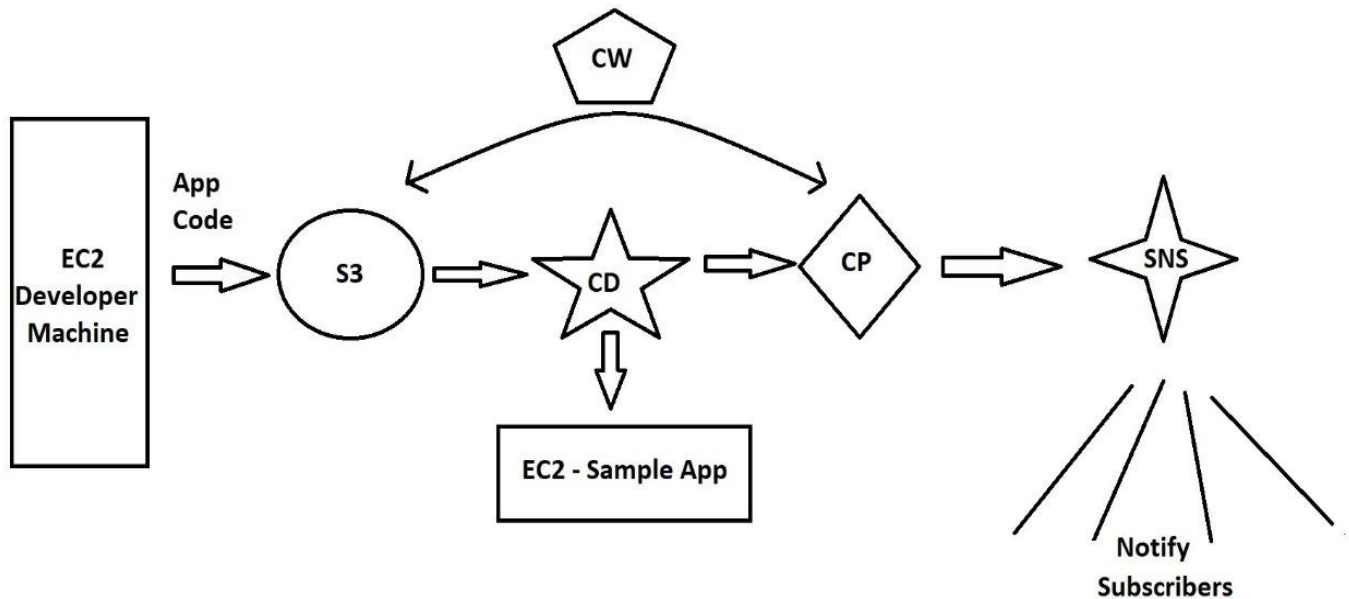


AWS Code Deploy & Code Pipeline Project

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:

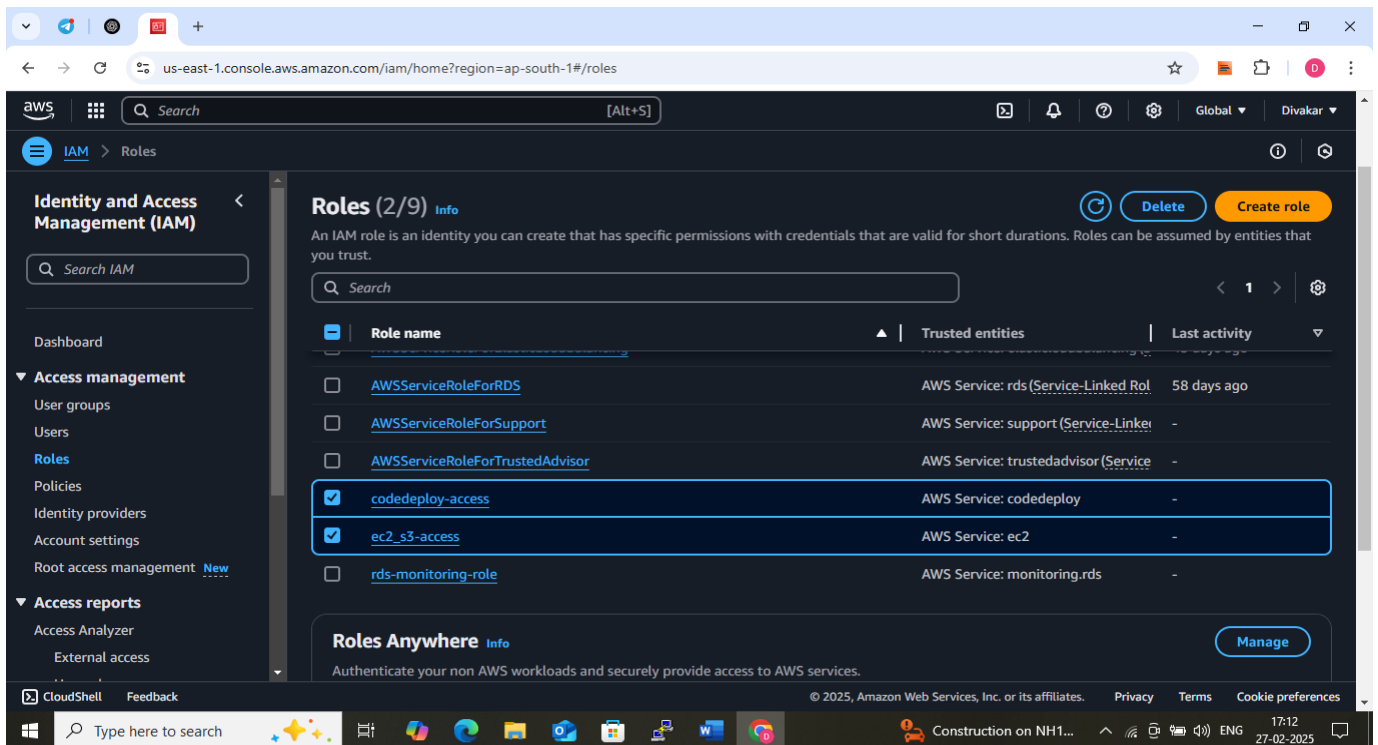
AWS “Code Pipeline” is a continuous delivery service for software releases. Code Pipeline can automate the process of software deployment and releases.

Project Overview:

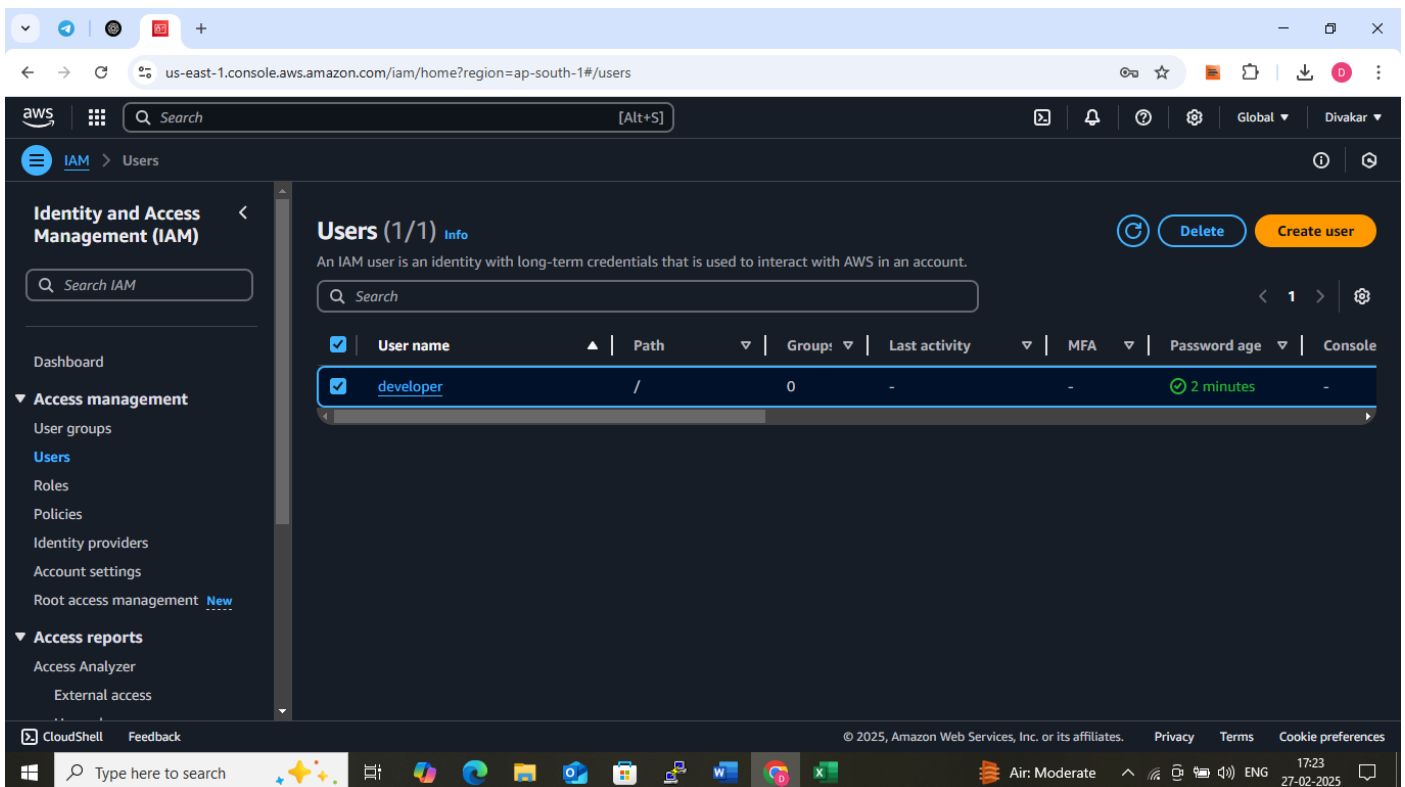
I use AWS Code Deploy along with AWS Code pipeline for this experiment. Initial version of the code in uploaded to the S3 bucket. Whenever new version is released, the only operation required by the developer is to upload the new version of the code to the same S3 bucket. Code Pipeline does the rest. 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:

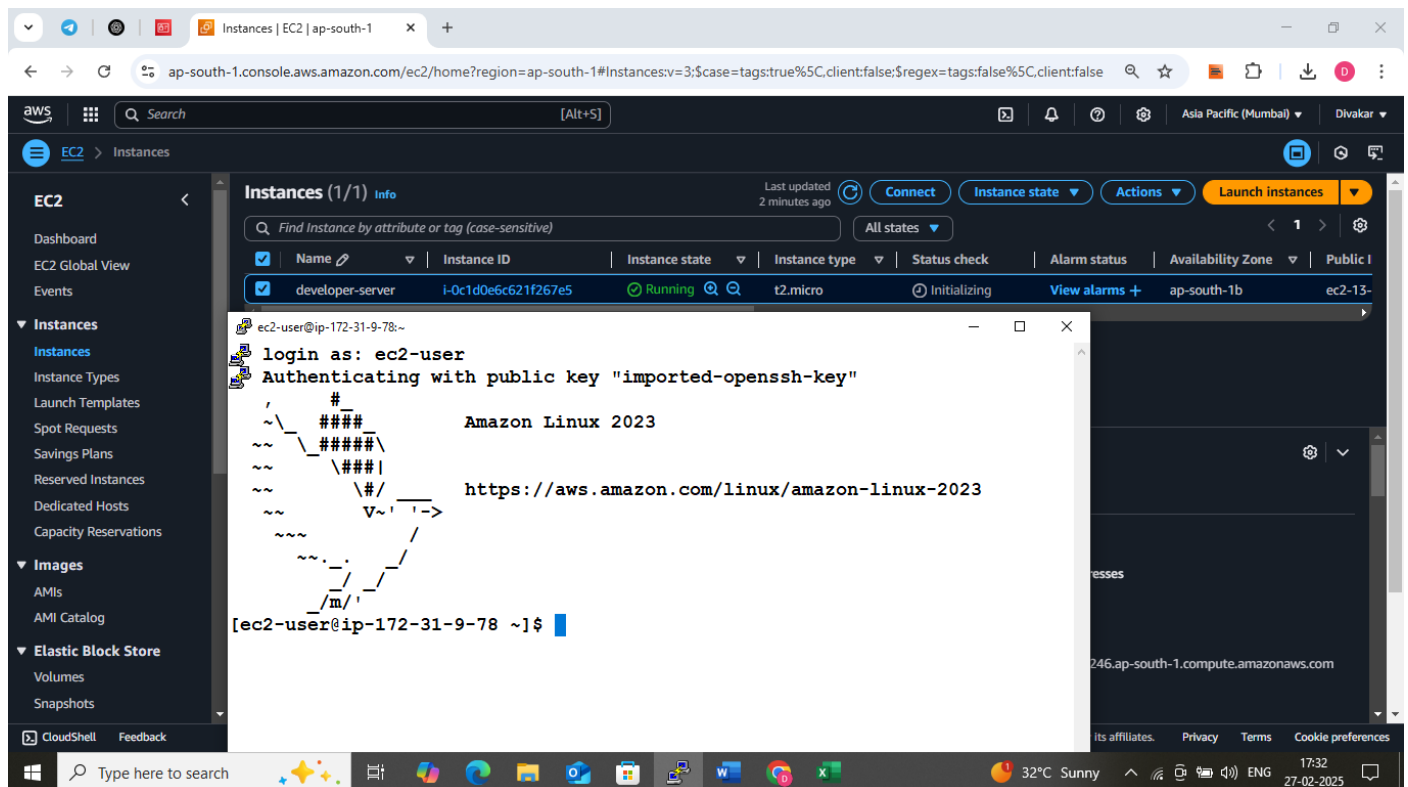
Step -1 ---> Create “two IAM Roles” for EC2-S3-CodeDeploy access.



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



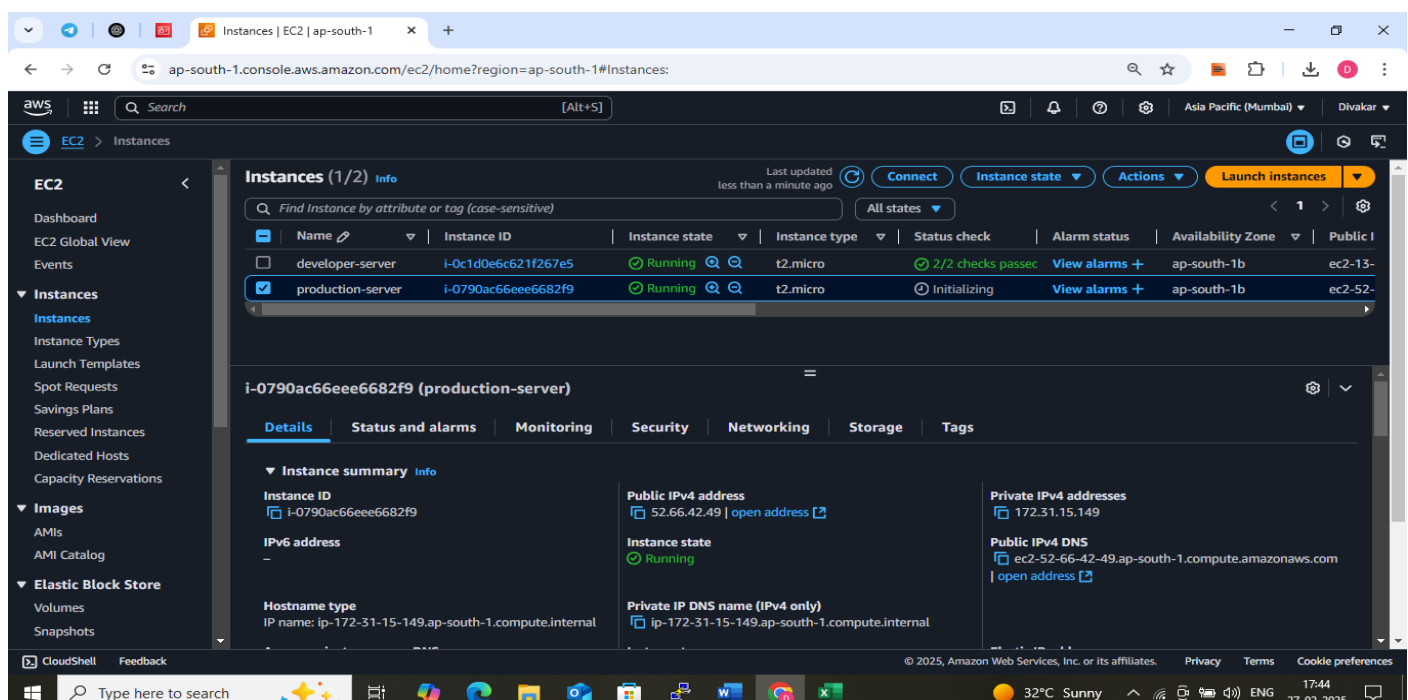
Step-3 ---> Launch a new EC2 instance. This is used by the Developer for the code creation and manual pushing of code to S3 bucket.



- 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”.

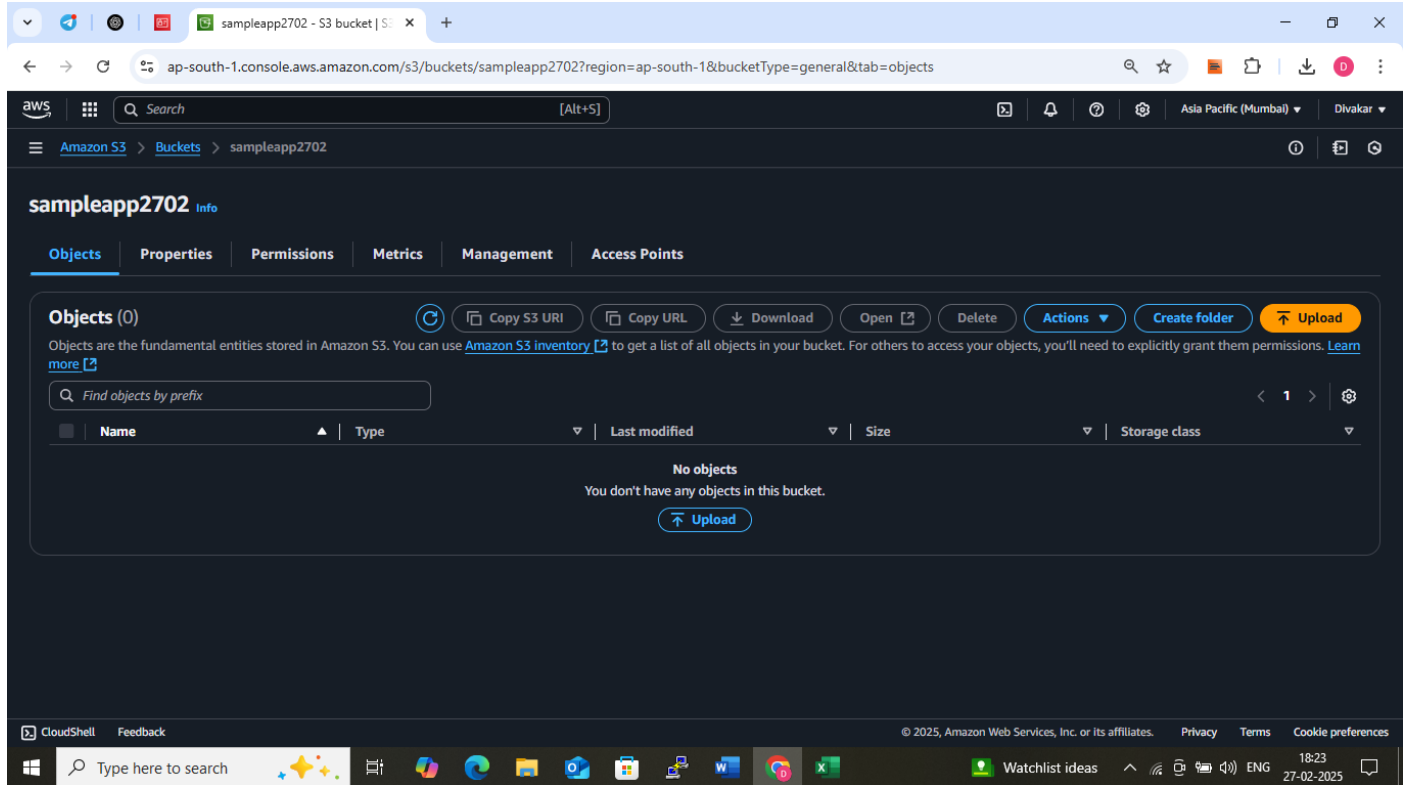


- Install **CodeDeploy** agent software with the dependent software's.

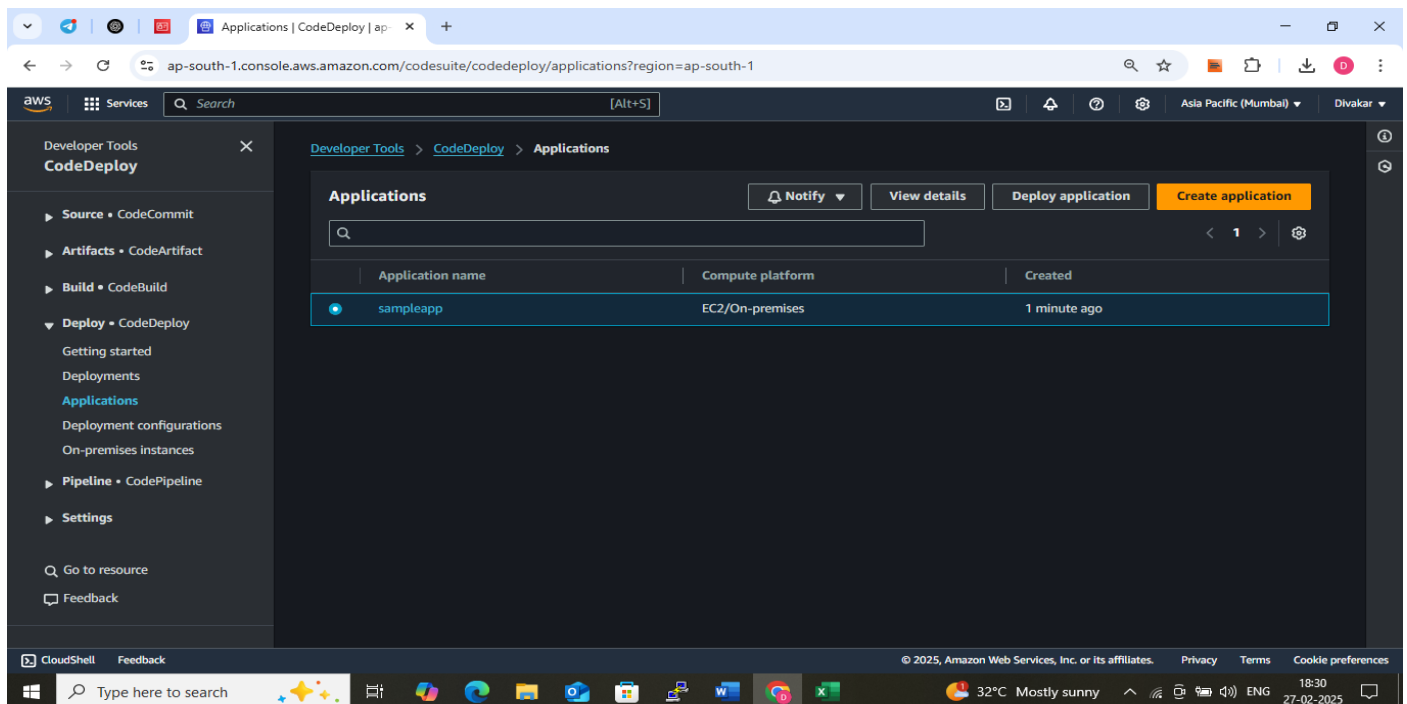
Step-5 ---> create sample code **/root/deploy_dir/sampleapp/index.html** and create **/root/deploy_dir/sampleapp/appspec.yml** it contains scripts.

- 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"

The screenshot shows the AWS CodeDeploy console in the 'ap-south-1' region. A green banner at the top indicates 'Success: Deployment group created'. The breadcrumb trail is 'Developer Tools > CodeDeploy > Applications > sampleapp > mydpgrp'. The page title is 'mydpgrp'. There are buttons for 'Edit', 'Delete', and 'Create deployment'. The 'Deployment group details' section shows:

Deployment group name	mydpgrp	Application name	sampleapp	Compute platform	EC2/On-premises
Deployment type	In-place	Service role ARN	arn:aws:iam::565393058870:role/codedeploy-access	Deployment configuration	CodeDeployDefault.AllAtOnce
Rollback enabled	False	Agent update scheduler	Learn to schedule update in AWS Systems Manager		

The 'Environment configuration: Amazon EC2 instances' section shows a table with one instance:

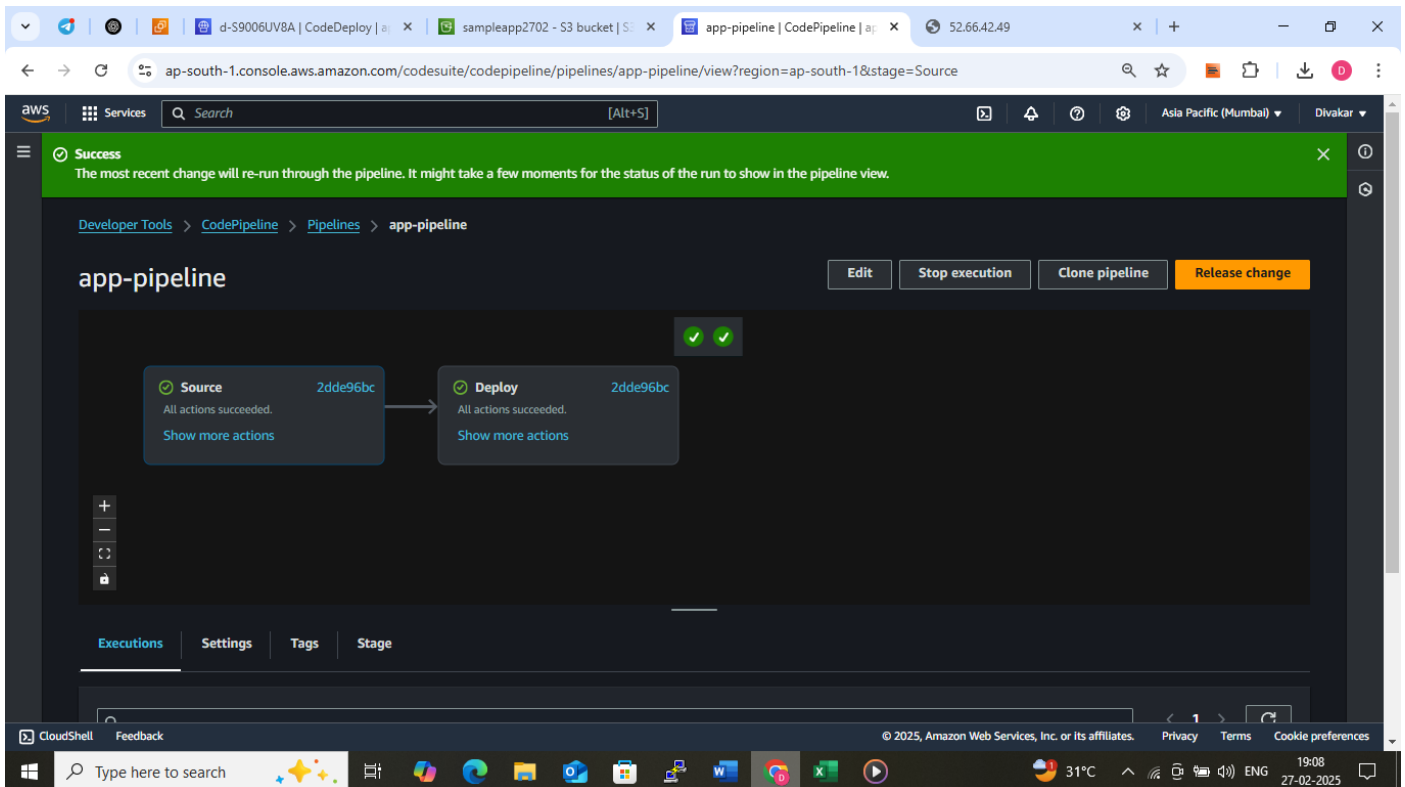
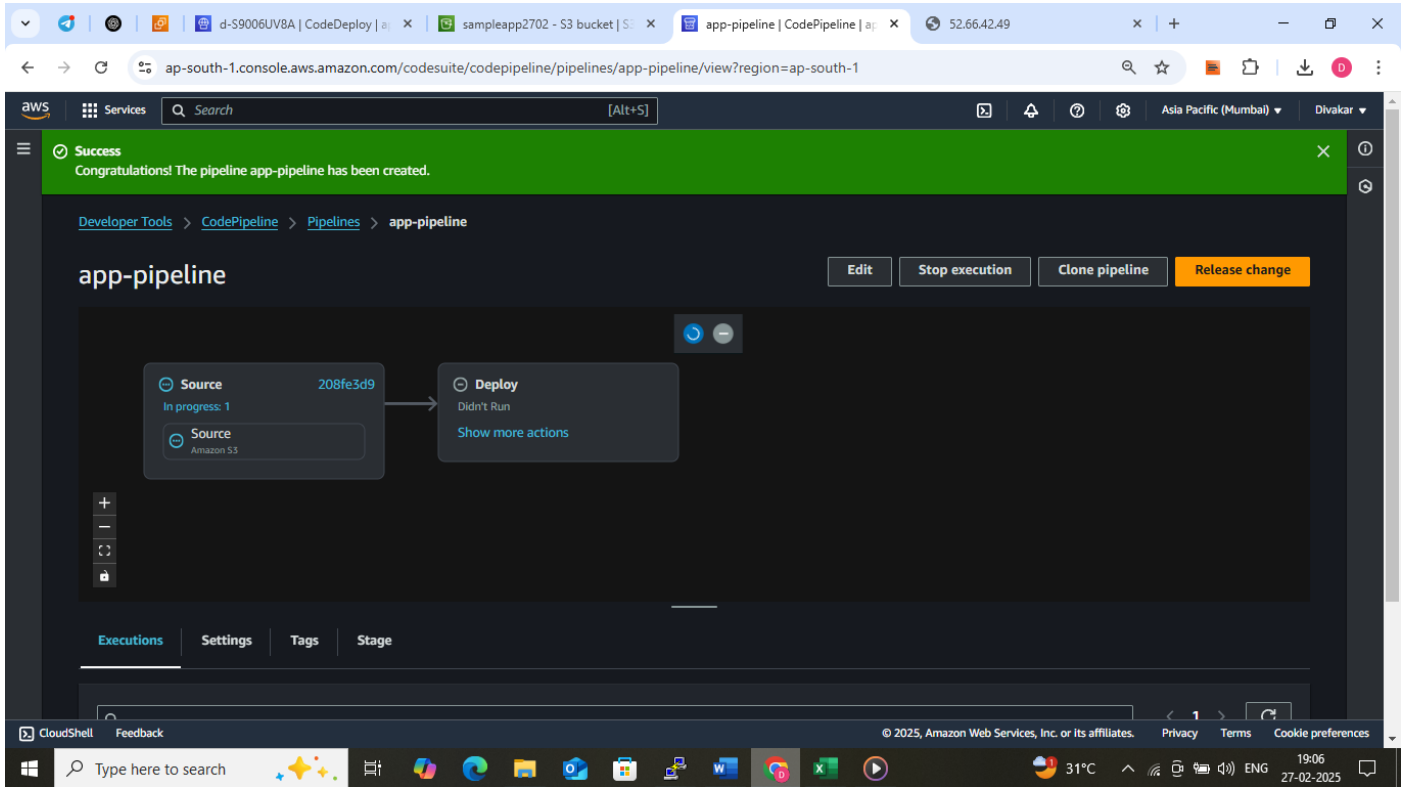
Key	Value
apname	sampleapp

The screenshot shows the AWS CodeDeploy console for the deployment 'd-S9006UV8A'. A green banner at the top indicates 'Success: Deployment created'. The breadcrumb trail is 'Developer Tools > CodeDeploy > Deployments > d-S9006UV8A'. The page title is 'd-S9006UV8A'. There are buttons for 'Copy deployment' and 'Retry deployment'. The 'Deployment status' section shows a progress bar for 'Installing application on your instances' at 100%, with '1 of 1 instances updated' and a 'Succeeded' status. The 'Deployment details' section shows:

Application	sampleapp	Deployment ID	d-S9006UV8A	Status	Succeeded
Deployment configuration	CodeDeployDefault.AllAtOnce	Deployment group	mydpgrp	Initiated by	User action
Deployment description					

Automate the deployment using Code Pipeline

Step-1 ---> create a Code Pipeline



- If any code changes happened in s3 bucket it will automatically deploy the website.

ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipelines/app-pipeline/view?region=ap-south-1&stage=Source

aws

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Release change

Source

a56ce7e2

All actions succeeded.

Show more actions

→

Deploy

a56ce7e2

All actions succeeded.

Show more actions

Executions

Settings

Tags

Stage

1

↺

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Execution ID	Status	Source revisions	Trigger	Started	Duration	Completed
a56ce7e2	Succeeded	Source – kCrDJkKg: Amazon S3 version id: kCrDJkGp6XnZYGv3O6Skg0YopZ0vogN	CloudWatchEvent - codepipeline-11941356-sampleapp-rule	Feb 27, 2025 7:10 PM (UTC+5:30)	34 seconds	Feb 27, 2025 7:10 PM (UTC+5:30)
2dde96bc	Succeeded	Source: Amazon S3 version id: null	StartPipelineExecution - root	Feb 27, 2025 7:07 PM (UTC+5:30)	33 seconds	Feb 27, 2025 7:08 PM (UTC+5:30)

CloudShell

Feedback

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