MANJRASOFT PTY LTD

Aneka Deployment in AWS Cloud Environment.

Installation and User Guide

Contributers

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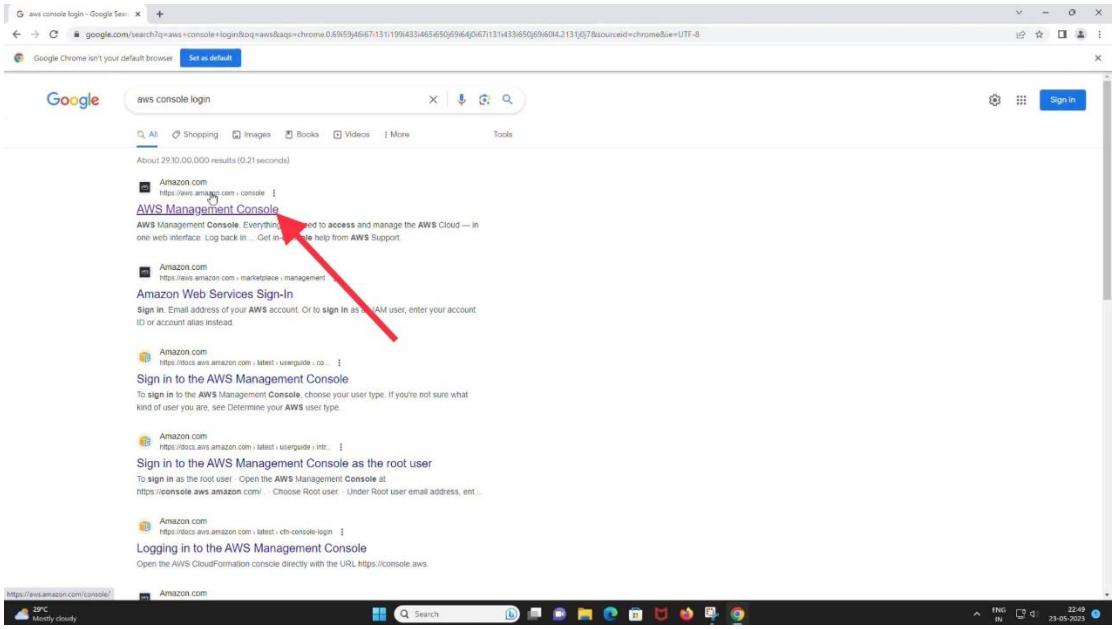
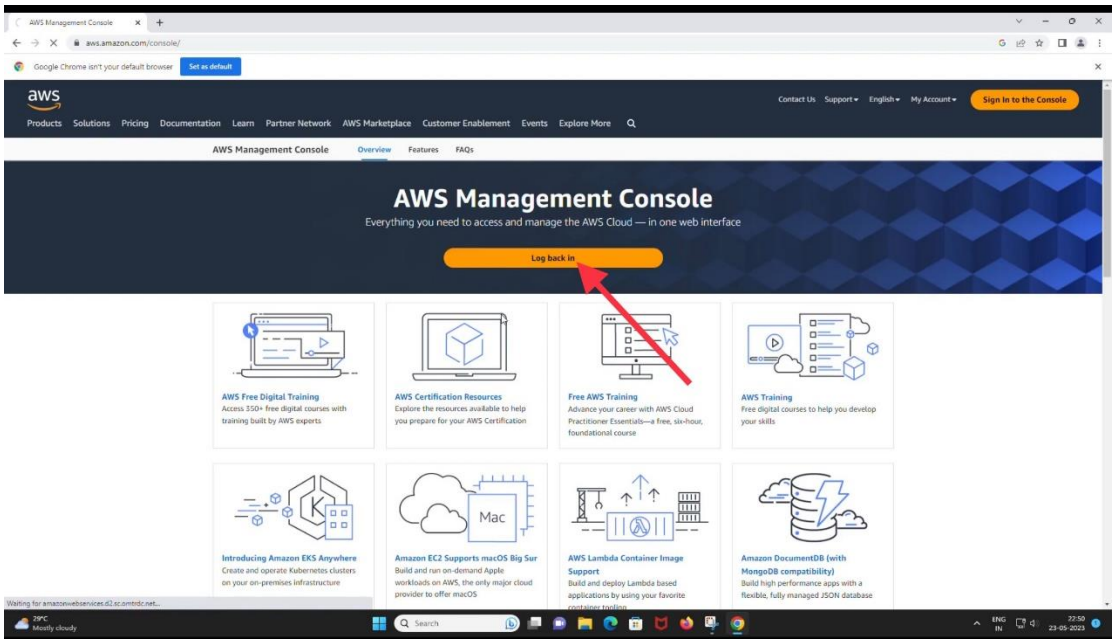
Aneka Deployment in AWS Cloud Environment.

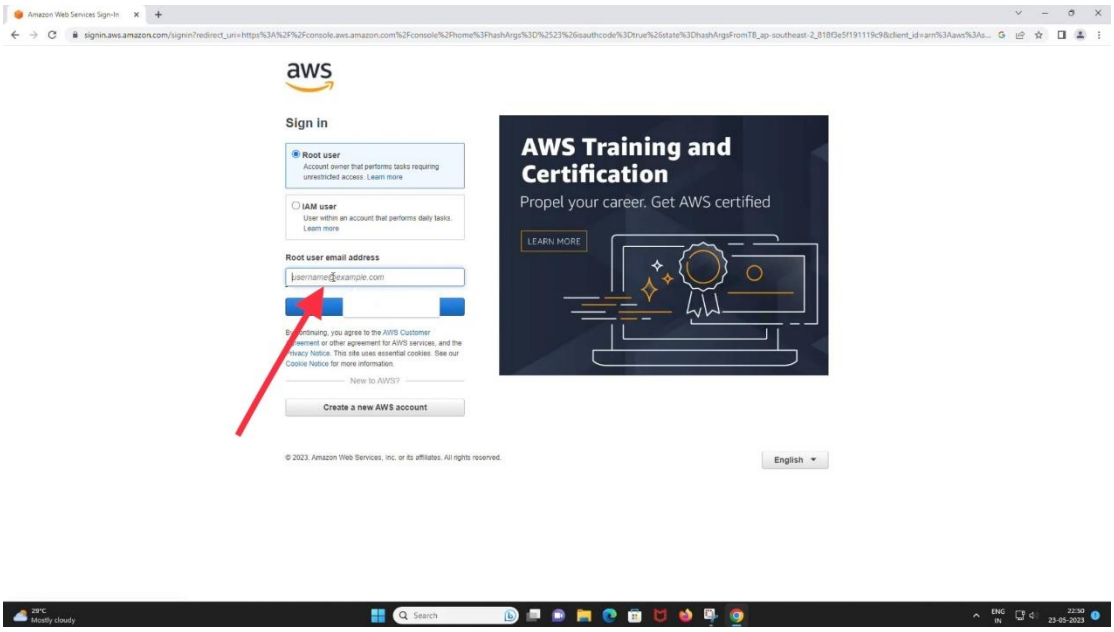
1. Go to Brower and search for [AWS Console]



2. Click on AWS Console and Login to AWS Account



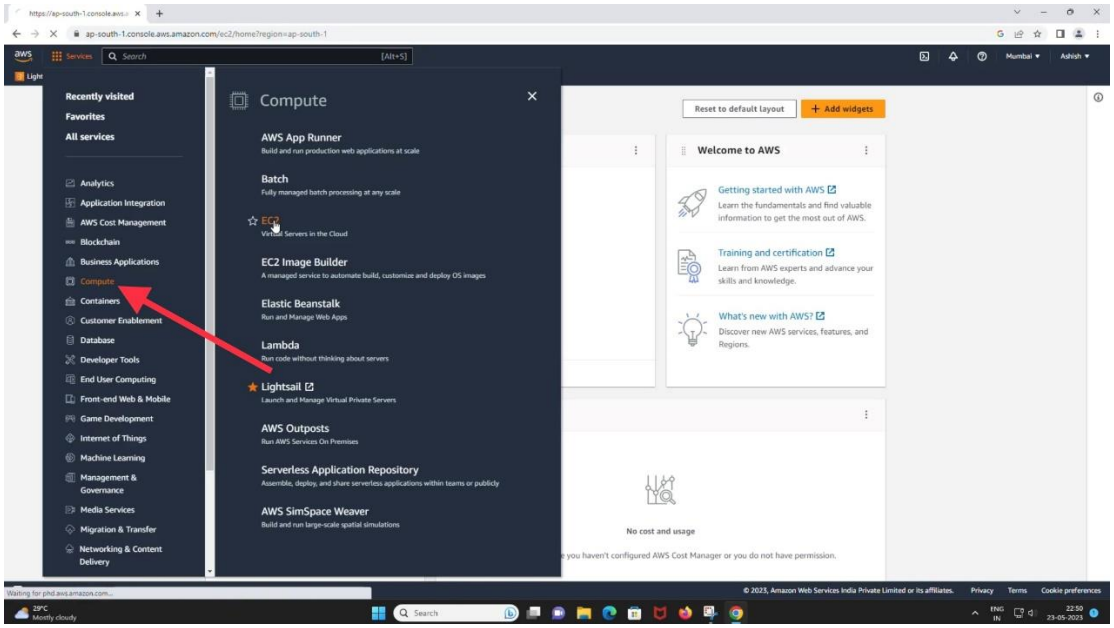
3. Log in as root user and enter your registered mail id and Password.



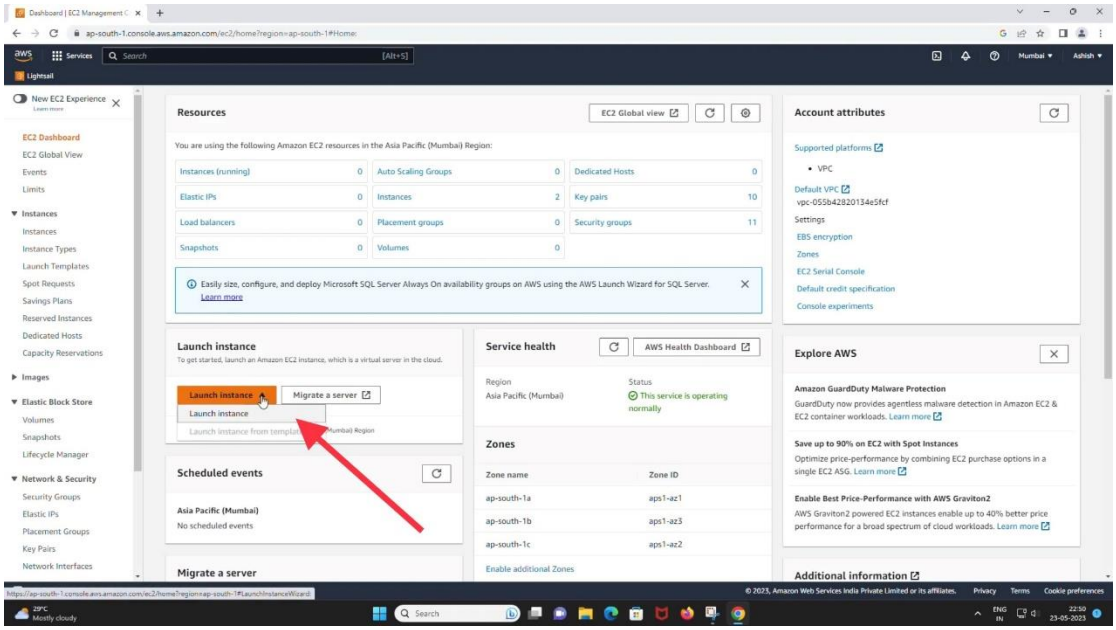
Procedure for creating EC2 Instances

Note: We require two Windows machines one for the master and one for the worker. Here we are using Microsoft Windows Server 2022 (free tier) machines with default configurations (t2. micro).

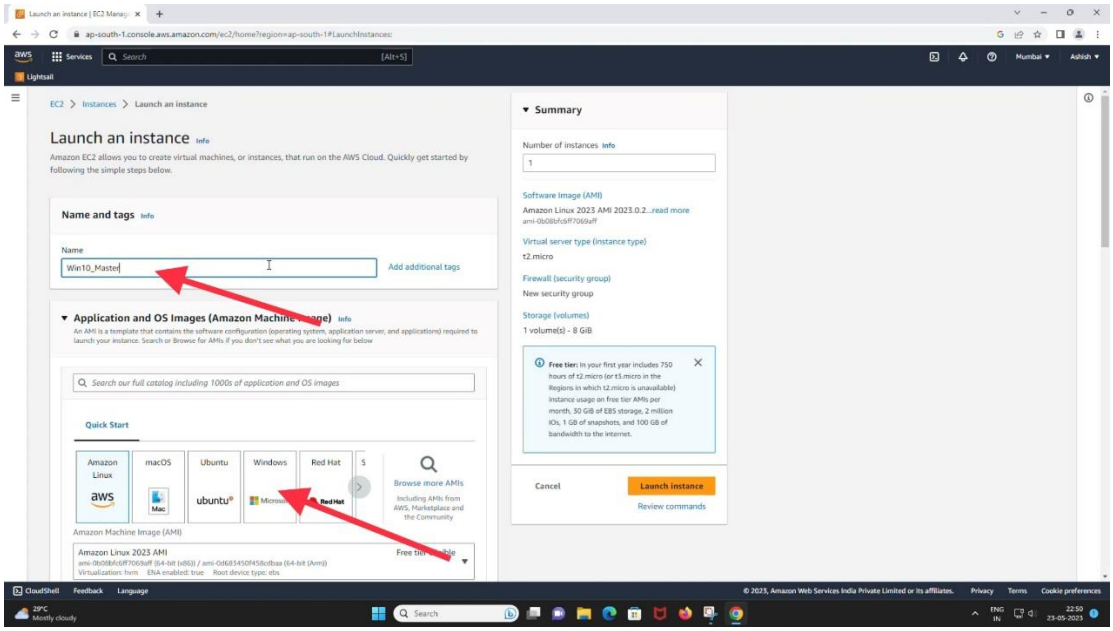
4. Go to services and navigate to Compute and select EC2



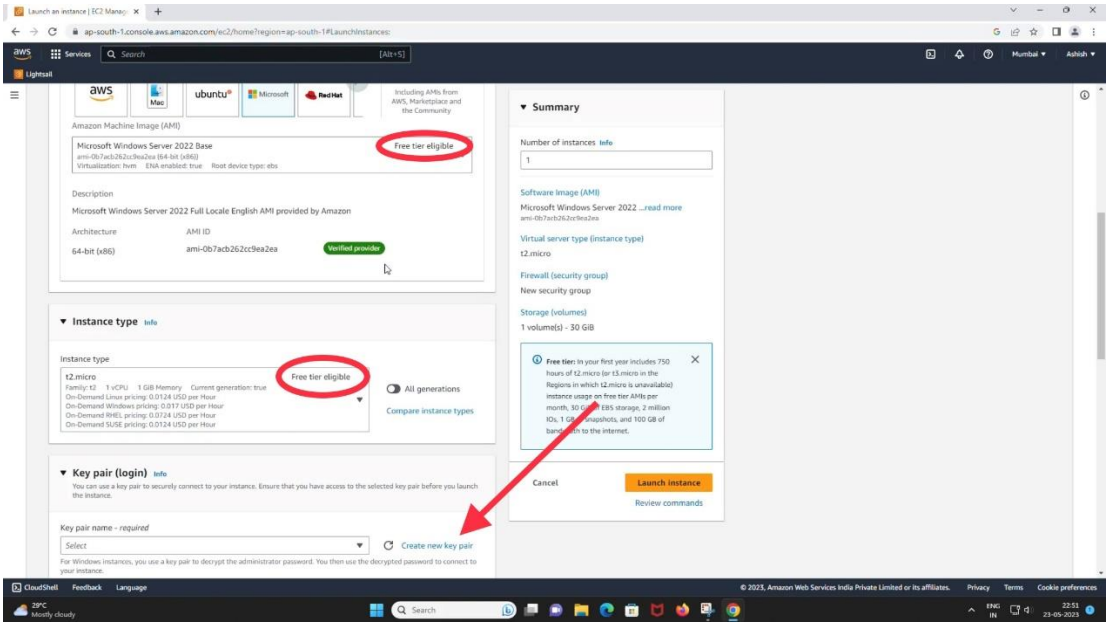
5. In EC2 Dashboard Click on the launch Instance.



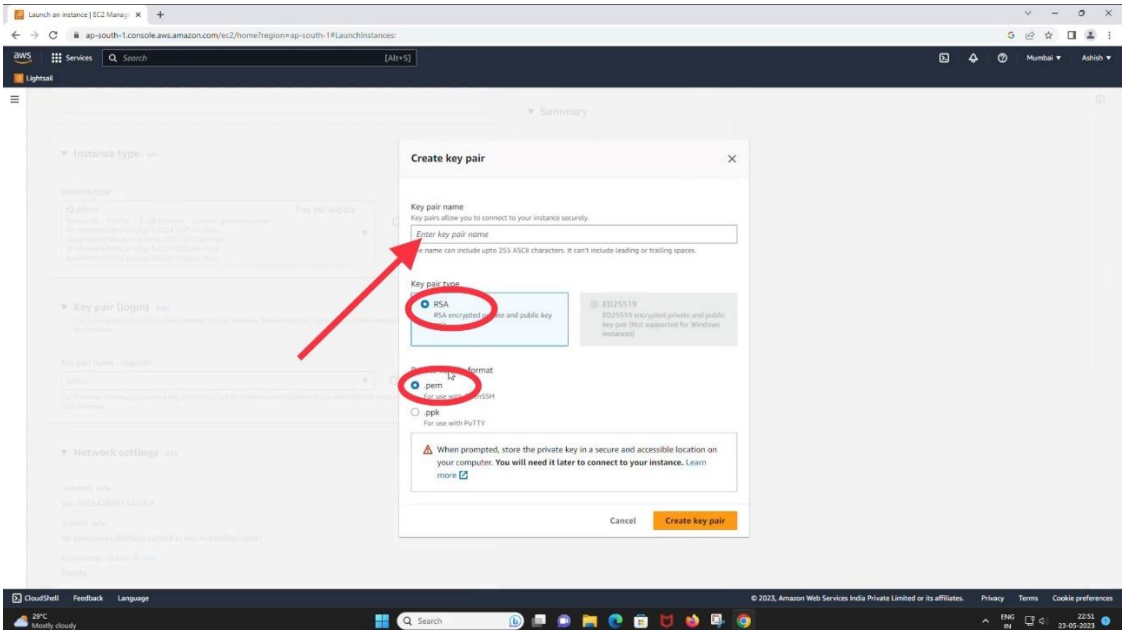
6. Specify the name for instance (Win10_Master) and select Microsoft Windows.
(You can choose any name for your convivence).



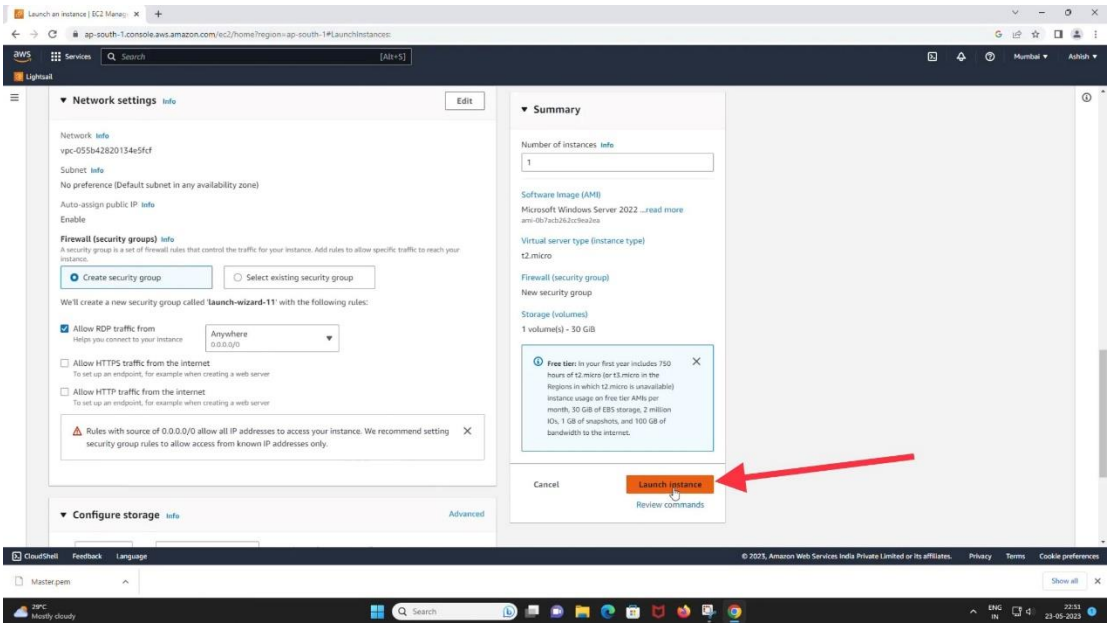
7. Select windows server 2022 (free tier) and leave other options default.



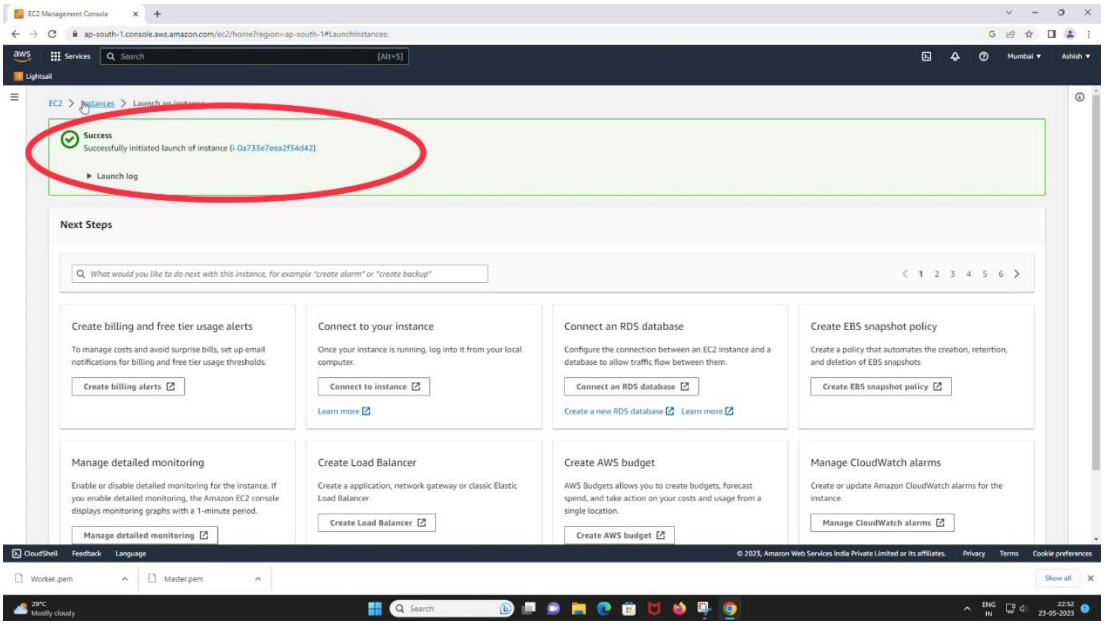
8. For Key pair Click on Create new key pair and enter the key pair name (for ex. Master) choose RSA and .pem file then click on Create key pair. (Key pair master.pem file will be downloaded save it for further use.)



9. Keep other options default and review the summary and click on launch instance.



10. EC2 instance has been launched successfully.



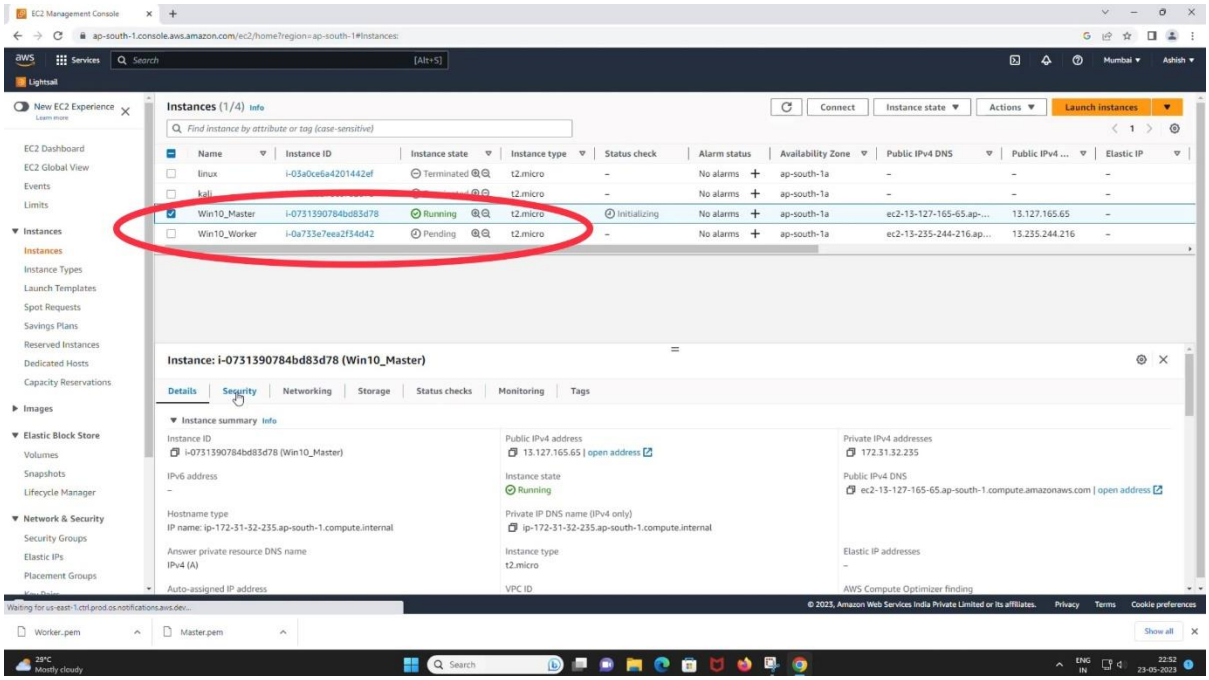
One EC2 instance (Master machine) has been created now. Repeat the procedure for creating another machine (Worker machine) with the above-mentioned configurations.

Summary of EC2 instances

Parameters	Master machine	Worker machine
Name	Win10_Master	Win10_worker
Key pair name	master	worker

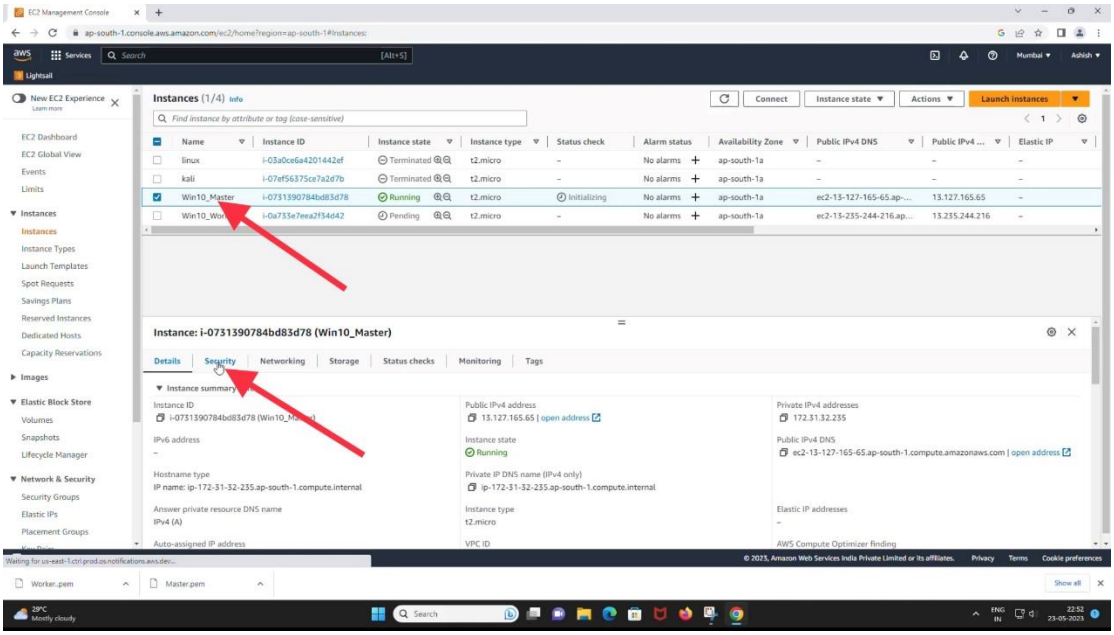
(given names are only for our convivence you can use any names)

In the EC2 dashboard, we can see both machines created.

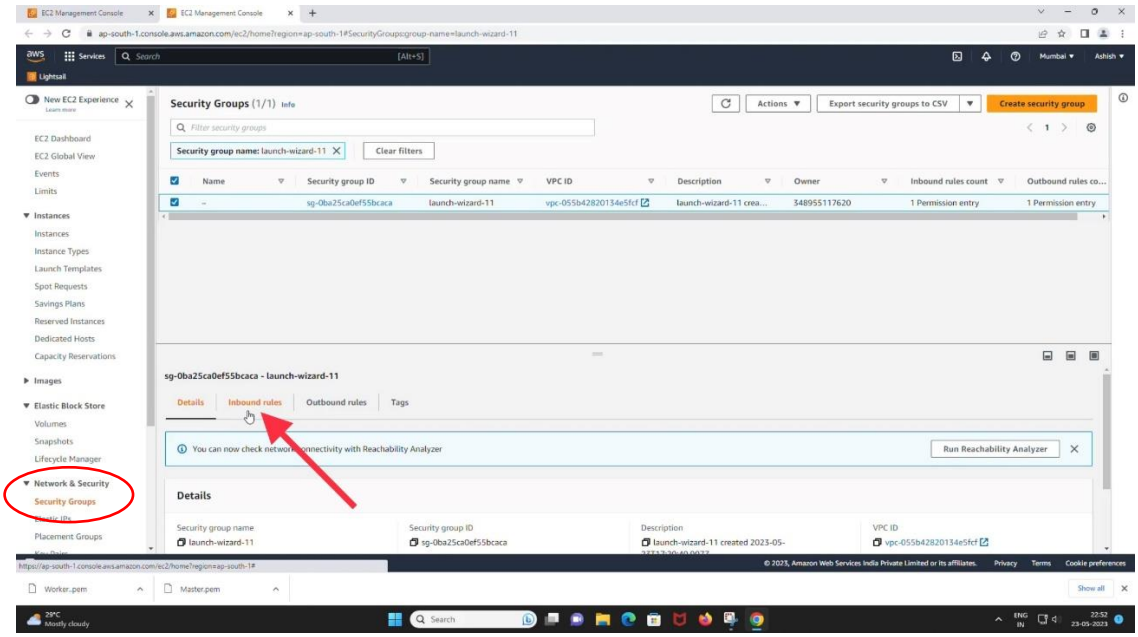


Once the machines are created, we must configure the security and networking settings to establish a connection. Follow the steps below for configuration.

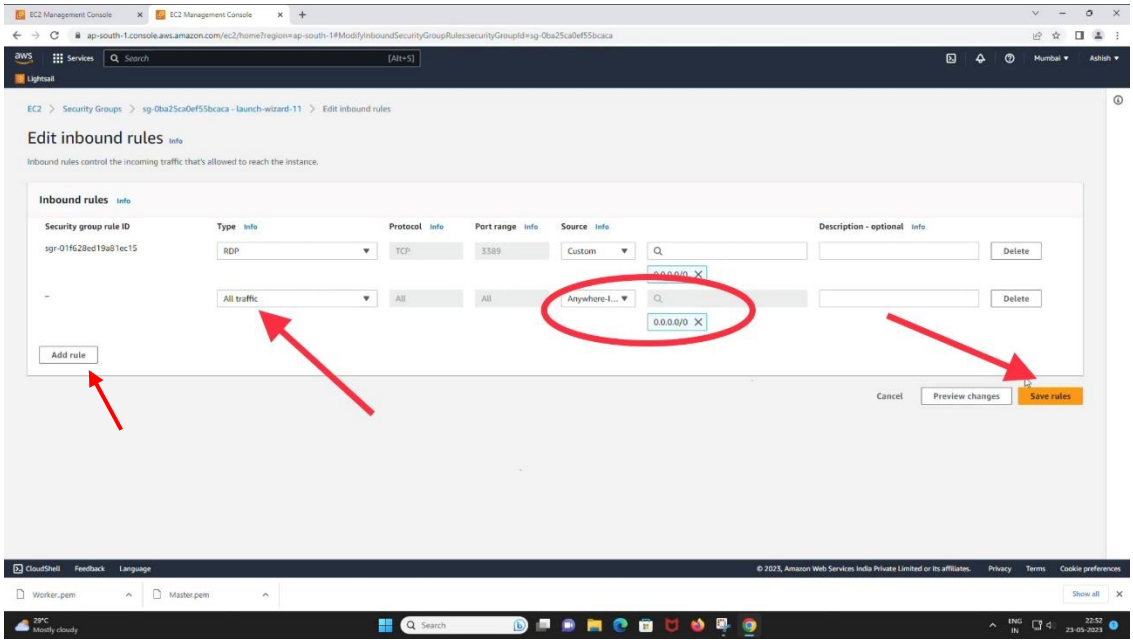
11. Select an instance and click on security to change inbound rules.



12. In the left pane Network and Security click on Security Group and Go to inbound rules.

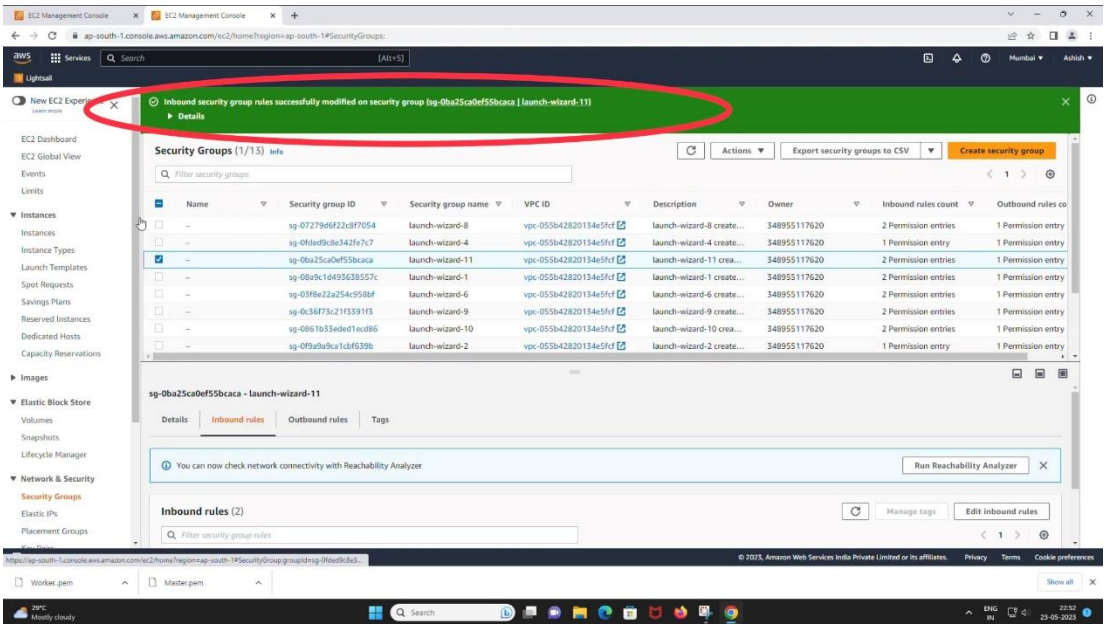


13. Now edit the inbound rules as shown below.
Click on Add rule and specify the details. Type<all traffic>, Source<anywhere> and click save rules.



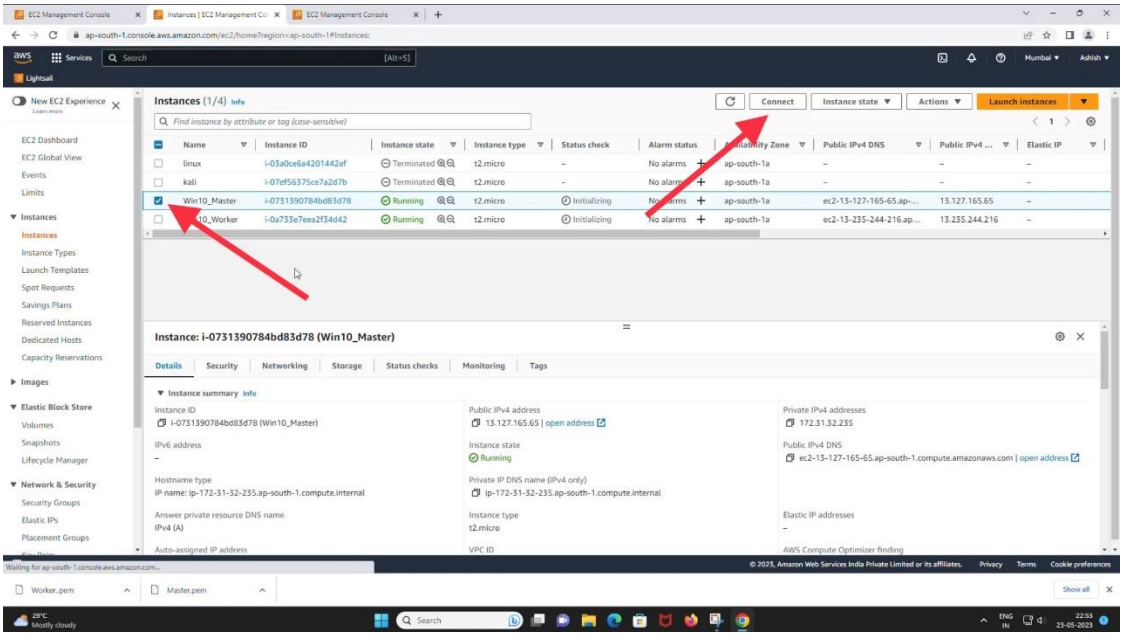
Note: Repeat the same procedure for another machine too.

14. Now we can see the details are updated successfully in pop-up window.



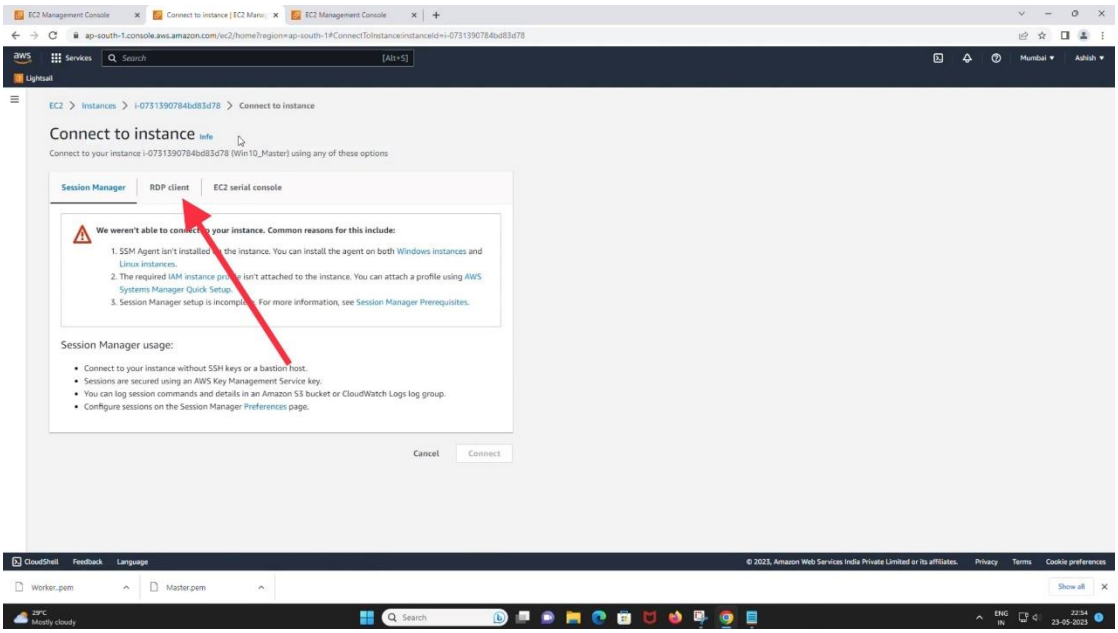
Connecting and accessing EC2 instances.

15. In EC2 Dashboard select one machine and click on connect.

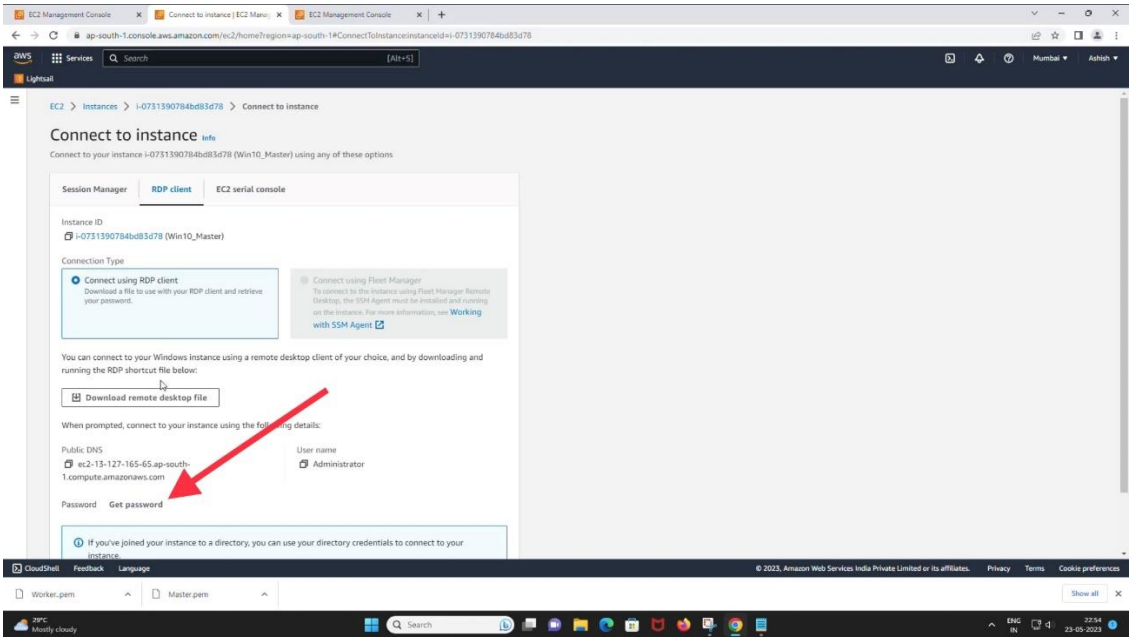


Note: Same procedure applies for connecting both machines, so once the master machine is connected repeat the same procedure to the worker machine too.

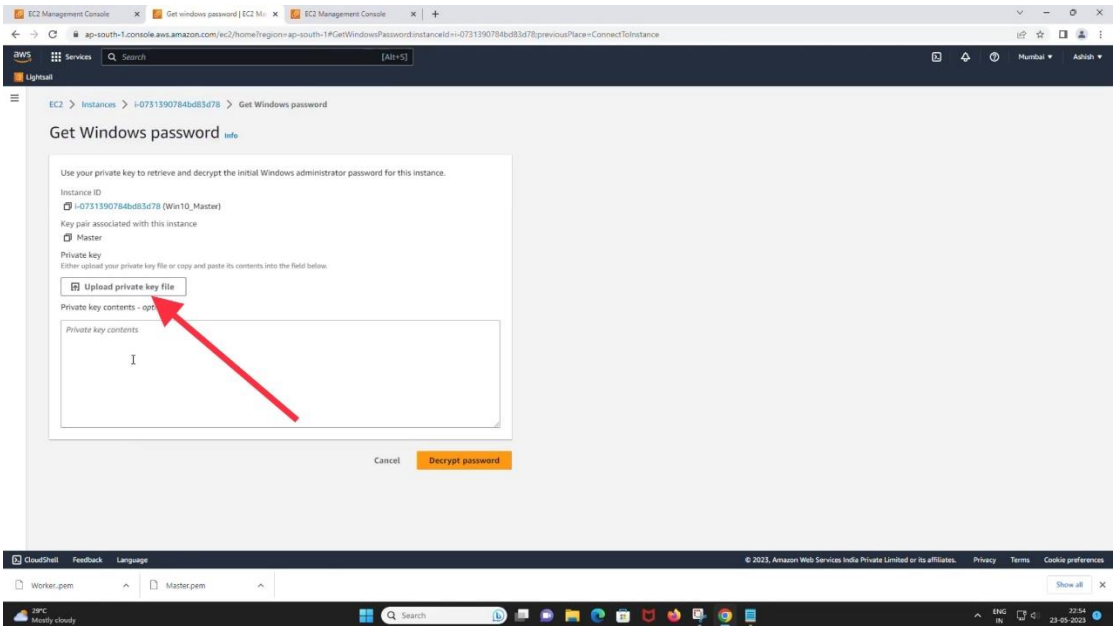
16. Click on RDP client to connect.



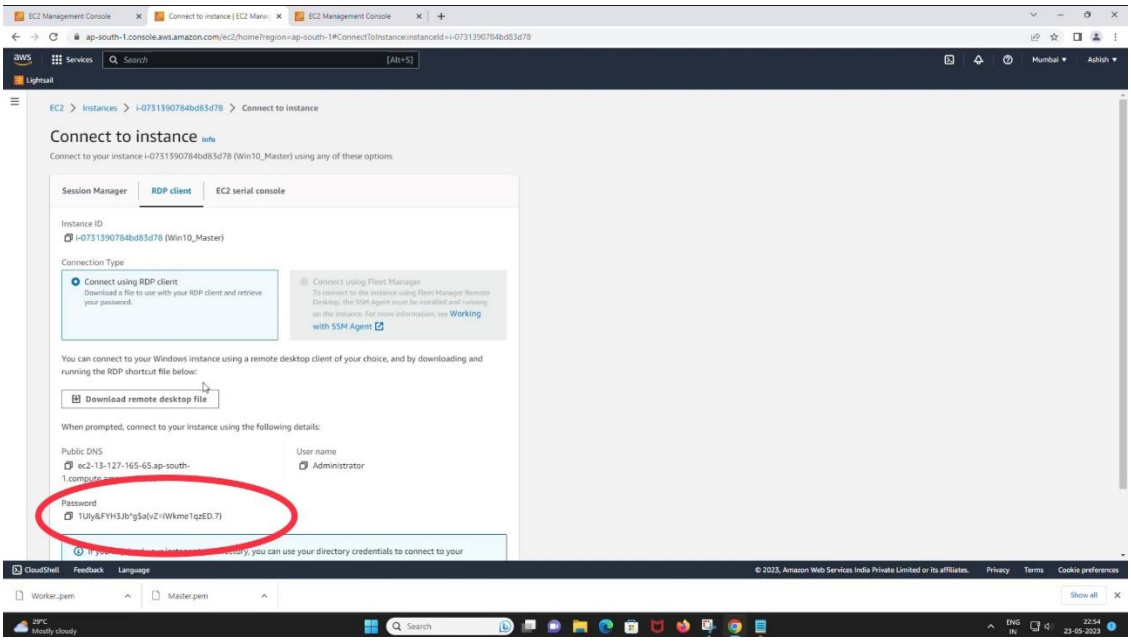
17. Click on Get password to get the password of the machine.



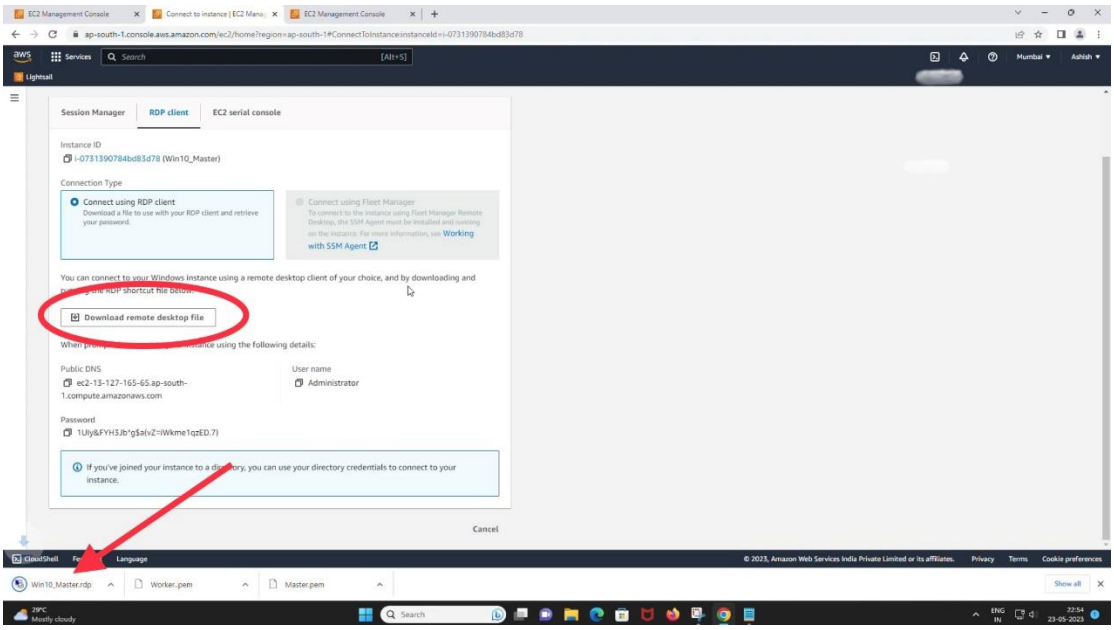
18. Upload the master.pem (downloaded while creating the machine) file to get the password.



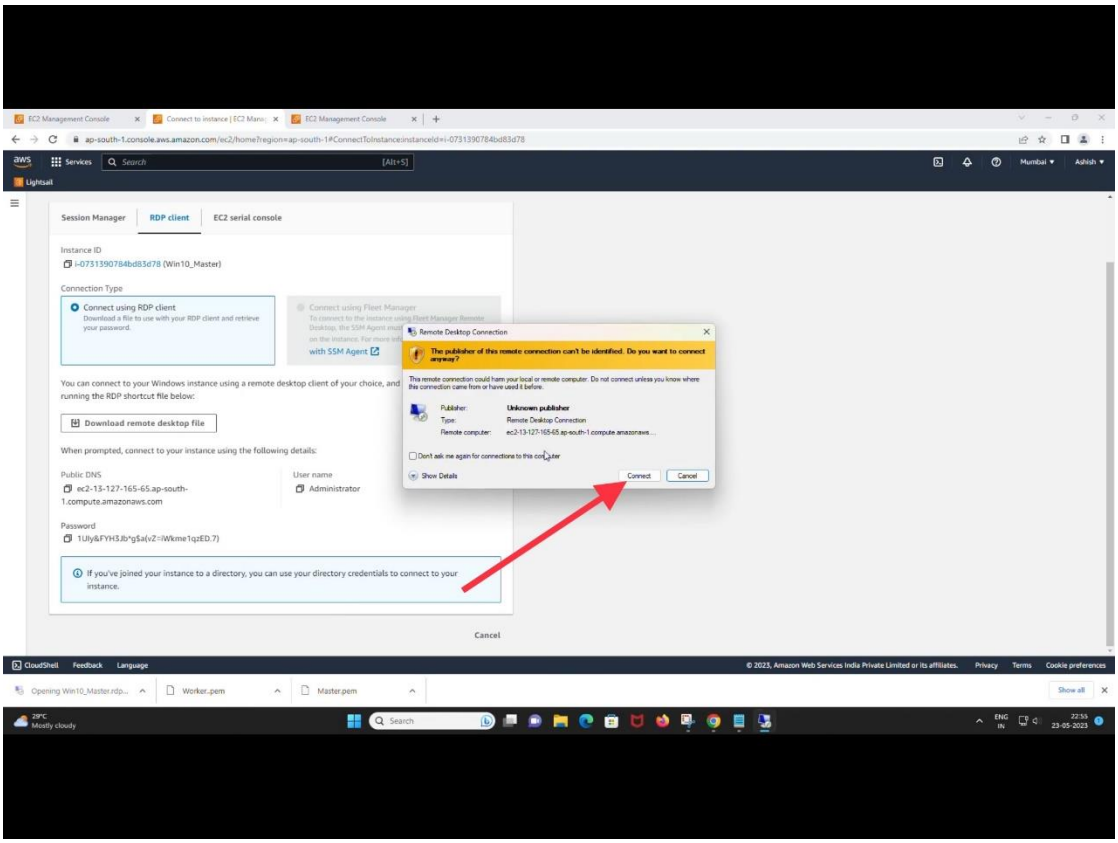
19. Once the file is uploaded click on Decrypt password to get the password.



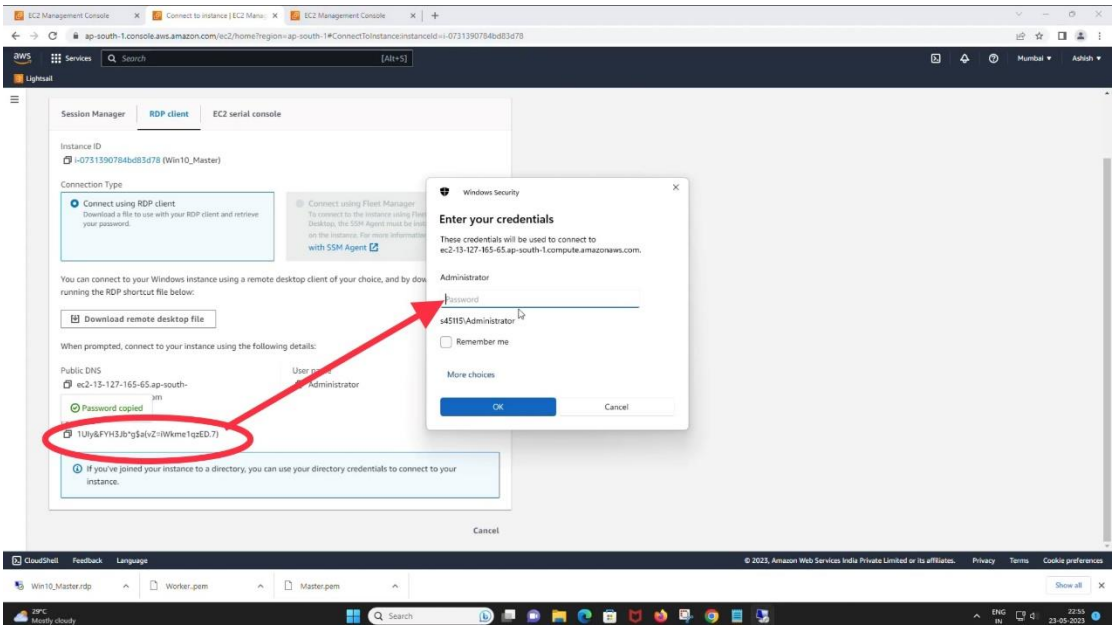
20. Download the remote desktop file.



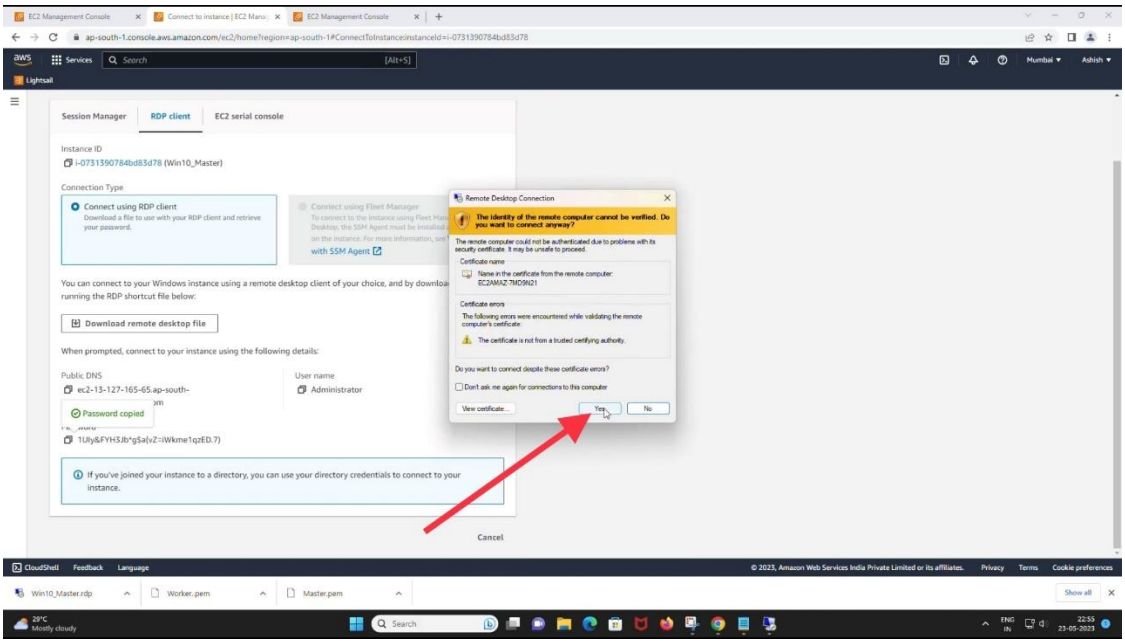
21. open it to log in and connect with the machine.



22. Enter the credentials of machine.



23. Click ok and choose yes when it gives a pop-up.

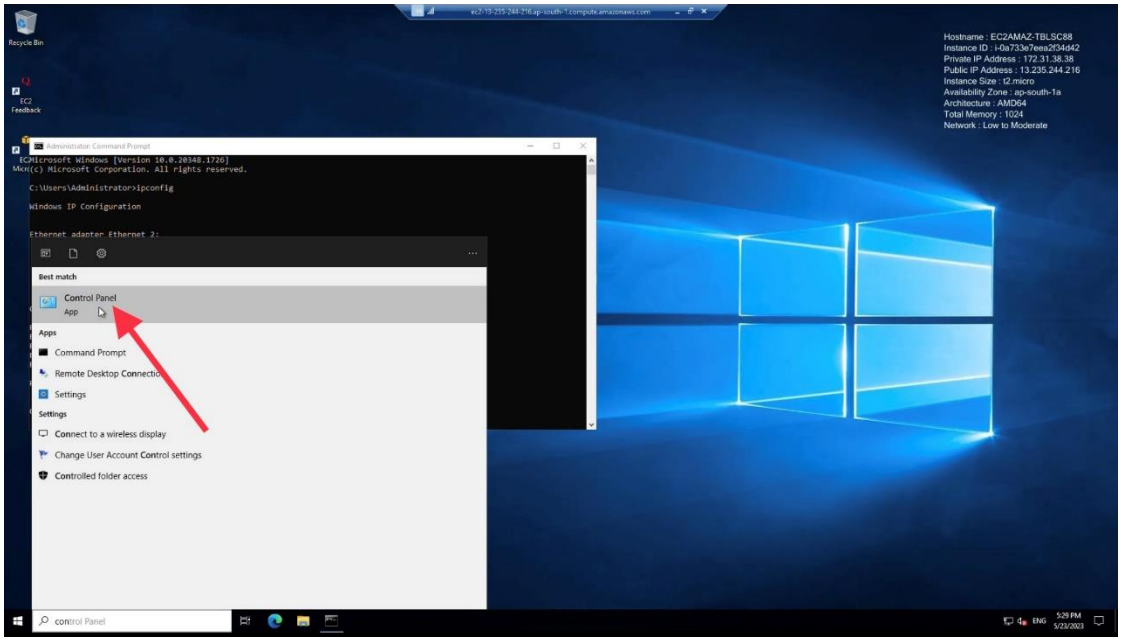


Note: Please wait until the connection establishes and you will see the Windows home screen.

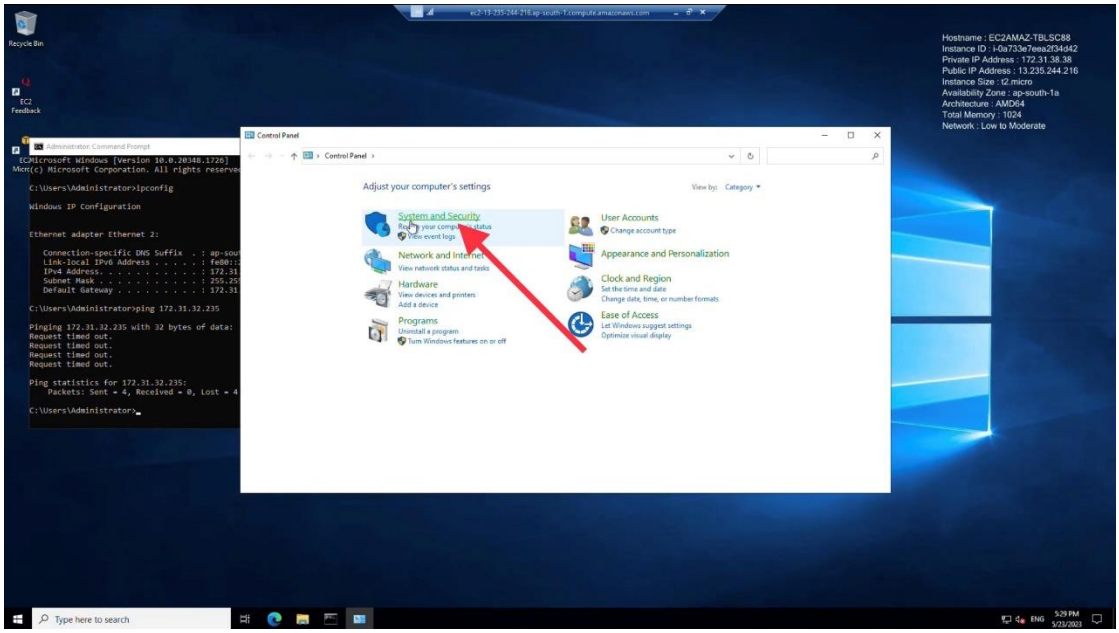
Repeat the same steps in both machines to connect.

Note: Once both machines are ready, we need to Turn off the firewall protection in both systems. Follow the below steps to turn of the f firewall.

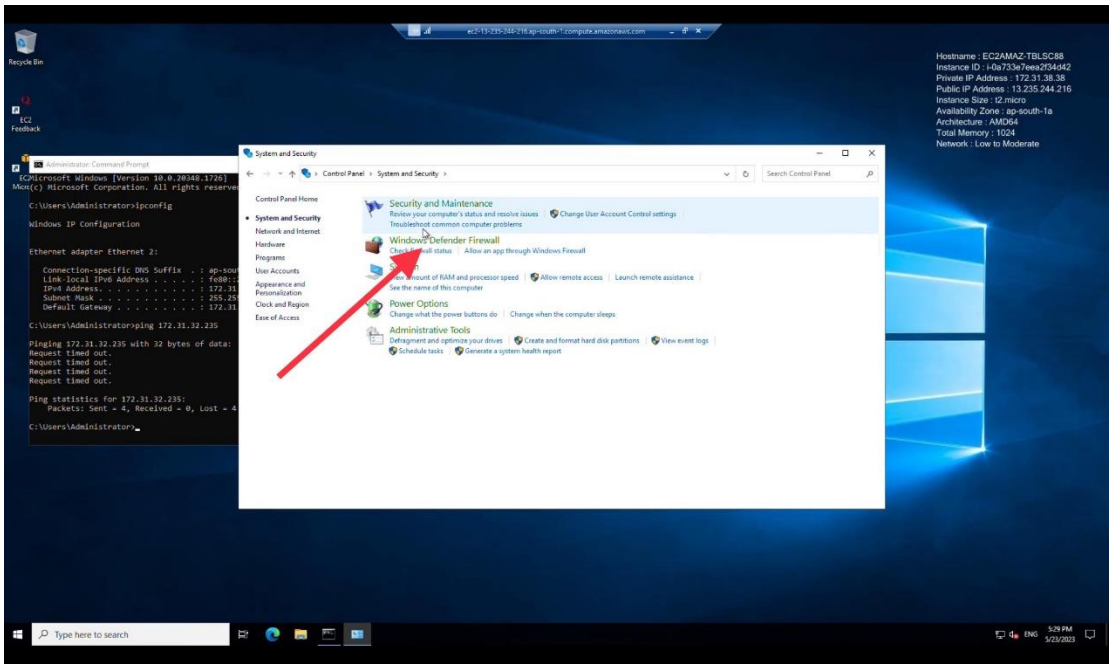
24. Go to the search bar and navigate to the control panel.



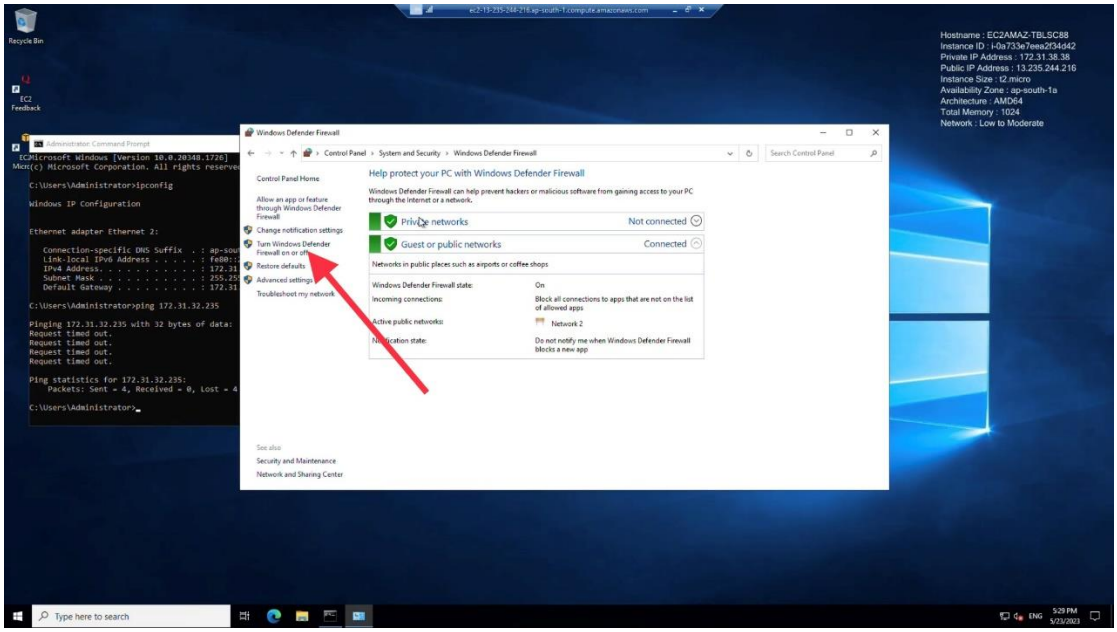
25. Go to system and security.



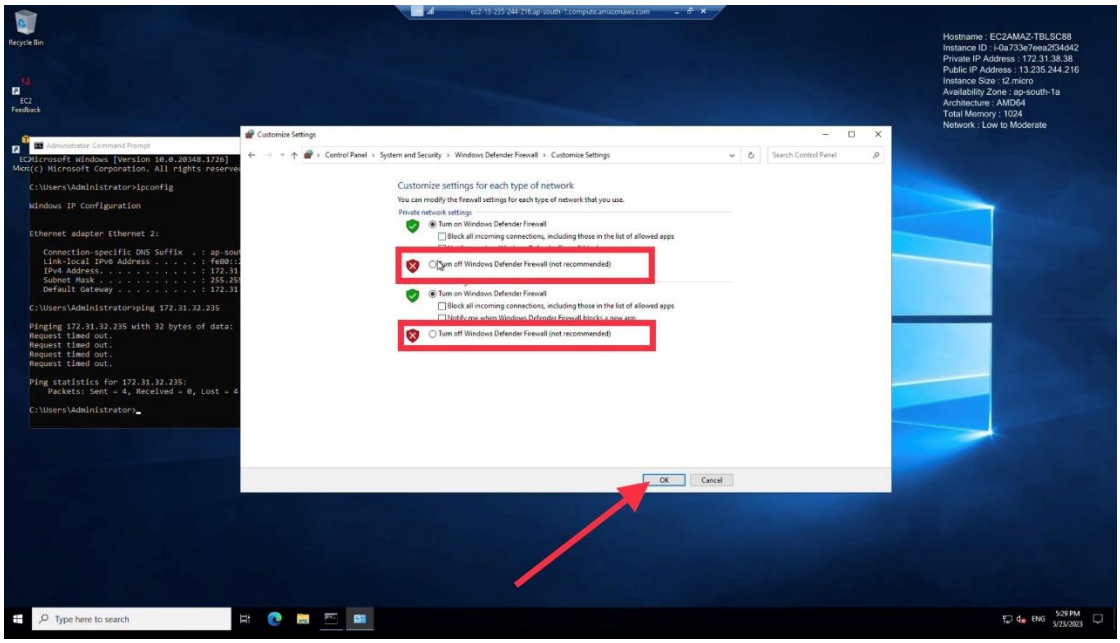
26. Go to Windows defender firewall.



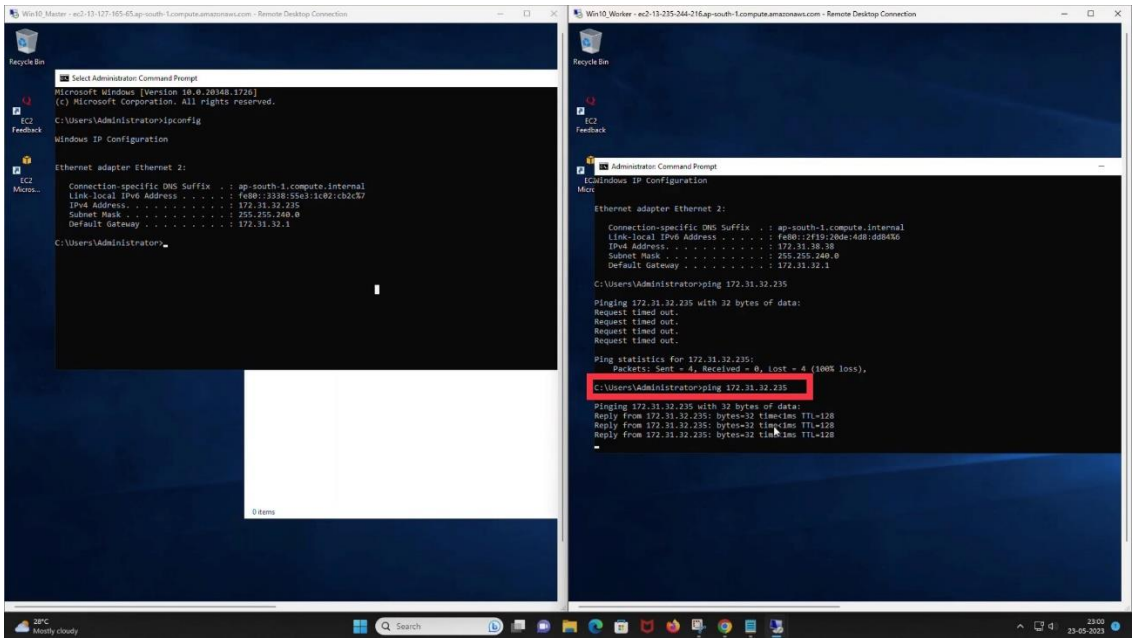
27. In the left pane select Turn windows defender firewall on or off.



28. Turn of the firewall.

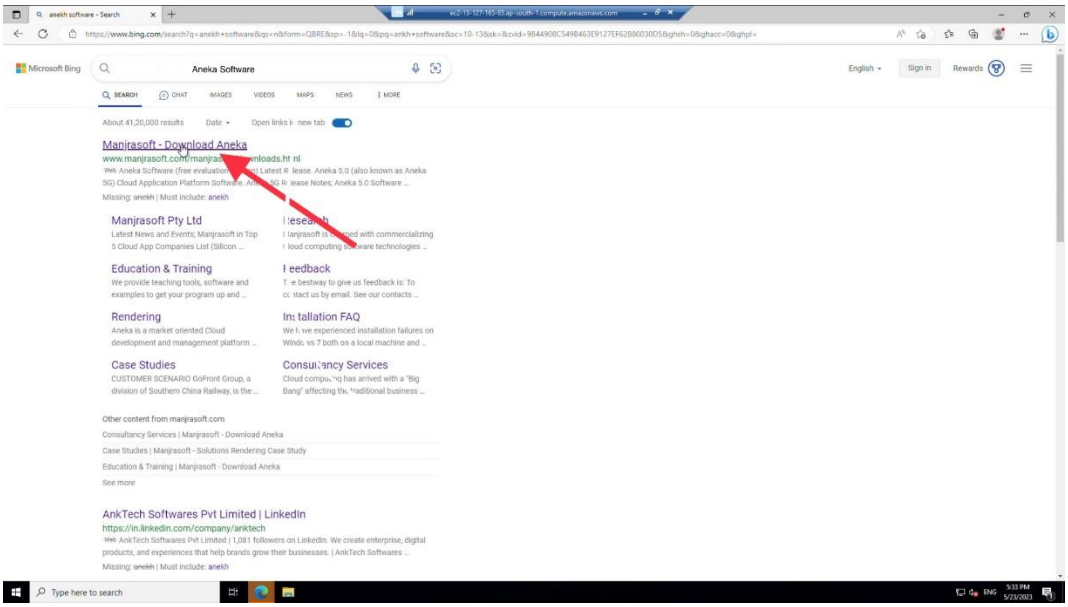


Now we are good to go for the installation of Aneka. before proceeding once will check for a connection between both systems by ping command.

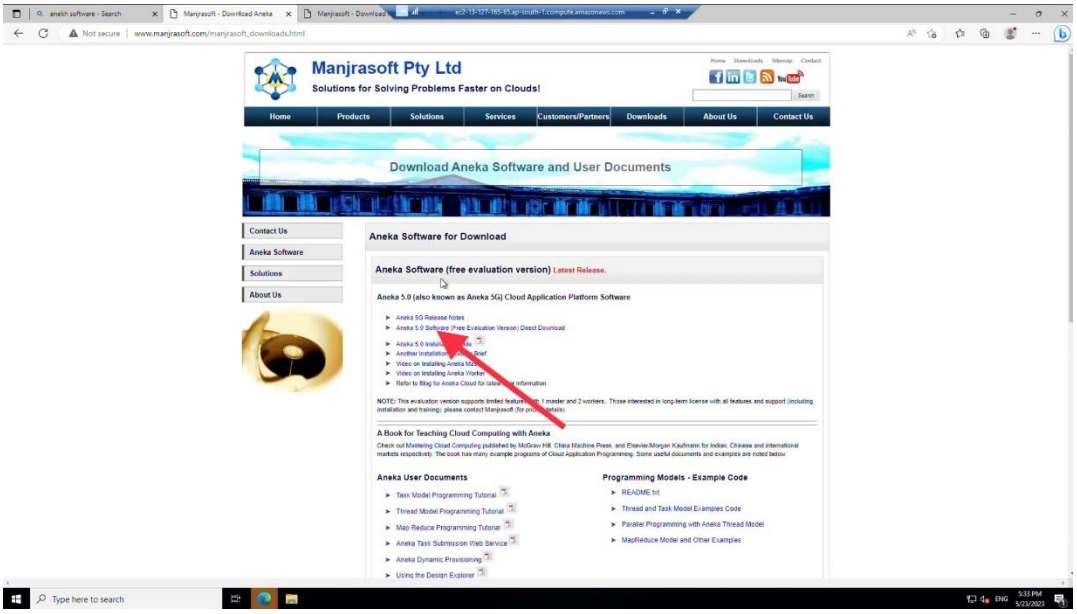


Installation of Aneka in Master Machine

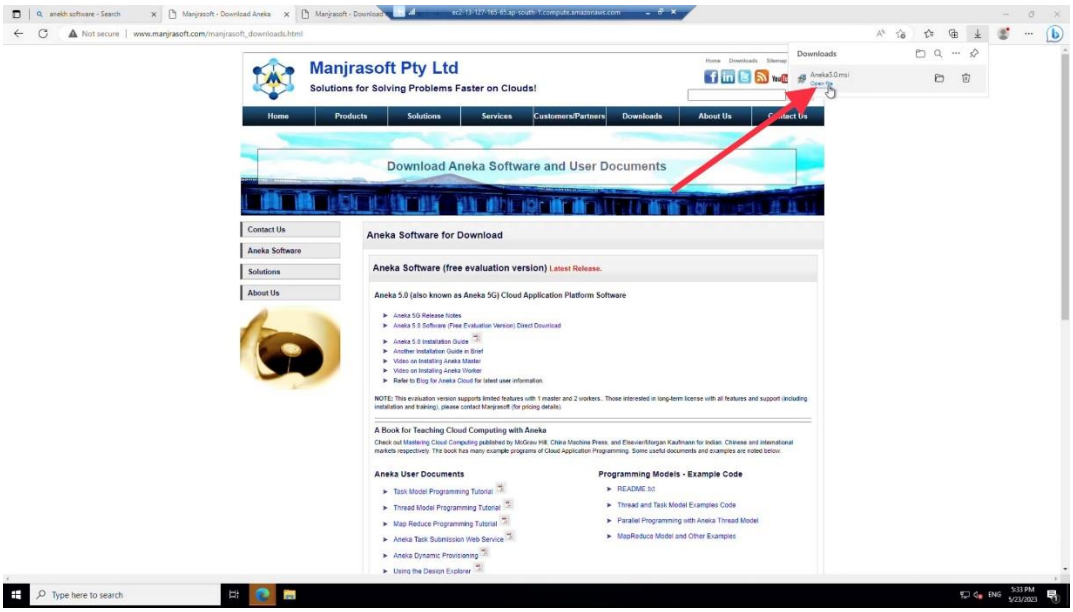
1. Go to the browser and search for Aneka software.



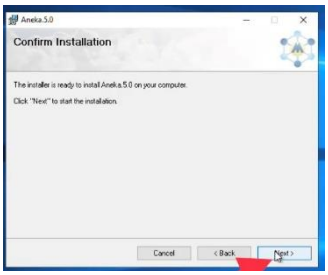
2. Click on Manjrasoft.com and go to downloads.

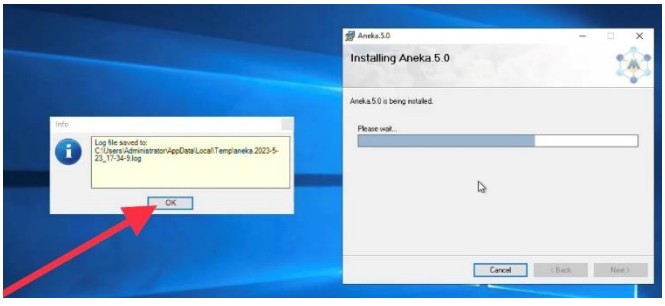


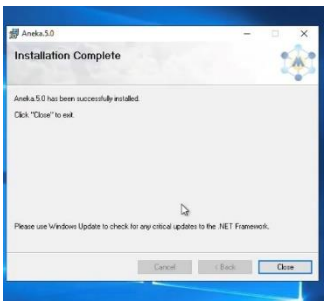
3. Download the latest version of Aneka.



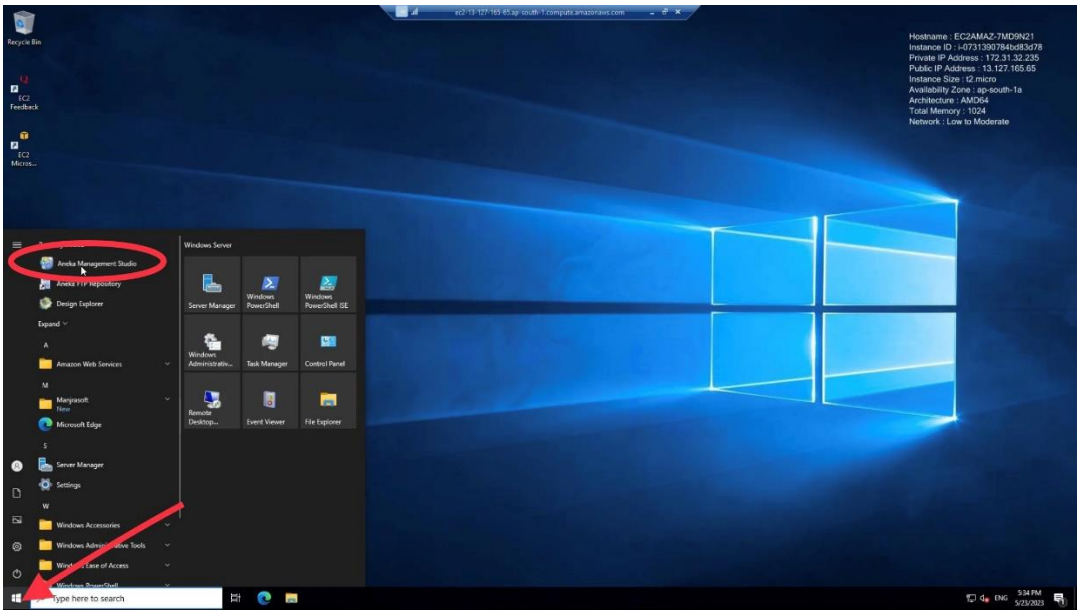
4. Keep the default settings and install the Aneka Software.



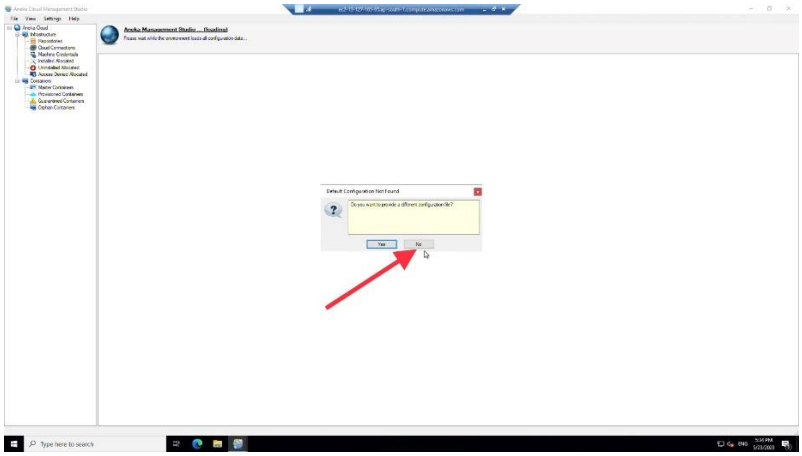


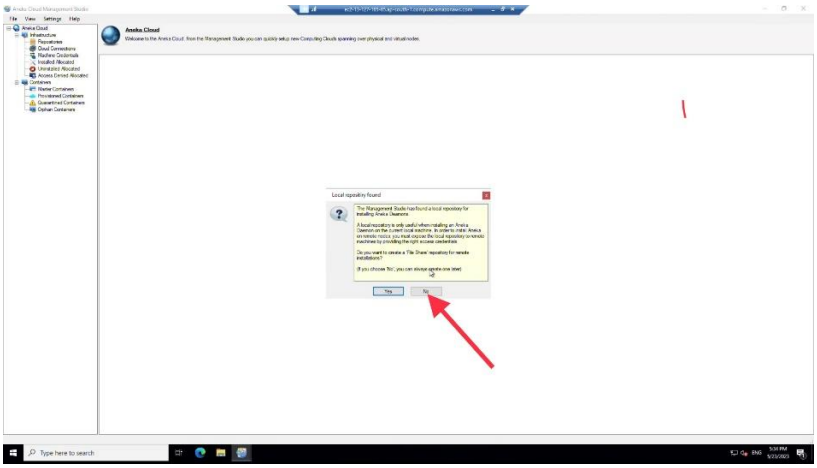


5. Run the Aneka management studio.

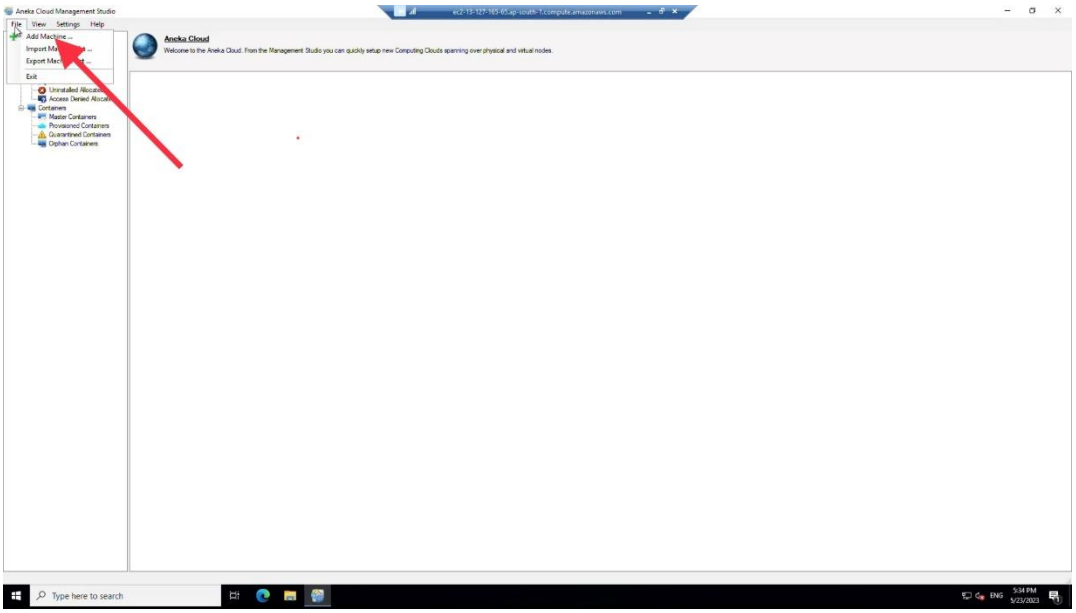


6. Click No for both pop-ups.

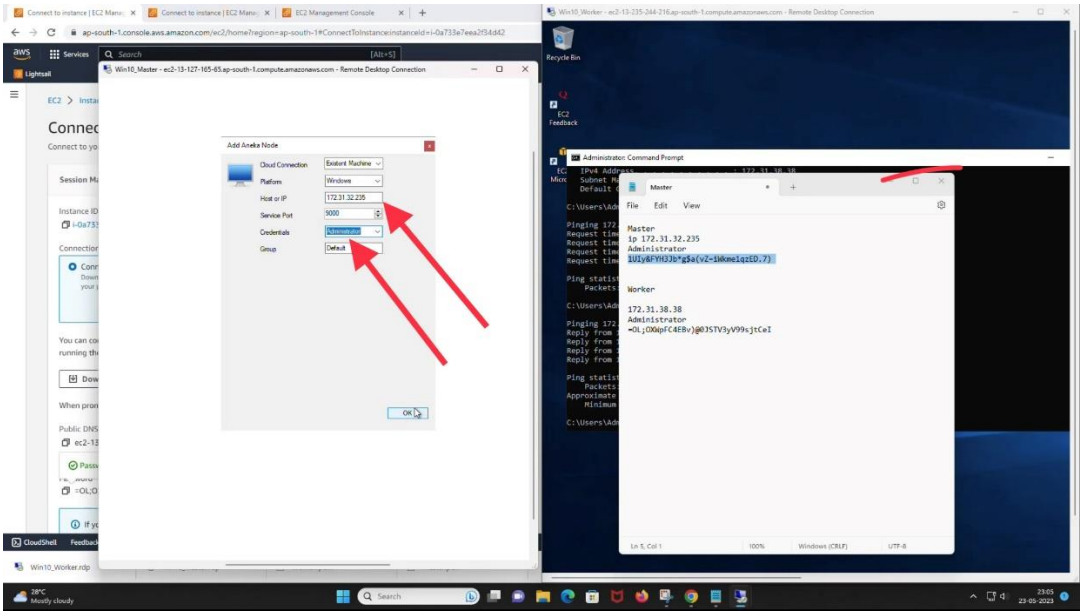




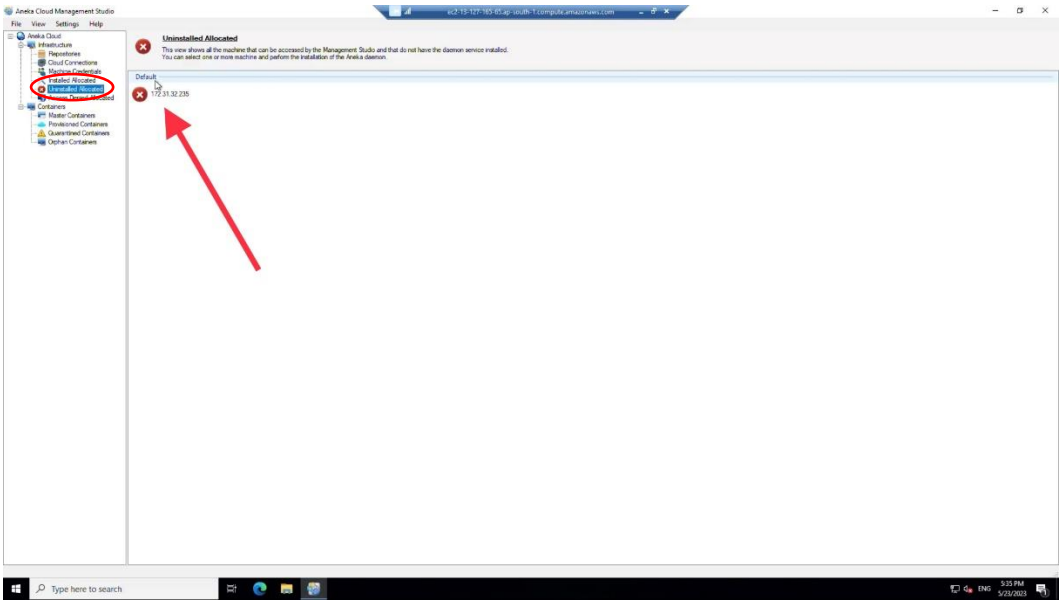
7. On the left pane click on File and select Add Machine.



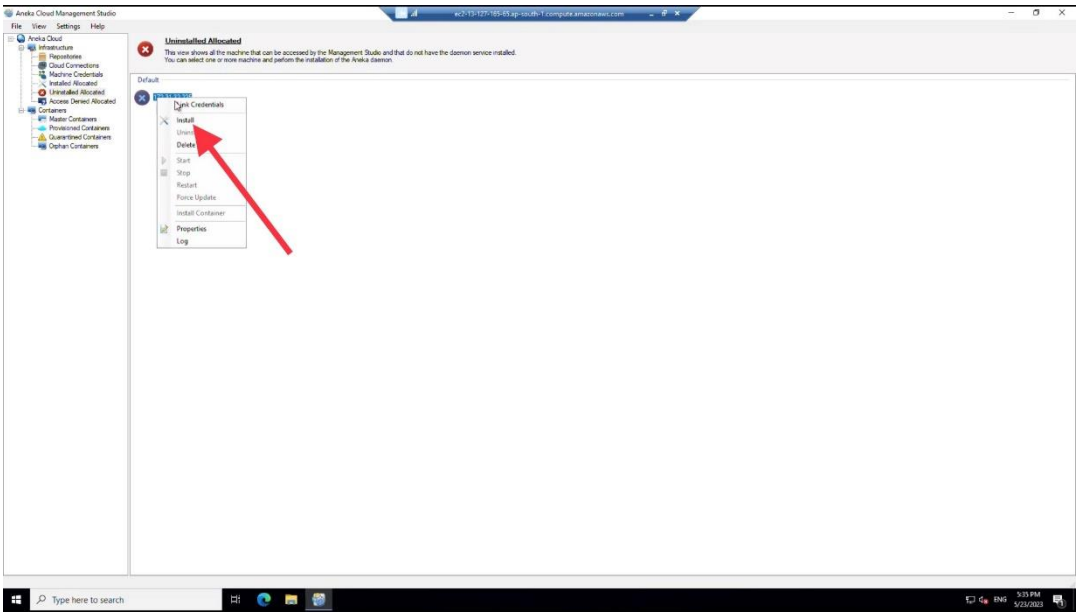
8. Note down the details of the machine as shown in the picture and enter the credentials for the master machine.
   Host IP: System private IP
   Service port: 9000 (customisable)
   For credentials click on create new and enter the user as Administrator and the password used for login.
   Leave other details default.



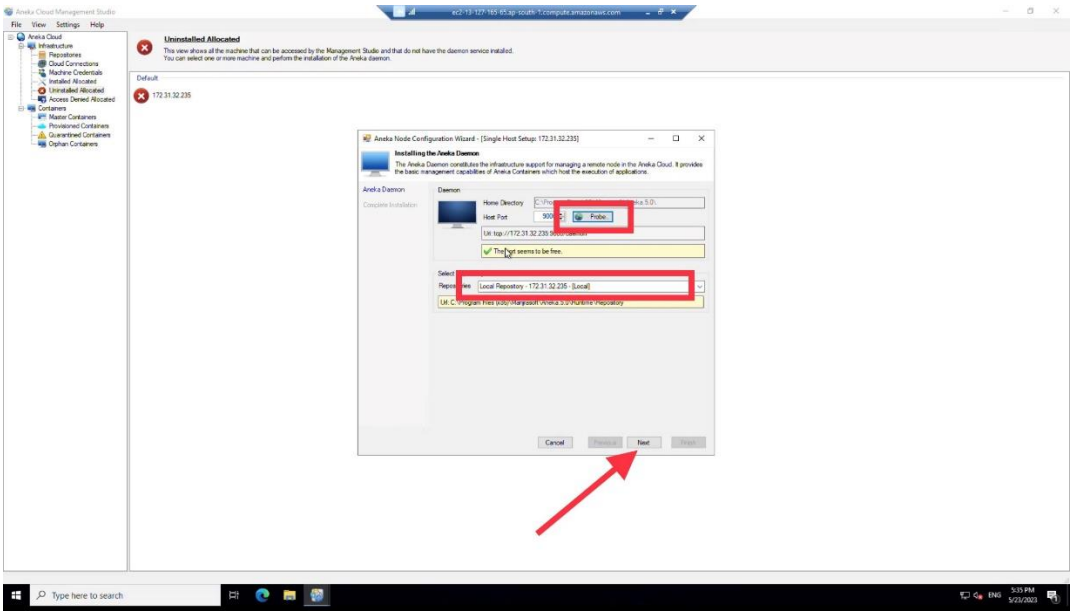
9. Now navigate to uninstalled allocated in the left pane and we can see our machine with IP address.



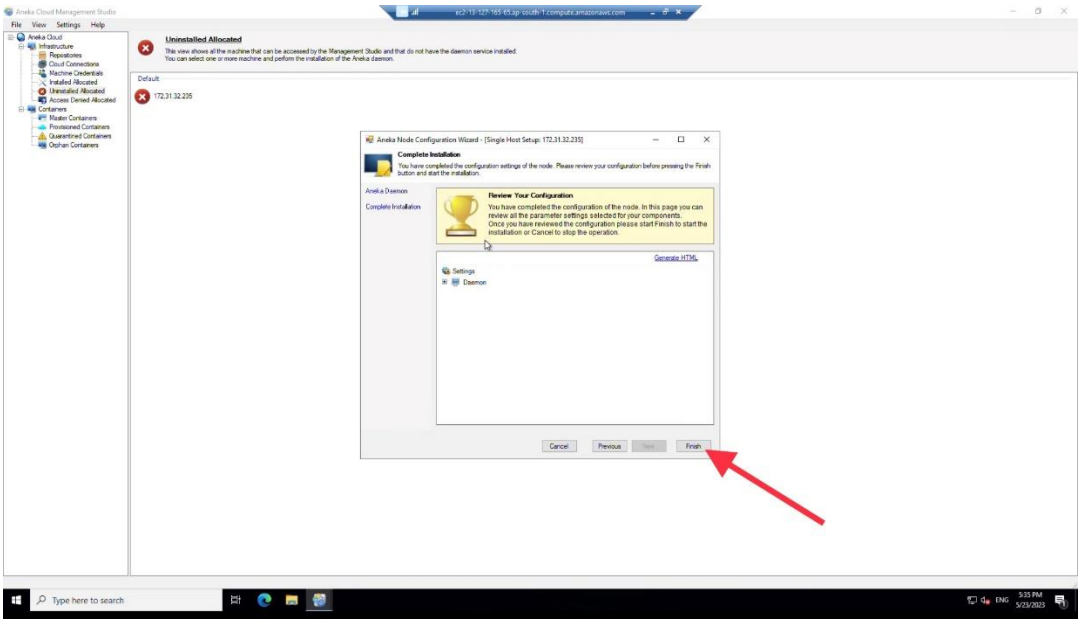
10. Click on the IP address and select install.

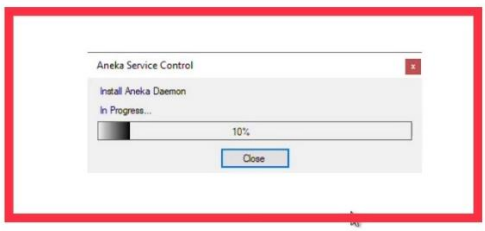


11. While installing click on Probe to check for port availability and leave other settings default and click on Next.

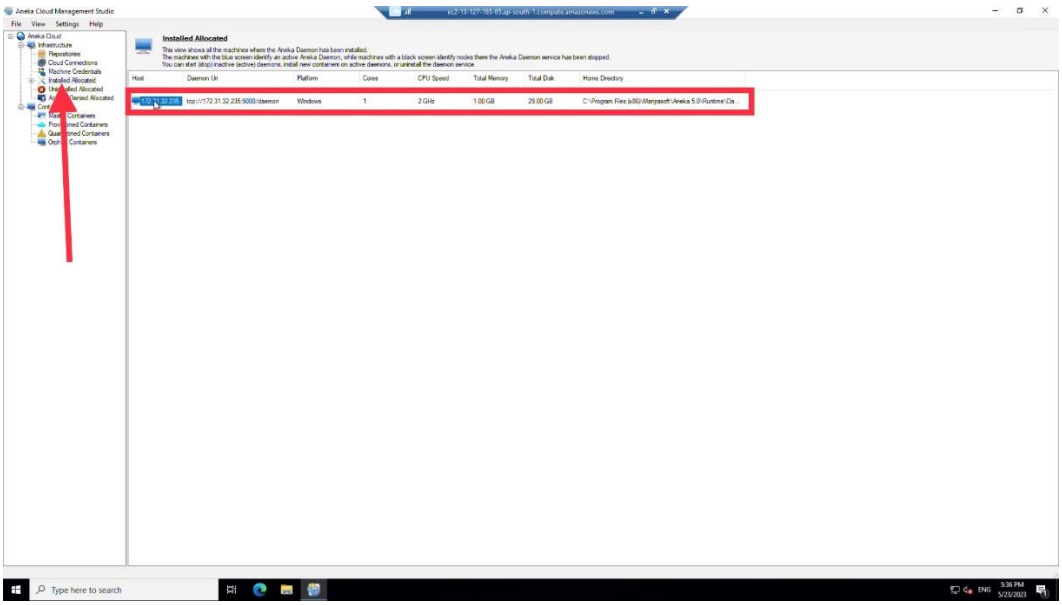


12. Now click finish.

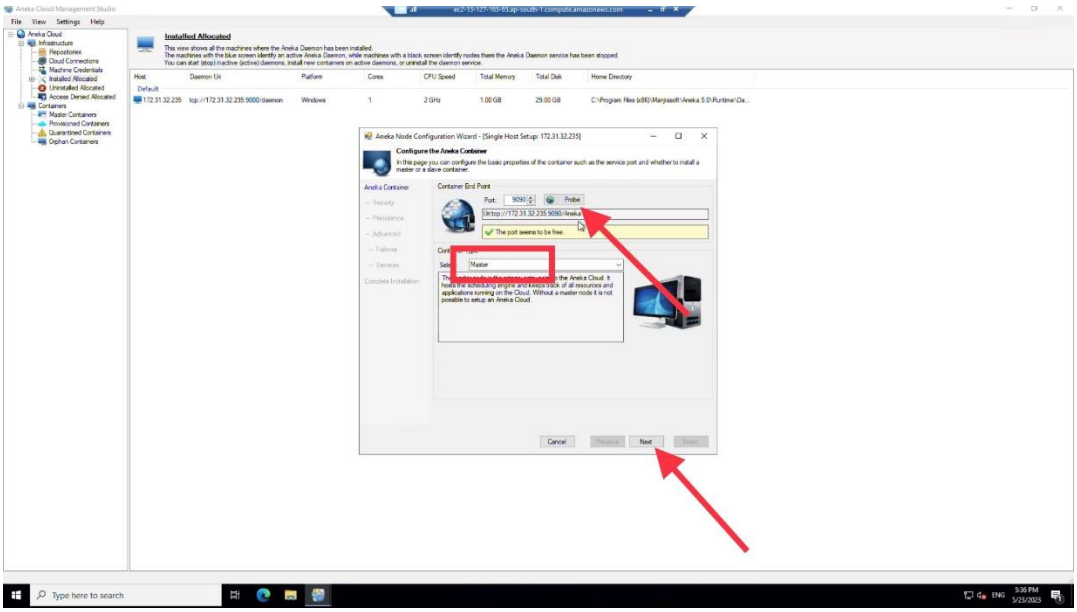




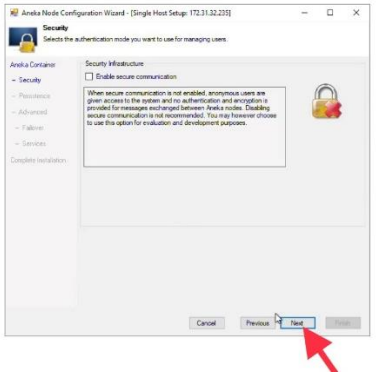
13. Once daemon installation is done, we can see our machine in the installed allocated tab in the left pane.

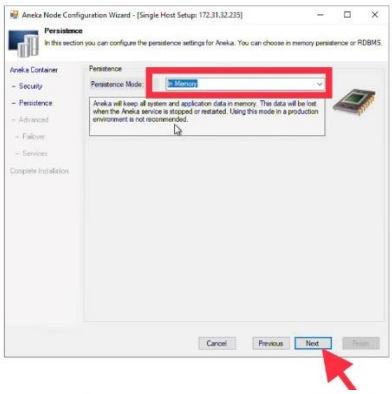


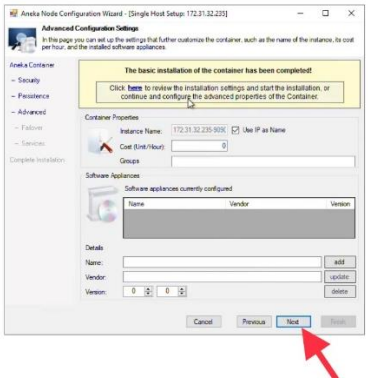
14. Click on the machine and select Install Container and select master and leave other details default and click next.

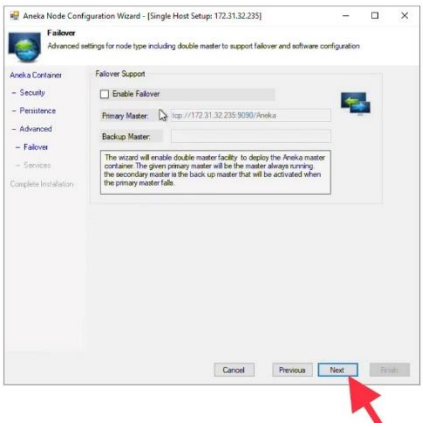


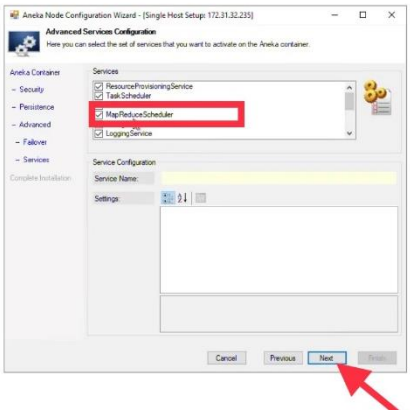
15. Leave the default settings and review the highlighted details in the picture.

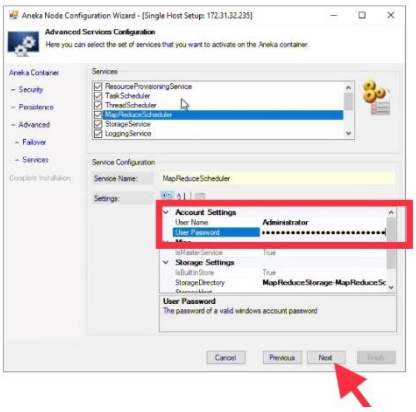


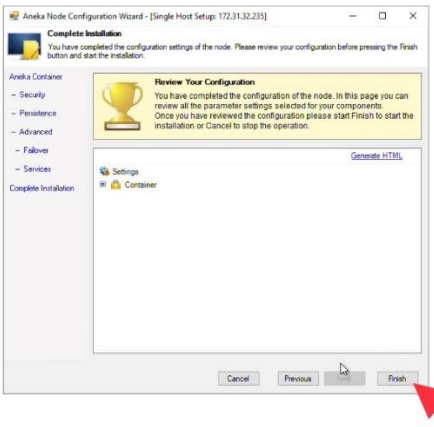


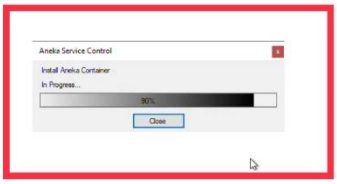




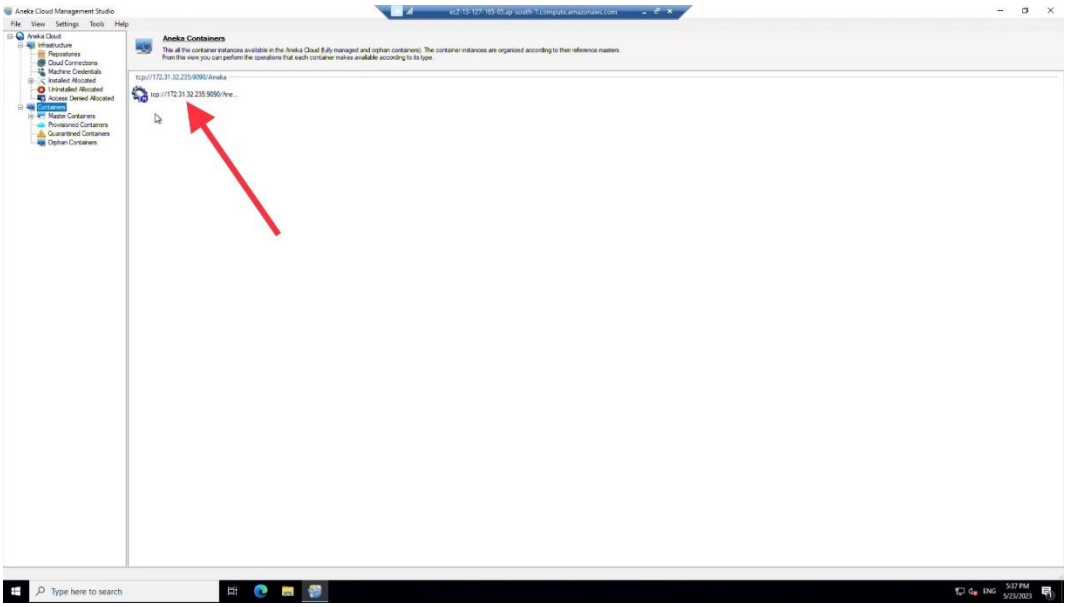




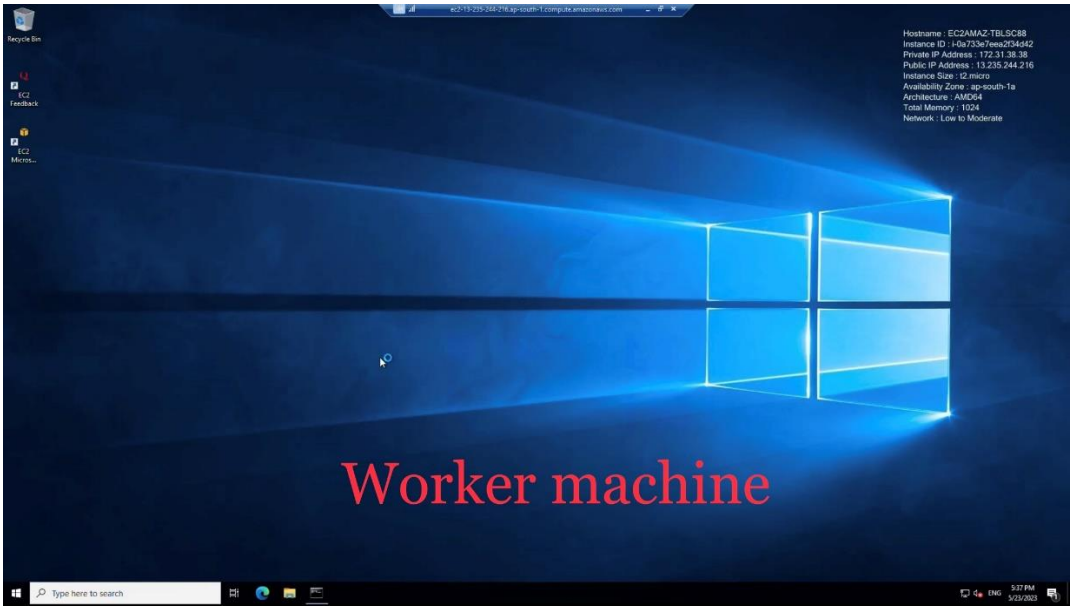




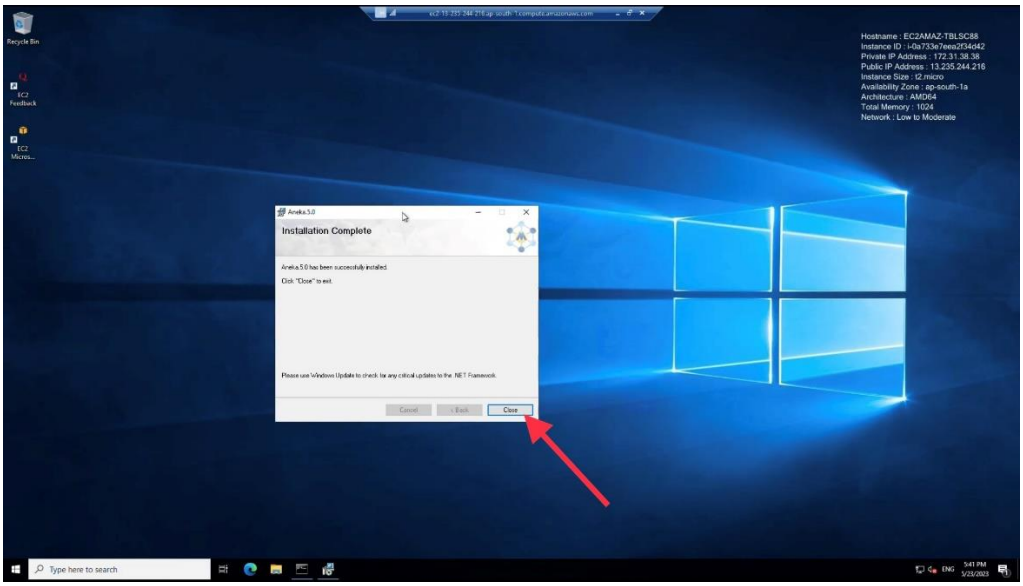
16. Now we can see the installed master container.



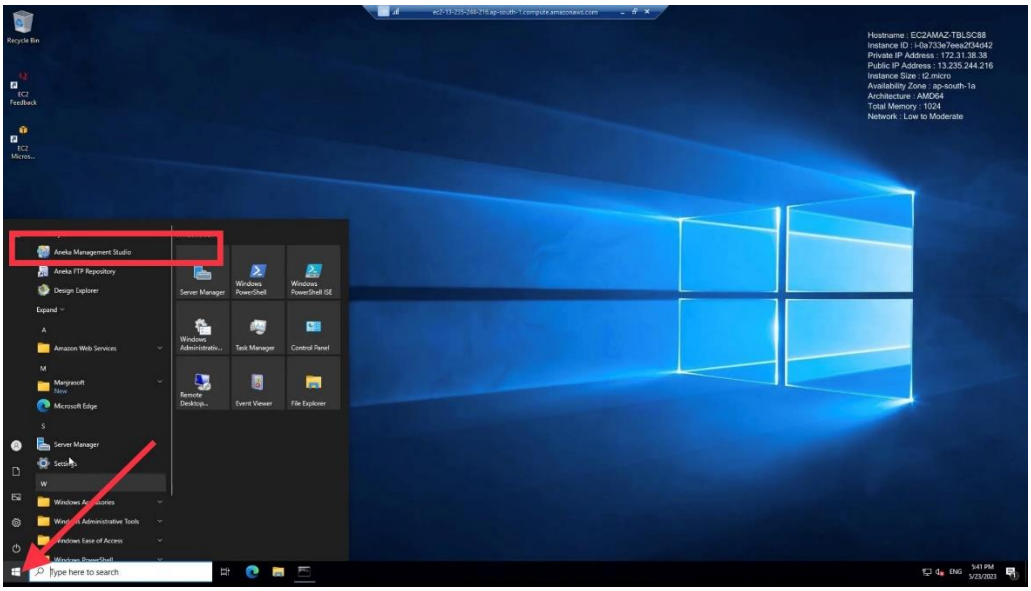
Now we will install the Aneka in the worker machine.



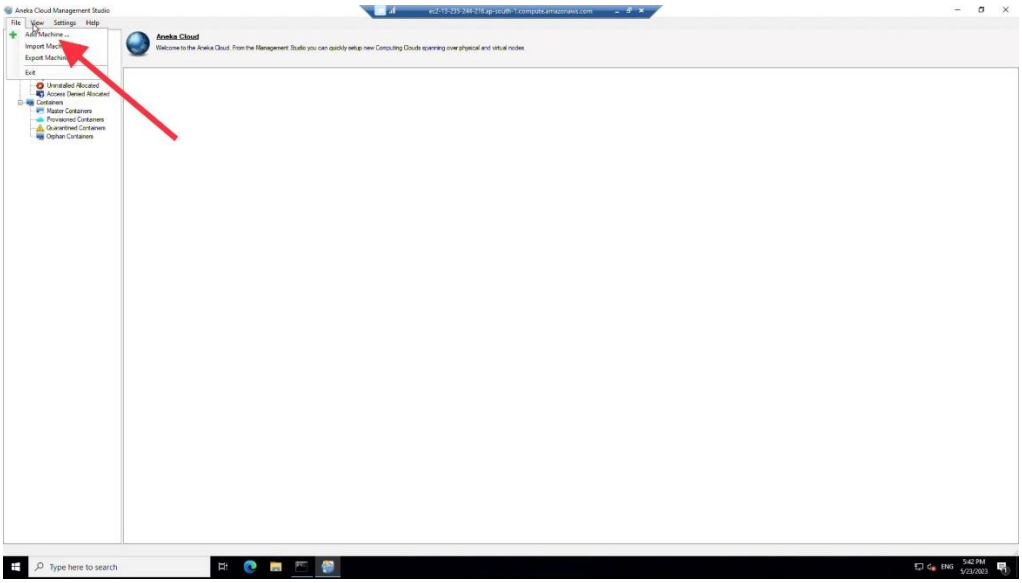
1. Download and install Aneka software on the worker machine as we did on the master machine.



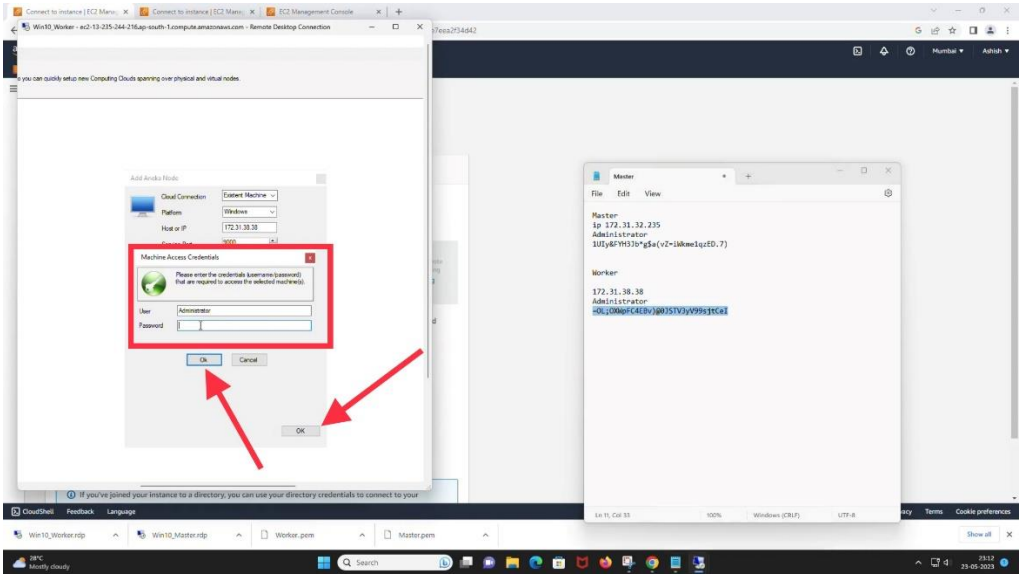
2. Run the Aneka management studio.



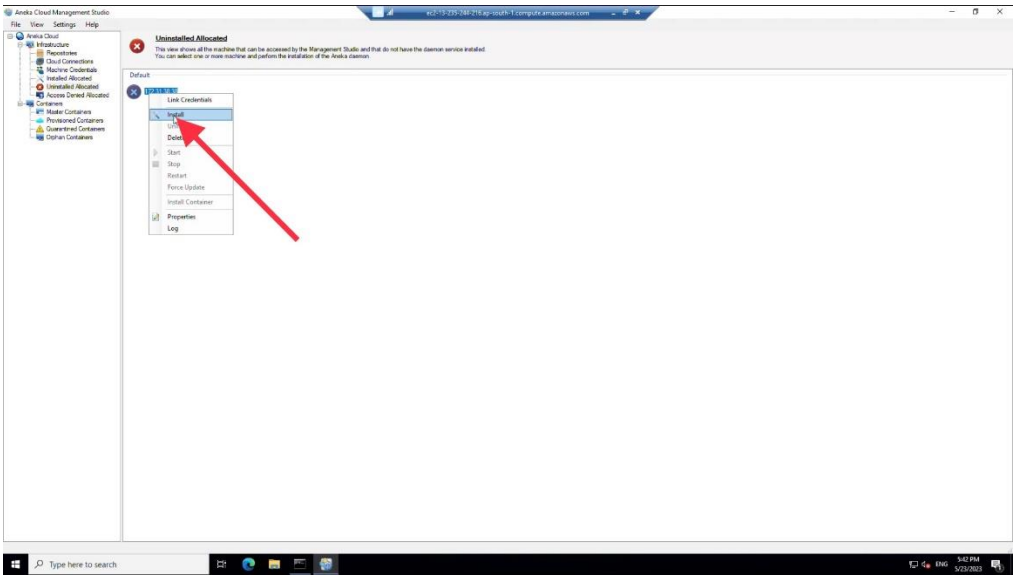
3. Navigate to the file in the left pane and click on Add machine.



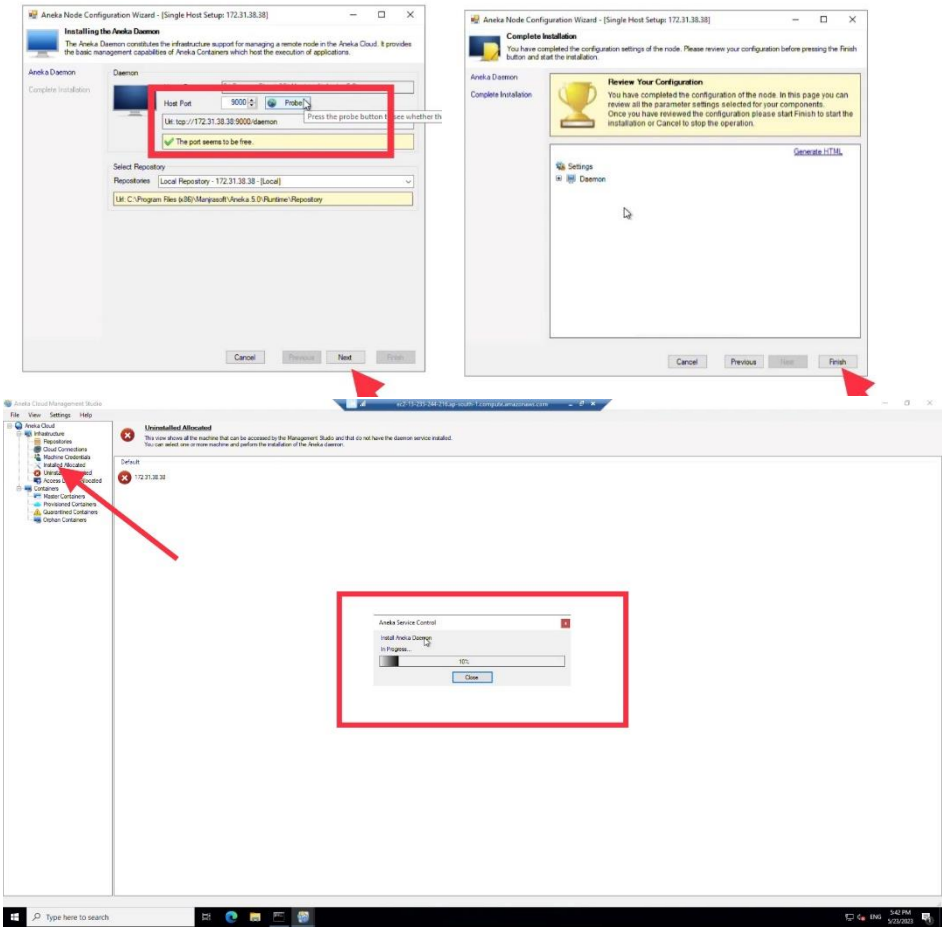
4. Enter the worker machine details.



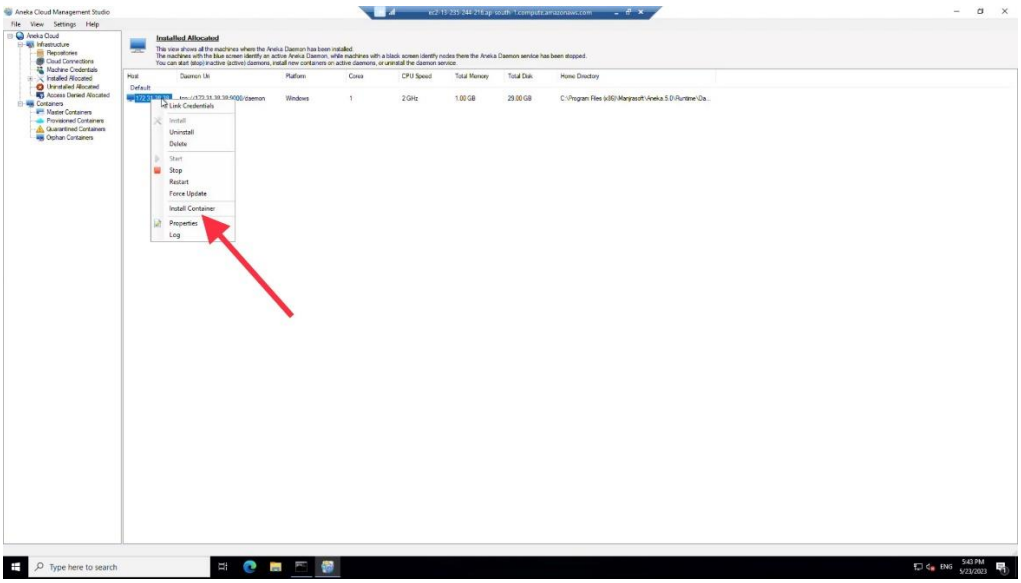
5. In the left pane go to uninstalled allocated and click to install.



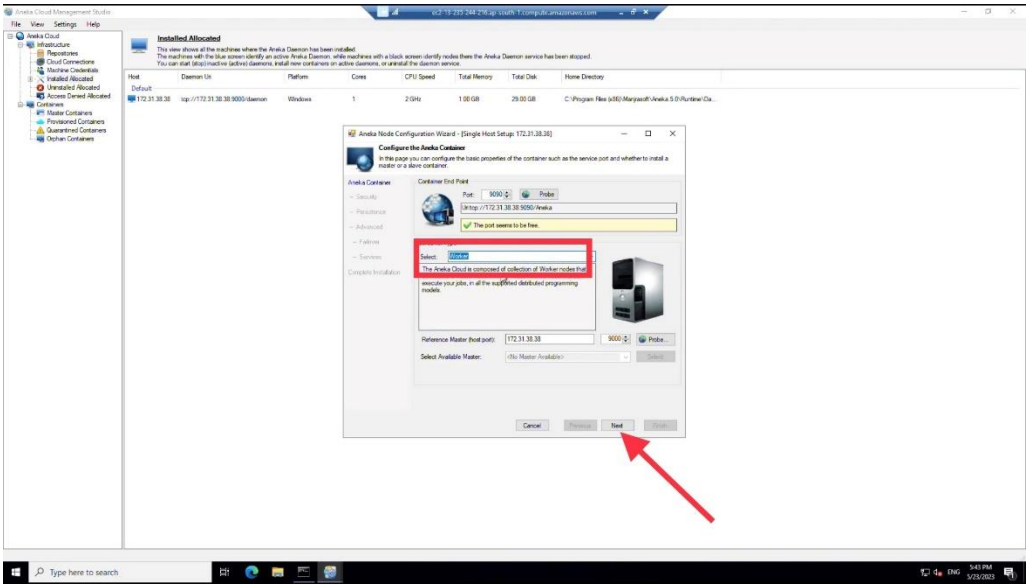
6. Keep the settings as shown in the picture below and install the daemon.



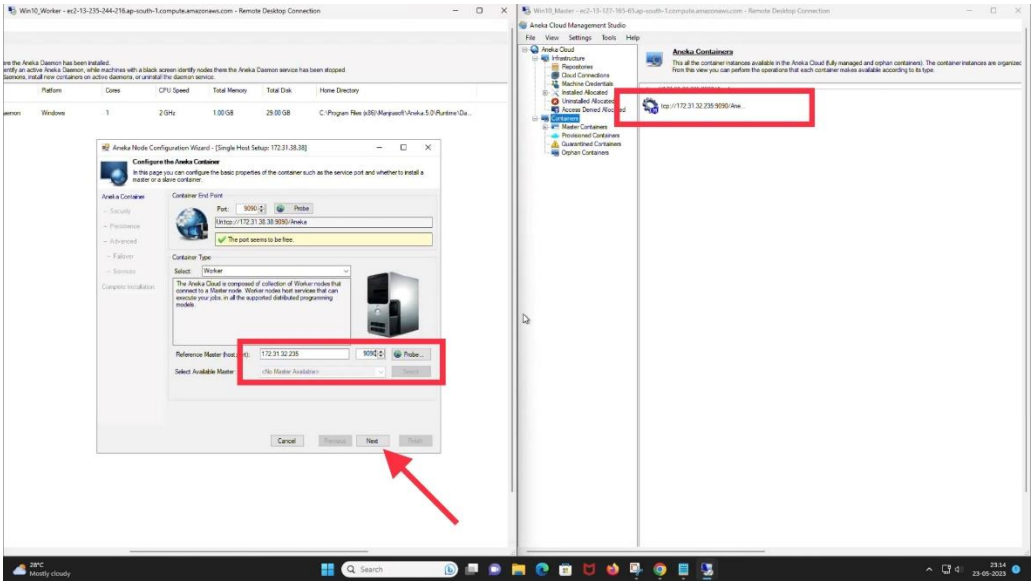
7. Navigate to installed allocated in the left pane and click on the machine to install the container.



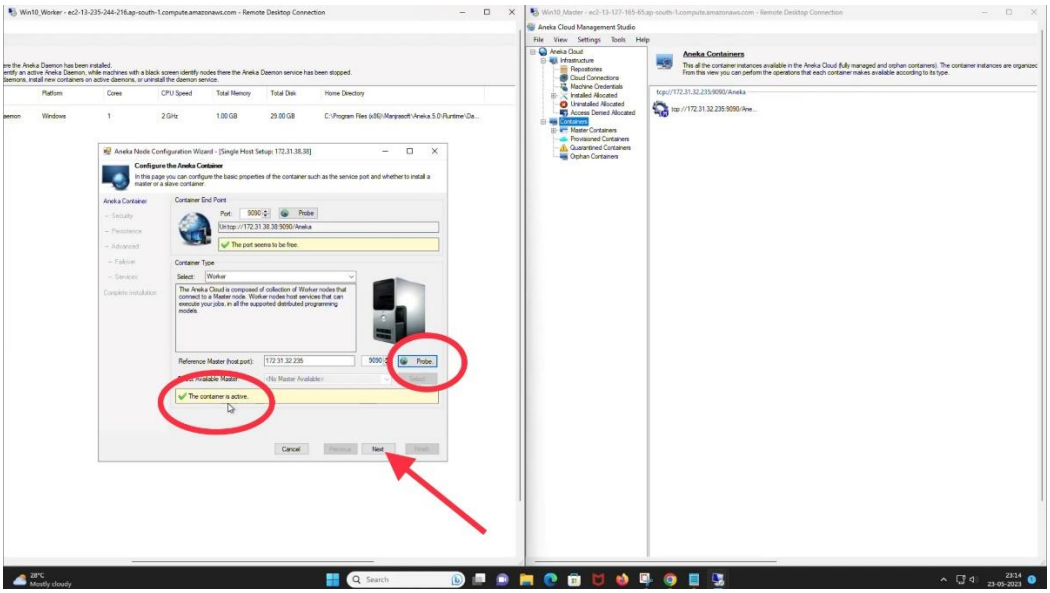
8. While installing select worker.



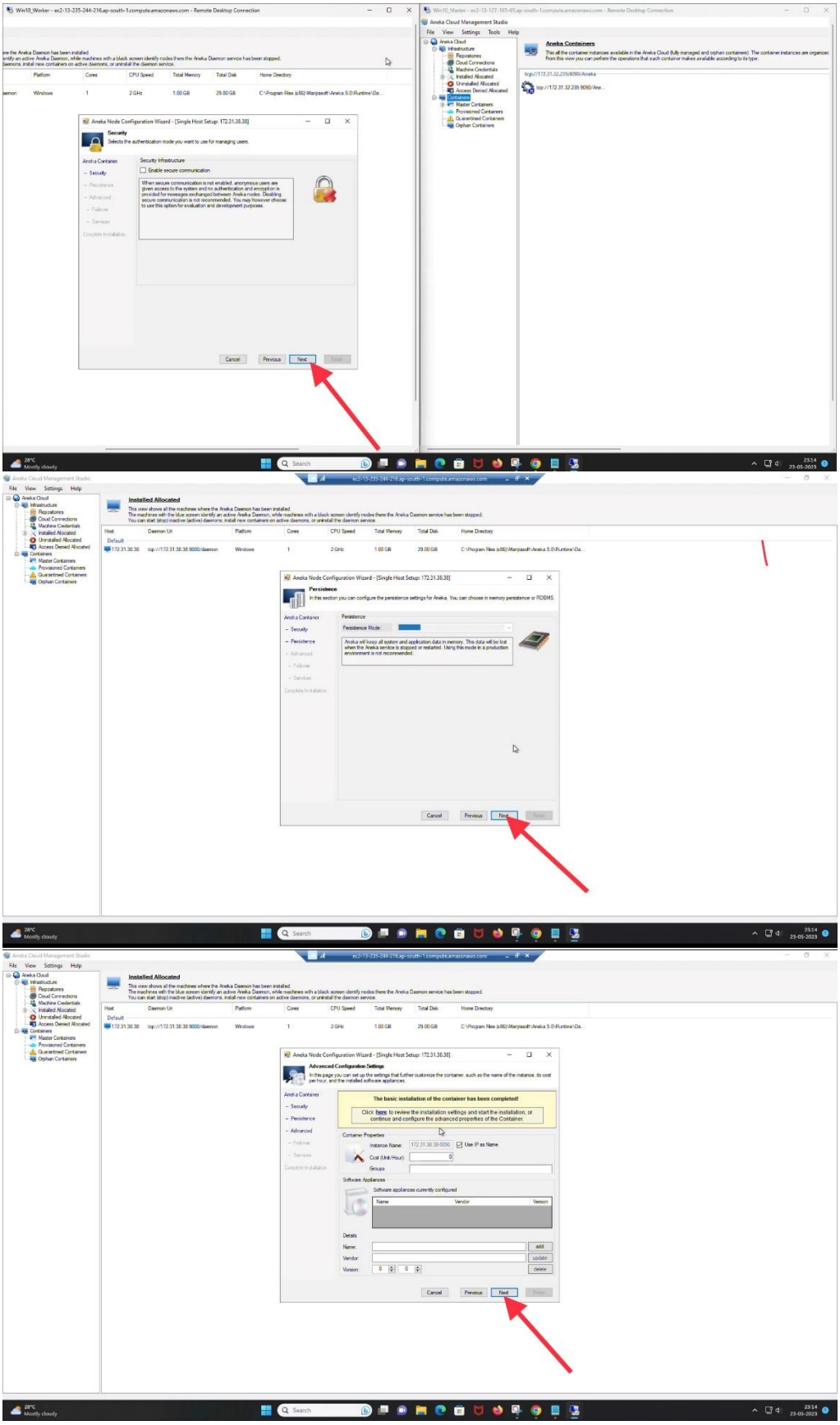
9. For this worker machine we need to assign a master machine. In the reference master tab select the IP address of the master machine we created.

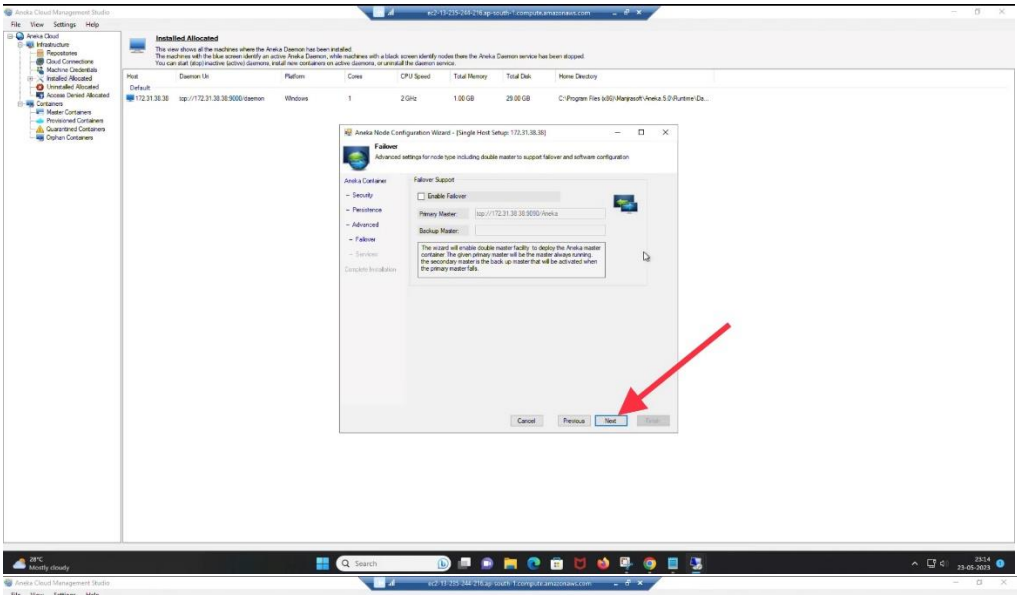


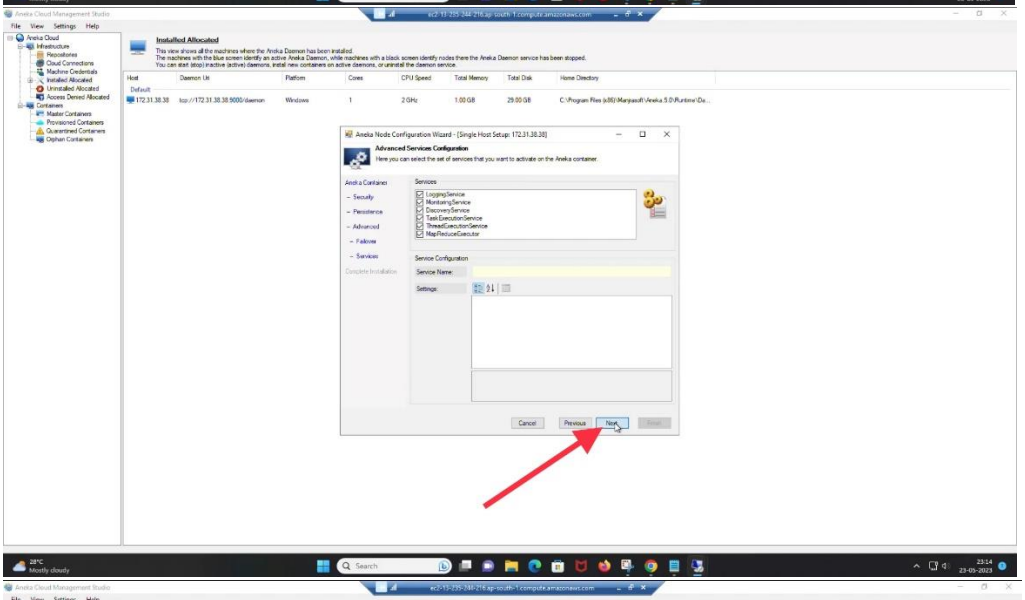
10. Click on Probe to check port availability.

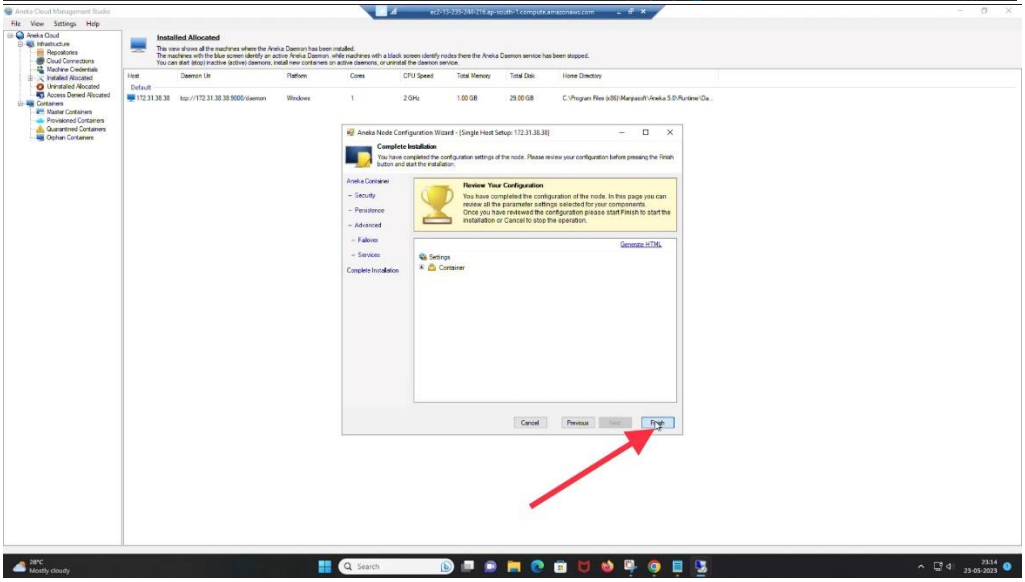


11. Keep default and click next.

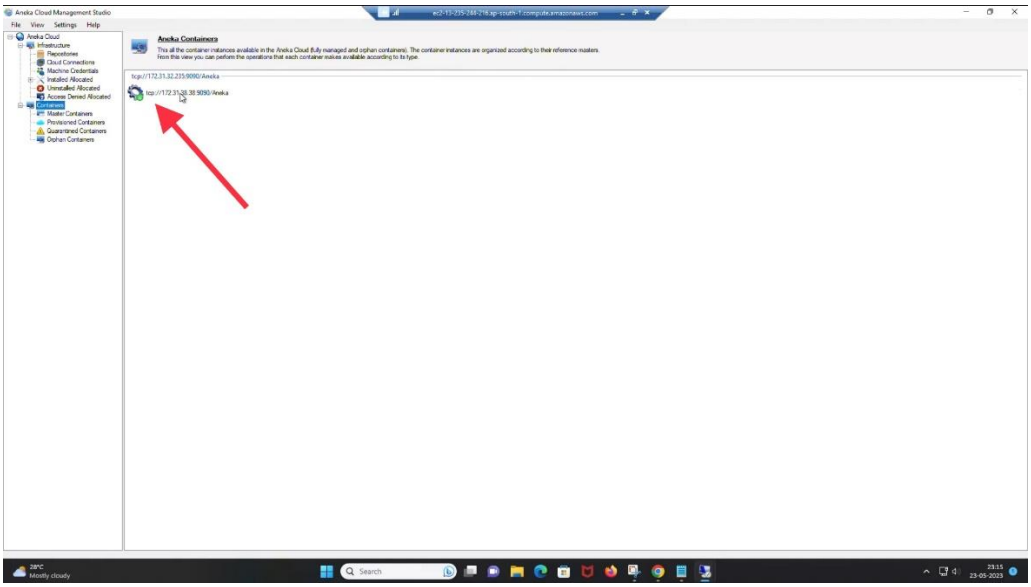




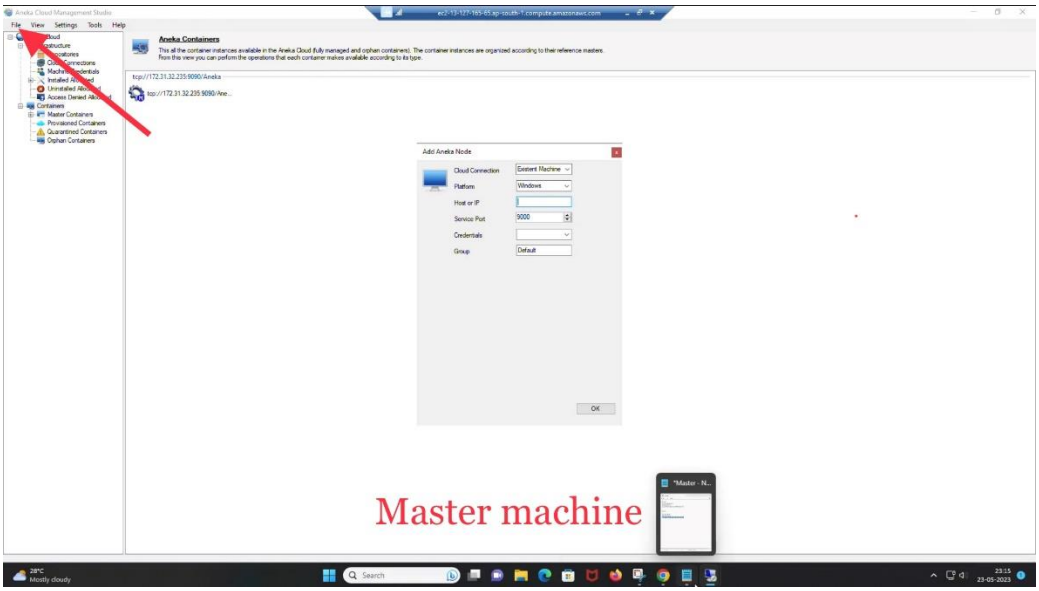




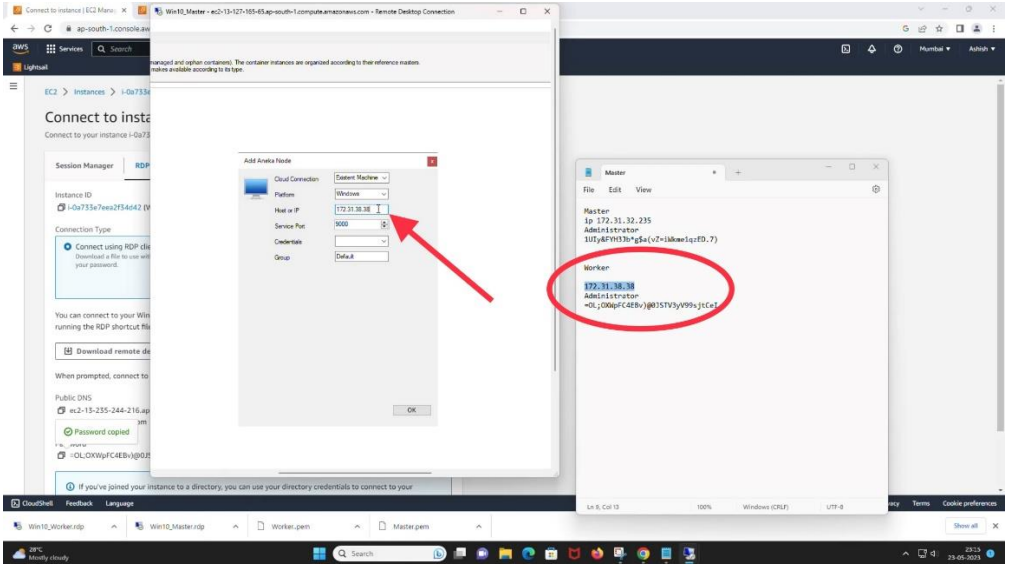
12. Now we can see worker container is installed successfully.



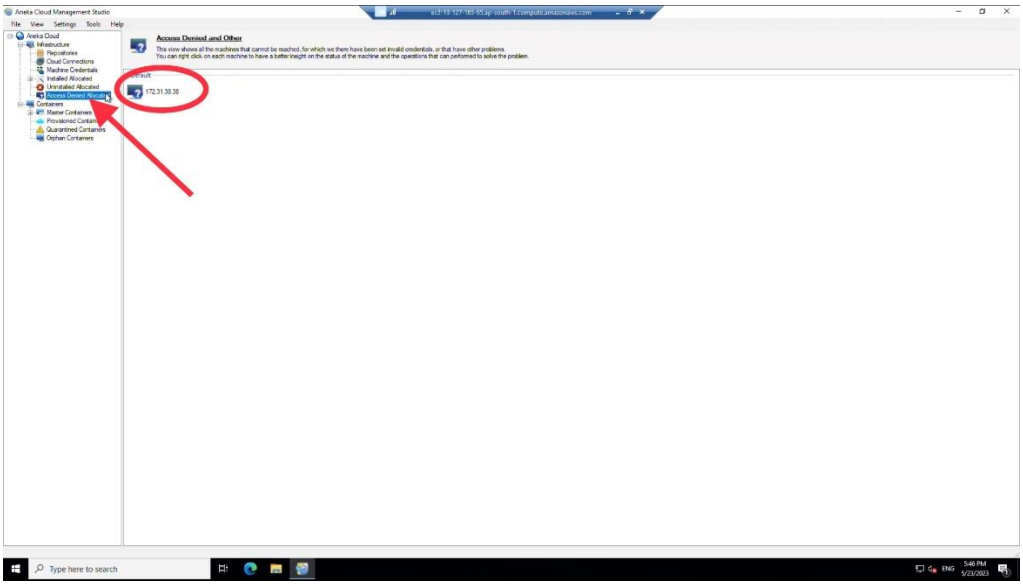
13. Shift to the master machine and click on the file and add the machine.



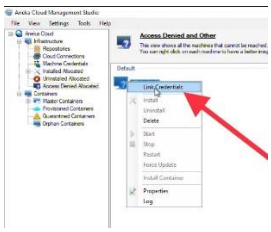
14. Enter the worker machine credentials and click ok.



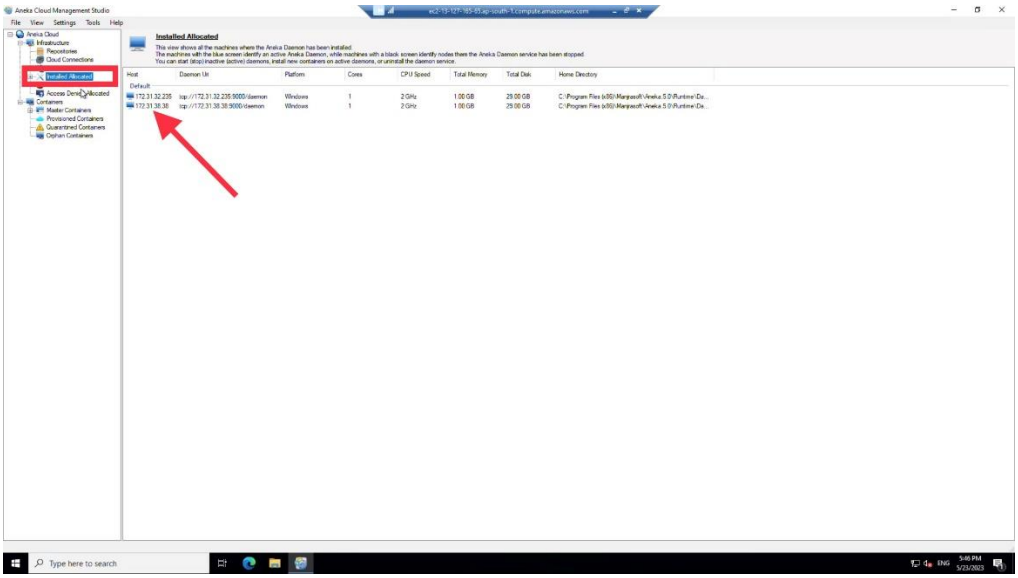
15. In the left pane navigate to Access Denied allocated.



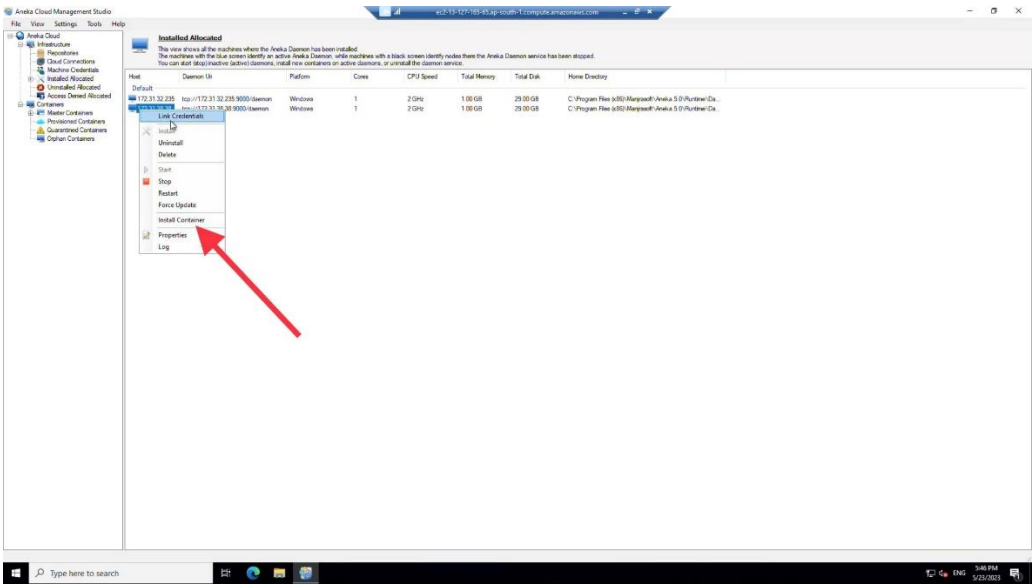
Note: sometime we may face this error. Due to bad credentials the machine we created listed in access denied allocated. To solve this error, click on the machine and click link credentials and give the worker machine credentials (user and password).



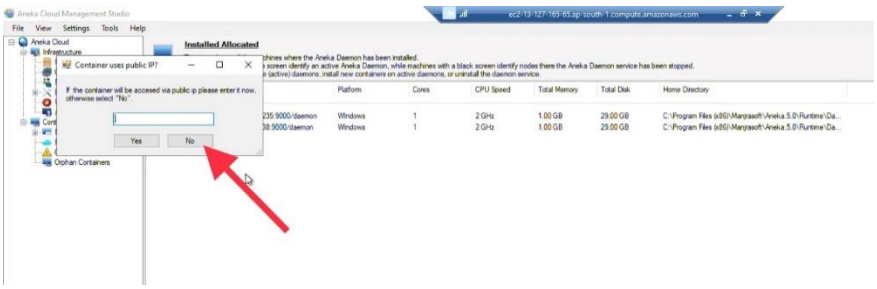
16. Now we can see the machine listed in installed Allocated.



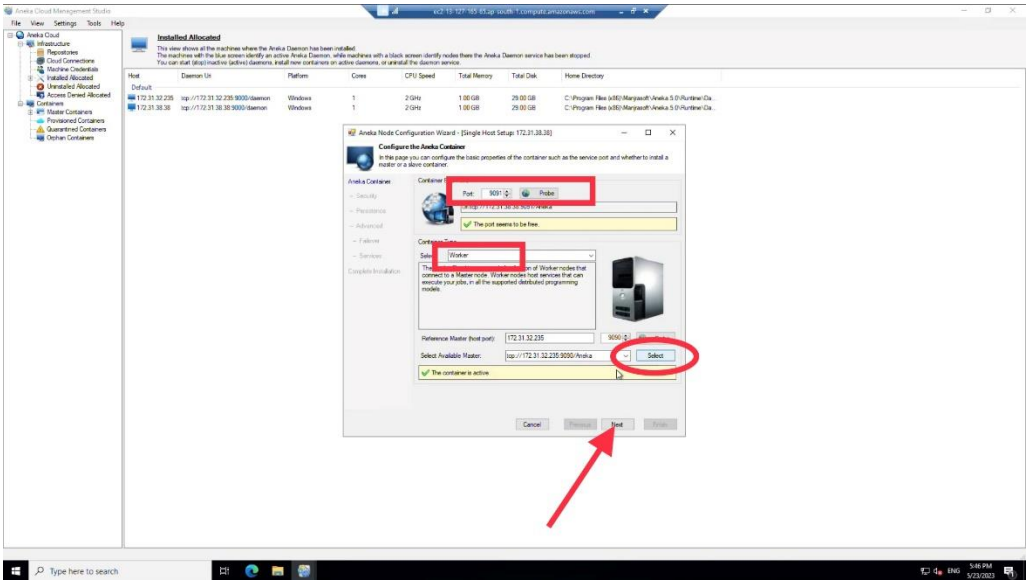
17. Click on the second machine (worker machine) and select install container.



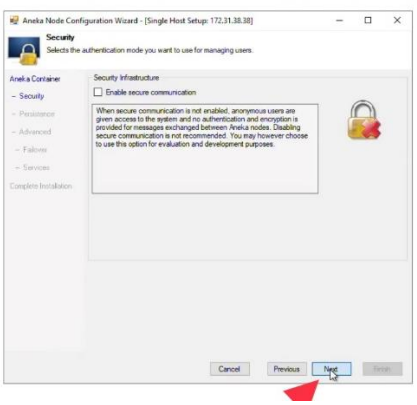
18. Click No for the pop-up.

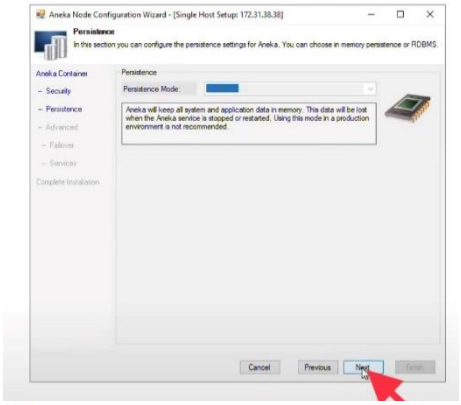


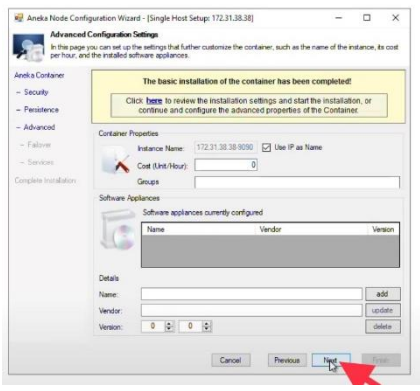
19. Specify the port number and click on Probe to verify the availability of the port and select Worker and assign reference master as shown in the picture.

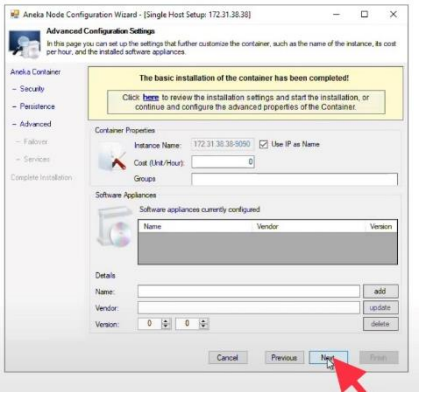


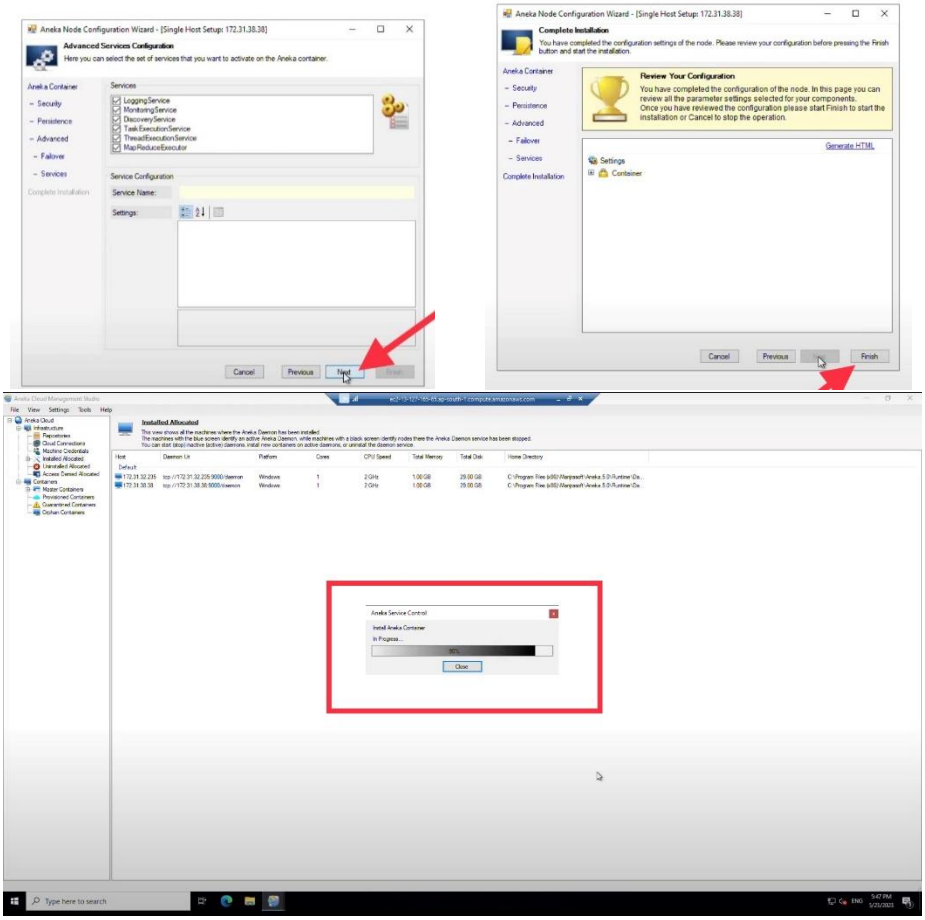
20. Keep the default settings and click next to complete installation.



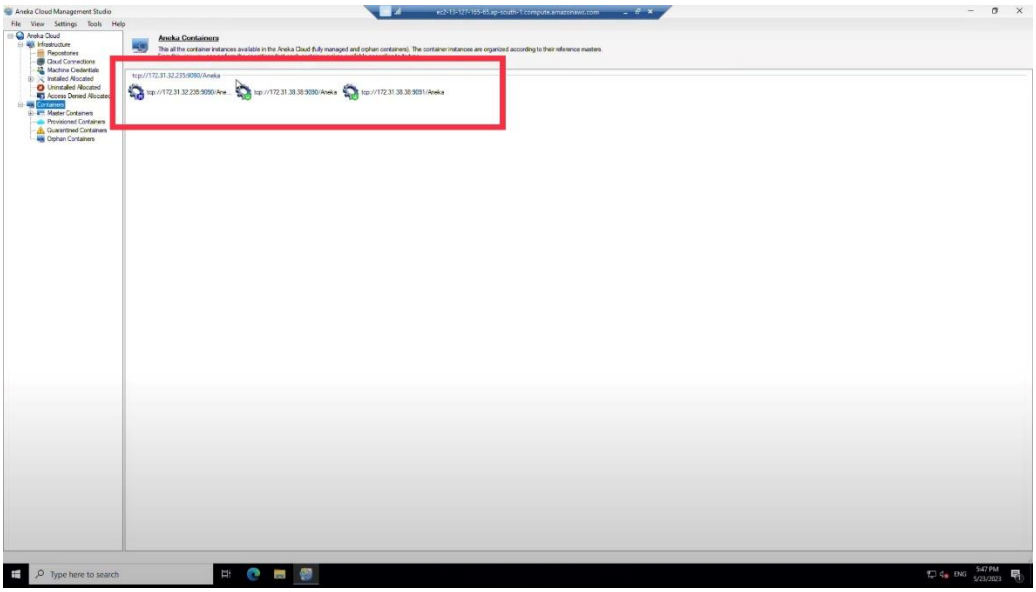




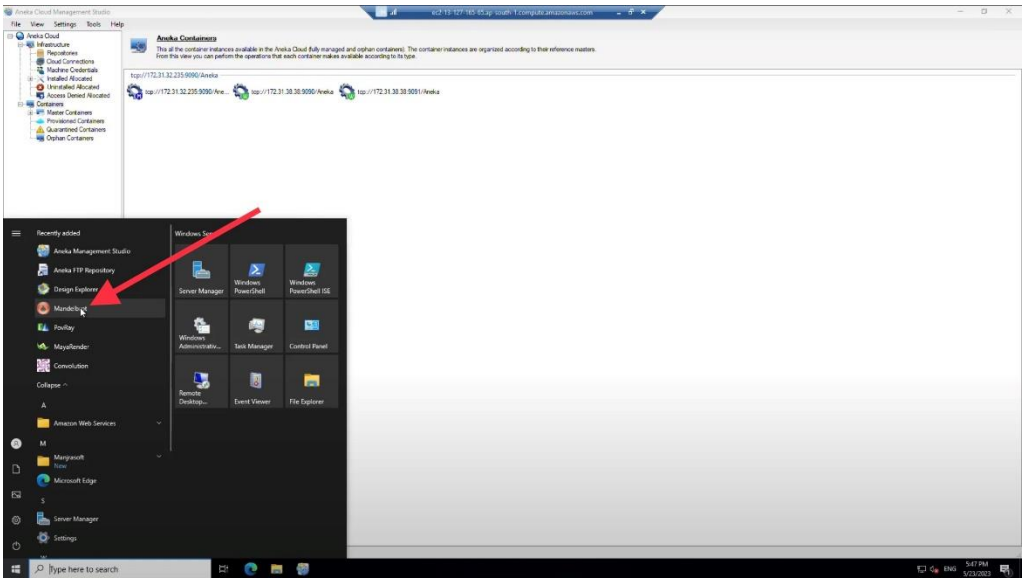




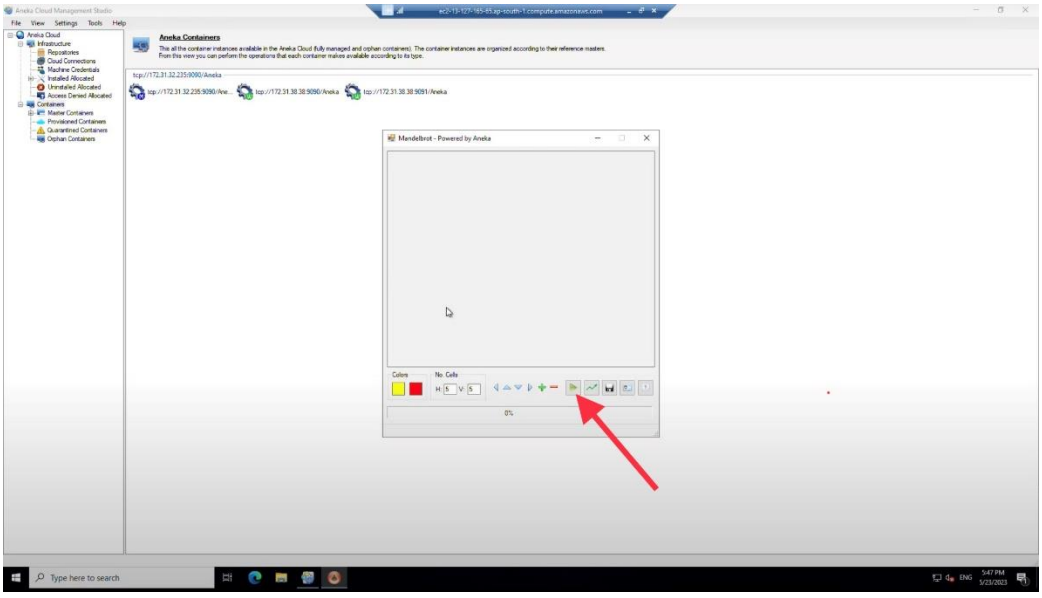
21. Once the installation was done, we could see three machines, one master and two workers.



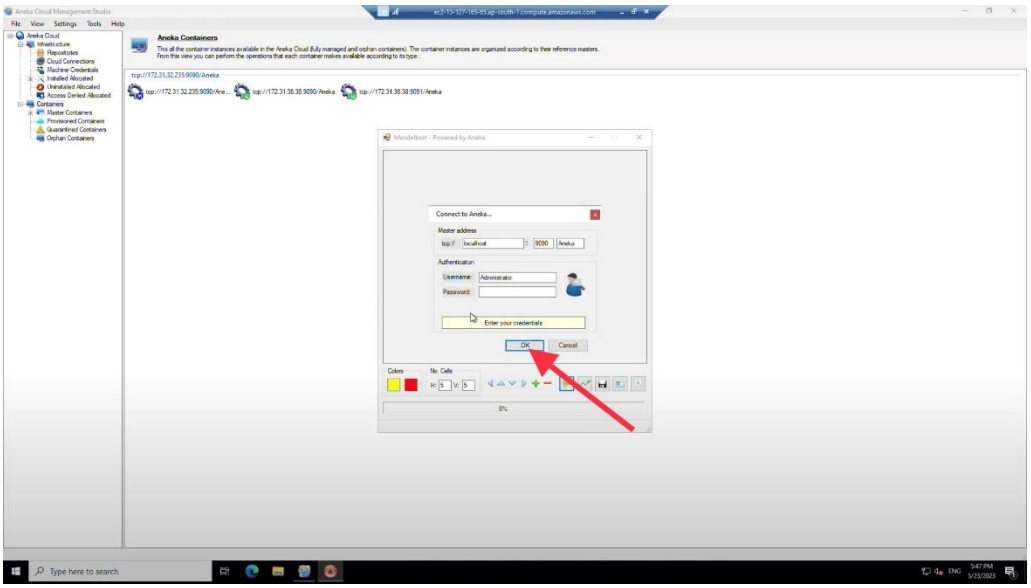
22. In the master machine go to the search bar and open Mandelbrot.



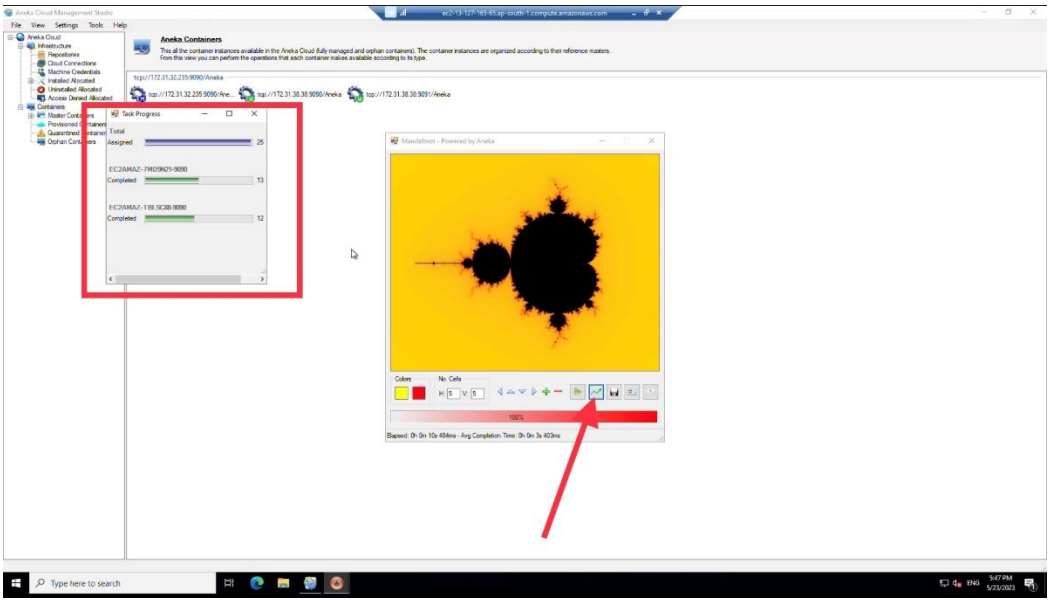
23. Click on the start icon to launch the Mandelbrot service.



24. Enter the credentials and click ok.



25. The Mandelbrot service has been running successfully.



The assigned task value is 25
It divided tasks into two parts and assigned to two workers.