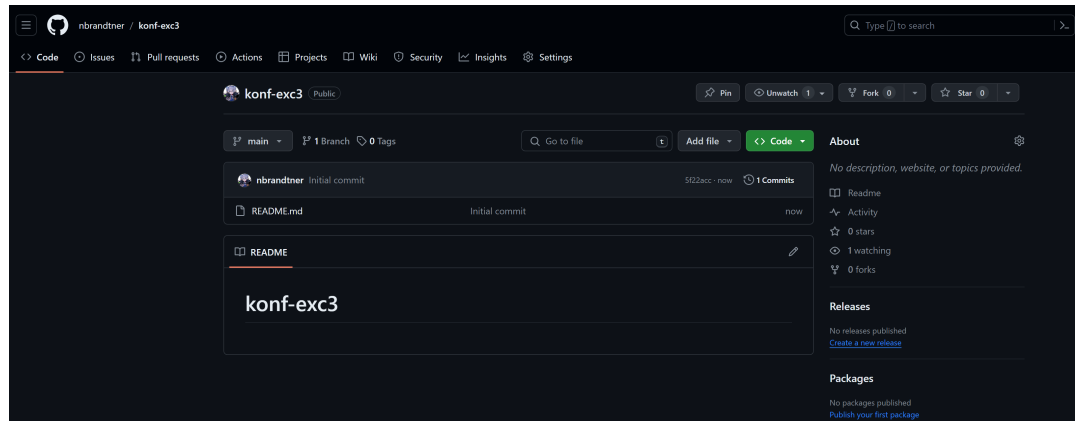


KONF - Exercise Sheet 3

by Niklas Brandtner 11.03.2024

1. Remote Repository

Set up a repository at GitHub or the GitLab server of the FH Technikum Wien - make sure it is not empty (e.g. have README generated).



- created a readme with a README

2. Cloning

Clone the repository from GitHub/GitLab to get a local copy of it - what commands do you use for that? What do you notice in terms of history? Research the details and describe your findings here!

```
nbran@DESKTOP-051PSJ2 MINGW64 ~
$ git clone https://github.com/nbrandtner/konf-exc3.git
Cloning into 'konf-exc3'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.
```

- `git clone <link>` to clone a repository

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git log -all
* 5f22acc (HEAD -> main, origin/main, origin/HEAD) Initial commit
```

- the history shows us the initial commit created when initiating the repository, `5f22acc` is the commit hash that is used to identify the exact commit
- HEAD points to main here, so this is the branch where changes are going to be made

3. Add Remote

In addition to this, set up a new repository locally in another directory and connect it to the remote repository on GitLab and synchronize! Describe the commands for this!

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote
$ git init
Initialized empty Git repository in C:/Users/nbran/Documents/GitHub/konf-exc3-remote/.git/
$ git remote add konf-exc3 https://github.com/nbrandtner/konf-exc3.git
```

- Initiate new repo and add remote repo again

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ git fetch konf-exc3
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
o Unpacking objects: 100% (3/3), 871 bytes | 7.00 KiB/s, done.
  From https://github.com/nbrandtner/konf-exc3
   * [new branch]      main      -> konf-exc3/main

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ git merge konf-exc3/main
```

- o `git fetch` and `git merge` to synchronize all changes from the remote to the local repo

4. New files

Now create new files in both repositories with different names, commit and synchronize each with the remote repository - what do you notice? What commands are you using? Describe your commands.

- o First Repo:
- o create new file
- o add and commit it
- o show log

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub
$ cd konf-exc3

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ touch newFile

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ echo "this is a file from the first repo" >> newFile

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ ls
README.md  newFile

o nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
  $ git add .
  warning: LF will be replaced by CRLF in newFile.
  The file will have its original line endings in your working directory

  nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
  $ git commit -m "1st repo commit"
  [main 4b9db82] 1st repo commit
  1 file changed, 1 insertion(+)
  create mode 100644 newFile

  nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
  $ git log-all
  * 4b9db82 (HEAD -> main) 1st repo commit
  * 5f22acc (origin/main, origin/HEAD) Initial commit
```

- o Second Repo:
- o create new file in second repo
- o add and commit it
- o show log

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ touch newFileRemote

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ echo "this is the 2nd repo" >> newFileRemote

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ git add .
warning: LF will be replaced by CRLF in newFileRemote.
The file will have its original line endings in your working directory

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ git commit -m "2nd repo commit"
[master 8bfecec] 2nd repo commit
1 file changed, 1 insertion(+)
create mode 100644 newFileRemote

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ git status
On branch master
nothing to commit, working tree clean

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ git log-all
* 8bfecec (HEAD -> master) 2nd repo commit
* 5f22acc (konf-exc3/main) Initial commit
```

- Repo 1:
- push repo 1 changes

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 301 bytes | 301.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/nbrandtner/konf-exc3.git
5f22acc..4b9db82 main -> main
```

- Repo 2:
- pull repo 1 changes in repo 2 and show log

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ git pull konf-exc3 main
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 281 bytes | 1024 bytes/s, done.
From https://github.com/nbrandtner/konf-exc3
* branch      main      -> FETCH_HEAD
   5f22acc..4b9db82 main    -> konf-exc3/main
Merge made by the 'recursive' strategy.
 newFile | 1 +
 1 file changed, 1 insertion(+)
create mode 100644 newFile

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ ls
README.md  newFile  newFileRemote

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ git log-all
* 53a150f (HEAD -> master) :Merge branch 'main' of https://github.com/nbrandtner/konf-exc3
|
| * 4b9db82 (konf-exc3/main) 1st repo commit
| * 8bfecec 2nd repo commit
|/
* 5f22acc Initial commit
```

- push repo 2 changes

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (master)
$ git push konf-exc3
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 12 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 541 bytes | 541.00 KiB/s, done.
Total 5 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), done.
remote:
remote: Create a pull request for 'master' on GitHub by visiting:
remote:   https://github.com/nbrandtner/konf-exc3/pull/new/master
remote:
To https://github.com/nbrandtner/konf-exc3.git
 * [new branch]      master -> master
```

- Repo 1:
- pull repo 2 changes to repo 1 and show log

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git pull origin main
From https://github.com/nbrandtner/konf-exc3
 * branch      main      -> FETCH_HEAD
Already up to date.

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git log-all
* 4b9db82 (HEAD -> main, origin/main, origin/HEAD) 1st repo commit
* 5f22acc Initial commit

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git pull
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 5 (delta 1), reused 5 (delta 1), pack-reused 0
Unpacking objects: 100% (5/5), 521 bytes | 2.00 KiB/s, done.
From https://github.com/nbrandtner/konf-exc3
 * [new branch]      master      -> origin/master
Already up to date.

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git log-all
* 53a150f (origin/master) :Merge branch 'main' of https://github.com/nbrandtner/konf-exc3
|
| * 4b9db82 (HEAD -> main, origin/main, origin/HEAD) 1st repo commit
| * | 8bfecce 2nd repo commit
|/
* 5f22acc Initial commit
```

5. Conflict!

Now edit the same file in the same line in both repositories, creating a conflict. Synchronize again and describe your new commands and findings!

- Change the content of newFile in both repos, then push in one of them and pull in the other, the pull will result in this conflict:

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git pull origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 338 bytes | 2.00 KiB/s, done.
From https://github.com/nbrandtner/konf-exc3
 * branch      main      -> FETCH_HEAD
   53a150f..c04b611 main      -> origin/main
Auto-merging newFile
CONFLICT (content): Merge conflict in newFile
Automatic merge failed; fix conflicts and then commit the result.
```

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main|MERGING)
$ git status
On branch main
Your branch and 'origin/main' have diverged,
and have 1 and 1 different commits each, respectively.
(use "git pull" to merge the remote branch into yours)

You have unmerged paths.
(fix conflicts and run "git commit")
(use "git merge --abort" to abort the merge)

Unmerged paths:
(use "git add <file>..." to mark resolution)
    both modified:   newFile

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

- now edit the newFile in a text editor to change to wanted changes

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main|MERGING)
$ nano newFile

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main|MERGING)
$ git add .

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main|MERGING)
$ git commit -m "newFile merged"
[main 5d758b0] newFile merged

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git push
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 12 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 695 bytes | 347.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/nbrandtner/konf-exc3.git
c04b611..5d758b0  main -> main
```

- second repo:

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git pull
remote: Enumerating objects: 10, done.
remote: Counting objects: 100% (10/10), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 6 (delta 0), reused 6 (delta 0), pack-reused 0
Unpacking objects: 100% (6/6), 675 bytes | 2.00 KiB/s, done.
From https://github.com/nbrandtner/konf-exc3
c04b611..5d758b0  main -> konf-exc3/main
Updating c04b611..5d758b0
Fast-forward
 newFile | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ ls
README.md newFile newFileRemote

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ cat newFile
this is the first line of the newFile from both repos
```

- now both repos have the same content and the conflict is resolved

6. Tagging

In one of the two repositories you have now completed a new version. Create a tag with version 1.0.0 and synchronize with the remote repository! Which commands do you use and which options do they offer? Synchronize also the second repository so that you also get the tag.

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git tag -a 1.0.0 -m "Version 1.0.0"
>

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git status
On branch main
Your branch is up to date with 'konf-exc3/main'.

nothing to commit, working tree clean

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git push konf-exc3
1.0.0 HEAD konf-exc3/main main
FETCH_HEAD ORIG_HEAD konf-exc3/master

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git push konf-exc3
1.0.0 HEAD konf-exc3/main main
FETCH_HEAD ORIG_HEAD konf-exc3/master

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git push konf-exc3 1.0.0
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 155 bytes | 155.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/nbrandtner/konf-exc3.git
* [new tag] 1.0.0 -> 1.0.0
```

- create tag and push it to origin repo

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git pull
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 1 (delta 0), reused 1 (delta 0), pack-reused 0
Unpacking objects: 100% (1/1), 135 bytes | 2.00 KiB/s, done.
From https://github.com/nbrandtner/konf-exc3
* [new tag] 1.0.0 -> 1.0.0
Already up to date.

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git che
checkout cherry cherry-pick

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git checkout 1.0.0
Note: switching to '1.0.0'.
```

- You are in 'detached HEAD' state. You can look around, make experimental changes and commit them, and you can discard any commits you make in this state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may do so (now or later) by using -c with the switch command. Example:

```
git switch -c <new-branch-name>
```

or undo this operation with:

```
git switch -
```

Turn off this advice by setting config variable advice.detachedHead to false

HEAD is now at 5d758b0 newFile merged

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 ((1.0.0))
$ git tag
1.0.0
```

- pull other repo and verify the tag is there

7. Two Features

Now create different feature branches in each repository and simulate the development of two features from different developers. Make sure that only the new version with integrated features lands on the remote repository! Which commands do you use?

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 ((1.0.0))
$ git checkout -b feature1
Switched to a new branch 'feature1'

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (feature1)
$ echo "feature 1 change" >> feature1

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (feature1)
$ ls
README.md  feature1  newFile  newFileRemote

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (feature1)
$ git add .
warning: LF will be replaced by CRLF in feature1.
The file will have its original line endings in your working directory

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (feature1)
$ git commit -m "Implement feature1"
[feature1 50a78e1] Implement feature1
1 file changed, 1 insertion(+)
create mode 100644 feature1

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (feature1)
$ git push origin feature1
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 352 bytes | 352.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'feature1' on GitHub by visiting:
remote:   https://github.com/nbrandtner/konf-exc3/pull/new/feature1
remote:
To https://github.com/nbrandtner/konf-exc3.git
 * [new branch]      feature1 -> feature1
```

- create and push feature 1

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git checkout -b feature2
Switched to a new branch 'feature2'

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (feature2)
$ echo "feature 2 change" >> feature2

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (feature2)
$ git add .
warning: LF will be replaced by CRLF in feature2.
The file will have its original line endings in your working directory

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (feature2)
$ git commit -m "Implement feature2"
[feature2 b2d9341] Implement feature2
1 file changed, 1 insertion(+)
create mode 100644 feature2

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (feature2)
$ git push konf-exc3
1.0.0          FETCH_HEAD          HEAD          ORIG_HEAD          feature2

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (feature2)
$ git push konf-exc3 feature2
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 352 bytes | 352.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'feature2' on GitHub by visiting:
remote:   https://github.com/nbrandtner/konf-exc3/pull/new/feature2
remote:
To https://github.com/nbrandtner/konf-exc3.git
 * [new branch]      feature2 -> feature2
```

- do the same at the 2nd repo with feature2


```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git pull
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 332 bytes | 0 bytes/s, done.
From https://github.com/nbrandtner/konf-exc3
* [new branch] feature1 -> konf-exc3/feature1
Already up to date.
```

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git merge feature1
merge: feature1 - not something we can merge

Did you mean this?
konf-exc3/feature1
```

- ```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git merge konf-exc3/feature1
Updating 5d758b0..50a78e1
Fast-forward
 feature1 | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 feature1
```

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git merge
1.0.0 FETCH_HEAD HEAD ORIG_HEAD
```

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git merge feature2
Merge made by the 'recursive' strategy.
 feature2 | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 feature2
```

- merge both features into 2nd repo

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git pull
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 332 bytes | 2.00 KiB/s, done.
From https://github.com/nbrandtner/konf-exc3
* [new branch] feature2 -> origin/feature2
Already up to date.
```

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ ls
README.md newFile newFileRemote
```

- ```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git merge feature1
Updating 5d758b0..50a78e1
Fast-forward
 feature1 | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 feature1
```

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git merge feature2
merge: feature2 - not something we can merge

Did you mean this?
origin/feature2
```

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git merge origin/feature2
Merge made by the 'recursive' strategy.
 feature2 | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 feature2
```

- merge both features into first repo


```

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git log-all
* 47ff062 (HEAD -> main) Merge remote-tracking branch 'origin/feature2'
* b2d9341 (origin/feature2) Implement feature2
* 50a78e1 (origin/feature1, feature1) Implement feature1
* 5d758b0 (tag: 1.0.0, origin/main, origin/HEAD) newFile merged
* c04b611 2nd Repo newFile changes
* f9ae011 1st Repo newFile changes
* 53a150f (origin/master) :Merge branch 'main' of https://github.com/nbrandtner/konf-exc3
* 4b9db82 1st repo commit
* 8bfecec 2nd repo commit
* 5f22acc Initial commit

```

8. Major and Minor

Create your own deployment branch and create the new versions including tags in this branch. Again, simulate the development of new features for new minor versions (at least 2). The deployment branch should contain the new version - the main/master branch will be reserved for major versions in the future. Finally, create a new major version and synchronize both remote repositories.

```

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git checkout -b development
Switched to a new branch 'development'

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (development)
$ ls
README.md  feature1  feature2  newFile  newFileRemote

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (development)
$ echo "version 1.1.0 changes" > v1.1Changes

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (development)
$ git add .
warning: LF will be replaced by CRLF in v1.1Changes.
The file will have its original line endings in your working directory

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (development)
$ git commit -m "implement changes for version 1.1.0"
[development 3156e19] implement changes for version 1.1.0
1 file changed, 1 insertion(+)
create mode 100644 v1.1Changes

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (development)
$ git tag 1.1.0

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (development)
$ git push origin development --tags
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 12 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 545 bytes | 545.00 KiB/s, done.
Total 5 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 1 local object.
To https://github.com/nbrandtner/konf-exc3.git

```

- add 1.1.0 feature

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git checkout -b development
Switched to a new branch 'development'

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ echo "version 1.2.0 changes" > v1.2Changes

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ git add .
warning: LF will be replaced by CRLF in v1.2Changes.
The file will have its original line endings in your working directory

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ git commit -m "implement changes for version 1.2.0"
[development 4f43b2f] implement changes for version 1.2.0
1 file changed, 1 insertion(+)
create mode 100644 v1.2Changes

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ git tag 1.2.0
```

- add 1.2.0 feature

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ git pull konf-exc3 development
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 5 (delta 2), reused 5 (delta 2), pack-reused 0
Unpacking objects: 100% (5/5), 525 bytes | 2.00 KiB/s, done.
From https://github.com/nbrandtner/konf-exc3
* branch      development -> FETCH_HEAD
* [new branch] development -> konf-exc3/development
Merge made by the 'recursive' strategy.
v1.1Changes | 1 +
1 file changed, 1 insertion(+)
create mode 100644 v1.1Changes

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ ls
README.md  feature2  newFileRemote  v1.2Changes
feature1   newFile   v1.1Changes
```

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ git push konf-exc3 development --tags
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 12 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 323 bytes | 323.00 KiB/s, done.
Total 2 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To https://github.com/nbrandtner/konf-exc3.git
3156e19..eb01adb development -> development

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'konf-exc3/main' by 3 commits.
(use "git push" to publish your local commits)
```

- pull 1.1.0 and push 1.2.0

```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git merge development
Updating 51d1813..eb01adb
Fast-forward
v1.1Changes | 1 +
v1.2Changes | 1 +
2 files changed, 2 insertions(+)
create mode 100644 v1.1Changes
create mode 100644 v1.2Changes
```

- merge repo 2

- ```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (development)
$ git pull origin development
From https://github.com/nbrandtner/konf-exc3
 * branch development -> FETCH_HEAD
Updating 3156e19..eb01adb
Fast-forward
 v1.2Changes | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 v1.2Changes

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (development)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 3 commits.
 (use "git push" to publish your local commits)

o nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git merge development
Updating 47ff062..eb01adb
Fast-forward
 v1.1Changes | 1 +
 v1.2Changes | 1 +
 2 files changed, 2 insertions(+)
 create mode 100644 v1.1Changes
 create mode 100644 v1.2Changes

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git tag 2.0.0

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3 (main)
$ git push origin main
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/nbrandtner/konf-exc3.git
 5d758b0..eb01adb main -> main
```
- o pull origin from repo 1 and then merge into main and push version 2.0.0
- ```
nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git pull konf-exc3
From https://github.com/nbrandtner/konf-exc3
 * [new tag]          1.1.0      -> 1.1.0
 * [new tag]          2.0.0      -> 2.0.0
Already up to date.

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git tag
1.0.0
1.1.0
1.2.0
2.0.0

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git checkout development
Switched to branch 'development'

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ git pull konf-exc3 development
From https://github.com/nbrandtner/konf-exc3
 * branch                development -> FETCH_HEAD
Already up to date.

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ ls
README.md  feature2  newFileRemote  v1.2Changes
feature1   newFile   v1.1Changes

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (development)
$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'konf-exc3/main'.

nbran@DESKTOP-051PSJ2 MINGW64 ~/Documents/GitHub/konf-exc3-remote (main)
$ git merge development
Already up to date.
```
- o pull all changes on 2nd repo and confirm all tags and files are there

