

JOIN THE DevOps/SRE BATCH 8.0 - <https://bit.ly/devopsbatch8>

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# AWS DEVOPS CODEPIPELINE

## Stage1

**Step 1** - Use the CodeCommit console to create the CodeCommit repository



aws Services Search [Option+S]

Developer Tools > CodeCommit > Repositories > Create repository

## Create repository

Create a secure repository to store and share your code. Begin by typing a repository name and a description for your repository. Repository names are included in the URLs for that repository.

### Repository settings

Repository name

week2-demo

100 characters maximum. Other limits apply.

Description - optional

1,000 characters maximum

Tags

Add tag

**Step 2-** Create the IAM user role for codecommit and add the policy as permission: [ singambatch ]

**AWSCodeCommitPowerUser** - Add as permission to user

IAM > Users > singambatch > Add permissions

Step 1  
Add permissions

Step 2  
Review

### Add permissions

Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. [Learn more](#)

#### Permissions options

☐ Add user to group  
Add user to an existing group, or create a new group. We recommend using groups to manage user permissions by job function.

☐ Copy permissions  
Copy all group memberships, attached managed policies, inline policies, and any existing permissions boundaries from an existing user.

☒ Attach policies directly  
Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.

#### Permissions policies (1/1114)

Filter by Type

Search: AWSCodeCommitPowerUser All types 1 match

Policy name	Type	Attached entities
AWSCodeCommitPowerUser	AWS managed	0

Cancel Next

**Step3:** Clone your aws codecommit repo in your local, Make sure you have the aws configure command already set up to access aws cli.

## Clone repo -

Developer Tools > CodeCommit > Repositories > week2-demo

# week2-demo

Clone URL ▼

▼ Connection steps

HTTPS | SSH | HTTPS (GRC)

## Step 3.1:

### Step 3: Create Git credentials for HTTPS connections to CodeCommit

After you have installed Git, create Git credentials for your IAM user in IAM.

#### To set up HTTPS Git credentials for CodeCommit

1. Sign in to the AWS Management Console and open the IAM console at <https://console.aws.amazon.com/iam/>. Make sure to sign in as the IAM user who will create and use the Git credentials for connections to CodeCommit.
2. In the IAM console, in the navigation pane, choose **Users**, and from the list of users, choose your IAM user.

**Note**  
You can directly view and manage your CodeCommit credentials in **My Security Credentials**. For more information, see [View and manage your credentials](#).

3. On the user details page, choose the **Security Credentials** tab, and in **HTTPS Git credentials for AWS CodeCommit**, choose **Generate**.



PS

IAM > Users > singambatch

## singambatch Info

**Summary**

ARN arn:aws:iam::164297528770:user/singambatch	Console access Enabled without MFA	Access key 1 AKIASMQHFHKB3KUF3LX - Active Used 42 days ago. 77 days old.
Created May 27, 2023, 19:49 (UTC+05:30)	Last console sign-in 6 days ago	Access key 2 <a href="#">Create access key</a>

Permissions | Groups | Tags (1) | **Security credentials** | Access Advisor

**Console sign-in** Manage console access

Console sign-in link <a href="https://164297528770.signin.aws.amazon.com/console">https://164297528770.signin.aws.amazon.com/console</a>	Console password Updated 77 days ago (2023-05-27 19:49 GMT+5:30) Last console sign-in 6 days ago (2023-08-06 17:05 GMT+5:30)
---	---

**Multi-factor authentication (MFA)** (0)  
Use MFA to increase the security of your AWS environment. Signing in with MFA requires an authentication code from an MFA device. Each user can have a maximum of 8 MFA devices assigned. [Learn more](#)

[Remove](#) [Resync](#) [Assign MFA device](#)

Device type	Identifier	Certifications	Created on
No MFA devices. Assign an MFA device to improve the security of your AWS environment.			

## Step 4 -

git clone

<https://git-codecommit.us-west-1.amazonaws.com/v1/repos/wee k2-demo>

git clone --mirror

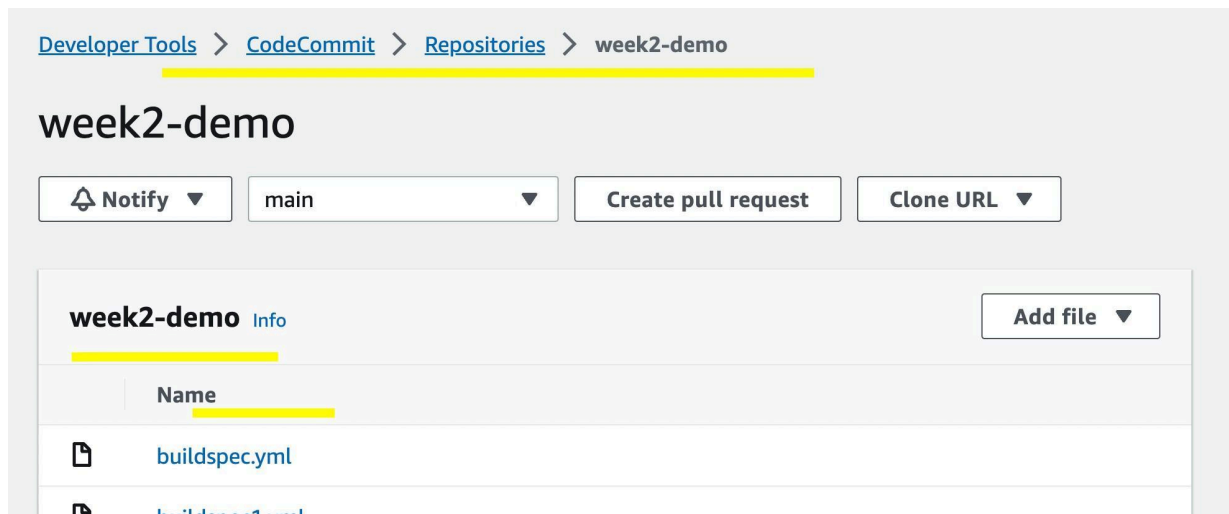
[https://github.com/praveen1994dec/aws\\_pipeline.git](https://github.com/praveen1994dec/aws_pipeline.git) github-repo

cd github-repo

git push

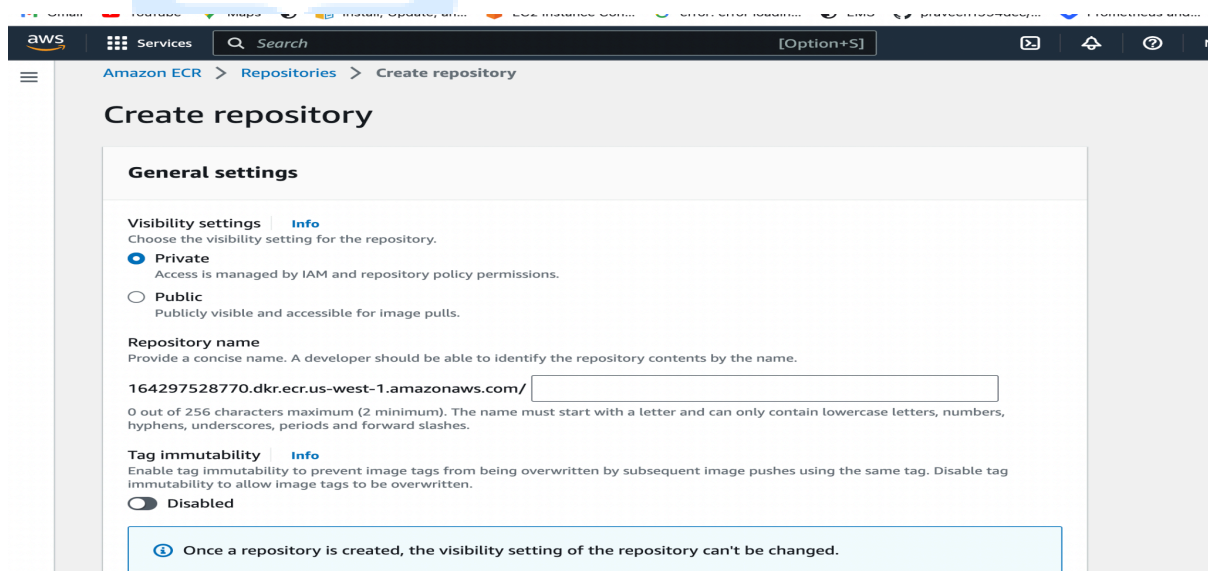
<https://git-codecommit.us-west-1.amazonaws.com/v1/repos/wee k2-demo> --all

## Step 5- Go to code commit and check the repo details



## Stage2: Configure CodeBuild

### Create Repository in Elastic Container Registry



164297528770.dkr.ecr.us-west-1.amazonaws.com/singambatch

## 2.1 -> #Setup a CodeBuild project

Click on create code build project -> select repository -> select branch -> and add the below data

Select the PRIVILEGED checkbox

Project name

A project name must be 1-255 characters. It can include the letters A-Z and a-z, the numbers 0-9, and the special characters - and \_.

Description - *optional*

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

**Source** Add source

**Source 1 - Primary**

Source provider

Repository

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.

Commit ID - *optional*  
Choose a commit ID. This can shorten the duration of your build.

Source version [Info](#)  
refs/heads/main  
c0f204ba first commit

▼ Additional configuration  
[Git clone depth](#) [Git submodules](#)

### New environment image



#### Managed image

Use an image managed by AWS CodeBuild



#### Custom image

Specify a Docker image

### Operating system

Amazon Linux 2



### Runtime(s)

Standard



### Image

aws/codebuild/amazonlinux2-x86\_64-standard:4.0



### Image version

aws/codebuild/amazonlinux2-x86\_64-standard:4.0-23.02.16



### Privileged



Enable this flag if you want to build Docker images or want your builds to get elevated privileges.

### Service role

Choose an existing service role from your account



arn:aws:iam::164297528770:role/service-role/codebuild-service-rol



**FILL THE ENV VARIABLES:**

- ☐ 7 GB memory, 4 vCPUs
- ☐ 15 GB memory, 8 vCPUs
- ☐ 145 GB memory, 72 vCPUs

#### Environment variables

Name	Value	Type	
AWS_DEFAULT_REGION	us-west-1	Plaintext ▼	Remove
AWS_ACCOUNT_ID	164297528770	Plaintext ▼	Remove
IMAGE_TAG	latest	Plaintext ▼	Remove
IMAGE_REPO_NAME	demo3	Plaintext ▼	Remove

Add environment variable

Create parameter



#### Logs

##### CloudWatch

☒ CloudWatch logs - *optional*

Checking this option will upload build output logs to CloudWatch.

##### Group name

demo3

##### Stream name

demo3

##### S3

☐ S3 logs - *optional*

Checking this option will upload build output logs to S3.

Cancel

Create build project



2.2 -> Go to codebuild IAM role and attach this policy so that the codebuild can access ECR - [AmazonEC2ContainerRegistryPowerUser](#)

IAM > Roles > codebuild-B-service-role > Add permissions

Attach policy to codebuild-B-service-role

▶ Current permissions policies (2)

Other permissions policies (Selected 1/869) ↻ Create policy ↗

Filter policies by property or policy name and press enter. 3 matches

\*amazonec2containerre\* ✕ Clear filters

<input type="checkbox"/>	Policy name ↗	Type	Description
<input type="checkbox"/>	AmazonEC2ContainerRegistryReadOnly	AWS managed	Provides read-only access to
<input checked="" type="checkbox"/>	AmazonEC2ContainerRegistryPowerUser	AWS managed	Provides full access to Amaz
<input type="checkbox"/>	AmazonEC2ContainerRegistryFullAccess	AWS managed	Provides administrative acce

Cancel Add permissions

2.3 - Go to codebuild -> Run the build

Services Search [Option+S] N. California singambatch @ 1642-9752

Developer Tools > CodeBuild > Build projects > Build-demo3 > Build-demo3:b9b2b69c-a4b8-4979-a27d-05fc5efd90ec

Build-demo3:b9b2b69c-a4b8-4979-a27d-05fc5efd90ec Stop build Retry build

**Build status**

Status	Initiator	Build ARN	Resolved source version
In progress	singambatch	arn:aws:codebuild:us-west-1:164297528770:build/Build-demo3:b9b2b69c-a4b8-4979-a27d-05fc5efd90ec	-

Start time	End time	Build number
Aug 6, 2023 7:49 PM (UTC+5:30)	-	1

# Stage3 - Create a CodePipeline

## Step1 - Create the code pipeline

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 [Info](#)

#### Pipeline settings

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

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**

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

**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.

## Step2-

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

## Add source stage Info

### Source

**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.

week2-demo

**Branch name**  
Choose a branch of the repository

main

**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

Step3 -

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

## Add build stage Info

### 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**

US West (N. California)

**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.

build-job-pipeline

 or 

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

#### **Step4 -**

Skip the deploy stage and save [ The pipeline will trigger ]

Happy

Learning,

Singam

