

Git ????? ?? .git ?? ?? ??(1?)

1. git merge ? ?? ??

1.1 ?? ???

```
git checkout main
git merge feature
```

1.2 .git ?? ??

?? ??	?? ??
.git/objects/	?? ?? ?? merge commit ?? ??
.git/refs/heads/main	??? ???? merge ???? ??
.git/HEAD	??? ref: refs/heads/main ??
.git/MERGE_HEAD	?? ?? ?? (feature) ?? ?? (?? ?? ? ???)
.git/logs/HEAD	HEAD ?? ?? ?? (reflog)

1.3 ?? ??

```
A---B---C ← main
      \
      D---E ← feature

► git merge feature

??:
```

$$\begin{array}{ccc} \backslash & & / \\ & D - - - E & \end{array}$$

2.1 ?? ???

2.2 .git ?? ??

本地文件	远程仓库
.git/objects/	feature 对象 分支 提交 对象 提交 对象
.git/refs/heads/feature	指向 提交 对象
.git/REBASE_HEAD	指向 分支 名称
.git/HEAD	指向 ref: refs/heads/feature
.git/logs/HEAD	HEAD 分支 提交 分支 提交

2.3 ?? ??

```
main:      A---B---C
feature:   D---E

► git rebase main

□□:
main:      A---B---C
feature:   D'---E' ← HEAD
```

3. `git reset` ? ?? ??

3.1 ?? ???

```
git reset --hard HEAD~1
```

3.2 `.git` ?? ??

□□ □□	□□ □□
<code>.git/refs/heads/main</code>	□□□ □□□ □□ □□□ □□
<code>.git/HEAD</code>	□□□ <code>ref: refs/heads/main</code>
<code>.git/index</code>	□□□ □□ □□□ □□□ □□ □□□
□□ □□□	<code>--hard</code> □□ □□ □□□
<code>.git/ORIG_HEAD</code>	□□ HEAD □□ □□□ □□
<code>.git/logs/HEAD</code>	□□ □□ □□ □□□

3.3 ?? ??

```
A---B---C ← main, HEAD
```

```
↑
```

```
ORIG_HEAD
```

```
► git reset --hard B
```

```
□□:
```

```
A---B ← main, HEAD
```

4. ?? HEAD ?? ??

?? ??	?? ??	??
.git/MERGE_HEAD	git merge ??	?? ?? ?? ??
.git/REBASE_HEAD	git rebase ??	?? ?? ??
.git/ORIG_HEAD	git reset, merge	?? ?? ??
.git/FETCH_HEAD	git fetch ??	???? ?? ?? ??
.git/CHERRY_PICK_HEAD	git cherry-pick ??	?? ?? ??

5. ?? ???

??	?? ??	?? ??	HEAD ??	???? ??	?? ?? ??
merge				?? ?? ??	MERGE_HEAD
rebase	(rewrite)			?? ?? ??	REBASE_HEAD
reset --hard	(?? ????)			✓ ?? ??	ORIG_HEAD