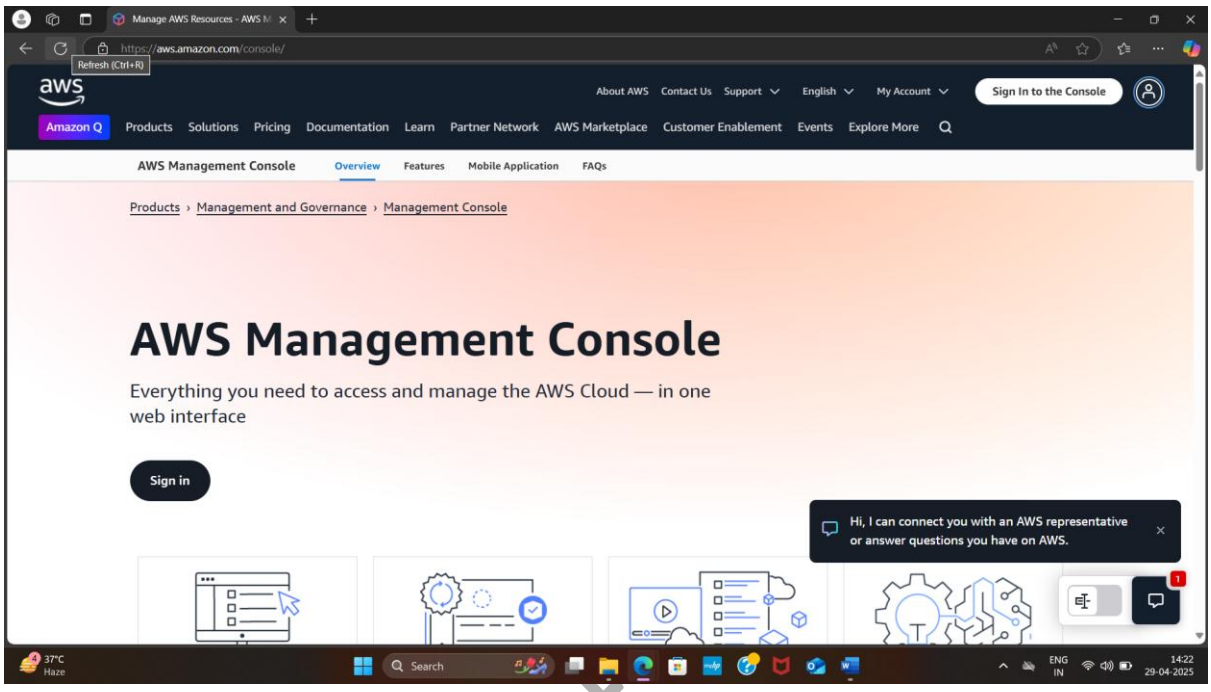
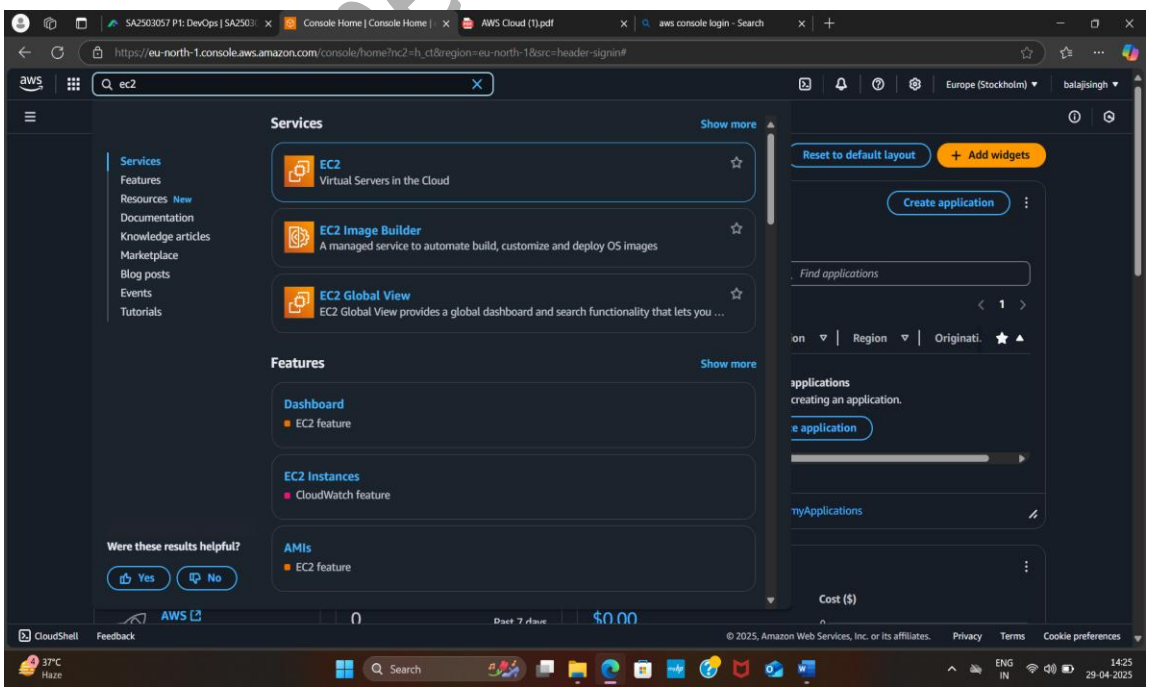
1. L1 - Demonstrate the AWS EC2 Ubuntu Instance Creation steps and connect to EC2 Instance using Mobaxterm/putty agent

Steps:

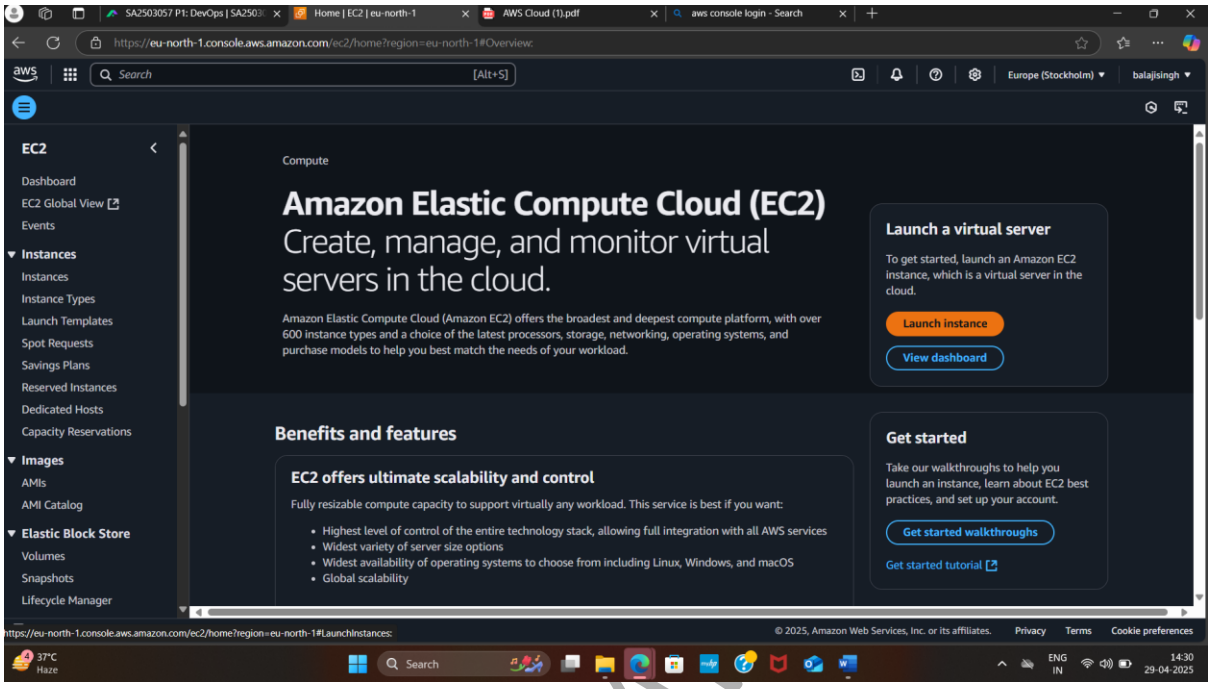
1. Sign to AWS console by using your login credentials.

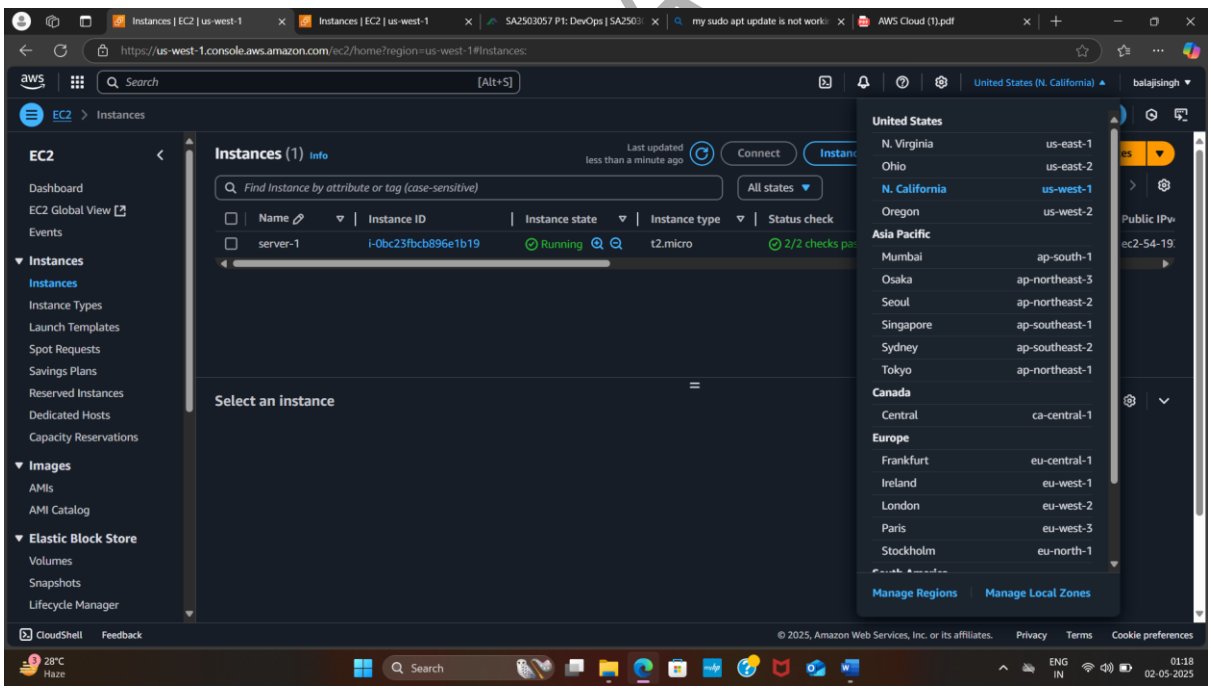



2. Now search for EC2 resource in search bar.

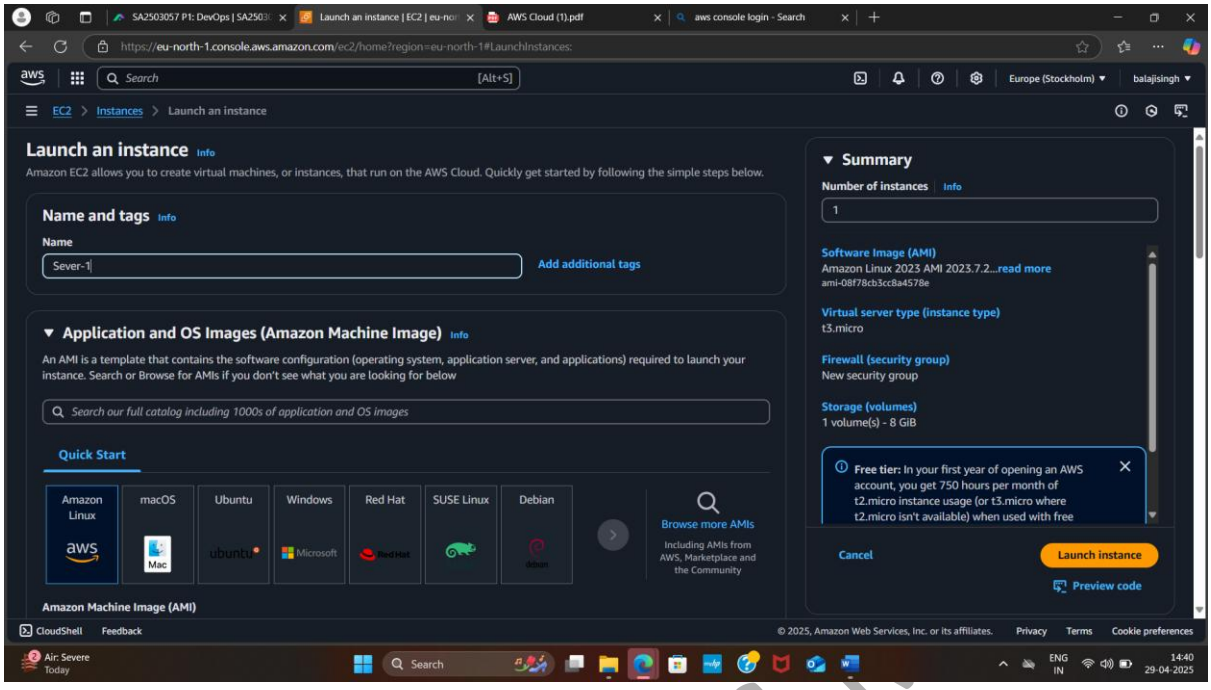


3. Click on launch instance and select the region in which you want launch your instance

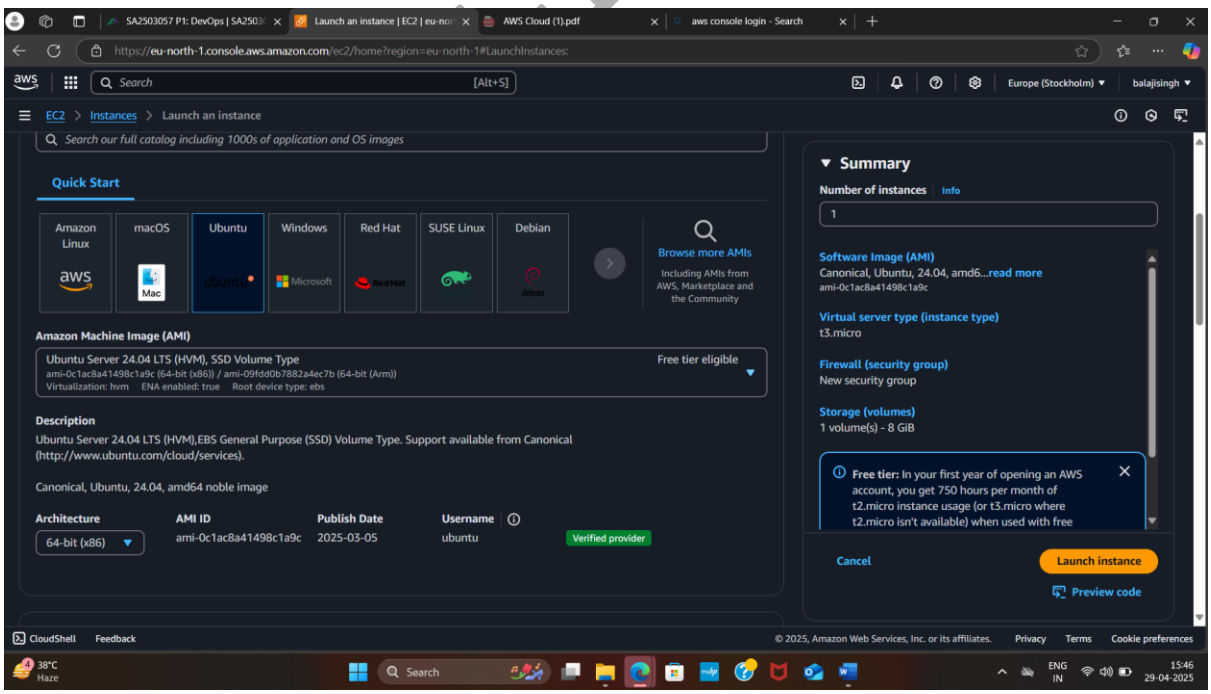


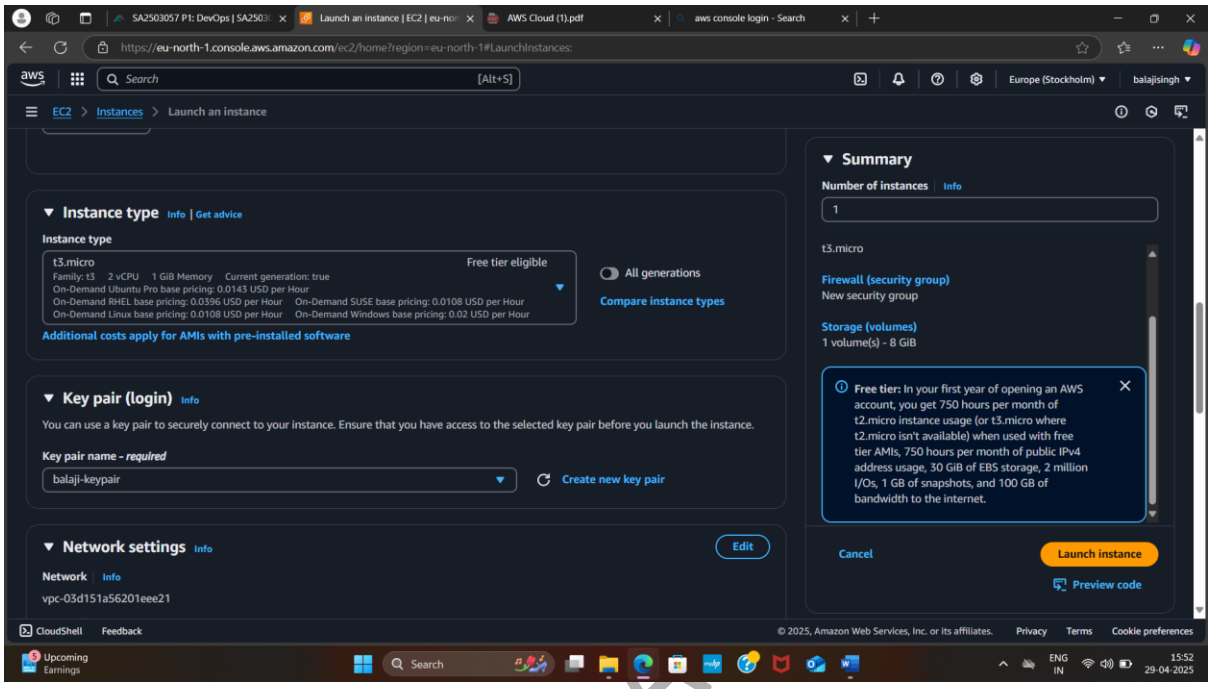

4. Give a specific name to the instance and number of instances you want to create.

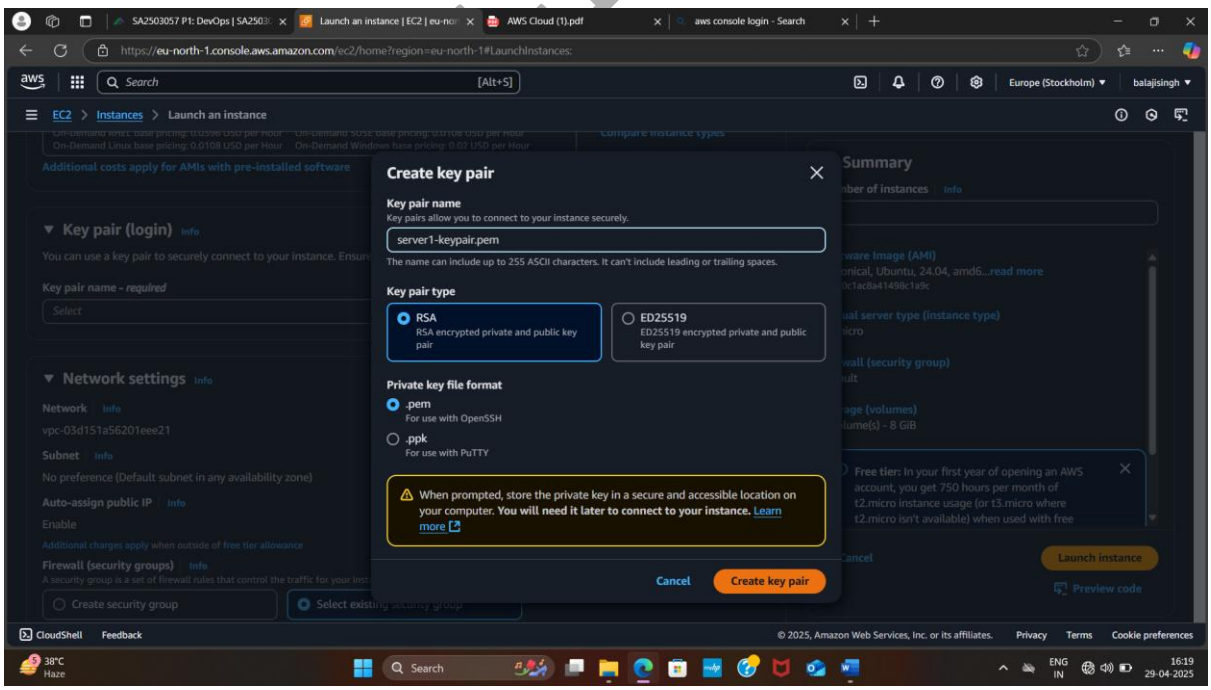



5. Choose your AMI's/Operating system(ubuntu).

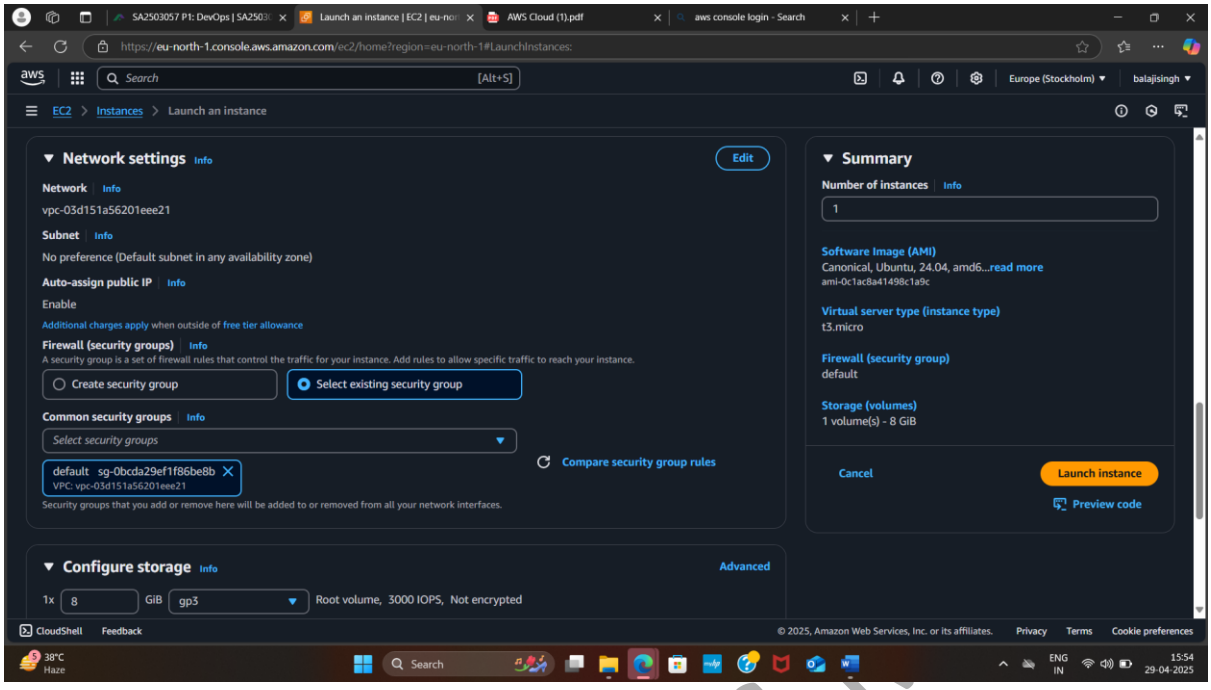


6. Choose the type of instance and create key pair and type should be RSA and file should be .PEM (RSA.PEM) or select the existing one if you want to access it remotely.

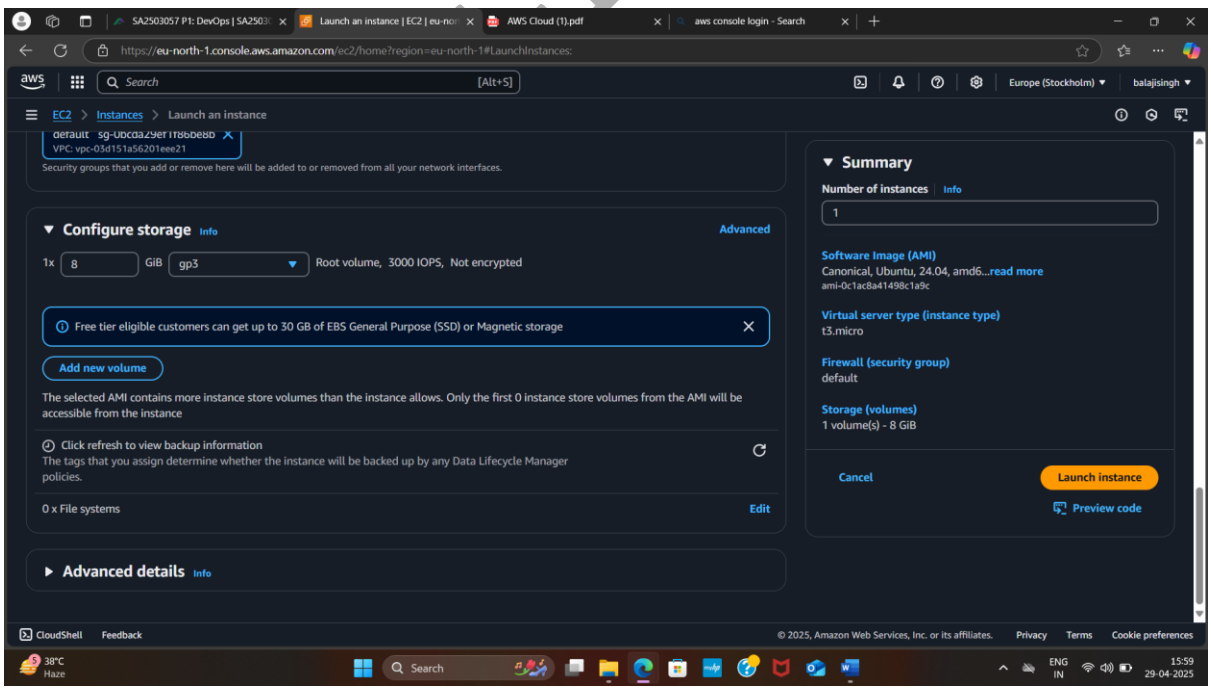


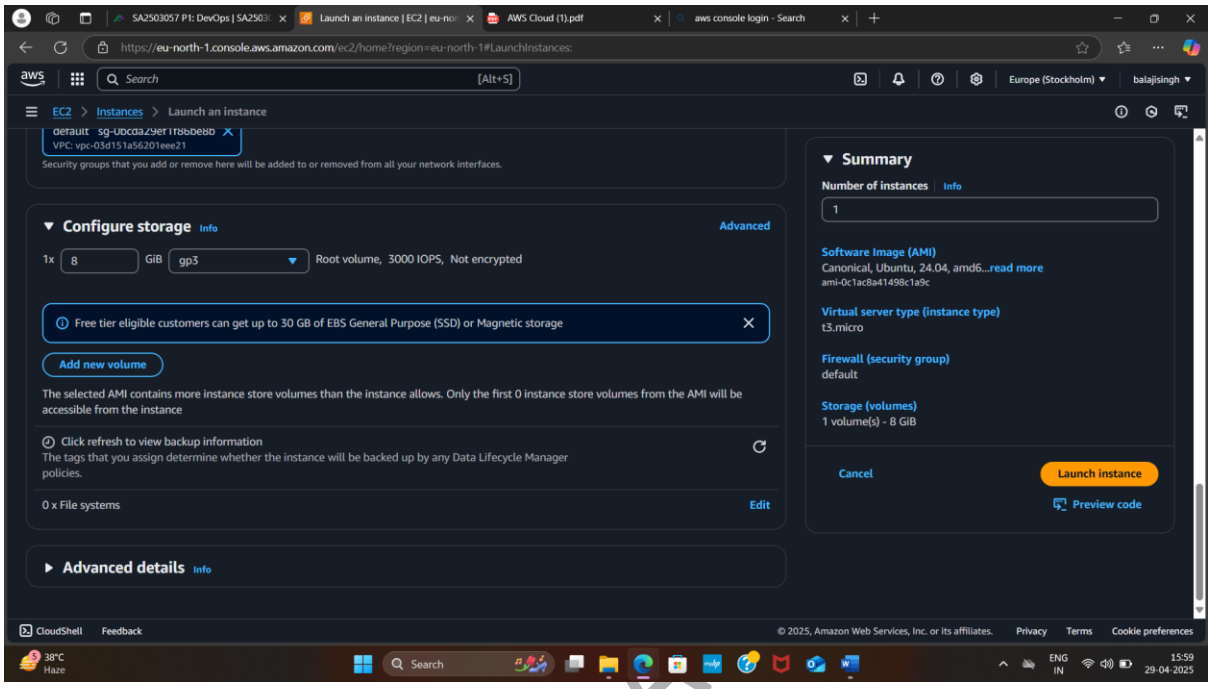

7. Select the network setting you want to work in.



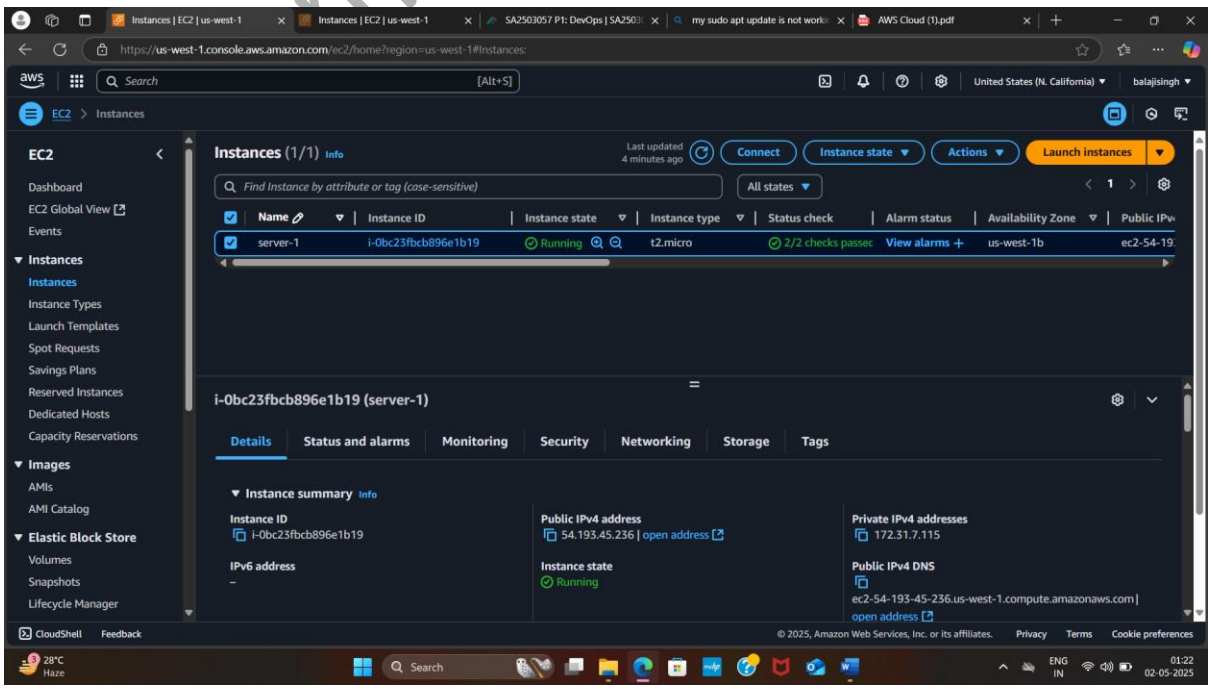

8. Configure the storage. (Root volume cannot be less than 8gb and once it is assigned cannot be decreased).



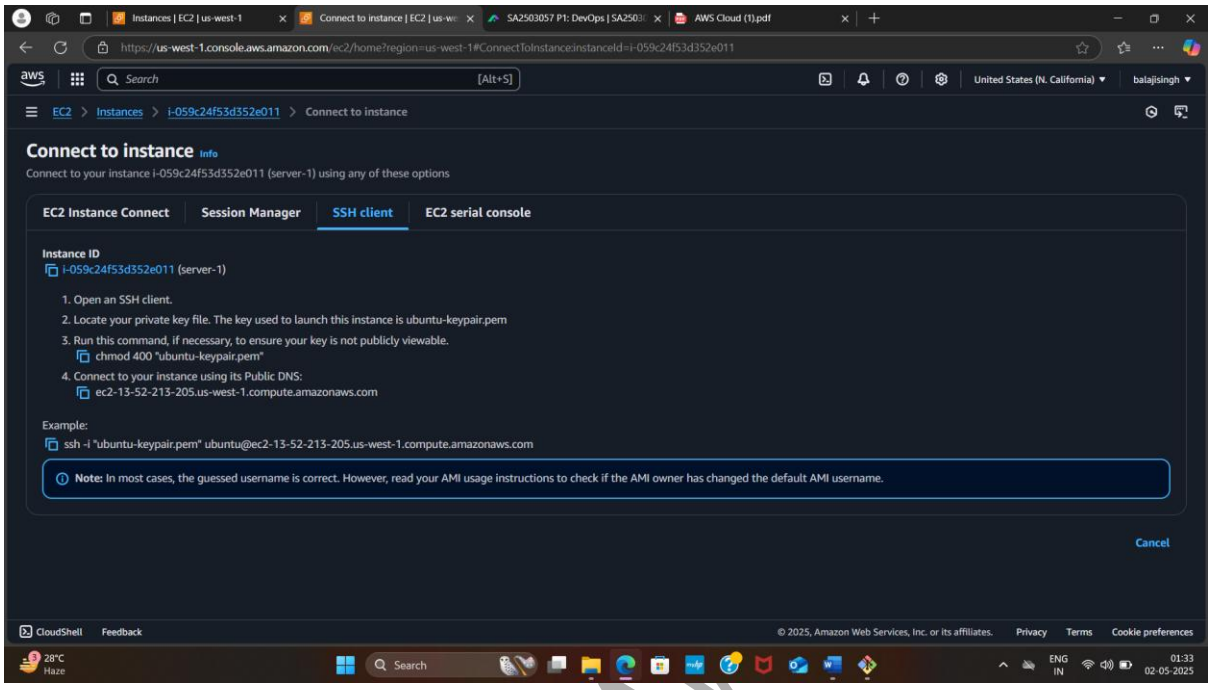
9. Now again click the launch instance to launch the instance.



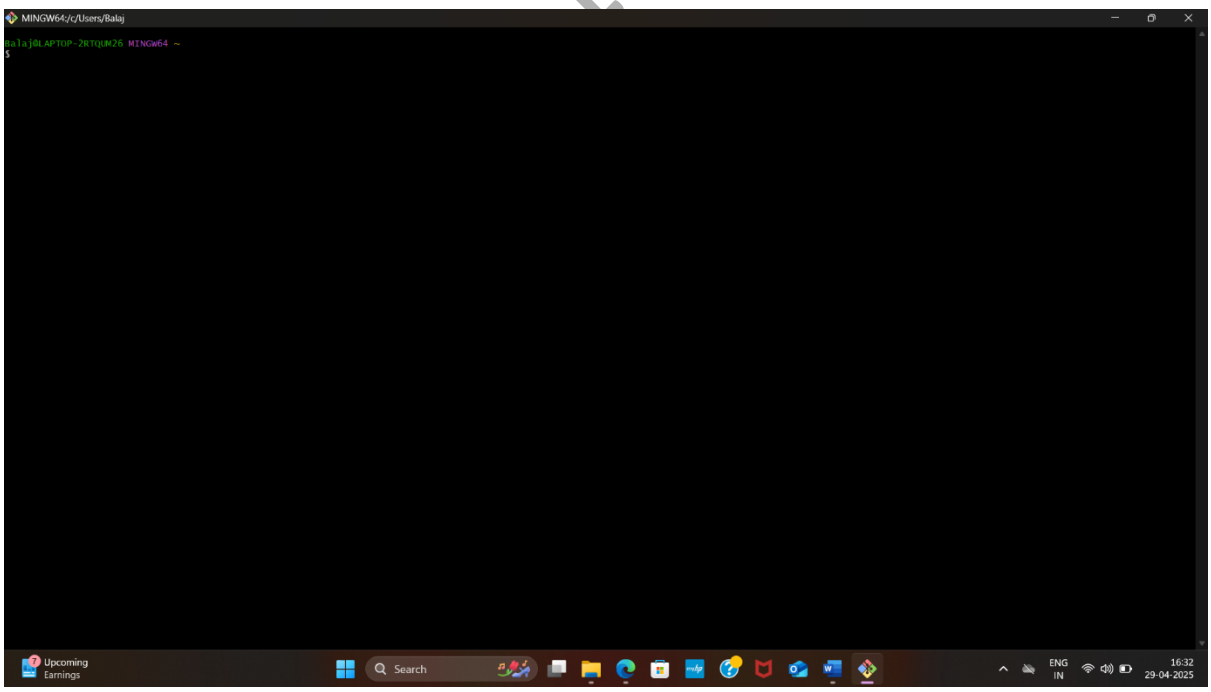

10. The instance is created.



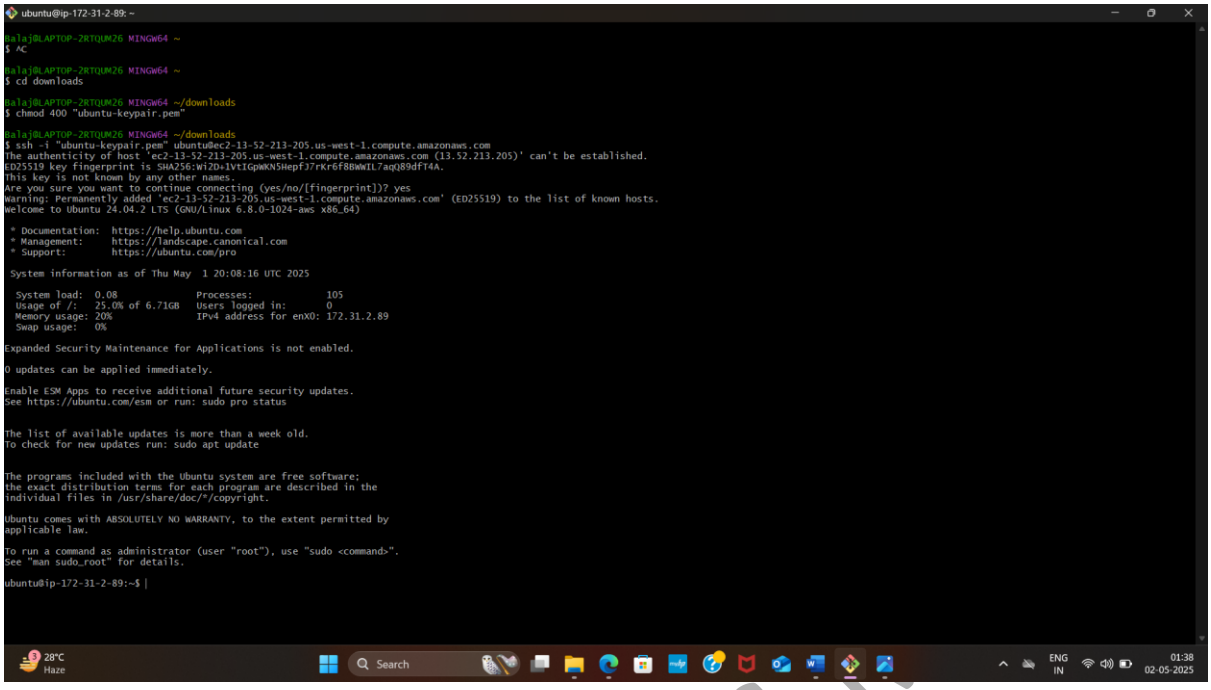
11.Now click on connect and go to SHH client




12.Now open any command line tool mobaxterm/putty agent/git bash.




13.Now connect to the instance.

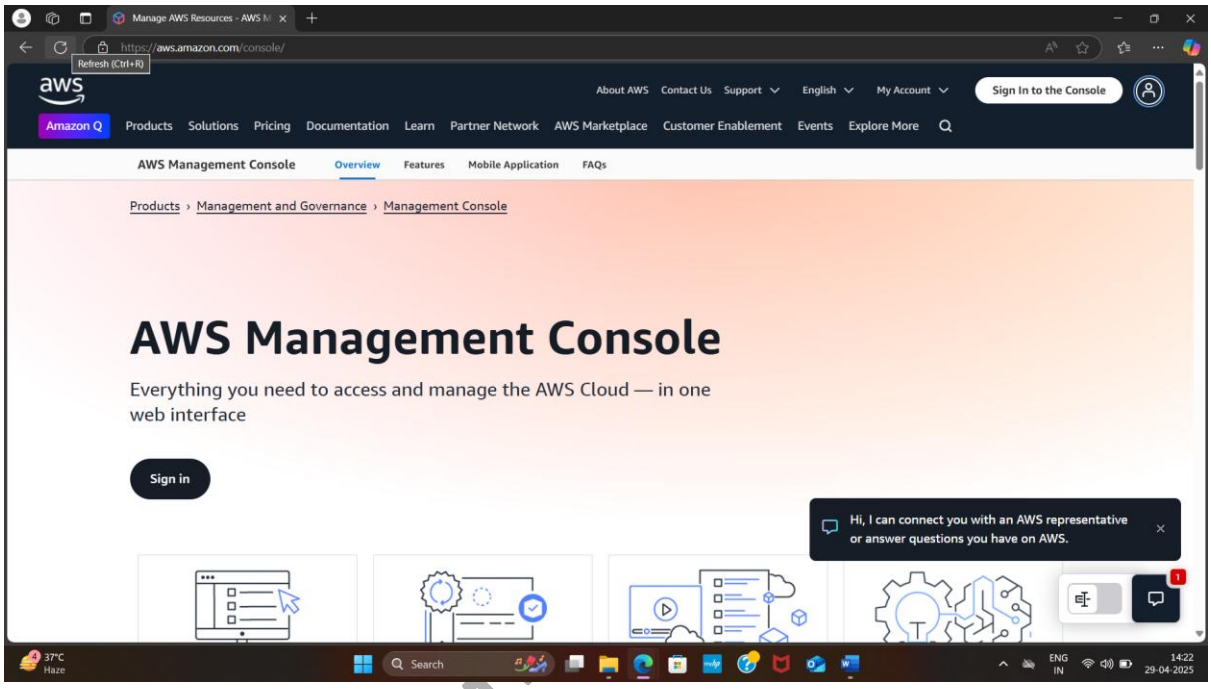



L1 is completed.

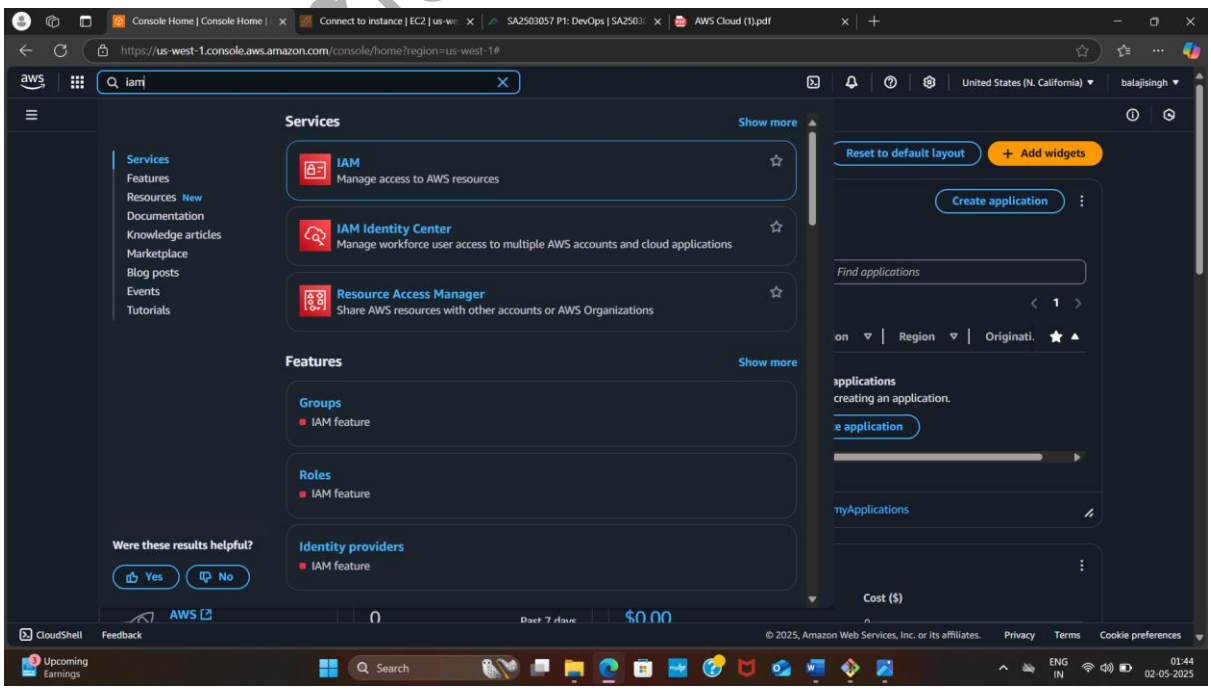
# L2 - Login to AWS Console and Create IAM User, Role, and Group.

Steps:

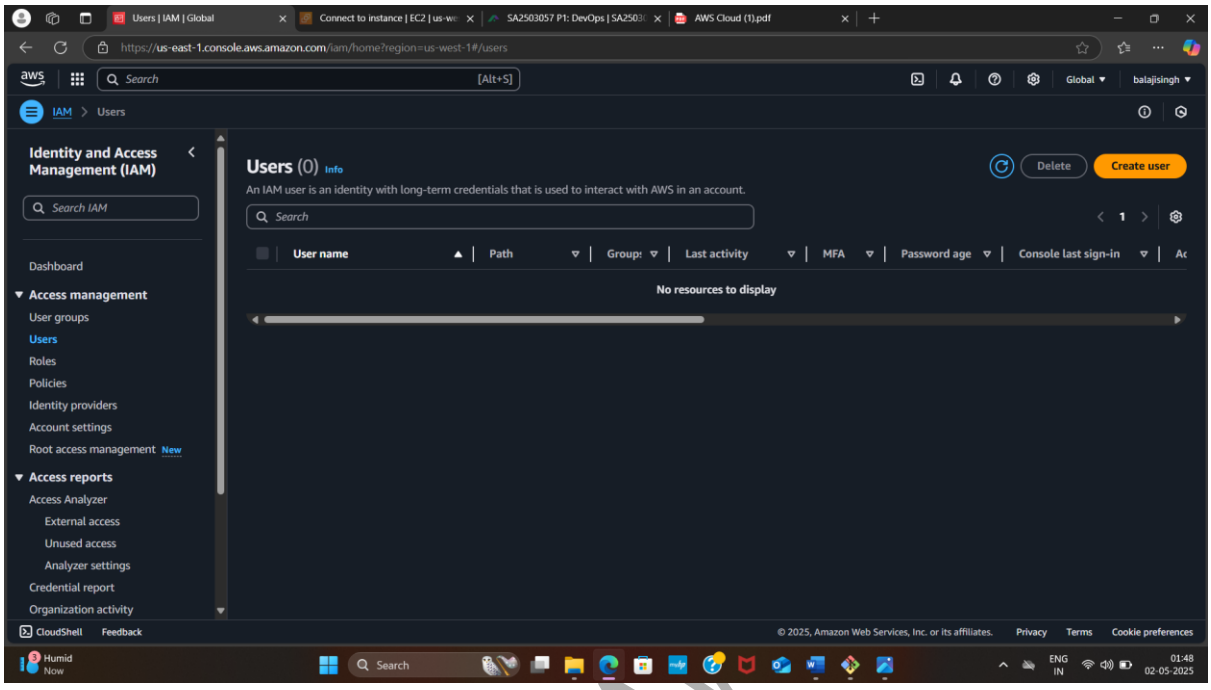
1. Login to AWS console.



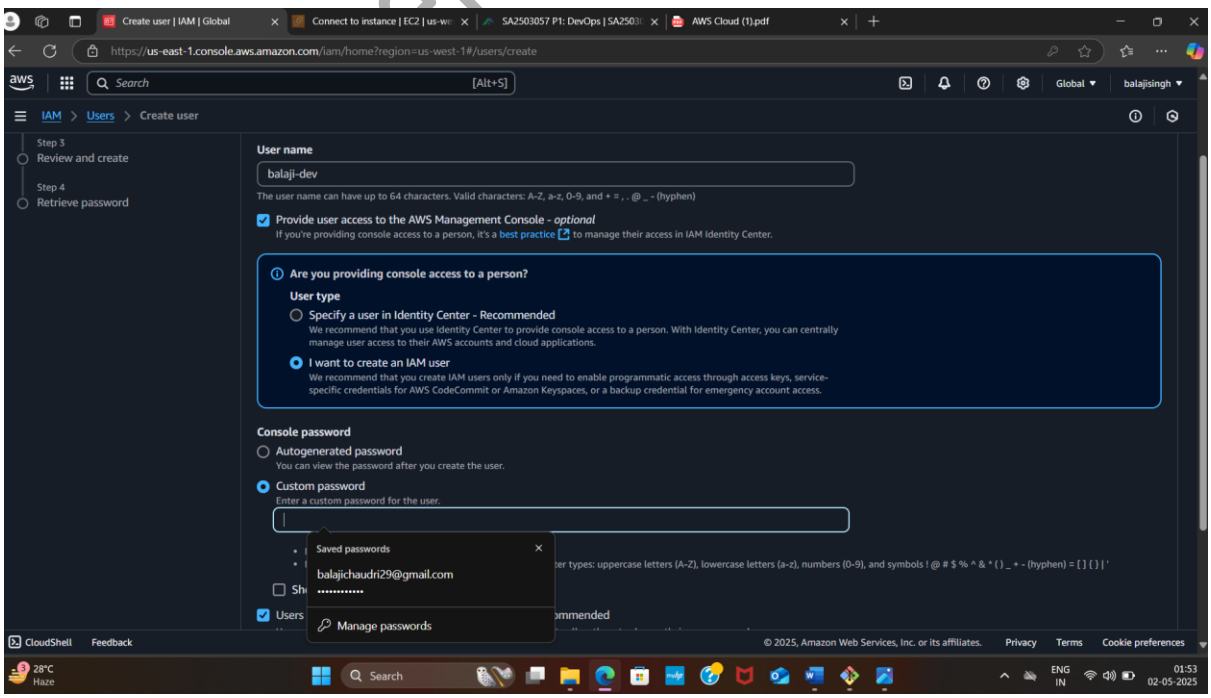

2. Now search for the IAM service.



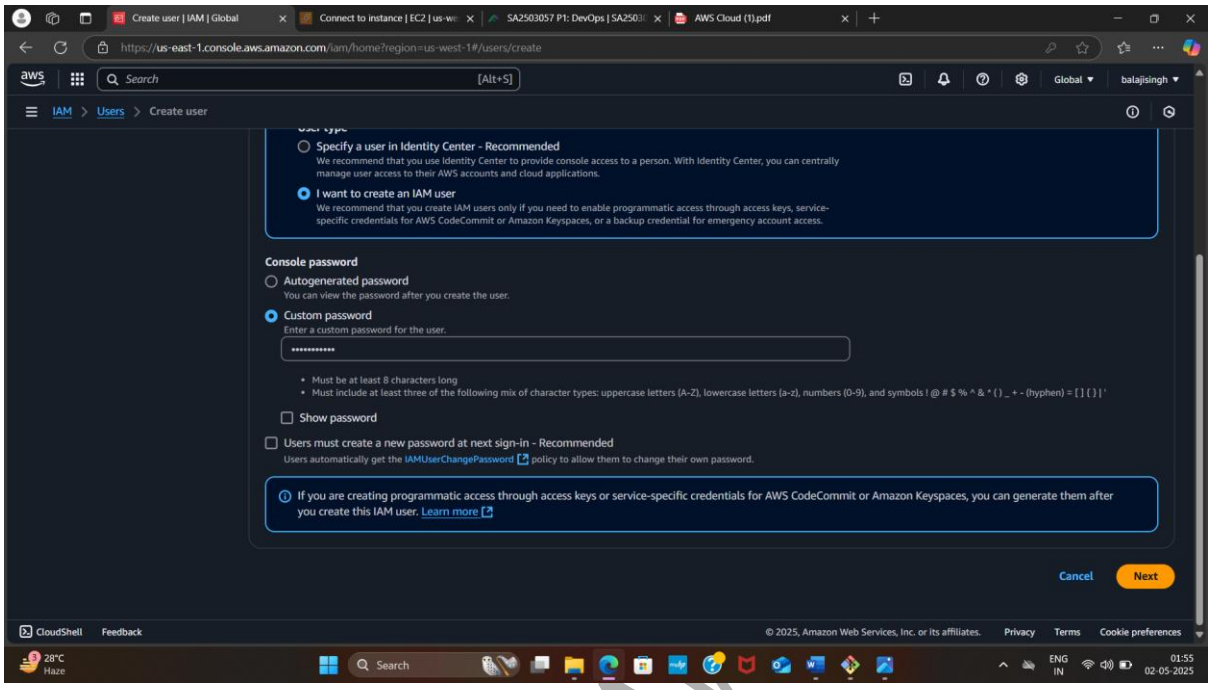
3. Now create a IAM user by going to access management and click on “create user”.



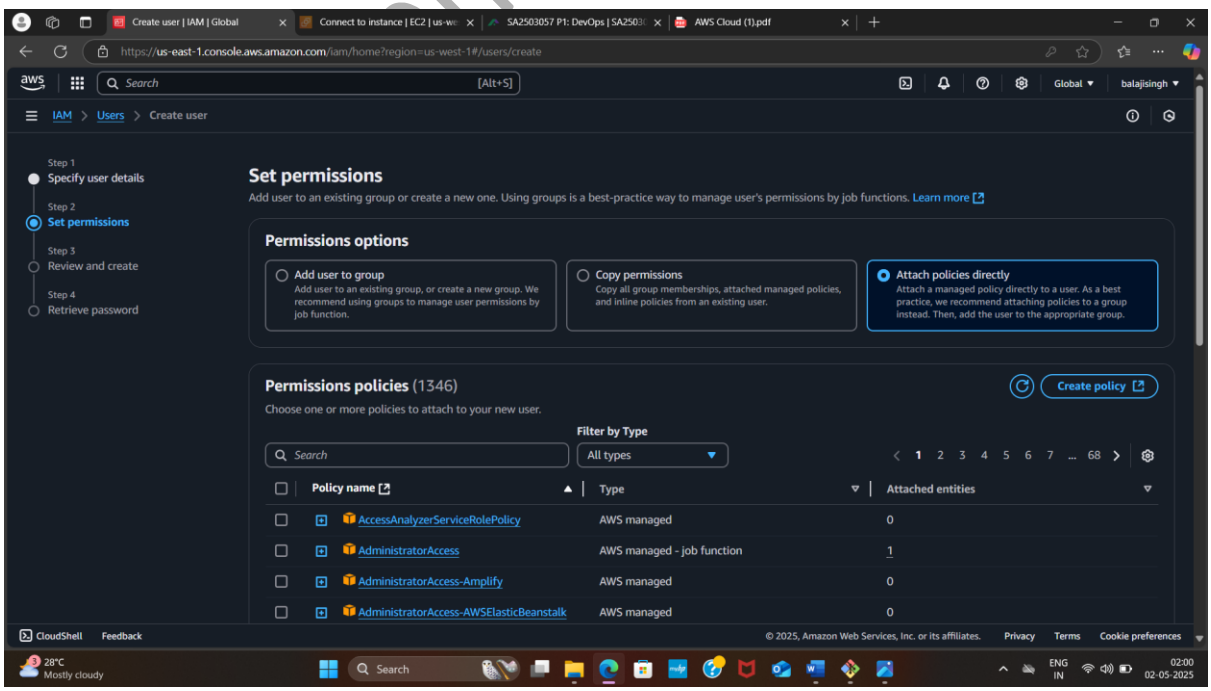

4. Now give a name which should not contain space and create a password for it either auto generated or custom password.



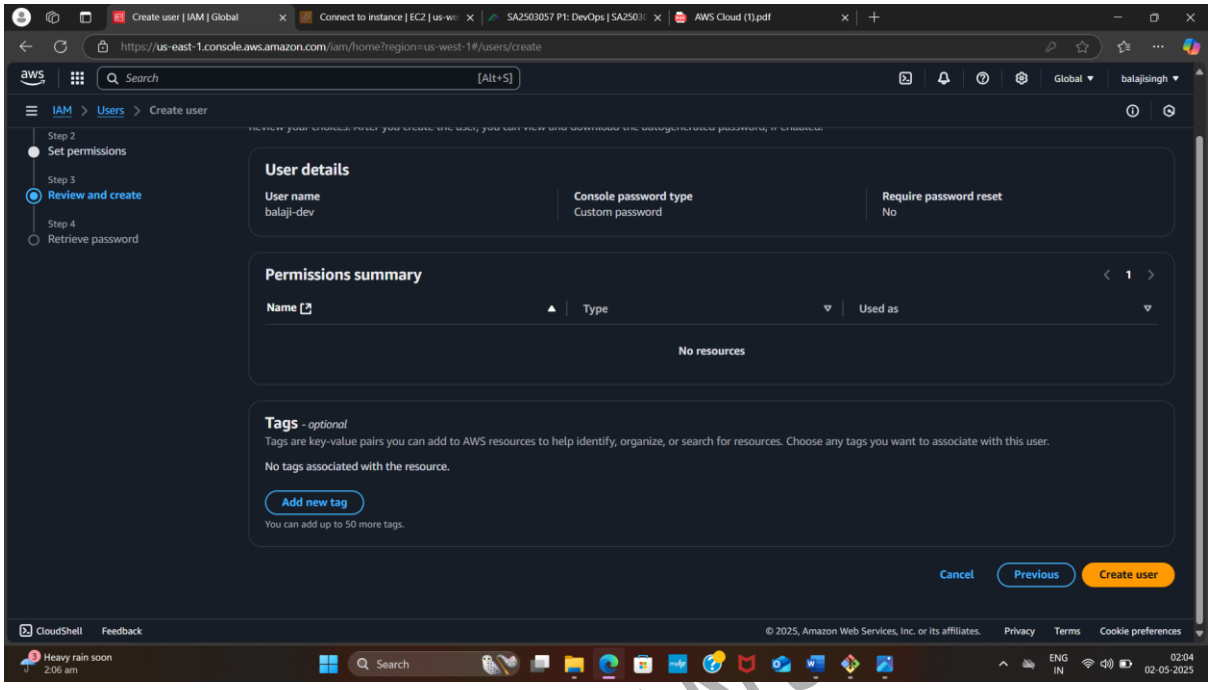
5. Click on user must create a new password at next sign, this allows user to create his own password. Then click on next.



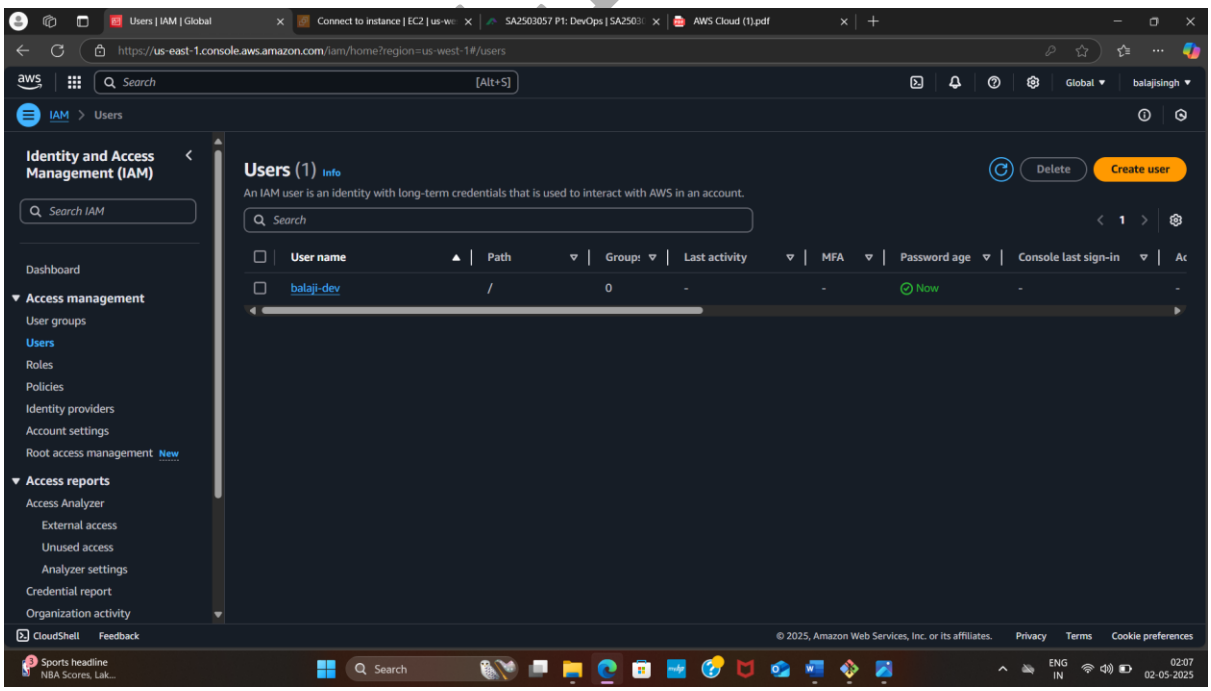

6. Now set the permissions by attaching policies i,e the specific access to the services that you want to give to the user.



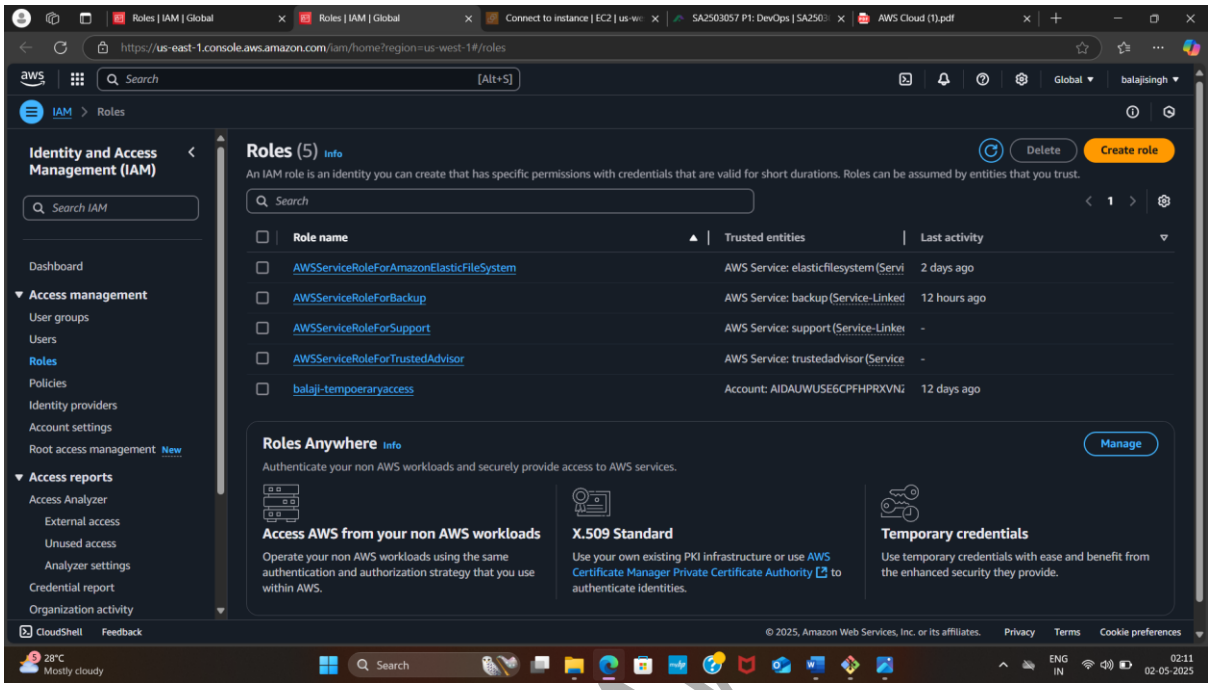
7. Review and click on “create user”.



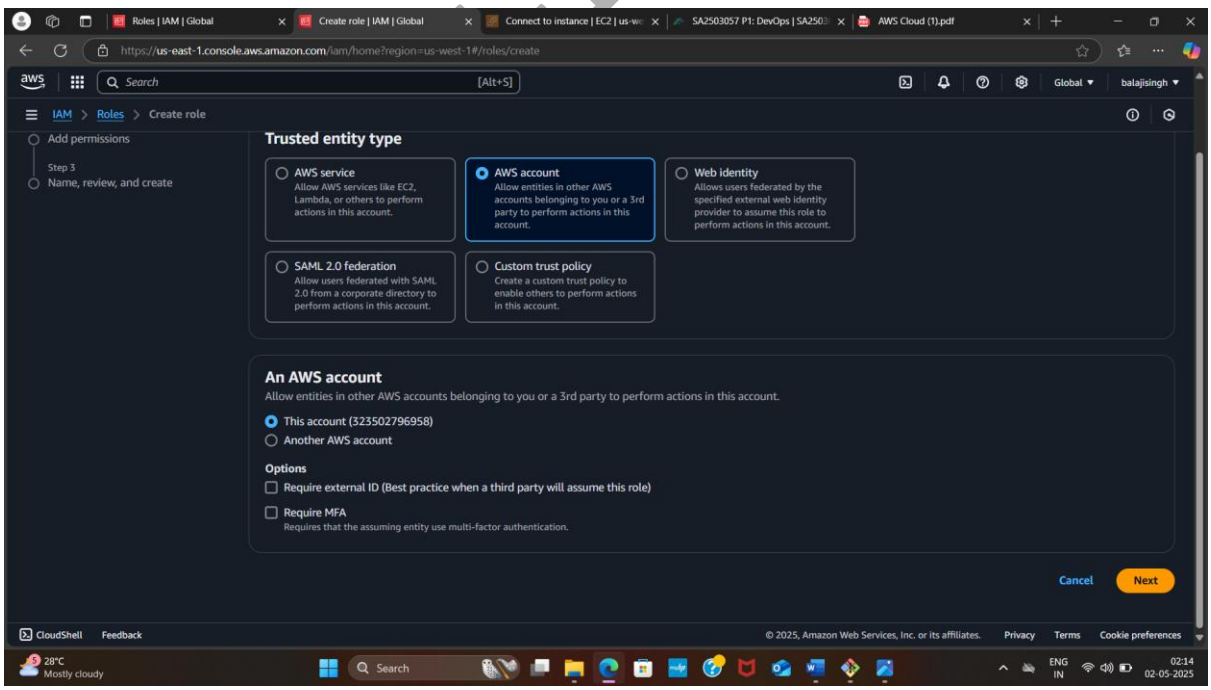

8. User has been created.



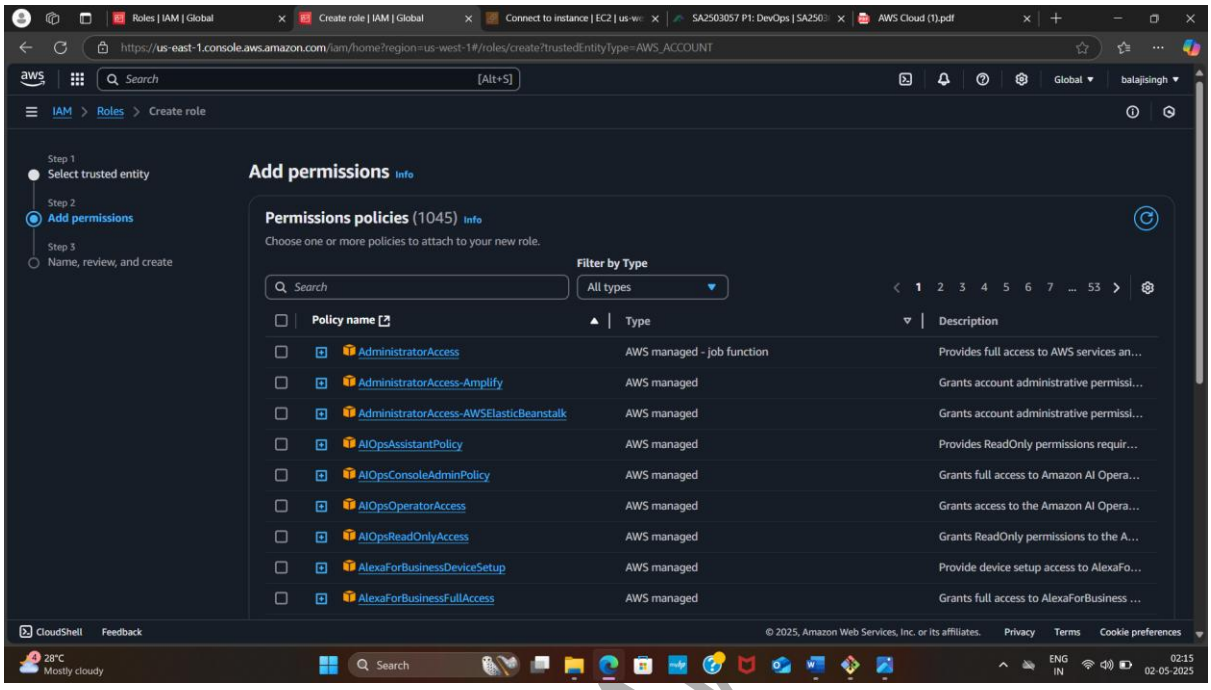
9. Now to create to role go to access management, click on roles and then click on “create roles”.



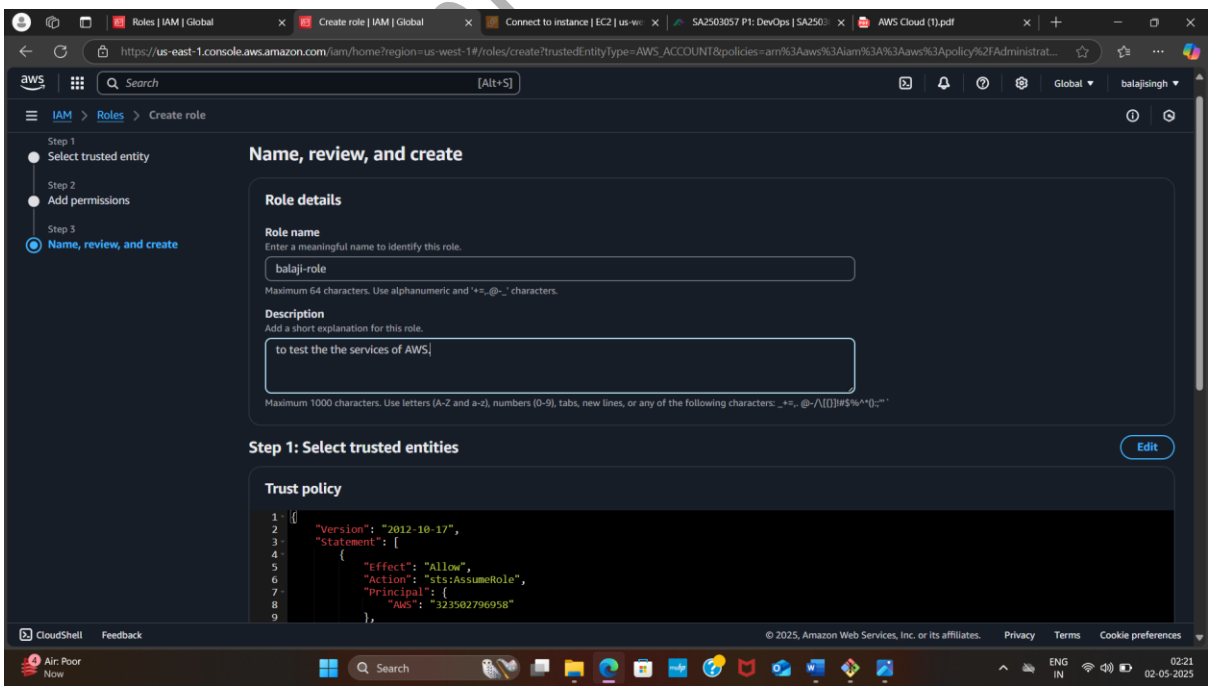

10. Select the trusted entity type and click om next.



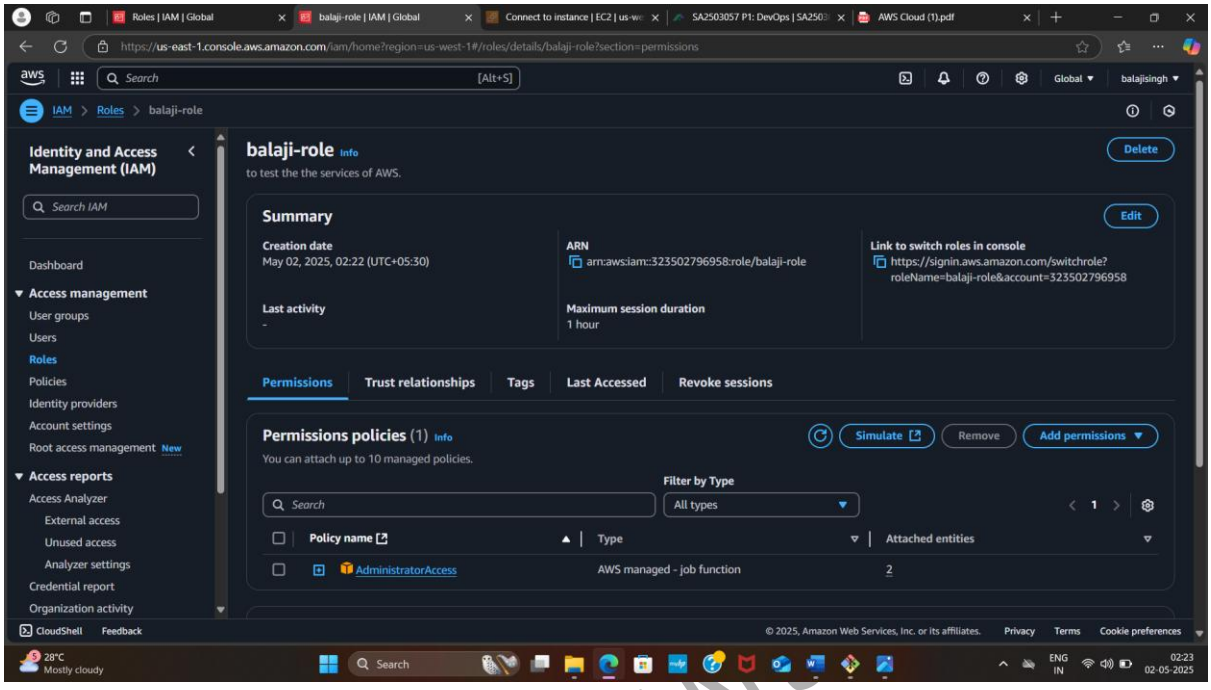
11. Add permission policies that you want give the access of and click on next by scrolling down.



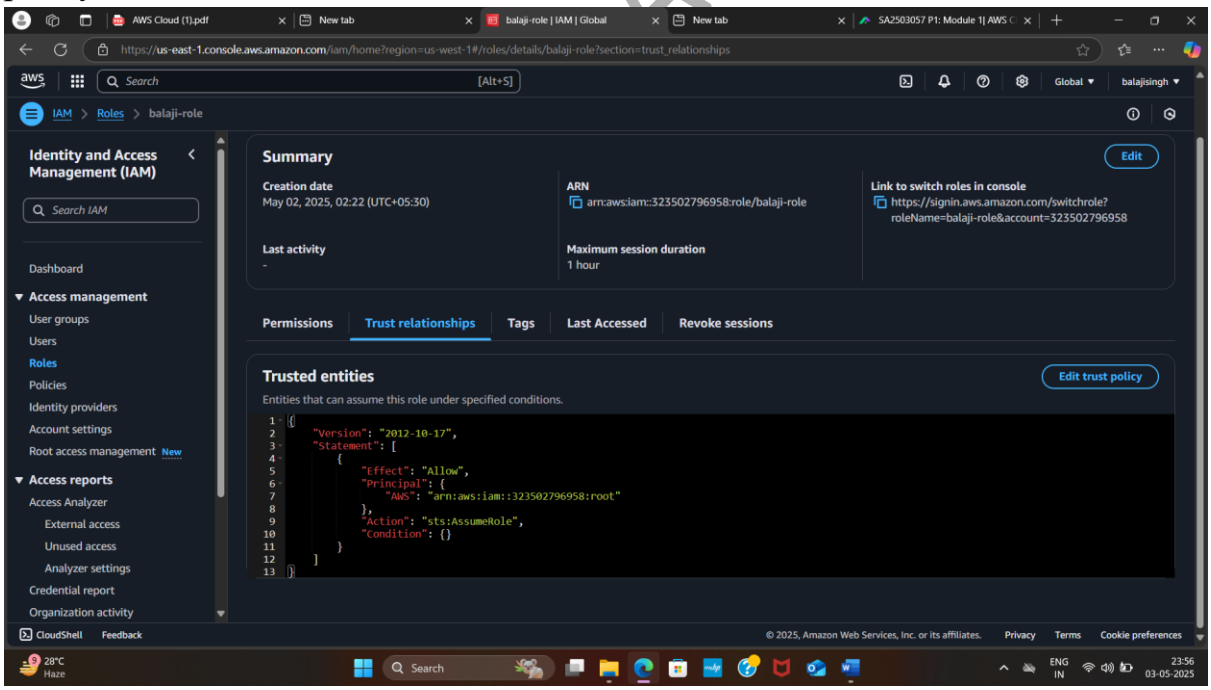

12. Now name the role and add a description about the role and scroll down and click on next.



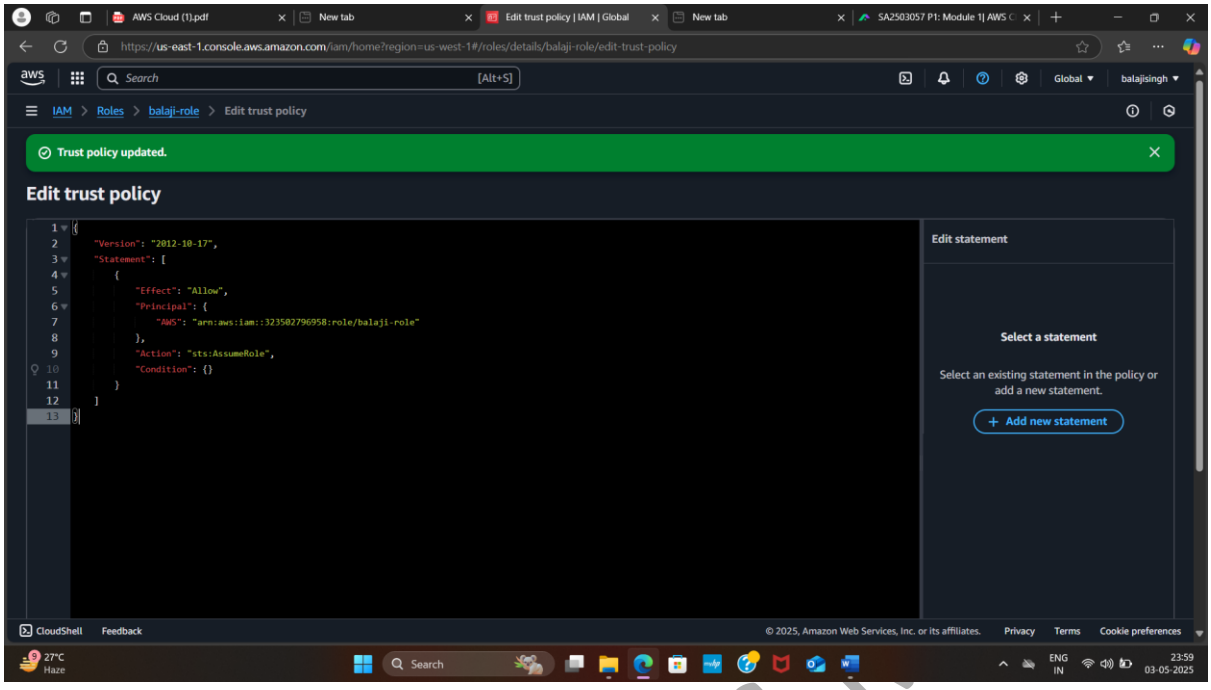
13. The role has been created.



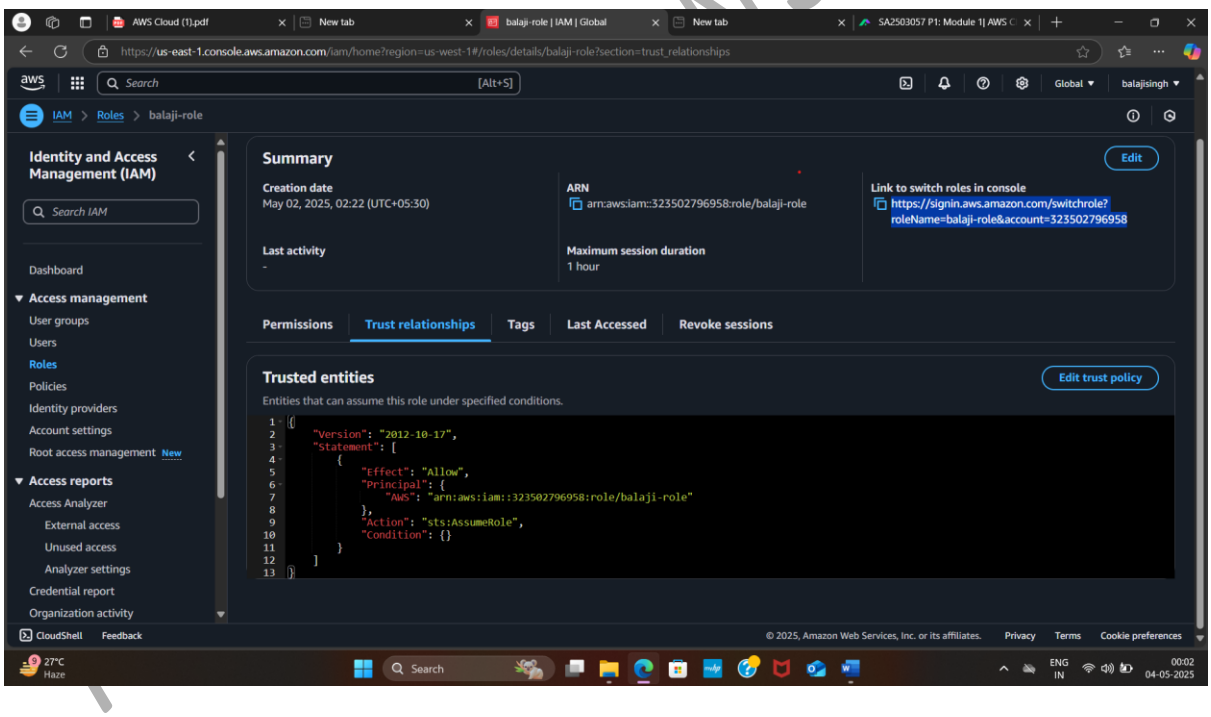

14. Now copy the arn of the role and go to trust relationship and click on edit trust policy to the it from root user to the role.



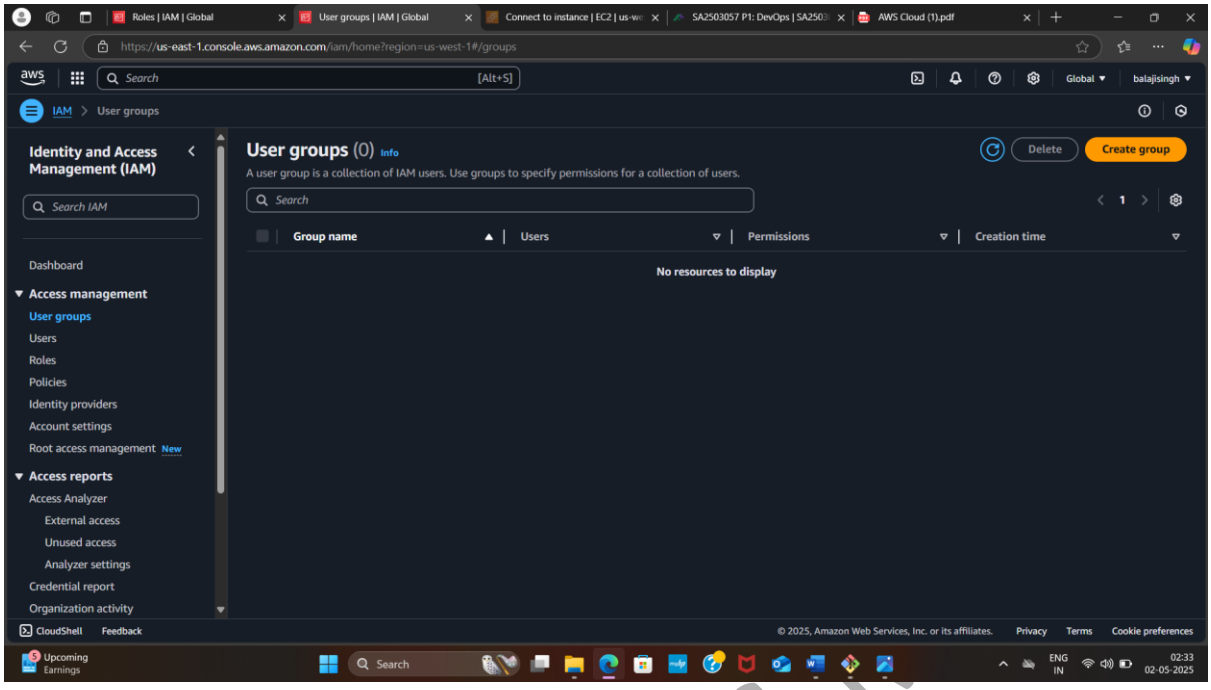

15. Now copy the ARN of the role and paste it in trusted entities and update the policy.



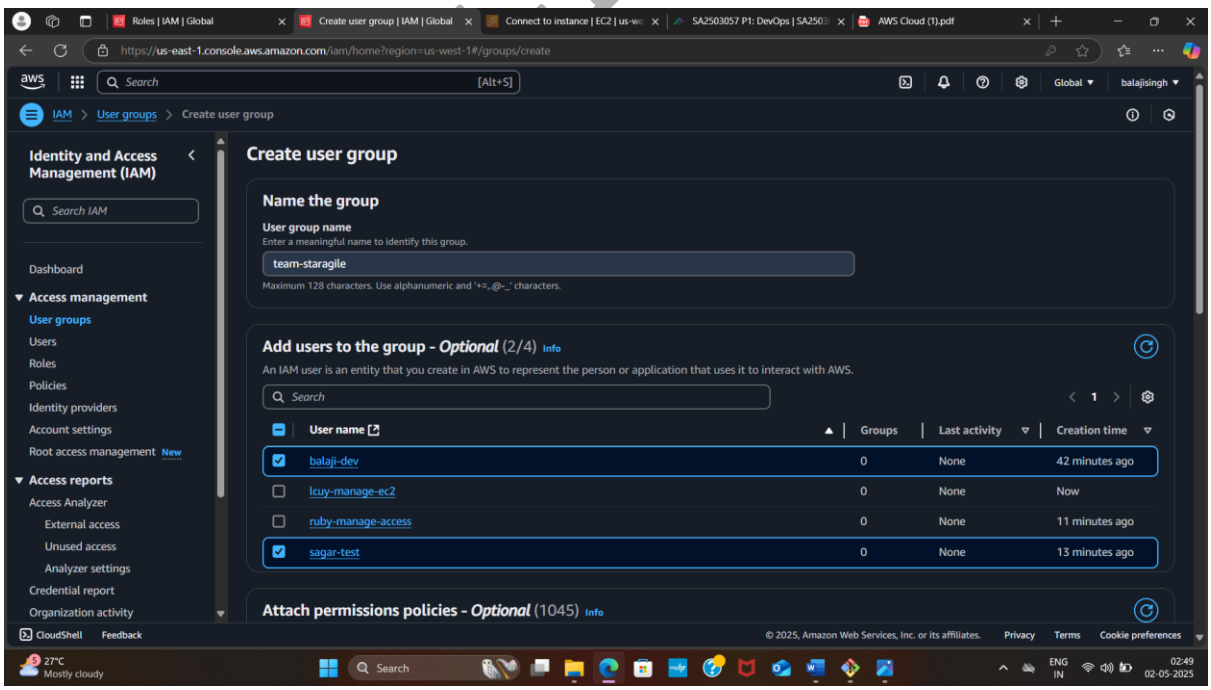

16. Now share the link to switch the roles.



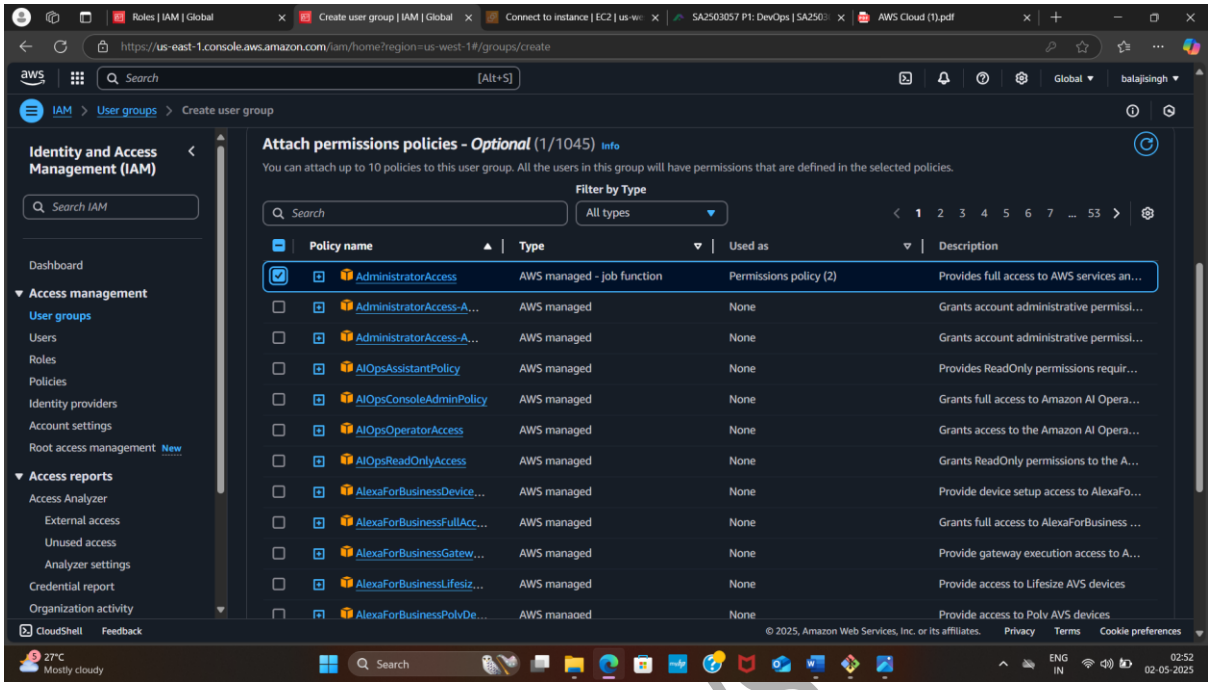

17. Now to create “user group” go to the access management again and click on “create groups”.



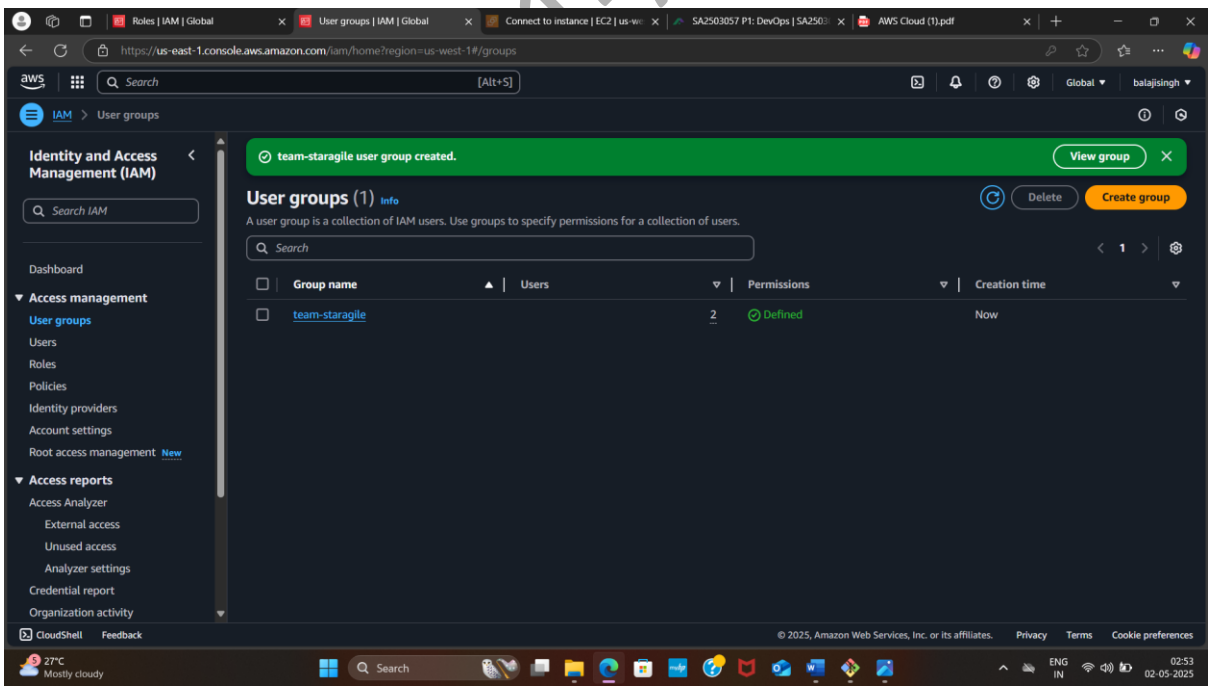

18. Now give a meaningful name to identify the group and select the user that you want to add in the group.

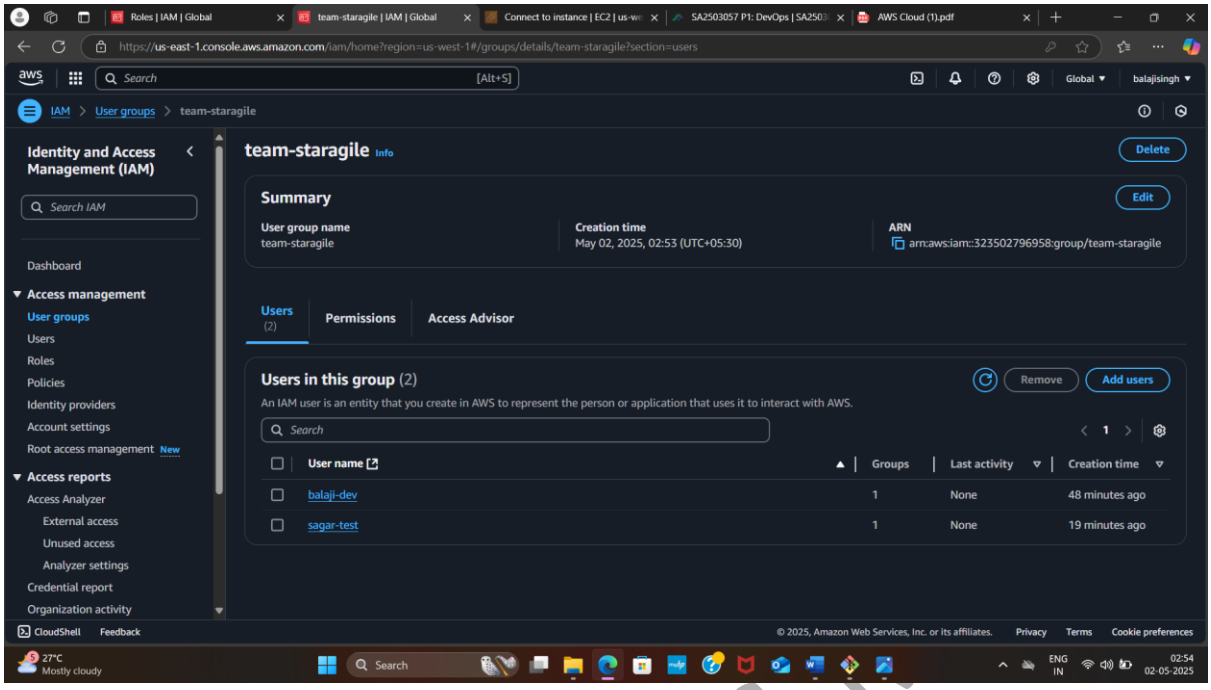



19. Now attach the permission policies that you want give to the “user group” and scroll down and click on “create user group”.




20. User group has been created.



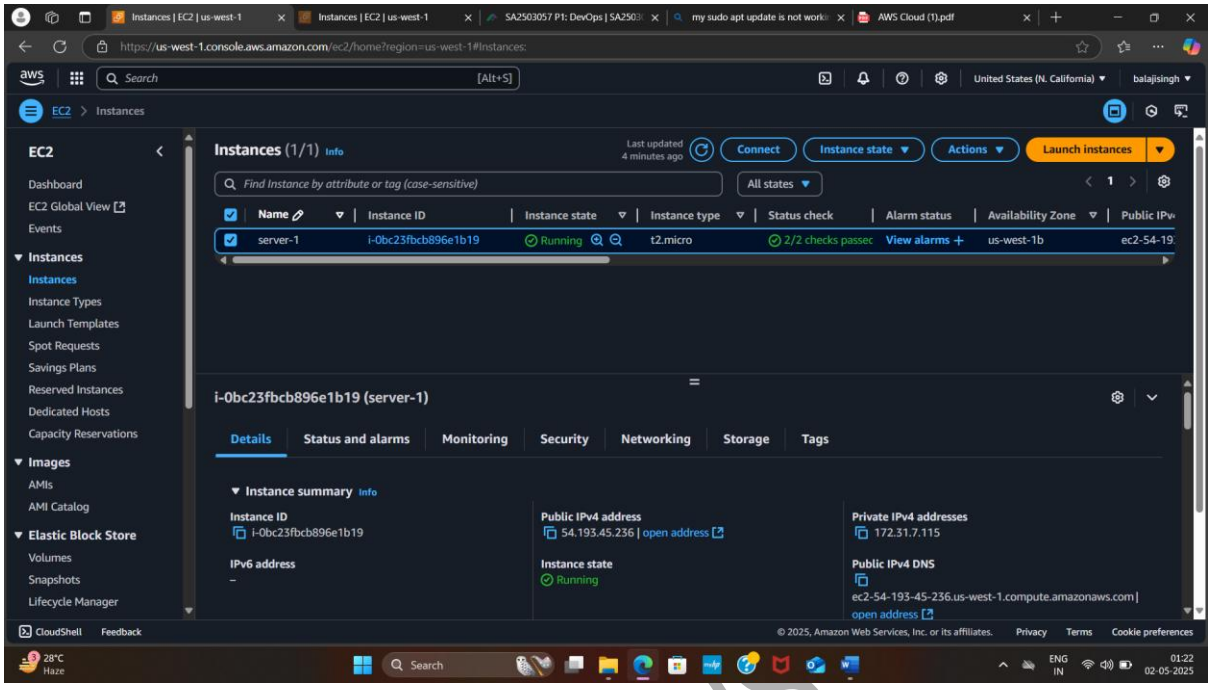



# L2 is completed

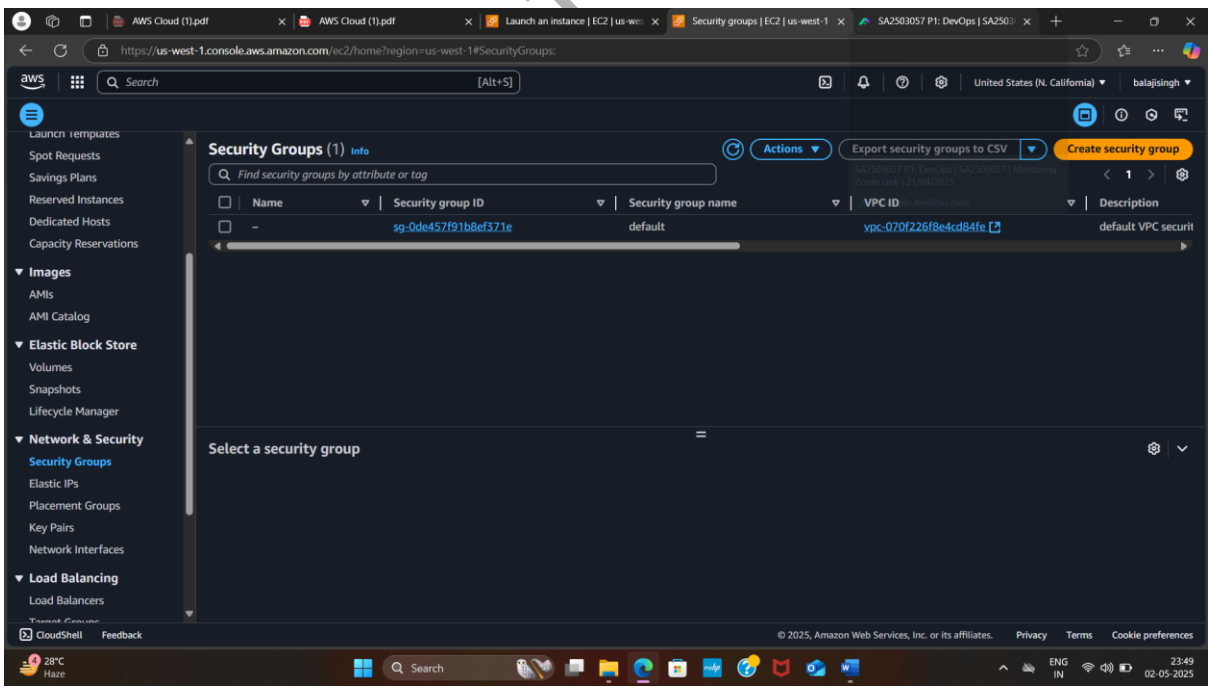
L3 - Launch AWS EC2 Ubuntu Instance and configure the Security Group - Inbound Rule: 8080. Justify the usage of Inbound Rules

Steps:

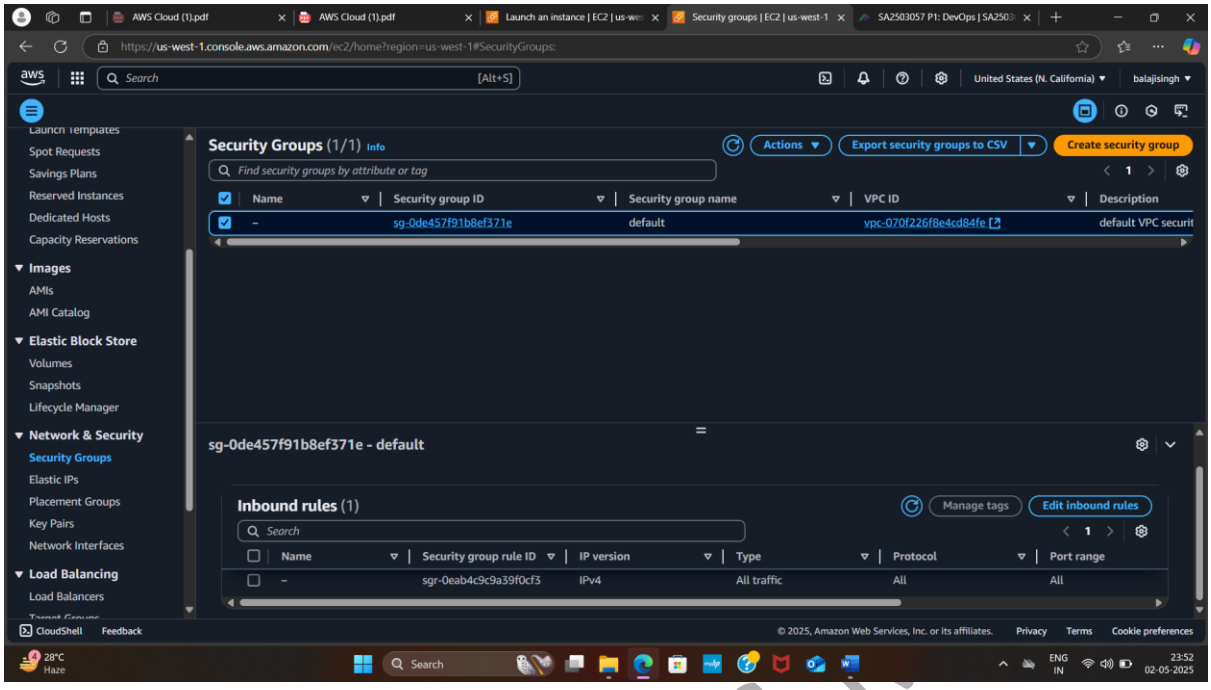
1. Launch a EC2 instance.



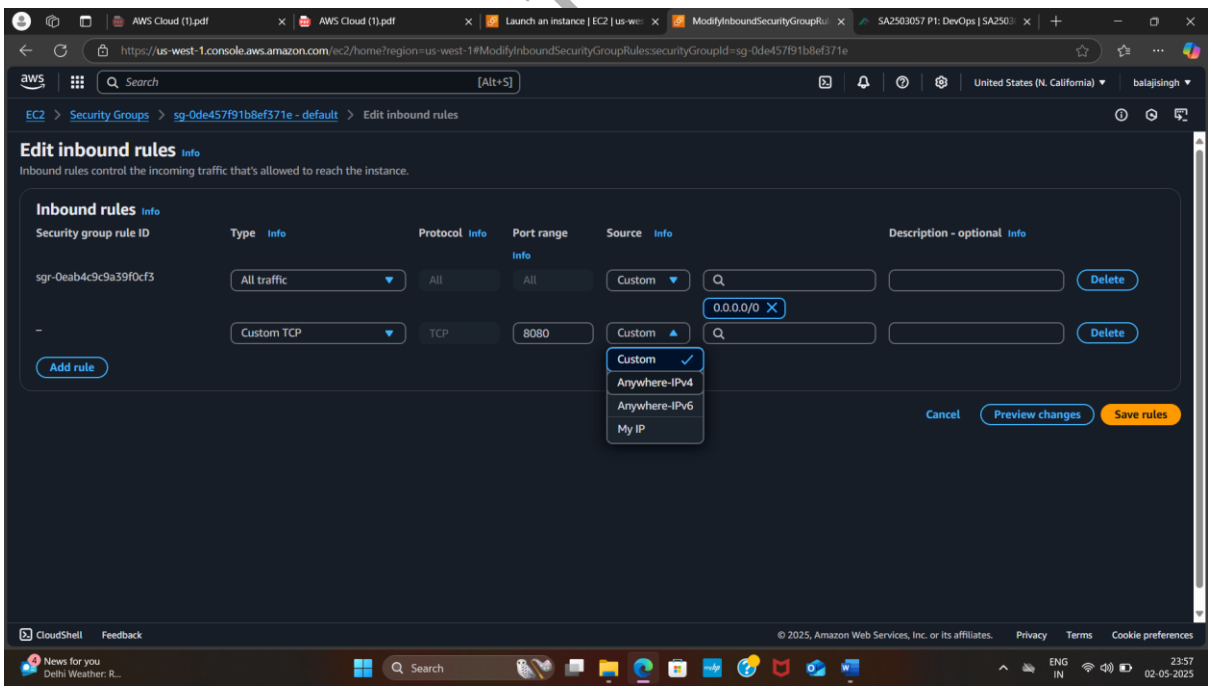

2.Now go to the network and security and click on security groups.



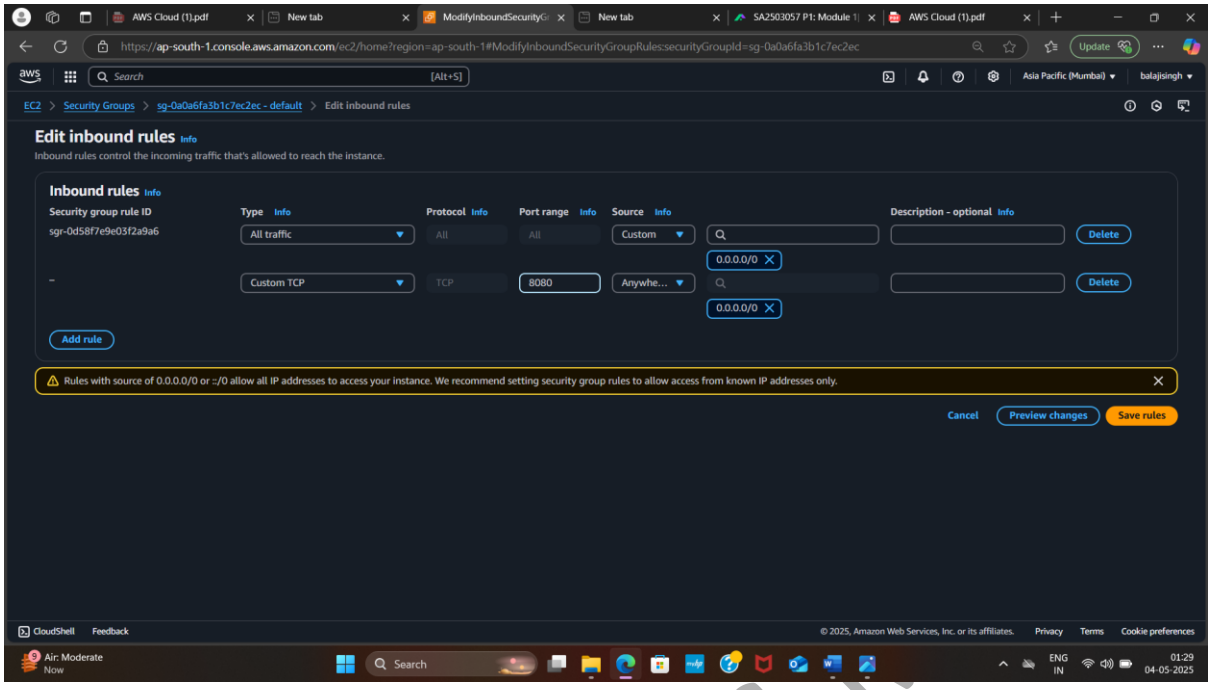

3. Now select the existing security group and go to the inbound rules and click on “edit inbound rules”.




4. After clicking on edit inbound rules this page will open and then click on add rule and select the rule type and keep custom TCP and type 8080 in port range and keep the rule source as anywhere IPV4 and save




5. Now to justify the usage of inbound rules. By changing the adding the new rule. For example, if we want to access the tomcat so we have to keep the port number as 8080.



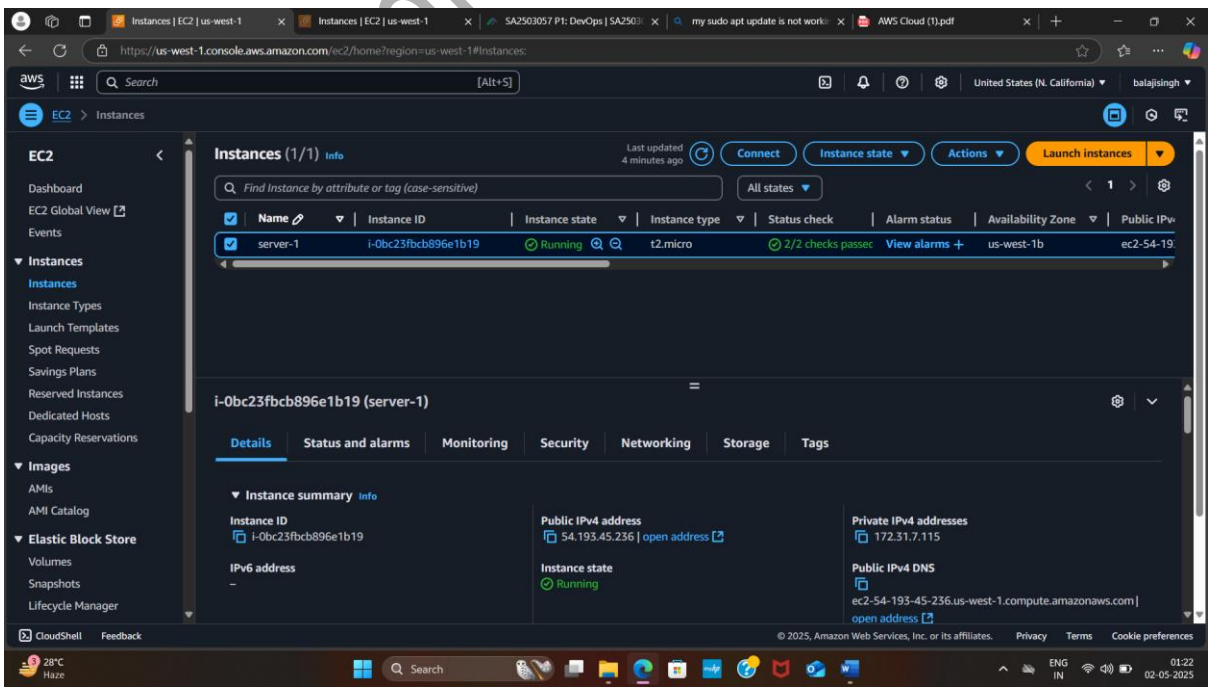



L3 completed

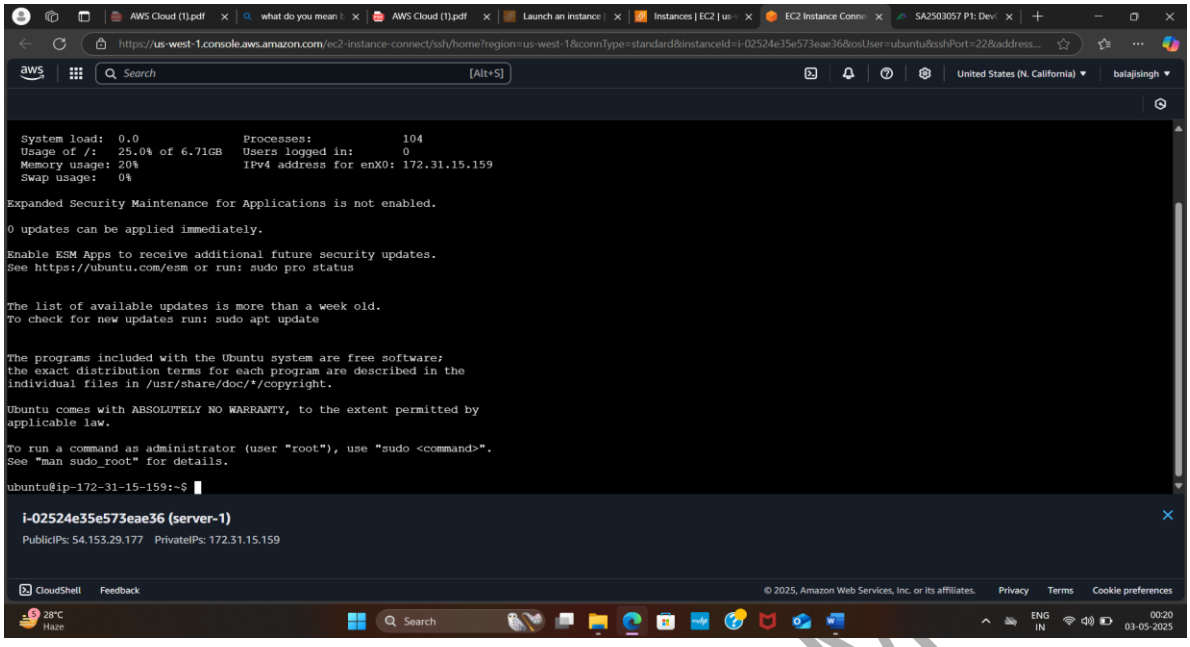
L4 - Connect to the AWS EC2 Ubuntu Instance and Update default packages, install JDK, Maven, Git, and validate the versions.

Steps:

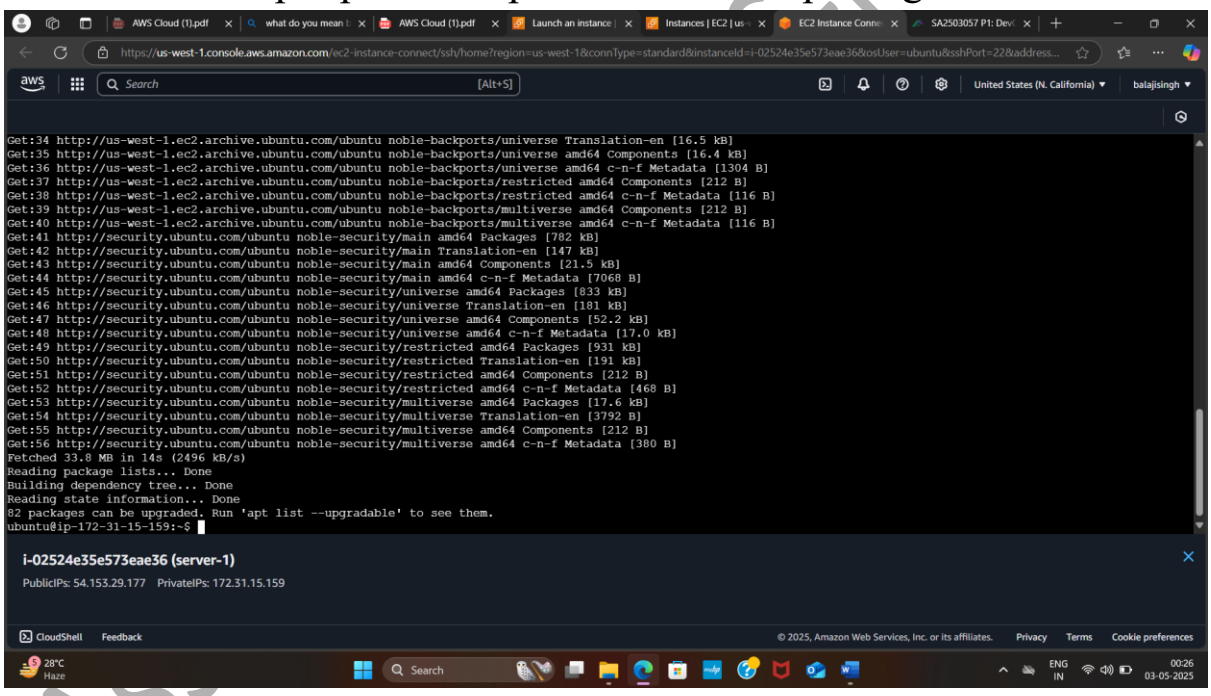
1. Launch a Ec2 instance.



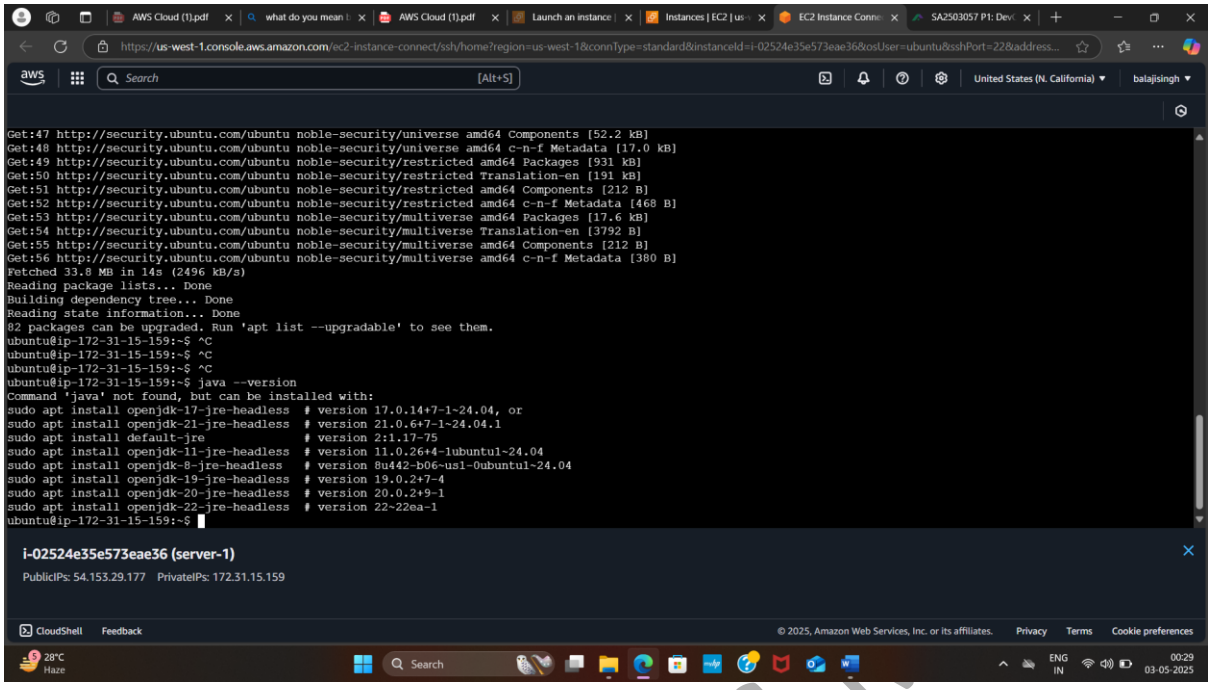

2. Now connect to your server.



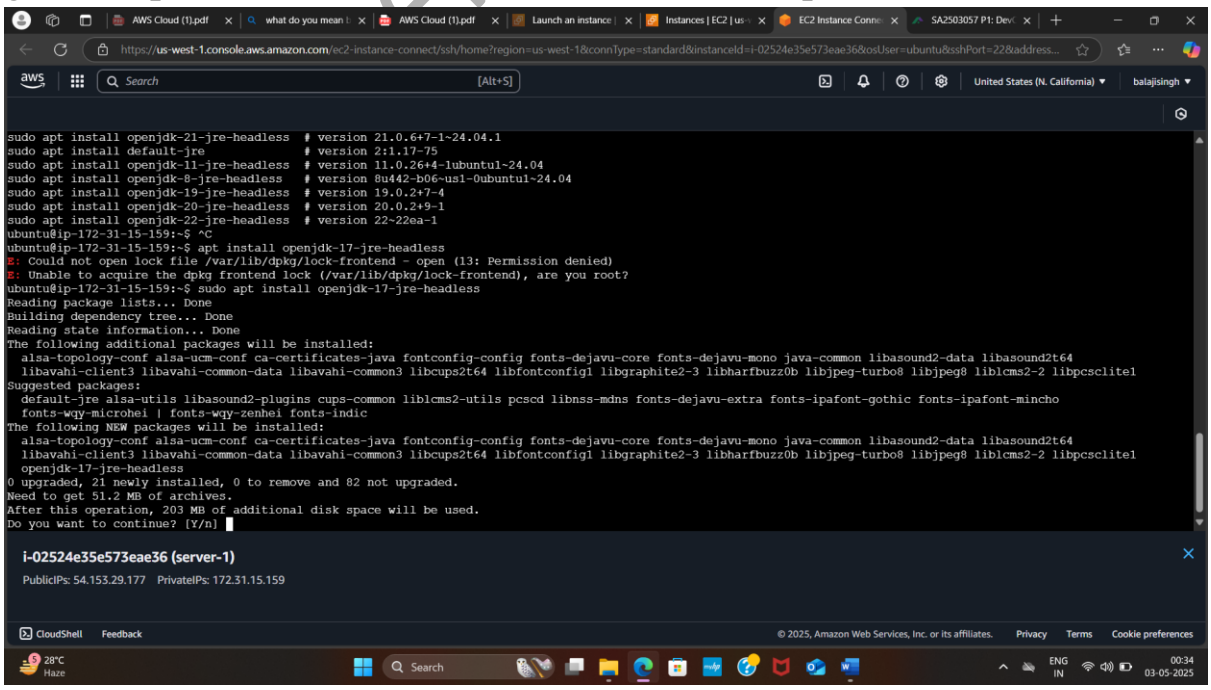

3. Now run sudo apt update to update the default packages.



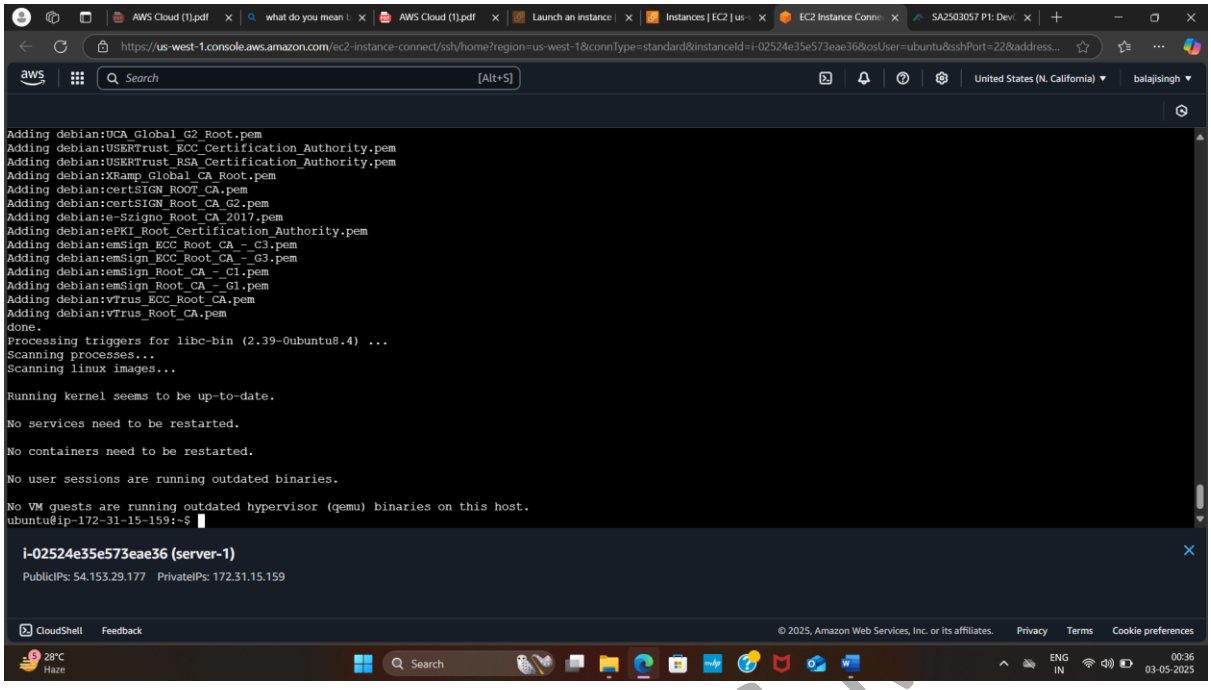

4. Now to install the jdk run “java –version to see the versions which are available in ubuntu.



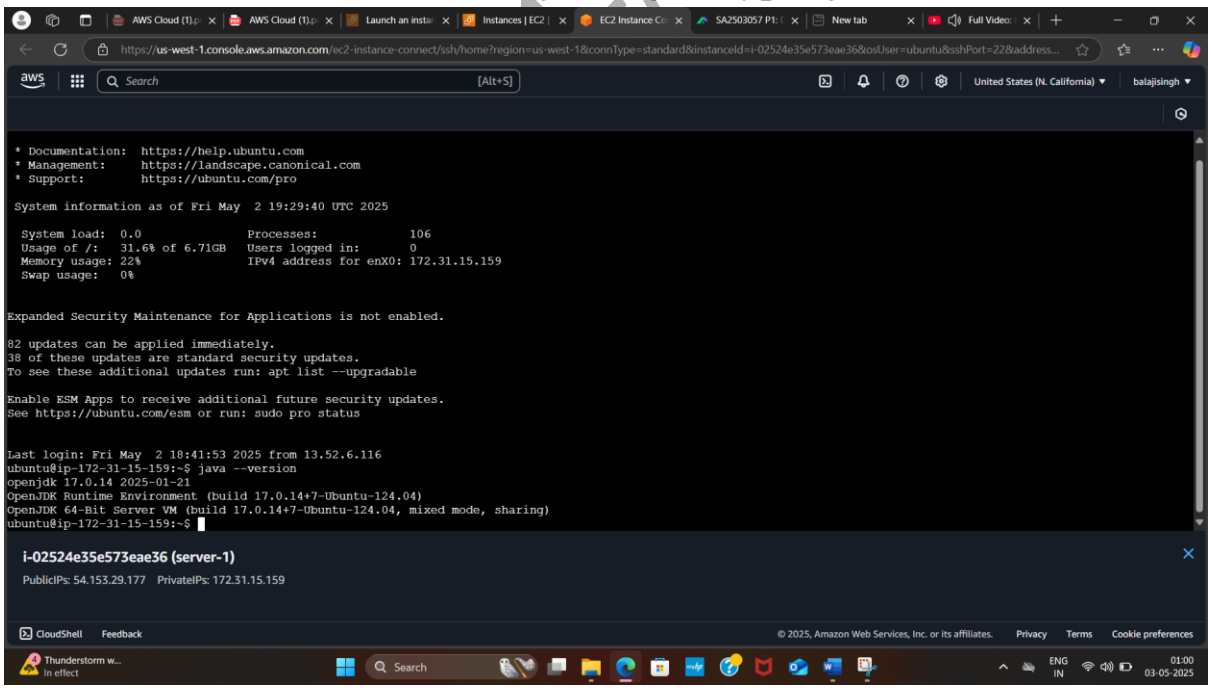

5. Now choose the version which you want to install (sudo apt install openjdk-17-jre-headless  # version 17.0.14+7-1~24.04) and type Y to give the permission to use the additional disk space.



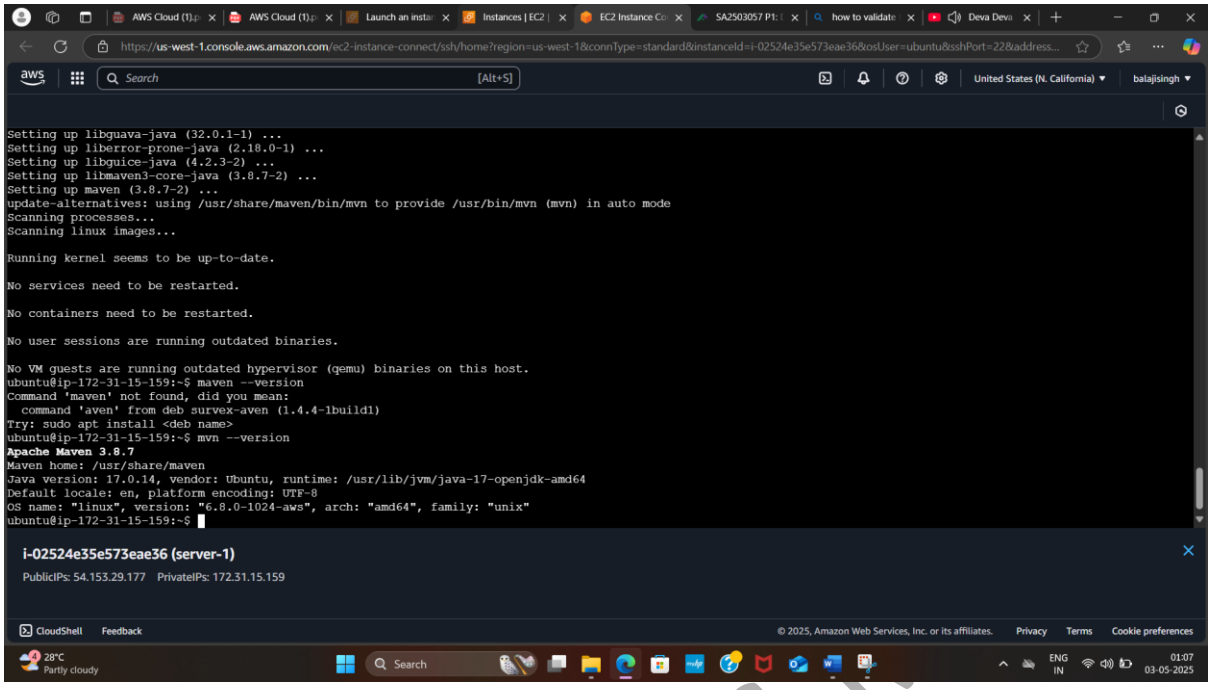

6. JDk is installed.



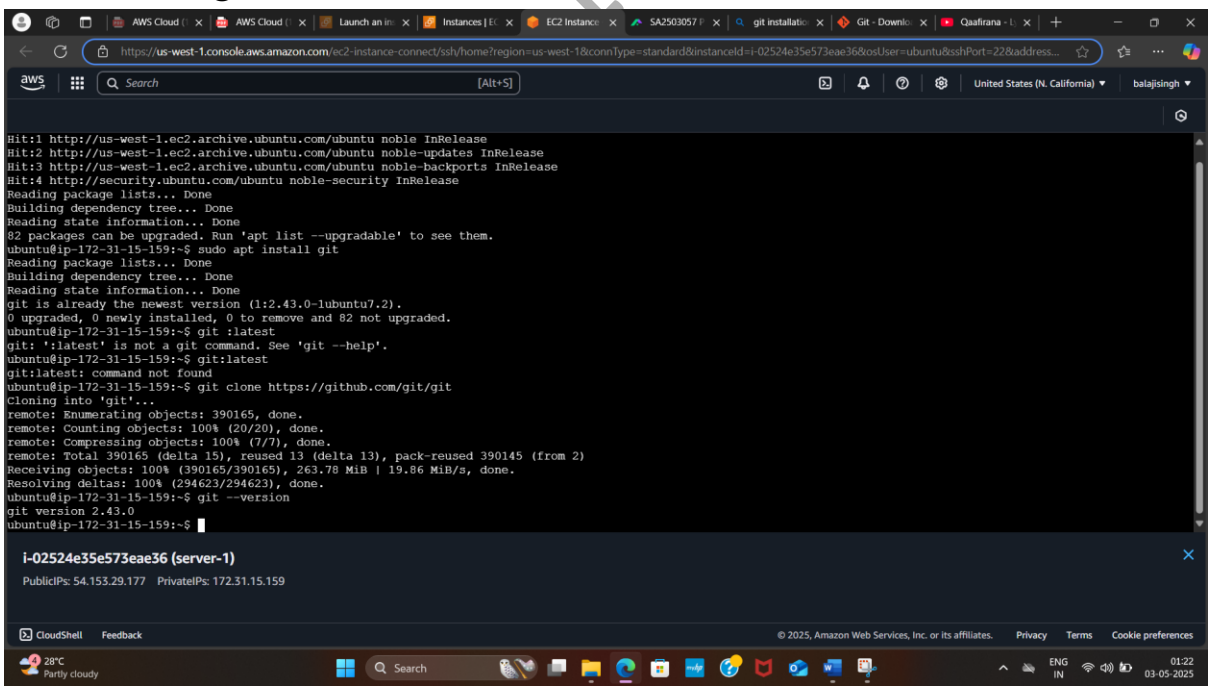

7. Now to validate the version of java again type “java –version”.




8. Now install maven in the same way as you done JDK and validate the version by typing “mvn --version”.




9. Now install git in ubuntu and validate the version.

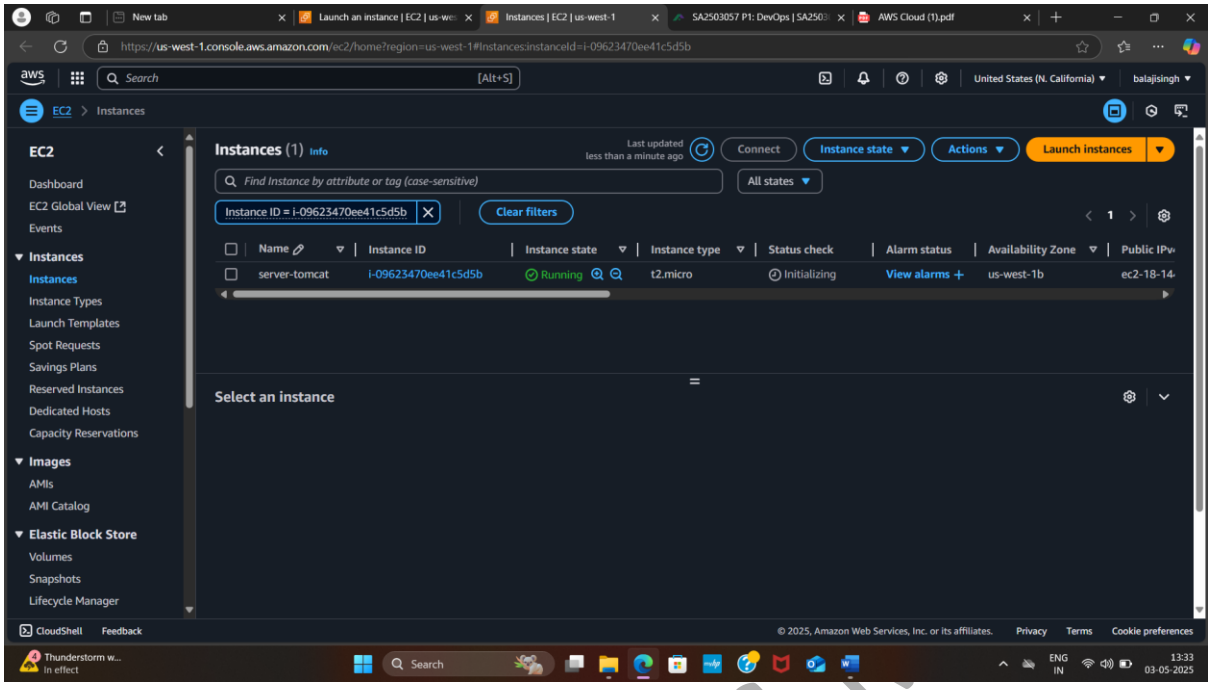



L4 completed

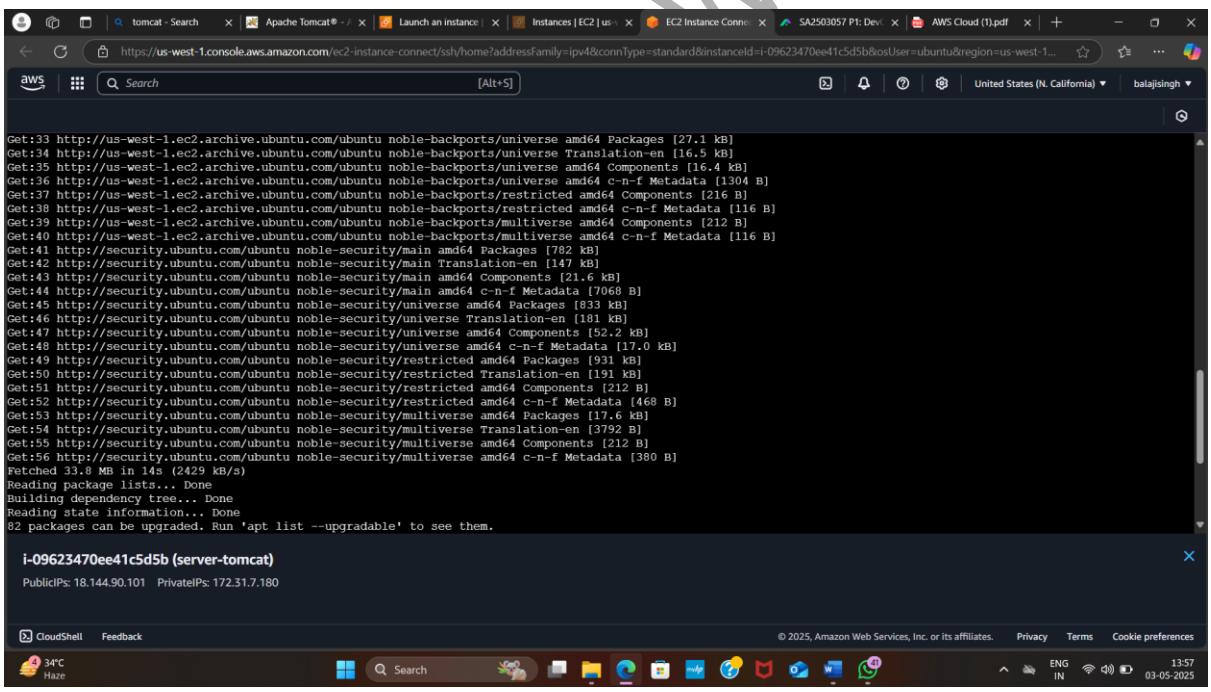
# L5 - Install Tomcat web application server in AWS EC2 Ubuntu Instance and access Tomcat using a web browser.

Steps:

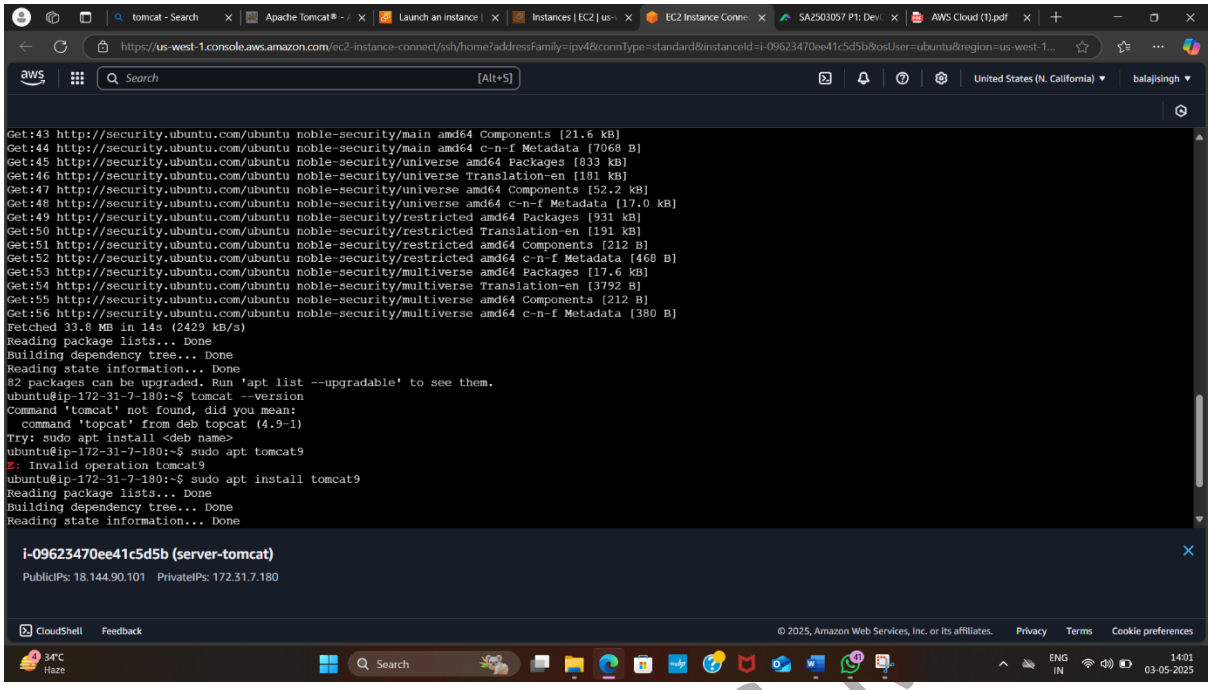
1. Launch an Ec2 instance.




2. Now connect to the instance and update the default packages.

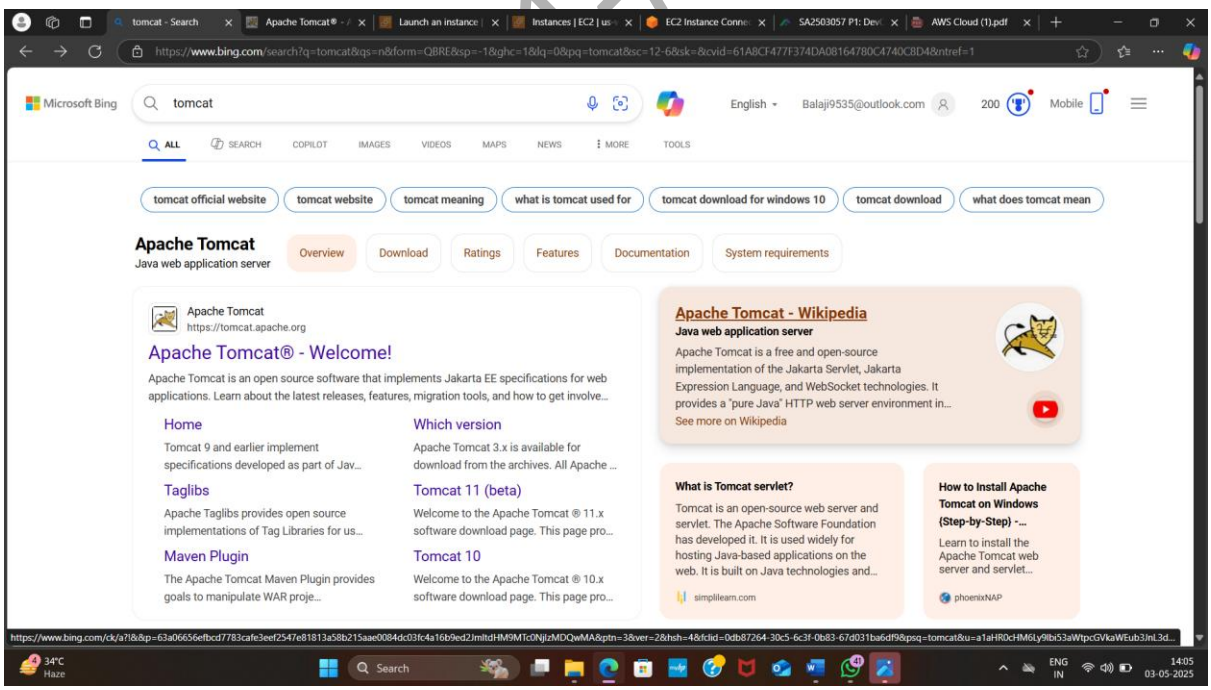



3. Now run tomcat –version command to see which version is available to install. (tomcat –version).

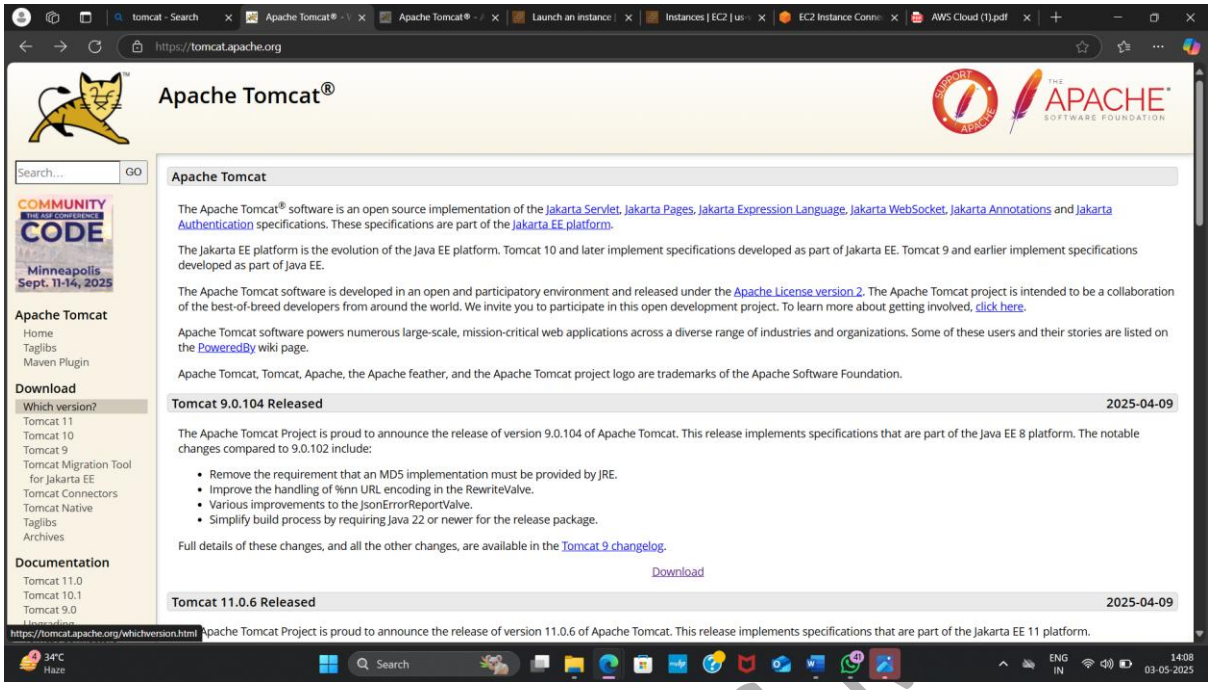



The versions are not available!

4. Now to install it manually go to chrome and search for tomcat and click in the official page of tomacat.

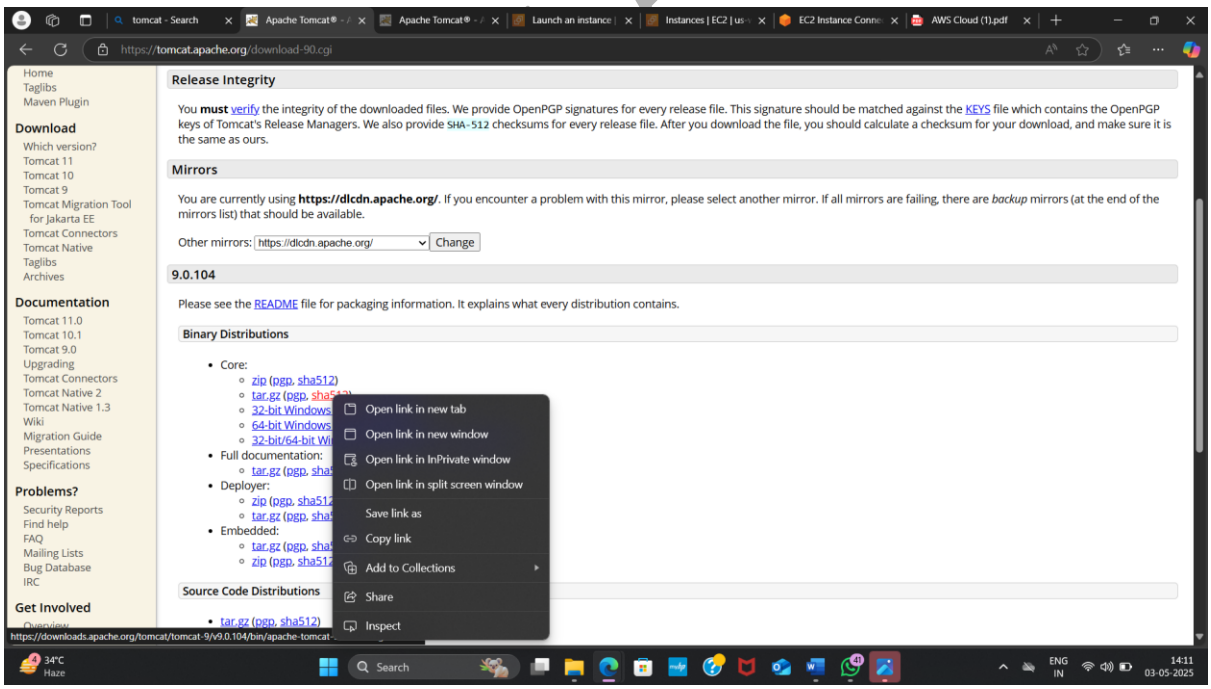



5. Now after opening the page go to the downloads and choose the version that you want to download.

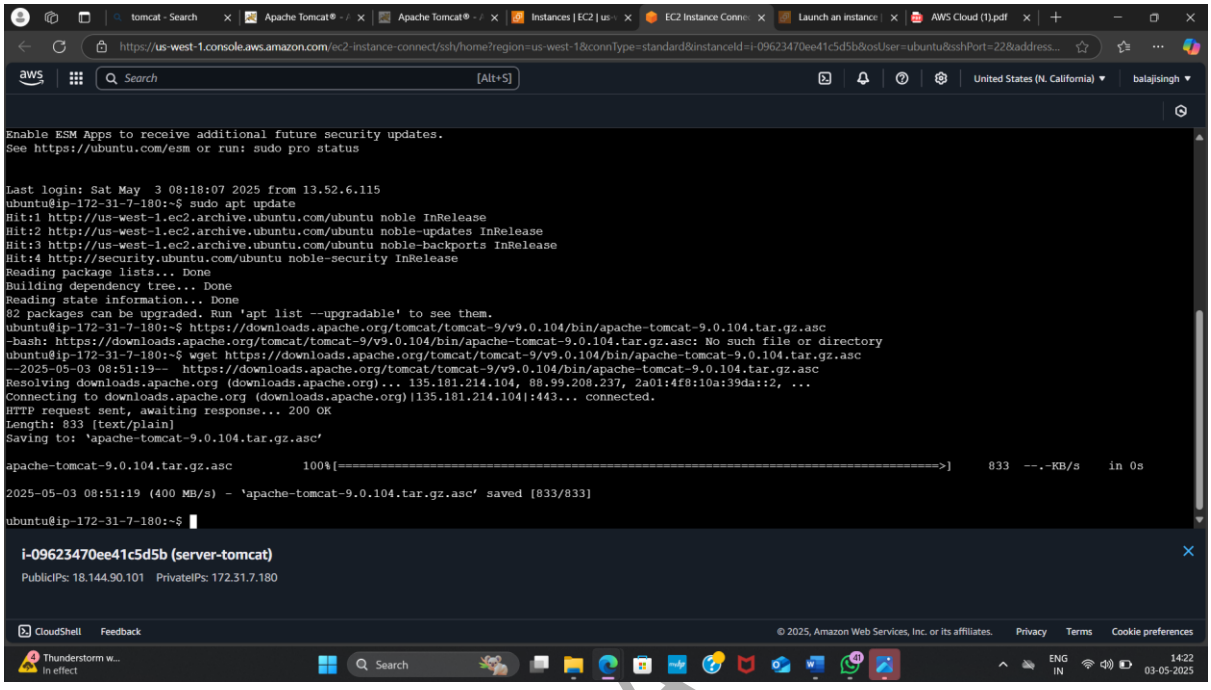



6. Now after choosing the version then choose tar.gz (pgp, sha512) for linux or ububtu and copy the link address.

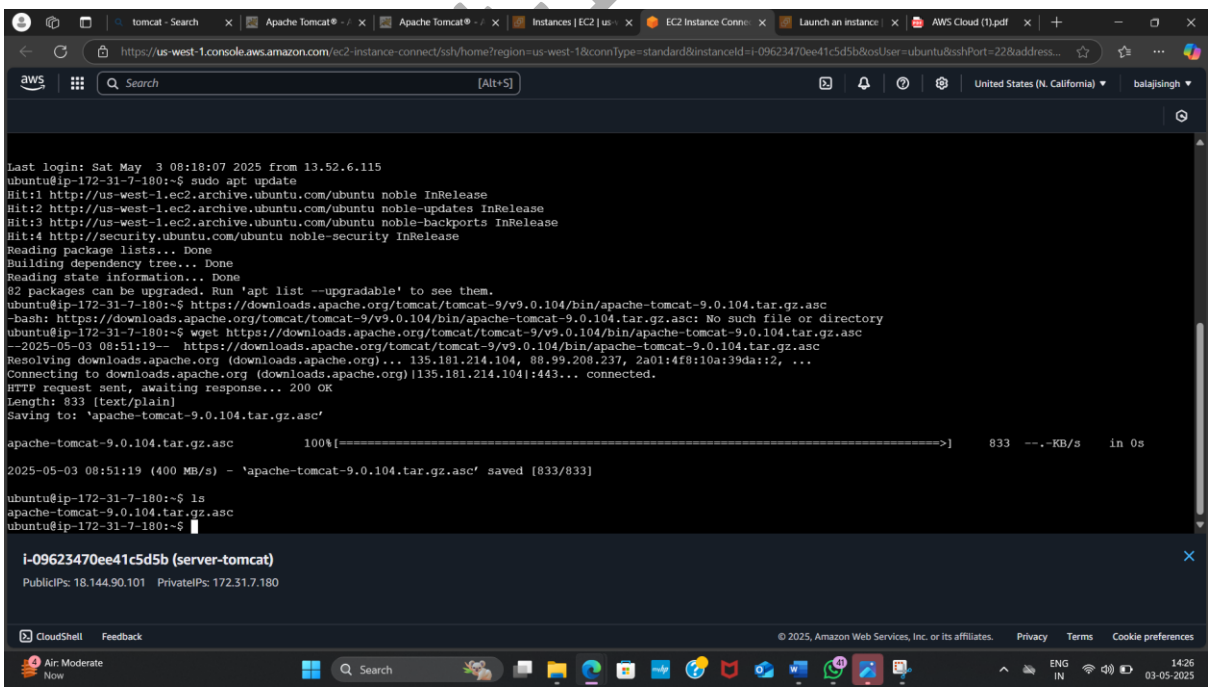
k



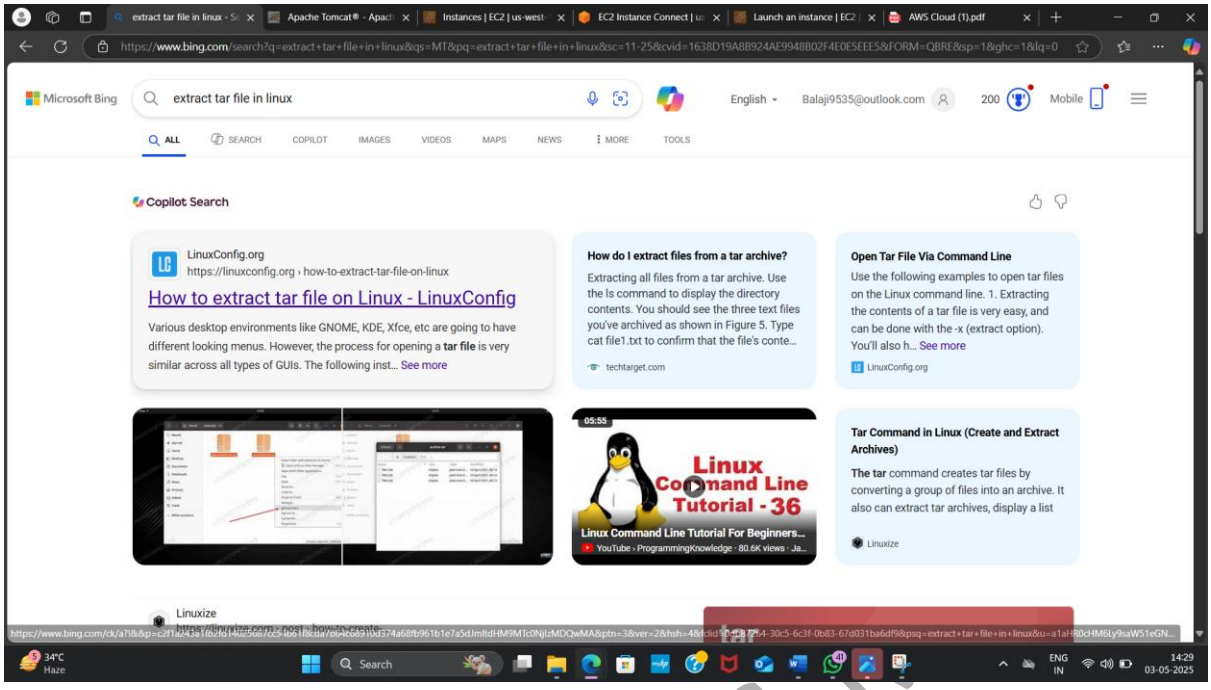
7. Now paste this link in you server with wget command which is used to download packages from the web/ internet which should be open source.



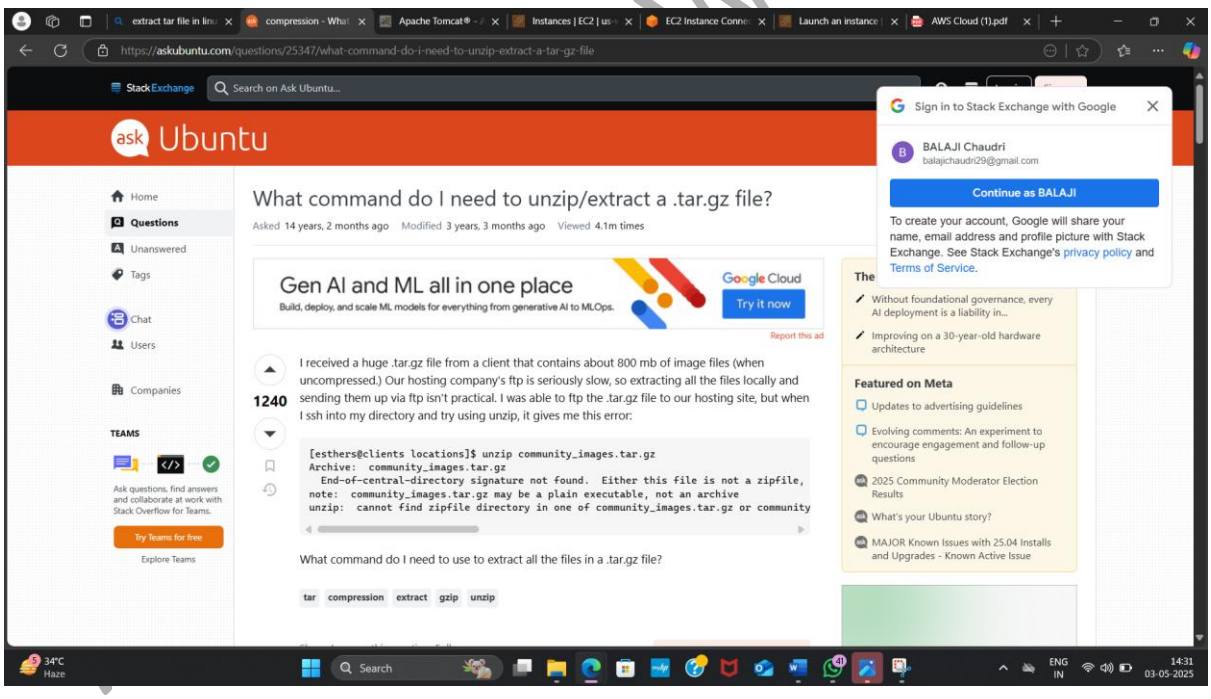

8. Now type ls to list the to show what are in your present directory.



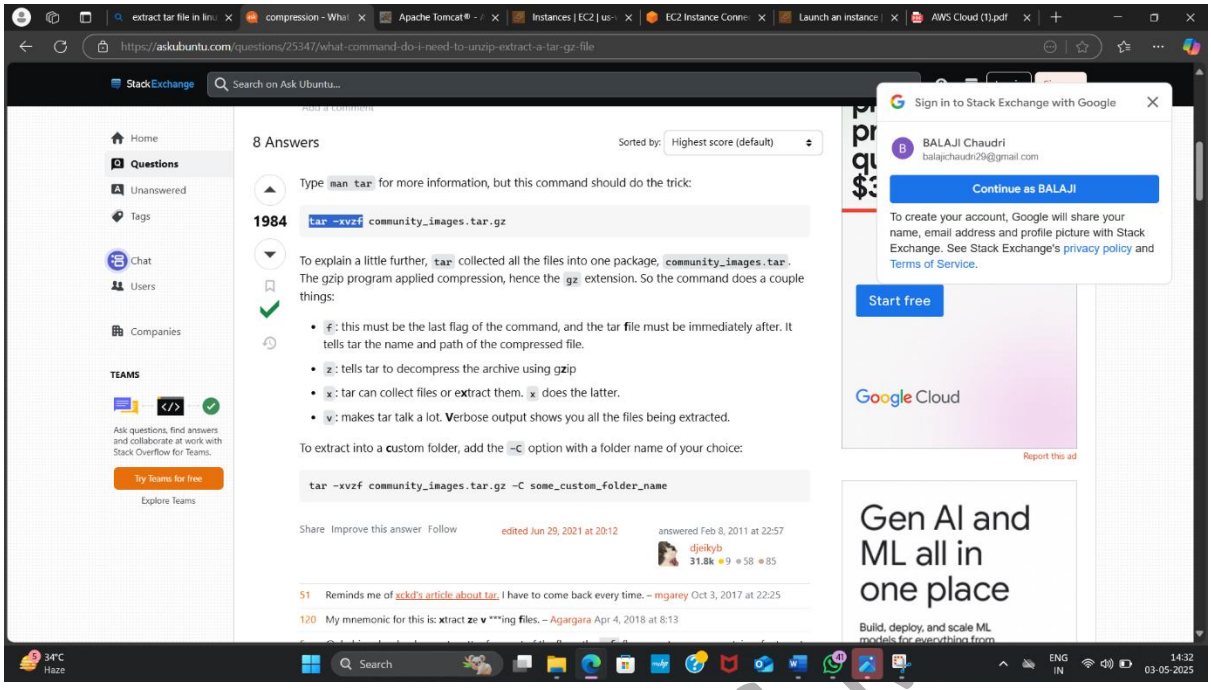

9. Now we need to extract this if you know the command, or go to google and search for extract tar file in linux.



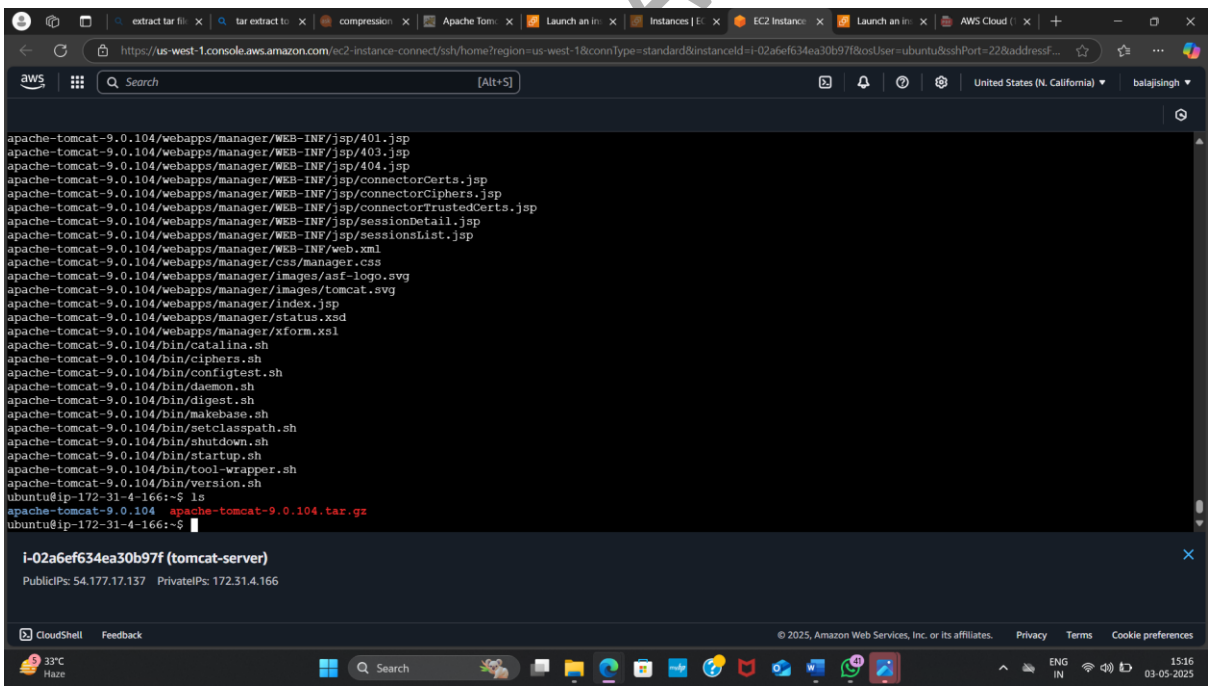

10. Now go to ask ububtu or any website.



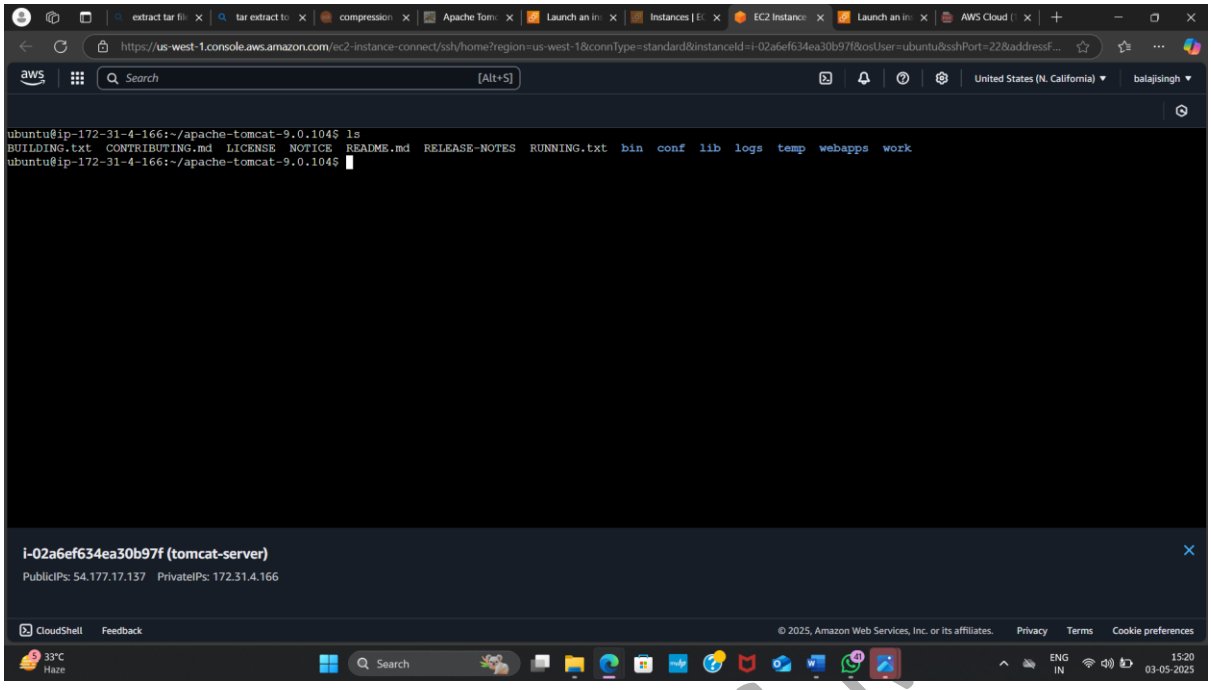

11. Now copy the command to extract the file.



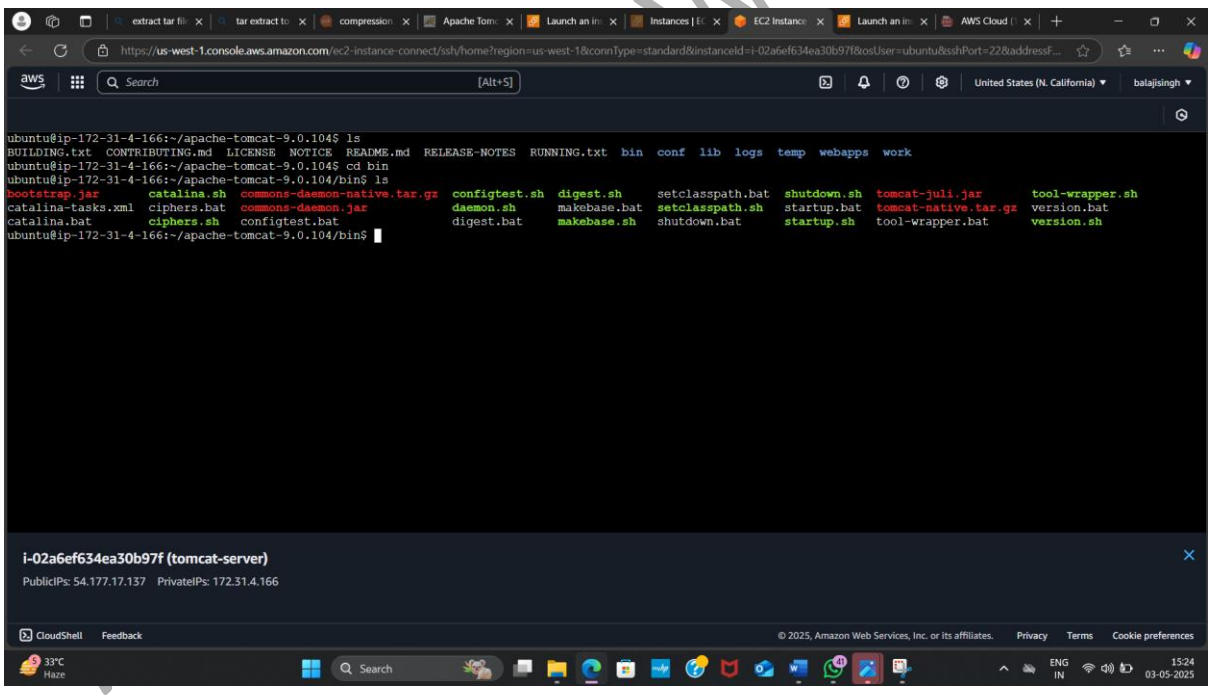

12. Now copy it you instance and extract it.



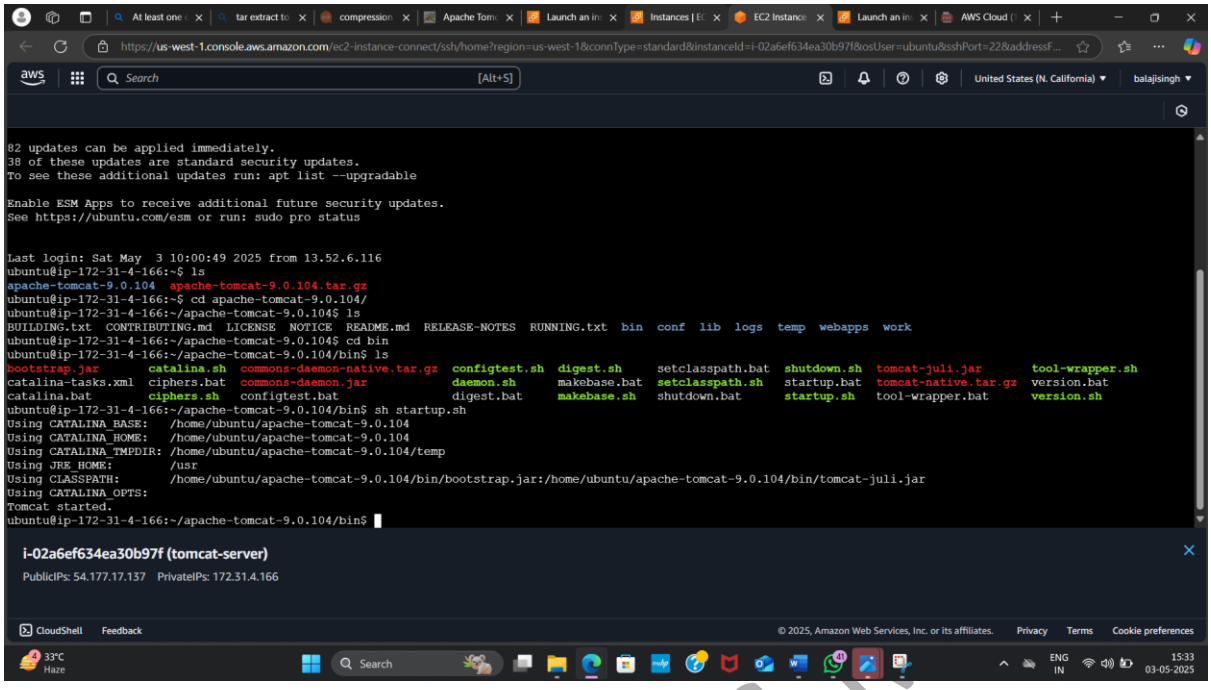

13. Now go inside the folder by typing cd apa and press tab.



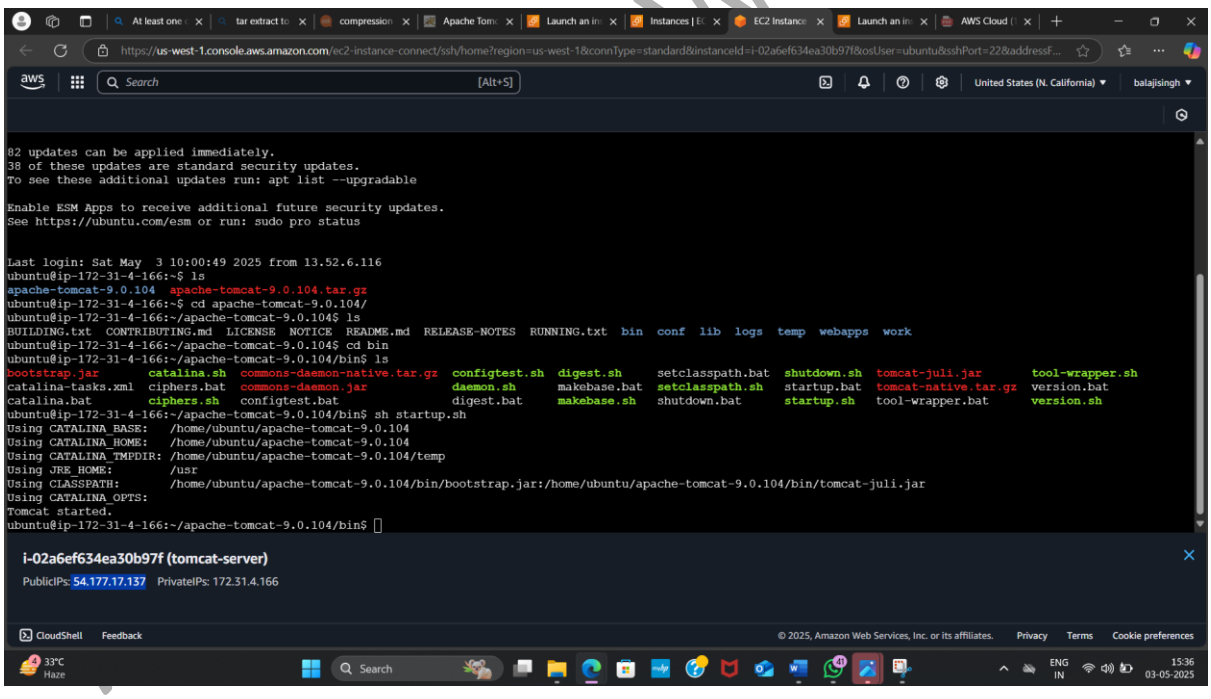

14. To run the tomcat type cd bin.



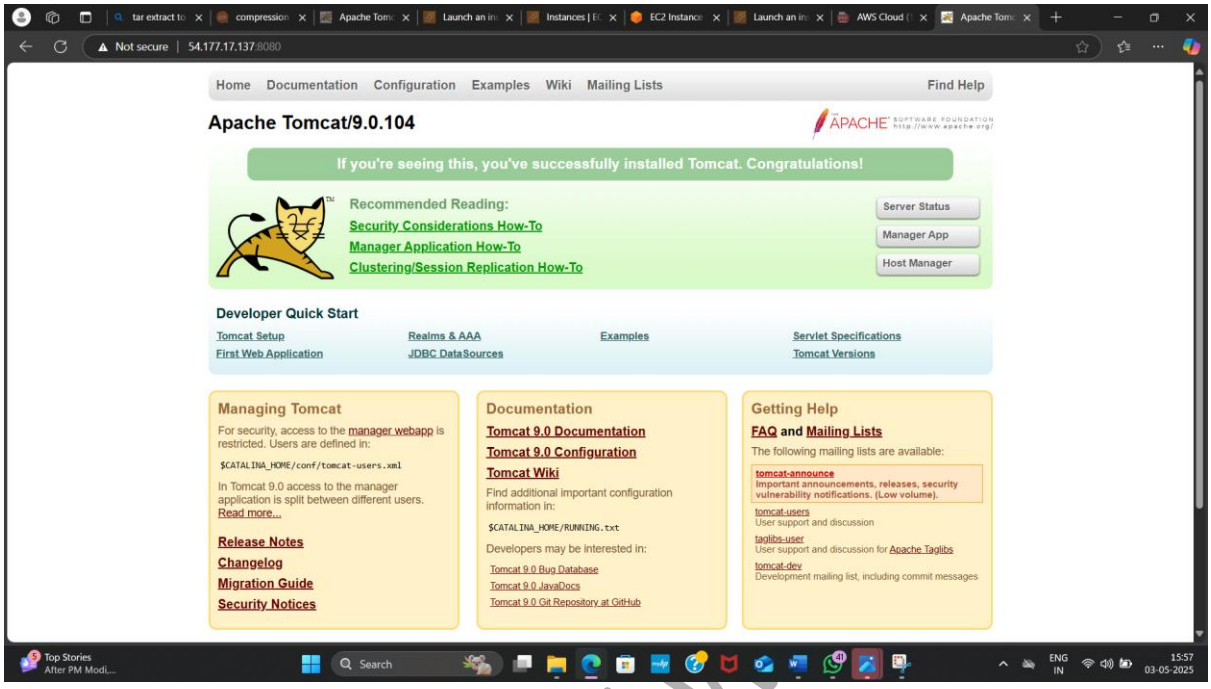

15. Now to run/start tomcat the script type sh startup.sh.




16. Now copy the ip address.



17. Paste this IP address in chrome to access the tomcat along with tomcat port number 8080.

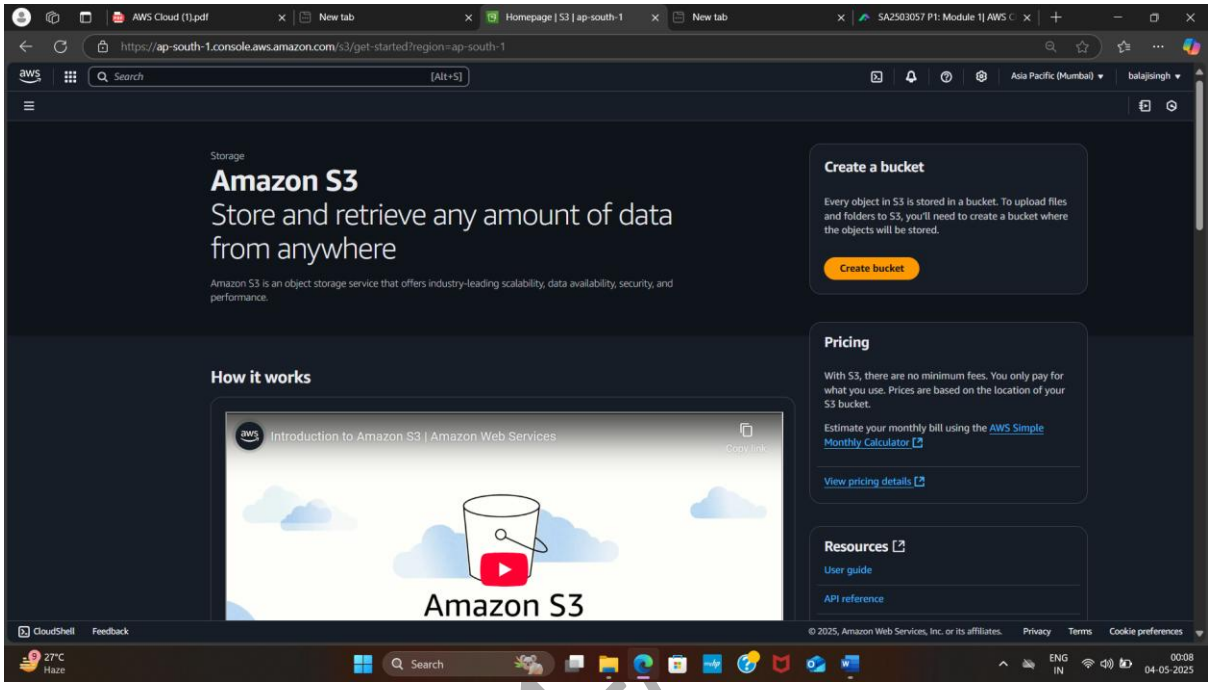



L5 completed

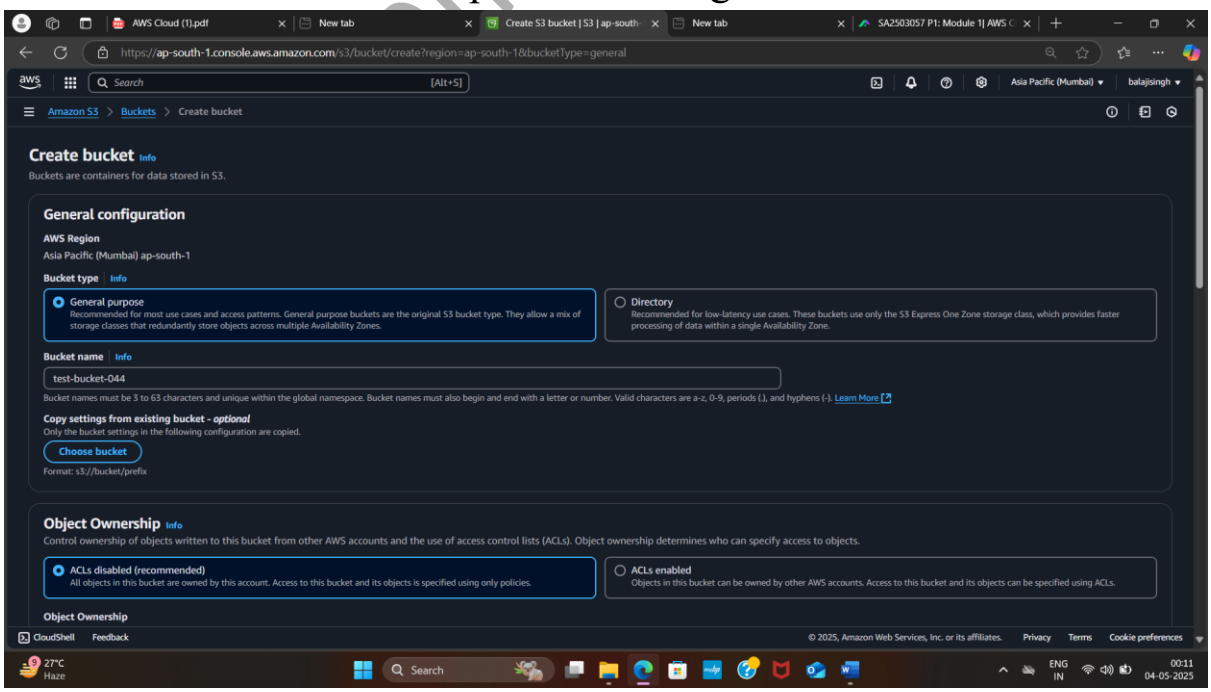
L6 - Create S3 Bucket and add folders and files.

Steps:

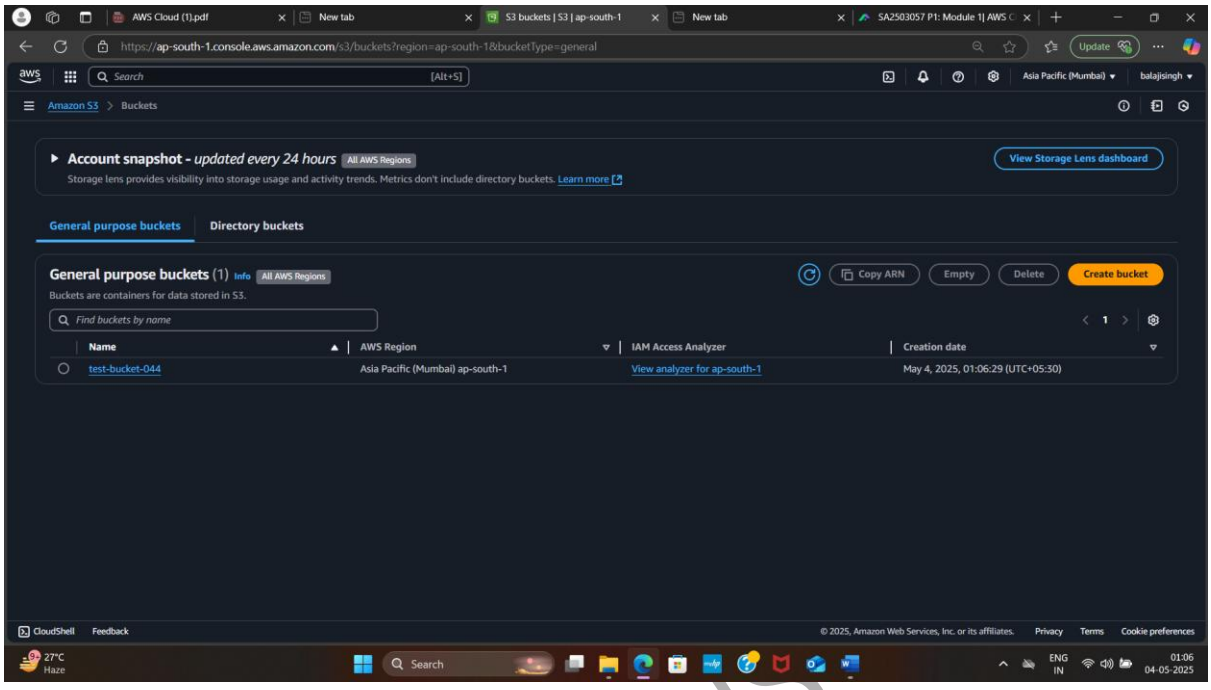
1. Search for s3 and open click on create bucket.



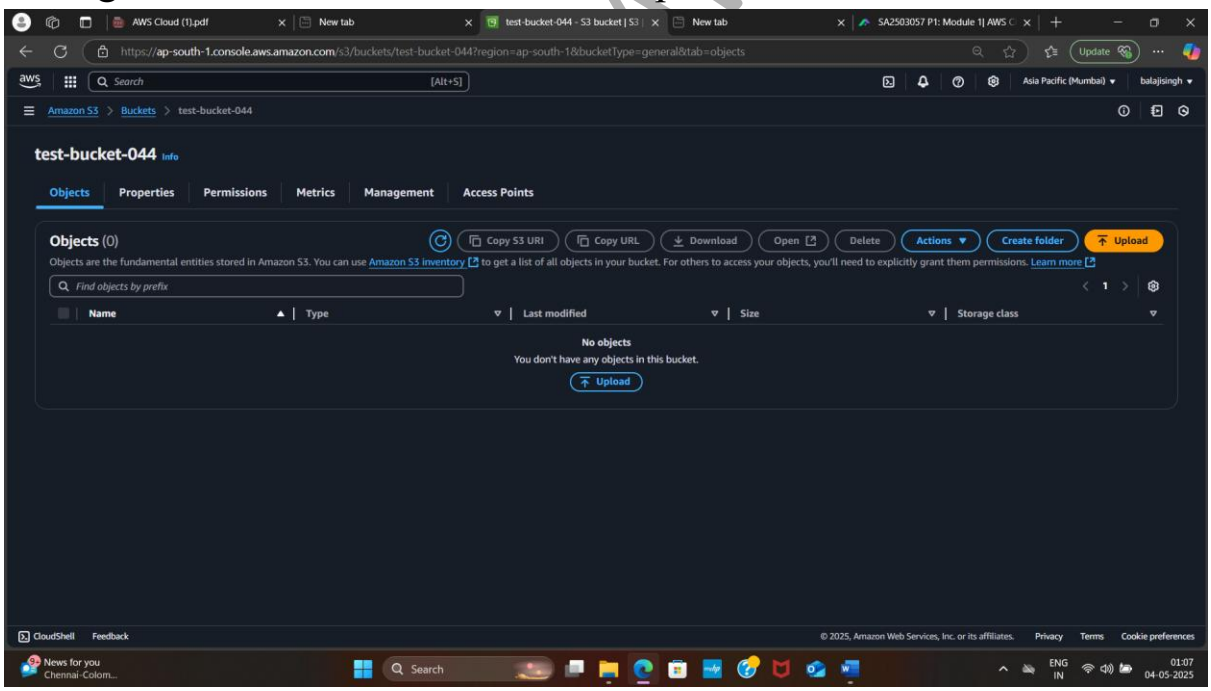

2. Now in configuration choose for general purpose and give a unique name to the bucket and keep all the settings default.



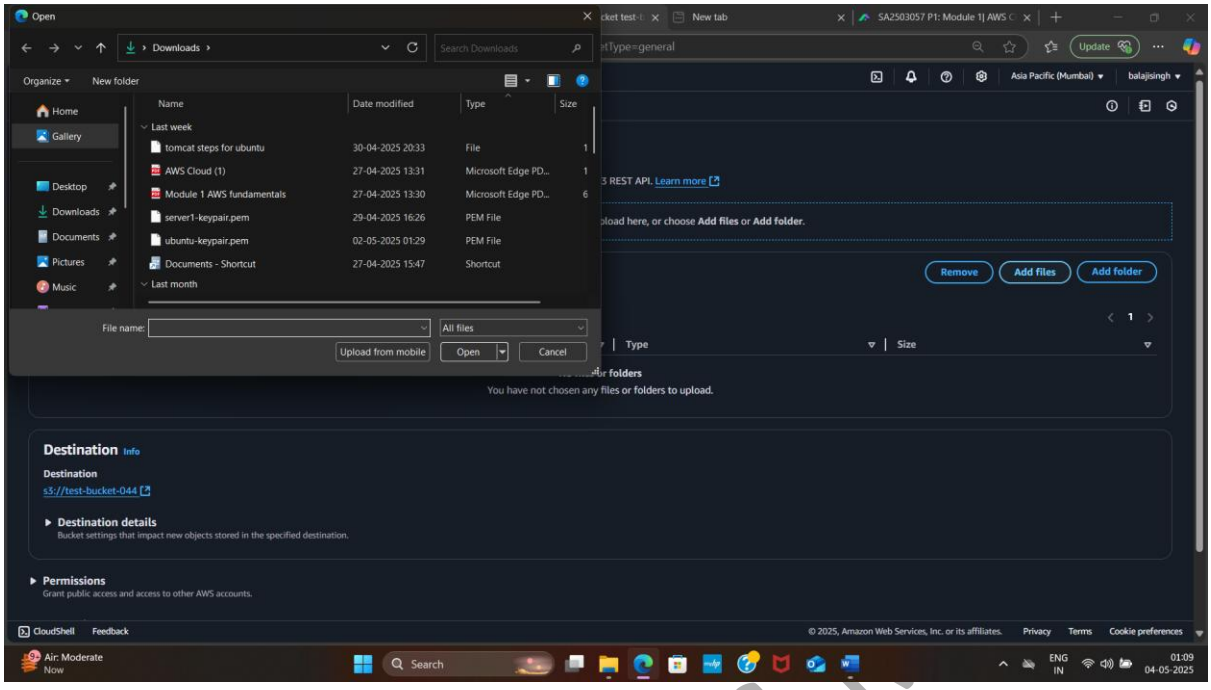
3. Bucket has been created.

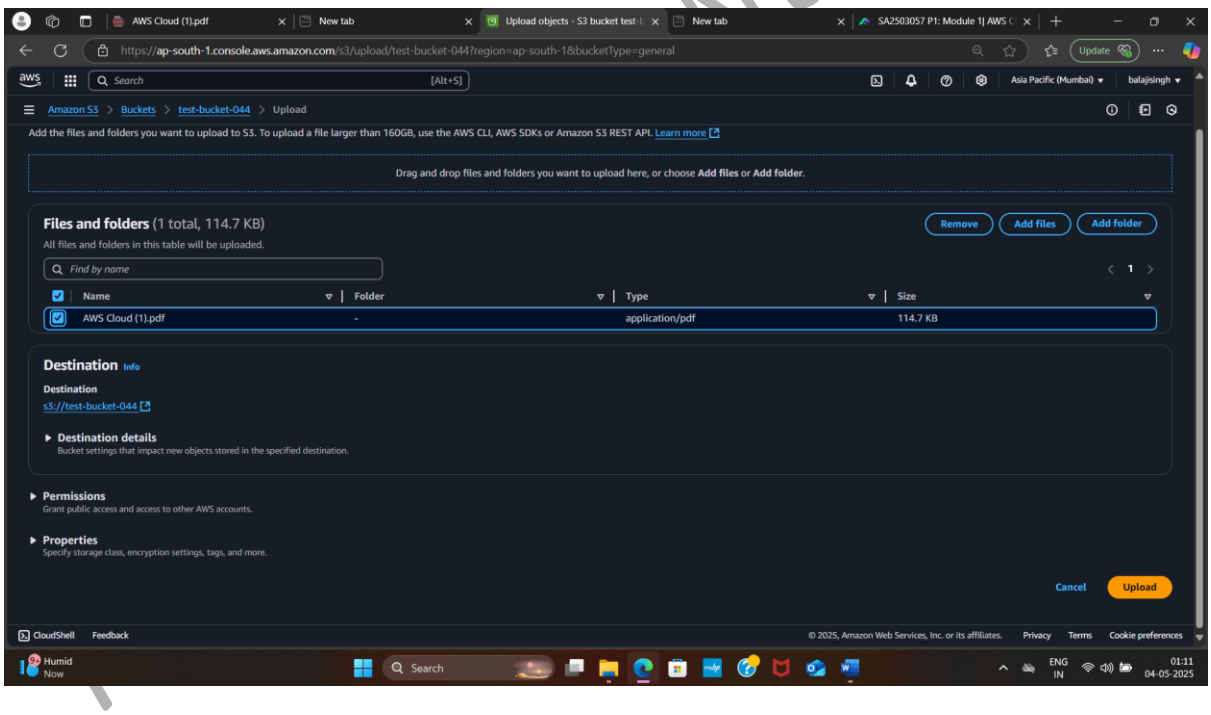



4. Now go into the bucket and click on upload to add the files in bucket.

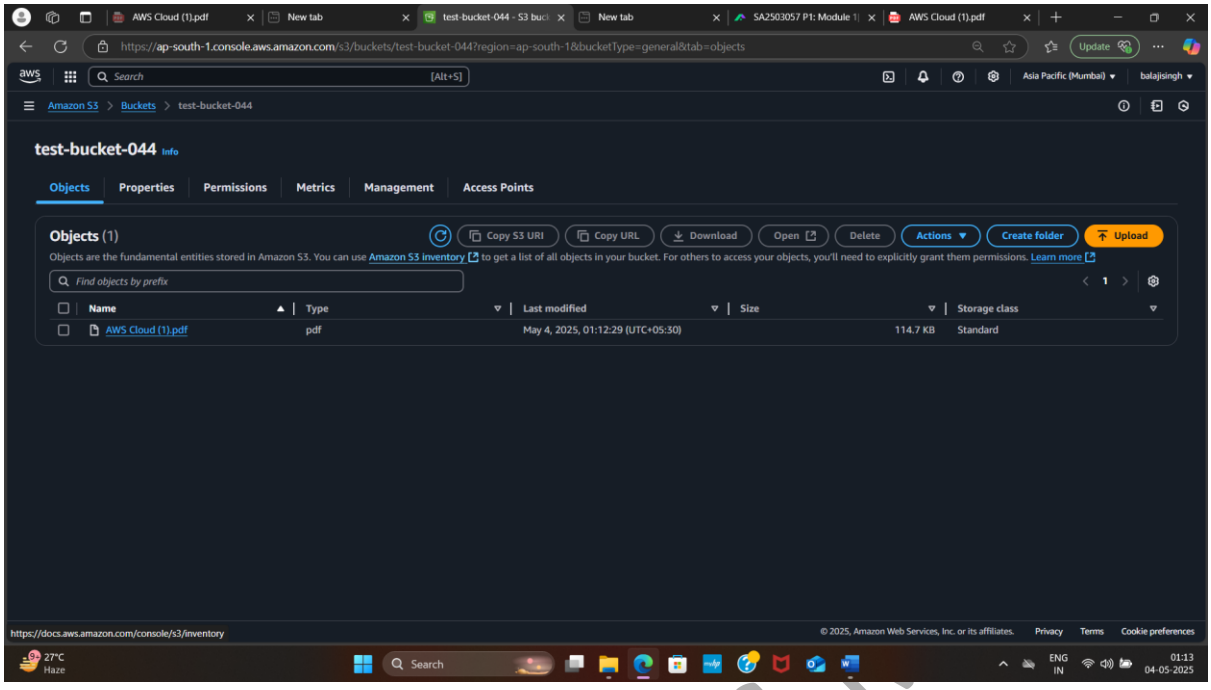



5. Now choose the files that you want upload and click on upload.

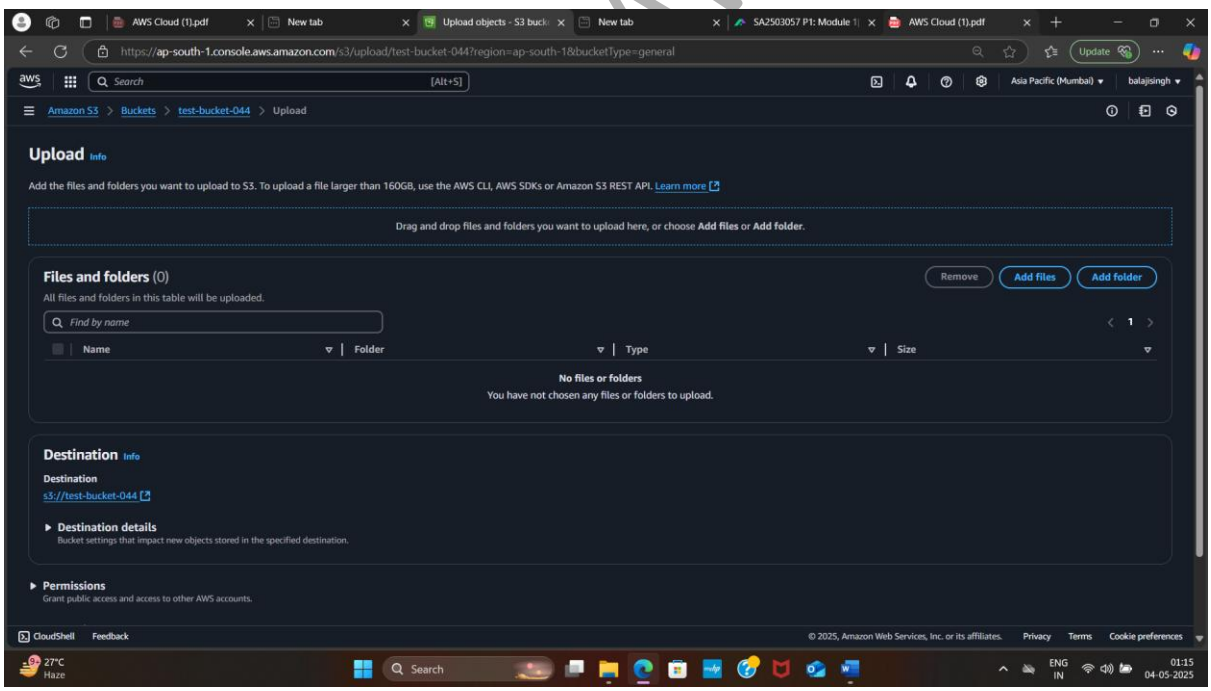


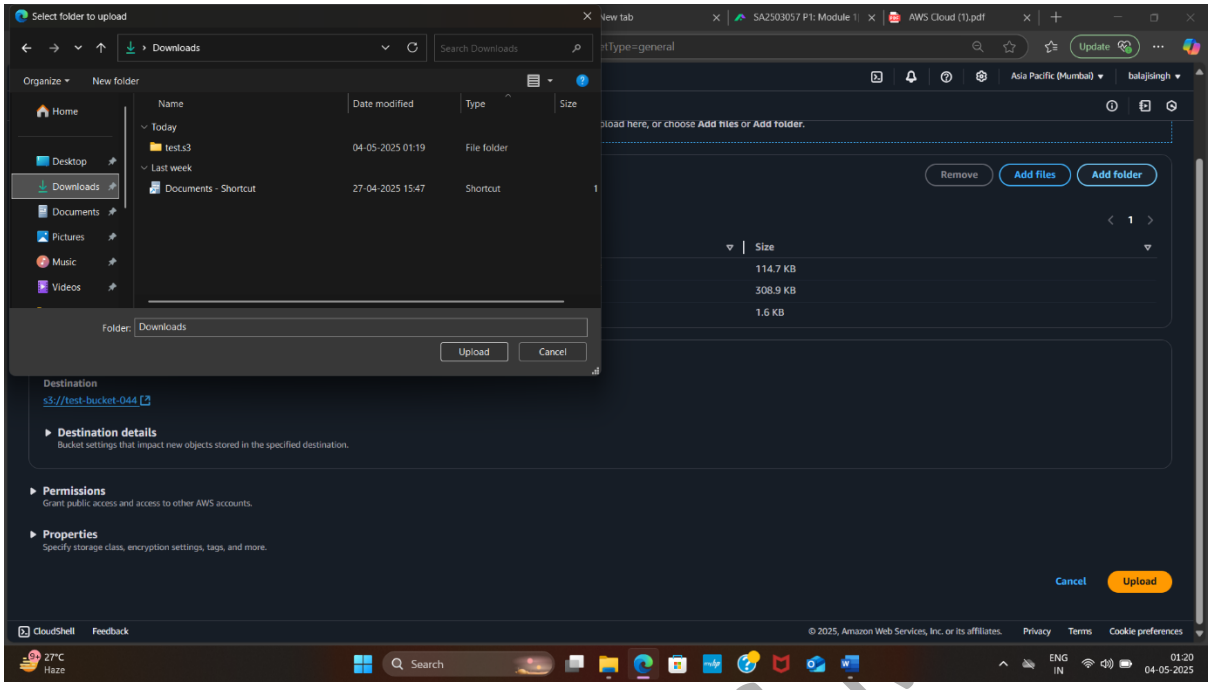

6. Object has been uploaded.



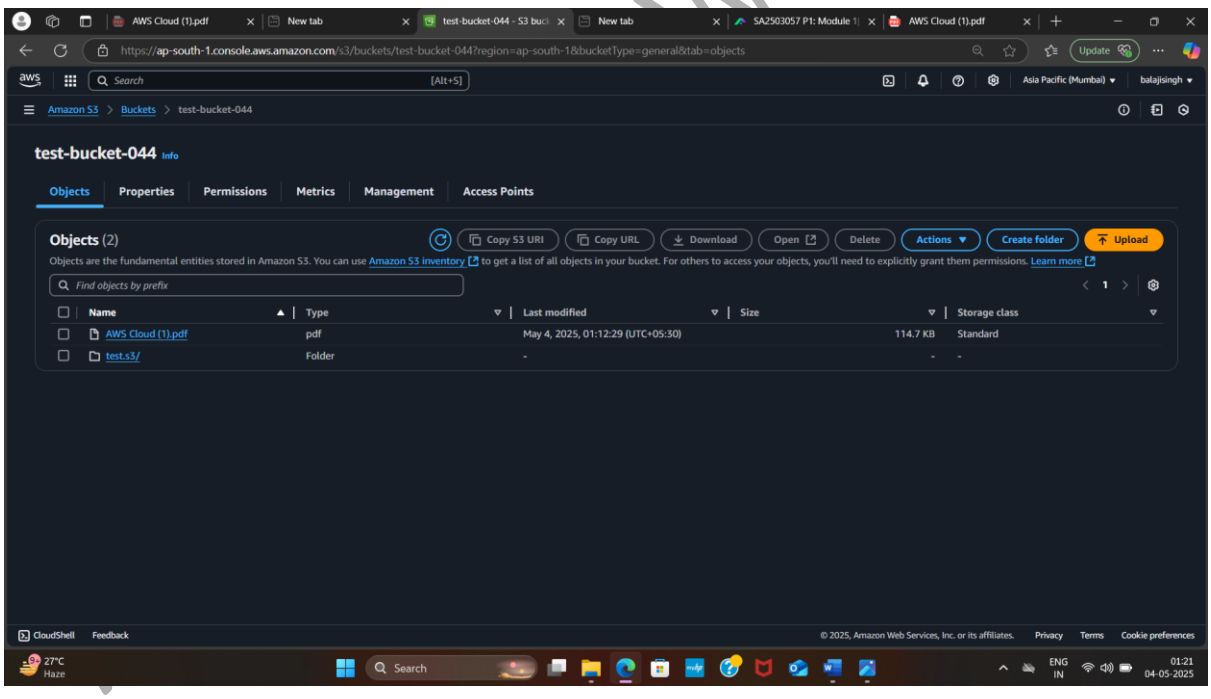

7. Now to add files again go to the bucket and click on upload then click on add folder.



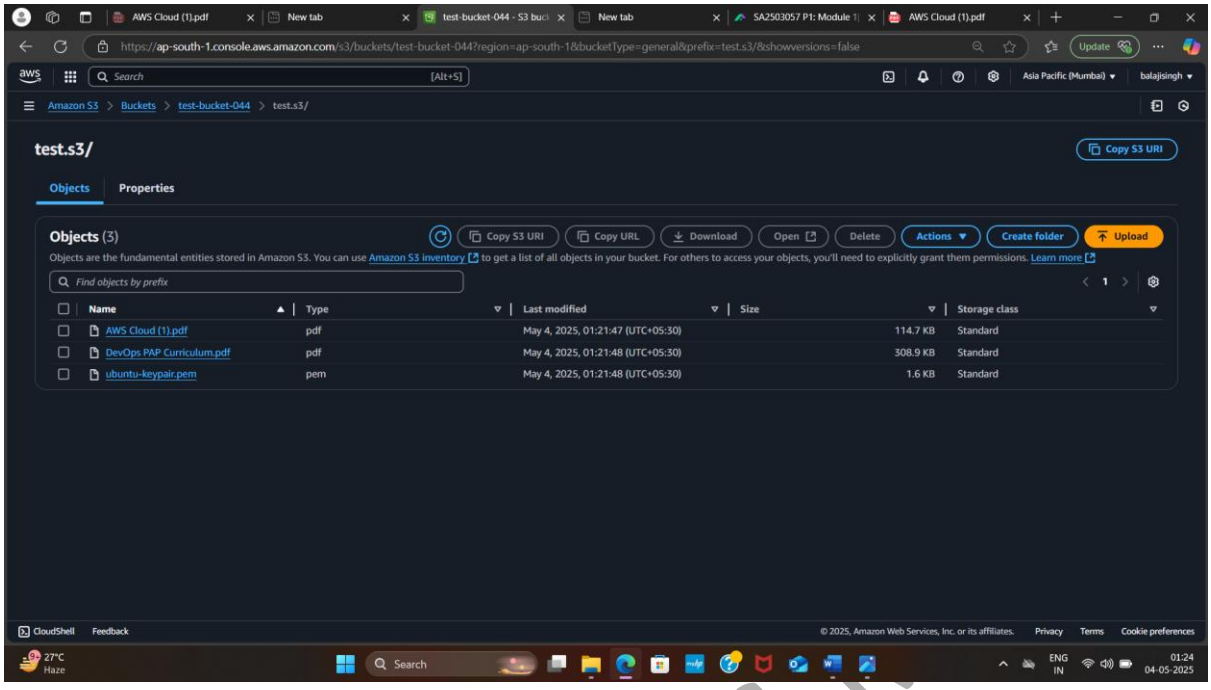

8. Now choose the folder that you want to add.




9. The folder has been uploaded.




10. To see the object in the folder click on the folder.




L6 completed