```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203 (docs/thdqudgns)
$ git branch docs
fatal: cannot lock ref 'refs/heads/docs': 'refs/heads/docs/thdqudgns' exists; ca
nnot create 'refs/heads/docs'
```

git branch docs

해당 명령어로 docs 브랜치를 만들려고 했다. 근데 cannot lock ref 라는 에러가 발생했다. 이유가 뭘까?

정답:

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203 (docs/thdqudgns)
$ git branch -m docs/thdqudgns docs

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203 (docs)
```

git branch –m docs/thdqudgns docs

docs/thdqudgns 브랜치의 이름을 docs로 바꾸었다. 원격(remote)에도 적용되었을까?

정답:

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (docs)
$ git branch -a
* docs
  master
  remotes/origin/docs/thdqudgns
  remotes/origin/master
```

git branch -a

해당 명령어로 **로컬**과 **원격**의 모든 브랜치를 확인했다. 원격의 브랜치는 바뀌지 않았다.

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (docs)
$ git push origin docs
Enumerating objects: 63, done.
Counting objects: 100% (58/58), done.
Delta compression using up to 12 threads
Compressing objects: 100% (46/46), done.
Writing objects: 100% (47/47), 2.96 MiB | 4.46 MiB/s, done.
Total 47 (delta 13), reused 0 (delta 0), pack-reused 0
remote: error: cannot lock ref 'refs/heads/docs': 'refs/heads/docs/thdqudgns' exists; cannot create 'refs/head
To https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203.git
 ! [remote rejected] docs -> docs (failed to update ref)
error: failed to push some refs to 'https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203.git'
```

git push origin docs

docs(로컬)에서 docs(원격)으로 push하면서 원격의 docs를 만들려고 했지만 실패했다.
원격에는 아직 docs가 없기 때문에 발생한 것 같다.

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송병훈  (docs)
$ git reset --hard origin/docs/thdqudgns
HEAD is now at 8a80a49 Docs: DB 설계 지침 문서 추가
```

git reset **--hard origin/docs/thdqudgns**

으로 staging area에 있는 커밋 내역을 없애고, 이전의 commi으로 변경했다.

(사실 commit을 하면 .git directory에 저장이 되는 것이라 되돌려진 건지는 모르겠음)

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송병훈  (docs)
$ git push --delete origin docs/thdqudgns
To https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203.git
 - [deleted]         docs/thdqudgns
```

git push **--delete origin docs/thdqudgns**

으로 원격에 있는 docs/thdqudgns 브랜치를 삭제함

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (docs)
$ git push origin docs
Enumerating objects: 13, done.
Counting objects: 100% (13/13), done.
Delta compression using up to 12 threads
Compressing objects: 100% (10/10), done.
Writing objects: 100% (10/10), 1.30 MiB | 912.00 KiB/s, done.
Total 10 (delta 3), reused 0 (delta 0), pack-reused 0
remote:
remote: To create a merge request for docs, visit:
remote:    https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203/-/merge_requests/new?merge_req
uest%5Bsource_branch%5D=docs
remote:
To https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203.git
 * [new branch]      docs -> docs
```

원격의 docs/thdqudgns 브랜치를 삭제하고 다시 push하니까 docs 브랜치가 생성되었다.

docs 브랜치가 생성되지 않았던 이유는, docs/thdqudgns 브랜치와 충돌이 있기 때문이었다.

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs)
$ git branch docs/thdqudgns
fatal: cannot lock ref 'refs/heads/docs/thdqudgns': 'refs/heads/docs' exists; cannot create '
refs/heads/docs/thdqudgns'

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs)
$ git branch docs/test
fatal: cannot lock ref 'refs/heads/docs/test': 'refs/heads/docs' exists; cannot create 'refs/
heads/docs/test'

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs)
$ git branch docs/aaa
fatal: cannot lock ref 'refs/heads/docs/aaa': 'refs/heads/docs' exists; cannot create 'refs/h
eads/docs/aaa'

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs)
$ git branch docs-aaa

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs)
$ git branch -a
* docs
  docs-aaa
  master
  remotes/origin/docs
  remotes/origin/master
```

docs/{???} 꼴의 브랜치는 생성되지 않는다. 그 이유는 뭘까?

정답:

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (docs)
$ git branch -d docs-aaa
Deleted branch docs-aaa (was 439f748).

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (docs)
$ git branch -a
* docs
  master
  remotes/origin/docs
  remotes/origin/master

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (docs)
$ git branch -m docs doc

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git branch -a
* doc
  master
  remotes/origin/docs
  remotes/origin/master
```

git branch –d docs-aaa

로 로컬의 브랜치 삭제

git branch –m docs doc

으로 로컬의 브랜치 이름 변경 (원격은 변경되지 않음)

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ echo hello world!! >> b.txt
echo hello worldgit branch -a >> b.txt

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git st
On branch doc
Your branch is based on 'origin/docs/thdqudgns', but the upstream is gone.
  (use "git branch --unset-upstream" to fixup)

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        b.txt

nothing added to commit but untracked files present (use "git add" to track)

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git add .
warning: in the working copy of 'Docs/송 병 훈 /b.txt', LF will be replaced by CRLF the next tim
e Git touches it
gi
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git commit -m "Fix: 브 랜 치  이 름  변 경 "
[doc 74fa05f] Fix: 브 랜 치  이 름  변 경
 1 file changed, 1 insertion(+)
 create mode 100644 "Docs/\354\206\241\353\263\221\355\233\210/b.txt"

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git push origin doc
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 12 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 457 bytes | 457.00 KiB/s, done.
Total 5 (delta 2), reused 0 (delta 0), pack-reused 0
remote:
remote: To create a merge request for doc, visit:
remote:    https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203/-/merge_requests/new?merge_req
uest%5Bsource_branch%5D=doc
remote:
To https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203.git
 * [new branch]      doc -> doc
```

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git branch -a
* doc
  master
  remotes/origin/doc
  remotes/origin/docs
  remotes/origin/master

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git push --delete origin docs
To https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203.git
 - [deleted]          docs

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git branch -a
* doc
  master
  remotes/origin/doc
  remotes/origin/master

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git branch docs/thdqudgns

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (doc)
$ git checkout docs/thdqudgns
Switched to branch 'docs/thdqudgns'

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈  (docs/thdqudgns)
```

```
SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs/thdqudgns)
$ echo create branch >> c.txt

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs/thdqudgns)
$ git st
On branch docs/thdqudgns
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        c.txt

nothing added to commit but untracked files present (use "git add" to track)

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs/thdqudgns)
$ git add .
warning: in the working copy of 'Docs/송 병 훈 /c.txt', LF will be replaced by CRLF the ne
xt time Git touches it

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs/thdqudgns)
$ git commit -m "Test: branch test"
[docs/thdqudgns eec13fa] Test: branch test
 1 file changed, 1 insertion(+)
 create mode 100644 "Docs/\354\206\241\353\263\221\355\233\210/c.txt"

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs/thdqudgns)
$ git push origin docs/thdqudgns
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 12 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 415 bytes | 415.00 KiB/s, done.
Total 5 (delta 2), reused 0 (delta 0), pack-reused 0
remote:
remote: To create a merge request for docs/thdqudgns, visit:
remote:    https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203/-/merge_requests/new?mer
ge_request%5Bsource_branch%5D=docs%2Fthdqudgns
remote:
To https://lab.ssafy.com/s09-webmobile1-sub1/S09P11B203.git
 * [new branch]      docs/thdqudgns -> docs/thdqudgns

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs/thdqudgns)
$ git branch -a
  doc
* docs/thdqudgns
  master
  remotes/origin/doc
  remotes/origin/docs/thdqudgns
  remotes/origin/master

SSAFY@DESKTOP-BLHP263 MINGW64 /c/SSAFY/S09P11B203/Docs/송 병 훈   (docs/thdqudgns)
$
```

이번에 알아가야 할 것들:

- 로컬에서 브랜치를 만든다고 바로 원격에도 생성되는 것이 아니다. Push를 할 때 원격에 브랜치가 생성된다.
- 슬래쉬 (/) 를 사용하여 브랜치를 생성하면 [ex) docs/thdqudgns] 그 상위 브랜치는 생성이 안된다. [ex) docs]
- 로컬의 브랜치를 삭제하는 명령어와, 원격의 브랜치를 삭제하는 명령어는 다르다.
- Merge를 요청하면 default로 브랜치를 삭제하는 체크가 되어있다. 주의가 필요하다.