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Task: Work on git cherry-pick and come with a Demo and documentation, also how to cherry-pick if the branch is protected.

What is cherry-pick in Git?: Cherry picking means choosing a commit from one branch and applying to another, it lets you choose the commits which you want to apply on your branch. Cherry-picking allows you to choose the changes in form of commits from one branch to another without merging entire branches. It basically lets you apply the changes that you wish to apply rather than merging entire branch full of commits.

Demo:

I have one main branch which is my main branch, and I created one staging branch

Repository address: <https://github.com/techdecipher/cherry-pick>

Branches:

- 1) main
- 2) staging

Step1: Created a repo on git account and cloned it here, then cd into it, and then created a web file called techdecipher.com.php and then added into it.

```
Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git (main)
$ git clone https://github.com/techdecipher/cherry-pick.git
Cloning into 'cherry-pick'...
warning: You appear to have cloned an empty repository.

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git (main)
$ ls
Git-Commands.txt  git-test1/      ninja/          'upload local file to remote.txt'
cherry-pick/      my-new-test2/   project-webapp-lift-shift/

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git (main)
$ cd cherry-pick/

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ ls

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ vim techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git add techdecipher.com.php
warning: in the working copy of 'techdecipher.com.php', LF will be replaced by CRLF the next time Git touches it
```

Step2: Then did a commit for techdecipher.com.php, then pushed the changes to remote repo. After this created one new branch called “staging” and checked into it. Added the file into the branch.

```

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git commit -m "designed front page of website -from - main"
[main (root-commit) 8caed11] designed front page of website -from - main
1 file changed, 1 insertion(+)
create mode 100644 techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git push origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 271 bytes | 271.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/techdecipher/cherry-pick.git
 * [new branch]      main -> main

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git branch staging

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git checkout staging
Switched to branch 'staging'

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ ls
techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git add techdecipher.com.php

```

Step3: In this step, committed the added file techdecipher.com.php on staging branch, and then edited the file, as if the dev is adding new features, edit changes, for example adding design footer, and add it again.

```

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git commit -m "added the website file in staging branch"
On branch staging
nothing to commit, working tree clean

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ vim techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git add techdecipher.com.php
warning: in the working copy of 'techdecipher.com.php', LF will be replaced by CRLF the next time Git touches it

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git commit -m "added the website file in staging branch"
[staging 98ea4fa] added the website file in staging branch
1 file changed, 2 insertions(+)

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ vim techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git add techdecipher.com.php
warning: in the working copy of 'techdecipher.com.php', LF will be replaced by CRLF the next time Git touches it

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git commit -m "designed the footer for website from staging branch"
[staging 9dc0e7c] designed the footer for website from staging branch
1 file changed, 2 insertions(+)

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ vim techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git add techdecipher.com.php
warning: in the working copy of 'techdecipher.com.php', LF will be replaced by CRLF the next time Git touches it

```

Step4: This is continued section from the above step, I kept adding more changes to file, and committing it, each time I make change into it.

```

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git commit -m "added the logo on website from staging branch"
[staging 38fe74b] added the logo on website from staging branch
1 file changed, 2 insertions(+)

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ vim techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git add techdecipher.com.php
warning: in the working copy of 'techdecipher.com.php', LF will be replaced by CRLF the next time Git touches it

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git commit -m "designed header on website from staging branch"
[staging 1864c10] designed header on website from staging branch
1 file changed, 2 insertions(+)

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ vim techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git add techdecipher.com.php
warning: in the working copy of 'techdecipher.com.php', LF will be replaced by CRLF the next time Git touches it

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git commit -m "added contact form on website from staging branch"
[staging 9df6452] added contact form on website from staging branch
1 file changed, 2 insertions(+)

```

Step5: Step 5 is about checking out to main branch as we are done making changes on staging branch. After checking out we checked the commits of staging branch from main branch with command “git log staging –oneline” and it displays all commits of the staging branch.

```

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (staging)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git log staging --oneline
9df6452 (staging) added contact form on website from staging branch
1864c10 designed header on website from staging branch
38fe74b added the logo on website from staging branch
9dc0e7c designed the footer for website from staging branch
98ea4fa added the website file in staging branch
8caed11 (HEAD -> main, origin/main) designed front page of website -from - main

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean

```

Step6: In this step we run command “git cherry-pick 38fe74b” as I wanted to cherry-pick the commit of hash “38fe74b” and it seems to given a merge conflict, after researching online it seems its common with cherry-pick and needed to resolve the file manually to fix it.

```

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git cherry-pick 38fe74b
Auto-merging techdecipher.com.php
CONFLICT (content): Merge conflict in techdecipher.com.php
error: could not apply 38fe74b... added the logo on website from staging branch
hint: After resolving the conflicts, mark them with
hint: "git add/rm <paths>", then run
hint: "git cherry-pick --continue".
hint: You can instead skip this commit with "git cherry-pick --skip".
hint: To abort and get back to the state before "git cherry-pick",
hint: run "git cherry-pick --abort".
hint: Disable this message with "git config advice.mergeConflict false"

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main|CHERRY-PICKING)
$ ls
techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main|CHERRY-PICKING)
$ vim techdecipher.com.php

```

Step7: I vim into the file techdecipher.com.php and as per instructions, I removed the lines that were there unnecessarily.

```
MINGW64:/c:/Users/Pranav/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick
Designed the front page
<<<<<< HEAD
=====
added the web file in staging branch
designed footer
added logo in website
>>>>>> 38fe74b (added the logo on website from staging branch)
~
~
~
~
```

After removing the file, It looked like this and then saved it.

```
MINGW64:/c:/Users/Pranav/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick
Designed the front page
added the web file in staging branch
designed footer
added logo in website
~
~
~
~
~
~
~
~
```

Step8: In this step, I added the edited file and continued cherry-picking, with command “git cherry-pick –continue”. As soon as I typed “git cherry-pick –continue” it gave me below screen, so saved the changes again with “wq!” and right after it, I got screen below of this image.

```
MINGW64:/c:/Users/Pranav/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick
added the logo on website from staging branch, cherry picked from commit hash 38fe74b

# Conflicts:
#   techdecipher.com.php
#
# It looks like you may be committing a cherry-pick.
# If this is not correct, please run
#   git update-ref -d CHERRY_PICK_HEAD
# and try again.

# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# Date:      Wed Jul 3 23:54:27 2024 +0530
#
# On branch main
# Your branch is up to date with 'origin/main'.
#
# You are currently cherry-picking commit 38fe74b.
#
# Changes to be committed:
#   modified:   techdecipher.com.php
#
~
~
```

```

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main|CHERRY-PICKING)
$ git add techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main|CHERRY-PICKING)
$ git cherry-pick --continue
[main 410b6e4] added the logo on website from staging branch, cherry picked from commit hash 38fe74b
Date: Wed Jul 3 23:54:27 2024 +0530
1 file changed, 6 insertions(+)

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git log --oneline
410b6e4 (HEAD -> main) added the logo on website from staging branch, cherry picked from commit hash 38fe74b
8caed11 (origin/main) designed front page of website -from - main

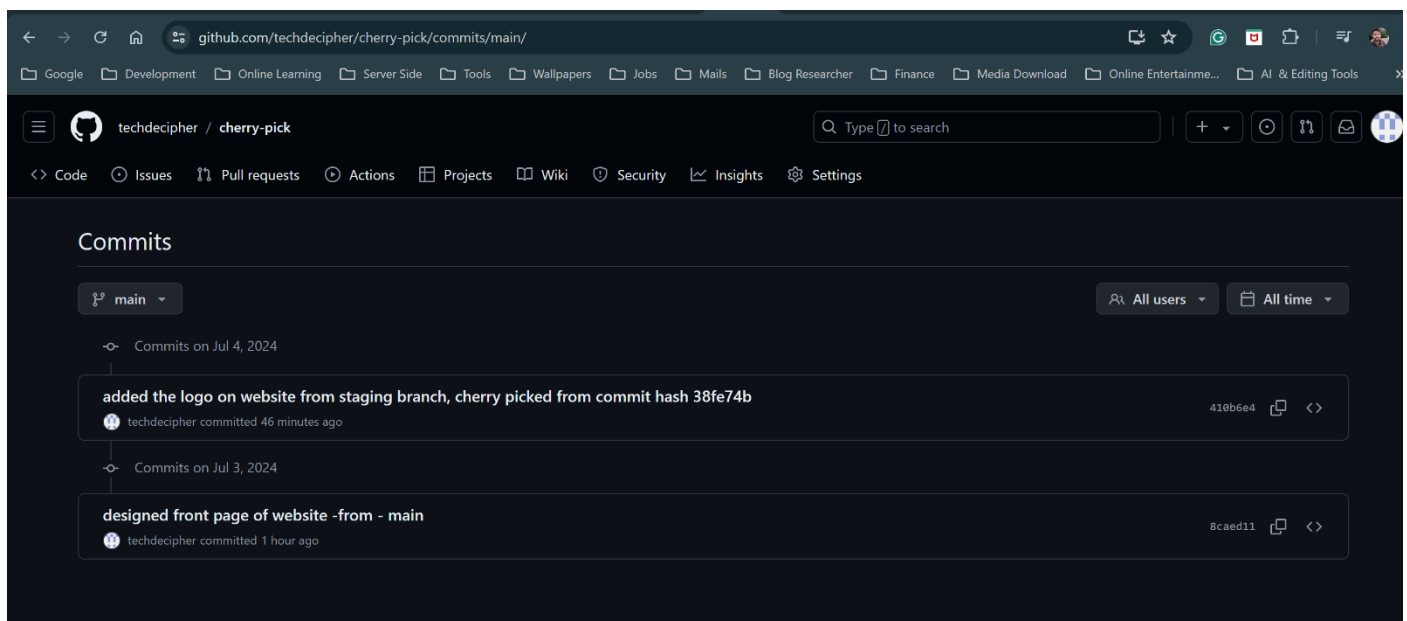
Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git push origin main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 381 bytes | 381.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/techdecipher/cherry-pick.git
8caed11..410b6e4 main -> main

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ !

```

To confirm it I run “git log –oneline” and we can see the changes picked from the hash only, no other commits were picked, only the one that I wanted have been picked. Then I pushed the changes.

Step9: To verify, I went ahead to the remote repository from git account and I can see this. Only the commit that I cherry-picked.



Cherry-pick if the branch is protected: When the branch is protected, we can still perform a cherry-pick from a protected branch even when there are restrictions set on it. Reference is here: <https://docs.github.com/en/repositories/configuring-branches-and-merges-in-your-repository/managing-protected-branches/about-protected-branches>

Branches:

- 1) main
- 2) my-protected-branch

Step1: In this phase, created a new branch “my-protected-branch” and checked out, and edited the necessary bug fix, page fix from my-protected-branch. Then committed the changes.

```
Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git checkout -b my-protected-branch
Switched to a new branch 'my-protected-branch'

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (my-protected-branch)
$ ls
techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (my-protected-branch)
$ git add techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (my-protected-branch)
$ vim techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (my-protected-branch)
$ git add techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (my-protected-branch)
$ git commit -m "Added blog page from my-protected-branch"
[my-protected-branch 8f8d862] Added blog page from my-protected-branch
1 file changed, 2 insertions(+)
```

And then made some more couple of changes and committed.

```
Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (my-protected-branch)
$ vim techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (my-protected-branch)
$ git add techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (my-protected-branch)
$ git commit -m "added slider in page from protected branch"

[my-protected-branch 38fc06a] added slider in page from protected branch
1 file changed, 2 insertions(+)
```

Step2: In this step, I checked into main branch and checked the commit hashes from the “my-protected-branch”.

```
Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (my-protected-branch)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git log my-protected-branch --oneline
38fc06a (my-protected-branch) added slider in page from protected branch
b8f396f (origin/my-protected-branch) fixed bug in all pages from my-protected-branch
8f8d862 Added blog page from my-protected-branch
410b6e4 added the logo on website from staging branch, cherry picked from commit hash 38fe74b
8caed11 designed front page of website -from - main
```

Step3: did a cherry-pick for the commit # and then edited the file for fixing the merge conflict like in steps we have done previously.

```

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git cherry-pick 8f8d862
Auto-merging techdecipher.com.php
CONFLICT (content): Merge conflict in techdecipher.com.php
error: could not apply 8f8d862... Added blog page from my-protected-branch
hint: After resolving the conflicts, mark them with
hint: "git add/rm <paths>", then run
hint: "git cherry-pick --continue".
hint: You can instead skip this commit with "git cherry-pick --skip".
hint: To abort and get back to the state before "git cherry-pick",
hint: run "git cherry-pick --abort".
hint: Disable this message with "git config advice.mergeConflict false"

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main|CHERRY-PICKING)
$ vim techdecipher.com.php

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main|CHERRY-PICKING)
$ git add techdecipher.com.php

```

Step4: After editing it, I continued the cherry-pick, and it gave below screen.

```

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main|CHERRY-PICKING)
$ git cherry-pick --continue
[main d793a6f] Added blog page from my-protected-branch, from commit #8f8d862
Date: Thu Jul 4 09:24:14 2024 +0530
1 file changed, 1 insertion(+), 1 deletion(-)

```

```

MINGW64:/c:/Users/Pranav/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick
Added blog page from my-protected-branch

# Conflicts:
#   techdecipher.com.php
#
# It looks like you may be committing a cherry-pick.
# If this is not correct, please run
#   git update-ref -d CHERRY_PICK_HEAD
# and try again.
#
# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# Date:      Thu Jul 4 09:24:14 2024 +0530
#
# On branch main
# Your branch is up to date with 'origin/main'.
#
# You are currently cherry-picking commit 8f8d862.
#
# Changes to be committed:
#   modified:   techdecipher.com.php
#

```

After saving it, it did the cherry pick.

Step5: I then pushed the changes to remote main repository.

```

Pranav@TechDecipher MINGW64 ~/OneDrive/Desktop/Devops Admin Roadmap/Git/cherry-pick (main)
$ git push origin main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 338 bytes | 338.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/techdecipher/cherry-pick.git
c16c946..d793a6f  main -> main

```

Step6: The changes can be seen in the main repository from the git account. Below to that, we can see the protected branch also having rules ensuring it is protected.

techdecipher / cherry-pick

Type to search

<> Code

Issues

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings

Commits

main

All users

All time

Commits on Jul 4, 2024

Added blog page from my-protected-branch, from commit #8f8d862

techdecipher committed 35 minutes ago

d793a6f

<>

fixed bug in all pages from my-protected-branch, from the commit # b8f396f

techdecipher committed 50 minutes ago

c16c946

<>

added the logo on website from staging branch, cherry picked from commit hash 38fe74b

techdecipher committed 10 hours ago

418b6e4

<>

Commits on Jul 3, 2024

designed front page of website -from - main

techdecipher committed 10 hours ago

8caed11

<>

Seeing something unexpected? Take a look at the [GitHub commits guide](#).

Level up your branch protections with Repository Rules

Take advantage of new features such as signed commits, requiring status checks, requiring linear history, and [Go to rulesets](#) more! [Learn more](#)

Branch protection rules

Add rule

my-protected-branch

Currently applies to 1 branch

Edit

Delete