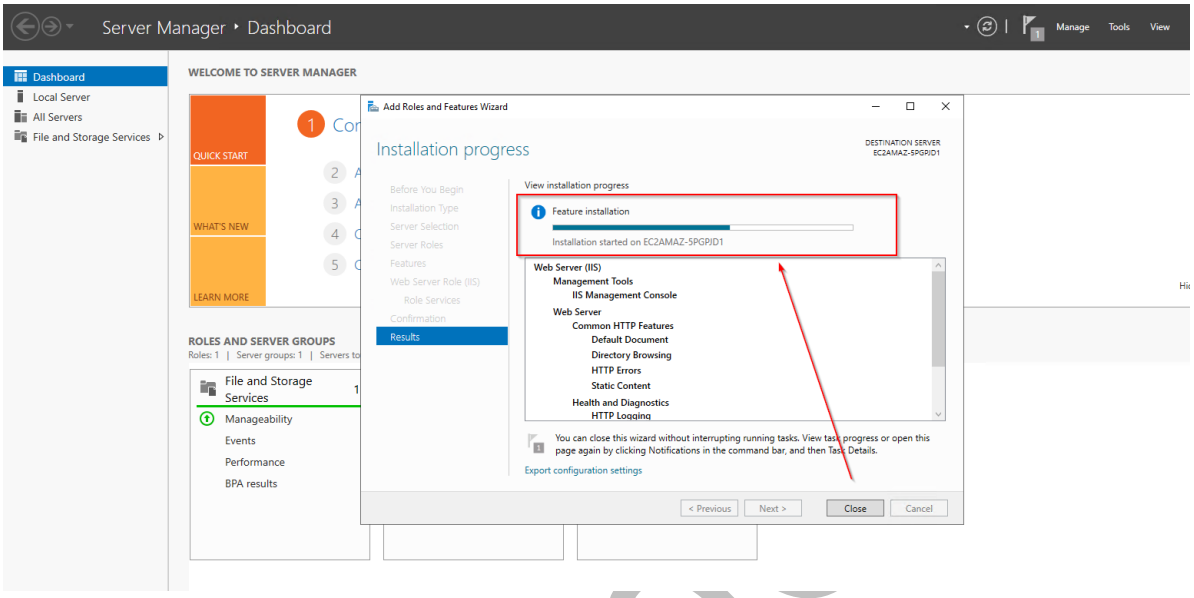
8. Now click on **Next** again.



9. Now keep clicking on **Next** till you reach **Install** dialog box.

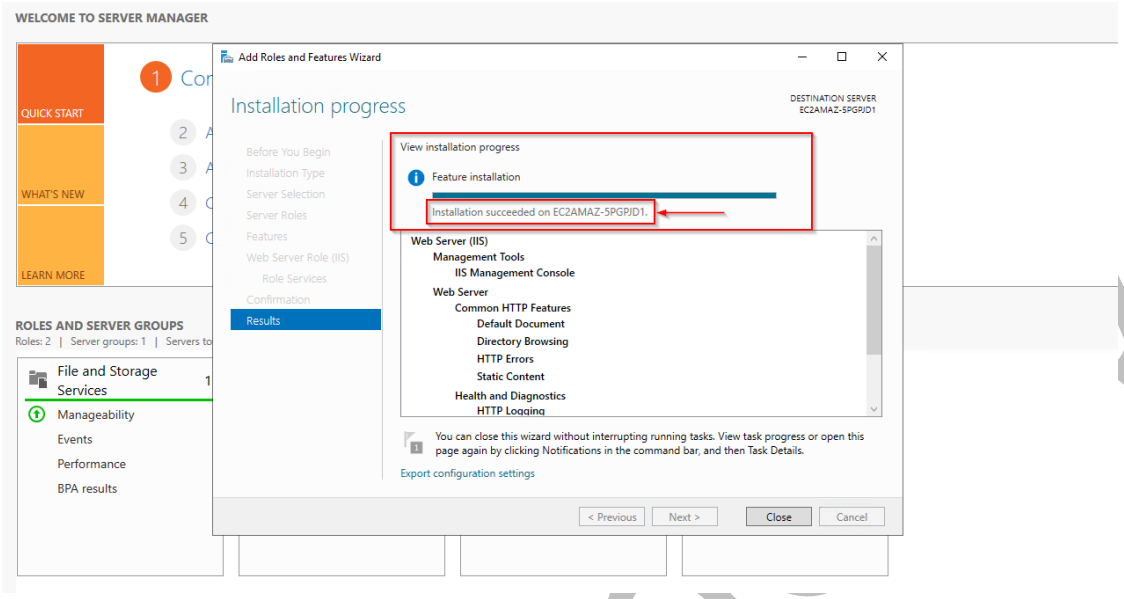


10. The **installation** will start as shown below.



Note: The feature installation will take some time (**approx. 5 minutes**) to complete. Please be patient.

11. The installation is **complete** now.

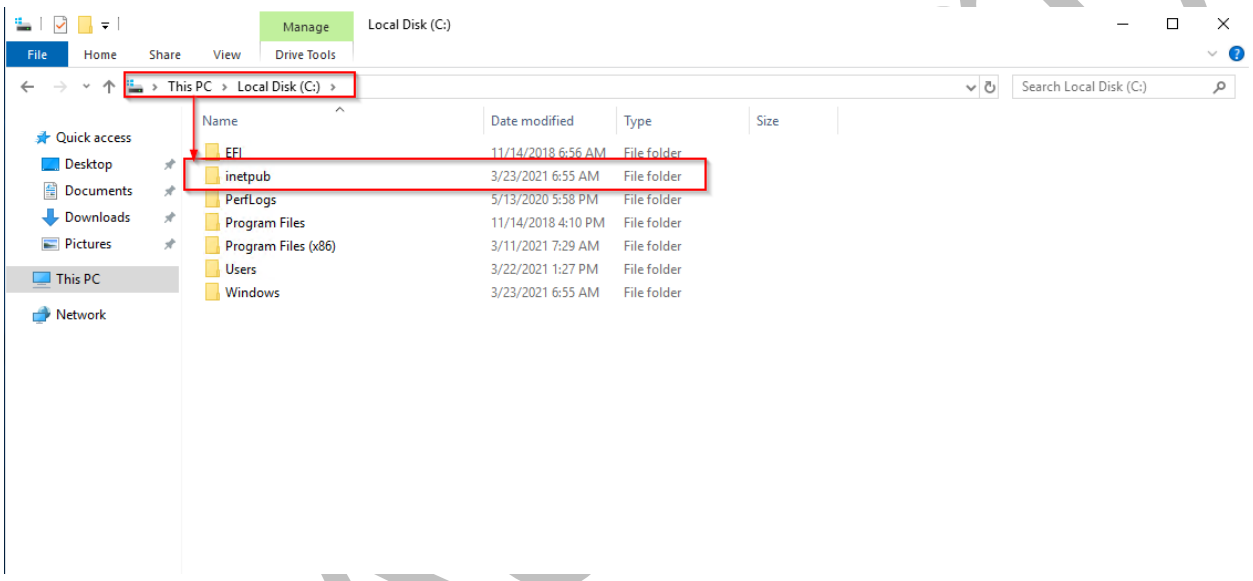


Thus we have successfully installed IIS on our Windows Instance.

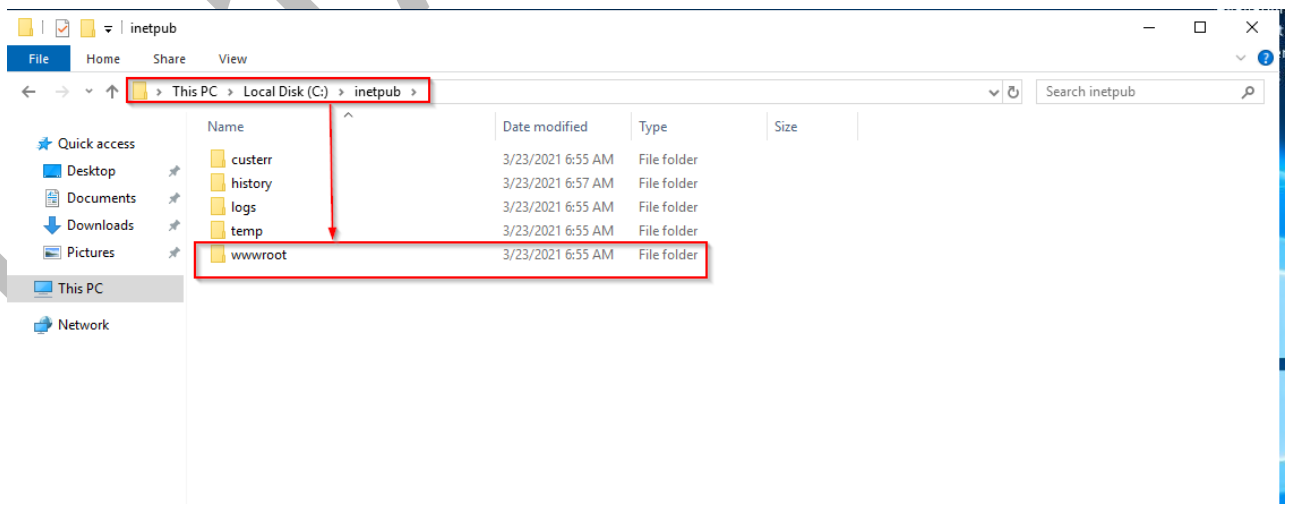
6 ACCESS WEB PAGE THROUGH SERVER MANAGER

In this section we will be providing detailed steps as to how you can access the web page after you have installed IIS on your Windows virtual machine

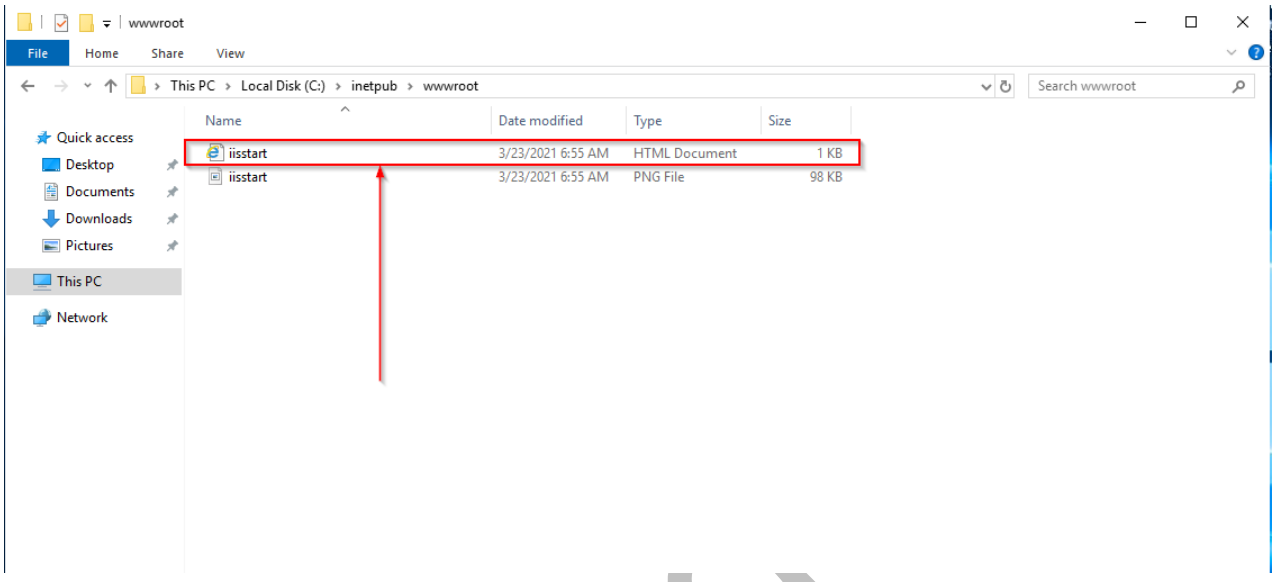
1. Navigate to the **local disk** of you Windows Virtual machine. You will see a folder by the name i**netpub** created in your local disk. Double click to open it.



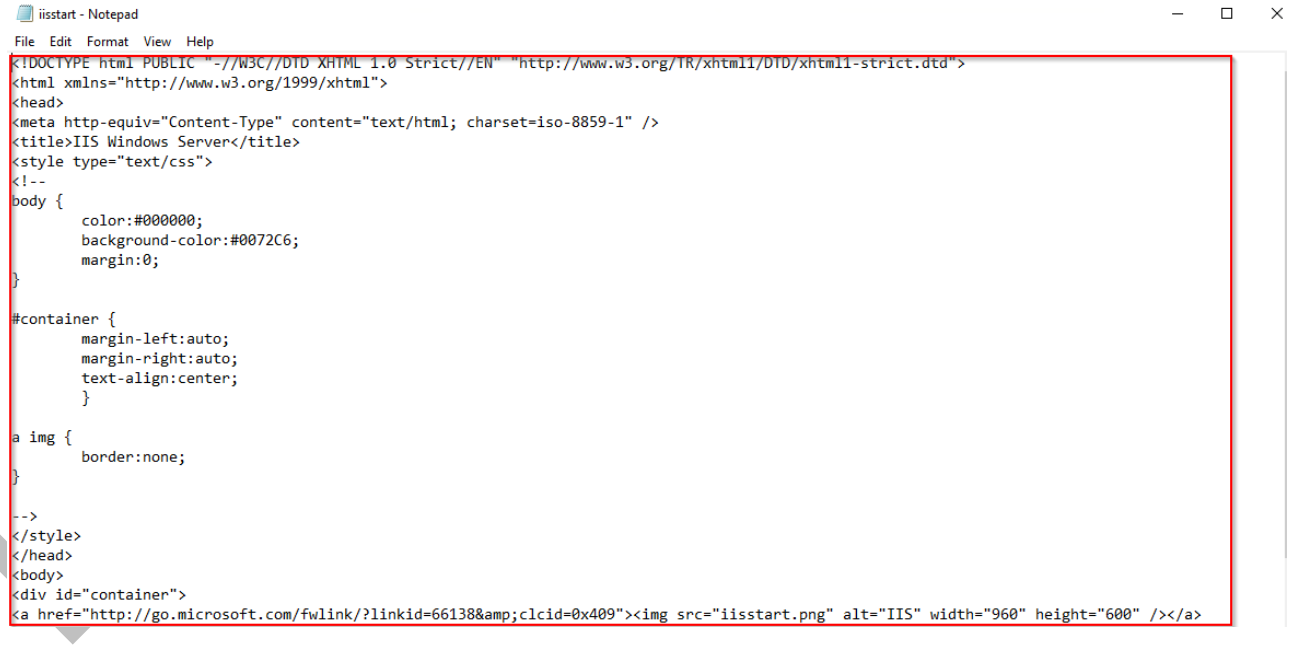
2. Once you have opened it, now double click on **wwwroot** folder to open it.



3. You will find an HTML document inside by the name **iisstart.** This will be the **home page** of your web server.



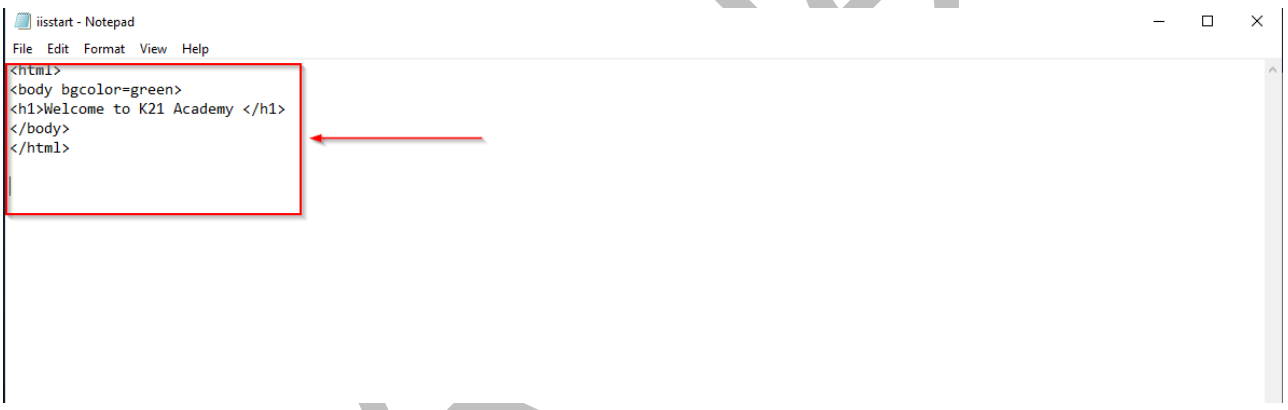
4. Right click on this file and open with **Notepad**. It contains a HTML code as shown below.



5. Now to make our web page look a bit attractive. We will edit this HTML code by erasing everything in it and write our own HTML code and **Save** it.

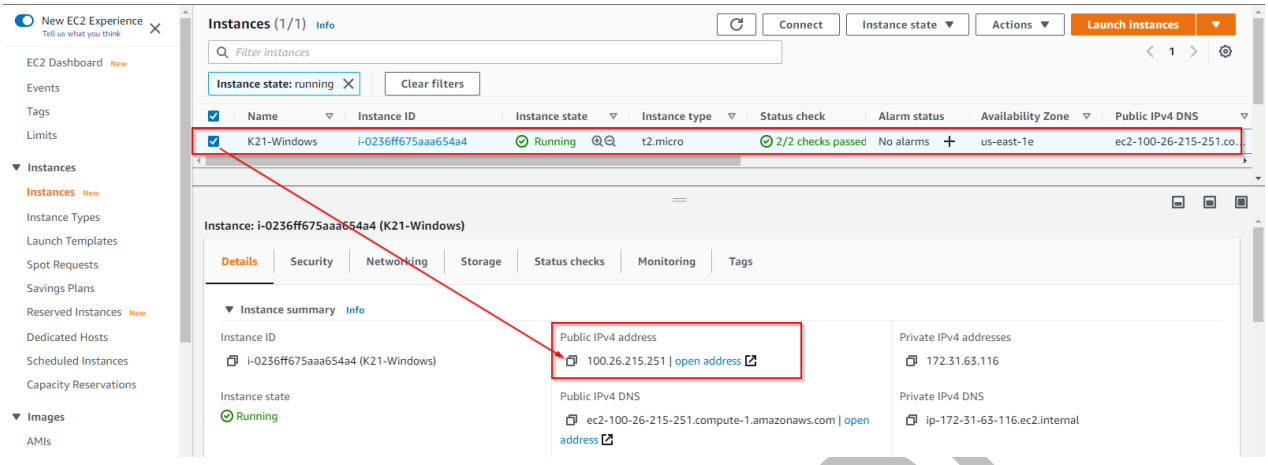
   Note: If you don't want to edit the existing **HTML code** and want to keep it as it is you can skip this step and follow the next step

```
<html>
<body bgcolor=green>
<h1>Welcome to K21 Academy </h1>
</body>
</html>
```

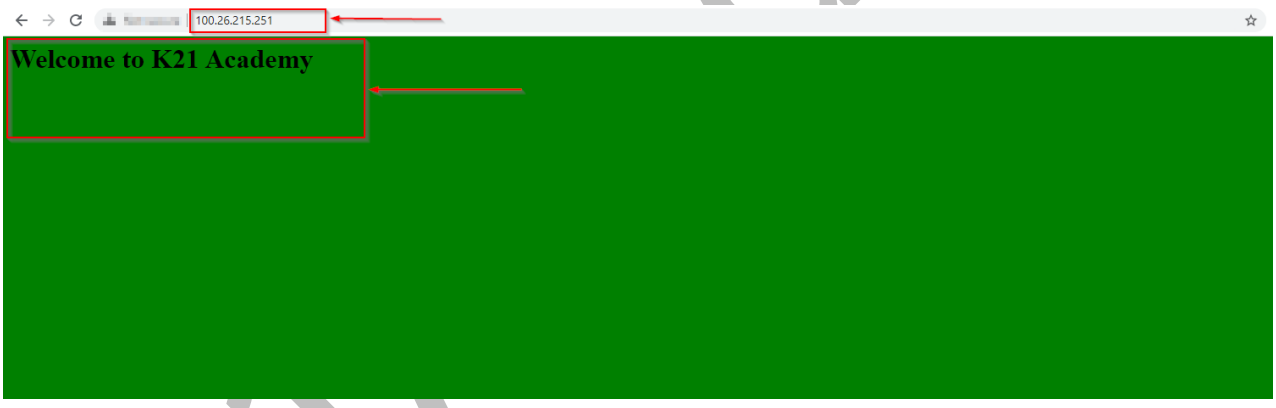


Note: Don't forget to save it by clicking on **File** at the top left corner and then click on **Save.** If you don't save the changes will not appear on the web page

6. Switch to the **EC2 console**, select the **Windows Instance** and copy its **Public IP**.



7. Now try hitting this **Public IP** of the **Windows Instance** in your Browser.



Thus we have successfully accessed the Webpage

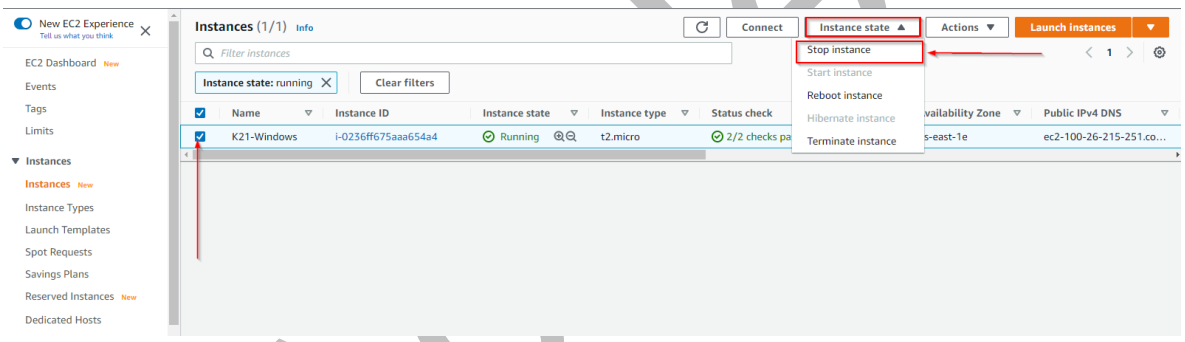
7 DELETE RSOURCES

In this section, we will delete all the resources that we used in the lab as keeping them running will charge us. So, all the resources must be deleted once you do not require them in order to be in free tier limit.

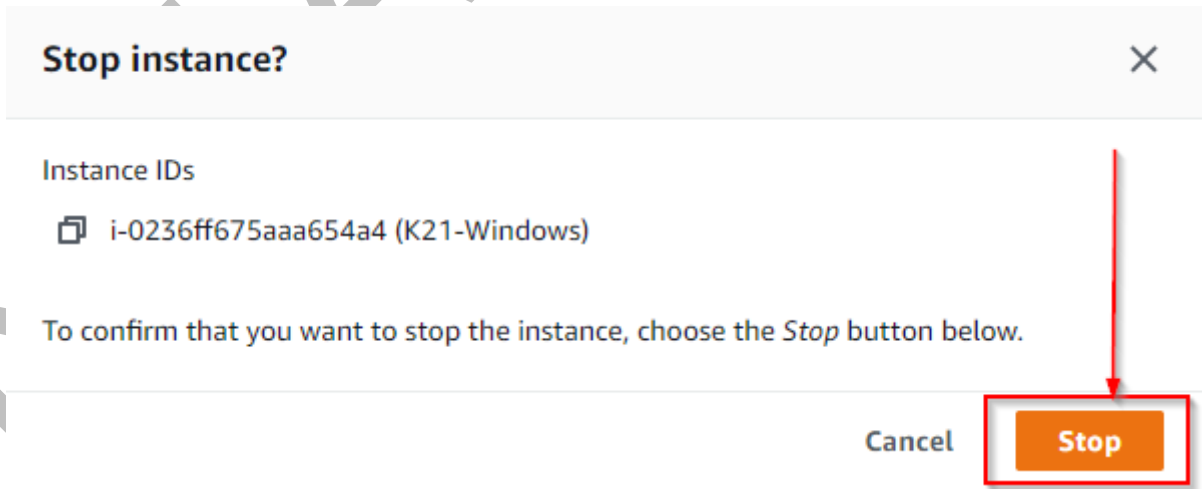
7.1 Stop the Windows Instance

Note: This section will cover steps to stop the windows instance

1. Go to your Instance and select the Windows Instance. Click on **Instance State** and click on **Stop Instance.**



2. Click on **Stop** to stop the Instance

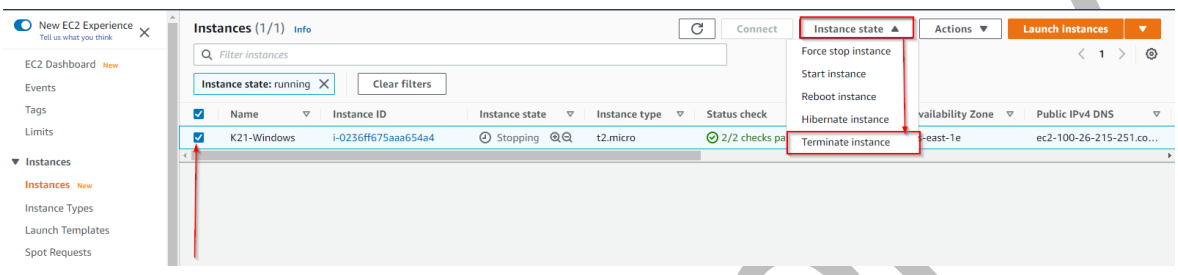


Thus, we have successfully stopped the Instance.

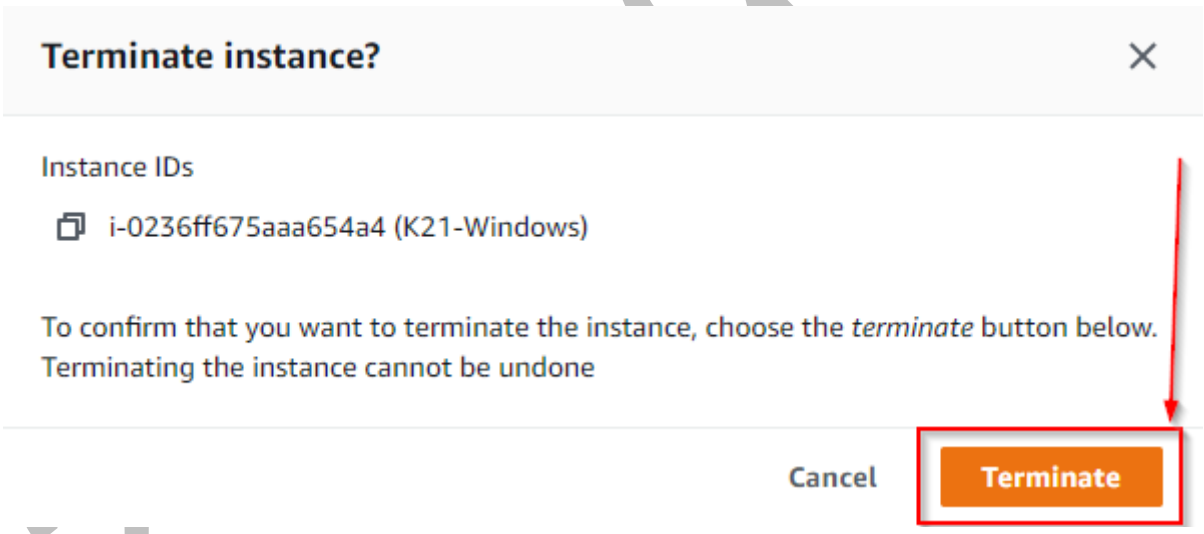
7.2 Terminate the Windows Instance

Note: This section will cover steps to terminate the windows instance

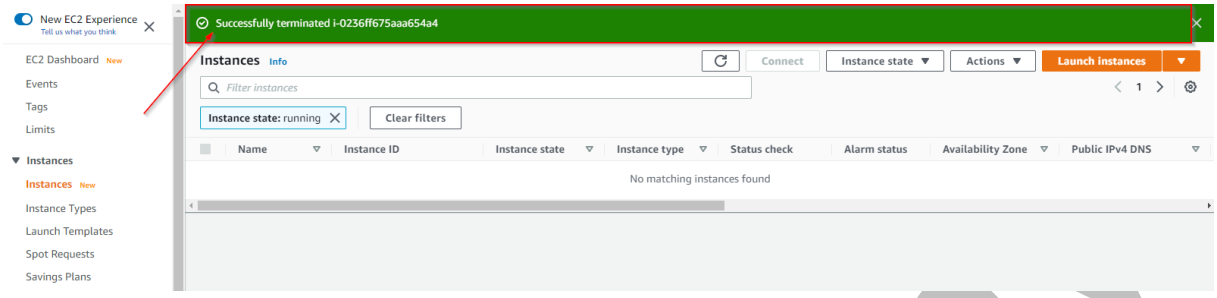
1. Go to your Instance and select the Windows Instance. Click on **Instance State** and click on **Terminate Instance.**



2. Click on **Terminate** to terminate the Instance



3. The Instance will be **deleted**.



Thus we have successfully deleted the Instance

8 SUMMARY

This activity guide cover steps for:

1. Create Windows EC2 Instance
2. Connect to Windows EC2 Instance
3. Install Web Server (IIS) in Windows EC2 Instance
4. Access Webpage through Server Manager
5. Delete Resources