

CodeCommit

CodeCommit

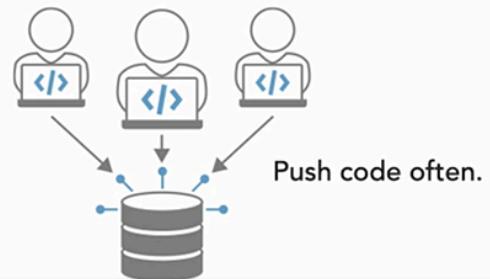
- Version control is the ability to understand the various changes that happened to the code over time (and possibly roll back)
- All these are enabled by using a version control system such as Git
- A Git repository can live on one's machine, but it usually lives on a central online repository

CodeCommit: Benefits

- Collaborate with other developers
- Make sure the code is backed up somewhere
- Make sure it's fully viewable and auditable

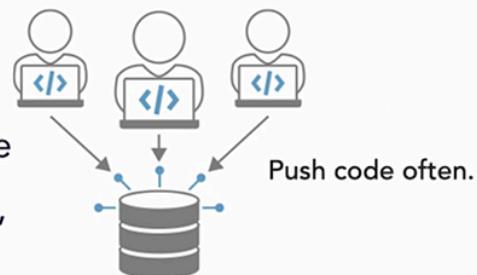
CodeCommit

- Git repositories can be expensive
- GitHub and Bitbucket: free public repositories, paid private ones



CodeCommit

- AWS CodeCommit
 - Private Git repositories
 - No size limit on repositories – scale seamlessly
 - Fully managed, highly available
 - Code only in AWS Cloud account
 - increased security and compliance
 - Integrated with Jenkins, CodeBuild, or other CI tools



Create first repo

The screenshot shows the 'Create repository' page in the AWS CodeCommit console. The 'Repository name' field contains 'cicd-repo'. A note below it states '100 characters maximum. Other limits apply.' There is also a 'Description - optional' field.

The screenshot shows the 'Create repository' page after the repository has been successfully created. A green success banner at the top says 'Success' and 'Repository successfully created'. Below it, under 'Connection steps', there are three options: 'HTTPS' (selected), 'SSH', and 'HTTPS (GRC)'. A warning message in a box says: '⚠ You are signed in using a root account. You cannot configure SSH connections for a root account, and HTTPS connections for a root account are not recommended. Consider signing in as an IAM user and then setting up your connection.' At the bottom, there is a 'Step 1: Prerequisites' section with instructions about Git client requirements.

The screenshot shows the AWS search interface with 'IAM' typed into the search bar. The results are categorized under 'Services' and 'Features'. Under 'Services', the 'IAM' service is listed with the description 'Manage access to AWS resources'. Under 'Features', there are sections for 'Groups' and 'Roles', both labeled as 'IAM feature'. The top navigation bar includes links for Services, Support, and a user profile.

The screenshot shows the 'Review' step of the 'Add user' wizard. It displays the user details entered in the previous steps. The user has been named 'cicd-user'. The 'AWS access type' is set to 'Programmatic access and AWS Management Console access'. The 'Console password type' is 'Autogenerated'. The 'Require password reset' option is checked 'Yes'. The 'Permissions boundary' is noted as 'Permissions boundary is not set'. Below this, the 'Permissions summary' section is shown, which is currently empty. At the bottom, there are buttons for 'Cancel', 'Previous', and a prominent blue 'Create user' button.

S Services ▾ Search for services, features, marketplace products, and docs [Alt+S] dipalik ▾ Global ▾ Support ▾

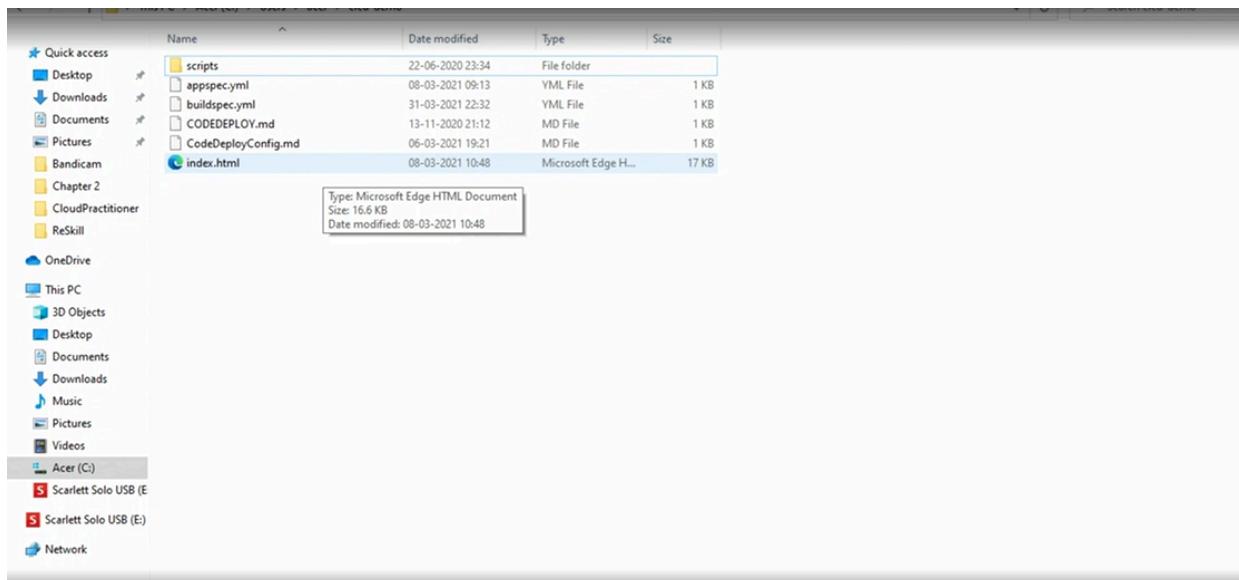
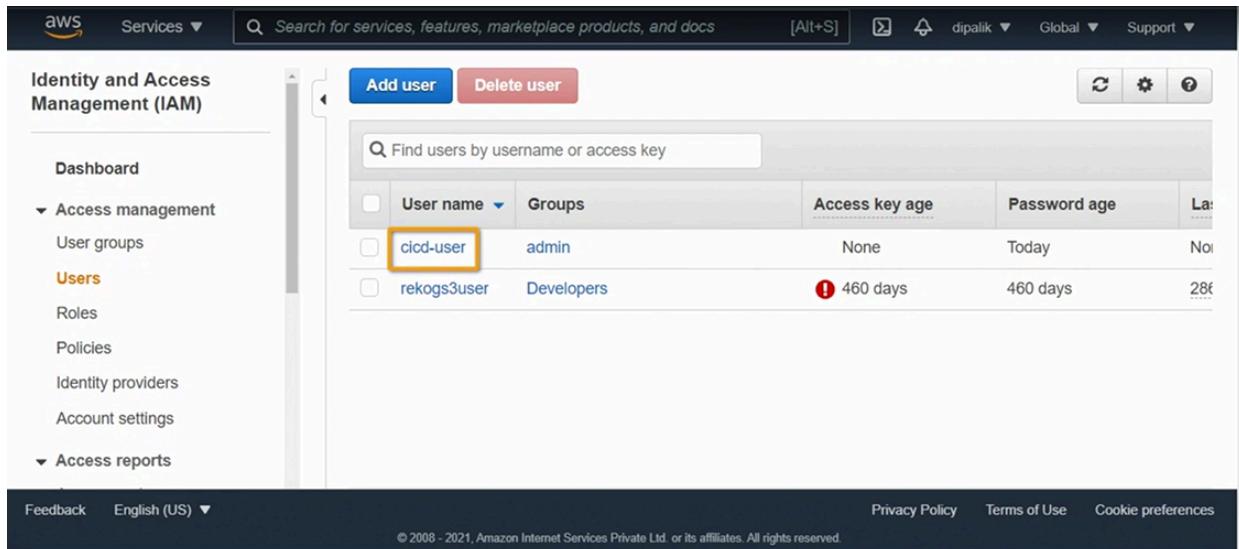
Identity and Access Management (IAM)

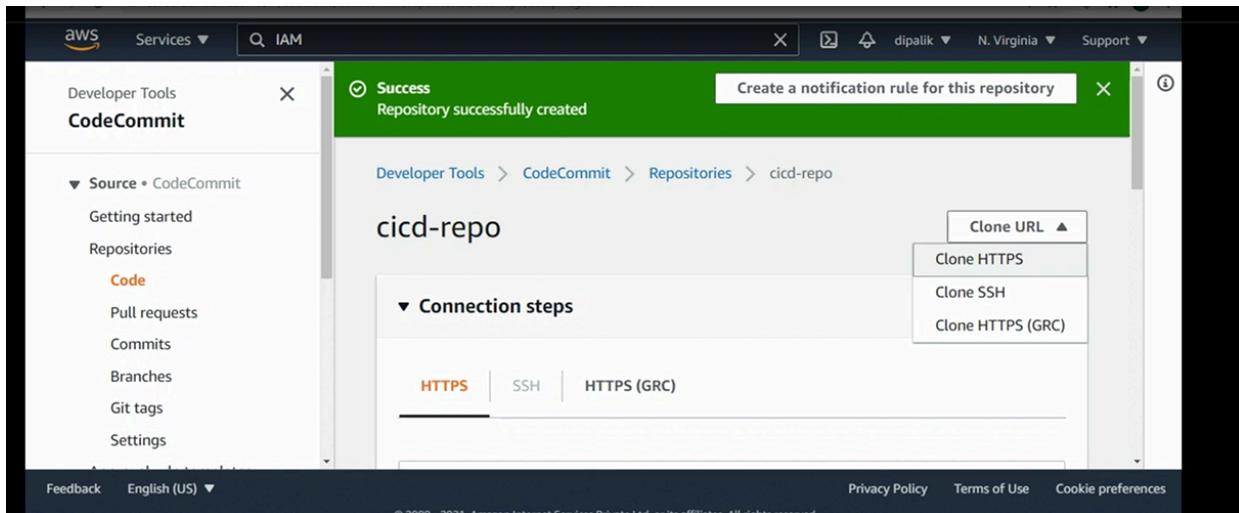
Add user Delete user

Find users by username or access key

User name	Groups	Access key age	Password age	Last
cicd-user	admin	None	Today	Not
rekogs3user	Developers	460 days	460 days	28d

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```
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo
$ ll
total 34
-rw-r--r-- 1 acer 197121    721 Nov 13 21:12 CODEDEPLOY.md
-rw-r--r-- 1 acer 197121    733 Mar  6 19:21 CodeDeployConfig.md
-rw-r--r-- 1 acer 197121    582 Mar  8 09:13 appspec.yml
-rw-r--r-- 1 acer 197121    491 Mar 31 22:32 buildspec.yml
-rw-r--r-- 1 acer 197121 17026 Mar  8 10:48 index.html
drwxr-xr-x 1 acer 197121      0 Jun 22 2020 scripts/
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo
$ git clone https://git-codecommit.us-east-1.amazonaws.com/v1/repos/cicd-repo
```

```
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo
$ ls
-rw-r--r-- 1 acer 197121 733 Mar  6 19:21 CodeDeployConfig.md
-rw-r--r-- 1 acer 197121 582 Mar  8 09:13 appspec.yml
-rw-r--r-- 1 acer 197121 491 Mar 31 22:32 buildspec.yml
-rw-r--r-- 1 acer 197121 17026 Mar  8 10:48 index.html
drwxr-xr-x 1 acer 197121      0 Jun 22 2020 scripts/
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$ ll
total 34
-rw-r--r-- 1 acer 197121 721 Nov 13 21:12 CODEDEPLOY.md
-rw-r--r-- 1 acer 197121 733 Mar  6 19:21 CodeDeployConfig.md
-rw-r--r-- 1 acer 197121 582 Mar  8 09:13 appspec.yml
-rw-r--r-- 1 acer 197121 491 Mar 31 22:32 buildspec.yml
drwxr-xr-x 1 acer 197121      0 Apr 24 23:53 cicd-repo/
-rw-r--r-- 1 acer 197121 17026 Mar  8 10:48 index.html
drwxr-xr-x 1 acer 197121      0 Jun 22 2020 scripts/
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo
```

```
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo
$ ll
total 34
-rw-r--r-- 1 acer 197121 721 Nov 13 21:12 CODEDEPLOY.md
-rw-r--r-- 1 acer 197121 733 Mar  6 19:21 CodeDeployConfig.md
-rw-r--r-- 1 acer 197121 582 Mar  8 09:13 appspec.yml
-rw-r--r-- 1 acer 197121 491 Mar 31 22:32 buildspec.yml
drwxr-xr-x 1 acer 197121      0 Apr 24 23:53 cicd-repo/
-rw-r--r-- 1 acer 197121 17026 Mar  8 10:48 index.html
drwxr-xr-x 1 acer 197121      0 Jun 22 2020 scripts/
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo
$ cd cicd-repo/
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo/cicd-repo (master)
$ ll
total 0
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo/cicd-repo (master)
```

```
$ ll  
total 0  
  
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (master)  
$ git status  
On branch master  
  
No commits yet  
  
Untracked files:  
(use "git add <file>..." to include in what will be committed)  
    CODEDEPLOY.md  
    CodeDeployConfig.md  
    appspec.yml  
    buildspec.yml  
    index.html  
    scripts/  
  
nothing added to commit but untracked files present (use "git add" to track)  
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (master)
```

```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (master)  
$ git add .  
warning: LF will be replaced by CRLF in CODEDEPLOY.md.  
The file will have its original line endings in your working directory  
warning: LF will be replaced by CRLF in CodeDeployConfig.md.  
The file will have its original line endings in your working directory  
warning: LF will be replaced by CRLF in appspec.yml.  
The file will have its original line endings in your working directory  
warning: LF will be replaced by CRLF in buildspec.yml.  
The file will have its original line endings in your working directory  
warning: LF will be replaced by CRLF in scripts/after_install.sh.  
The file will have its original line endings in your working directory  
warning: LF will be replaced by CRLF in scripts/install_dependencies.sh.  
The file will have its original line endings in your working directory  
warning: LF will be replaced by CRLF in scripts/start_server.sh.  
The file will have its original line endings in your working directory  
warning: LF will be replaced by CRLF in scripts/stop_server.sh.  
The file will have its original line endings in your working directory  
warning: LF will be replaced by CRLF in scripts/validate_service.sh.  
The file will have its original line endings in your working directory
```

```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (master)
$ git status
On branch master

No commits yet

Changes to be committed:
(use "git rm --cached <file>..." to unstage)
  new file: CODEDEPLOY.md
  new file: CodeDeployConfig.md
  new file: appspec.yml
  new file: buildspec.yml
  new file: index.html
  new file: scripts/after_install.sh
  new file: scripts/install_dependencies.sh
  new file: scripts/start_server.sh
  new file: scripts/stop_server.sh
  new file: scripts/validate_service.sh
```

```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (master)
$ git commit -m"First Commit"
[master (root-commit) d32c5f6] First Commit
10 files changed, 503 insertions(+)
create mode 100644 CODEDEPLOY.md
create mode 100644 CodeDeployConfig.md
create mode 100644 appspec.yml
create mode 100644 buildspec.yml
create mode 100644 index.html
create mode 100644 scripts/after_install.sh
create mode 100644 scripts/install_dependencies.sh
create mode 100644 scripts/start_server.sh
create mode 100644 scripts/stop_server.sh
create mode 100644 scripts/validate_service.sh
```

```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (master)
$ git push
Enumerating objects: 13, done.
Counting objects: 100% (13/13), done.
Delta compression using up to 4 threads
Compressing objects: 100% (11/11), done.
Writing objects: 100% (13/13), 5.33 KiB | 910.00 KiB/s, done.
Total 13 (delta 1), reused 0 (delta 0), pack-reused 0
To https://git-codecommit.us-east-1.amazonaws.com/v1/repos/cicd-repo
 * [new branch]      master -> master
```

The screenshot shows the AWS CodeCommit interface. The left sidebar has a tree view with 'Source' expanded, showing 'CodeCommit' selected. Under 'CodeCommit', 'Commits' is also selected. The main area is titled 'Commits' and shows a single commit entry:

Commit ID	Commit message	Commit date	Author	Actions
d32c5f60	First Commit	1 minute ago	dipalikulshrestha	Copy ID Browse

Branching

The screenshot shows the Visual Studio Code interface. The left sidebar shows an 'EXPLORER' view with a folder named 'CICD-REPO' containing files like 'index.html', 'scripts', 'appspec.yml', 'buildspec.yml', and 'CodeDeployConfig.md'. The main editor area displays an HTML file with the following code:

```
#home.bgiimg-1.w3-display-container > div.w3-display-left > span.w3-jumbo.w3-hide-small
60  cl > welcome
61  o
62  onclick="w3_close()" class="w3-bar-item w3-button">CONTACT
63
64
65  l-height image -->
66  :-1 w3-display-container" id="home">
67  play-left" style="padding:48px">
68  jumbo w3-hide-small">Welcome to DevOps with AWS v2</span>
69  xxlarge w3-hide-large w3-hide-medium">Start something that
70  large">This application is deployed using AWS CodeDeploy</
71  ut" class="w3-button w3-white w3-padding-large w3-large w3-
72
73  play-bottomleft w3-text-grey w3-large" style="padding:24px
74  facebook-official w3-hover-opacity"></i>
75  instagram w3-hover-opacity"></i>
76  snapshot w3-hover-opacity"></i>
```

```
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo/cicd-repo (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   index.html

no changes added to commit (use "git add" and/or "git commit -a")

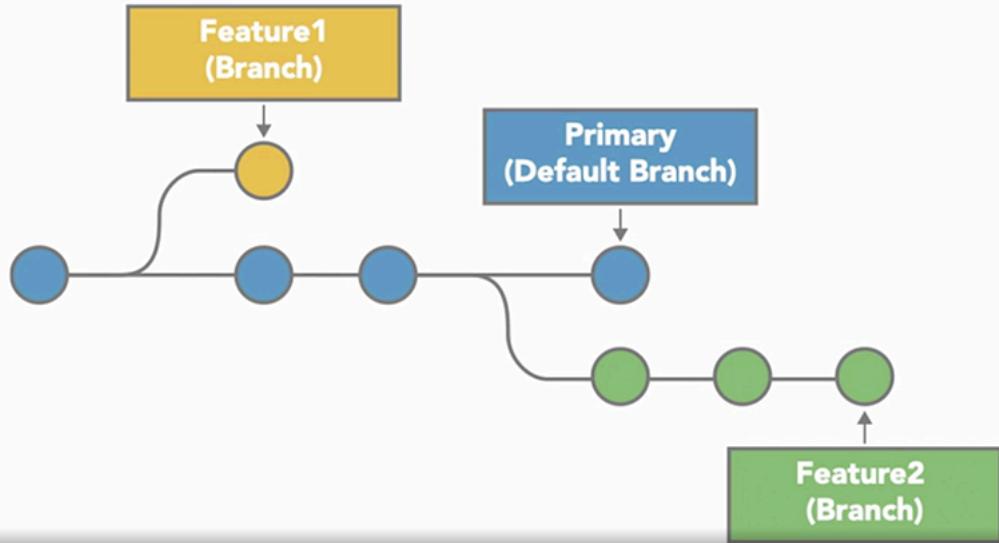
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo/cicd-repo (master)
$ git add .

acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo/cicd-repo (master)
$ git commit -m"revised index to v2"
[master 4c95fba] revised index to v2
 1 file changed, 1 insertion(+), 1 deletion(-)
```

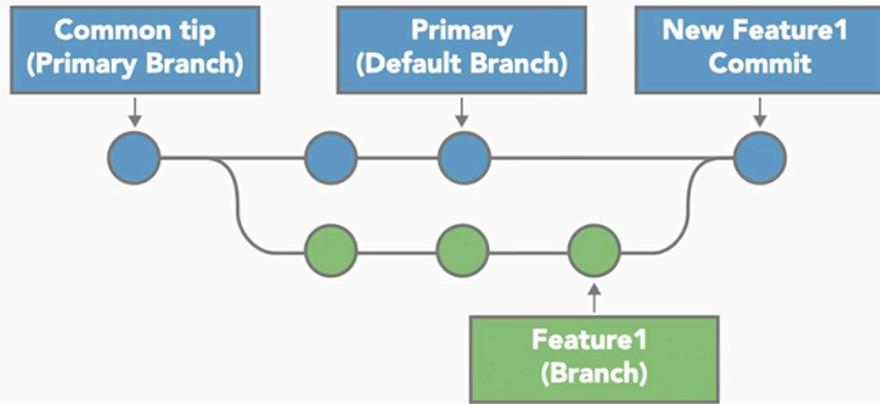
```
acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo/cicd-repo (master)
$ git commit -m"revised index to v2"
[master 4c95fba] revised index to v2
 1 file changed, 1 insertion(+), 1 deletion(-)

acer@LAPTOP-KLLSIHQO MINGW64 ~/cicd-demo/cicd-repo (master)
$ git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 326 bytes | 326.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
To https://git-codecommit.us-east-1.amazonaws.com/v1/repos/cicd-repo
 076739d..4c95fba master -> master
```

Git: Feature Branching

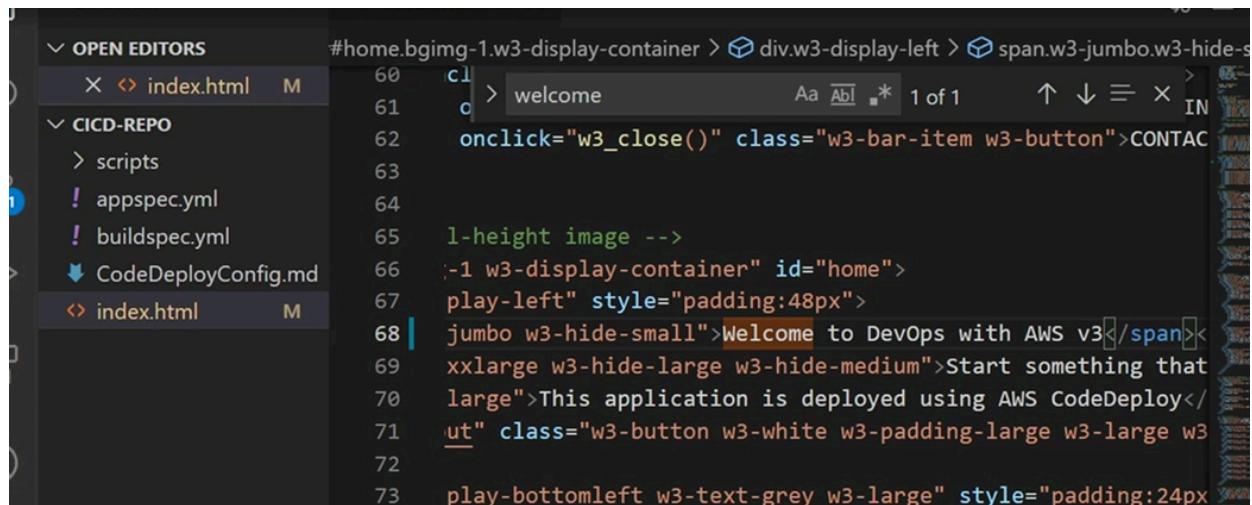


Git: Merge



```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (master)
$ git checkout -b feature1
Switched to a new branch 'feature1'
```

```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (feature1)
$
```



The screenshot shows a code editor interface with the following details:

- OPEN EDITORS:** index.html (selected), CICD-REPO (scripts, appspec.yml, buildspec.yml, CodeDeployConfig.md).
- File Content (index.html):**

```
#home.bgimg-1.w3-display-container > div.w3-display-left > span.w3-jumbo.w3-hide-s
60  cl o > welcome Aa Ab * 1 of 1 ↑ ↓ ≡ × IN
61  o
62  onclick="w3_close()" class="w3-bar-item w3-button">CONTACT
63
64
65  l-height image -->
66  |-1 w3-display-container" id="home">
67  play-left" style="padding:48px">
68  jumbo w3-hide-small">Welcome to DevOps with AWS v3</span>
69  xxlarge w3-hide-large w3-hide-medium">Start something that
70  large">This application is deployed using AWS CodeDeploy</
71  ut" class="w3-button w3-white w3-padding-large w3-large w3
72
73  play-bottomleft w3-text-grey w3-large" style="padding:24px
```

```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (feature1)
$ git status
On branch feature1
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
    (use "git restore <file>..." to discard changes in working directory)
      modified:   index.html
```

```
no changes added to commit (use "git add" and/or "git commit -a")
```

```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (feature1)
$ git add .
```

```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (feature1)
$
```

```
acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (feature1)
$ git add .

acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (feature1)
$ git commit -m"revised index to v3"
[feature1 2c5c2bf] revised index to v3
 1 file changed, 1 insertion(+), 1 deletion(-)

acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (feature1)
$ git push
fatal: The current branch feature1 has no upstream branch.
To push the current branch and set the remote as upstream, use

  git push --set-upstream origin feature1
```

The reason for the above error is that the repo is available on a local machine and not on the cloud. Do the following:

```
fatal: The current branch feature1 has no upstream branch.
To push the current branch and set the remote as upstream, use

  git push --set-upstream origin feature1

acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (feature1)
$

acer@LAPTOP-KLLSIHQ0 MINGW64 ~/cicd-demo/cicd-repo (feature1)
$ git push --set-upstream origin feature1
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 319 bytes | 319.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0
To https://git-codecommit.us-east-1.amazonaws.com/v1/repos/cicd-repo
 * [new branch]      feature1 -> feature1
Branch 'feature1' set up to track remote branch 'feature1' from 'origin'.
```

AWS Services Search for services, features, marketplace products, and docs [Alt+S] welcome 1/1 X Support

Developer Tools CodeCommit

Source • CodeCommit

- Getting started
- Repositories
 - Code
 - Pull requests
 - Commits
 - Branches
 - Git tags
 - Settings
- Approval rule templates

Mergeable There are currently no conflicts between feature1 and master. You can close this pull request by merging it in the AWS CodeCommit console.

Details Create pull request

Title mergefeature1
150 characters maximum

Description - optional Preview markdown [Learn more](#)

AWS Services Search for services, features, marketplace products, and docs [Alt+S] welcome 1/1 X Support

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Success Pull request 10 has been created.

Open No approval rules No merge conflicts Destination master << Source feature1

Author: root Approvals: 0

Details Activity Changes Commits Approvals

Details Edit details

This pull request does not have a description.

Full request: 10 mergefeature1

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Merge strategy info

Determines the way in which the current pull request will be merged into the destination branch

Fast forward merge
`git merge --ff-only`
Merges the branches and moves the destination branch pointer to the tip of the source branch. This is the default merge strategy in Git.

Squash and merge
`git merge --squash`
Combines all commits from the source branch into a single merge commit in the destination branch.

3-way merge
`git merge --no-ff`
Creates a merge commit and adds individual source commits to the destination branch.

Delete source branch feature1 after merging?

Cancel Merge pull request

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