K21Academy
Learn Cloud from Experts

amazon web services

Creating A Windows EC2 Instance

[Edition 14]

[Last Update 220901]

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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 actually consume, like instance-hours or data transfer.

This activity guide cover steps for:

1. Creating a Windows EC2 Instance

    a. Launching the Windows Instance
    b. Connecting to the Windows Instance
    c. Configure an EC2 Windows instance to allow file downloads using Internet Explorer

2. Deleting/Cleanup

    a. Terminating the Windows Instance
    b. Termination Prevention of Instance

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 PRE-REQUISITE

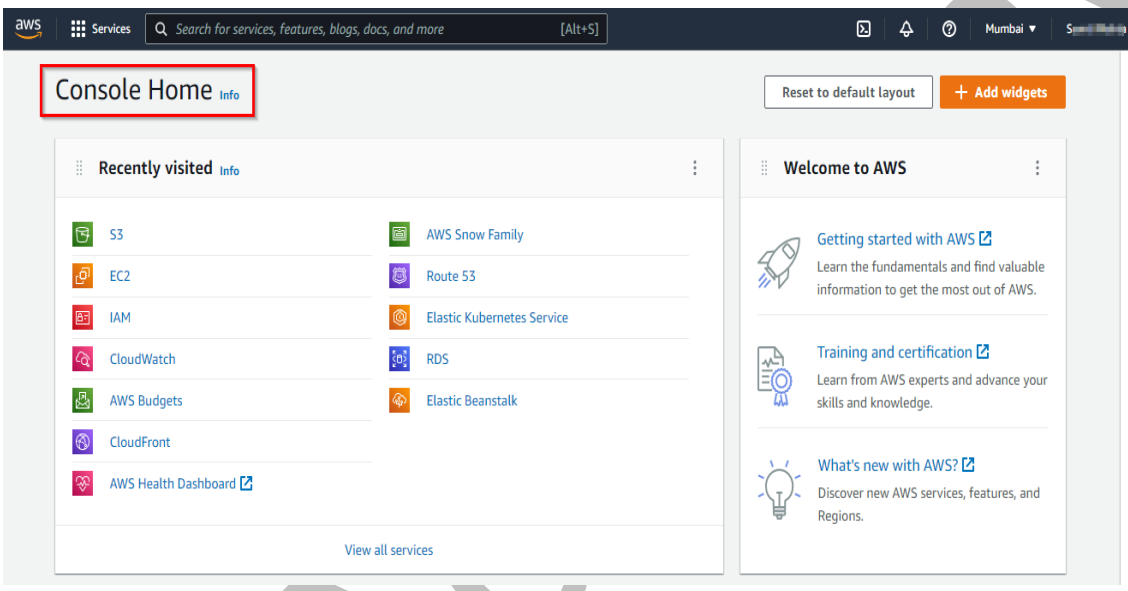
1. An AWS Account (Free or Paid).

4 CREATING A WINDOWS EC2 INSTANCE

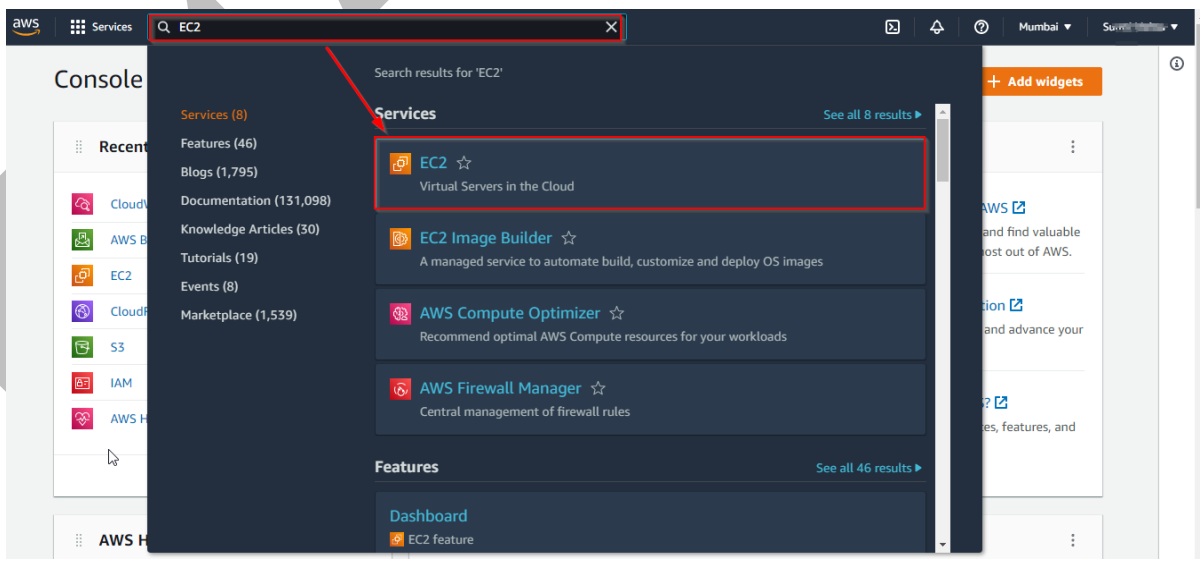
4.1 Launching the Windows Instance

Note: In this section we will be creating a Windows Server 2019 Base

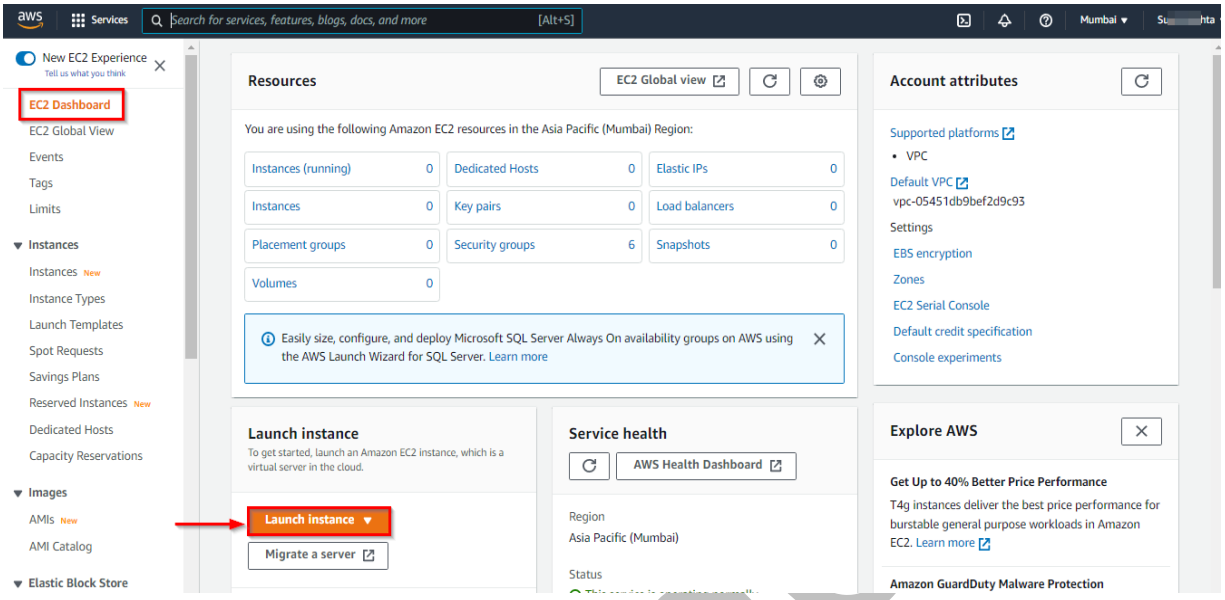
1. Log in to your AWS console.



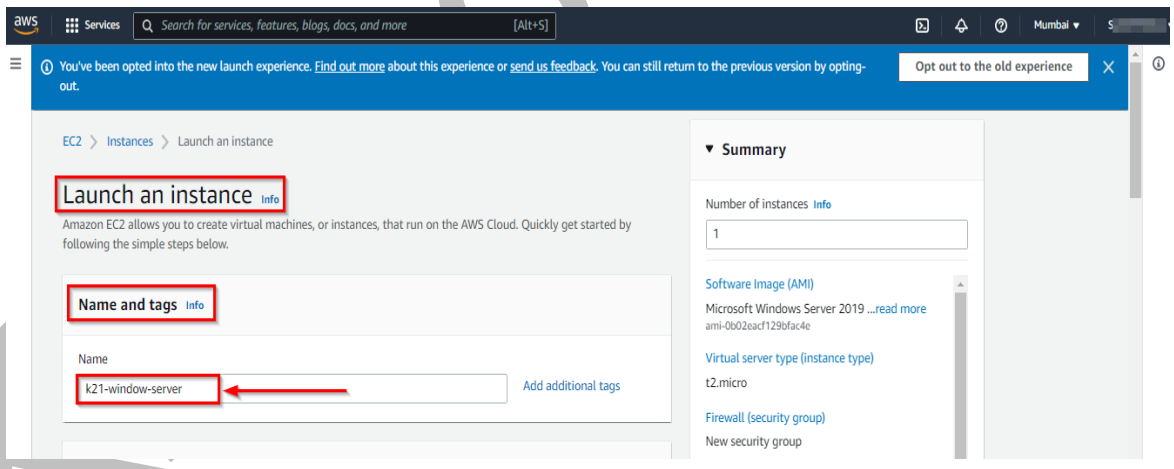
2. Search for EC2 in the search bar and click on it.



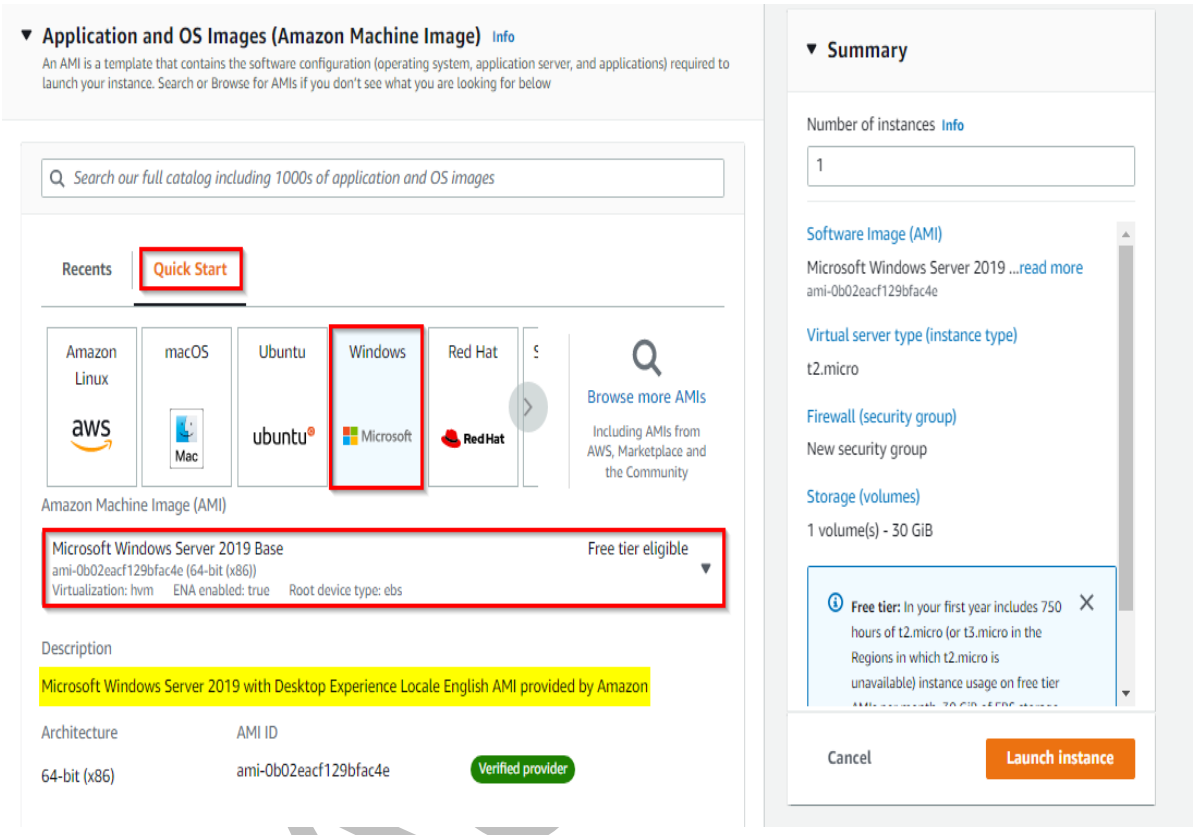
3. Once you are at the EC2 Dashboard, click on **Launch** to launch an instance.



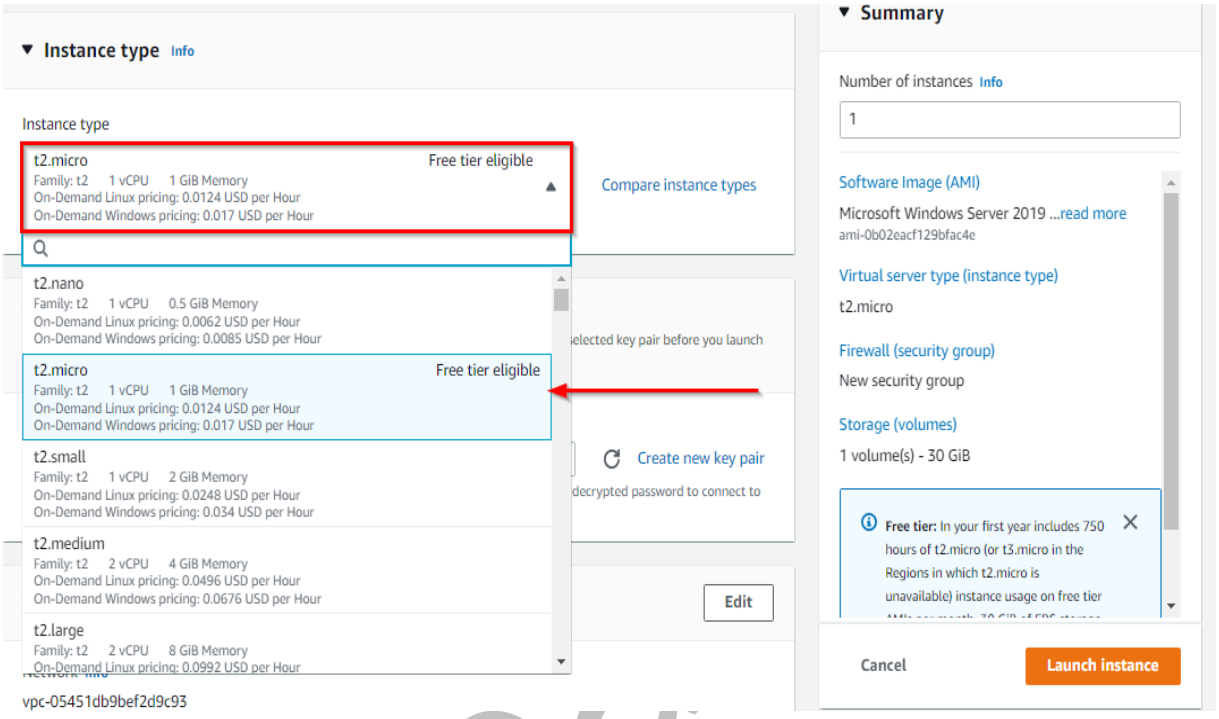
4. In the Name and Tags step you can add tags to an instance, here tags help you to enable categorize AWS resources in different ways, for example, by owner, environment, or purpose.



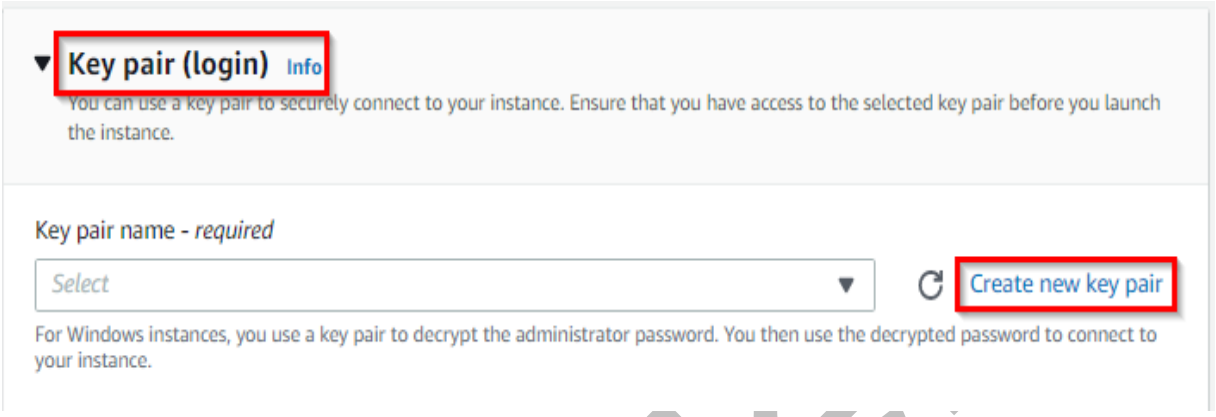
5. In Select **Windows** under QuickStart and Select **Microsoft Windows Server 2019 Base** AMI. You can also select other AMI as per your need but here we are launching a Windows Server, so we have to select the Windows Server 2019 Base AMI.

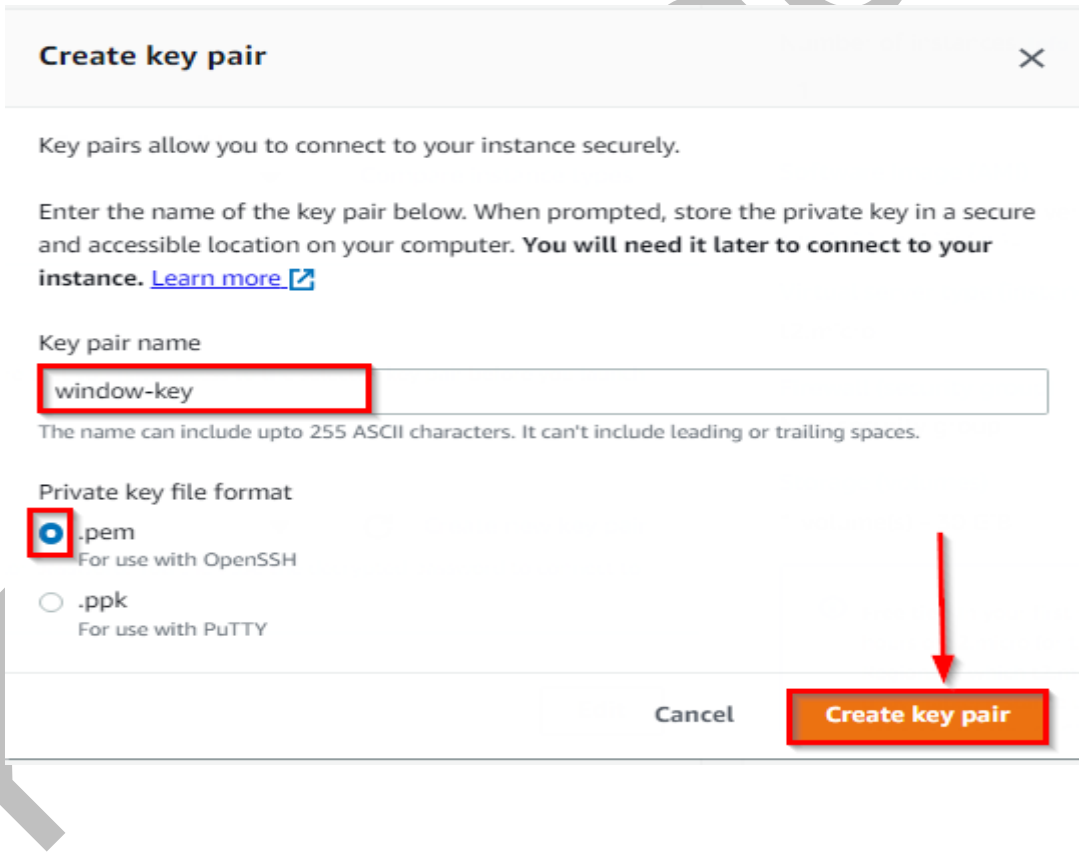


6. For Select the **t2.micro** instance type, if you want you may select another instance type but they are chargeable so we choose the t2.micro instance type which is eligible for the free tier and limited resources.

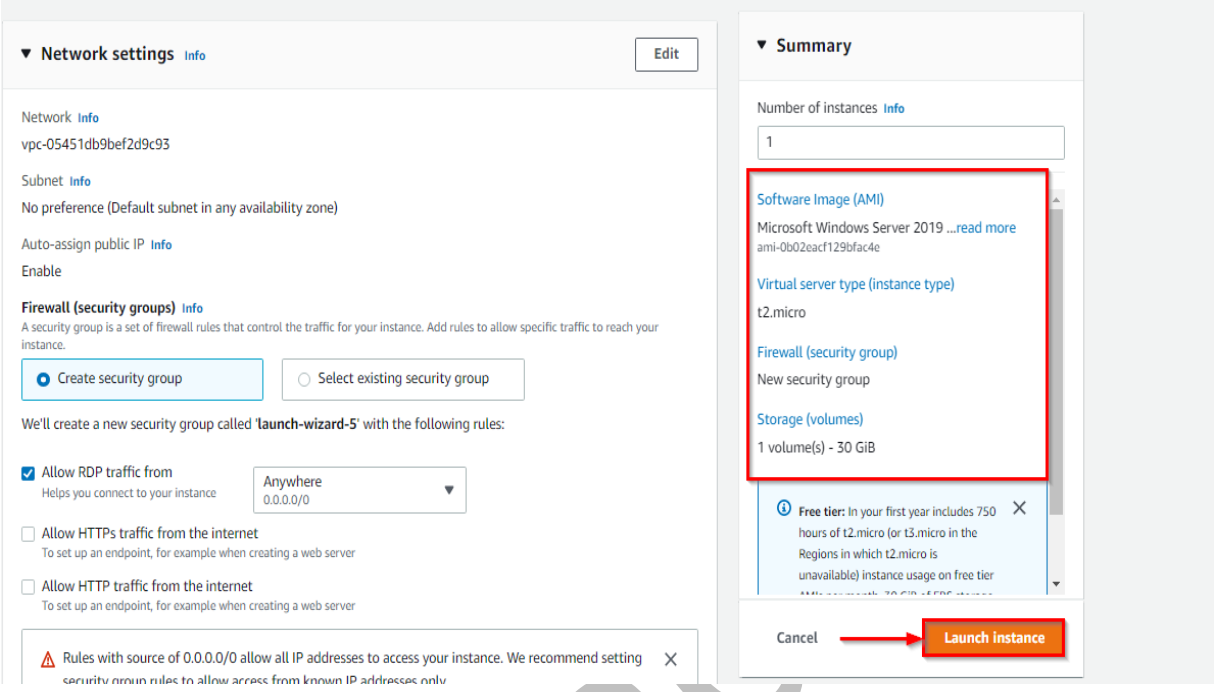


7. Select an existing key pair or create a new one, we will Create a new one, enter the name of the Key-pair as Windows-Key and Create the Key Pair.

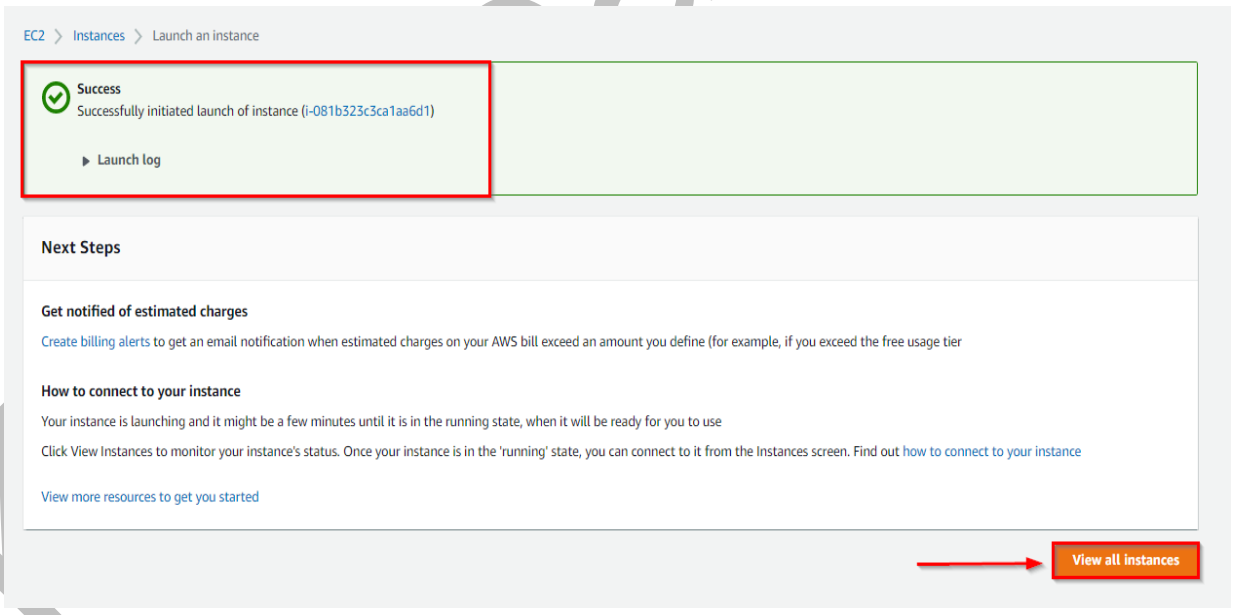




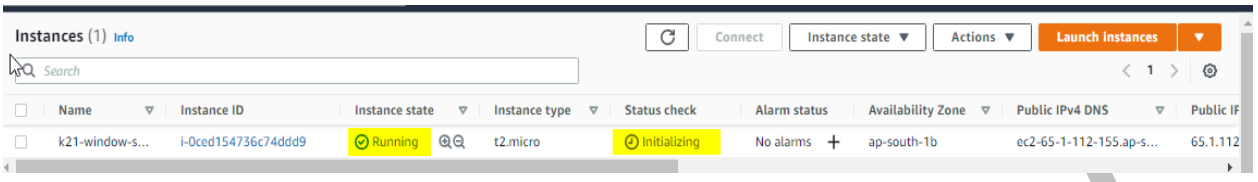
8. Now, keep everything default and click on **Launch Instance.**



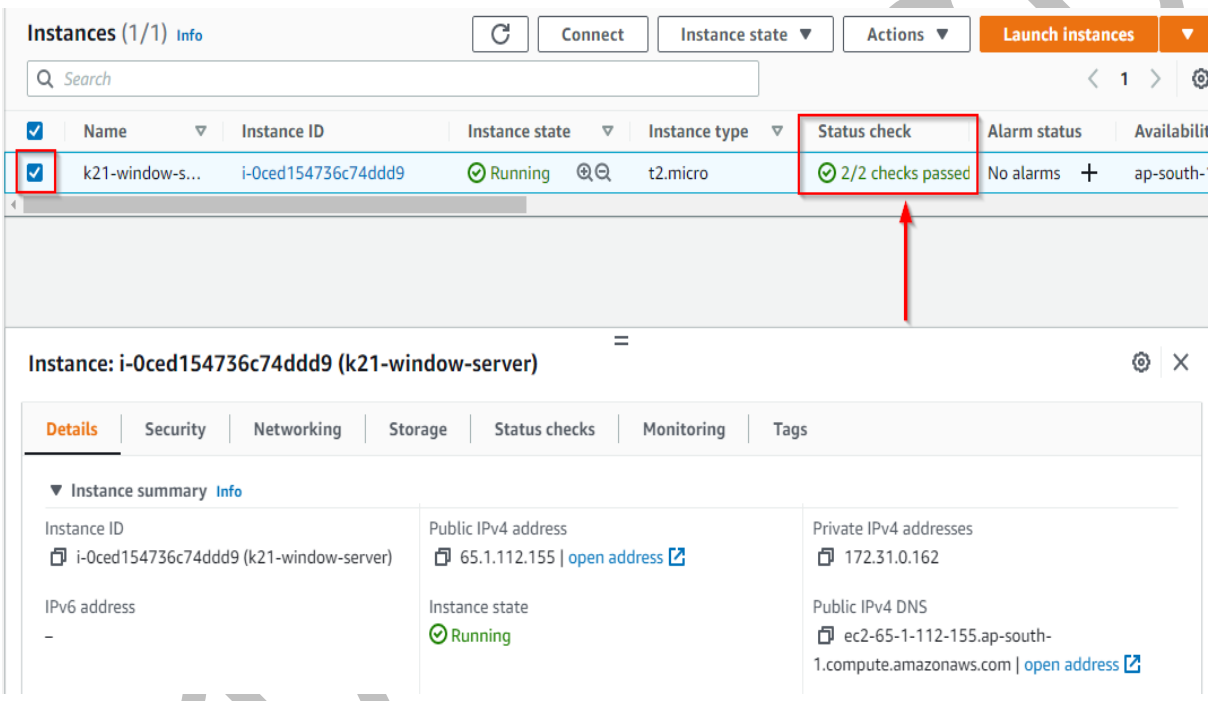
9. Now Click on **View all Instances.**



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



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

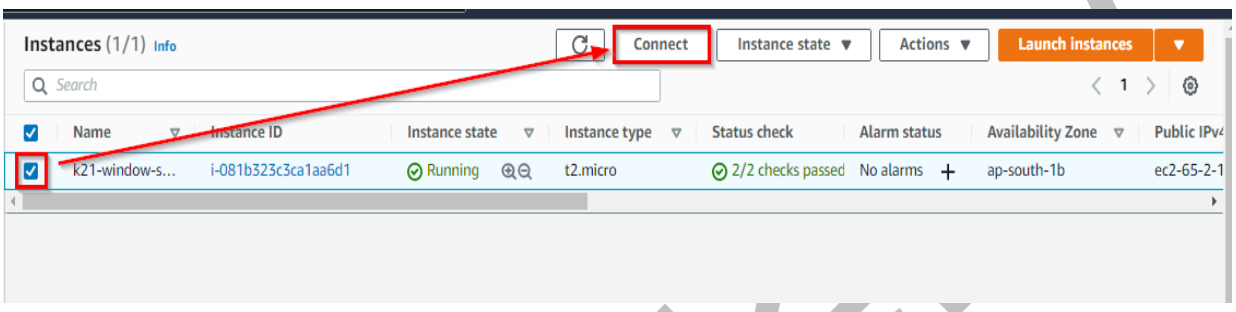


12. Now we have successfully created our Windows EC2 Instance.

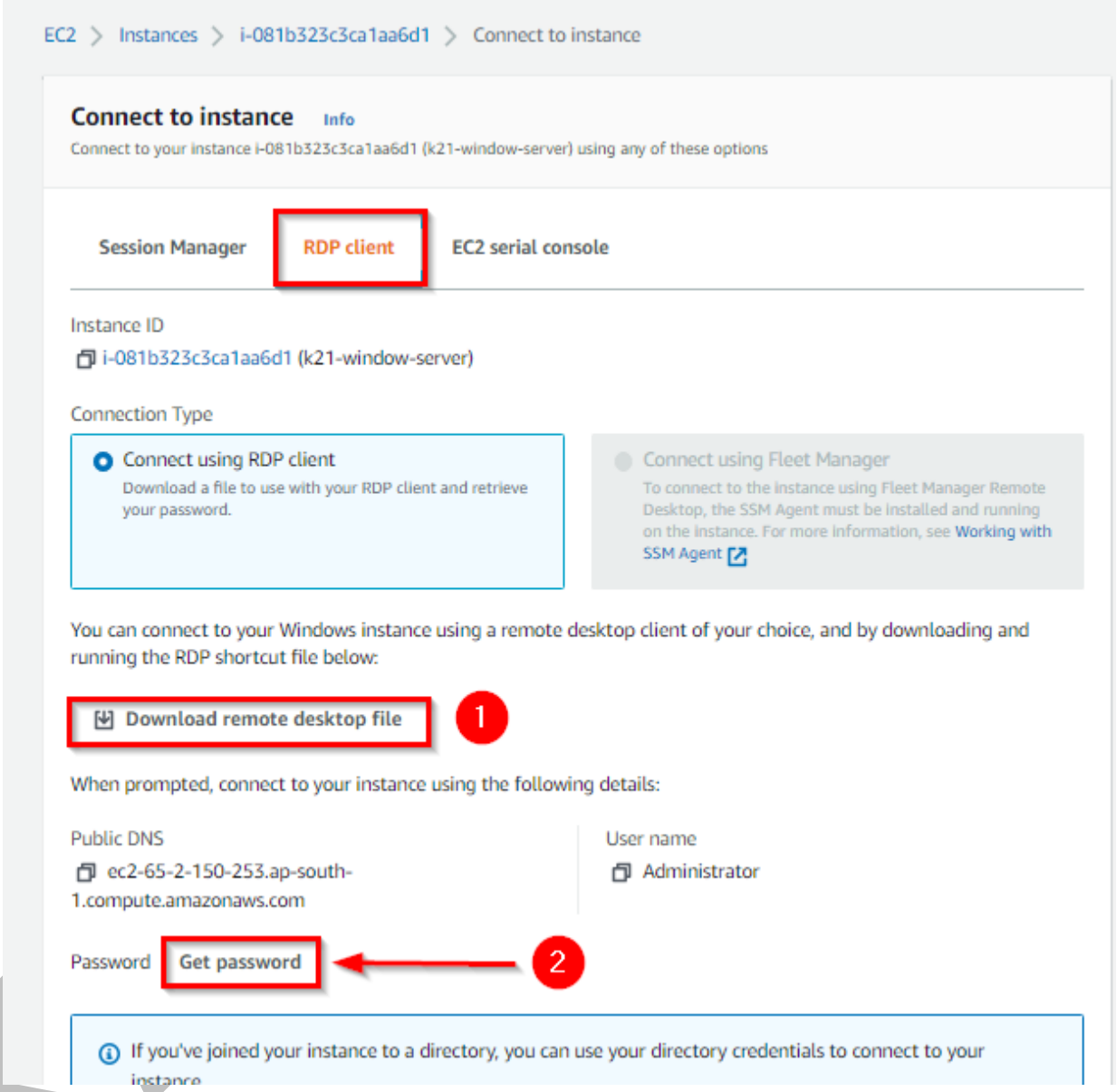
4.2 Connecting to the Windows Instance

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

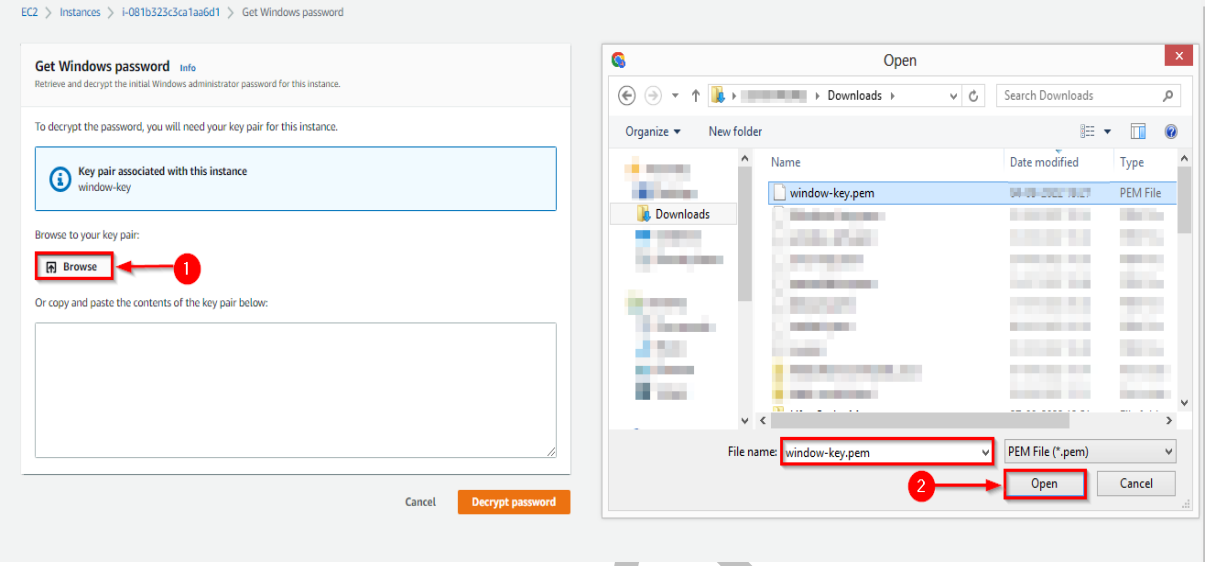
1. Move to your **Instance** dashboard and select the instance we just created. Click on **Connect.**



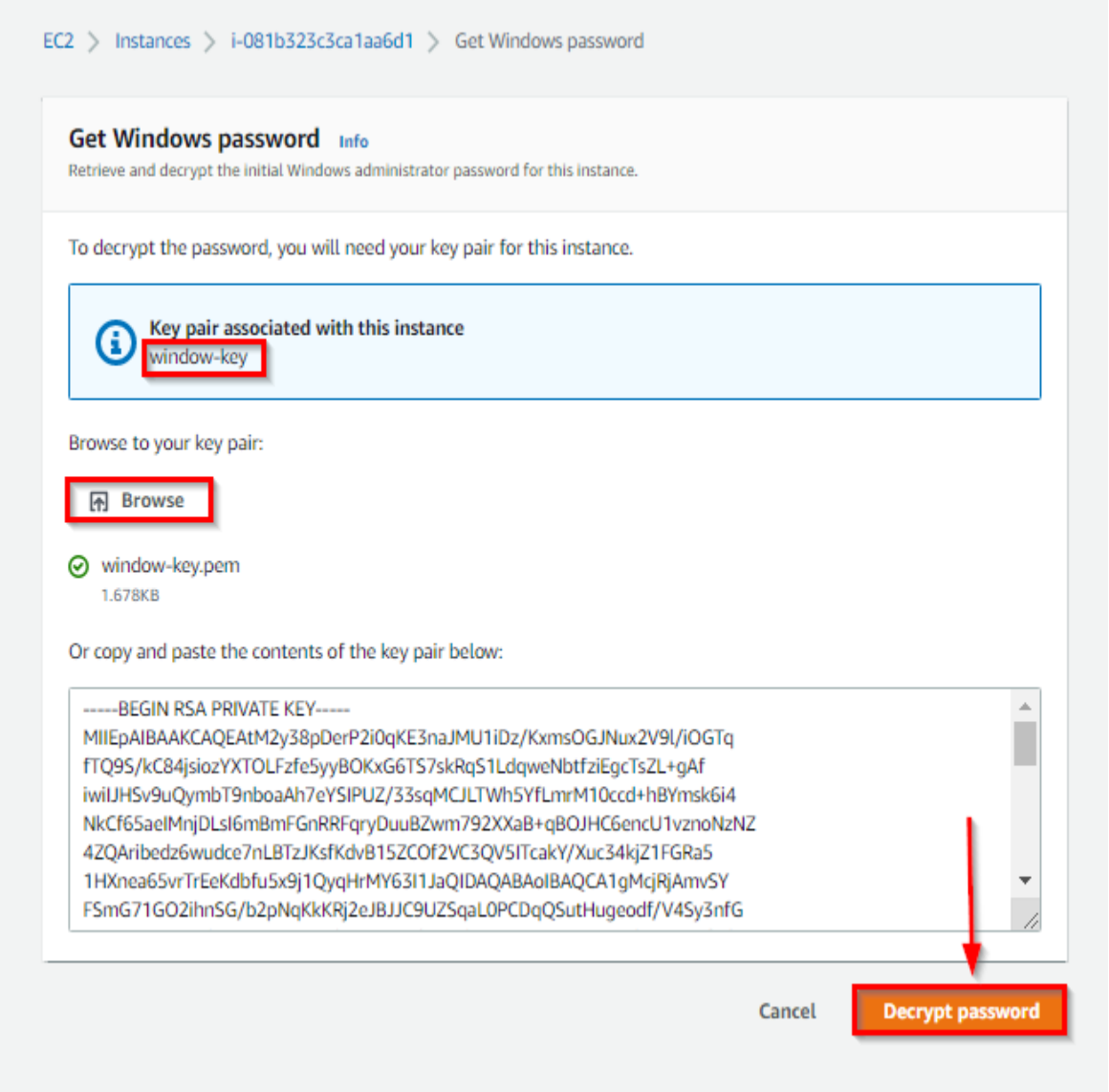
2. Here we have to select the RDP (Remote desktop protocol) Client and then Download the RDP File and save it somewhere safe then, and we need a password to access the RDP file, so click on Get Password.



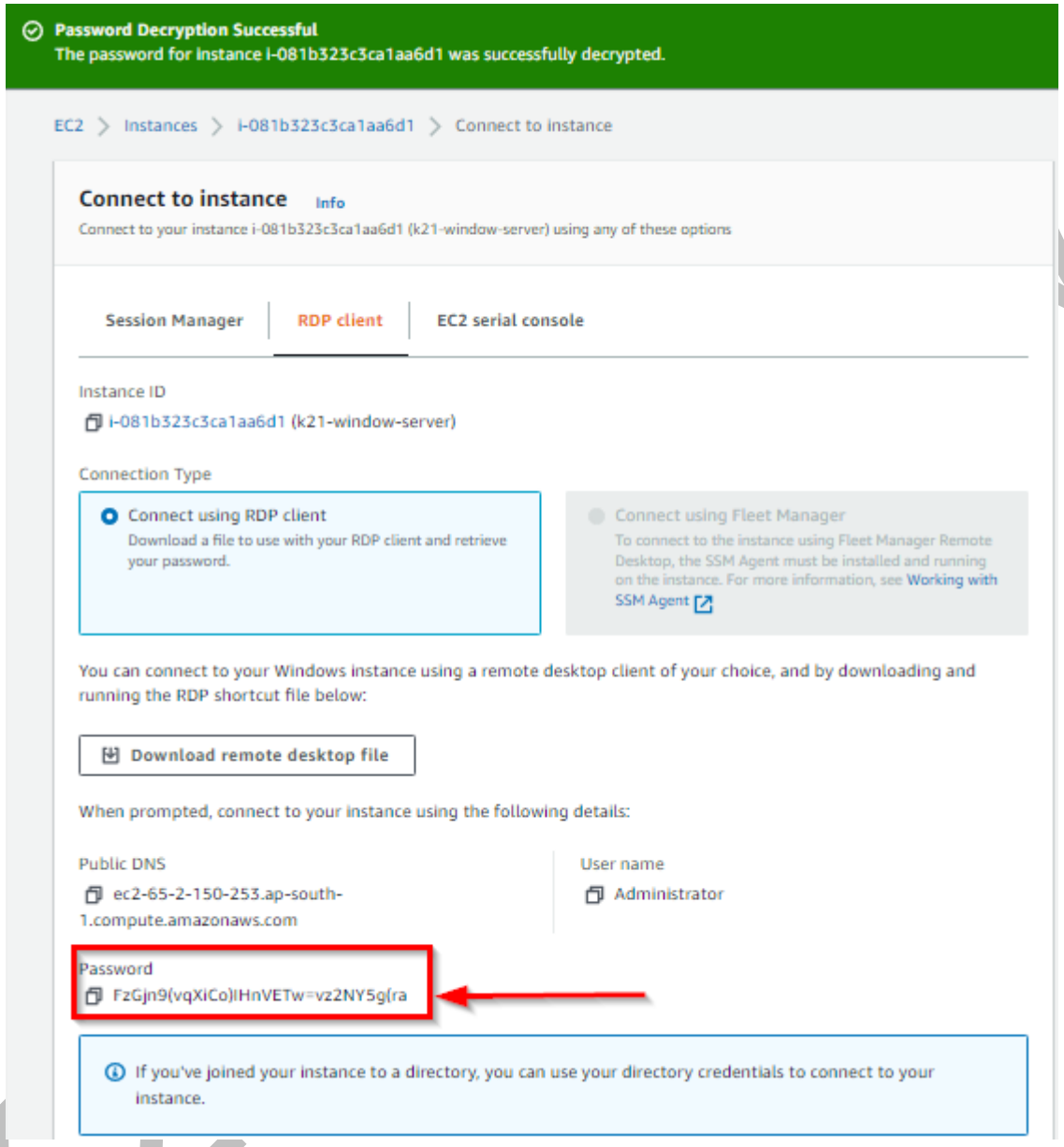
3. Once you click on the **Get Password,** click on **Browse** and select the **key pair** we just created at the time of instance launching.



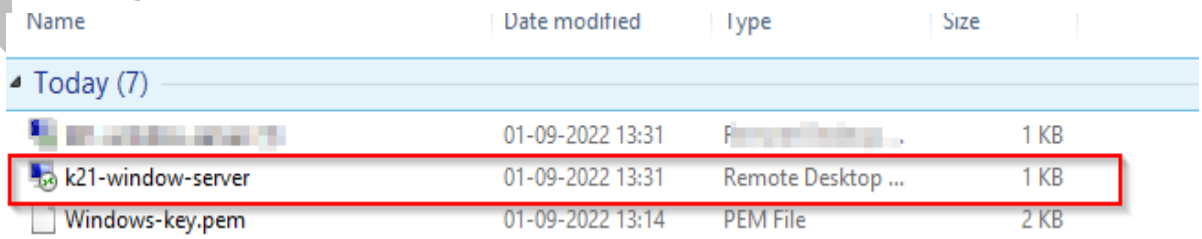
4. Now click on **Decrypt Password.**



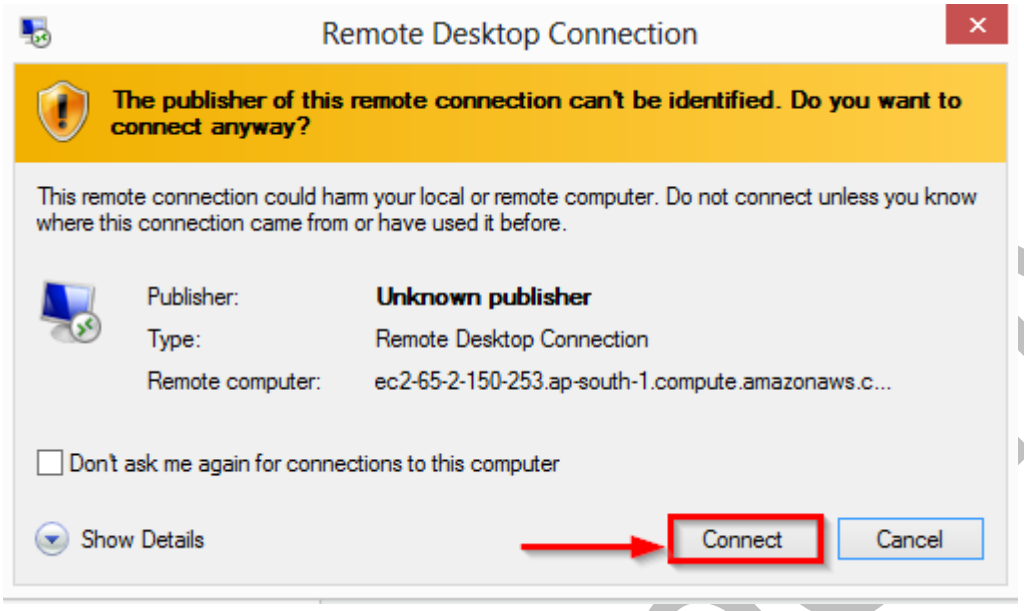
5. After this you will get the **decrypted password** for the Instance.



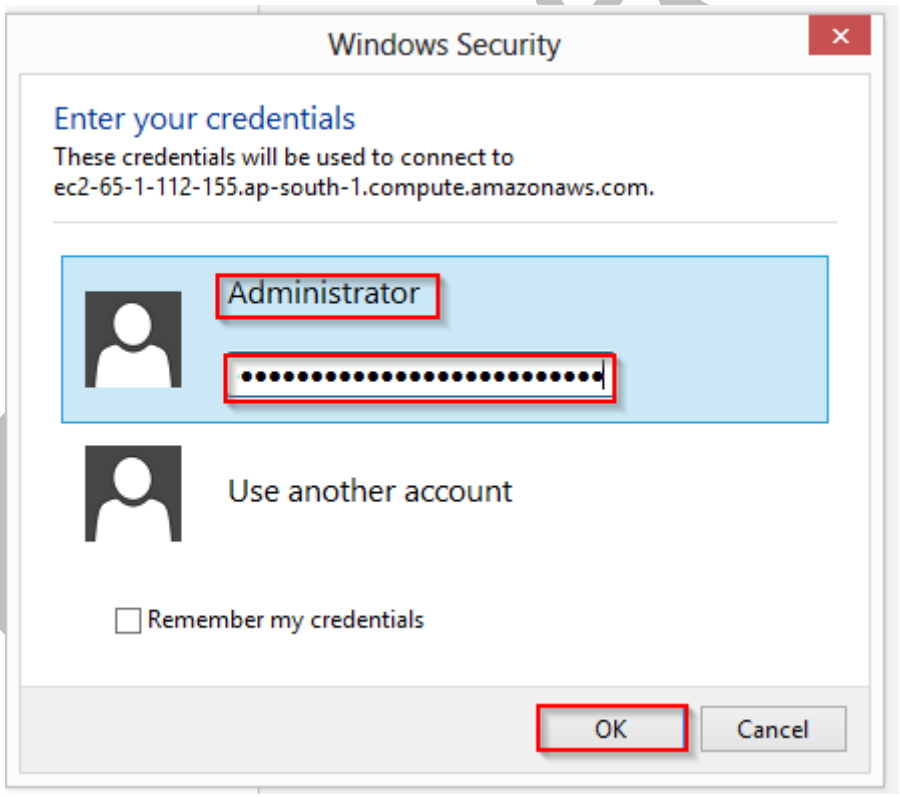
6. Now open the **Remote Desktop File** from downloads for launching the Windows instance.



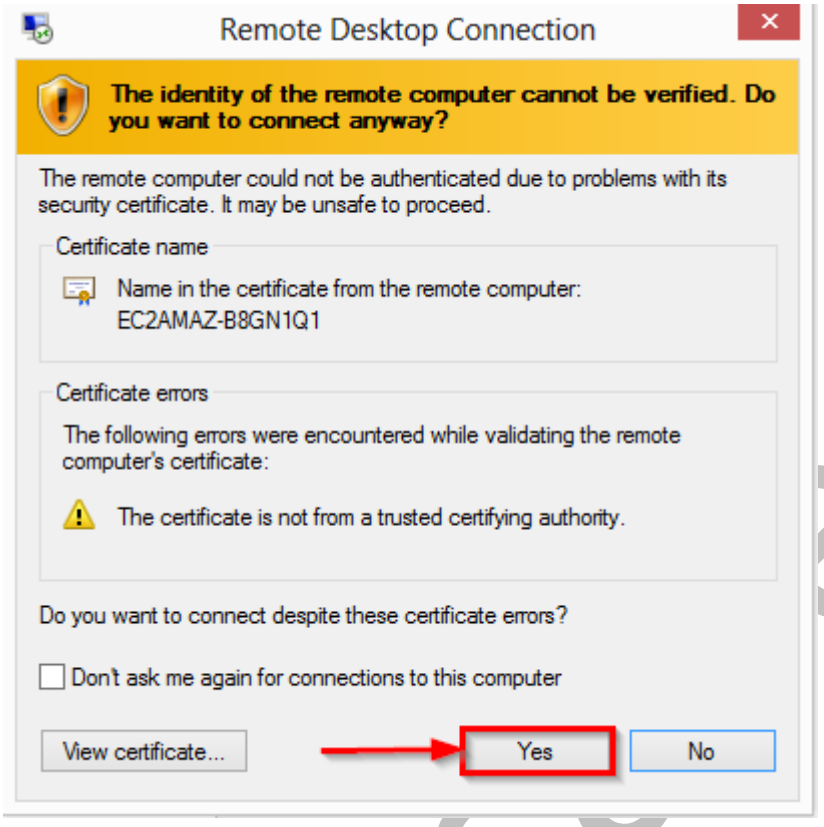
7. After opening the RDP file click on **Connect** to launch the Window instance.



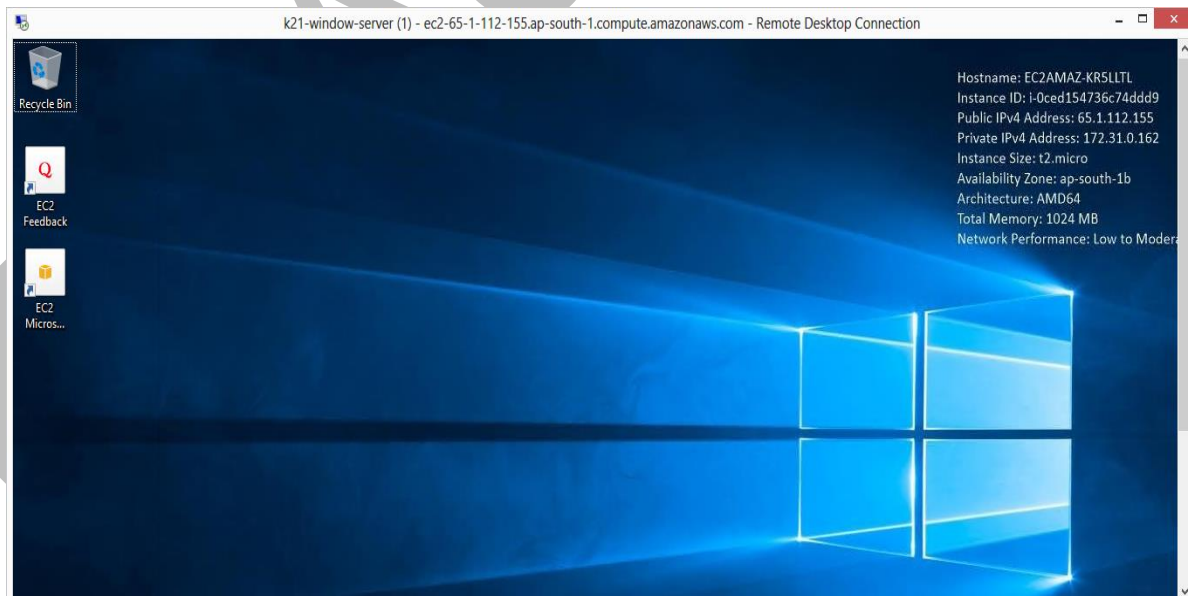
8. Here we have to provide the credentials for accessing the Instance, so we have to **Enter the Password** That we copied and click on **Ok.**



9. Click on **Yes** to accept the certificates.



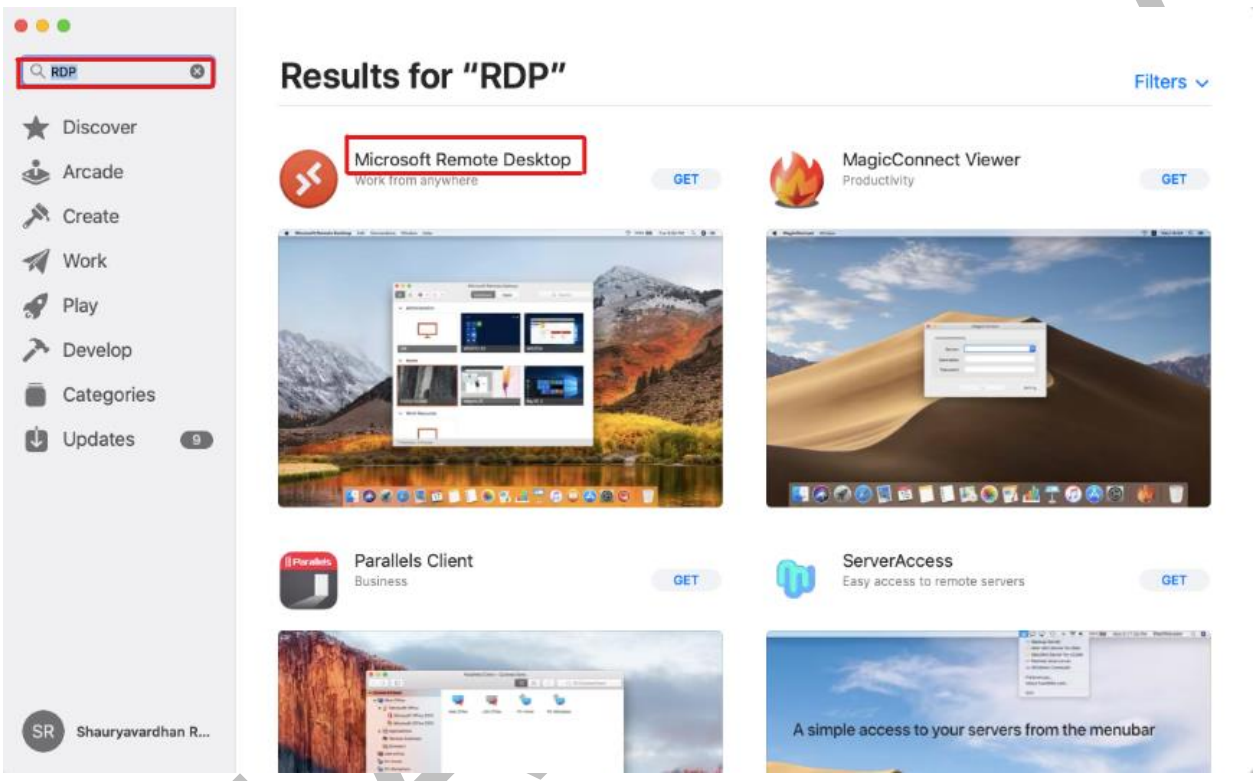
10. Now we have successfully connected to the windows instance.



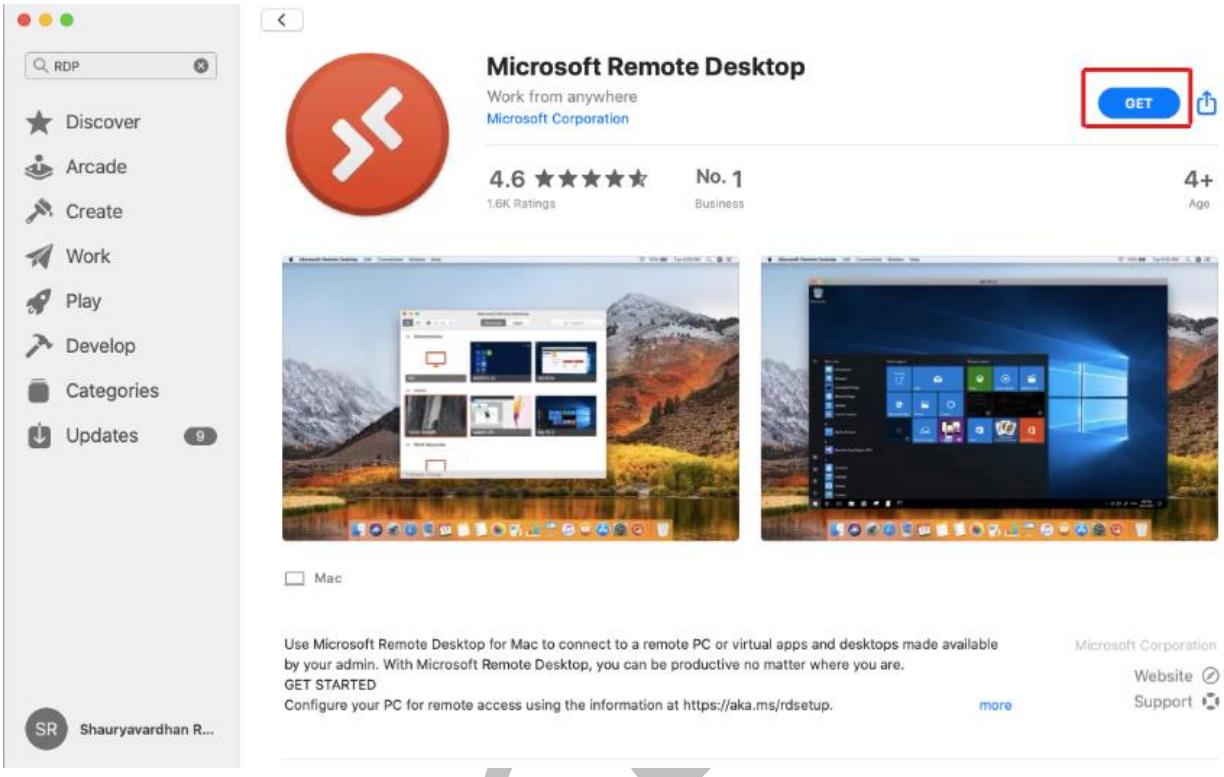
4.3 RDP On Mac

If you are using MAC, then follow below steps else you can skip this section

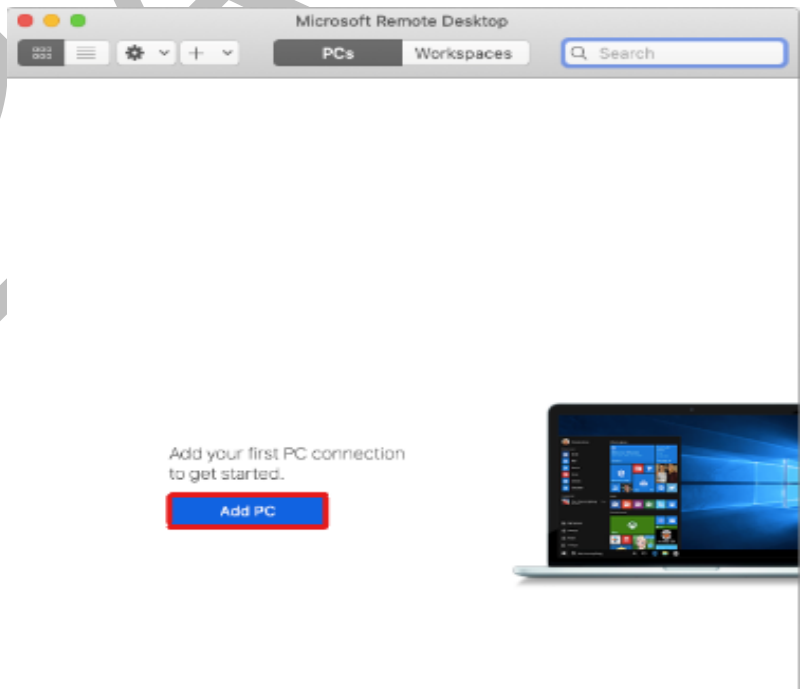
1. In the Search box, type RDP and from results choose the RDP app.



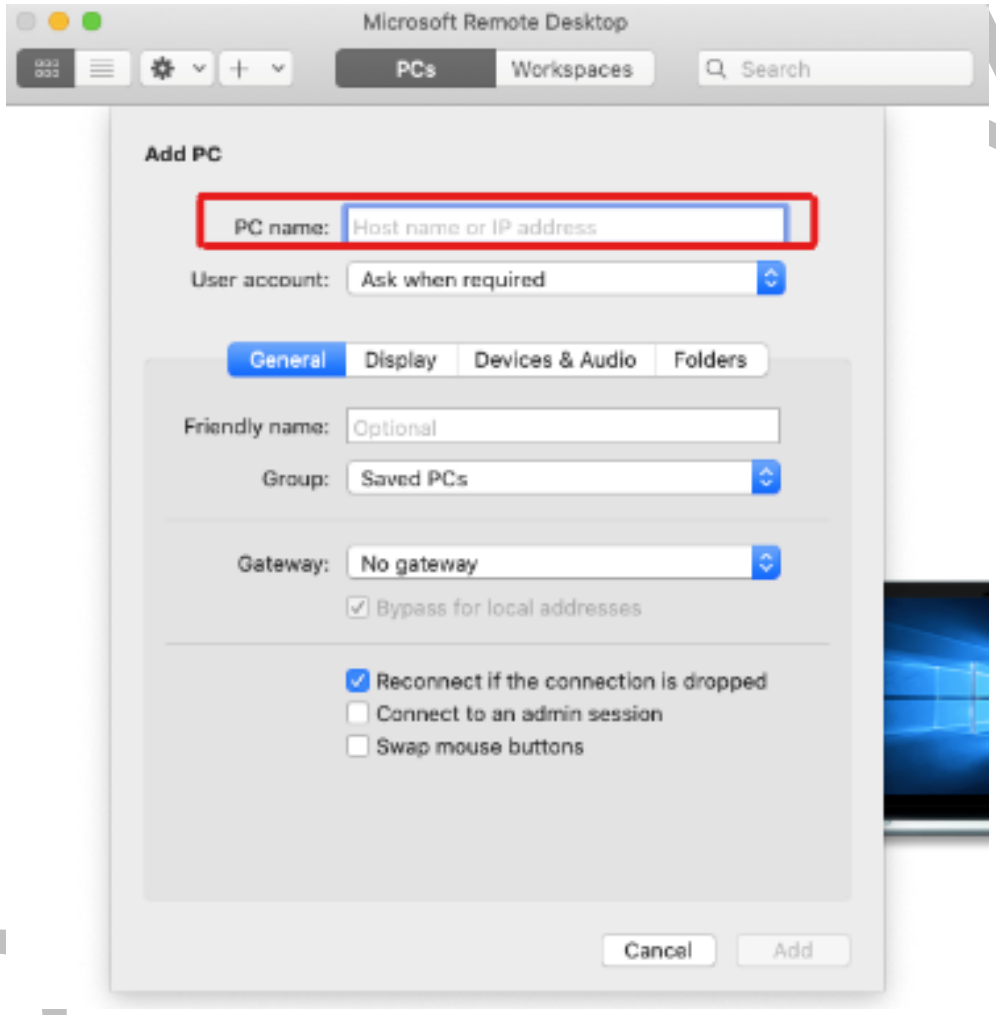
2. Click on **Get**



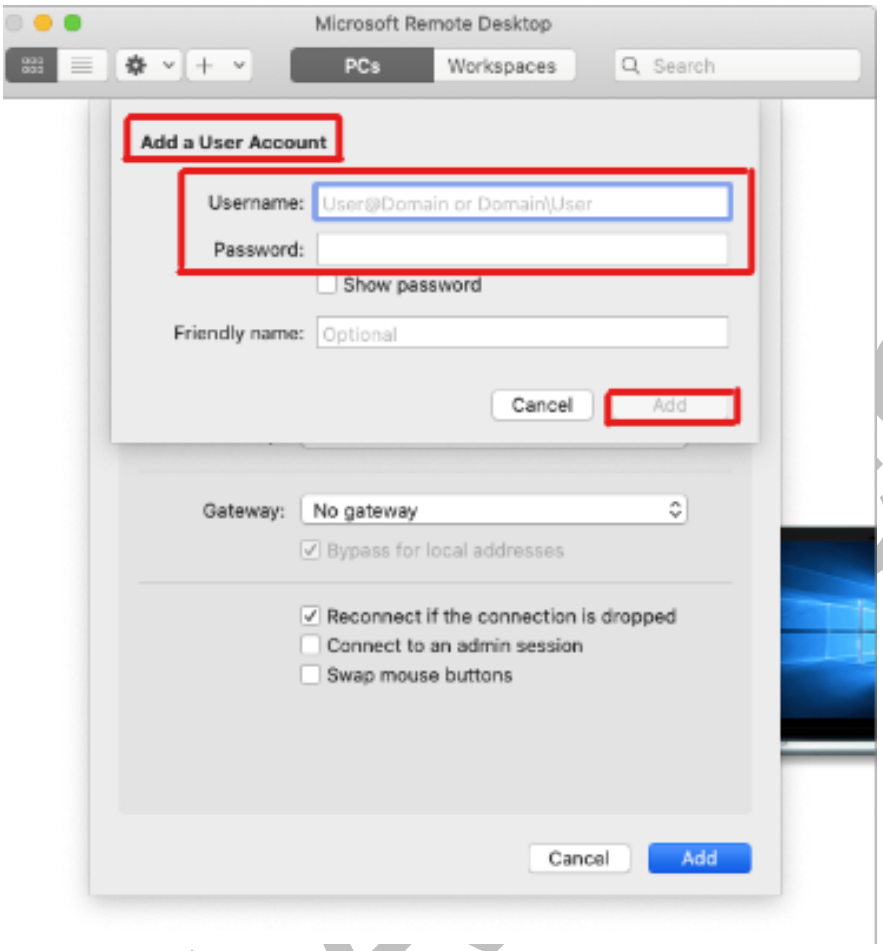
3. Open the app and click on **Add PC.**



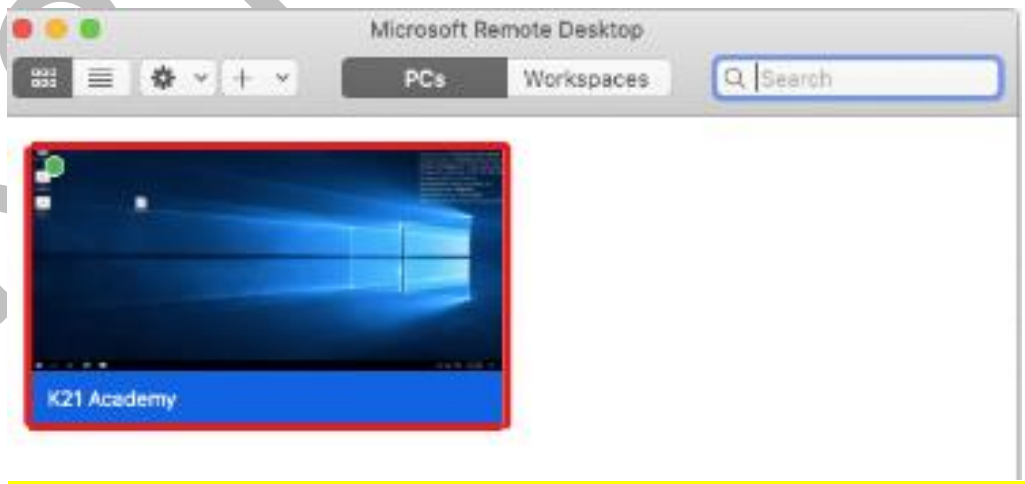
4. Give the **PC Name** (Host Name or IP Address)



5. Now Add a User Account by giving the **Username** and **Password** and click on Add.



6. Now your remote desktop is working.



Thus we have successfully connected to the Windows Machine on Mac

5 CONFIGURE AN EC2 WINDOWS INSTANCE TO ALLOW FILE DOWNLOADS USING INTERNET EXPLORER

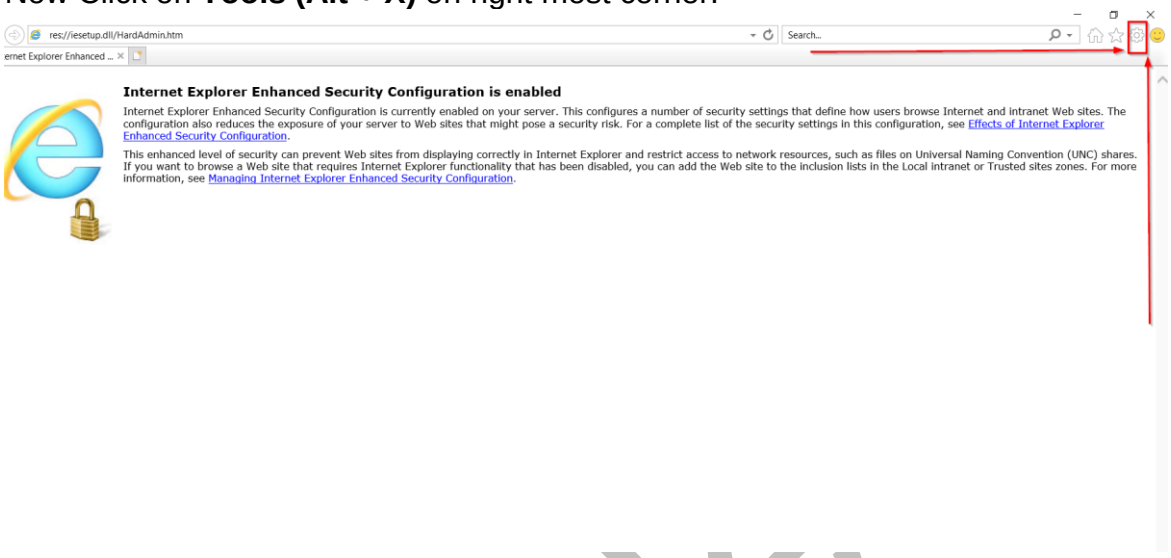
Amazon Machine Images (AMIs) for Windows Server has Internet Explorer Enhanced Security Configuration **enabled by default,** because web browsing isn't a best practice on a server. Internet Explorer Enhanced Security Configuration disables file downloads using Internet Explorer.

If you want to download and install tools from the internet, you can change the security configuration to enable downloads.

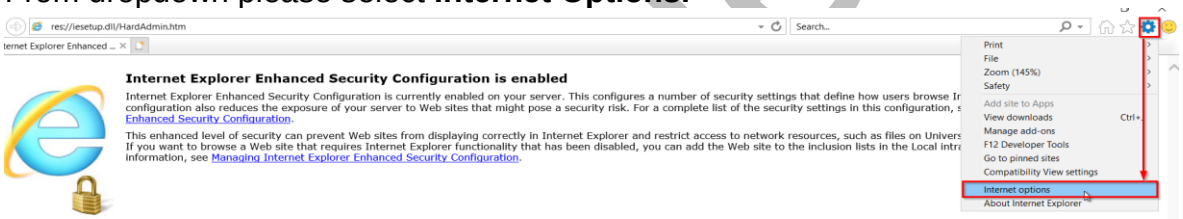
Note: If you enable downloads on your EC2 Windows instance, be sure to download files only from trusted sources.

11. Connect to your EC2 Windows instance.
12. Click On **Internet explorer** and open it

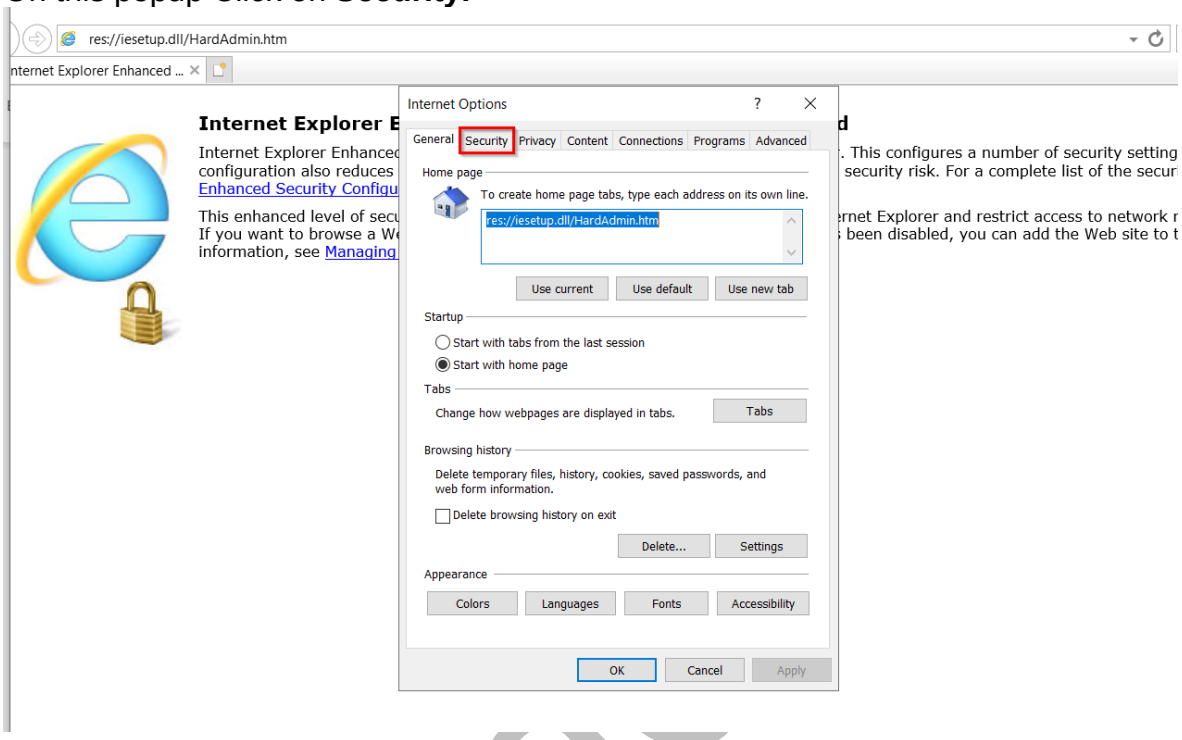
13. Now Click on **Tools (Alt + X)** on right most corner.



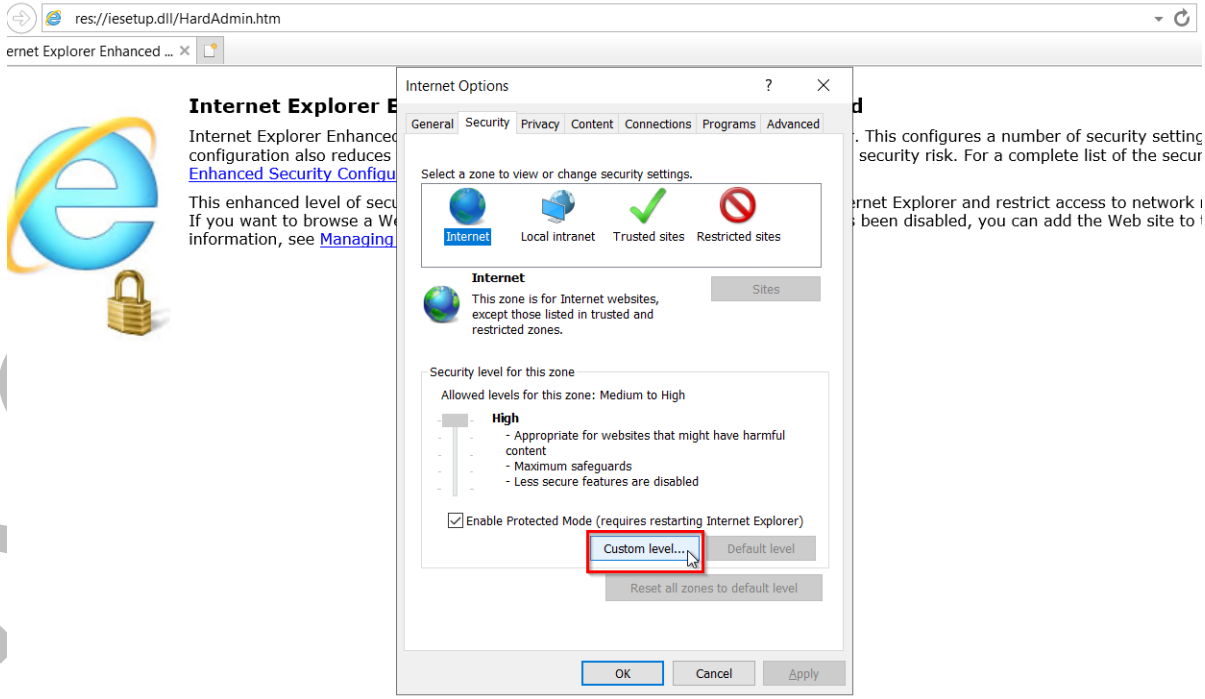
14. From dropdown please select **Internet Options.**



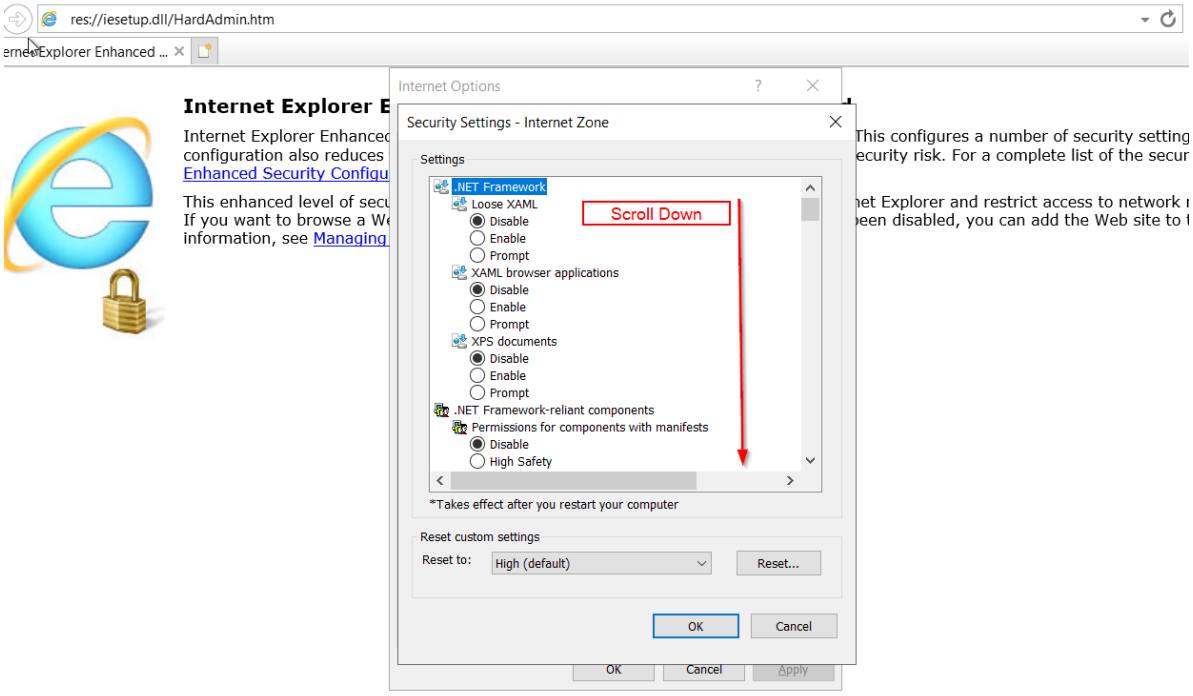
15. On this popup Click on **Security.**



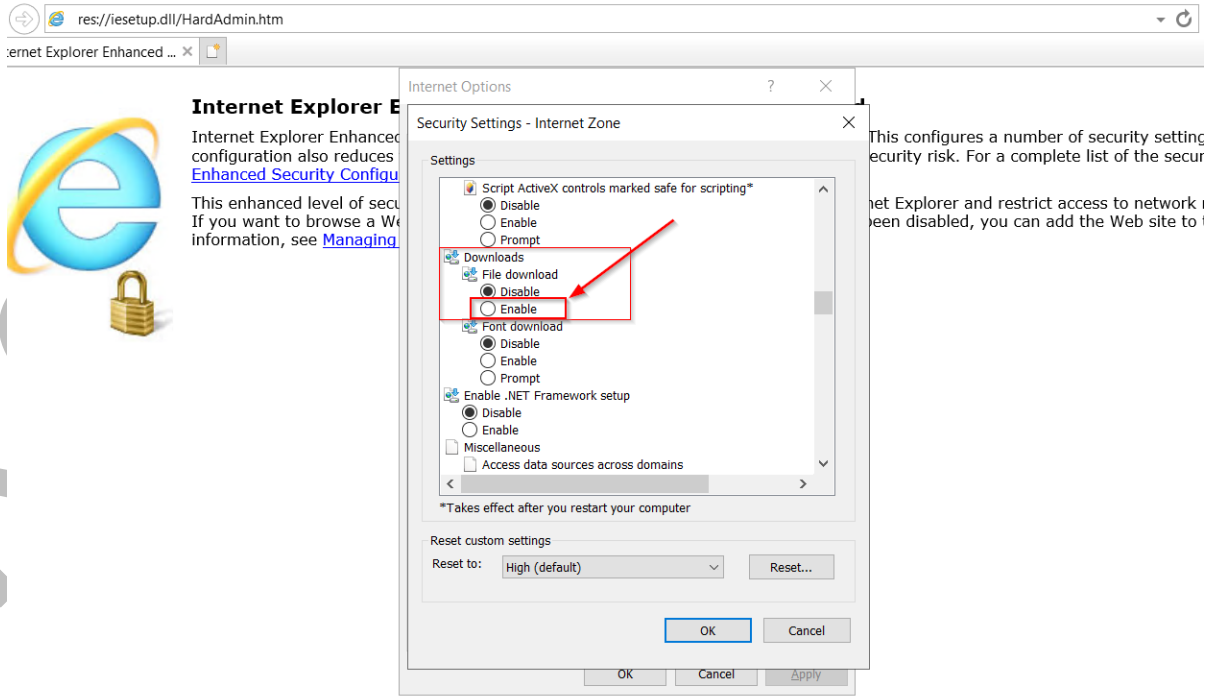
16. Now, Under Security Click on **Custom level.**



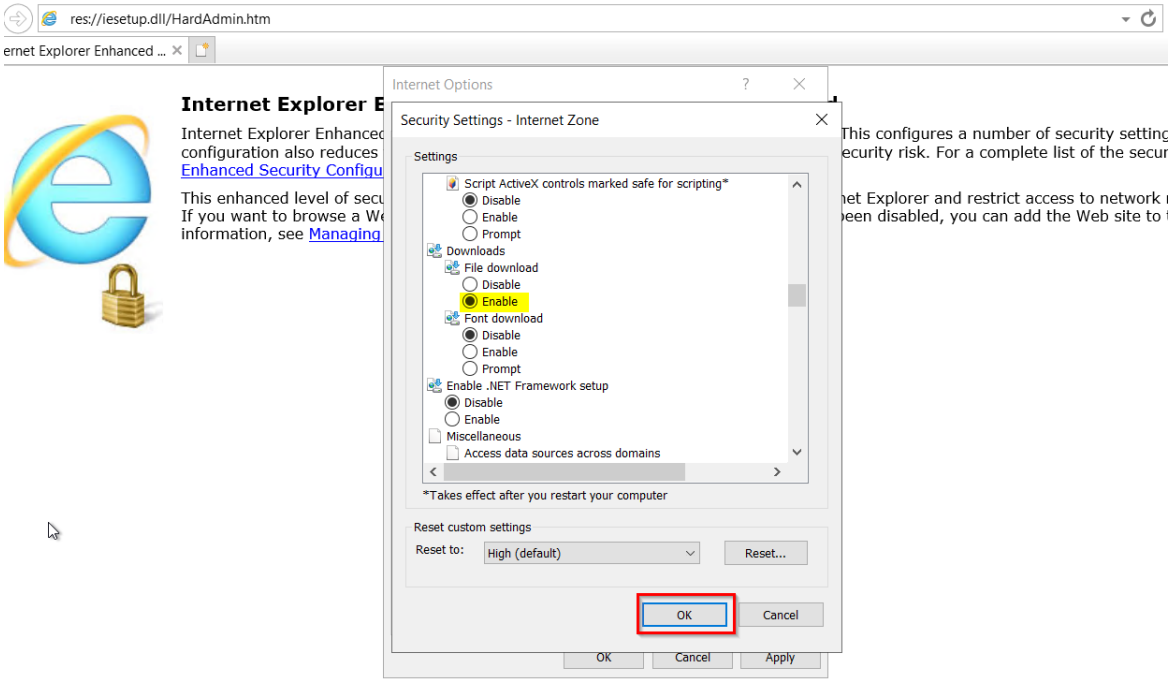
17. Under Security Setting – Internet Zone, scroll down and search for **Downloads**



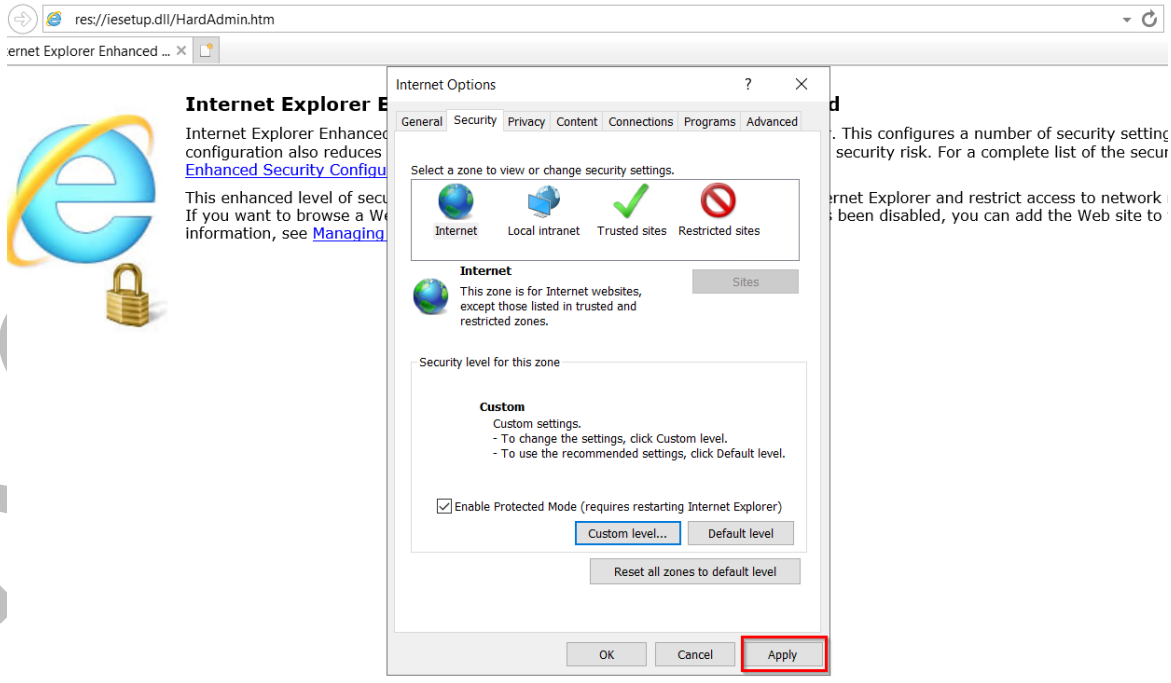
18. Under File Download click on **Enable**



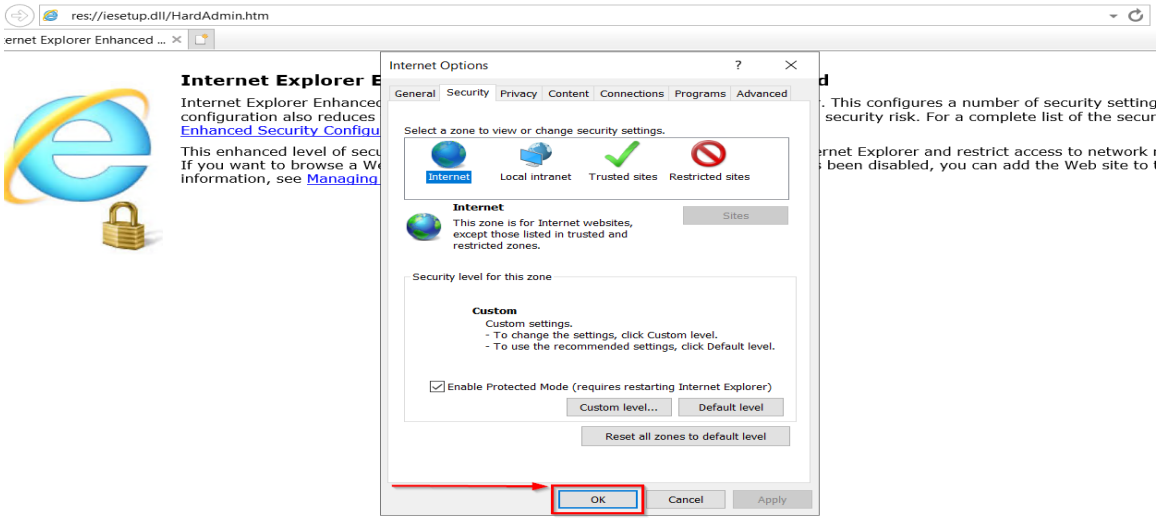
19. Click on **OK**



20. Now, click on **Apply**

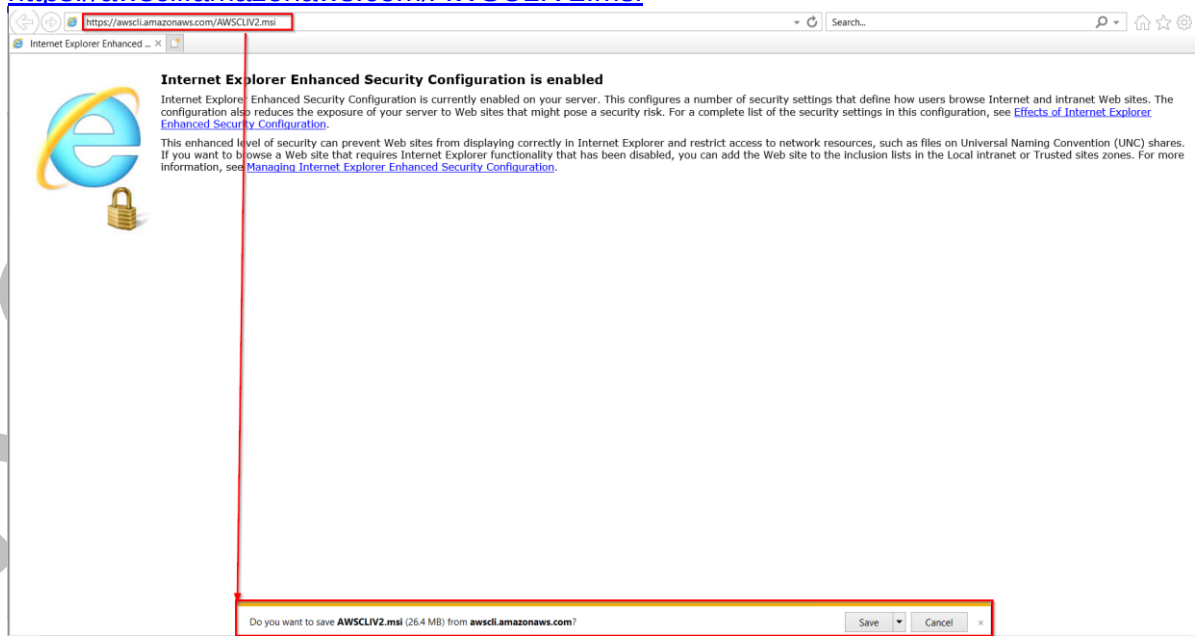


21. Click on **OK** to close this tab



Note: Internet configurations changes takes effect when you open a new Internet Explorer session. If Internet Explorer is already open, open a new tab. Or, close the browser, and then re-open it.

22. Now, we will test whether we are able to download content from the internet explorer or not.
    Let's try to download AWS CLI from the below link:
    https://awscli.amazonaws.com/AWSCLIV2.msi



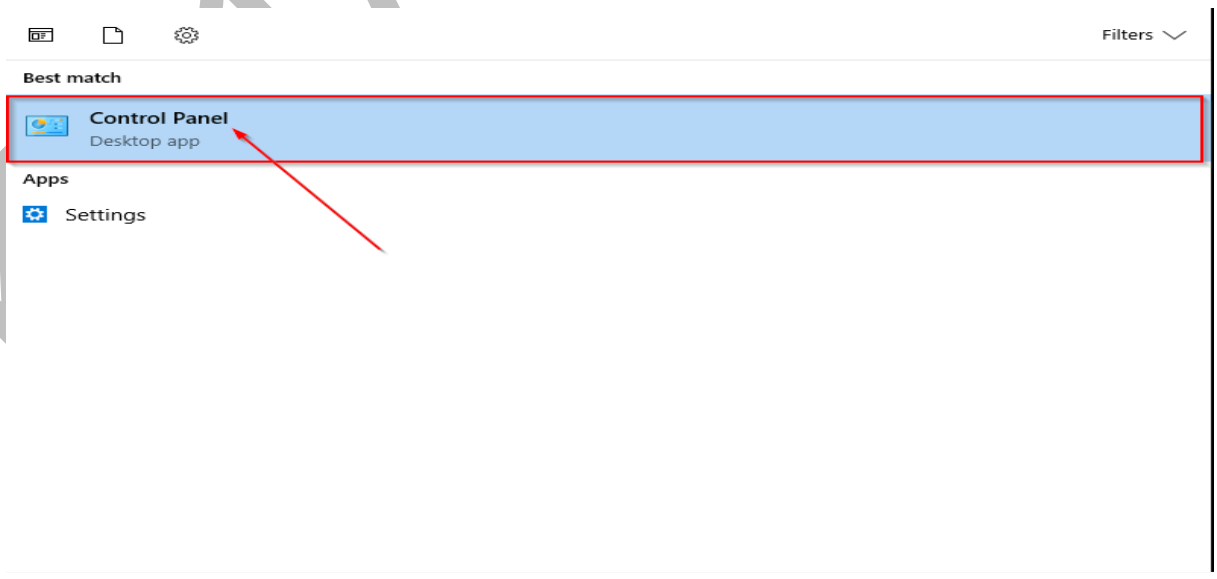
Now, we have successfully downloaded content from the internet explorer.

6 RESET PASSWORD FOR WINDOWS INSTANCE

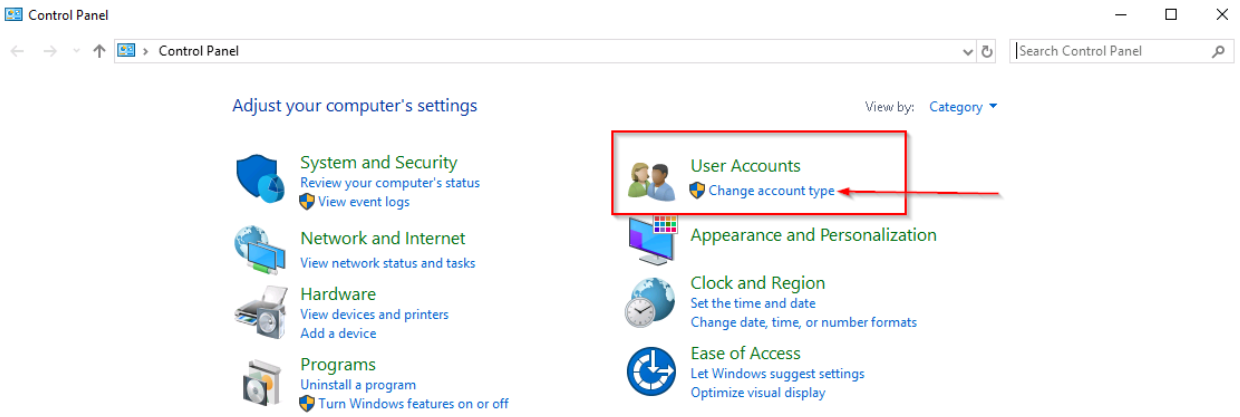
In this section we will be providing detailed steps to reset the password of the Windows Instance

1. First you need to log in to the windows Instance.

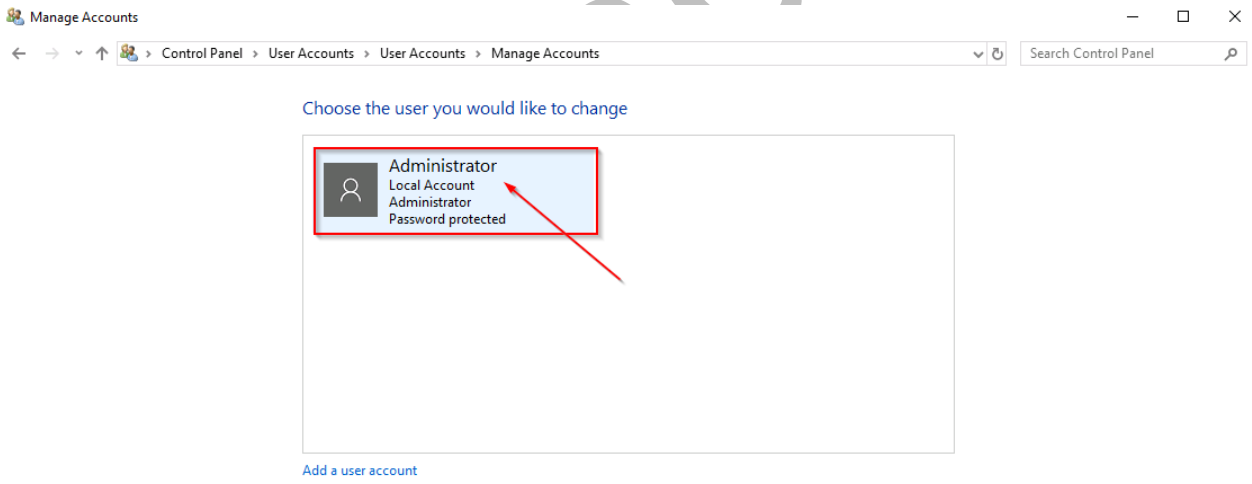
2. Open the **Control Panel**



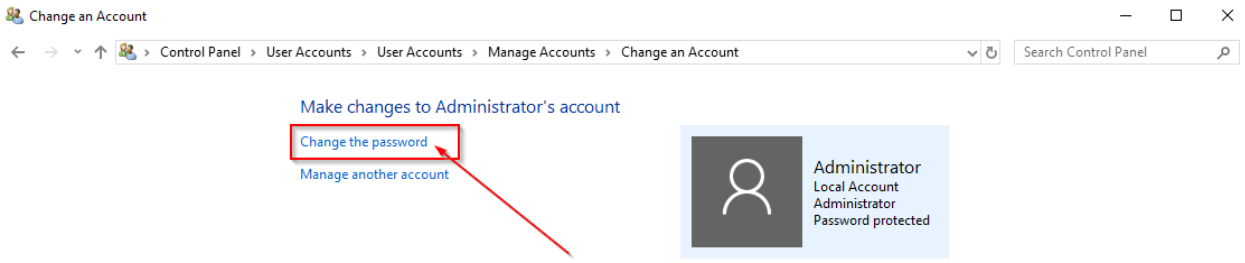
3. Under **User Accounts**, click on **Change Account Type**



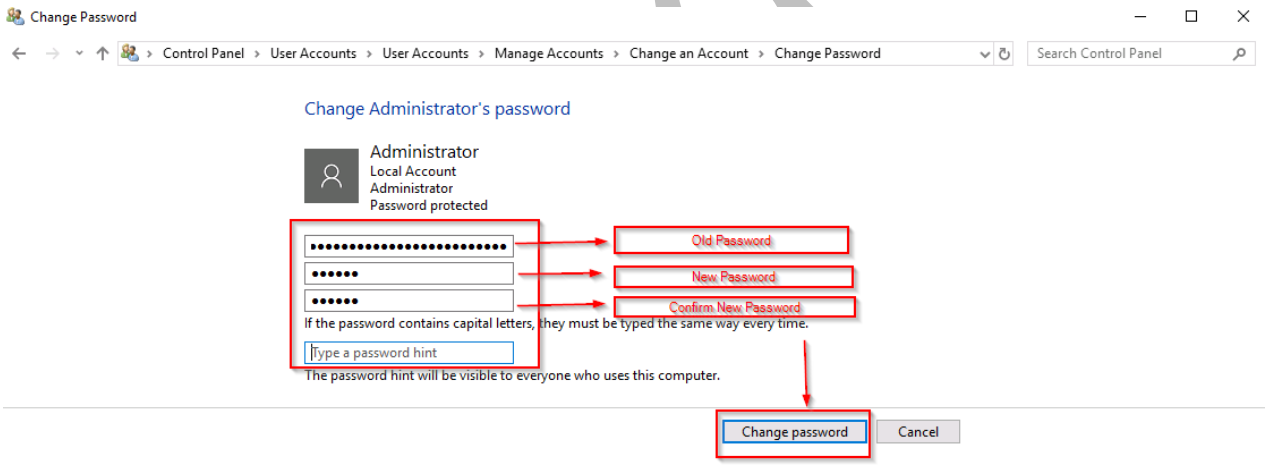
4. Click on the **Administrator** account.



5. Click on **Change Password.**

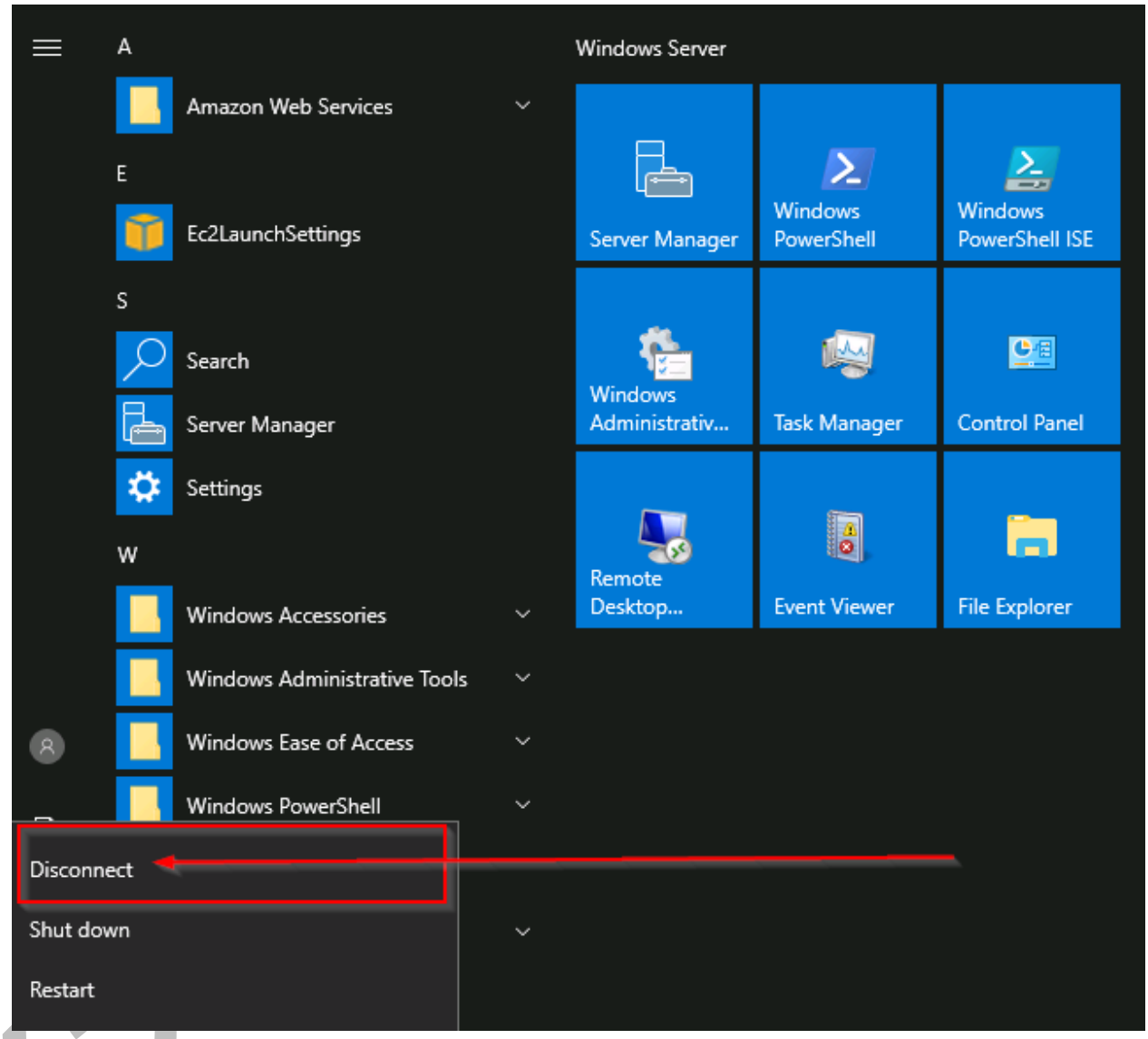


6. In order to change the password, first **type the old password of the Windows Instance**, then **new password** and then finally **confirm the new password**. Then click on **Change password.**

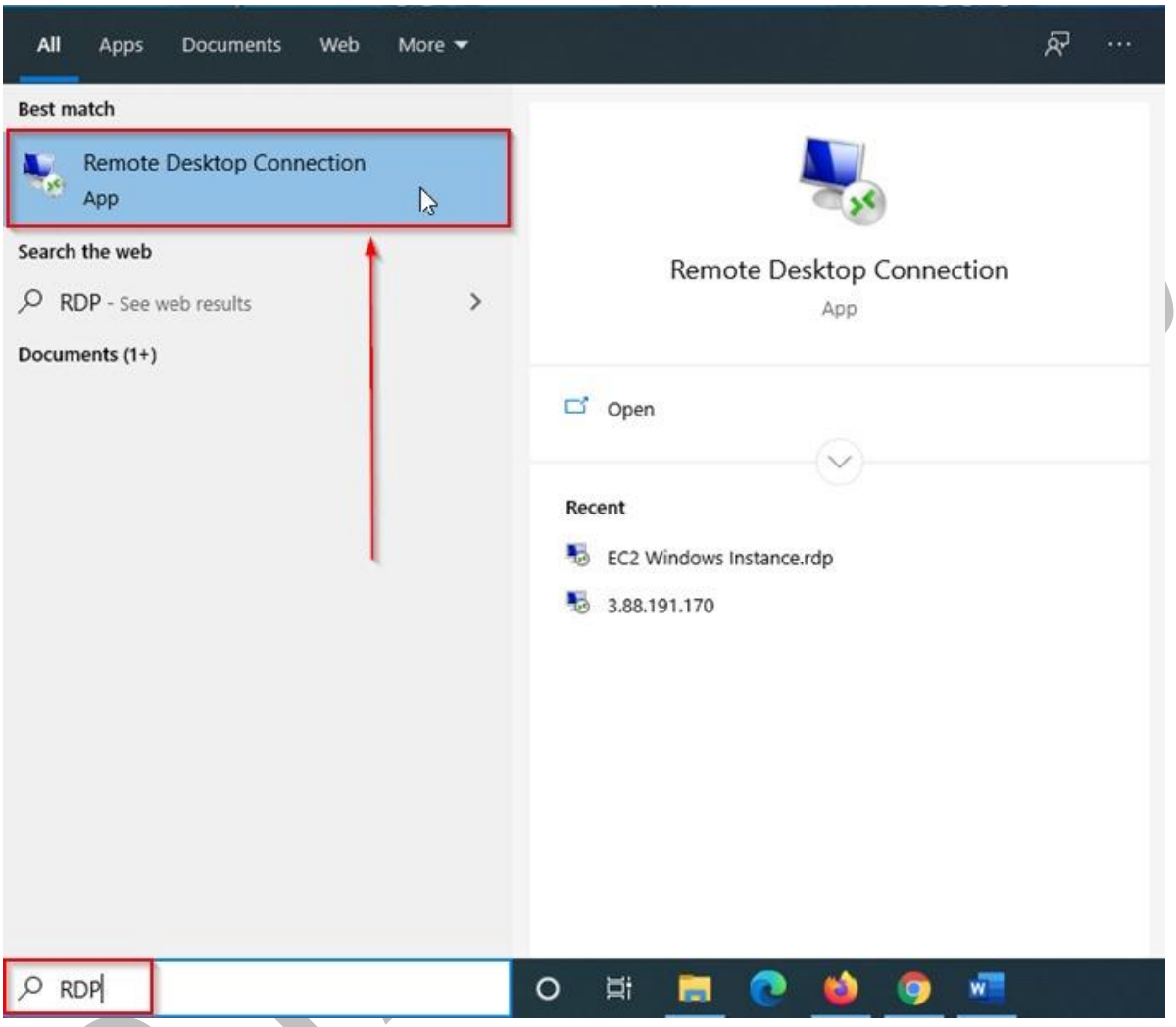


Note: For **old password**, you have to give the password of the **Windows Instance** with the help of which you logged in to the instance. Then you have to type a **new password** and **confirm new password** by typing it again. You can type any password of your choice for the new password. You can also type a hint for your password if you want.

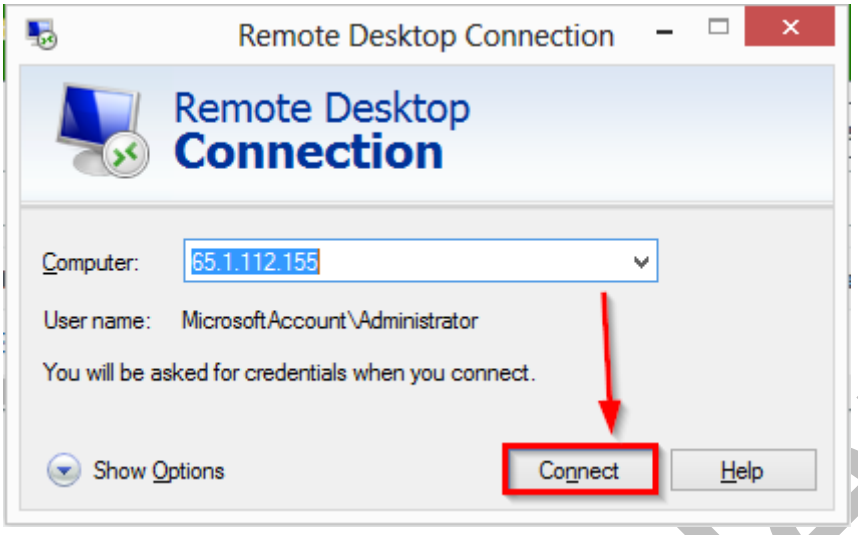
7. Now disconnect from the Windows Instance. By clicking on **Start button> Power > Disconnect**.



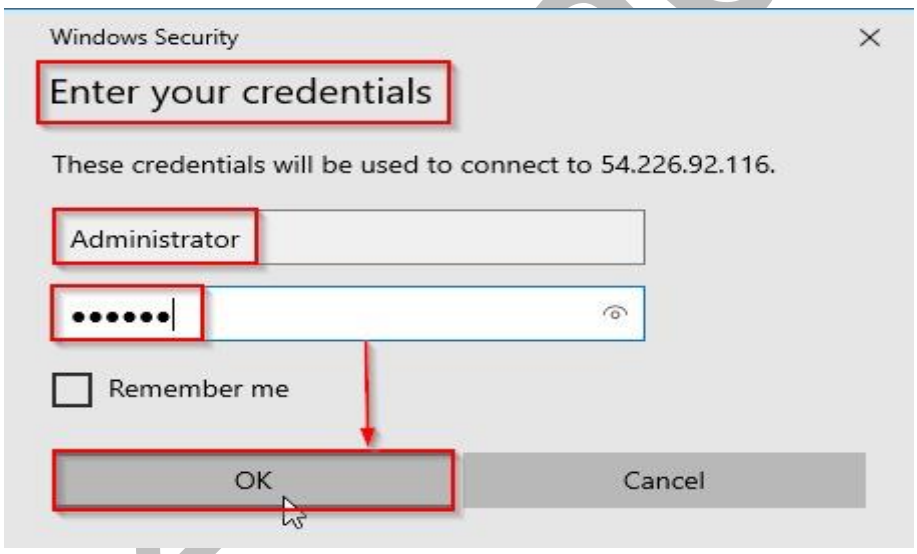
8. Now in order to connect to the instance again, search for **RDP** in the Start menu and open it.



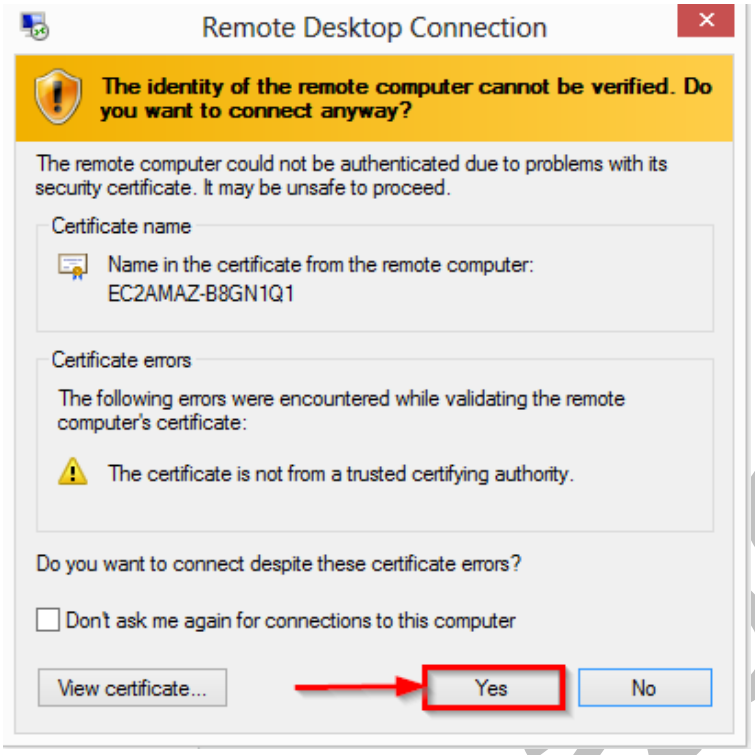
9. Now copy the **Public IP** of the Windows Instance and paste it here and click on **Connect**



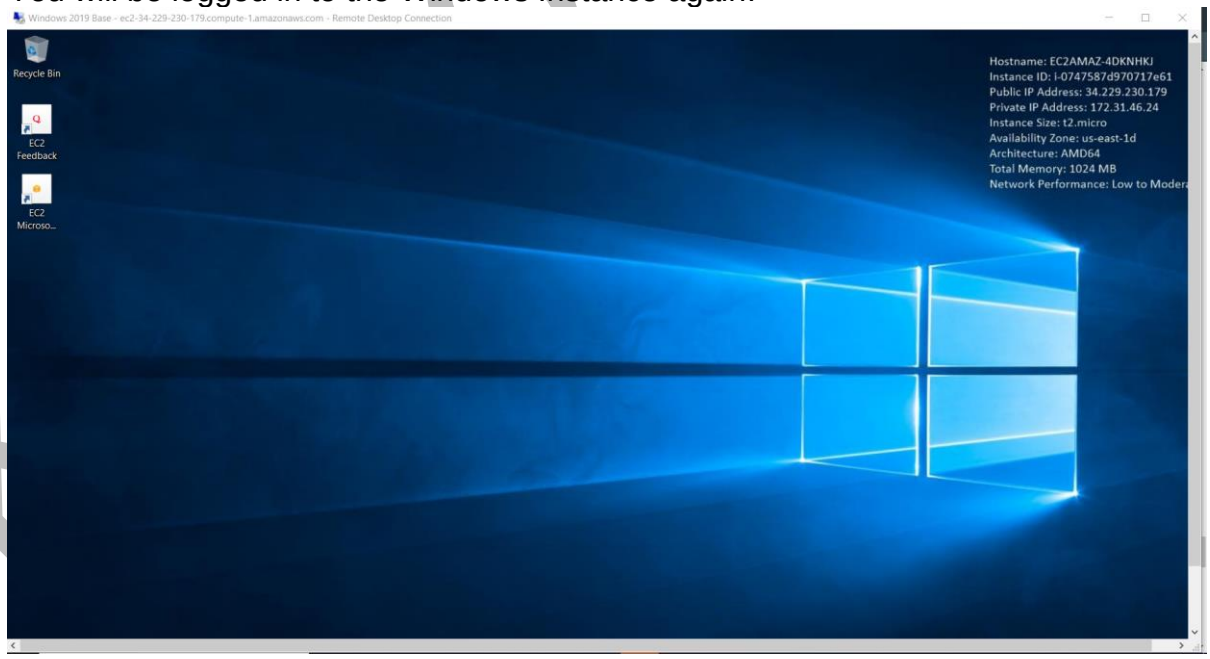
10. Now enter the new password that you had reset.



11. Click on **Yes.**



12. You will be logged in to the Windows Instance again.



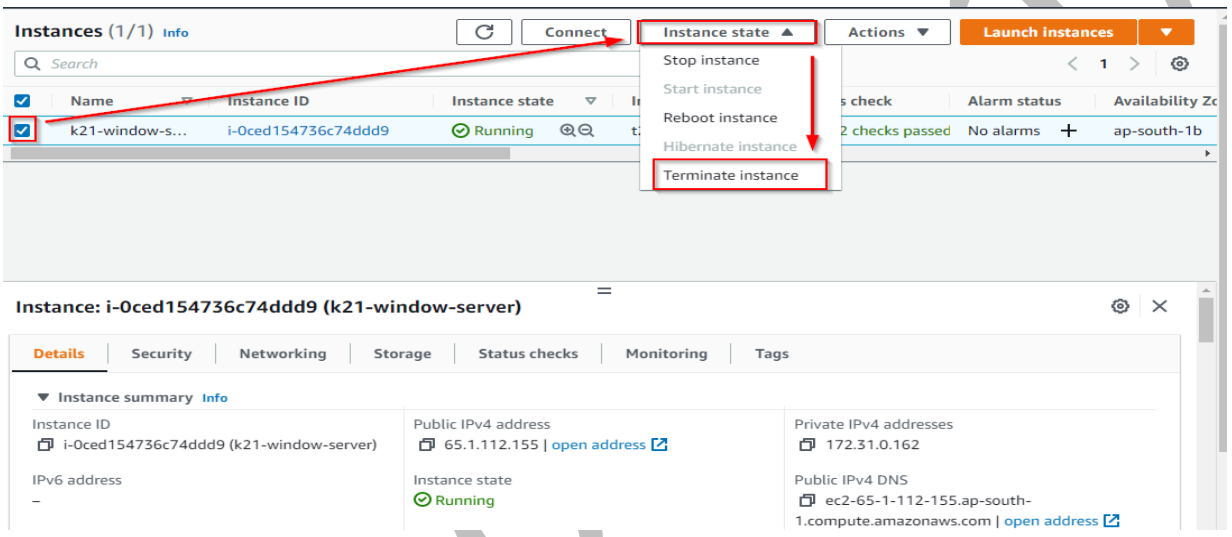
We have successfully reset the password of the Windows Instance and logged back into the Instance using the new password

7 DELETING/ CLEANUP

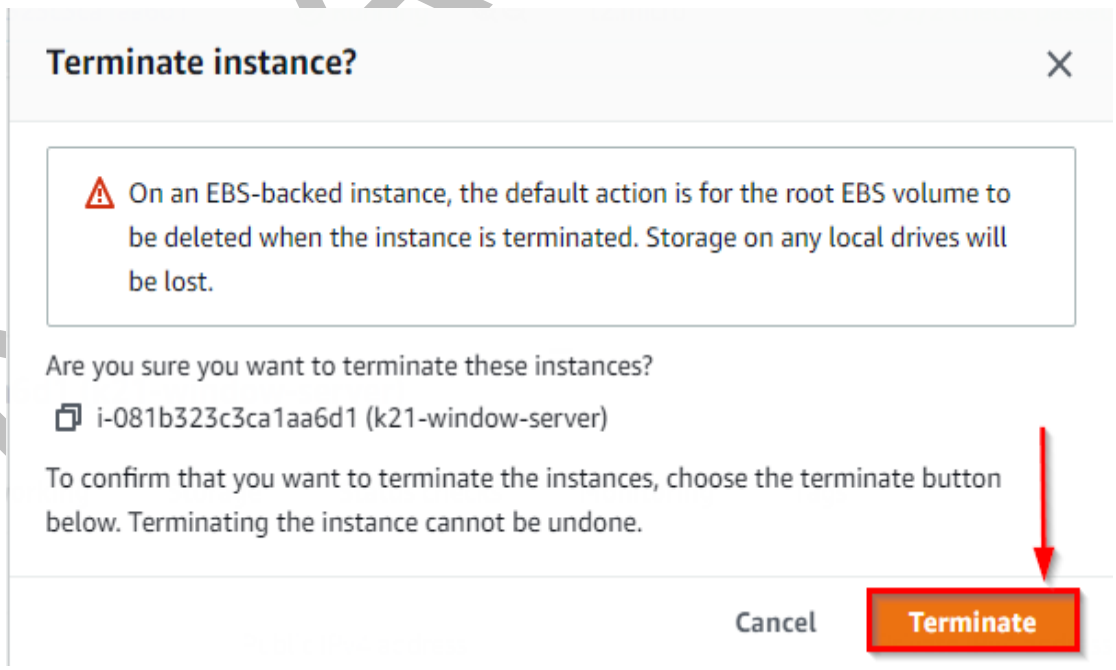
7.1 Terminating the Windows Instance

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**



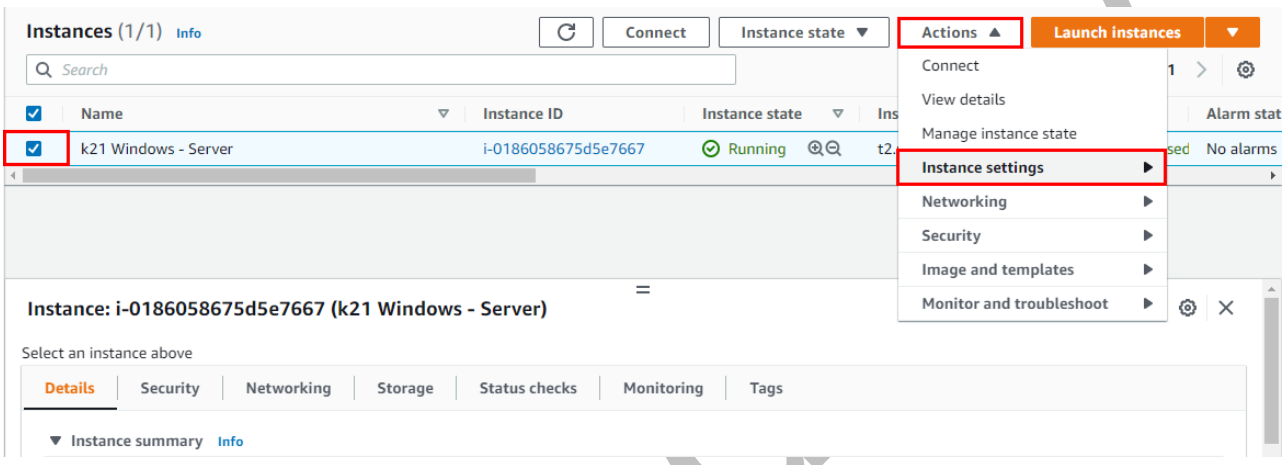
2. Click on **Terminate** to terminate the Instance



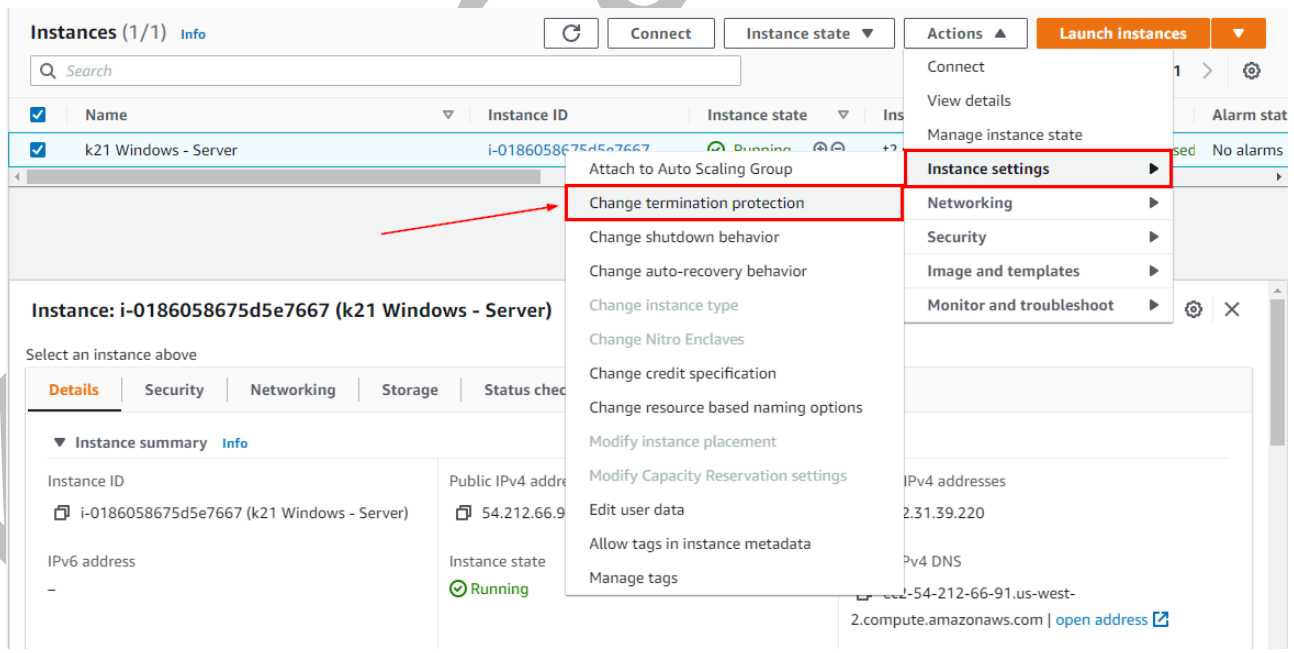
7.2 Termination Prevention of Instance

Note: To protect against the data loss caused by accidental termination of an Amazon EC2 instance, we need enable the termination protection and if you want to disable Instance termination protection you can follow these steps.

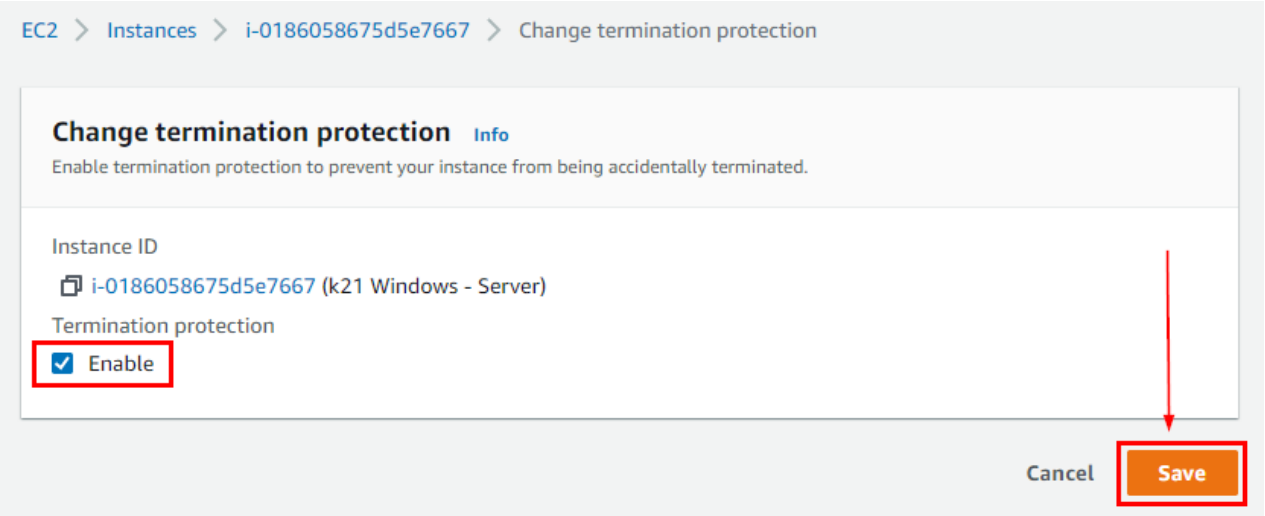
1. Select the **Instance,** click on **Action** and then click on the **Instance settings**



a. Now click on Change **Termination Protection**



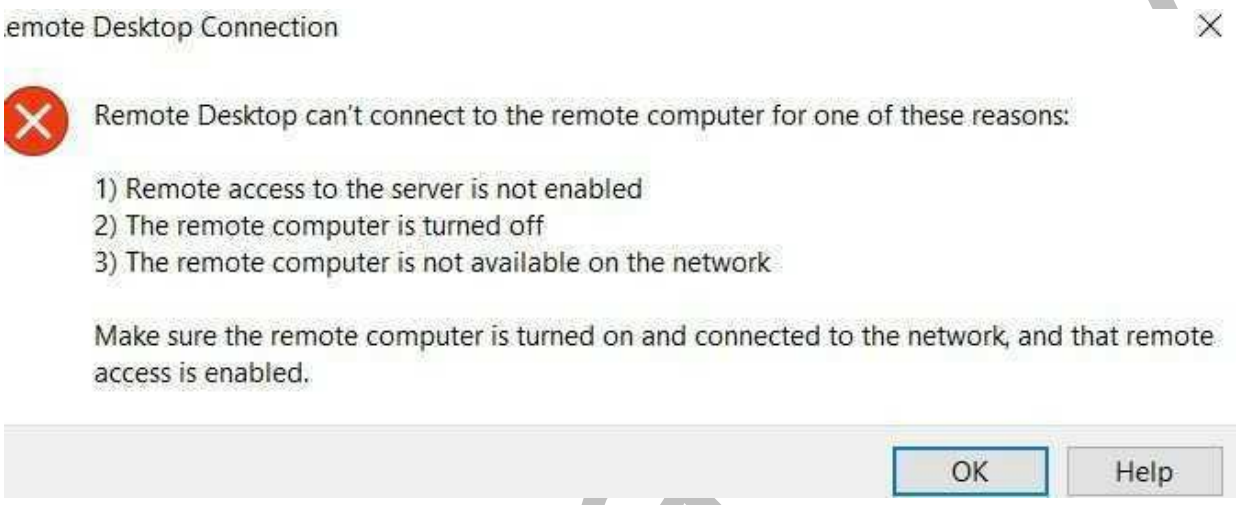
3. While creating the Instance its already enabled, for disabling it **Uncheck the button** and click on **Save**



8 TROUBLESHOOTING SECTION

8.1 Not able to connect to RDP

Issue: Sometime we may face this kind of issue which may be due to one of the reason mentioned in the screenshot

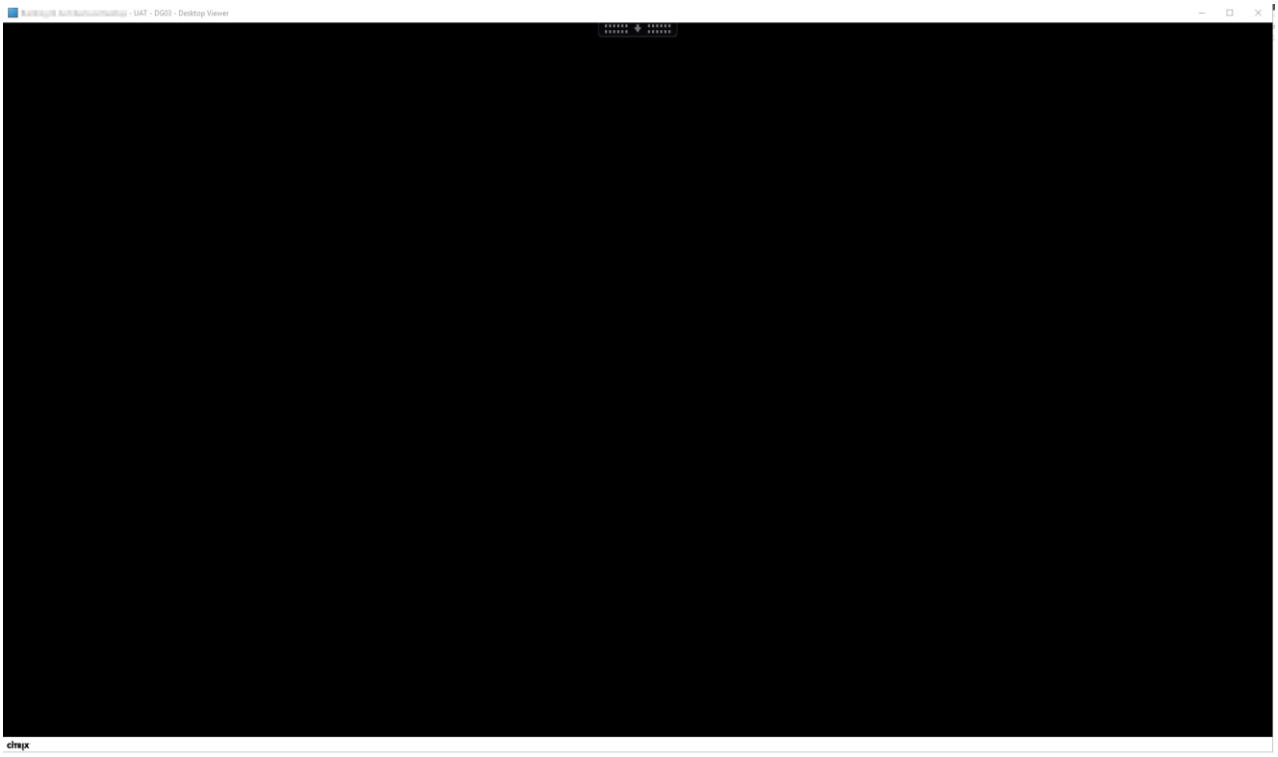


Cause: This error is caused due to your laptop that it blocking the outgoing traffic of port 3389, there may be an Window defender or the laptop you are using is may be your office laptop so they don't allow the traffic to go outside.

Your firewall is preventing the traffic from outgoing port.

8.2 RDP displays a Black Screen

Issue: Sometime we may face this kind of issue that RDP displays a black screen instead of the desktop.



Cause: This error is caused due to RDP old Version or you are not logged in as Administrator or server is over-utilized.

Fix: Try the following to resolve this issue:

1) Check the console output for additional information. To get the console output for your instance using the Amazon EC2 console, select the instance, and then choose Actions, Monitor and troubleshoot, Get system log.
2) Verify that you are running the latest version of your RDP client.
3) If the server is running a full-screen application, it might have stopped responding. Use Ctrl+Shift+Esc to start Windows Task Manager, and then close the application.
4) If the server is over-utilized, it might have stopped responding. To monitor the instance using the Amazon EC2 console, select the instance and then select the Monitoring tab.
5) If you are using Remote Desktop Connection, try starting it with the /admin option as follows.

```
mstsc /v:instance /admin
```

8.3 Lost Key Pair

Issue: If your key pair is lost (.pem file) and unable to login into instance.

Cause: You might have delete your key pair.

Fix: Create an AMI and launch a new instance

When you use EC2Config or EC2Launch to reset a lost password, you must use its key pair to retrieve the administrator password. If you've lost the key pair, you can create an AMI of the existing instance, and then launch a new instance. You can then select a new key pair by following the instance launch wizard. Follow these steps:

1) Create a new key pair, and then save the private key file in a safe place. You can create a key pair using the console.

Note: To give the new key pair the same name as the lost key pair, you must first delete the lost key pair.

2) From the Amazon EC2 console, choose **Instances** from the navigation pane.

3) Select your instance. From the **Description** tab, note the **Instance type, VPC ID, Subnet ID, Security groups**, and **IAM** role for the instance.

4) Stop your instance. **Warning**: If this instance has an instance store volume, any data on it is lost when the instance is stopped. If the instance shutdown behavior is set to **Terminate**, the instance terminates when it is stopped.

5) Select your instance. For **Actions**, choose **Image**, Create **Image**.

For **Image name**, enter a name.

6) Choose **Create Image,** and then choose **Close**.

7) Choose **AMIs** from the navigation pane. If the **Status** is **pending**, the AMI is still being created. When the **Status** is **available**, continue to the next step.

8) Select the AMI, and then choose **Launch.**

9) Complete the wizard. Be sure to select the **same Instance type, VPC ID, Subnet ID, Security groups,** and **IAM role** as the instance that you are replacing.

For **Select a key pair,** choose the new key pair.

10) Now that the private key is replaced, you can reset the administrator password.

9 SUMMARY

This activity guide covers the steps to:

1. Creating a Windows EC2 Instance

    a. Launching the Windows Instance
    b. Connecting to the Windows Instance
    c. Configure an EC2 Windows instance to allow file downloads using Internet Explorer

2. Deleting/Cleanup

    a. Stopping the Windows Instance
    b. Terminating the Windows Instance
    c. Termination Prevention of Instance