

CI/CD pipeline with AWS Services

Let's Start:-

STEP-1:

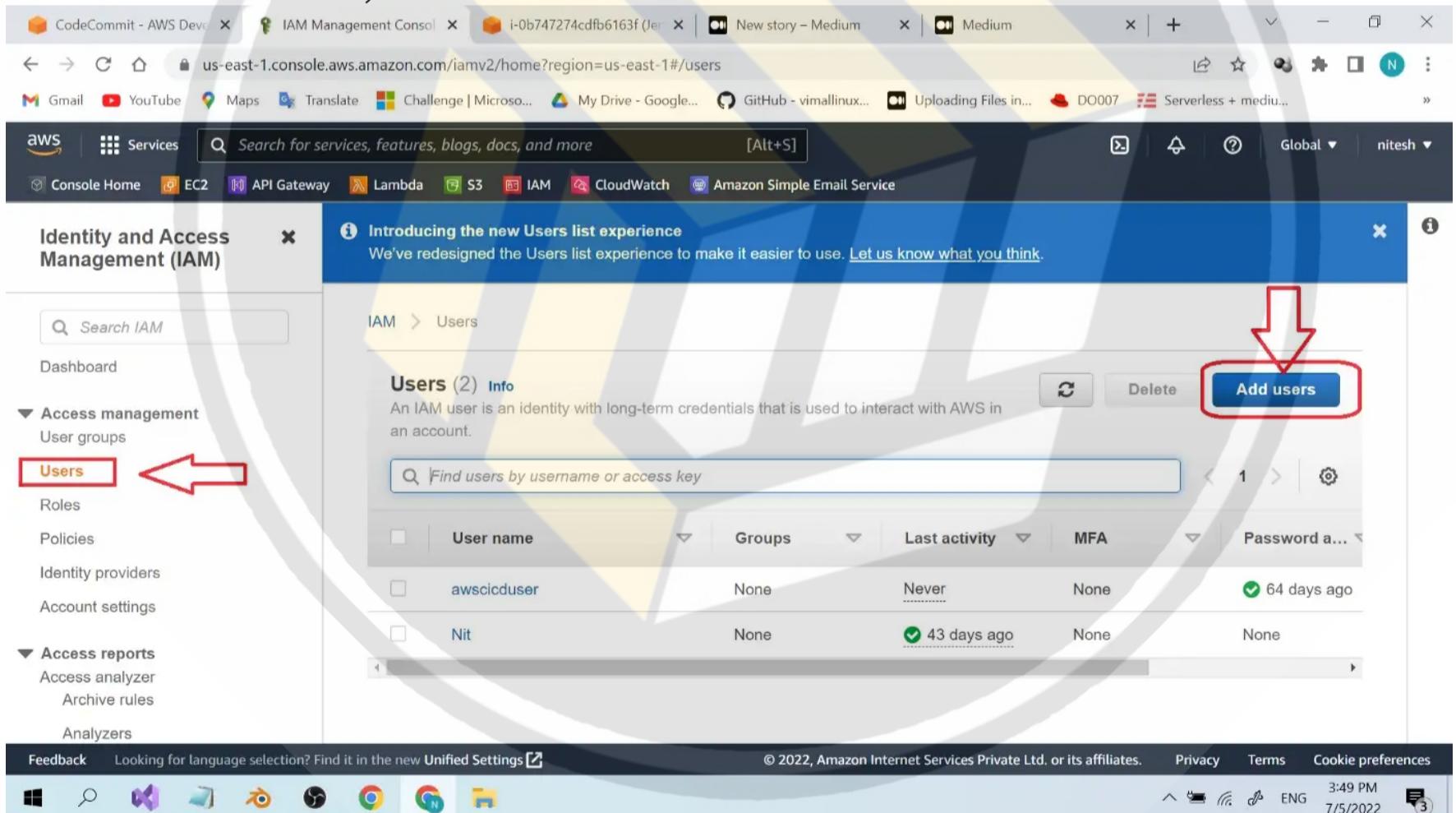
Firstly we make a repo in CodeCommit as our workspace, and to get access to that repo we need to clone that repo and push our files from the local pc with git or EC2 server

git clone <HTTP URL>

STEP-2:

If it is for the first time you are accessing to CodeCommit, you need user access so we will create a user in AWS with the IAM service.

In the IAM service, as shown below click on Users then add a user.



Name the user → Next → Attach policies → AdministratorAccess → Next
→ Next → Create User → close

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Console Home EC2 API Gateway Lambda S3 IAM CloudWatch Amazon Simple Email Service

Add user

- 1
- 2
- 3
- 4
- 5

Set user details

You can add multiple users at once with the same access type and permissions. [Learn more](#)

User name* RepoUser

[+ Add another user](#)

Select AWS access type

Select how these users will primarily access AWS. If you choose only programmatic access, it does NOT prevent users from accessing the console using an assumed role. Access keys and autogenerated passwords are provided in the last step. [Learn more](#)

Select AWS credential type*

- Access key - Programmatic access**
Enables an access key ID and secret access key for the AWS API, CLI, SDK, and other development tools.
- Password - AWS Management Console access**
Enables a password that allows users to sign-in to the AWS Management Console.

Console password*

- Autogenerated password
- Custom password

* Required

[Cancel](#) [Next: Permissions](#)

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Add user

- 1
- 2
- 3
- 4
- 5

Set permissions

[Add user to group](#) [Copy permissions from existing user](#) [Attach existing policies directly](#)

[Create policy](#)

[Filter policies](#)

Policy name	Type	Used as
<input checked="" type="checkbox"/> AdministratorAccess	Job function	Permissions policy (2)
<input type="checkbox"/> AdministratorAccess-Amplify	AWS managed	None
<input type="checkbox"/> AdministratorAccess-AWSElasticBeanstalk	AWS managed	None
<input type="checkbox"/> AlexaForBusinessDeviceSetup	AWS managed	None
<input type="checkbox"/> AlexaForBusinessFullAccess	AWS managed	None
<input type="checkbox"/> AlexaForBusinessGatewayExecution	AWS managed	None
<input type="checkbox"/> AlexaForBusinessIfaceSizeDelegatedAccessPolicy	AWS managed	None

Showing 766 results

[Cancel](#) [Previous](#) [Next: Tags](#)

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The screenshot shows the 'Review' step of the 'Add user' wizard. At the top, there's a navigation bar with links like 'Console Home', 'EC2', 'API Gateway', 'Lambda', 'S3', 'IAM', 'CloudWatch', and 'Amazon Simple Email Service'. A search bar says 'Search for services, features, blogs, docs, and more' with a keyboard shortcut '[Alt+S]'. On the right, there are global settings and a user named 'nitesh'. Below the navigation, the title 'Add user' is displayed above a progress bar with steps 1 through 5, where step 4 is highlighted.

User details

User name	RepoUser
AWS access type	AWS Management Console access - with a password
Console password type	Autogenerated
Require password reset	Yes
Permissions boundary	Permissions boundary is not set

Permissions summary

The following policies will be attached to the user shown above.

Type	Name
Managed policy	AdministratorAccess
Managed policy	IAMUserChangePassword

Buttons at the bottom include 'Cancel', 'Previous', and a blue 'Create user' button.

The screenshot shows the 'Success' step of the 'Add user' wizard. It displays a message: 'You successfully created the users shown below. You can view and download user security credentials. You can also email users instructions for signing in to the AWS Management Console. This is the last time these credentials will be available to download. However, you can create new credentials at any time.' Below the message, it says 'Users with AWS Management Console access can sign-in at: <https://718871632185.signin.aws.amazon.com/console>'. There is a 'Download .csv' button. Below that, a table shows the created user 'RepoUser' with columns 'User', 'Password', and 'Email login instructions'. The 'Password' column has a 'Show' link. A checkbox 'Send email' is checked. A 'Close' button is at the bottom right.

After that click on the user and goto summary, then click on *generate credentials and save the username and password.*

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Identity and Access Management (IAM)

Search IAM Dashboard

Access management User groups Users Roles Policies Identity providers Account settings

Access reports Access analyzer Archive rules Analyzers Settings Credential report Organization activity Service control policies (SCPs)

IAM > Users

Users (3) Info An IAM user is an identity with long-term credentials that is used to interact with AWS in an account.

Find users by username or access key

User name	Groups	Last activity	MFA	Password a...
awsciduser	None	Never	None	65 days ago
Nit	None	44 days ago	None	None
RepoUser	None	Never	None	Now

Add users Delete

https://us-east-1.console.aws.amazon.com/iam/home#/users/RepoUser Edit Settings

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Identity and Access Management (IAM)

Dashboard

Access management User groups Users Roles Policies Identity providers Account settings

Access reports Access analyzer Archive rules Analyzers Settings Credential report Organization activity Service control policies (SCPs)

Users > RepoUser

New feature to generate a policy based on CloudTrail events. AWS uses your CloudTrail events to identify the services and actions used and generate a least privileged policy that you can attach to this user.

Summary

User ARN: arn:aws:iam::718871632185:user/RepoUser

Path: /

Creation time: 2022-07-06 08:40 UTC+0530

Permissions Groups Tags Security credentials Access Advisor

Permissions policies (2 policies applied)

Add permissions + Add inline policy

Policy name	Policy type
AdministratorAccess	AWS managed policy
IAMUserChangePassword	AWS managed policy

Attached directly

AdministratorAccess IAMUserChangePassword

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The screenshot shows the AWS Identity and Access Management (IAM) service interface. On the left, there's a navigation sidebar with various options like Dashboard, Access management, and Access reports. The main content area is titled "SSH keys for AWS CodeCommit" and contains a sub-section "Use SSH public keys to authenticate access to AWS CodeCommit repositories." It includes a "Upload SSH public key" button and a table with columns "SSH key ID", "Uploaded", and "Status". A message "No results" is displayed below the table. Below this, there's another section titled "HTTPS Git credentials for AWS CodeCommit" with a "Generate credentials" button and a message "No credentials have been generated." At the bottom, there's a section for "Credentials for Amazon Keyspaces (for Apache Cassandra)" with a similar "Generate credentials" button and message.

This screenshot shows a modal dialog box titled "Generate credentials" from the AWS IAM service. The dialog has a green header bar with a checkmark icon and the text "Your new credentials are available". Below this, there's a message "Save your user name and password now (or download a credentials file)." followed by a note about the password being viewable only once. It also says you can use these credentials for static connections. The dialog displays a "User name" field containing "RepoUser-at-718871632185" and a "Password" field with several asterisks. A "Show" link is next to the password field. A "Download credentials" button is present. In the background, the main IAM dashboard is visible with sections for SSH keys, HTTPS Git credentials, and Amazon Keyspaces credentials, along with a message about generating credentials.

Now let's create a repo for our project for this we are going to use CodeCommit (AWS service) as SCM tool(Source Code Management tool).

CodeCommit (SCM tool)

CodeCommit is a secure, highly scalable, managed source control service that hosts private Git repositories. CodeCommit eliminates the need for you to manage your source control system or worry about scaling its infrastructure.

You can use CodeCommit to store anything from code to binaries. It supports the standard functionality of Git, so it works seamlessly with your existing Git-based tools.

STEP-3:

Search CodeCommit in the search bar, Click on Repositories and Create a repository

. Name the repo and click create:

Copy the HTTPS URL by clicking on clone URL then click on Clone HTTPS

Now we can access the repo with a user that we created before.

`git clone <HTTPS URL>`

prompt will ask for Username and Password :



After go to that directory and put your files(package) there and push it:

`git add.`

`git commit . -m "1st commit"`

`git push`

You can see your files on CodeCommit now.



STEP-4:

Code Build (Build and Test Tool)

AWS CodeBuild is a fully managed continuous integration service that compiles source code, runs tests, and produces software packages that are ready to deploy. CodeBuild eliminates the need to provision, manage, and scale your build servers.

It provides prepackaged build environments for popular programming languages and builds tools such as Apache Maven, Gradle, and more. You can also customize build environments in CodeBuild to use your build tools. For more details you can visit the below-mentioned link :

Search CodeBuild with the search bar, click on *Build Projects*, and then click on *Create build project*.

Type the name of the project → Source provider: AWS CodeCommit → Repository: <CodeCommit Repo> → Branch: master → **Insert build command** → Buildspec name: grep <Text> index.html → Cloud watch logs → create build project

The screenshot shows the 'Create build project' configuration page in the AWS CodeBuild console. The top navigation bar includes links for Services, Search for services, blogs, docs, and more, and Mumbai/nitesh. The breadcrumb trail shows Developer Tools > CodeBuild > Build projects > Create build project. The main form is titled 'Project configuration' and contains the following fields:

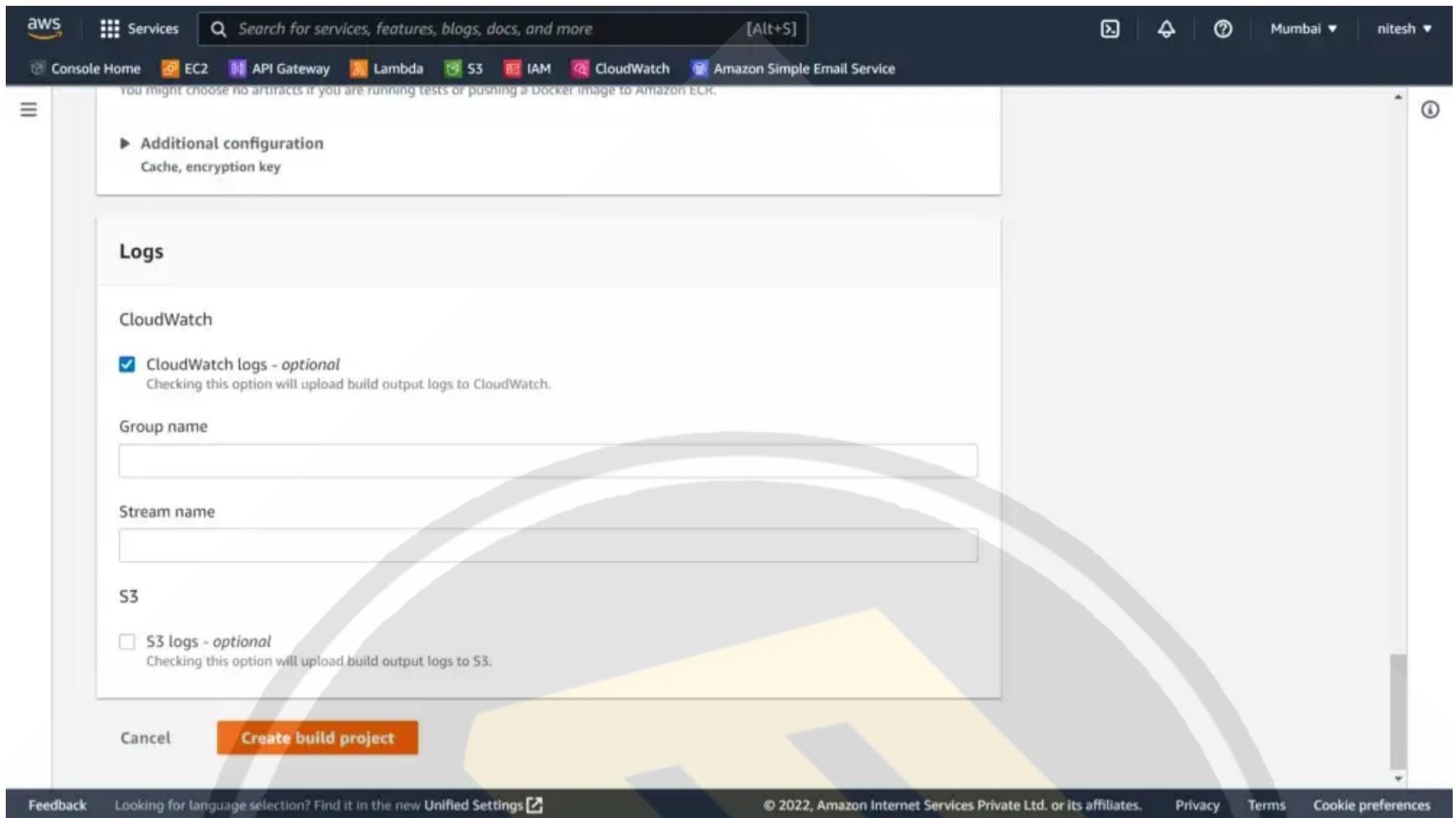
- Project name:** cicd_aws_build
- Description - optional:** (Empty text area)
- Build badge - optional:** Enable build badge
- Enable concurrent build limit - optional:** Limit the number of allowed concurrent builds for this project.
 Restrict number of concurrent builds this project can start
- Additional configuration:** (Tags section is collapsed)

At the bottom of the page, there are links for Feedback, Unified Settings, Privacy, Terms, and Cookie preferences.

The screenshot shows the 'Source 1 - Primary' configuration page in the AWS CodeBuild console. The top navigation bar includes links for Services, Search for services, blogs, docs, and more, and Mumbai/nitesh. The main form contains the following fields:

- Source provider:** AWS CodeCommit
- Repository:** cicdwithaws_Repo
- Reference type:** Choose the source version reference type that contains your source code.
 Branch
 Git tag
 Commit ID
- Branch:** Choose a branch that contains the code to build.
master
- Commit ID - optional:** Choose a commit ID. This can shorten the duration of your build.
Search bar
- Source version Info:** refs/heads/master
2814e671 2nd commit
- Additional configuration:** (Git clone depth, Git submodules section is collapsed)

At the bottom of the page, there are links for Feedback, Unified Settings, Privacy, Terms, and Cookie preferences.



Here we have two options for build spec, either we can use a **buildspec.yml file** or tell the commands for practice purposes we will go with **Insert build commands**.

As a command, we are using **grep <Text> index.html** → will gives exit code 0 if the file index.html contains the Text else exit code 1.

We can start building by just clicking the *Start build* button.

For Edit Buildspec : Click on Edit → Buildspec → Update buildspec

In the second image if we click on Switch to the editor we can see the buildspec file that is generated automatically. Always we should use the buildspec.yml file for the build because it gives more benefits. The third image shows the outcome.

We can create notification features with Create notification rule.

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Developer Tools CodeBuild

Source • CodeCommit Artifacts • CodeArtifact Build • CodeBuild Getting started Build projects Build project Settings Build history Report groups Report history Account metrics Deploy • CodeDeploy Pipeline • CodePipeline Settings

Project created You have successfully created the following project: cicd_aws_build Create a notification rule for this project

Developer Tools > CodeBuild > Build projects > cicd_aws_build

cicd_aws_build

Notify Share Edit Delete build project Start build with overrides Start build

Configuration

Source provider	AWS CodeCommit	Primary repository	cicdwithaws_Repo	Artifacts upload location	-	Build badge	Disabled
Public builds	Disabled						

Build history Batch history Build details Build triggers Metrics

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Developer Tools CodeBuild

Source • CodeCommit Artifacts • CodeArtifact Build • CodeBuild Getting started Build projects Build project Settings Build history Report groups Report history Account metrics Deploy • CodeDeploy Pipeline • CodePipeline Settings

Phase details Reports Environment variables Build details Resource utilization

Name	Status	Context	Duration	Start time	End time
SUBMITTED	✓ Succeeded	-	<1 sec	Jul 6, 2022 1:34 PM (UTC+5:30)	Jul 6, 2022 1:34 PM (UTC+5:30)
QUEUED	✓ Succeeded	-	103 secs	Jul 6, 2022 1:34 PM (UTC+5:30)	Jul 6, 2022 1:36 PM (UTC+5:30)
PROVISIONING	✓ Succeeded	-	20 secs	Jul 6, 2022 1:36 PM (UTC+5:30)	Jul 6, 2022 1:36 PM (UTC+5:30)
DOWNLOAD_SOURCE	✓ Succeeded	-	6 secs	Jul 6, 2022 1:36 PM (UTC+5:30)	Jul 6, 2022 1:37 PM (UTC+5:30)
INSTALL	✓ Succeeded	-	<1 sec	Jul 6, 2022 1:37 PM (UTC+5:30)	Jul 6, 2022 1:37 PM (UTC+5:30)
PRE_BUILD	✓ Succeeded	-	<1 sec	Jul 6, 2022 1:37 PM (UTC+5:30)	Jul 6, 2022 1:37 PM (UTC+5:30)
BUILD	✓ Succeeded	-	<1 sec	Jul 6, 2022 1:37 PM (UTC+5:30)	Jul 6, 2022 1:37 PM (UTC+5:30)
POST_BUILD	✓ Succeeded	-	<1 sec	Jul 6, 2022 1:37 PM (UTC+5:30)	Jul 6, 2022 1:37 PM (UTC+5:30)
UPLOAD_ARTIFACTS	✓ Succeeded	-	<1 sec	Jul 6, 2022 1:37 PM (UTC+5:30)	Jul 6, 2022 1:37 PM (UTC+5:30)

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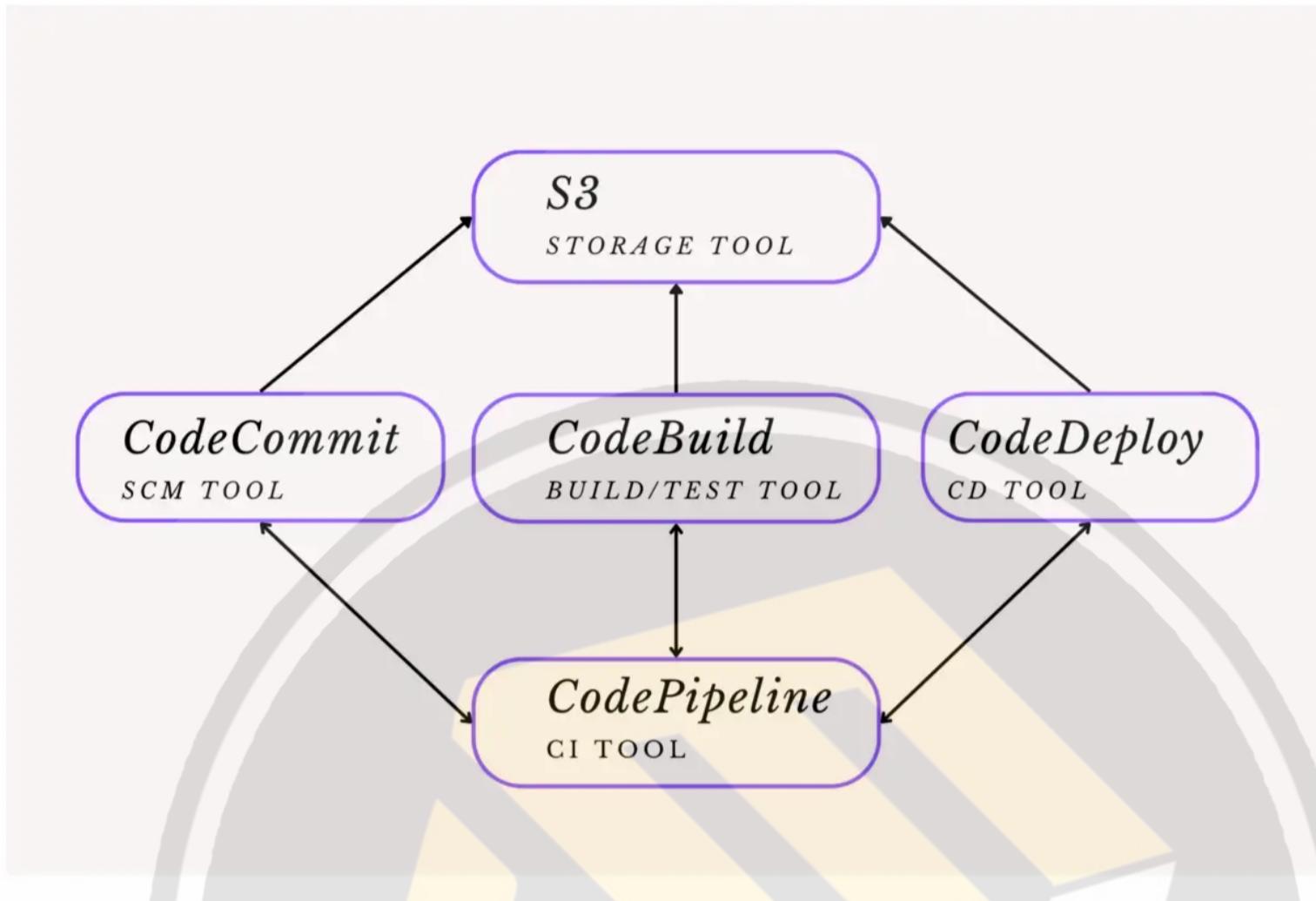
The screenshot shows the AWS CodeBuild console. On the left, there's a sidebar with options like Source, Artifacts, Build, Deploy, Pipeline, and Settings. The main area is titled 'Build projects' and shows three entries in a table:

Name	Source provider	Repository	Latest build status	Description	Last Modified
cicd_aws_build	AWS CodeCommit	cicdwithaws_Repo	Succeeded	-	4 minutes ago
cicd03_build	AWS CodeCommit	cicd_03_repo	Succeeded	-	2 months ago
cicdbuild02	AWS CodeCommit	cicdpipeline02	Succeeded	-	2 months ago

Now every time developers push the code, we have to click the build button to build the project. And it's very time-consuming, to make it automated we will going to use the CodePipeline service of AWS.

STEP-5: **S3 (Storage Service)**

Before integration with CodePipeline, we need centralized storage where we can put our code for use.



Amazon Simple Storage Service (Amazon S3) is an object storage service that offers industry-leading scalability, data availability, security, and performance. For more details you can visit the below-mentioned link :

Now let's create a bucket(storage) in s3 with versioning enabled and the name of the bucket should be unique.

The screenshot shows the AWS search interface with the query 's3'. The top navigation bar includes 'Console Home', 'EC2', 'Services', a search bar, and account information for 'Mumbai' and 'nitesh'. The main search results are displayed under the heading 'Services' (7 results). The first result is 'S3' (Scalable Storage in the Cloud), which is highlighted with a yellow star. Below it are 'S3 Glacier' (Archive Storage in the Cloud), 'Athena' (Query Data in S3 using SQL), and 'AWS Snow Family' (Large Scale Data Transport). A 'Features' section follows, featuring 'Amazon S3 File Gateway' and 'Storage Gateway feature'. On the right side, there are two cards for 'Comp' (CloudWatch Metrics) with creation dates: '17 mi ago' and '25 mi ago'.

The screenshot shows the 'Amazon S3' service page. The left sidebar has a 'Buckets' section with links for 'Access Points', 'Object Lambda Access Points', 'Multi-Region Access Points', 'Batch Operations', 'Access analyzer for S3', and 'Block Public Access settings for this account'. It also includes a 'Storage Lens' section with 'Dashboards' and 'AWS Organizations settings'. A 'Feature spotlight' section is present. The main content area shows an 'Account snapshot' with a 'Storage lens provides visibility into storage usage and activity trends' message and a 'View Storage Lens dashboard' button. Below this is a 'Buckets (16)' section with a table. The table has columns for 'Name', 'AWS Region', 'Access', and 'Creation date'. Three buckets are listed:

Name	AWS Region	Access	Creation date
cicd03s3bucket	Asia Pacific (Mumbai) ap-south-1	Objects can be public	May 19, 2022, 16:41:22 (UTC+05:30)
cicdbucket02	Asia Pacific (Mumbai) ap-south-1	Objects can be public	May 2, 2022, 16:30:14 (UTC+05:30)
cicdpipeline01	Asia Pacific (Mumbai) ap-south-1	Objects can be public	May 2, 2022, 08:43:47 (UTC+05:30)

At the bottom, there are 'Feedback' and 'Cookie preferences' links, along with copyright information for 2022.

As shown below name the bucket that enables Bucket Versioning and click on create a bucket.

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Amazon S3 > Buckets > Create bucket

Create bucket Info

Buckets are containers for data stored in S3. [Learn more](#)

General configuration

Bucket name: cicdawsstorage

Bucket name must be unique and must not contain spaces or uppercase letters. [See rules for bucket naming](#)

AWS Region: Asia Pacific (Mumbai) ap-south-1

Copy settings from existing bucket - *optional*. Only the bucket settings in the following configuration are copied.

[Choose bucket](#)

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Object Ownership Info

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

ACLs disabled (recommended)
All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.

ACLs enabled
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

Object Ownership

Bucket owner enforced

Block Public Access settings for this bucket

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. [Learn more](#)

Block all public access
Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

Block public access to buckets and objects granted through new access control lists (ACLs)
S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

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Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

Bucket Versioning

Disable

Enable

Tags (0) - optional

Track storage cost or other criteria by tagging your bucket. [Learn more](#)

No tags associated with this bucket.

Add tag

Default encryption

Automatically encrypt new objects stored in this bucket. [Learn more](#)

Server-side encryption

Disable

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Cancel Create bucket

Here CodeBuild needs access to S3 for files and to provide that we have to go to IAM → Roles → <CodeBuild Role >
Click: Add permissions → Attach policies → S3 Access (AmazonS3FullAccess)→ Click on Attach policies.

The screenshot shows the AWS IAM Roles page. The search bar at the top contains the query "cicd aws build". Below the search bar, a table lists one role: "codebuild-cicd_aws_build-service-role". This role is associated with the "AWS Service: codebuild" and was last active 38 minutes ago. There are buttons for "Delete" and "Create role" in the top right corner.

The screenshot shows the detailed view of the "codebuild-cicd_aws_build-service-role" in the AWS IAM Roles section. The role was created on July 06, 2022, at 13:23 (UTC+05:30) and was last active 38 minutes ago. The ARN of the role is arn:aws:iam::718871632185:role/service-role/codebuild-cicd_aws_build-service-role. The maximum session duration is set to 1 hour. The "Permissions" tab is selected, showing one attached policy: "Permissions policies (1)". The "Edit" button is visible in the top right corner.

The screenshot shows the detailed view of the "codebuild-cicd_aws_build-service-role" in the AWS IAM Roles section. The role was created on July 06, 2022, at 13:23 (UTC+05:30) and was last active 38 minutes ago. The ARN of the role is arn:aws:iam::718871632185:role/service-role/codebuild-cicd_aws_build-service-role. The maximum session duration is set to 1 hour. The "Permissions" tab is selected, showing one attached policy: "Permissions policies (1)". The "Edit" button is visible in the top right corner.

Screenshot of the AWS IAM Summary page for a role named "codebuild-cicd_aws_build-service-role".

Identity and Access Management (IAM)

Permissions (selected)

Permissions policies (1)
You can attach up to 10 managed policies.

Policy name	Type	Description
CodeBuildBasePolicy-cicd_aws_build-ap-sout...	Customer managed	Policy used in trust relationship with Co

Permissions boundary - (not set)

Actions

- Simulate
- Remove
- Add permissions ▾
- Attach policies** (highlighted)
- Create inline policy

Screenshot of the "Attach policies" modal window.

Filter policies by property or policy name and press enter

s3 (selected)

Policy name	Type	Description
AmazonDMSRedshiftS3Role	AWS managed	Provides access to mar
AmazonS3FullAccess (selected)	AWS managed	Provides full access to :
QuickSightAccessForS3StorageManagementAnalyticsReadOnly	AWS managed	Policy used by QuickS
AmazonS3ReadOnlyAccess	AWS managed	Provides read only acce
AmazonS3OutpostsFullAccess	AWS managed	Provides full access to /
AWSBackupServiceRolePolicyForS3Backup	AWS managed	Policy containing permi
AWSBackupServiceRolePolicyForS3Restore	AWS managed	Policy containing permi
AmazonS3ObjectLambdaExecutionRolePolicy	AWS managed	Provides AWS Lambda
AmazonS3OutpostsReadOnlyAccess	AWS managed	Provides read only acce

Actions

- Cancel
- Attach policies** (highlighted)

STEP-6:

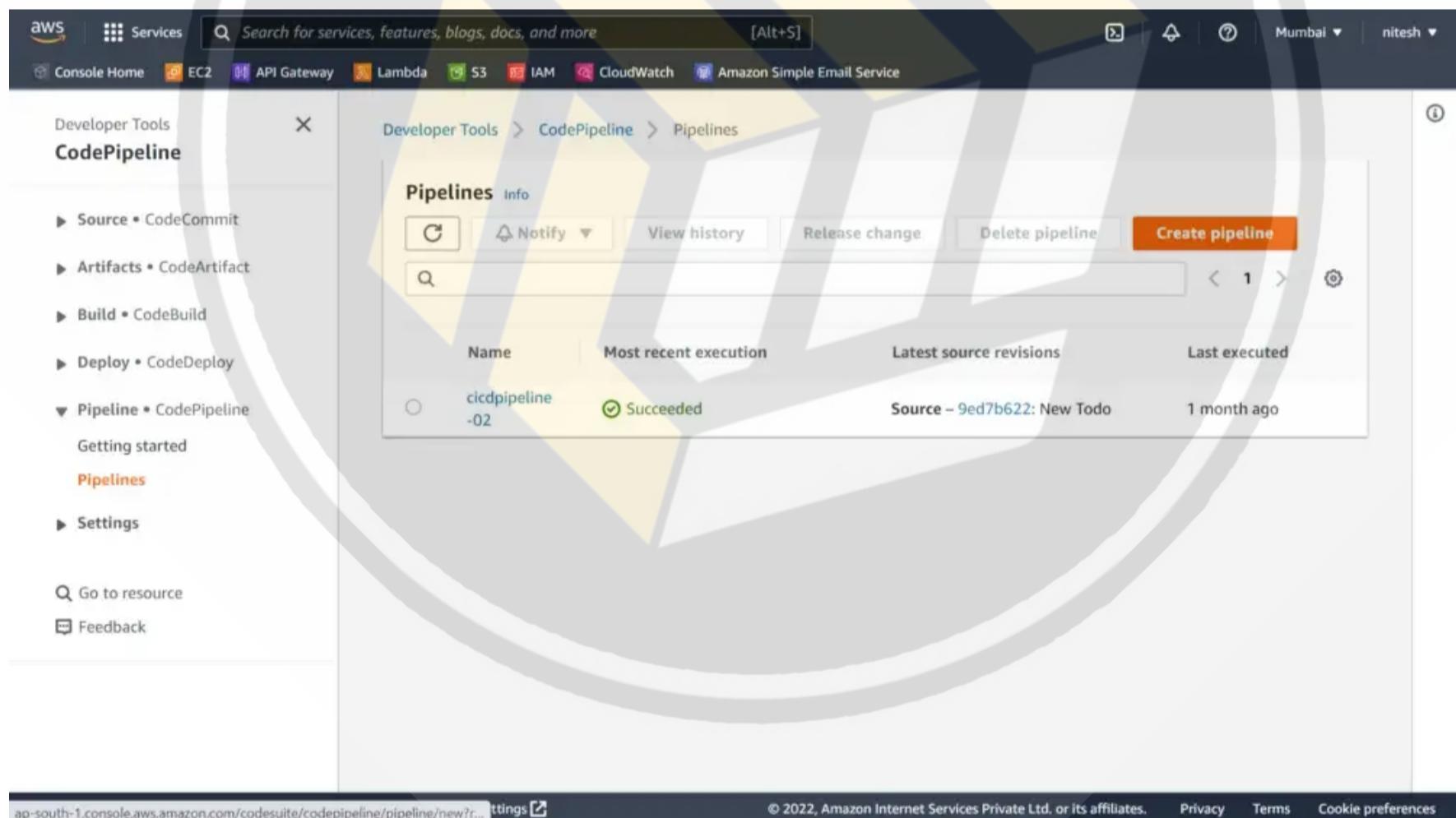
Code Pipeline (CI tool)

CodePipeline automates your release process's build, test, and deploy phases every time there is a code change, based on the release model you define. This enables you to rapidly and reliably deliver features and updates. For more details you can visit the below-mentioned link :

After creating the S3 bucket we need to integrate everything with CodePipeline.

Search for CodePipeline, go to **Pipelines**, and click on **Create pipeline**. In Advance Settings click on **Custom Location** with the bucket name and click on Next. Select AWS CodeCommit → Repo Name → master (Branch) → Next.

Select AWS CodeBuild → Region → Project Name → Next. Skip the Deploy stage for now. Review the pipeline and **Create pipeline**.



The screenshot shows the AWS CodePipeline console interface. The left sidebar has a 'Developer Tools' section with 'CodePipeline' selected, and a 'Pipelines' subsection under it. The main area shows a 'Pipelines' table with one item:

Name	Most recent execution	Latest source revisions	Last executed
cicdpipeline-02	Succeeded	Source - 9ed7b622: New Todo	1 month ago

At the top right, there is a prominent orange 'Create pipeline' button. The top navigation bar includes links for Services, Search, Mumbai, and nitesh.

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Console Home EC2 API Gateway Lambda S3 IAM CloudWatch Amazon Simple Email Service

Developer Tools > CodePipeline > Pipelines > Create new pipeline

Step 1 Choose pipeline settings Step 2 Add source stage Step 3 Add build stage Step 4 Add deploy stage Step 5 Review

Choose pipeline settings

Pipeline settings

Pipeline name Enter the pipeline name. You cannot edit the pipeline name after it is created.

cicdawspipeline

No more than 100 characters

Service role

New service role Create a service role in your account.

Existing service role Choose an existing service role from your account

Role name AWSCodePipelineServiceRole-ap-south-1-cicdawspipeline

Type your service role name

Allow AWS CodePipeline to create a service role so it can be used with this new pipeline

► Advanced settings

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AWSCodePipelineServiceRole-ap-south-1-cicdawspipeline

Type your service role name

Allow AWS CodePipeline to create a service role so it can be used with this new pipeline

▼ Advanced settings

Artifact store

Default location Create a default S3 bucket in your account.

Custom location Choose an existing S3 location from your account in the same region and account as your pipeline

Bucket

X

Encryption key

Default AWS Managed Key Use the AWS managed customer master key for CodePipeline in your account to encrypt the data in the artifact store.

Customer Managed Key To encrypt the data in the artifact store under an AWS KMS customer managed key, specify the key ID, key ARN, or alias ARN.

Cancel Next

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Source provider
This is where you stored your input artifacts for your pipeline. Choose the provider and then provide the connection details.

AWS CodeCommit

Repository name
Choose a repository that you have already created where you have pushed your source code.

cicdwithaws_Repo

Branch name
Choose a branch of the repository

master

Change detection options
Choose a detection mode to automatically start your pipeline when a change occurs in the source code.

Amazon CloudWatch Events (recommended)
Use Amazon CloudWatch Events to automatically start my pipeline when a change occurs

AWS CodePipeline
Use AWS CodePipeline to check periodically for changes

Output artifact format
Choose the output artifact format.

CodePipeline default
AWS CodePipeline uses the default zip format for artifacts in the pipeline. Does not include git metadata about the repository.

Full clone
AWS CodePipeline passes metadata about the repository that allows subsequent actions to do a full git.clone. Only supported for AWS CodeBuild actions.

Cancel Previous Next

Feedback Looking for language selection? Find it in the new Unified Settings [\[?\]](#)

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Step 2 Add source stage

Step 3 Add build stage

Step 4 Add deploy stage

Step 5 Review

Build - optional

Build provider
This is the tool of your build project. Provide build artifact details like operating system, build spec file, and output file names.

AWS CodeBuild

Region
Asia Pacific (Mumbai)

Project name
Choose a build project that you have already created in the AWS CodeBuild console. Or create a build project in the AWS CodeBuild console and then return to this task.

cicd aws build

Create project [\[?\]](#)

Environment variables - optional
Choose the key, value, and type for your CodeBuild environment variables. In the value field, you can reference variables generated by CodePipeline. [Learn more \[?\]](#)

Add environment variable

Build type

Single build
Triggers a single build.

Batch build
Triggers multiple builds as a single execution.

Cancel Previous Skip build stage Next

The screenshot shows the AWS CodePipeline 'Create new pipeline' wizard, specifically Step 4: 'Add deploy stage'. The main title is 'Add deploy stage' with an 'Info' link. Below it, a section titled 'Deploy - optional' contains a 'Deploy provider' dropdown menu. To the left, a vertical sidebar lists steps: Step 1 (Choose pipeline settings), Step 2 (Add source stage), Step 3 (Add build stage), Step 4 (Add deploy stage, currently selected), and Step 5 (Review). At the bottom right are buttons for 'Cancel', 'Previous', 'Skip deploy stage' (highlighted in orange), and 'Next'.

For deployment we have 3 things to do :

- Creating web servers (Local or Cloud(AWS → EC2)).
- Configuration of the web server
- Deploy our code(files) to these web servers.

STEP-7:

EC2 (Web Server)

Amazon Elastic Compute Cloud (Amazon EC2) offers the broadest and deepest compute platform, with over 500 instances and a choice of the latest processor, storage, networking, operating system, and purchase model to help you best match the needs of your workload. For more details you can visit the below-mentioned link :

Creating EC2 instants :

Select the Amazon Linux → (Step: 2)t2 micro → (Step : 3)Number of instances: 2 → (Step: 4) Next → (Step: 5) Next → (Step: 6) Add Rule (HTTP: So everyone can visit our site) → (Step: 7) Launch

Services Search for services, features, blogs, docs, and more [Alt+S] Mumbai nitesh

Console Home EC2 API Gateway Lambda S3 IAM CloudWatch Amazon Simple Email Service

Stack Name: nitesh

Next Step

This launch experience will soon be reaching end of life.
We've introduced a new launch experience with new and updated features. You can opt in now by choosing Opt in to the new experience.
Currently, you can opt out to the old experience at any time. Please send us your feedback about the new experience so that we can continue to improve it.

Opt in to the new experience

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 1: Choose an Amazon Machine Image (AMI)

Cancel and Exit

Search for an AMI by entering a search term e.g. "Windows"

Search by Systems Manager parameter

Quick Start

My AMIs

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type - ami-08df646e18b182346 (64-bit x86) / ami-0e0aaaf29e73155b91 (64-bit Arm)

Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.

Root device type: ebs Virtualization type: hvm ENA Enabled: Yes

Select

64-bit (x86) 64-bit (Arm)

Amazon Linux 2 AMI (HVM) - Kernel 4.14, SSD Volume Type - ami-09de362f44ba0a166 (64-bit x86) / ami-044ba583062cb113b (64-bit Arm)

Amazon Linux 2 comes with five years support. It provides Linux kernel 4.14 tuned for optimal performance on Amazon EC2.

Select

64-bit (x86) 64-bit (Arm)

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Console Home EC2 API Gateway Lambda S3 IAM CloudWatch Amazon Simple Email Service

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: All instance families Current generation Show/Hide Columns

Currently selected: t2.micro (- ECUs, 1 vCPUs, 2.5 GHz, -, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	t2	t2.micro	1	1	EBS only	-	Low to Moderate	Yes
	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes
	t2	t2.xlarge	4	16	EBS only	-	Moderate	Yes

Cancel Previous Review and Launch Next: Configure Instance Details

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Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances	<input type="text" value="2"/>	Launch into Auto Scaling Group
Purchasing option	<input type="checkbox"/> Request Spot instances	
Network	vpc-0bf168604dc074cc9 (default)	<input type="button" value="Create new VPC"/>
Subnet	No preference (default subnet in any Availability Zone)	<input type="button" value="Create new subnet"/>
Auto-assign Public IP	<input type="button" value="Use subnet setting (Enable)"/>	
Hostname type	<input type="button" value="Use subnet setting (IP name)"/>	
DNS Hostname	<input type="checkbox"/> Enable IP name IPv4 (A record) DNS requests <input checked="" type="checkbox"/> Enable resource-based IPv4 (A record) DNS requests <input type="checkbox"/> Enable resource-based IPv6 (AAAA record) DNS requests	
Placement group	<input type="checkbox"/> Add instance to placement group	
Capacity Reservation	<input type="button" value="Open"/>	

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/xvda	snap-08bbaef4a42ffdca4	<input type="text" value="8"/>	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	<input type="button" value="Not Encrypted"/>

[Add New Volume](#)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

Shared file systems

You currently don't have any file systems on this instance. Select "Add file system" button below to add a file system.

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Tags](#)

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.

A copy of a tag can be applied to volumes, instances or both.

Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum) | Value (256 characters maximum)

Instances (i) | Volumes (i) | Network Interfaces (i)

This resource currently has no tags

Choose the Add tag button or click to add a Name tag.
Make sure your IAM policy includes permissions to create tags.

Add Tag (Up to 50 tags maximum)

Cancel Previous Review and Launch Next: Configure Security Group

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: Create a new security group
 Select an existing security group

Security group name: launch-wizard-8

Description: launch-wizard-8 created 2022-07-07T13:15:04.085+05:30

Type (i)	Protocol (i)	Port Range (i)	Source (i)	Description (i)
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
HTTP	TCP	80	Custom 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop

Add Rule

Warning
Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel Previous Review and Launch

Review the details and view Instances, here we can tag them by selecting them and selecting the tag option. Name instances.

The screenshot shows the AWS Management Console with the EC2 service selected. The top navigation bar includes links for Services, Search, and various AWS services like Lambda, S3, IAM, CloudWatch, and Amazon Simple Email Service. The user is signed in as 'nitesh'.

Launch Status

i Get notified of estimated charges

Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click [View Instances](#) to monitor your instances' status. Once your instances are in the **running** state, you can [connect](#) to them from the Instances screen. [Find out](#) how to connect to your instances.

▼ Here are some helpful resources to get you started

- [How to connect to your Linux instance](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: User Guide](#)
- [Amazon EC2: Discussion Forum](#)

While your instances are launching you can also

- [Create status check alarms](#) to be notified when these instances fail status checks. (Additional charges may apply)
- [Create and attach additional EBS volumes](#) (Additional charges may apply)
- [Manage security groups](#)

[View Instances](#)

The screenshot shows the EC2 Instances page with five instances listed:

Name	env	Instance ID	Instance state
cicd02	Testing	i-033c92c36e0864ba3	Stopped
cicd2	Production	i-054e78dabf6286bb1	Stopped
JenkinsOS	-	i-0b747274cd9fb6163f	Stopped
cicdaws-Testing	Testing	i-0d5690436b45d0e6b	Stopped
cicdaws-Production	Production	i-0da7ed8ca342c64e3	Stopped

A success message at the top right says "Successfully stopped i-0da7ed8ca342c64e3, i-0d5690436b45d0e6b".

Now let's create a role for ec2 (EC2 → CodeDeploy) :

The screenshot shows the AWS IAM 'Create role' wizard. The top navigation bar includes links for Services, EC2, API Gateway, Lambda, S3, IAM, CloudWatch, and Amazon Simple Email Service. The search bar says 'Search for services, features, blogs, docs, and more'. The top right corner shows 'Global' and 'nitesh'. The main content area is titled 'Select trusted entity' and 'Step 1 Select trusted entity'. It lists five options under 'Trusted entity type': 'AWS service' (selected), 'AWS account', 'Web identity', 'SAML 2.0 federation', and 'Custom trust policy'. Below this is a 'Use case' section with a note about allowing actions in the account, followed by 'Common use cases' where 'EC2' is selected. At the bottom are 'Cancel' and 'Next' buttons.

IAM > Roles > Create role

Step 1
Select trusted entity

Step 2
Add permissions

Step 3
Name, review, and create

Select trusted entity

Trusted entity type

AWS service

Allow AWS services like EC2, Lambda, or others to perform actions in this account.

AWS account

Allow entities in other AWS accounts belonging to you or a 3rd party to perform actions in this account.

Web identity

Allows users federated by the specified external web identity provider to assume this role to perform actions in this account.

SAML 2.0 federation

Allow users federated with SAML 2.0 from a corporate directory to perform actions in this account.

Custom trust policy

Create a custom trust policy to enable others to perform actions in this account.

Use case

Allow an AWS service like EC2, Lambda, or others to perform actions in this account.

Common use cases

EC2

Allows EC2 instances to call AWS services on your behalf.

Step 3
Name, review, and create

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This screenshot shows the same 'Create role' wizard as the first one, but with different common use cases selected. Under 'Common use cases', 'EC2' is selected, while 'Lambda' is unselected. The rest of the interface is identical to the first screenshot.

Cancel

Next

This screenshot shows the final step of the 'Create role' wizard. The 'Use cases for other AWS services:' dropdown is open, showing the placeholder 'Choose a service to view use case'. The 'Next' button is visible at the bottom right.

Screenshot of the AWS IAM 'Create role' wizard Step 2: Add permissions. The 'Permissions policies' section lists 1/768 available policies. The policy 'AmazonEC2RoleforAWSCodeDeploy' is selected and highlighted.

Policy name	Type	Description
AmazonEC2RoleforAWSCodeDeploy	AWS managed	Provides EC2 access to S3 bucket to d...
AWSCodeDeployRoleForECS	AWS managed	Provides CodeDeploy service wide acc...
AWSCodeDeployReadOnlyAccess	AWS managed	Provides read only access to CodeDepl...
AWSCodeDeployFullAccess	AWS managed	Provides full access to CodeDeploy res...
AWSCodeDeployRole	AWS managed	Provides CodeDeploy service access t...
AWSCodeDeployRoleForECSLimited	AWS managed	Provides CodeDeploy service limited a...

Screenshot of the AWS IAM 'Create role' wizard Step 3: Name, review, and create. The 'Role details' section shows the role name 'ec2codedeploysaws' and a description 'Allows EC2 instances to call AWS services on your behalf.'

Role name: ec2codedeploysaws
Description: Allows EC2 instances to call AWS services on your behalf.

Now attach the role to ec2 as follow :
Select instance → Actions → Security → Modify IAM role → Update IAM role.

The screenshot shows the AWS EC2 Instances page. On the left, there's a navigation sidebar with links like EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances (selected), and Images. The main area displays a table of instances with columns for Name, Status, and Actions. One instance, 'cicdaws-Testing', is selected and highlighted in blue. The 'Actions' column for this instance includes options like 'Change security groups', 'Get Windows password', and 'Modify IAM role'. Below the table, a detailed view for 'Instance: i-0d5690436b45d0e6b (cicdaws-Testing)' is shown, with tabs for Details, Security, Networking, Storage, Status checks, Monitoring, and Tags. Under 'Details', it shows Instance ID (i-0d5690436b45d0e6b), Public IPv4 address (13.233.71.188), Private IPv4 addresses (172.31.36.88), Public IPv4 DNS (ec2-13-233-71-188.ap-south-1.compute.amazonaws.com), and Instance state (Running). The 'Hostname type' is listed as 'Private IP DNS name (IPv4 only)'. The bottom of the page includes standard AWS footer links.

The screenshot shows the 'Modify IAM role' page for the instance 'i-0d5690436b45d0e6b'. The top navigation bar is identical to the previous screenshot. The main content area has a heading 'Modify IAM role' with a link to 'Info'. It says 'Attach an IAM role to your instance.' Below this, 'Instance ID' is listed as 'i-0d5690436b45d0e6b (cicdaws-Testing)'. Under 'IAM role', it says 'Select an IAM role to attach to your instance or create a new role if you haven't created any. The role you select replaces any roles that are currently attached to your instance.' A dropdown menu shows 'ec2codedeployaws' as the selected role. To the right of the dropdown is a 'Create new IAM role' button. At the bottom are 'Cancel' and 'Update IAM role' buttons. The bottom of the page includes the standard AWS footer.

We also have to set up Code Deploy Agent in our EC2 instance(webserver). For more details about the CodeDeploy agent you can visit the below-mentioned link :

STEP-8:

Connect to instant and paste the below code :

sudo yum update -y

sudo yum install -y ruby wget

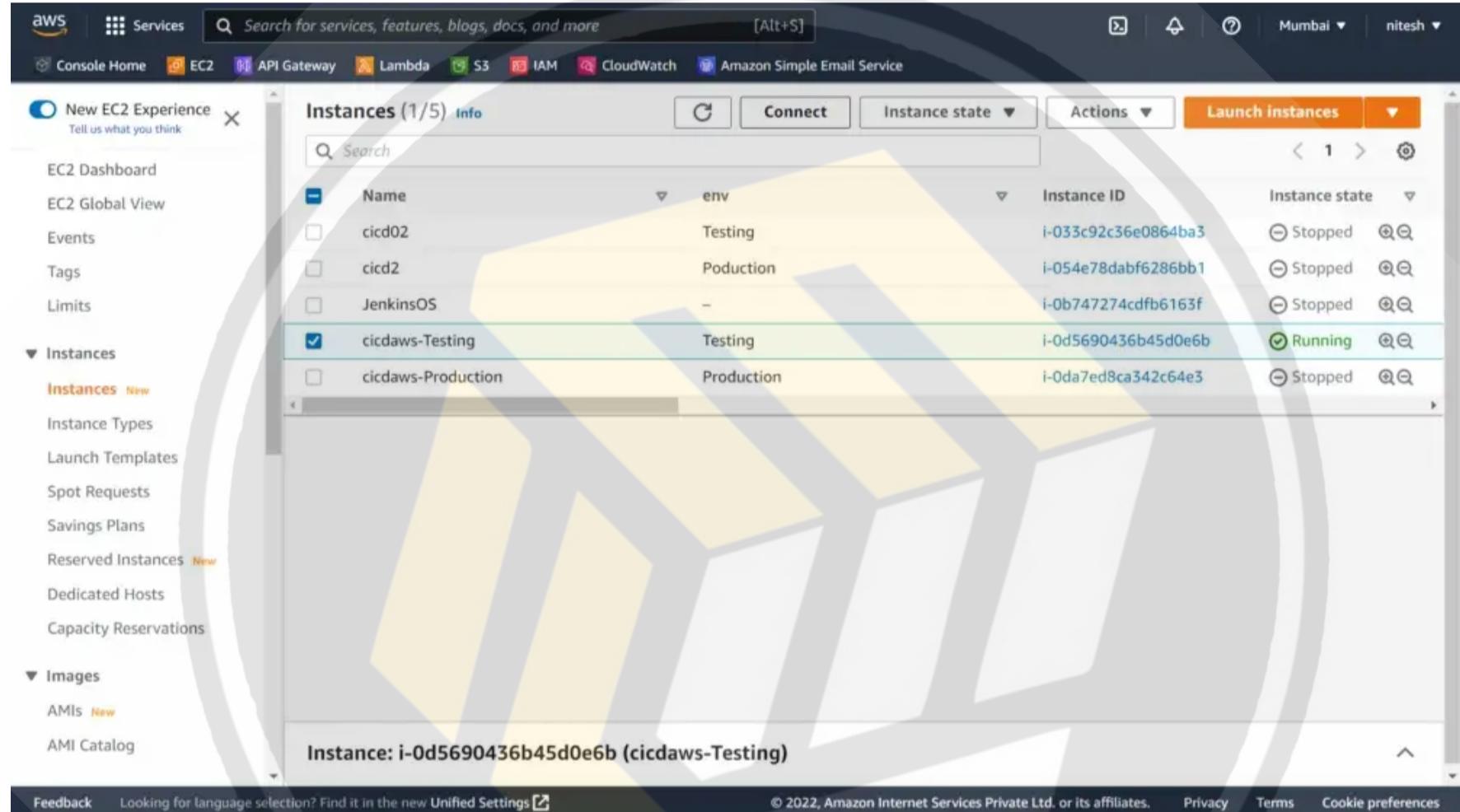
wget https://aws-codedeploy-eu-west-1.s3.eu-west-1.amazonaws.com/latest/install

chmod +x ./install

sudo ./install auto

sudo service codedeploy-agent status

Here in step: 3 → change : eu-west-1 → to your region(ex. ap-south-1).



Screenshot of the AWS EC2 Connect interface showing the connection process to an instance (i-0d5690436b45d0e6b). The 'EC2 Instance Connect' tab is selected. The instance ID is i-0d5690436b45d0e6b, the public IP address is 13.235.19.229, and the user name is ec2-user. A note states: 'Note: In most cases, the guessed user name is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.' A 'Connect' button is visible.

ap-south-1.console.aws.amazon.com/ec2/v2/connect/.../i-0d5690436b45d0e6b

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```
codedeploy-agent      noarch      1.3.2-1902      /codedeploy-agent-1.3.2-1902.noarch.tmp-20220707-3724-1t122bp      11 M
Transaction Summary
=====
Install 1 Package
Total size: 11 M
Installed size: 11 M
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction

pre hook : 1
Checking the ruby version.
Checking if there is already a process named codedeploy-agent running.
  Installing : codedeploy-agent-1.3.2-1902.noarch

post hook : 1
Check if there is a codedeployagent config file.
Start codedeploy-agent in post hook if this is a first install.
  Verifying : codedeploy-agent-1.3.2-1902.noarch

Installed:
  codedeploy-agent.noarch 0:1.3.2-1902

Complete!
I, [2022-07-07T08:01:43.135596 #3724] INFO -- : Update check complete.
I, [2022-07-07T08:01:43.135691 #3724] INFO -- : Stopping updater.
[ec2-user@ip-172-31-36-88 ~]$ sudo service codedeploy-agent status
The AWS CodeDeploy agent is running as PID 3806
[ec2-user@ip-172-31-36-88 ~]$ sudo service codedeploy-agent status
```

i-0d5690436b45d0e6b (cicdaws-Testing)

Public IPs: 65.0.169.159 Private IPs: 172.31.36.88

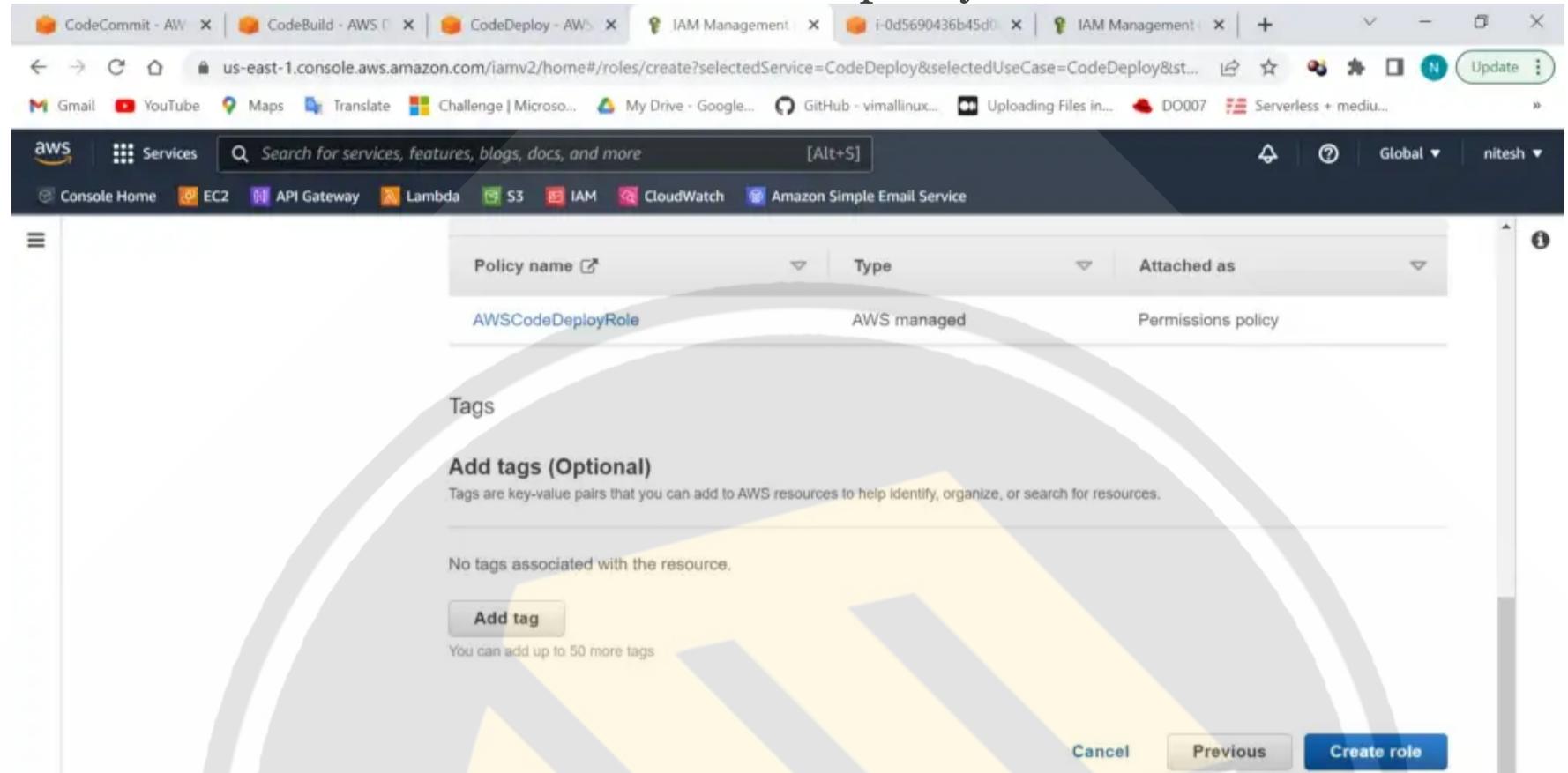
STEP-9:

Code Deploy (CD tool)

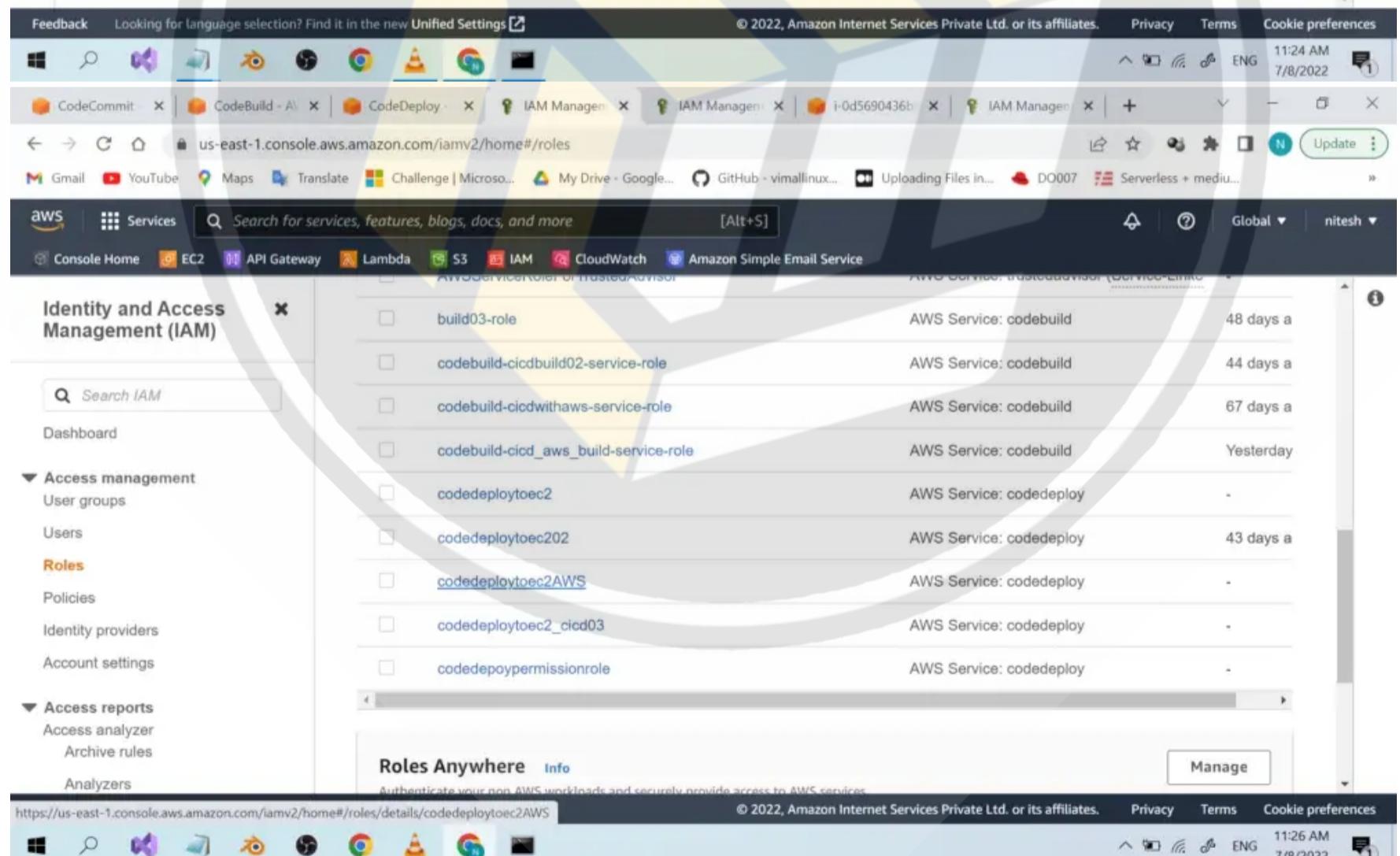
AWS CodeDeploy is a fully managed deployment service that automates software deployments to a variety of computing services such as Amazon EC2, AWS Fargate, AWS Lambda, and your on-premises servers. For more details you can visit the below-mentioned link :

CodeDeploy will configure our web servers and deploy our code. Let's first create a role for CodeDeploy (CodeDeploy → EC2):

Select the role and attach the EC2Access policy to it.



The screenshot shows the 'Create role' wizard in the AWS IAM console. The current step is 'Tags'. It displays a table with one row for 'AWSCodeDeployRole'. The 'Type' column shows 'AWS managed' and the 'Attached as' column shows 'Permissions policy'. Below the table is a section titled 'Add tags (Optional)' with a note: 'Tags are key-value pairs that you can add to AWS resources to help identify, organize, or search for resources.' A button 'Add tag' is present, along with a note: 'You can add up to 50 more tags.' At the bottom right are 'Cancel', 'Previous', and 'Create role' buttons.



The screenshot shows the 'Identity and Access Management (IAM)' service dashboard. The left sidebar is collapsed. The main area lists several roles:

Role Name	AWS Service	Last Used
build03-role	codebuild	48 days ago
codebuild-cicdbuild02-service-role	codebuild	44 days ago
codebuild-cicdwithaws-service-role	codebuild	67 days ago
codebuild-cicd_aws_build-service-role	codebuild	Yesterday
codedeploytoec2	codedeploy	-
codedeploytoec202	codedeploy	43 days ago
codedeploytoec2AWS	codedeploy	-
codedeploytoec2_cicd03	codedeploy	-
codedeploypermissionrole	codedeploy	-

At the bottom, there is a 'Roles Anywhere' section with a 'Manage' button and a note: 'Authenticate your non-AWS workloads and securely provide access to AWS services.'

Screenshot of the AWS IAM console showing the 'Permissions policies' section for a role named 'codedeploytoec2AWS'. The 'AWSCodeDeployRole' policy is listed under 'AWS managed' policies.

Permissions policies (1)

You can attach up to 10 managed policies.

Filter policies by property or policy name and press enter

Policy name	Type	Description
AWSCodeDeployRole	AWS managed	Provides CodeDeploy service access to expand tags and int...

Permissions boundary - (not set)

Set a permissions boundary to control the maximum permissions this role can have. This is not a common setting but can be used to delegate permission management to others.

Set permissions boundary

Current permissions policies (1)

Other permissions policies (Selected 1/767)

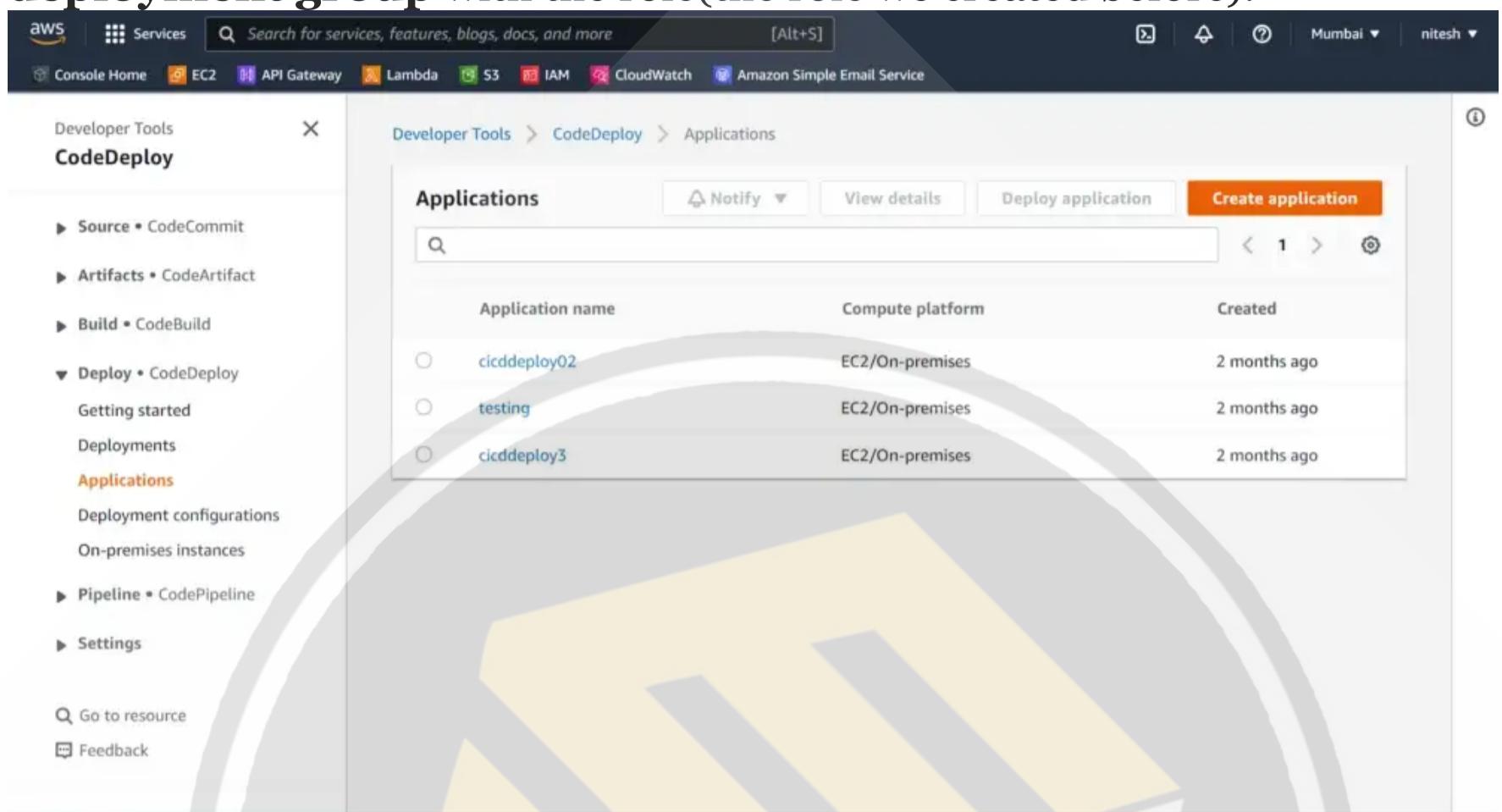
Filter policies by property or policy name and press enter

"ec2"

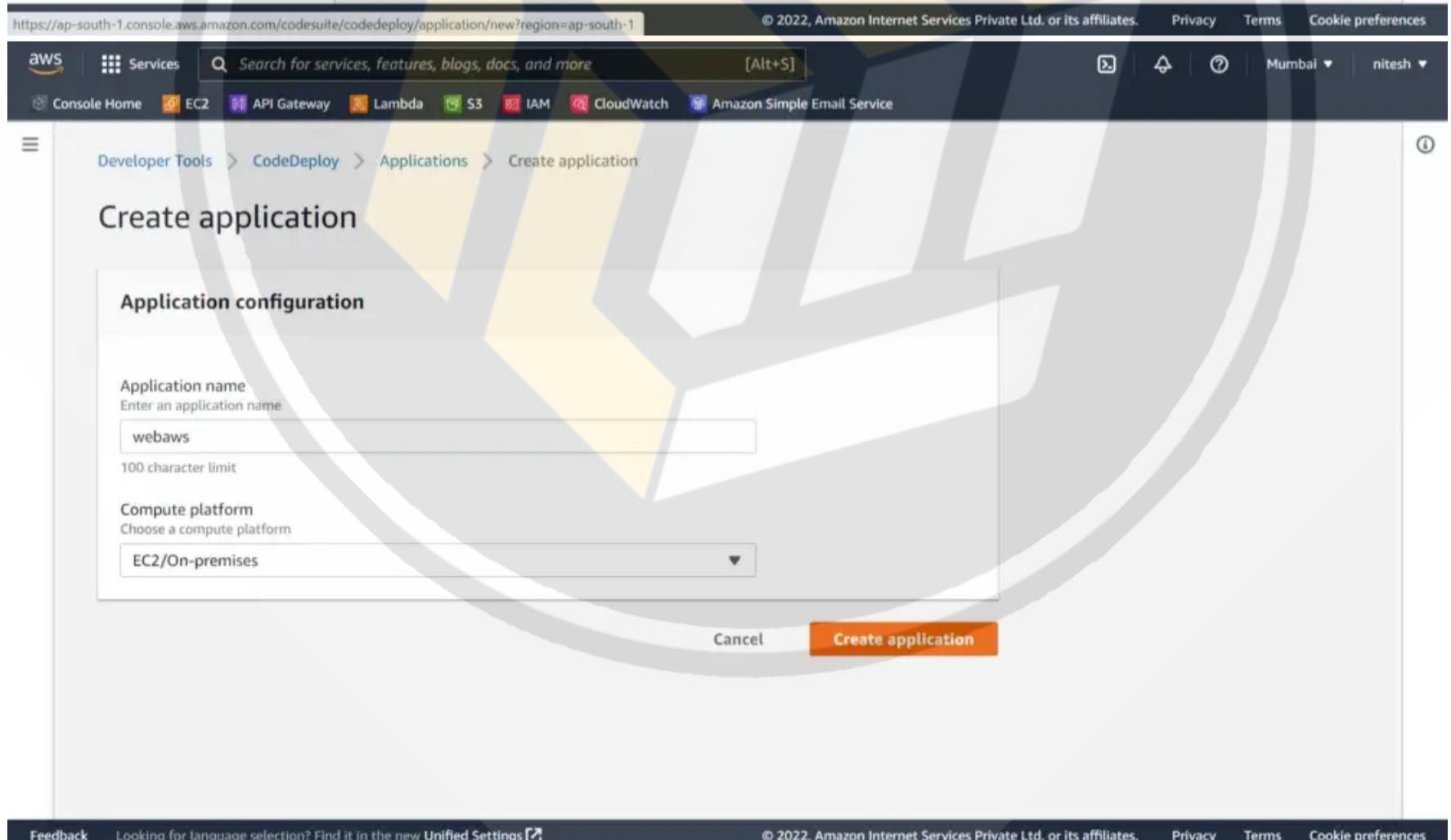
Policy name	Type	Description
AmazonEC2FullAccess	AWS managed	Provides full access to Amazon EC2 via the AWS Manage...
AmazonEC2RoleforSSM	AWS managed	This policy will soon be deprecated. Please use AmazonS...
AmazonEC2RoleforAWSCodeDeploy	AWS managed	Provides EC2 access to S3 bucket to download revision...
AmazonEC2ContainerRegistryFullAccess	AWS managed	Provides administrative access to Amazon ECR resources
AmazonEC2ContainerRegistryReadOnly	AWS managed	Provides read-only access to Amazon EC2 Container Reg...

STEP-10:

In CodeDeploy: Create Application and after that Create deployment group with the role(the role we created before).



The screenshot shows the AWS CodeDeploy Applications page. On the left, there's a sidebar with 'CodeDeploy' selected. The main area displays a table of applications with columns for Application name, Compute platform, and Created. Three applications are listed: 'cicdddeploy02' (EC2/On-premises, 2 months ago), 'testing' (EC2/On-premises, 2 months ago), and 'cicdddeploy3' (EC2/On-premises, 2 months ago). A large watermark of the AWS logo is overlaid on the page.



The screenshot shows the 'Create application' dialog box. It has a title 'Create application' and a sub-section 'Application configuration'. Under 'Application name', the input field contains 'webaws'. Under 'Compute platform', the dropdown menu shows 'EC2/On-premises'. At the bottom right of the dialog are 'Cancel' and 'Create application' buttons. The background shows the AWS navigation bar and the 'Applications' page from the previous screenshot.

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Developer Tools CodeDeploy

Source • CodeCommit
Artifacts • CodeArtifact
Build • CodeBuild
Deploy • CodeDeploy
Getting started
Deployments
Applications Application Settings Deployment configurations On-premises instances Pipeline • CodePipeline Settings Go to resource

Developer Tools > CodeDeploy > Applications > webaws

webaws

Notify Delete application

Application details

Name	Compute platform
webaws	EC2/On-premises

Deployments Deployment groups Revisions

Deployment groups

Name	Status	Last attempted deployment	Last successful deployment	Trigger count
No deployment groups				

View details Edit Create deployment group

No deployment groups

Before you can deploy your application using CodeDeploy, you must create a deployment group.

ap-south-1.console.aws.amazon.com/codesuite/codedeploy/applications/.../ne... © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

CodeCommit CodeBuild - All CodeDeploy - All IAM Manager - All GitHub - vimallinux... Uploading Files in... DO007 Serverless + mediu... Gmail YouTube Maps Translate Challenge | Microso... My Drive - Google... GitHub - vimallinux... Uploading Files in... DO007 Serverless + mediu...

AWS Services Search for services, features, blogs, docs, and more [Alt+S]

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Developer Tools > CodeDeploy > Applications > webaws > Create deployment group

Create deployment group

Application

Application webaws Compute type EC2/On-premises

Deployment group name

Enter a deployment group name webaws

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The screenshot shows the AWS CodeDeploy application creation interface. In the 'Service role' section, a service role with ARN `arn:aws:iam::718871632185:role/codedeploytoec2AWS` is selected. Under 'Deployment type', 'In-place' is chosen, described as updating instances in the deployment group with the latest application revisions. In the 'Instances' section, 'Amazon EC2 instances' are selected, with one unique matched instance named `cicdaws-Testing`. A tag group for this instance is defined with the key `Name` and value `cicdaws-Testing`.

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CodeCommit | CodeBuild - Al | CodeDeploy - | IAM Manager | IAM Manager | IAM Manager | i-0d5690436b | IAM Manager | +

Gmail YouTube Maps Translate Challenge | Microsoft My Drive - Google... GitHub - vimallinux... Uploading Files in... DO007 Serverless + medi...

aws Services Search for services, features, blogs, docs, and more [Alt+S]

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webaws 100 character limit

Service role

Enter a service role Enter a service role with CodeDeploy permissions that grants AWS CodeDeploy access to your target instances.

arn:aws:iam::718871632185:role/codedeploytoec2AWS

Deployment type

Choose how to deploy your application

In-place Updates the instances in the deployment group with the latest application revisions. During a deployment, each instance will be briefly taken offline for its update

Blue/green Replaces the instances in the deployment group with new instances and deploys the latest application revision to them. After instances in the replacement environment are registered with a load balancer, instances from the original environment are deregistered and can be terminated.

Select any combination of Amazon EC2 Auto Scaling groups, Amazon EC2 instances, and on-premises instances to add to this deployment

Amazon EC2 Auto Scaling groups

Amazon EC2 instances 1 unique matched instance. Click here for details

You can add up to three groups of tags for EC2 instances to this deployment group.
One tag group: Any instance identified by the tag group will be deployed to.
Multiple tag groups: Only instances identified by all the tag groups will be deployed to.

Tag group 1

Key	Value - optional
<input type="text"/> Name	<input type="text"/> cicdaws-Testing

Add tag Remove tag

+ Add tag group

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CodeCommit | CodeBuild - Al | CodeDeploy - | IAM Manager | Instances | EC2 | i-0d5690436b | IAM Manager | +

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11:28 AM 7/8/2022

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11:30 AM 7/8/2022

Before updating CodePipeline for deployment, we are adding some files.
Files :

- `Buildspec.yml` : For CodeBuild
- `Appspec.yml` : For CodeDeploy
- Scripts(Folder) : For Confirmation (described in `Appspec.yml`)

For files go to the below-mentioned link:

Update CodeBuild: Got to Build the project Click on Edit and then click on Buildspec → Use buildspec file → Update buildspec.

Buildspec.yml file :

Here grep -i LW index.html command will look for the LW word in index.html

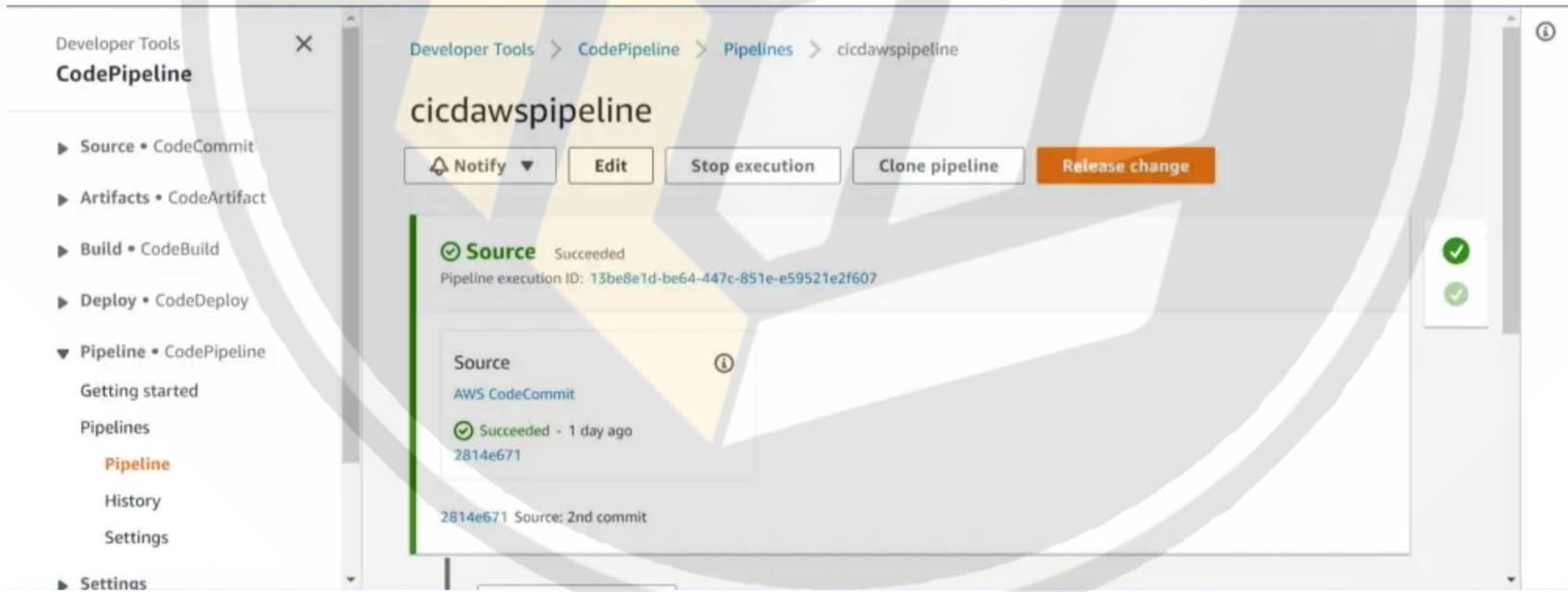
Appspec.yml file:

Scripts you will find at:<https://github.com/devops0014/cicd-with-aws.git>

Now add all files and the Script folder with your code then commit it and push it.

Now let's add the deploy stage with CodePipeline :

CodePipeline: Pipeline → Edit (Button) → Add Stage (Below Build Stage) → Stage Name → Add Action Group → Edit it → Save → Release Change (For testing)



The screenshot shows the AWS CodePipeline console interface. On the left, a sidebar titled "CodePipeline" contains navigation links: "Source • CodeCommit", "Artifacts • CodeArtifact", "Build • CodeBuild", "Deploy • CodeDeploy", "Pipeline • CodePipeline" (which is expanded to show "Getting started", "Pipelines", "Pipeline", "History", and "Settings"), and "Settings". The main area displays a pipeline diagram with three stages: "Source" (using AWS CodeCommit), "Build" (using AWS CodeBuild), and "Deploy" (using AWS Lambda). Each stage has an "Edit stage" button and a "Add stage" button. The pipeline is currently in the "Edit" mode. The browser's address bar shows the URL: ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipelines/cicdawspipeline/edit?region=ap-south-1. The status bar at the bottom right indicates the time as 11:32 AM and the date as 7/8/2022.

This screenshot shows the "Add stage" dialog box overlaid on the AWS CodePipeline editor. The dialog has a "Stage name" input field where "Deploy-Testing" is typed. Below the input field is a note: "No more than 100 characters". At the bottom of the dialog are "Cancel" and "Add stage" buttons. The background shows the pipeline editor with the "Deploy" stage highlighted. The browser's address bar shows the URL: ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipelines/cicdawspipeline/edit?region=ap-south-1. The status bar at the bottom right indicates the time as 11:35 AM and the date as 7/8/2022.

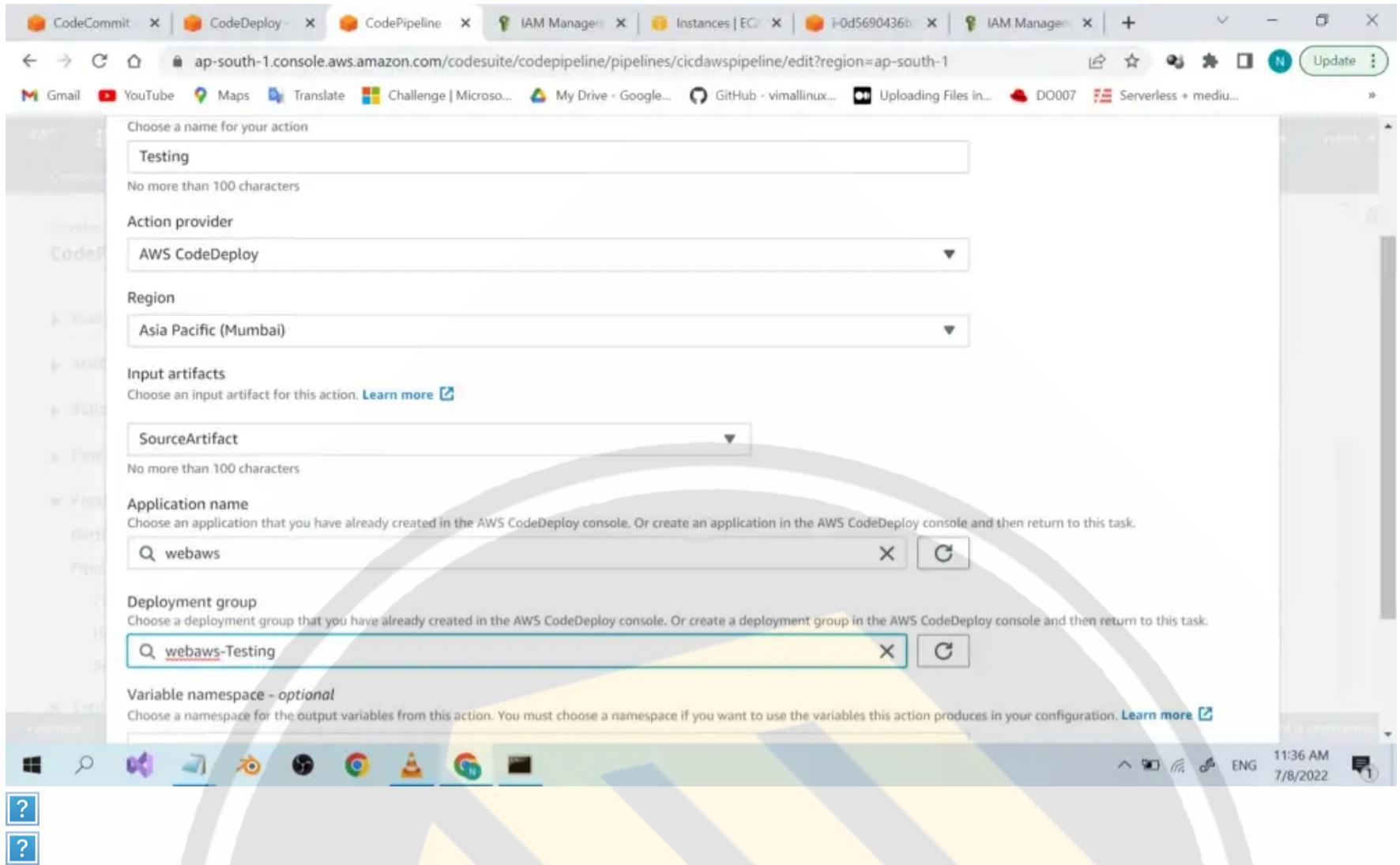
Screenshot of the AWS CodePipeline console showing the pipeline editor interface.

The main window displays the "Edit: Build" stage, which uses AWS CodeBuild as the action provider. Below it, the "Edit: Deploy-Testing" stage is shown, which currently has no actions defined.

A modal dialog, "Edit action", is open in the foreground, allowing configuration of a new action:

- Action name:** Testing
- Action provider:** AWS CodeDeploy
- Region:** Asia Pacific (Mumbai)
- Input artifacts:** No input artifacts selected.
- Application name:** No application selected.

The browser's address bar shows the URL: ap-south-1.console.aws.amazon.com/codesuite/codepipeline/pipelines/cicdawspipeline/edit?region=ap-south-1



QAT

The difference between Continuous Delivery and Continuous Deployment :

Continuous Delivery: Manual QAT Approval

Continuous Deployment: Automatic QAT Approval

Let's add a manual QAT stage :

CodePipeline: Pipeline → Edit (Button) → Add Stage (Below Deploy Stage) → Stage Name → Add Action Group → Edit action → Save → Release Change (For testing)

Edit action

Action name
Choose a name for your action **Approvals**
Manual Approval

No more than 100 characters

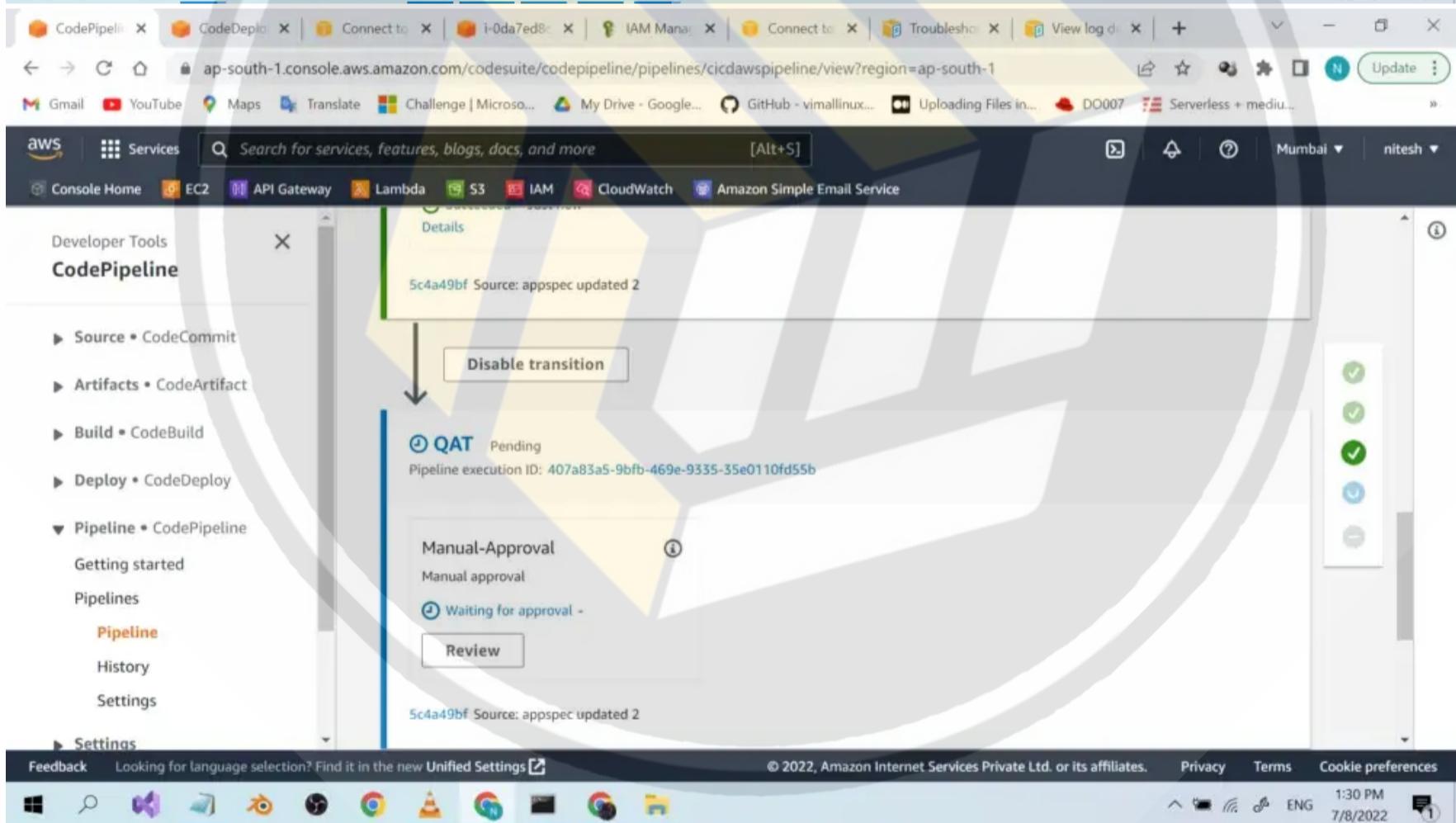
Action provider
Manual approval

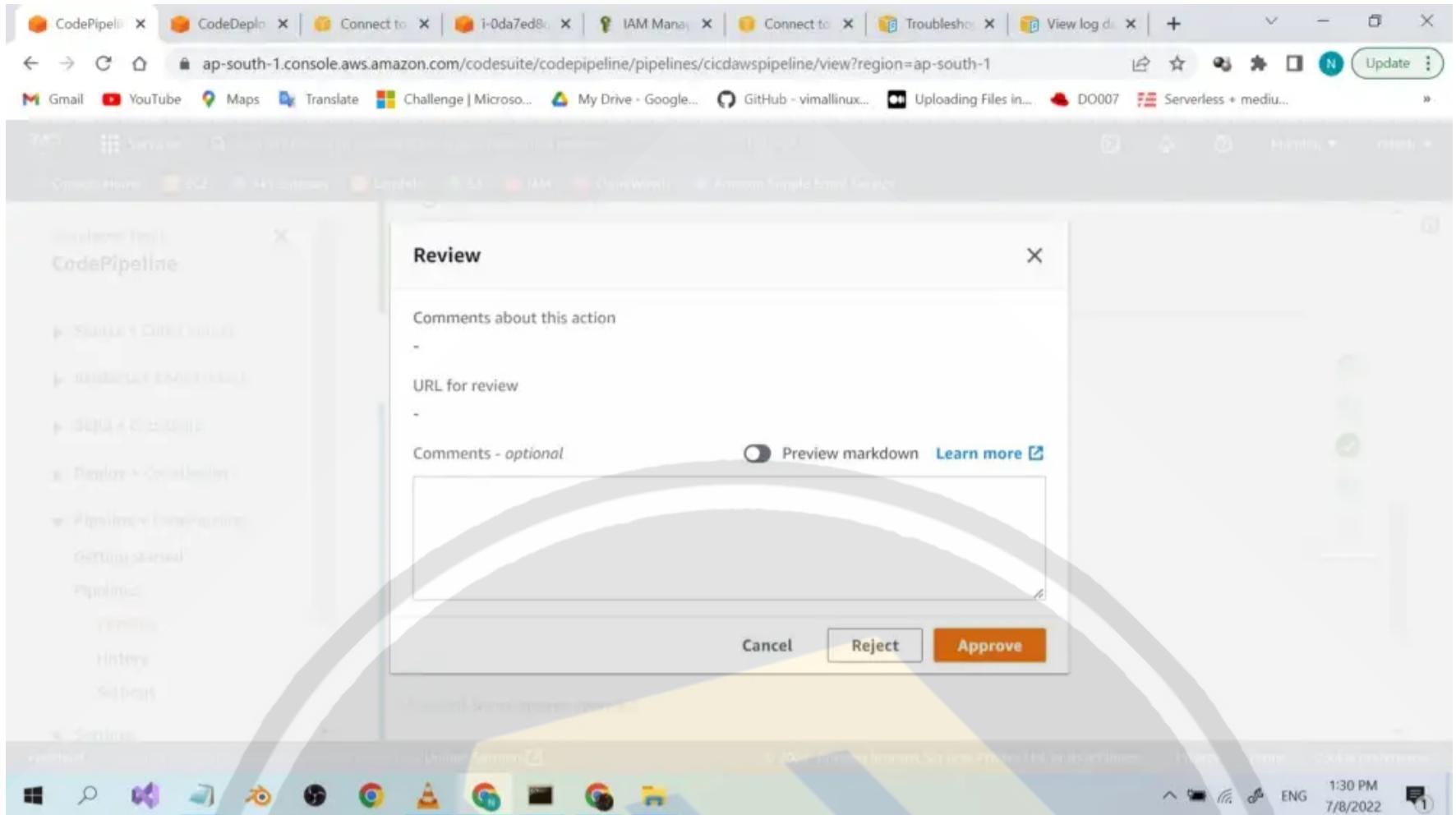
Configure the approval request.

SNS topic ARN - optional

URL for review - optional
Type the URL you want to provide to the reviewer as part of the approval request. The URL must begin with 'http://' or 'https://'.
[]

Comments - optional
Comments you type here display for the reviewer in email notifications or the console.
[]





Production Environment

In CodeDeploy: Click on Application and after that **Create deployment group** with the role(the role we created before), just like we created Testing deployment. Now add the agent and the role (EC2 → CodeDeploy) in the other EC2 instance.

Now create a new stage in CodePipeline for production.

In CodePipeline:

Pipeline → Edit (Button) → Add Stage (Below Deploy Stage) → Stage Name → Add Action Group → Edit action → Save → Release Change

The screenshot shows the AWS CodePipeline console. A green banner at the top indicates that the 'Action Manual-Approval' was approved. Below this, a 'Deploy-Production' step is shown as 'Succeeded'. The pipeline execution ID is 407a83a5-9bfb-469e-9335-35e0110fd55b. The status of the step is 'Succeeded - Just now'. A 'Disable transition' button is visible above the step. To the right, there is a vertical column of six green checkmarks.

Action Manual-Approval was approved

5c4a49bf Source: appspec updated 2

Disable transition

Deploy-Production Succeeded

Pipeline execution ID: 407a83a5-9bfb-469e-9335-35e0110fd55b

Deploy-Production AWS CodeDeploy

Succeeded - Just now Details

5c4a49bf Source: appspec updated 2

CodePipeline

- Source • CodeCommit
- Artifacts • CodeArtifact
- Build • CodeBuild
- Deploy • CodeDeploy
- Pipeline • CodePipeline
 - Getting started
 - Pipelines
 - Pipeline**
 - History
 - Settings

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Instances (1/5)

Name	Instance ID	Instance state
JenkinsOS	i-0b747274cd8b6163f	Stopped
cicdaws-Testing	i-0d5690436b45d0e6b	Running
cicdaws-Production	i-0da7ed8ca342c64e3	Running

Instance: i-0da7ed8ca342c64e3 (cicdaws-Production)

Details Security Networking Storage Status checks Monitoring Tags

Instance summary

Instance ID: i-0da7ed8ca342c64e3 (cicdaws-Production)

Public IPv4 address copied

15.206.92.134 | open address

Private IPv4 addresses

172.31.44.35

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