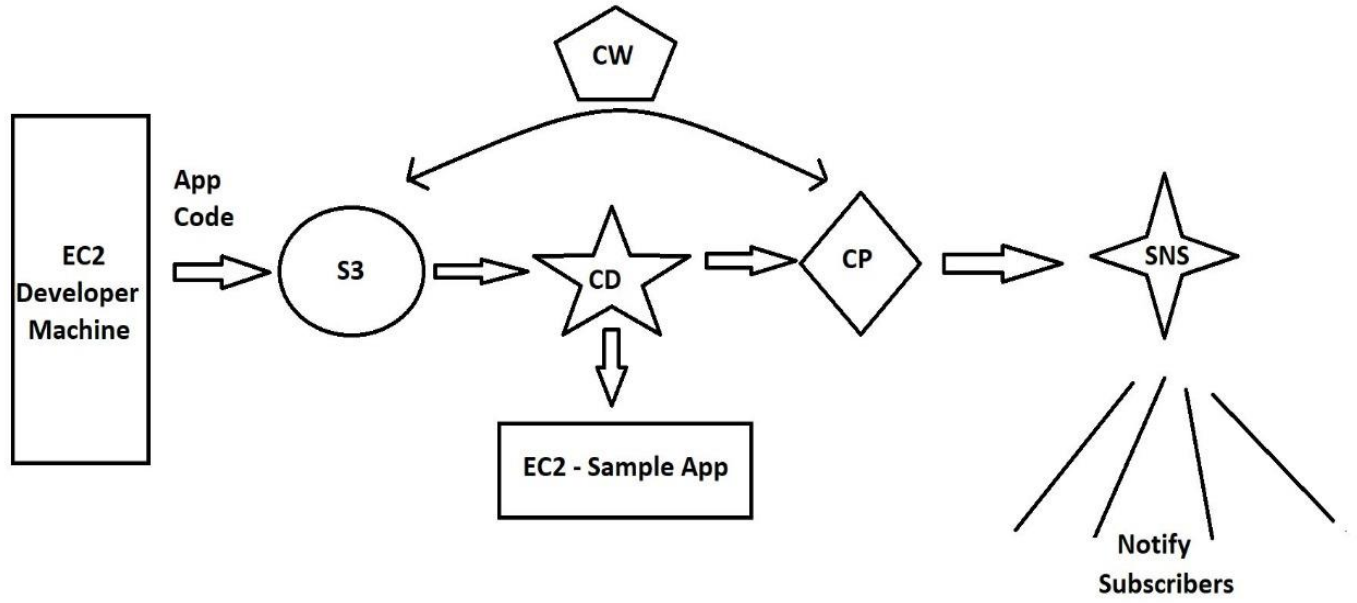
AWS Code Deploy & Code Pipeline Project

Project Design:



Code Deploy:

"Code Deploy" is a deployment service from AWS which can automate application deployments to Amazon EC2 instances, on-premises instances or Lambda functions. This does a onetime deployment, for scheduling of deployment you may have to use AWS "Code Pipeline" also.

Code Pipeline:

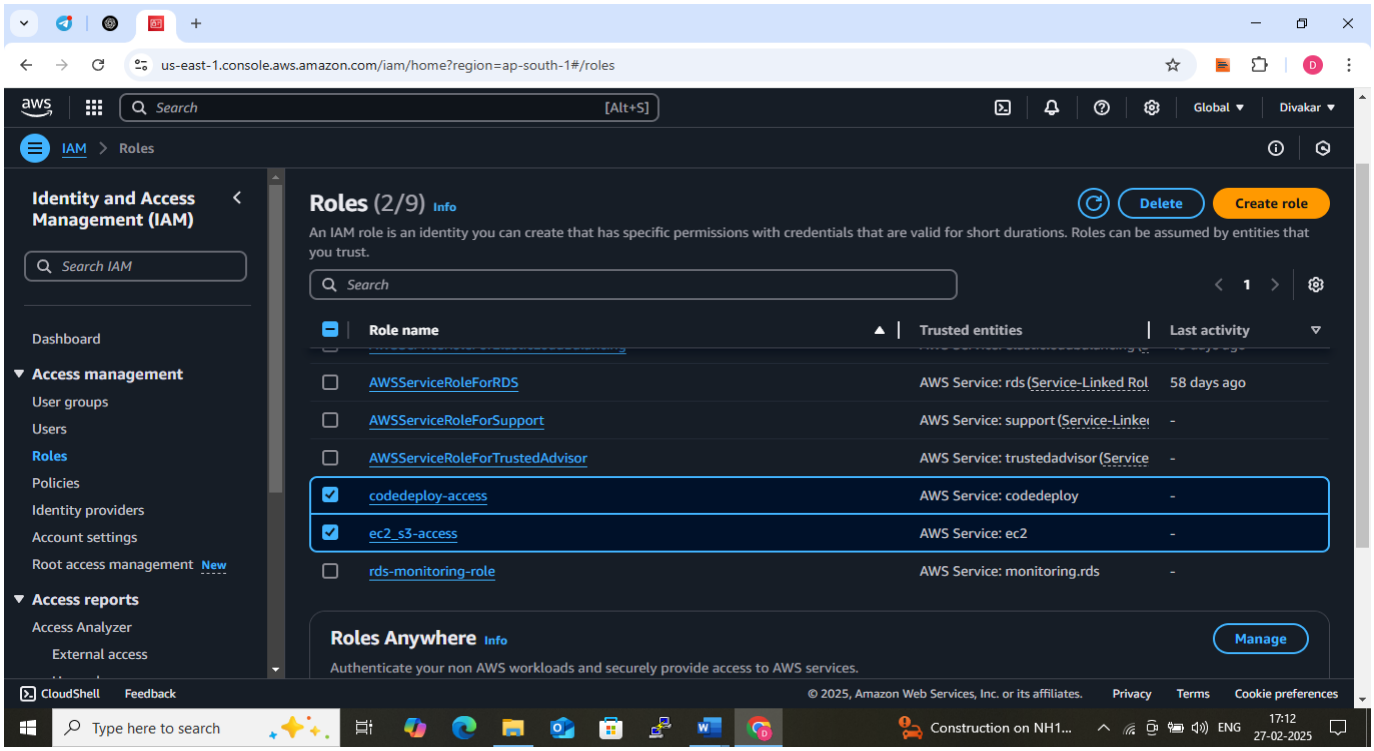
AWS "Code Pipeline" is a continuous delivery service for software releases. Code Pipeline can automate the process of software deployment and releases.

Project Overview:

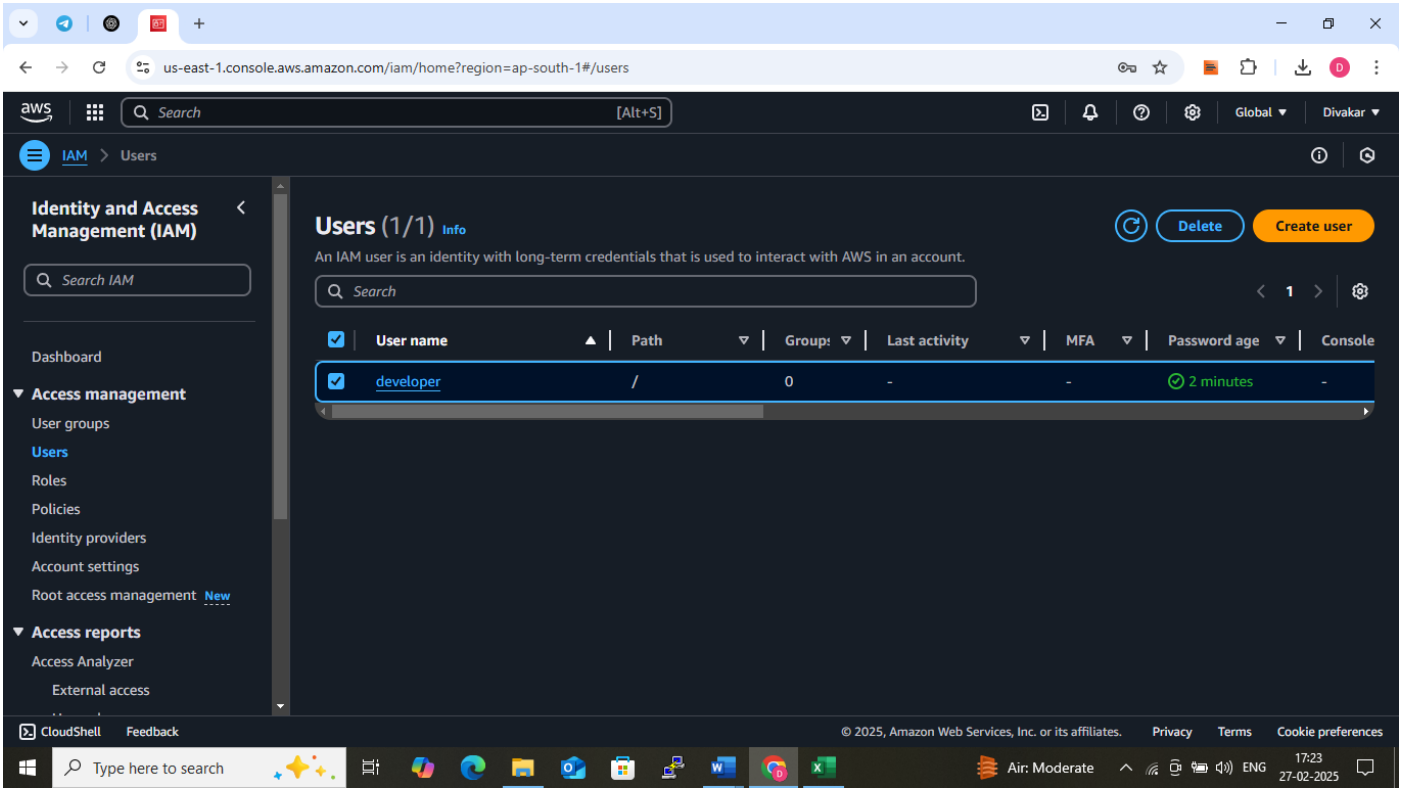
I use AWS Code Deploy along with AWS Code pipeline for this experiment. Initial version of the code in uploaded to the S3 bucket. Whenever new version is released, the only operation required by the developer is to upload the new version of the code to the same S3 bucket. Code Pipeline does the rest. It detects a new upload in the S3 bucket with help of CloudWatch and trigger the deployment to the target server (webserver in our case) using Code Deploy.

Steps Followed in this Project:

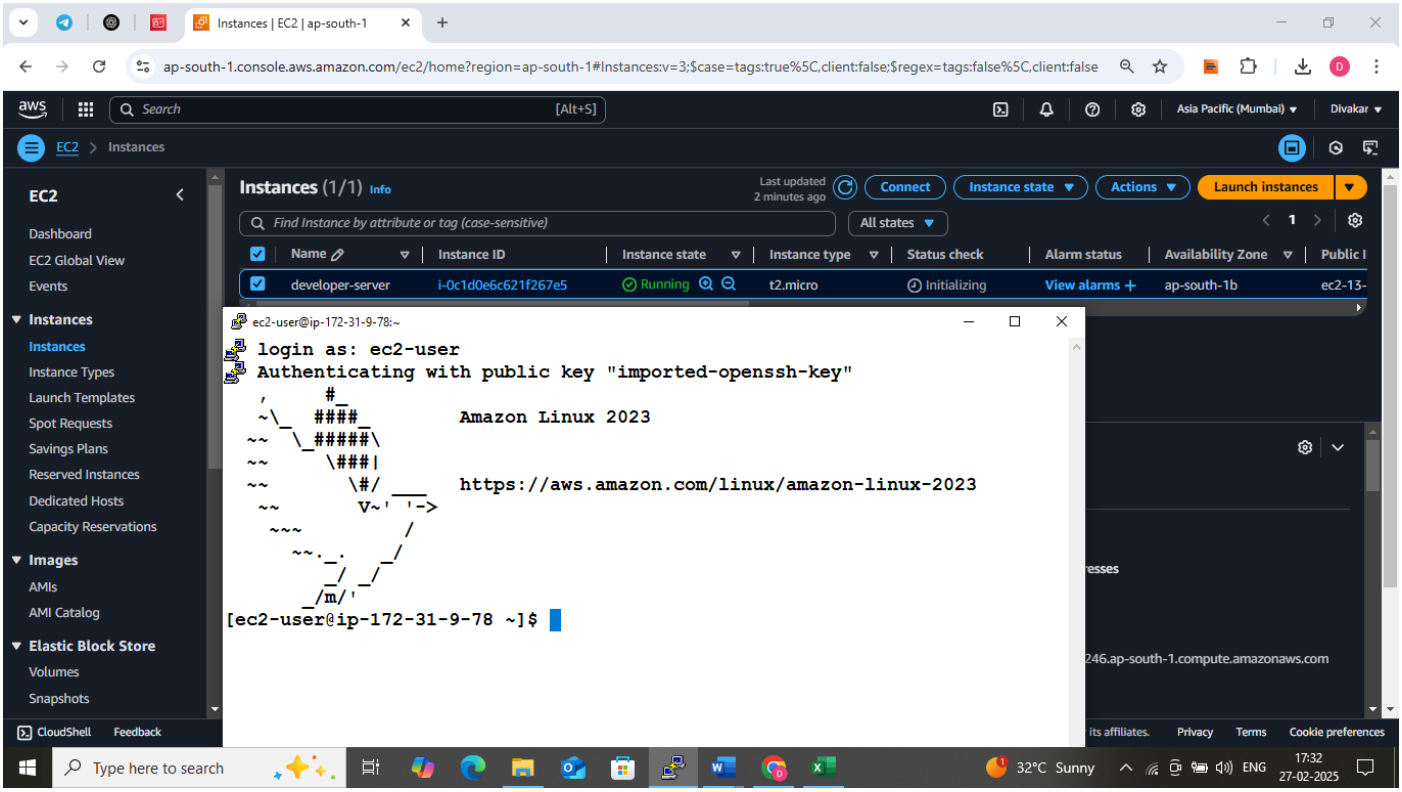
Step -1 ---> Create “two IAM Roles” for EC2-S3-CodeDeploy access.



Step-2 ---> Create IAM user account for developer to access “S3full access & Code Deploy full access”



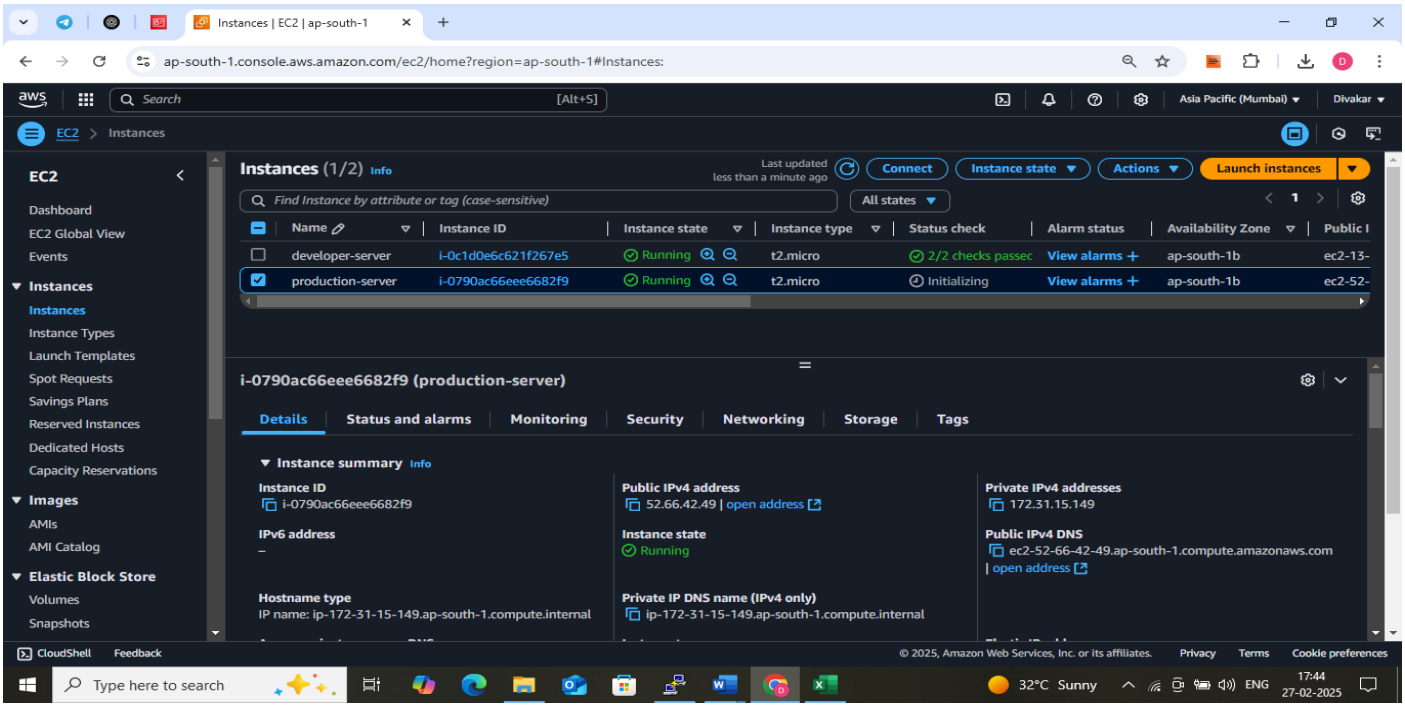
Step-3 ---> Launch a new EC2 instance. This is used by the Developer for the code creation and manual pushing of code to S3 bucket.



- Using “aws configure” command to connect with IAM user permission for “s3 bucket & code deploy”

Step-4 ---> Launch the EC2 instance. This is used for deploying webserver with Code Deploy.

- Create a Tag for the instance. The deployment group member ship for the EC2 instance is decided by this Tag. I have used AppName Tag with value SampleApp. open the port 80 and Attach the IAM Role “ec2 to s3”.

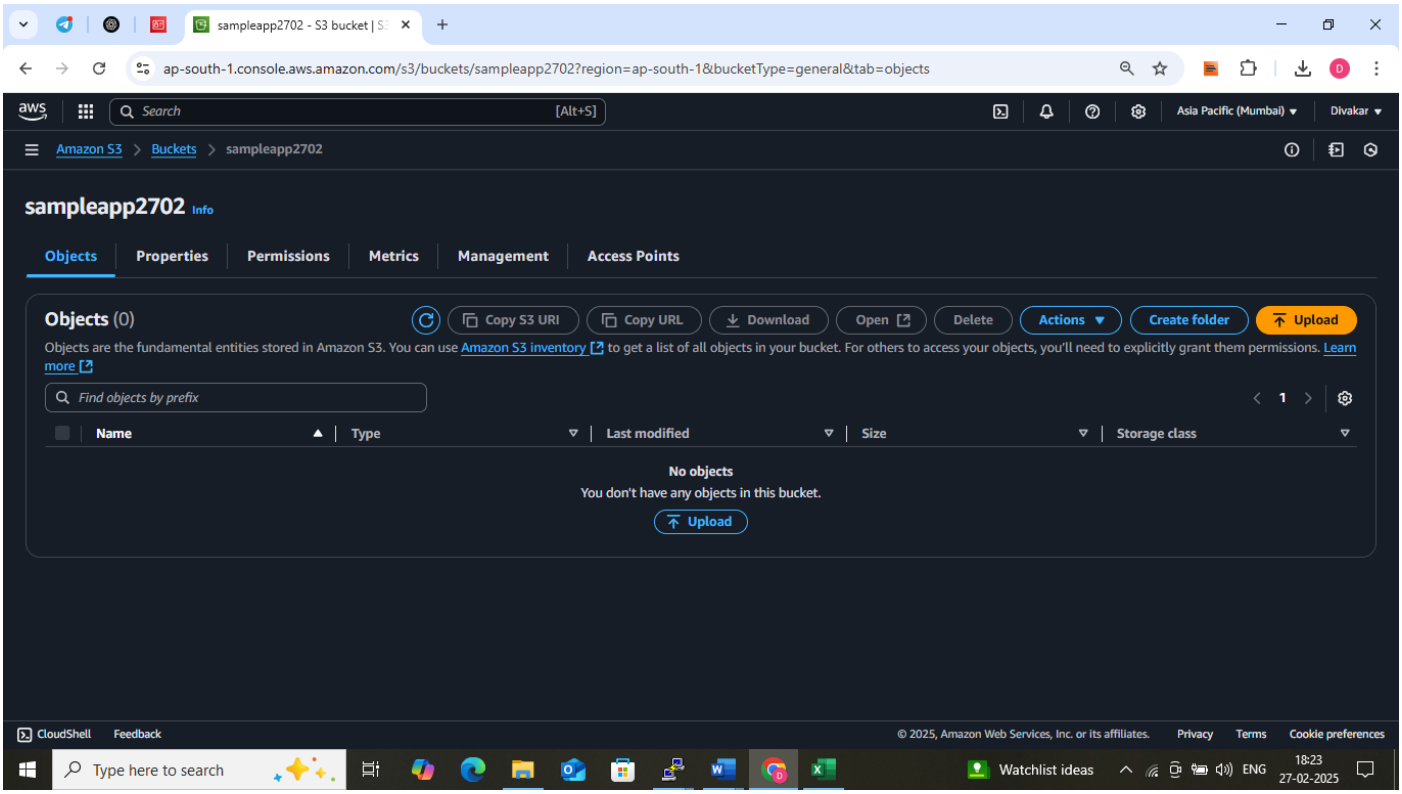


- Install CodeDeply agent software with the dependent software's.

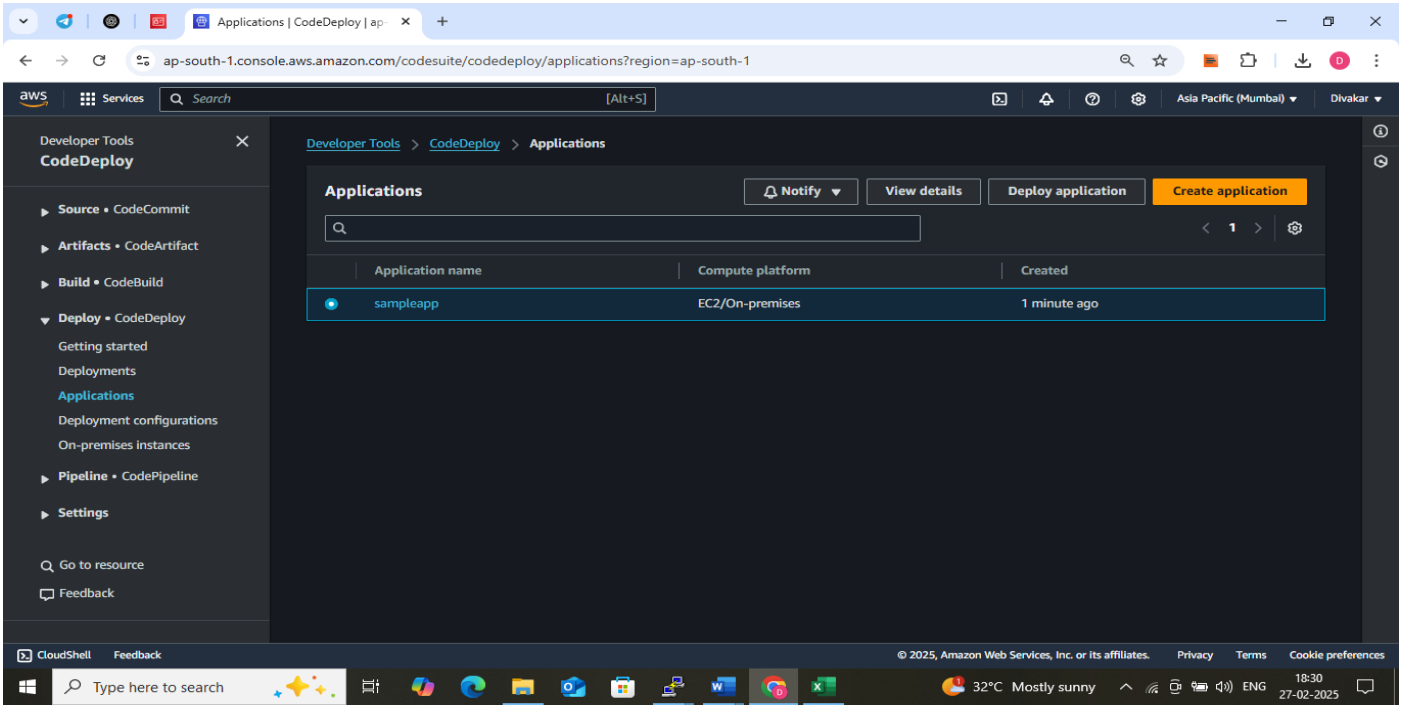
Step-5 ---> create sample code /root/deploy_dir/sampleapp/index.html and create /root/deploy_dir/sampleapp/appspec.yml it contains scripts.

- Create scripts directory which contains "httpd_install.sh httpd_start.sh httpd_stop.sh" files.

Step-6 ---> Create S3 bucket for uploading the code "name= sampleapp2702"

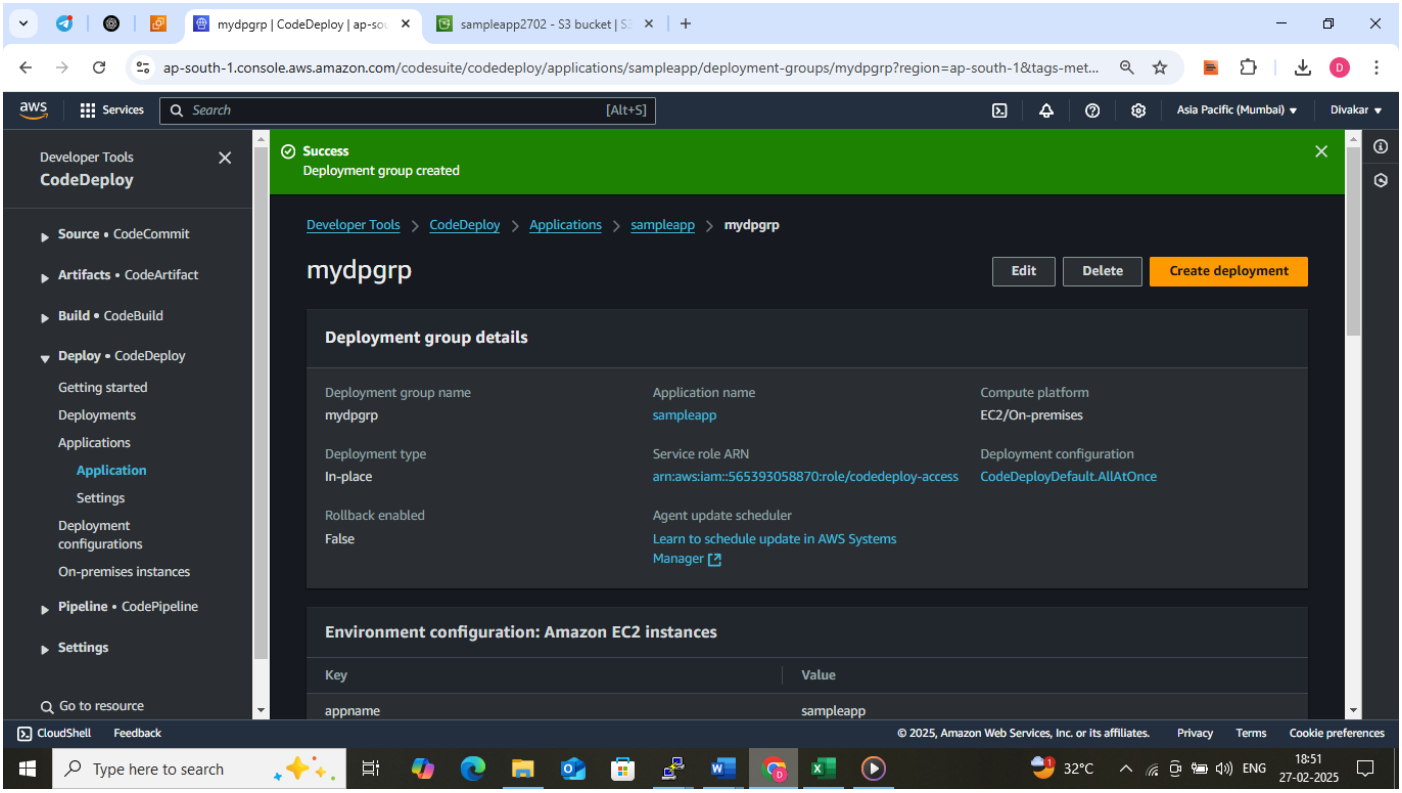


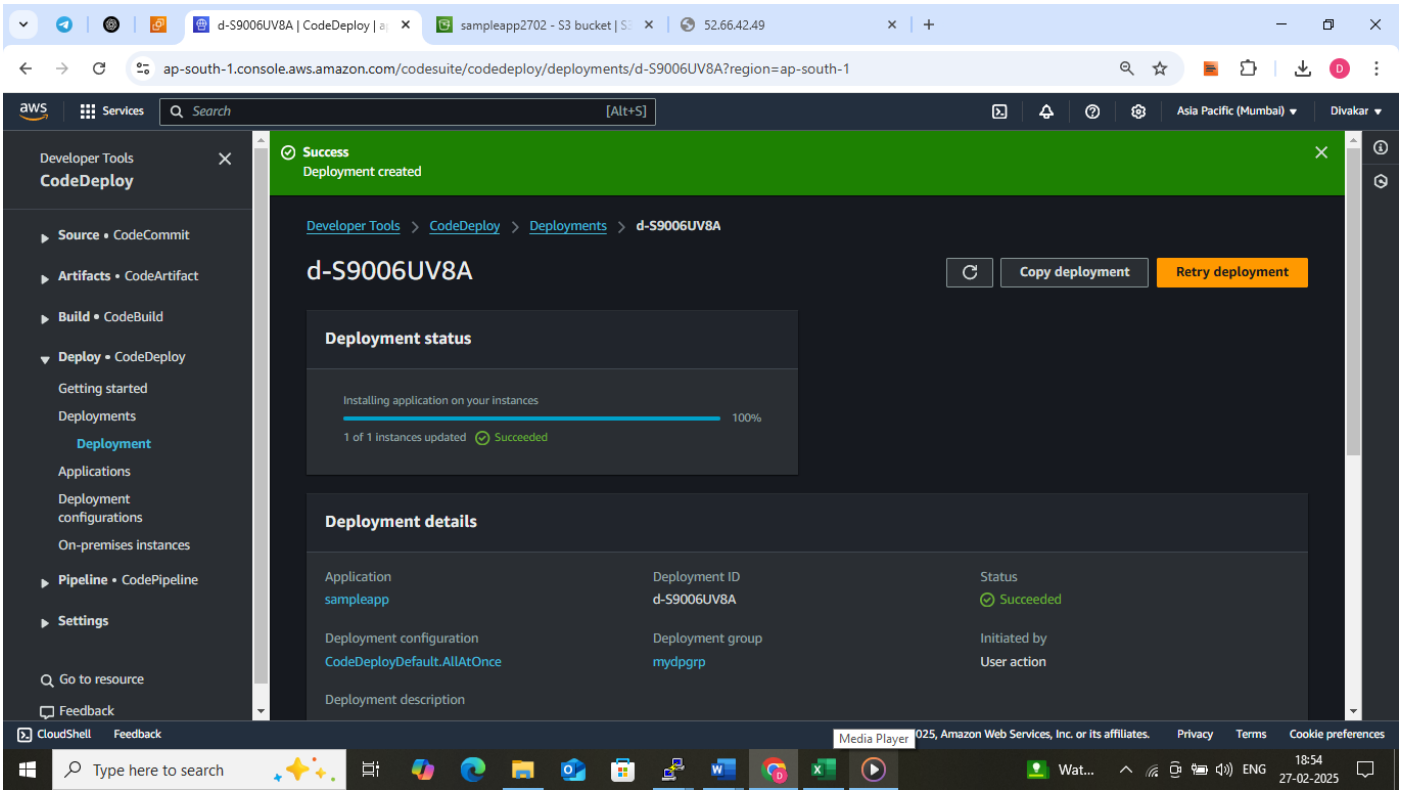
Step-7 ---> Create Application using "aws cli commands" in developer machine "sampleapp directory" it will create a app in the codedeploy console.



- Now upload the code to S3 by the executing the command, “aws deploy push --application-name sampleapp --s3-location s3://sampleapp2702/sampleapp.zip”

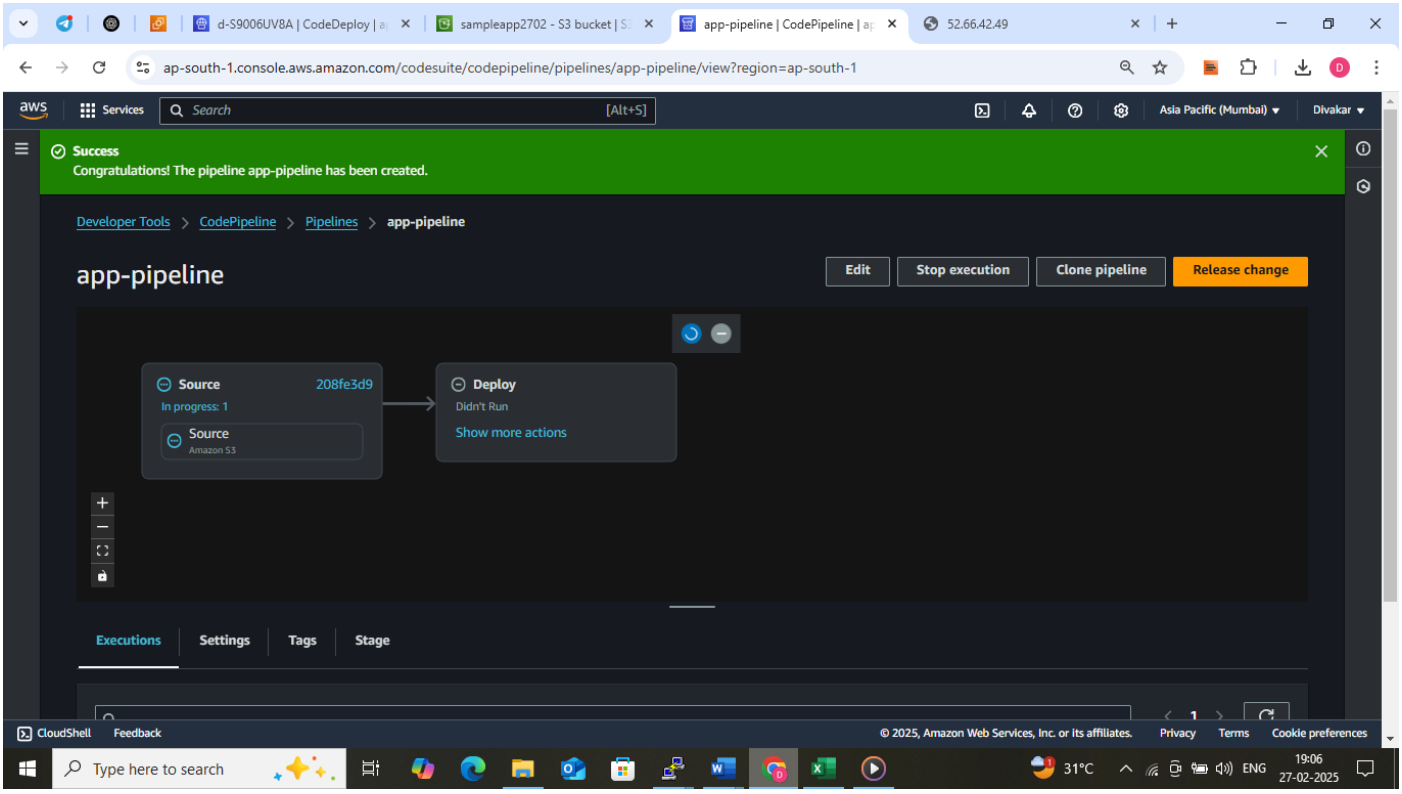
Step-8 ---> Create Deployment Group to include webserver “mydpgrp”

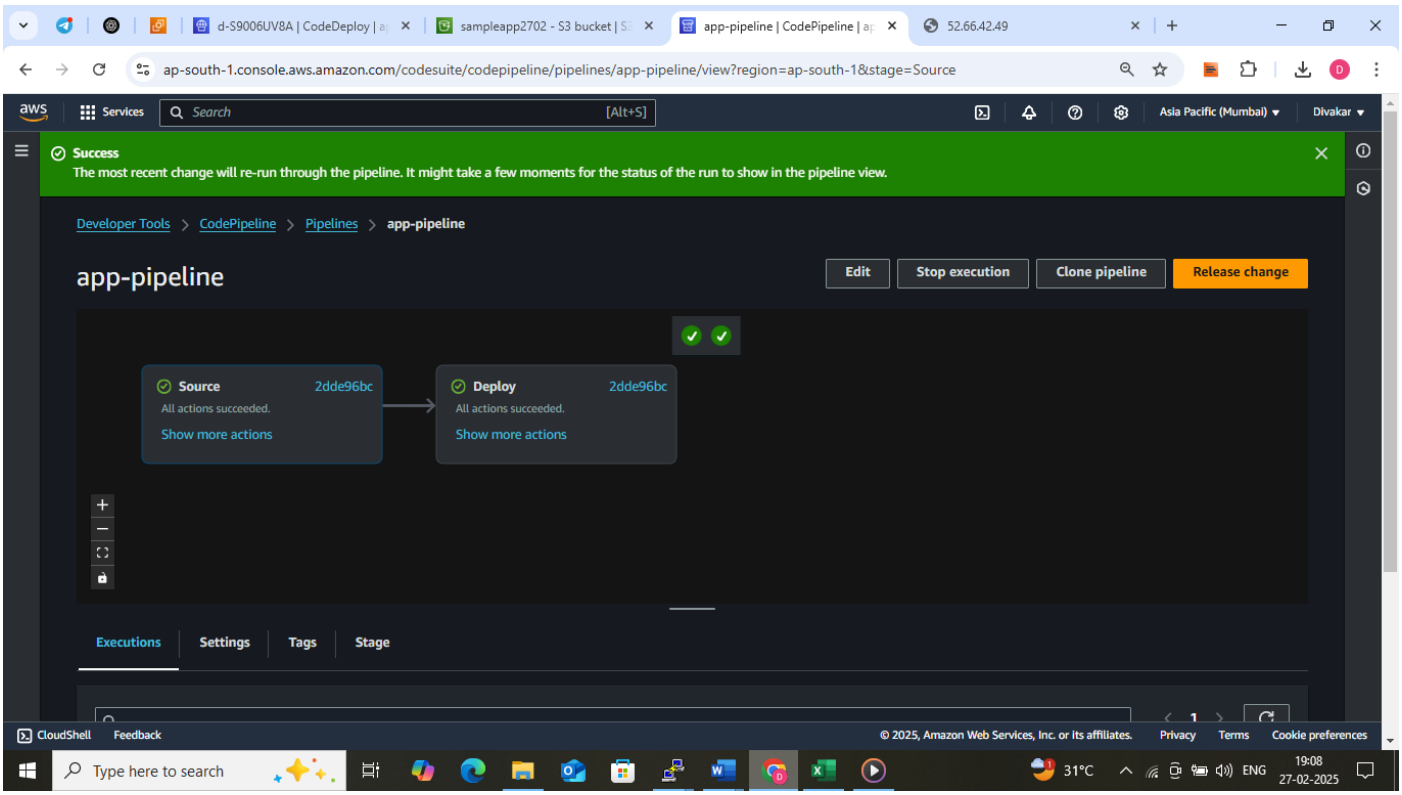




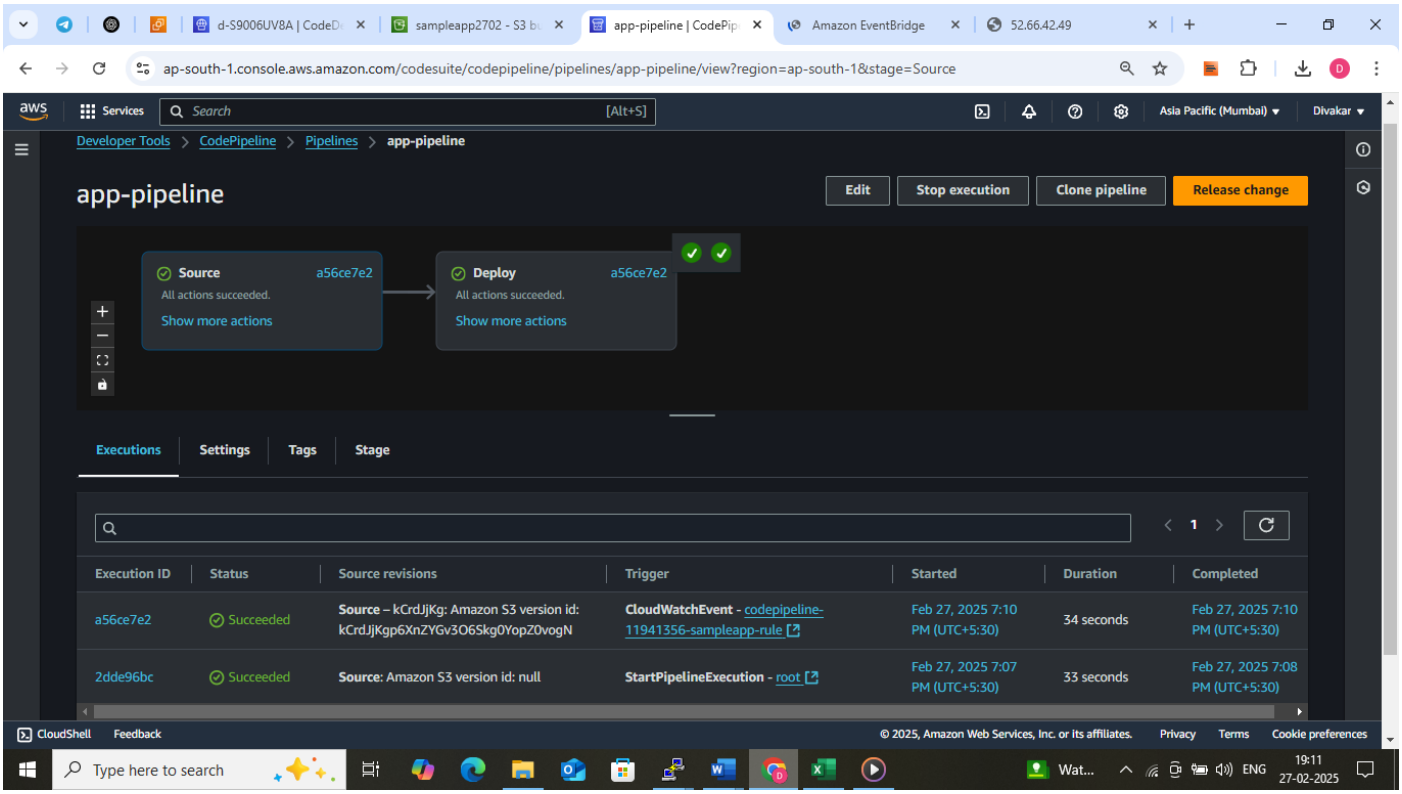
Automate the deployment using Code Pipeline

Step-1 ---> create a Code Pipeline





- If any code chages happened in s3 bucket it will automatically deploy the website.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Developer Tools > CodePipeline > Pipelines > app-pipeline
app-pipeline
Edit
Stop execution
Clone pipeline
Release change
Source a56ce7e2
All actions succeeded.
Show more actions
Deploy a56ce7e2
All actions succeeded.
Show more actions
Executions
Settings
Tags
Stage
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Status
Source revisions
Trigger
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Duration
Completed
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Succeeded
Source – kCrdJjKg: Amazon S3 version id: kCrdJjKgp6XnZYGv3O6Skg0YopZ0vogN
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Feb 27, 2025 7:08 PM (UTC+5:30)
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