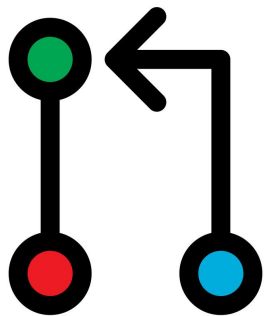


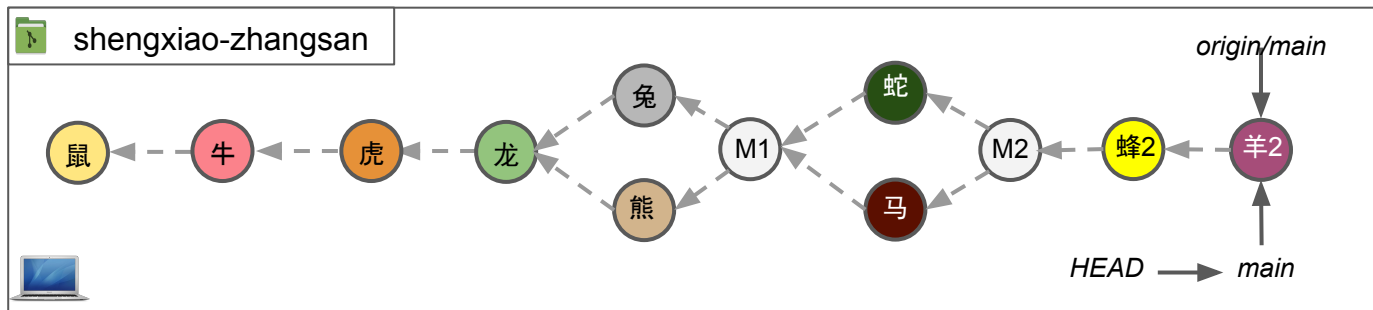
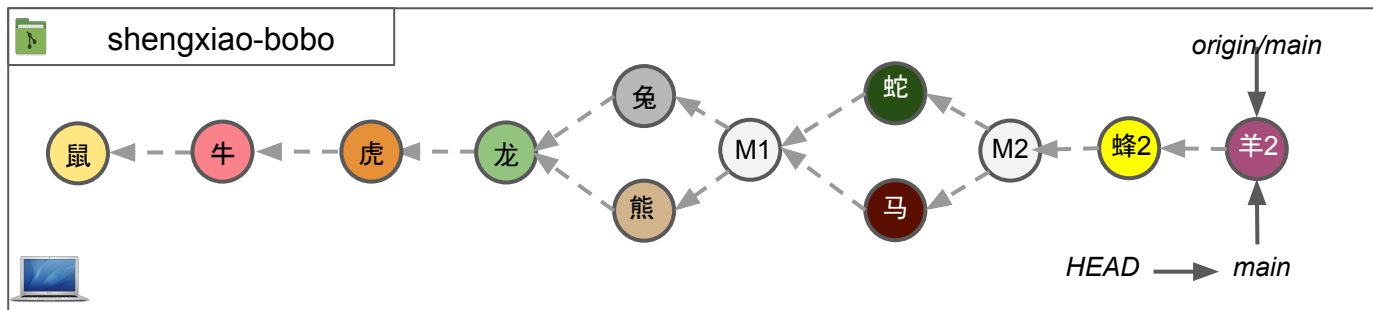
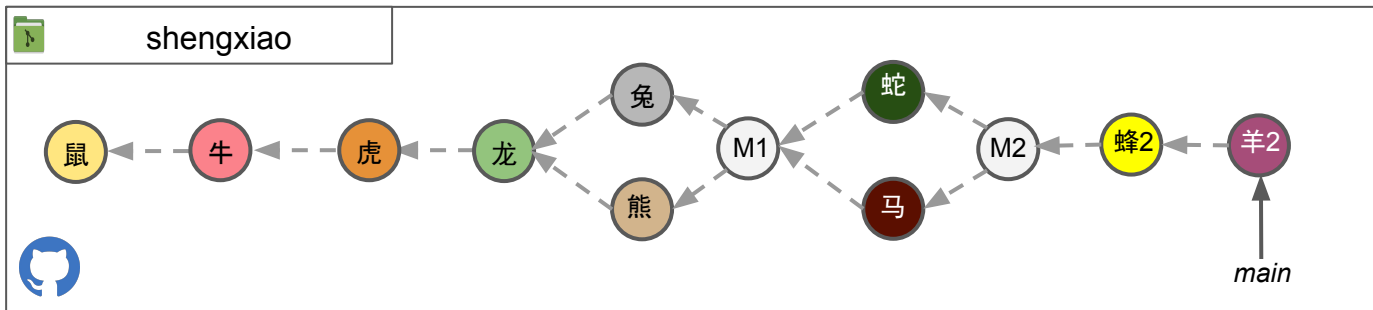
# 第11章 合并请求 (Pull Requests)



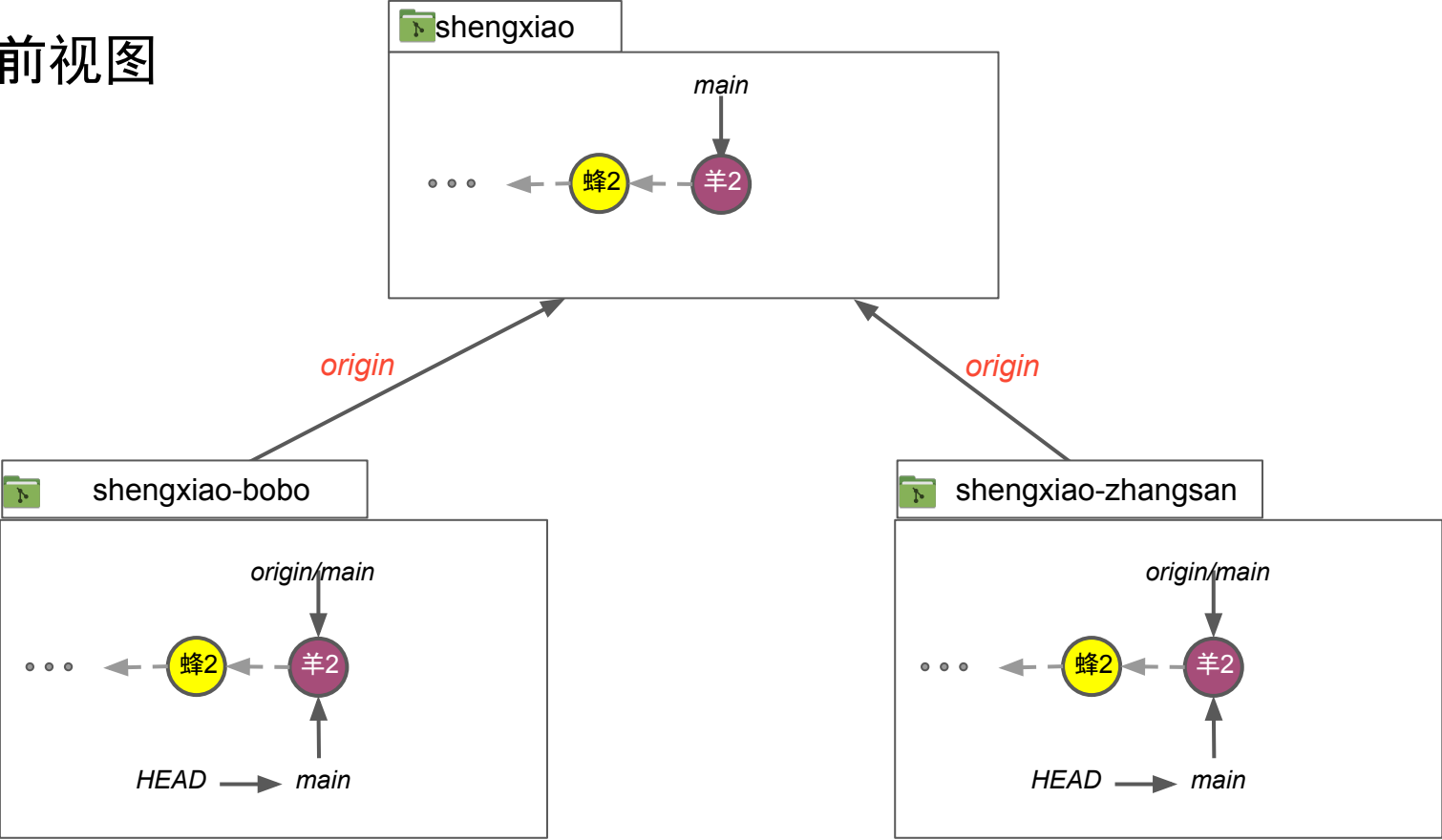
# 内容大纲

- 演示**合并请求**(Pull Requests)
  - 一种协作开发方式
  - 通过远程仓库, 将一个分支的变更集成到另外一个分支
- 穿插介绍定义上游分支的快捷方式



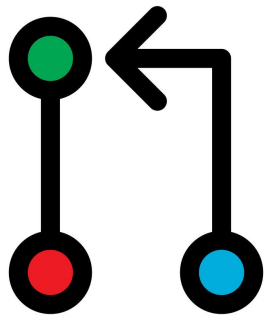


当前视图



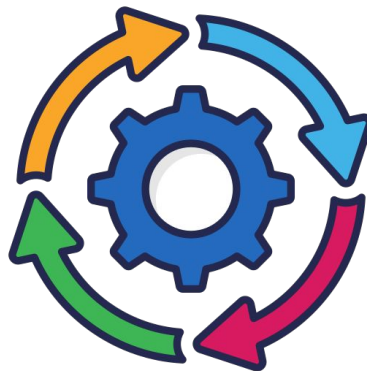
# Pull Request(合并请求)

- Pull Request(合并请求)是一种在代码托管平台上提交代码的方式，方便你将分支上的工作分享给协作者，收集反馈，最终将代码合并到项目中。
- Pull Request能方便地进行代码审查，促进团队沟通和协作。它具有评论功能，允许协作者对代码的具体行添加评论、回复讨论，帮助更有序地完成代码审核。
- 代码托管平台支持的功能，非Git支持的功能
  - Github/Bitbucket -> Pull Request
  - GitLab -> merge request
- Pull Request合并支持Merge和Rebase，缺省是Merge(non-fast-forward/explicit merge)，所以中文翻译为合并请求
- 目前主流的企业级Git协作开发方式
- 这里的pull和git pull没有关系



# Pull Request流程

1. 在本地创建分支
2. 在本地分支上工作+提交
3. Push推到远程仓库
4. 在远程代码托管平台上创建(open) pull request
5. 请求评审 + 收集反馈
6. 评审通过则合并请求, 否则拒绝
  - a. 合并可能会有冲突, 可以在 远程解决, 建议本地解决
  - b. 企业定制流程, 例如本人不能 approve, 合并后触发CI/CD
7. 删除远程分支
8. 在本地同步远程仓库(pull拉取合并), 删除本地分支和远程跟踪分支



# 波波准备Pull Request场景(shengxiao-bobo)

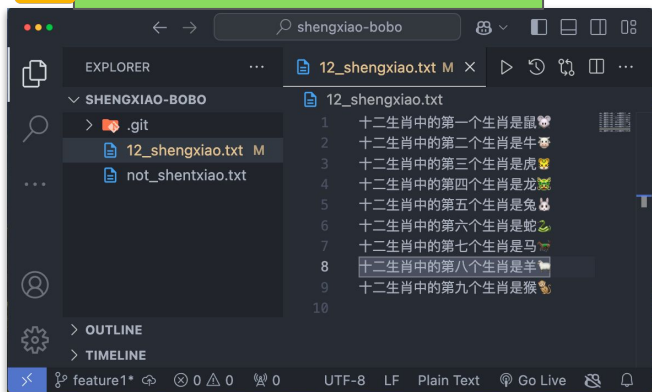
## 1. 创建并切换到feature1分支

```
shengxiao-bobo — boboweike@bobos-Mac — ..hengxiao-bobo — zsh — 53x5
→ shengxiao-bobo git:(main) git switch -c feature1
Switched to a new branch 'feature1'
→ shengxiao-bobo git:(feature1)
```

## 3. git add & commit

```
shengxiao-bobo — boboweike@bobos-Mac — ..hengxiao-bobo — zsh — 63x6
→ shengxiao-bobo git:(feature1) x git add 12_shengxiao.txt
→ shengxiao-bobo git:(feature1) x git commit -m "猴"
[feature1 86f4fc8] 猴
1 file changed, 1 insertion(+)
→ shengxiao-bobo git:(feature1)
```

## 2. 添加第九个生肖猴



## 4. git log

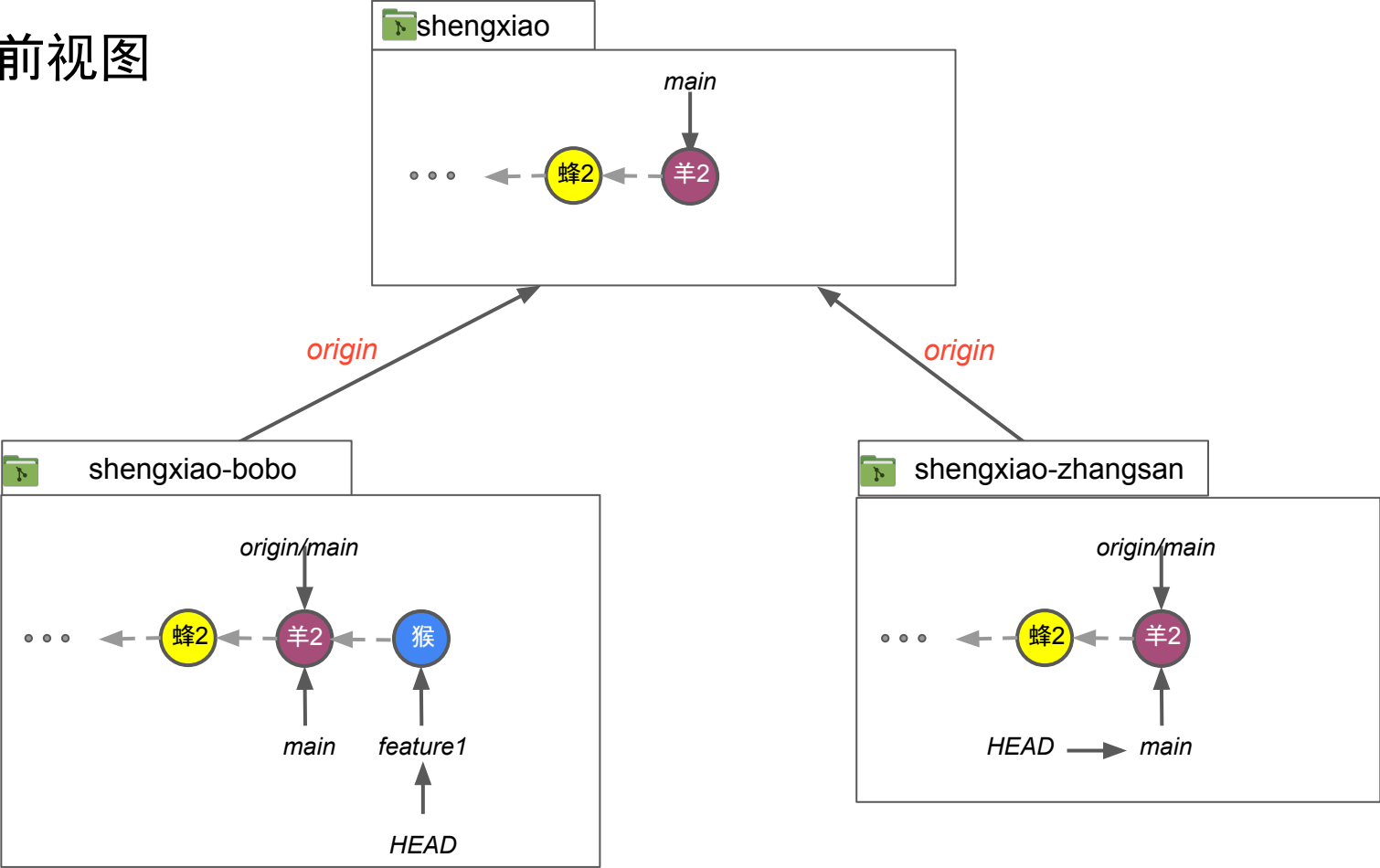
```
shengxiao-bobo — git log — git — less — git log — 70x15
commit 86f4fc85a262abc5cd77d780a2c36bcf54003e2 (HEAD -> feature1)
Author: bobo <bobo@boboweike.cn>
Date: Thu Nov 7 18:34:51 2024 +0800

    猴

commit 7bd7bd5d08a5ddbc39053aa121eaf3ab40954a3b (origin/main, main)
Author: bobo <bobo@boboweike.cn>
Date: Tue Nov 5 16:23:18 2024 +0800

    羊
```

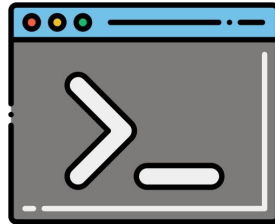
当前视图





## 定义上游分支的快捷方式

- `git branch -u <shortname>/<branch_name>`
- `git push --set-upstream <shortname> <branch_name>`
- `git push -u <shortname> <branch_name>`



# 波波推送Push到远程仓库(shengxiao-bobo)

## 1. git branch -vv

```
shengxiao-bobo — git branch -vv — git — less — git branch -vv — 41x5
* feature1 86f4fc8 猴
main 7bd7bd5 [origin/main] 羊
~
~
(END)
```

## 2. git push

```
shengxiao-bobo — boboweike@bobos-Mac — shengxiao-bobo — zsh — 68x12
-> shengxiao-bobo git:(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

To have this happen automatically for branches without a tracking
upstream, see 'push.autoSetupRemote' in 'git help config'.
-> shengxiao-bobo git:(feature1)
```

## 3. git push -u origin feature1

```
shengxiao-bobo git:(feature1) git push -u origin feature1
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 10 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 327 bytes | 327.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object
remote:
remote: Create a pull request for 'feature1' on GitHub by visiting:
remote:   https://github.com/bytevigor/shengxiao/pull/new/feature1
remote:
To https://github.com/bytevigor/shengxiao.git
 * [new branch]      feature1 -> feature1
branch 'feature1' set up to track 'origin/feature1'.
-> shengxiao-bobo git:(feature1)
```

## 4. git branch -vv

```
shengxiao-bobo — git branch -vv — git — less — git branch -vv — 52x5
* feature1 86f4fc8 [origin/feature1] 猴
main 7bd7bd5 [origin/main] 羊
~
~
(END)
```

# 波波推送Push到远程仓库后

git log

```
commit 86f4fc85a262abc5cd77d780a2c36bcbf54003e2 (HEAD -> feature1, origin/feature1)
Author: bobo <bobo@boboweike.cn>
Date: Thu Nov 7 18:34:51 2024 +0800

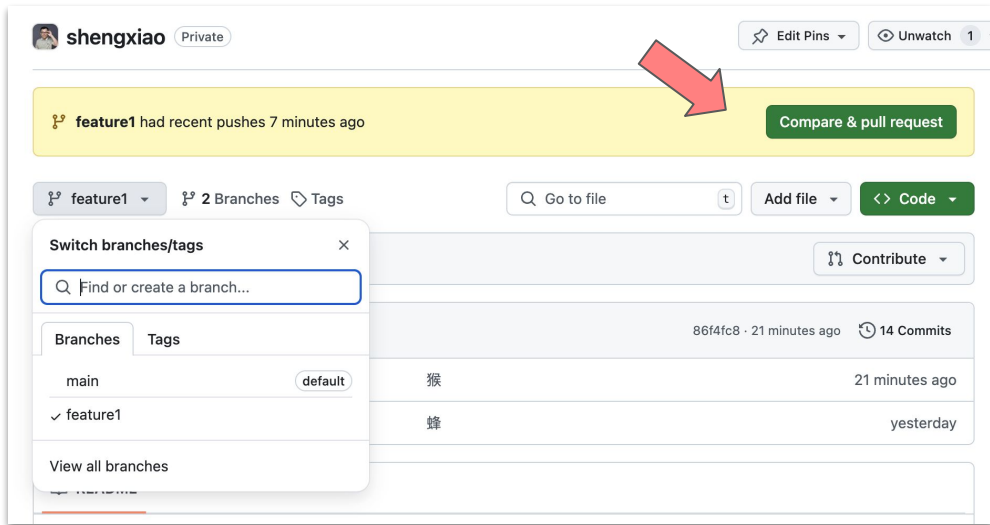
    猴

commit 7bd7bd5d08a5ddbc39053aa121eaf3ab40954a3b (origin/main, main)
Author: bobo <bobo@boboweike.cn>
Date: Tue Nov 5 16:23:18 2024 +0800

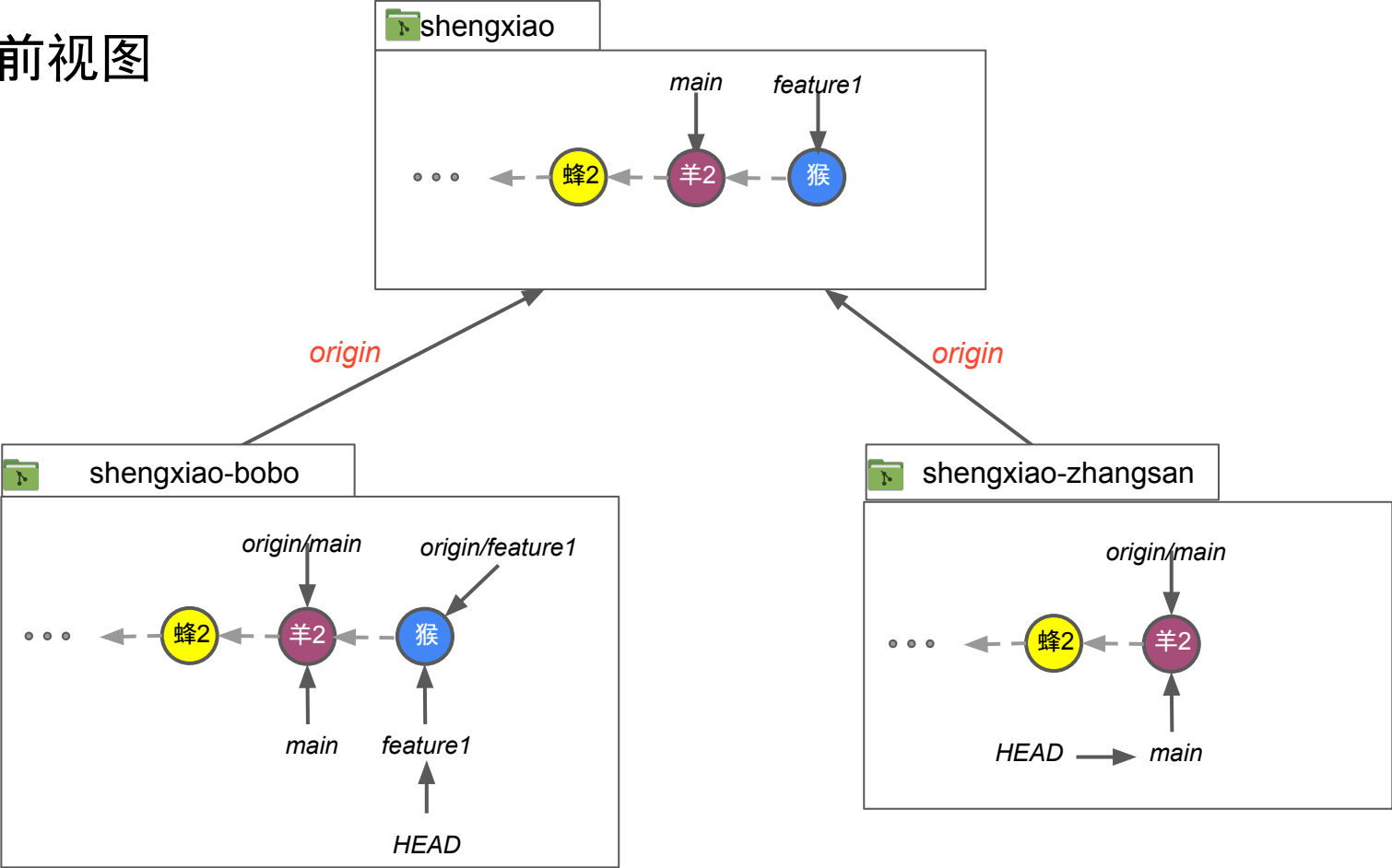
    羊

commit 910a77585768d6daf5e6431a7e6c0b8bf5c3915
Author: bobo <bobo@boboweike.cn>
Date: Tue Nov 5 16:18:35 2024 +0800

    :
```



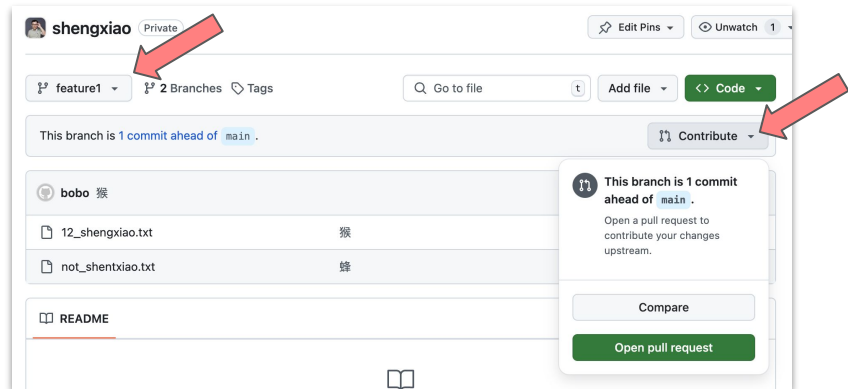
当前视图



# 波波创建Pull Request

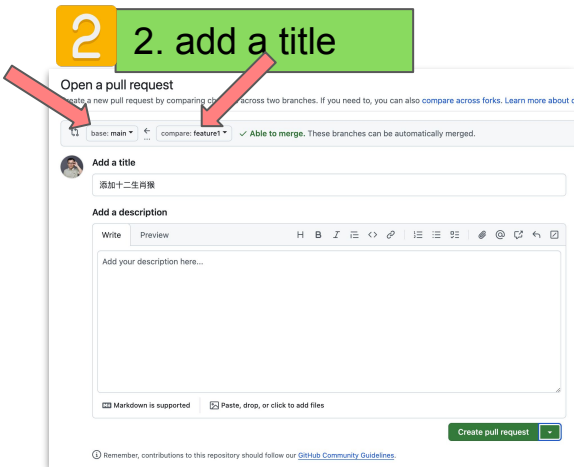
1

1. Open pull request



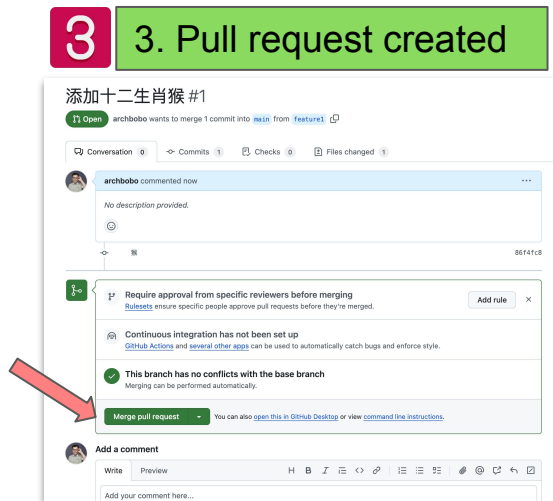
2

2. add a title

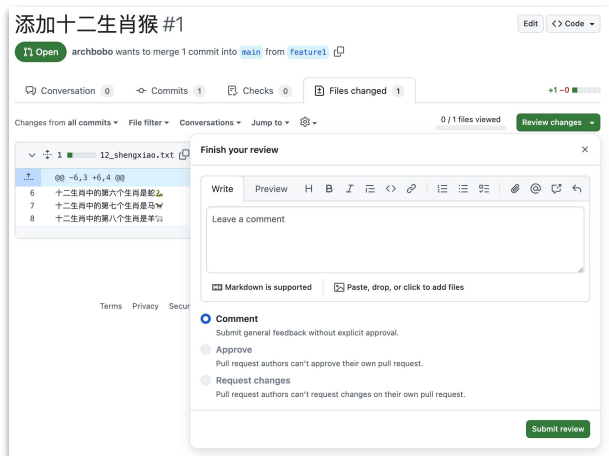
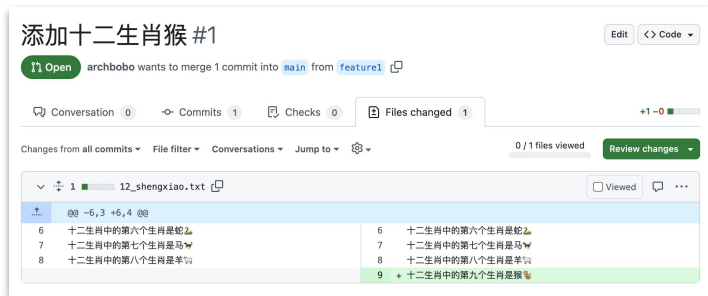


3

3. Pull request created

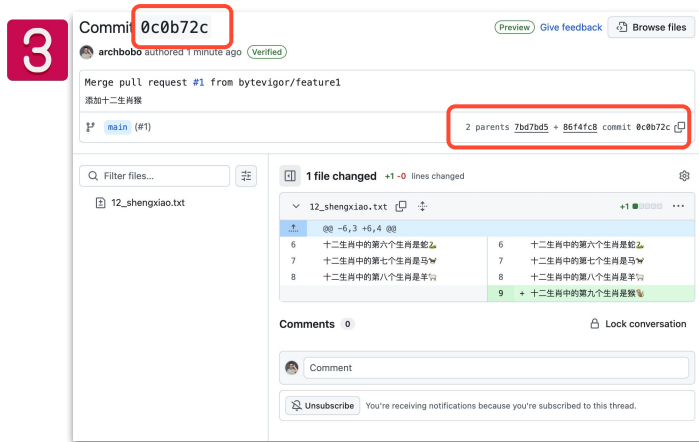
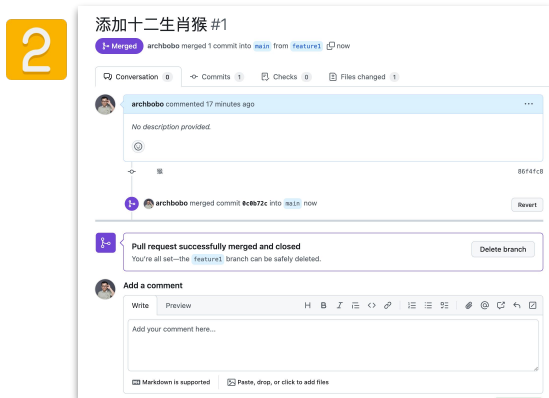
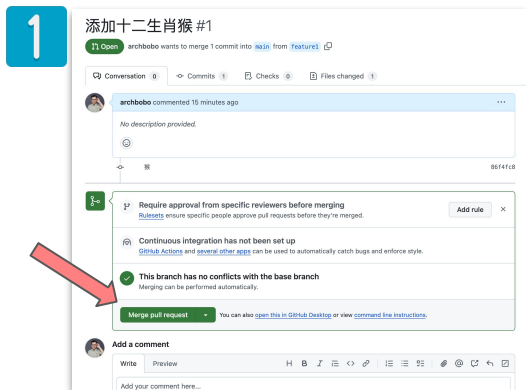


# 张三Review/Approve Pull Request

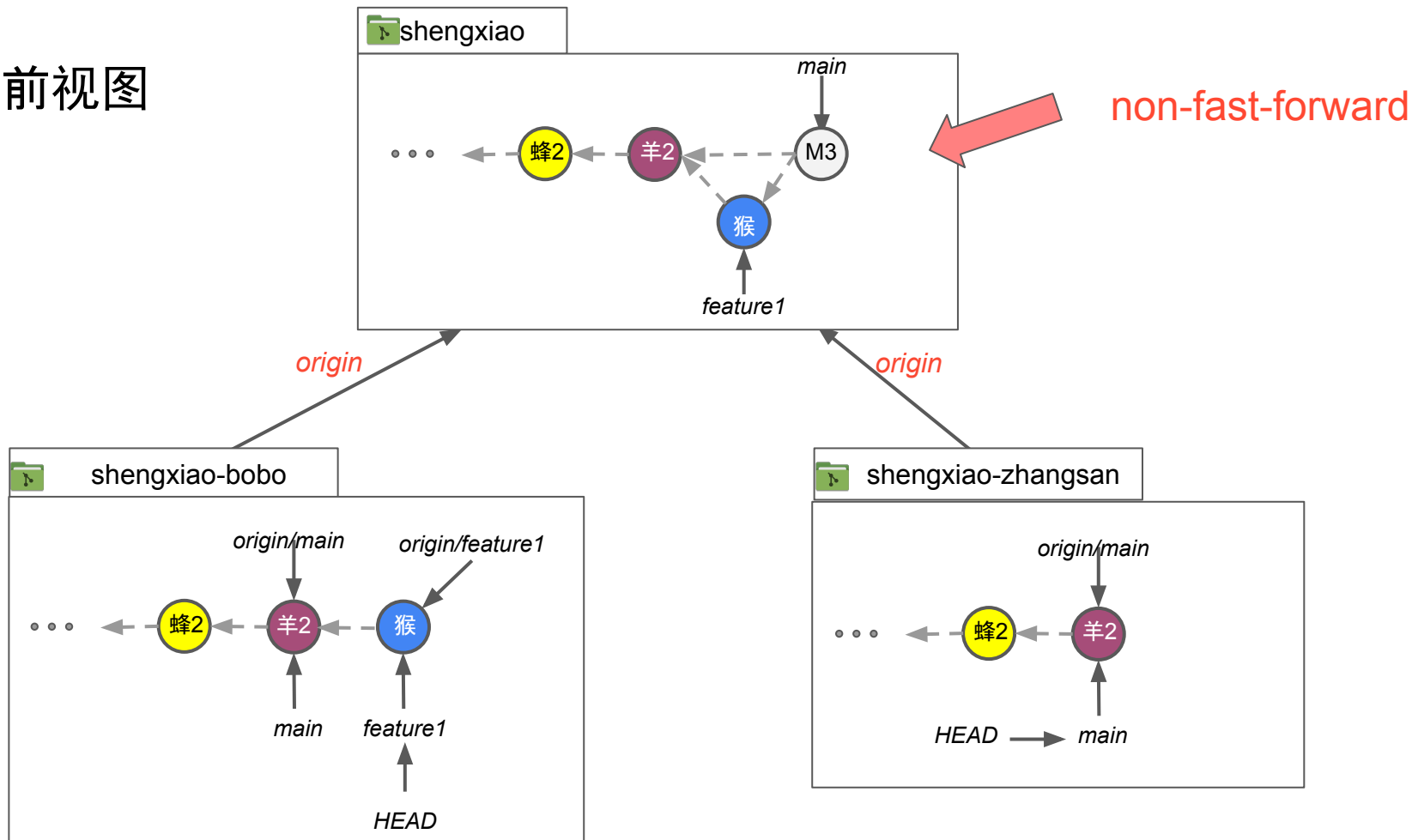


- 张三可以添加评论 (comment)
- 你可以根据评论修改、提交, 再push
- 张三也可以拉到本地, 修改, 提交, 再push
- 张三可以Approve这个 Pull Request

# 波波Merge Pull Request

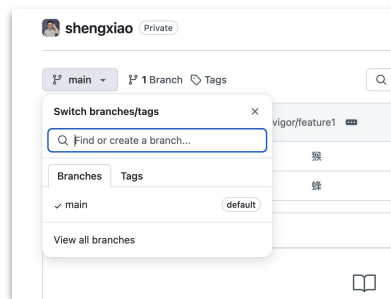
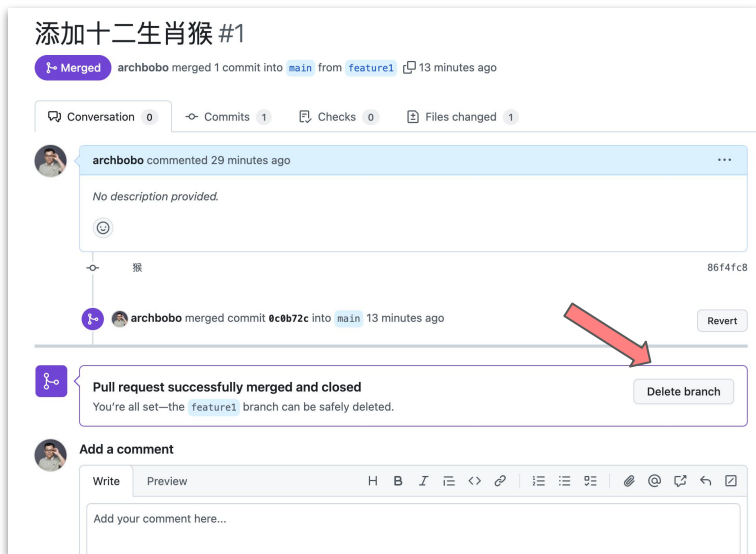


## 当前视图

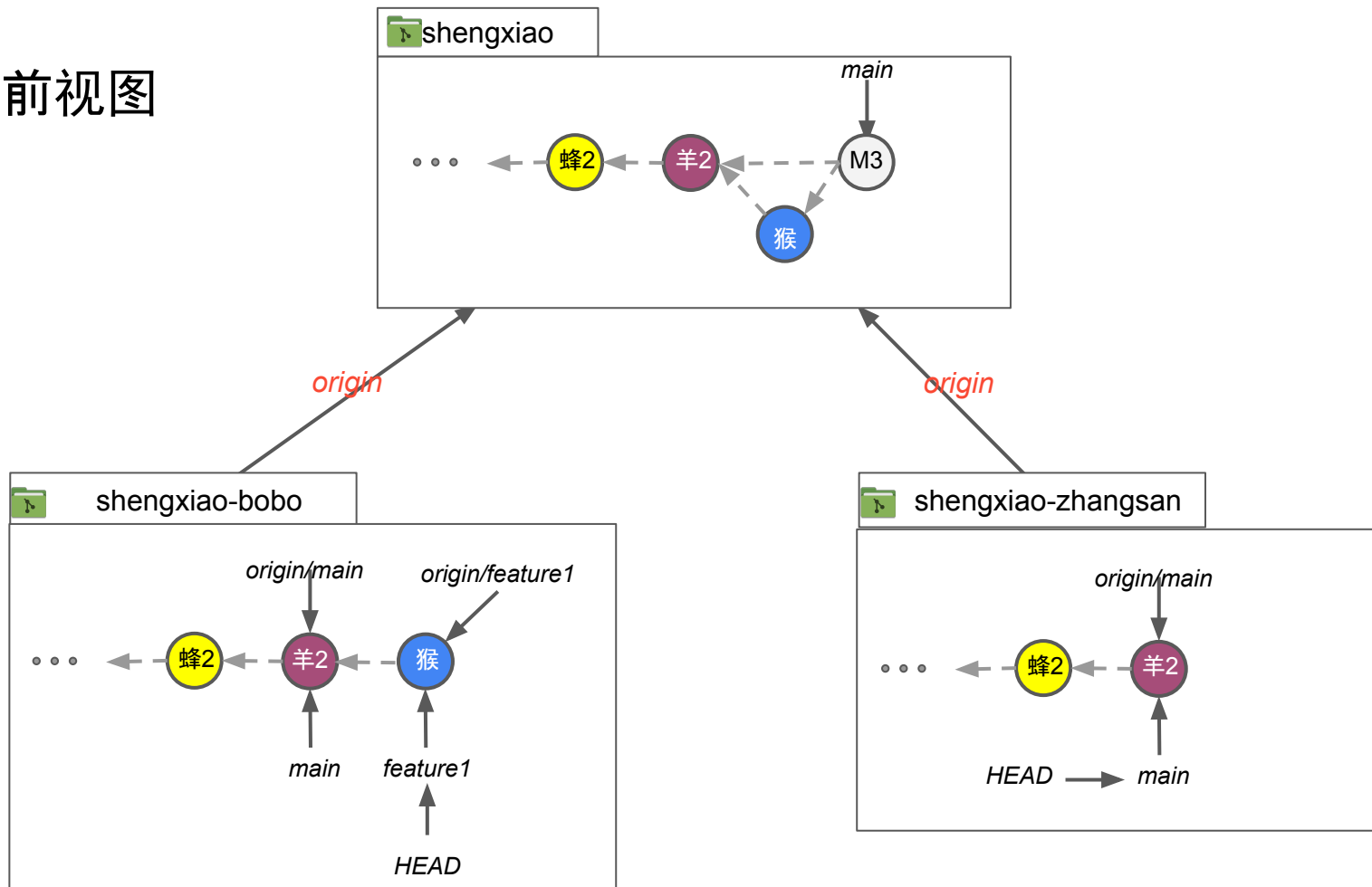




# 波波删除远程feature1分支



## 当前视图



# 波波同步远程仓库+清理(shengxiao-bobo)

1

1. git switch main

```
shengxiao-bobo -- boboweike@bobos-Mac -- ..hengxiao-bobo -- -zsh -- 51x6
→ shengxiao-bobo git:(feature1) git switch main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
→ shengxiao-bobo git:(main)
```

3

3. git branch -d feature1

```
shengxiao-bobo -- boboweike@bobos-Mac -- ..hengxiao-bobo -- -zsh -- 52x5
→ shengxiao-bobo git:(main) git branch -d feature1
Deleted branch feature1 (was 86f4fc8).
→ shengxiao-bobo git:(main)
```

2

2. git pull -p

```
shengxiao-bobo -- boboweike@bobos-Mac -- ..hengxiao-bobo -- -zsh -- 60x13
→ shengxiao-bobo git:(main) git pull -p
From https://github.com/bytevigor/shengxiao
- [deleted] (none) -> origin/feature1
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (1/1), 948 bytes | 474.00 KiB/s, done.
7bd7bd5..0c0b72c main -> origin/main
Updating 7bd7bd5..0c0b72c
Fast-forward
 12_shengxiao.txt | 1 +
 1 file changed, 1 insertion(+)
→ shengxiao-bobo git:(main)
```

4

git log

```
shengxiao-bobo -- git log -- git -- less -- git log -- 78x22
commit 0c0b72cbe3abdd16b51289cf36f22422f971f32a (HEAD -> main, origin/main)
Merge: 7bd7bd5 86f4fc8
Author: 架构师波波 <william.yang@boboweike.cn>
Date: Thu Nov 7 23:00:38 2024 +0800

Merge pull request #1 from bytevigor/feature1

添加十二生肖猴

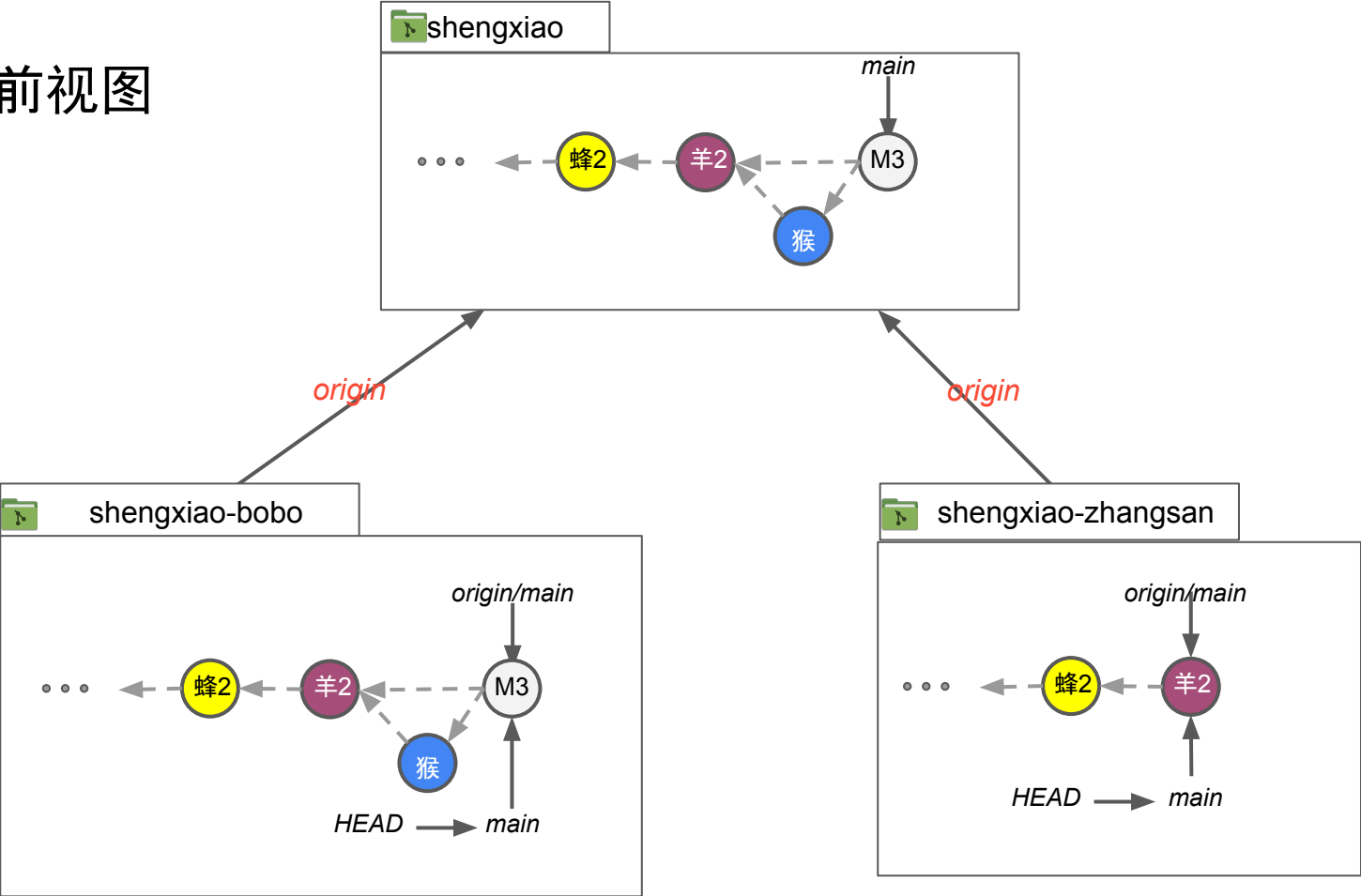
commit 86f4fc85a262abc5cd77d780a2c36bcbf54003e2
Author: bobo <bobo@boboweike.cn>
Date: Thu Nov 7 18:34:51 2024 +0800

猴

commit 7bd7bd5d08a5ddbc39053aa121eaf3ab40954a3b
Author: bobo <bobo@boboweike.cn>
Date: Tue Nov 5 16:23:18 2024 +0800

羊
```

当前视图



# 张三Pull拉取合并(shengxiao-zhangsan)

1

## 1. git pull

```
shengxiao-zhangsan — boboweike@bobos-Mac — ...xiao-zhangsan — -zsh — 72x14
➔ shengxiao-zhangsan git:(main) git pull
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 4 (delta 1), reused 3 (delta 1), pack-reused 0 (from 0)
Unpacking objects: 100% (4/4), 1.21 KiB | 310.00 KiB/s, done.
From https://github.com/bytevigor/shengxiao
   7bd7bd5..0c0b72c  main       -> origin/main
Updating 7bd7bd5..0c0b72c
Fast-forward
 12_shengxiao.txt | 1 +
 1 file changed, 1 insertion(+)
➔ shengxiao-zhangsan git:(main)
```

2

## 2. git log

```
shengxiao-zhangsan — git log — git — less — git log — 75x23
commit 0c0b72cbe3ebdd16b51289cf36f22422f971f32a (HEAD -> main, origin/main,
origin/HEAD)
Merge: 7bd7bd5 86f4fc8
Author: 架构师波波 <william.yang@boboweike.cn>
Date: Thu Nov 7 23:00:38 2024 +0800

    Merge pull request #1 from bytevigor/feature1

    添加十二生肖猴

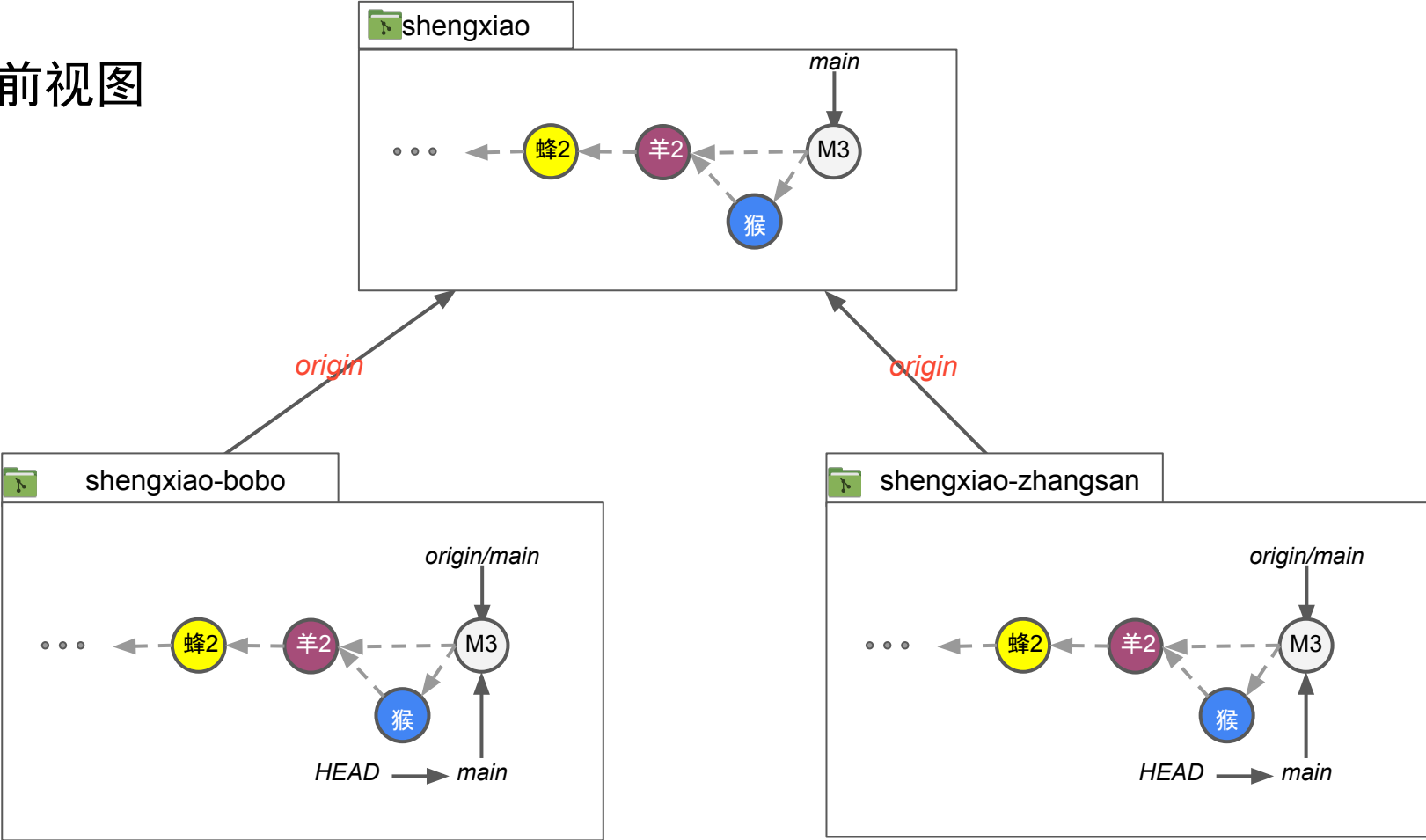
commit 86f4fc85a262abc5cd77d780a2c36bcbf54003e2
Author: bobo <bobo@boboweike.cn>
Date: Thu Nov 7 18:34:51 2024 +0800

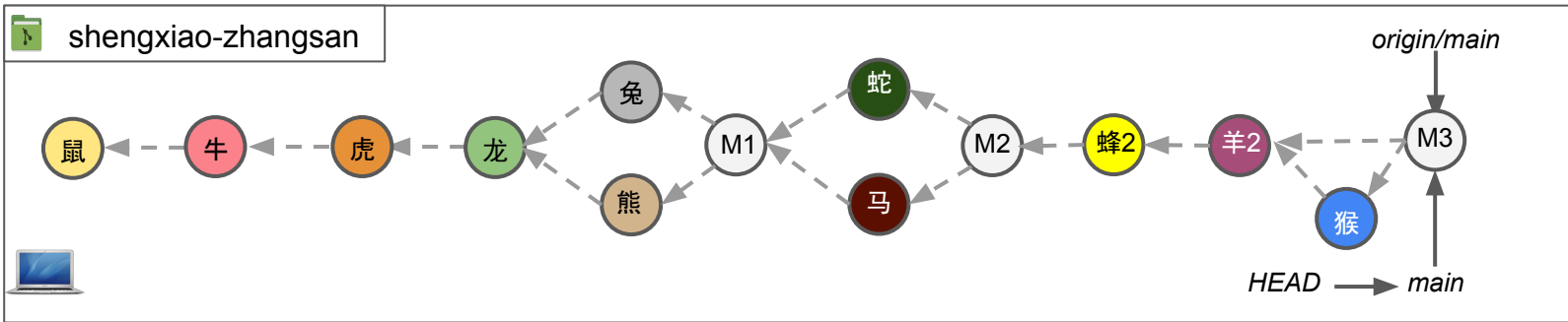
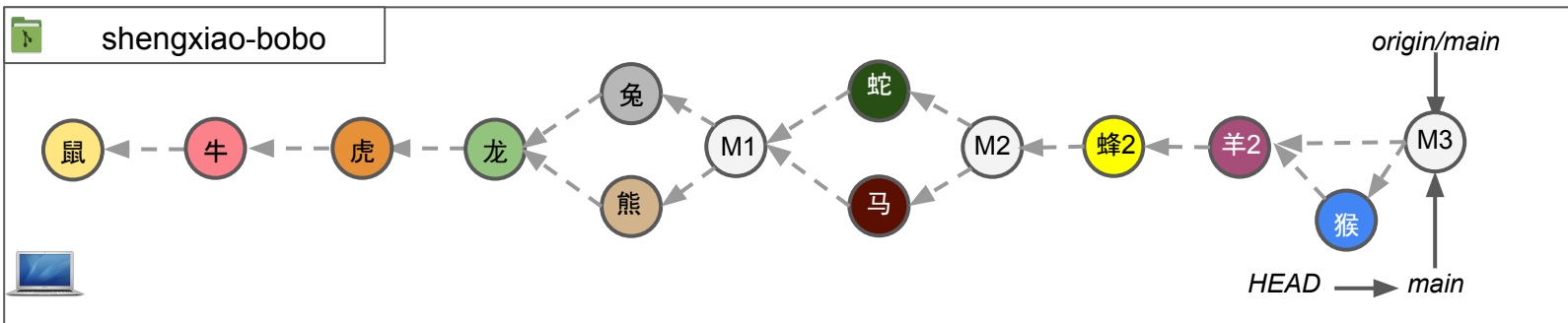
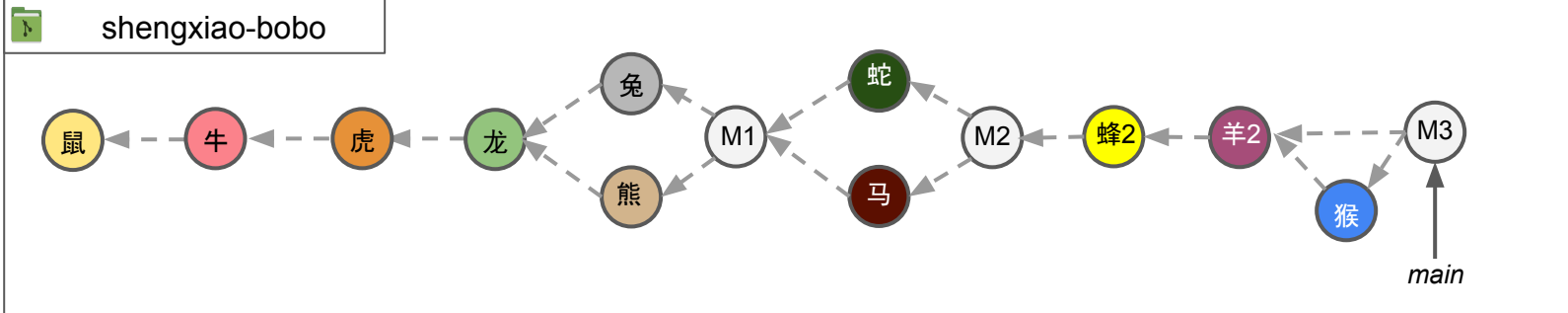
    猴

commit 7bd7bd5d08a5ddbc39053aa121eaf3ab40954a3b
Author: bobo <bobo@boboweike.cn>
Date: Tue Nov 5 16:23:18 2024 +0800

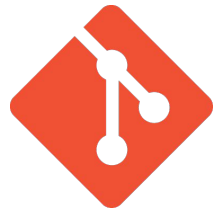
    羊
```

当前视图





# 本课小结



- 演示了Pull Request
  - 企业级开发/协作/评审流程
  - 代码托管平台支持的功能
  - 缺省为non-fast-forward合并, 即便没有分叉也会生成一个新提交
- 设定上游分支的快捷方式
  - `git push -u <shortname> <branch_name>`
- 在建立概念模型的基础上, 请进一步实践+探索Git, 再见! 🙋