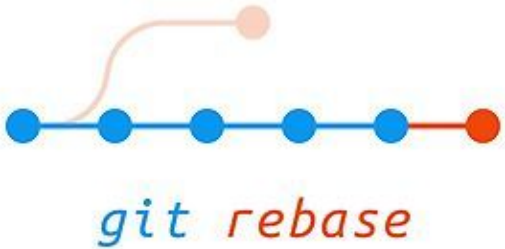
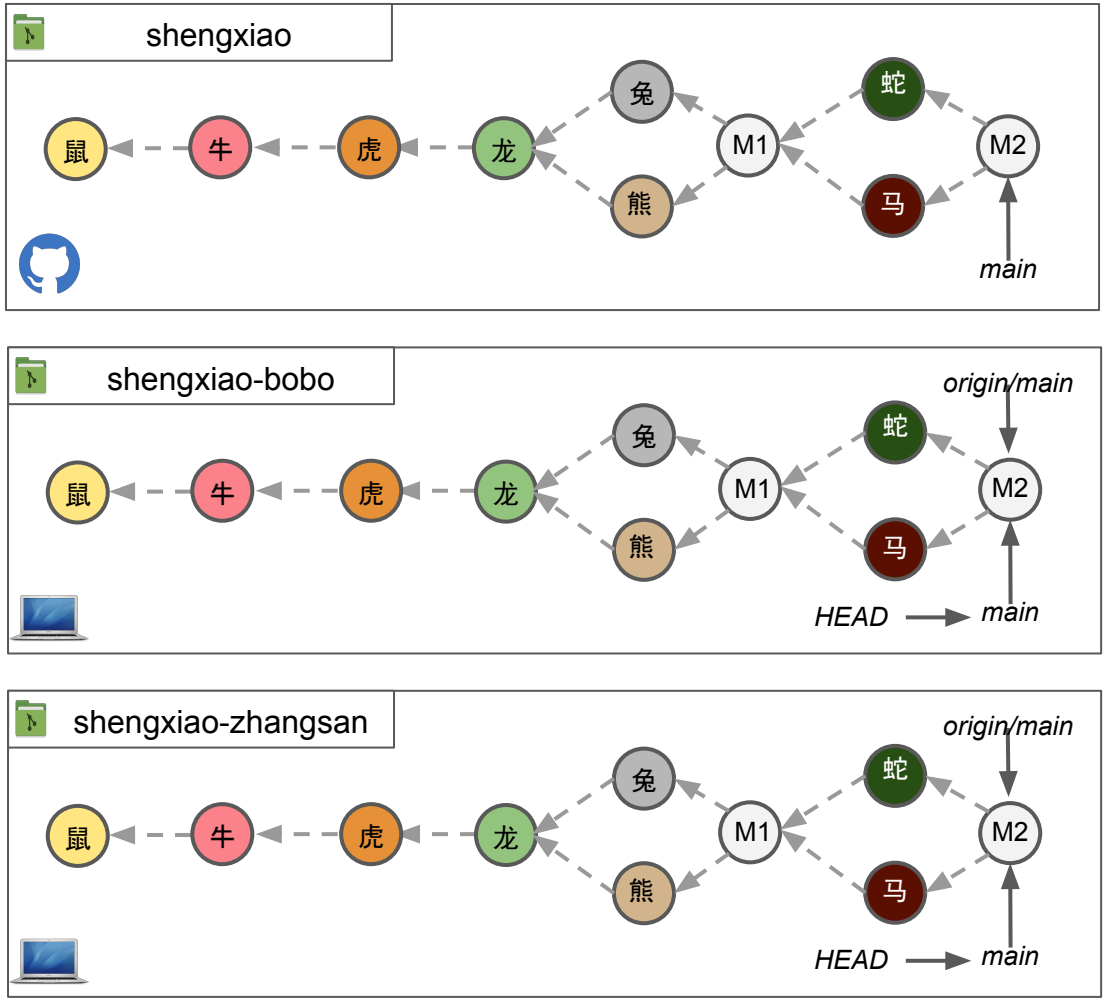
第10章 变基
(Rebase)



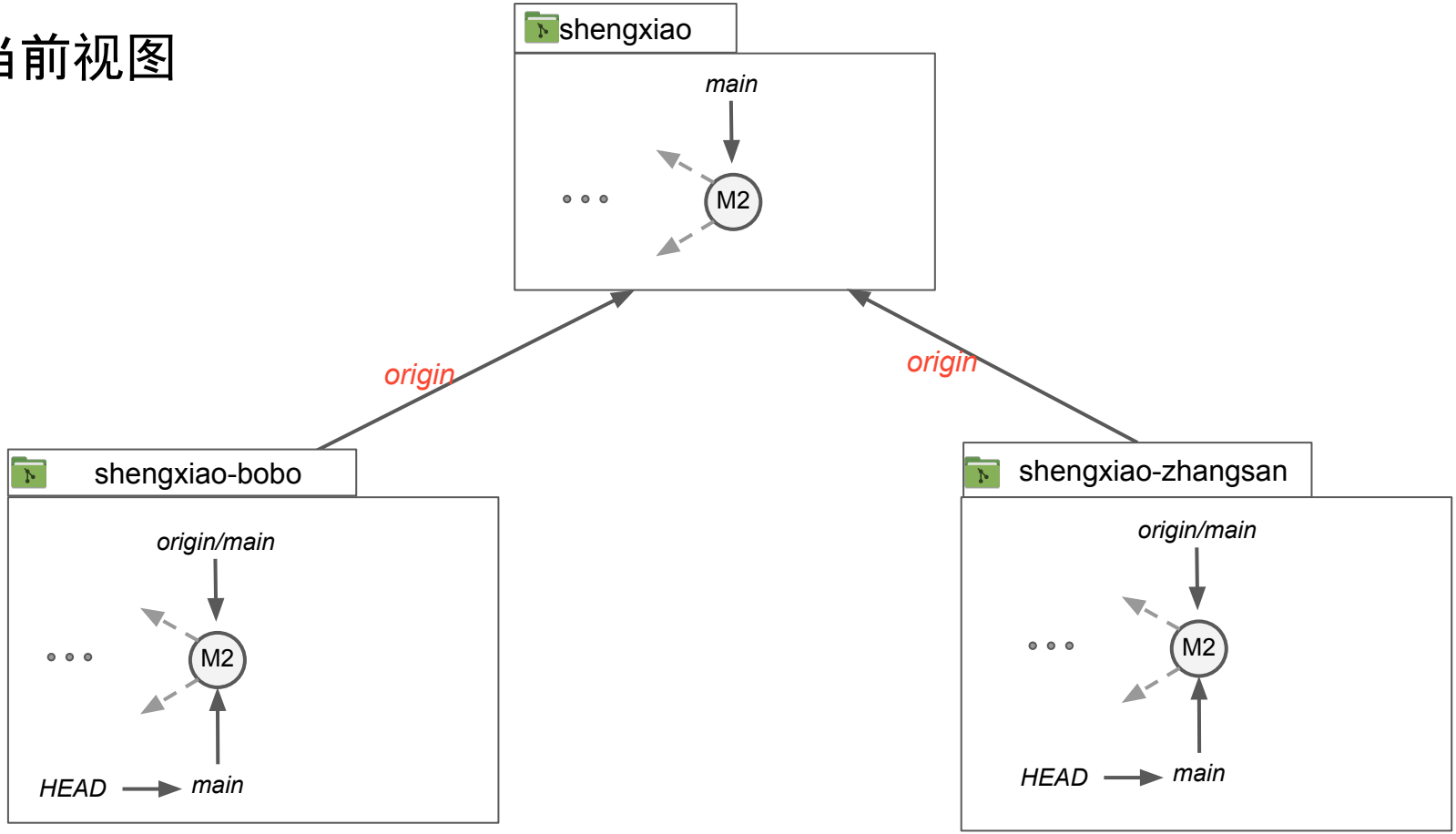
内容大纲

- 演示变基(rebase) + 冲突解决
- 变基过程的五个步骤

当前本地和远程仓库完整情况

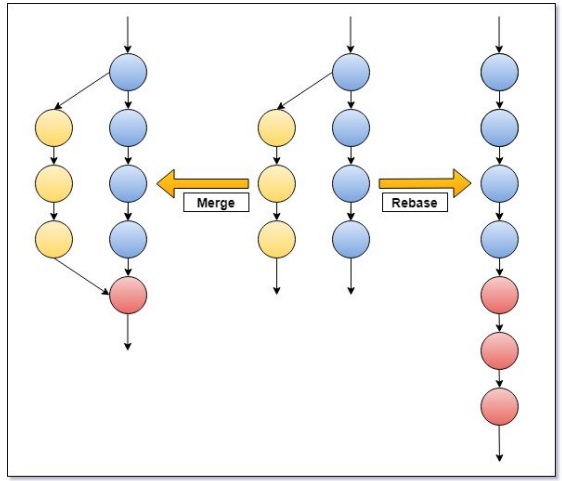


当前视图


shengxiao
main
M2
origin
origin
shengxiao-bobo
origin/main
M2
HEAD
main
shengxiao-zhangsan
origin/main
M2
HEAD
main

什么是变基？

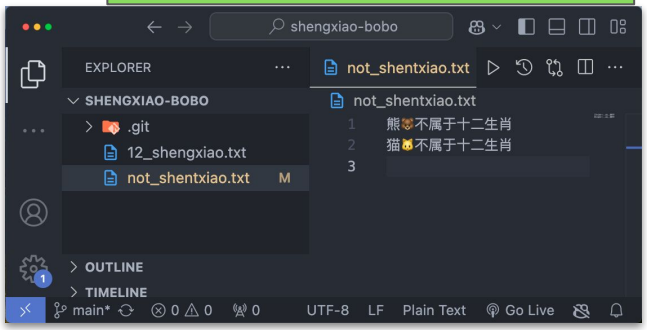
- 三方合并 -> 非线性历史
- 有些团队或个人希望维持线性的项目提交历史 -> 简单清晰
- 变基可以维持线性提交历史
- 命令：***git rebase <branch_name>***
  - 在另外一个分支上重新 应用当前分支上的新提交



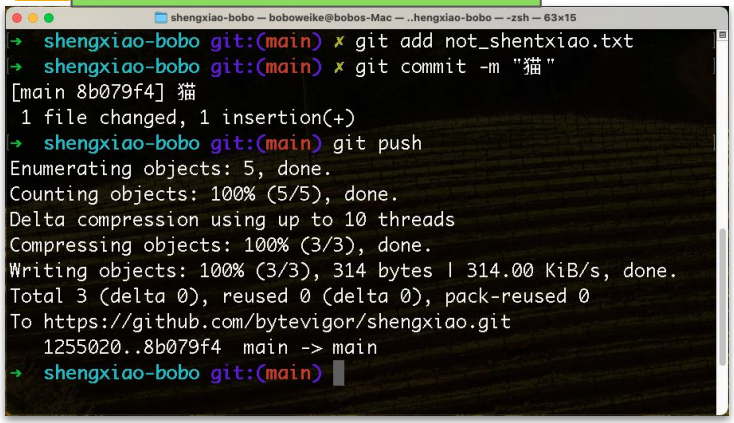
≤产生新提交，改变提交历史

波波准备变基场景 (shengxiao-bobo)

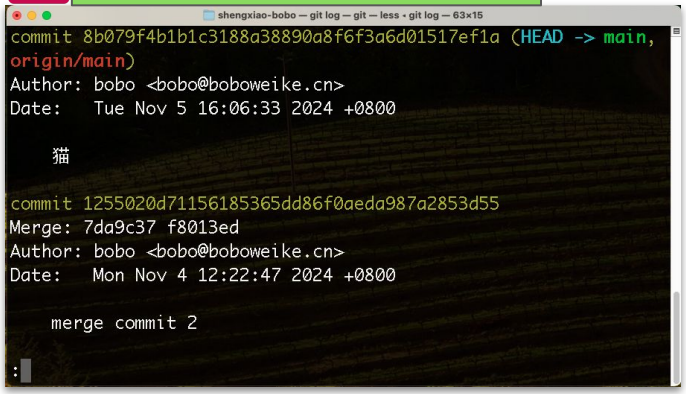
1. 1. 添加猫🐱不属于十二生肖



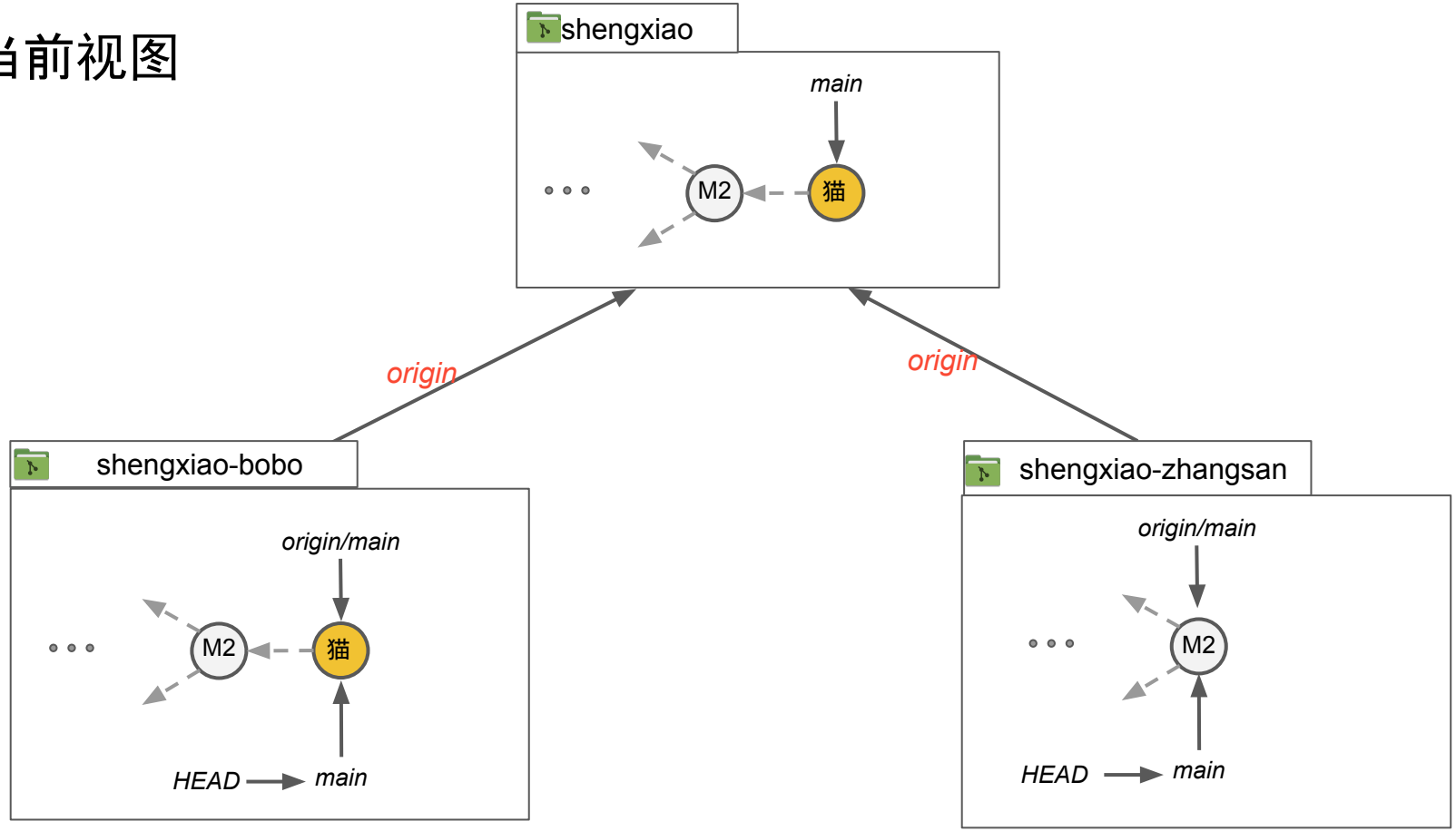
2. 2. add & commit & push



3. 3. git log

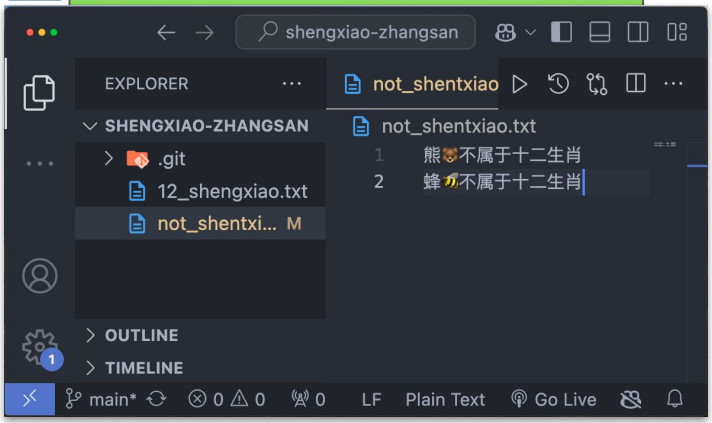


当前视图


shengxiao
main
M2
猫
origin
origin
shengxiao-bobo
origin/main
M2
猫
HEAD
main
shengxiao-zhangsan
origin/main
M2
HEAD
main

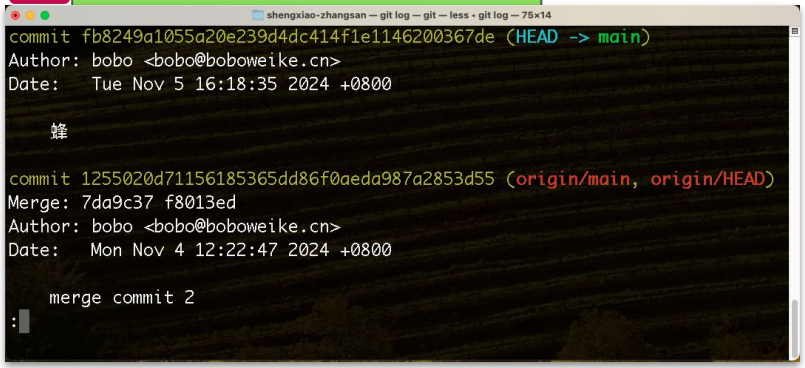
张三准备变基场景 - 提交1 (shengxiao-zhangsan)

1. 1. 添加蜂🐝不属于十二生肖



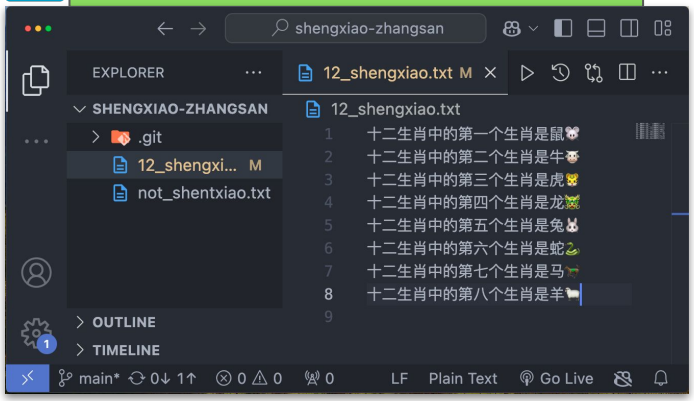
2. 2. add & commit

3. 3. git log

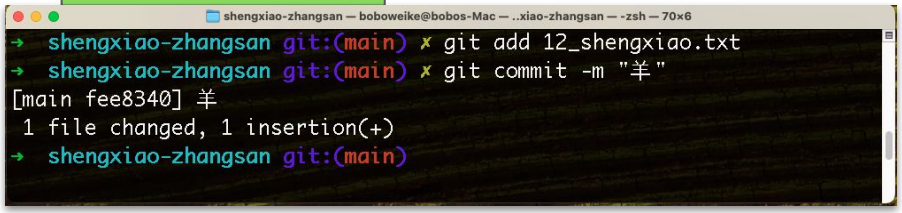


张三准备变基场景 - 提交2 (shengxiao-zhangsan)

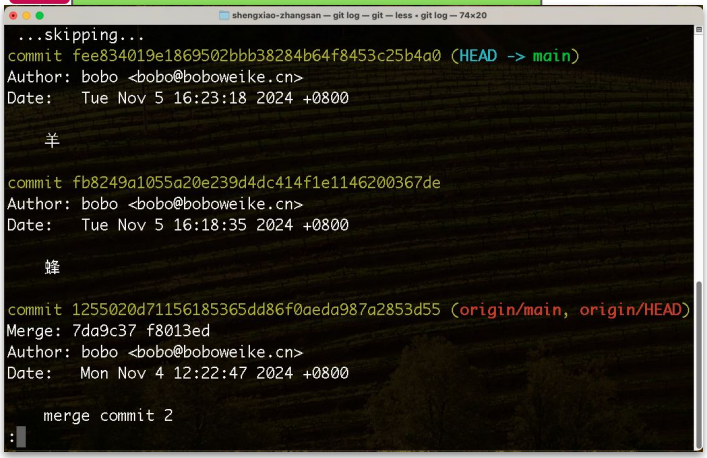
1. 添加十二生肖羊 🐑



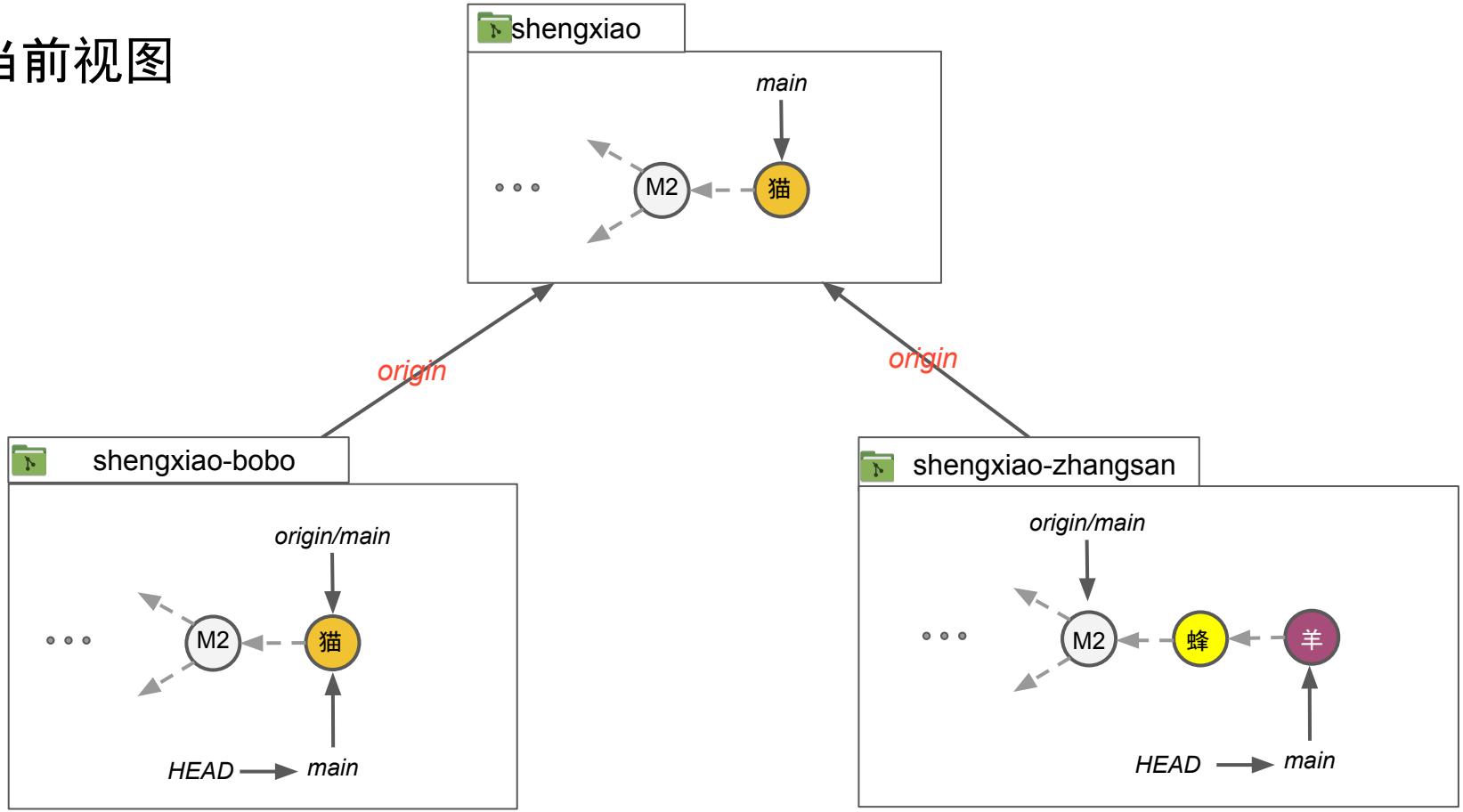
2. add & commit



3. git log

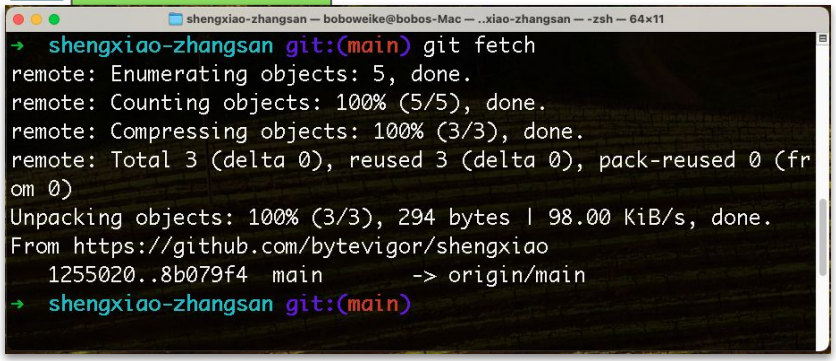


当前视图

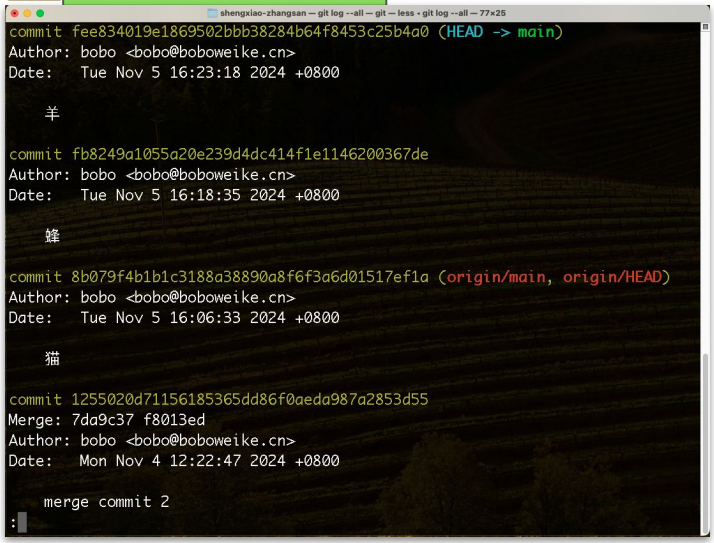

shengxiao
main
M2
猫
origin
origin
shengxiao-bobo
origin/main
M2
猫
HEAD
main
shengxiao-zhangsan
origin/main
M2
蜂
羊
HEAD
main

张三拉取fetch远程变更(shengxiao-zhangsan)

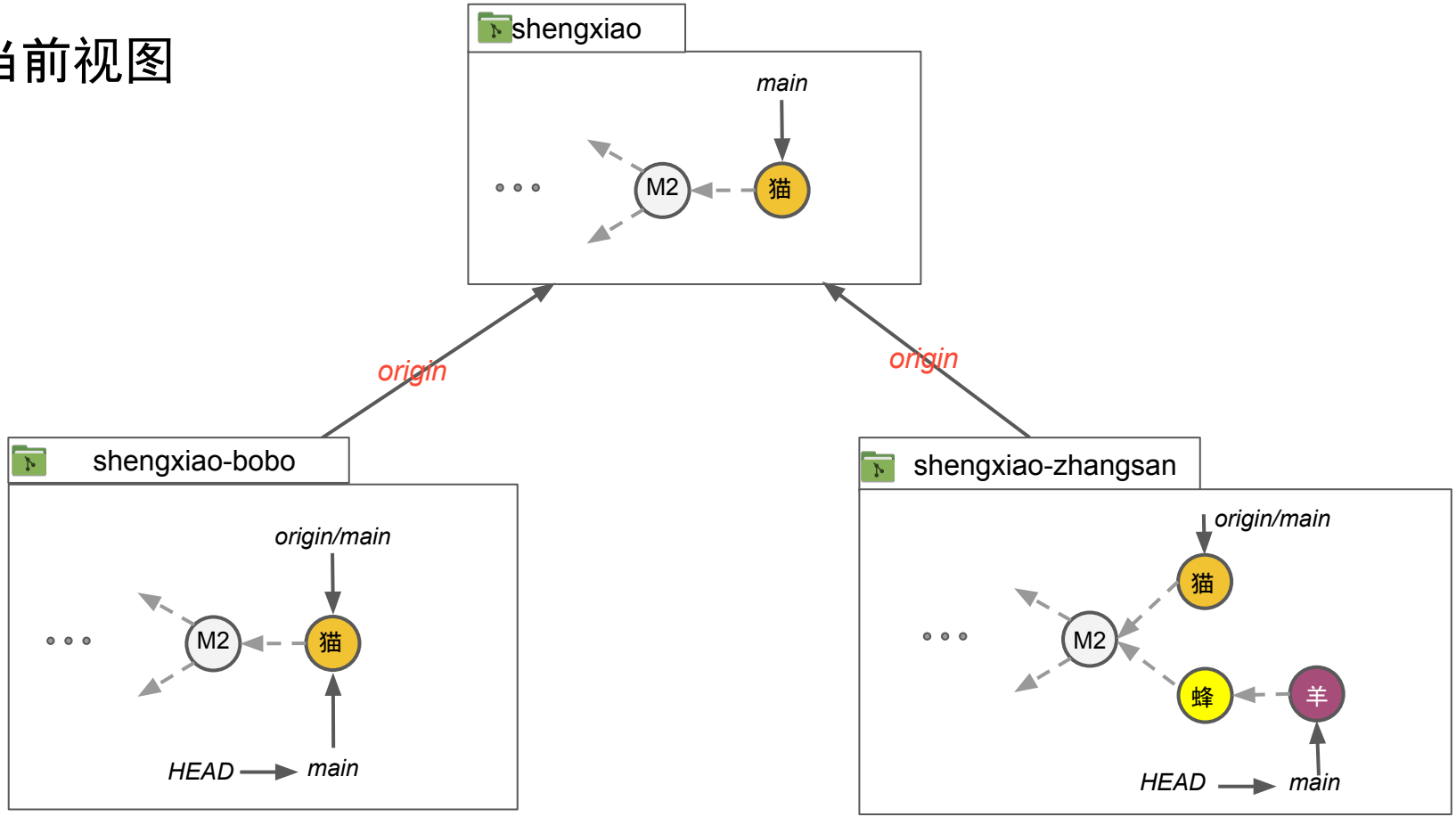
1. git fetch



2. git log --all



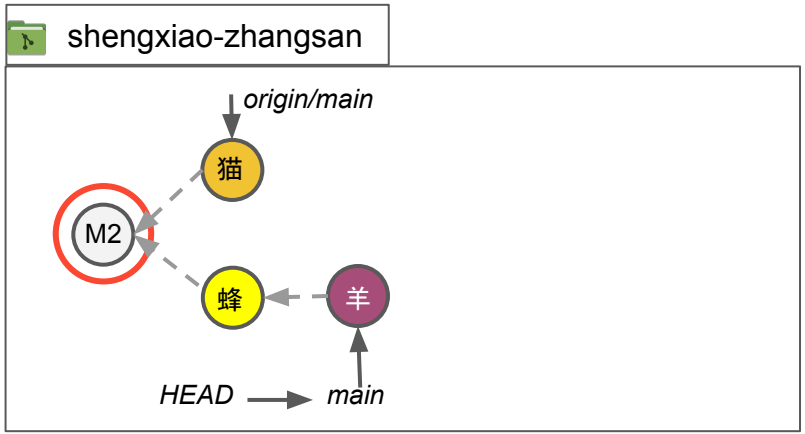
当前视图


shengxiao
main
M2
猫
origin
origin
shengxiao-bobo
origin/main
M2
猫
HEAD
main
shengxiao-zhangsan
origin/main
猫
M2
蜂
羊
HEAD
main

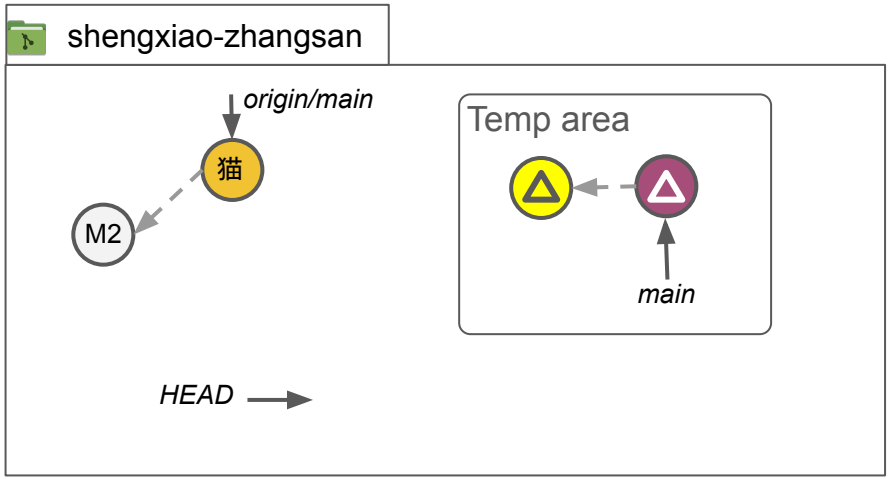
变基过程的五个步骤

1. 找到共同祖先
2. 暂存要变基的分支信息
3. 重置HEAD
4. 应用+提交变更
5. 切换到变基后的分支

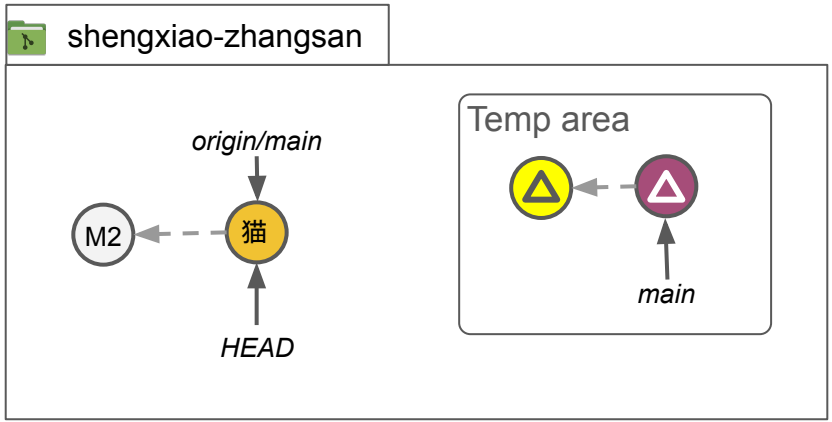
步骤一、找到共同祖先



步骤二、暂存要变基的分支信息

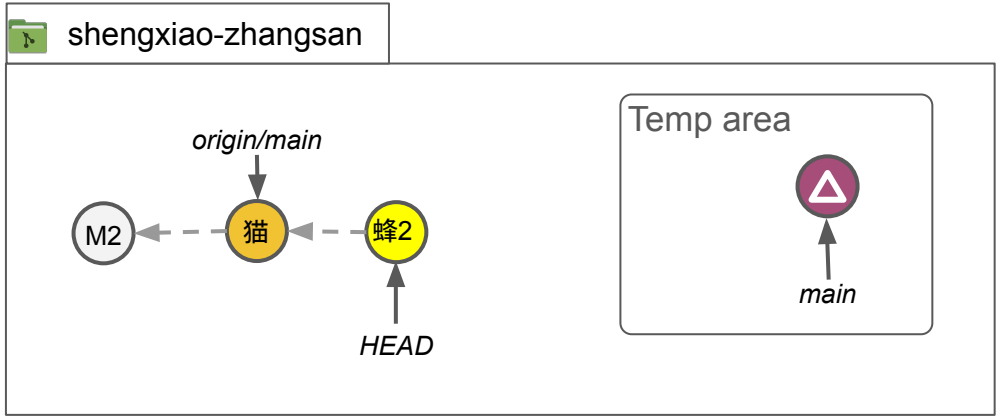


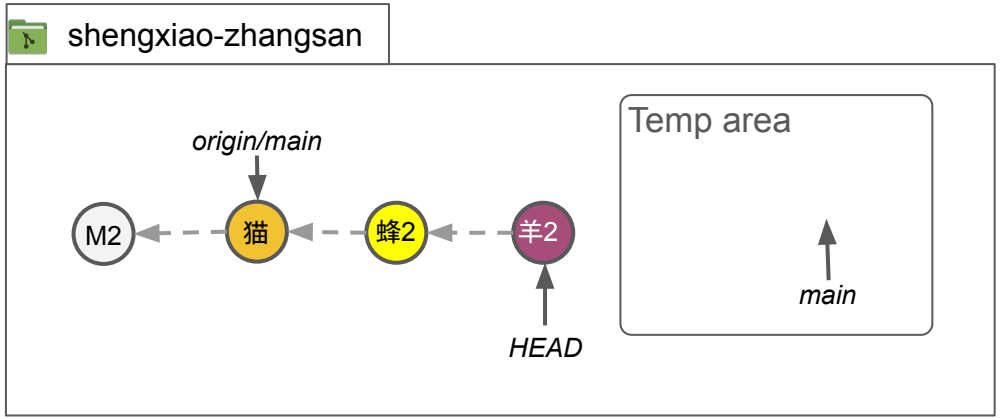
步骤三、重置HEAD



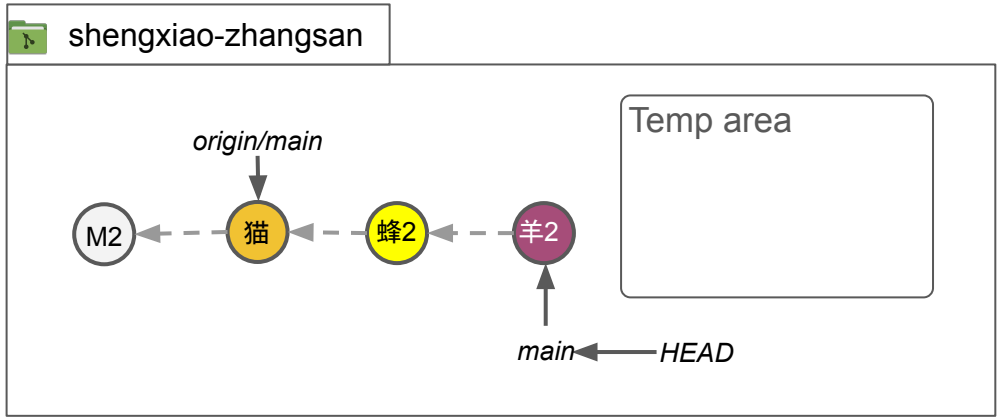
步骤四、应用+提交变更

有冲突时需人工介入



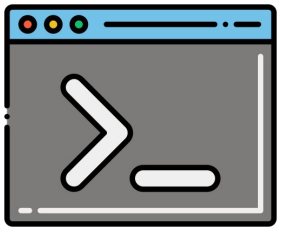


步骤五、切换到变基后的分支



变基+合并冲突

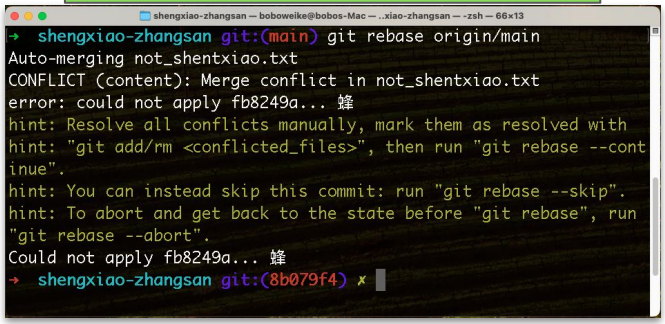
- 冲突时需人工介入(类似三方合并)
  - 对同一文件的相同部分的 变更
  - 一删一改
- 可能会有多次冲突
- 每次解决冲突，添加到暂存区(无需提交)，继续或撤销变基过程
- 命令
  - *git rebase --continue*
    - 解决冲突后继续变基过程
  - *git rebase --abort*
    - 撤销并回到变基前的状态



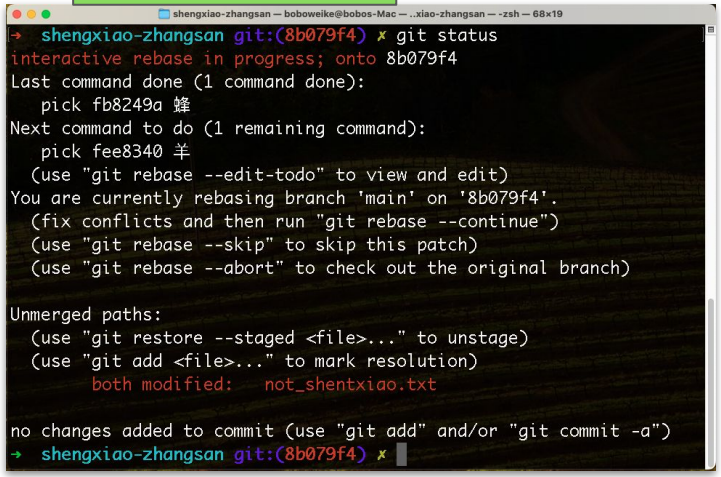
张三记录commit hash(shengxiao-zhangsan)

张三开始变基过程(shengxiao-zhangsan)

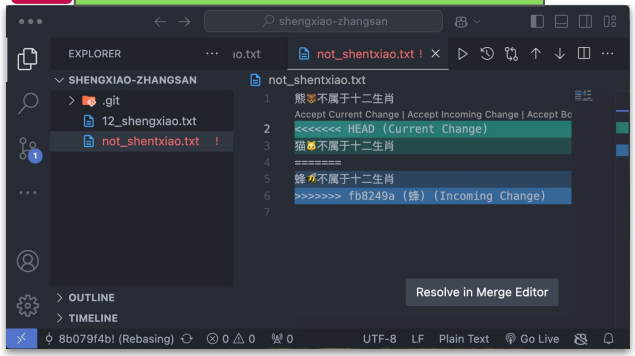
1. git rebase origin/main



2. git log --all

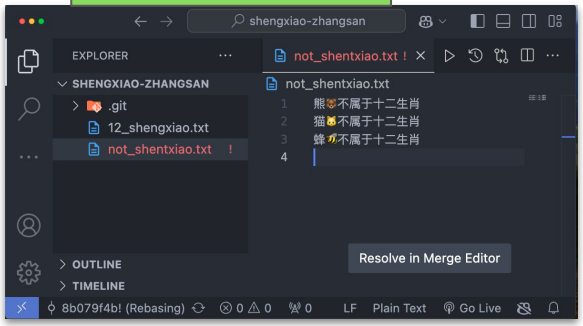


3. 检查冲突

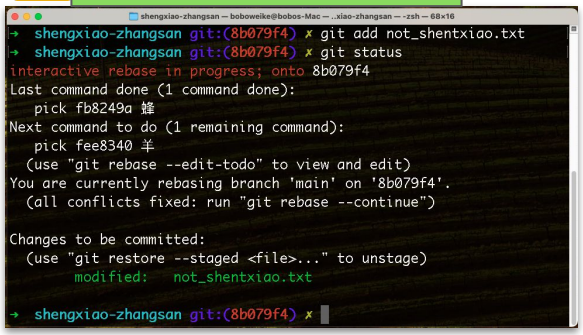


张三解决冲突(shengxiao-zhangsan)

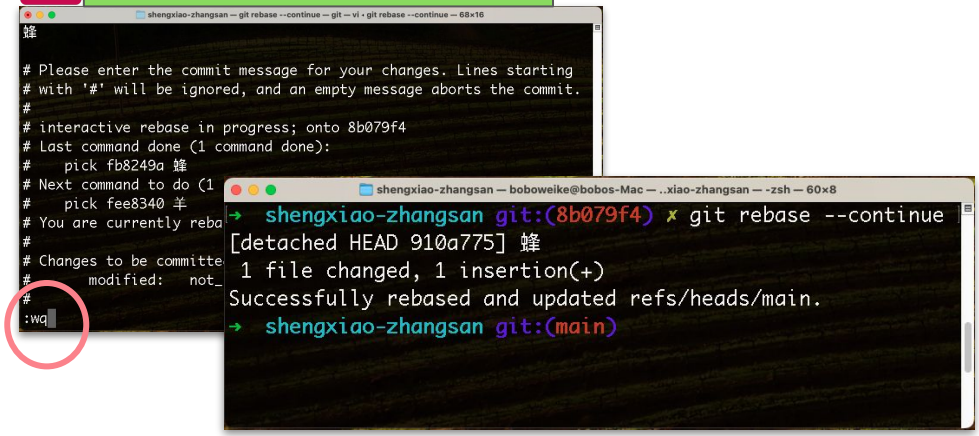
1. 编辑解决冲突



2. git add & status

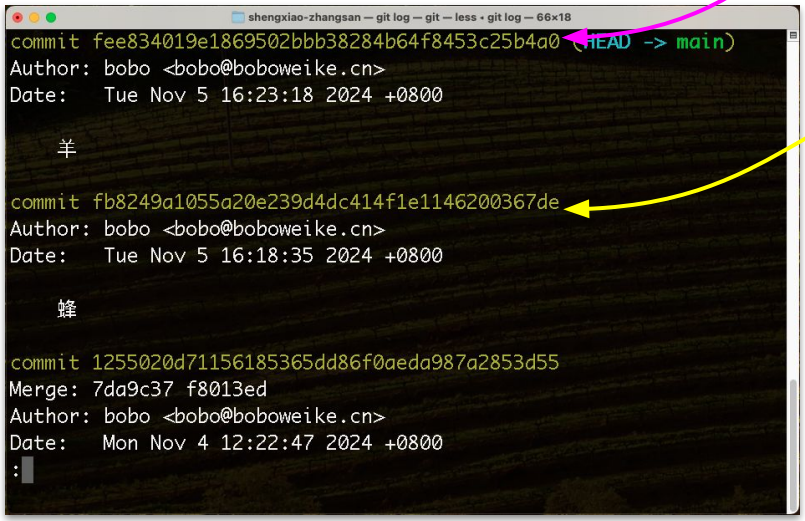


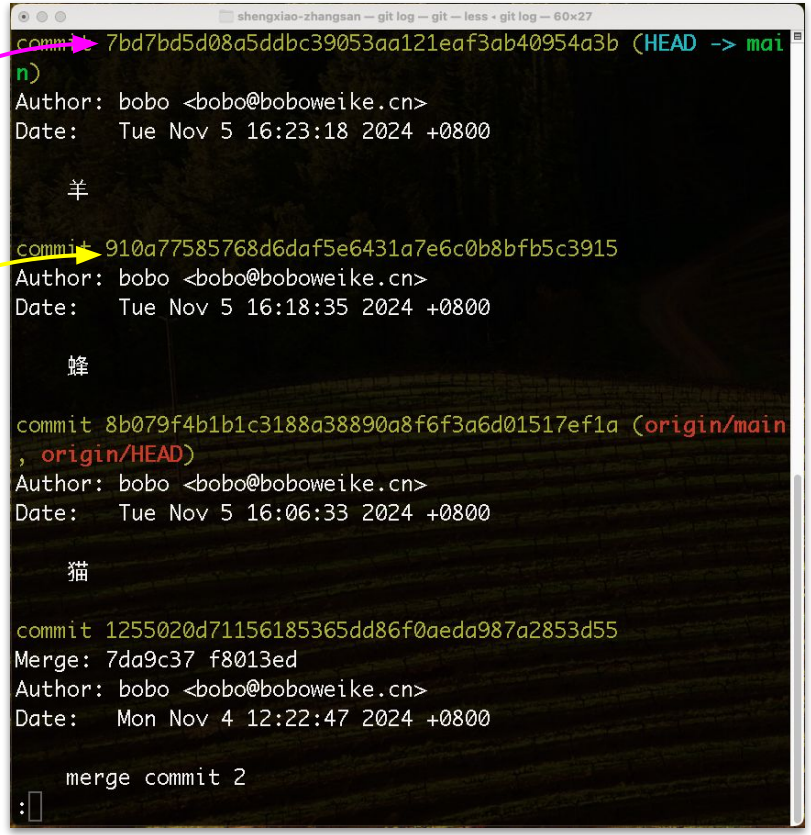
3. git rebase --continue



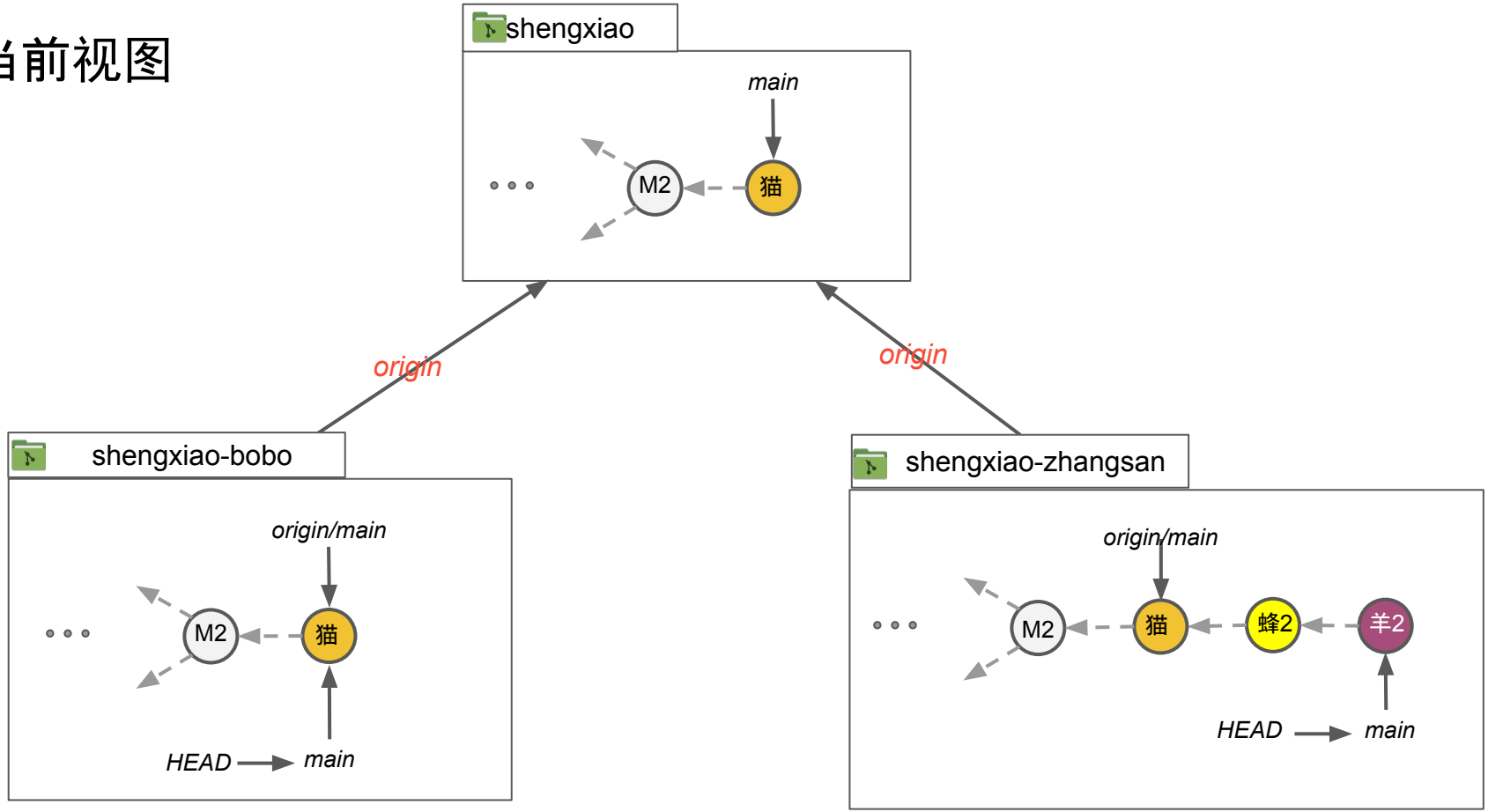
张三变基成功 (shengxiao-zhangsan)

变基改变提交历史





当前视图


shengxiao
main
M2
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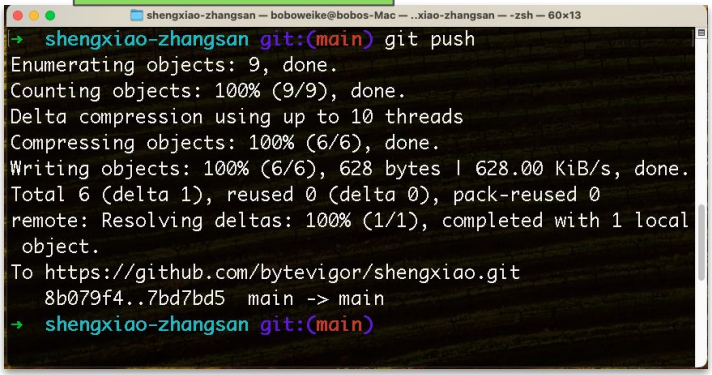
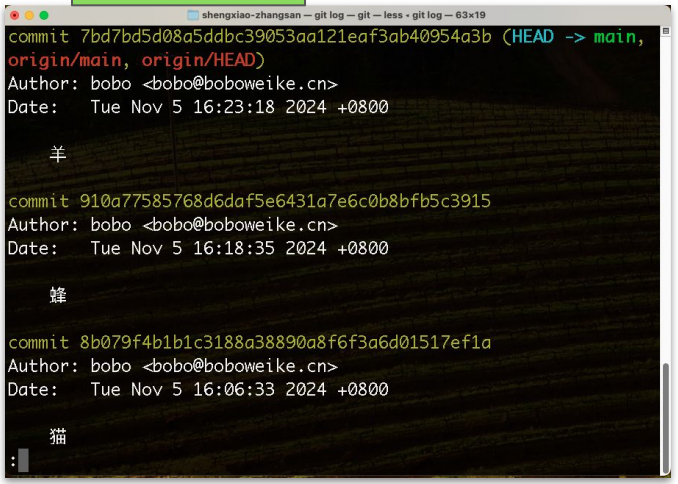
origin
origin
shengxiao-bobo
origin/main
M2
猫
HEAD
main
shengxiao-zhangsan
origin/main
M2
猫
蜂2
羊2
HEAD
main

张三推到(push)远程仓库(shengxiao-zhangsan)

1. git push

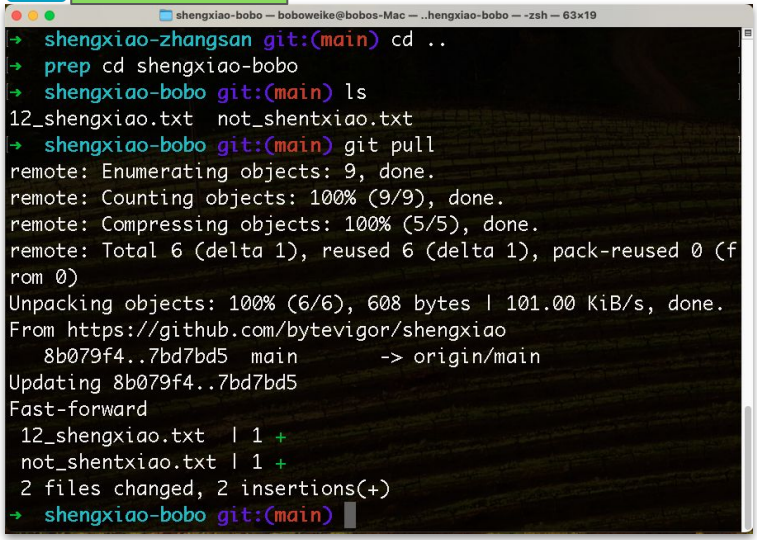


2. git log

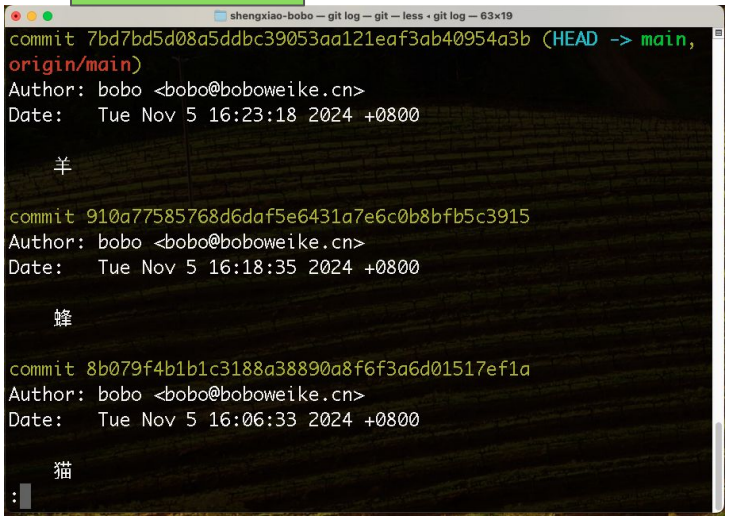


波波拉取(pull)合并到本地(shengxiao-bobo)

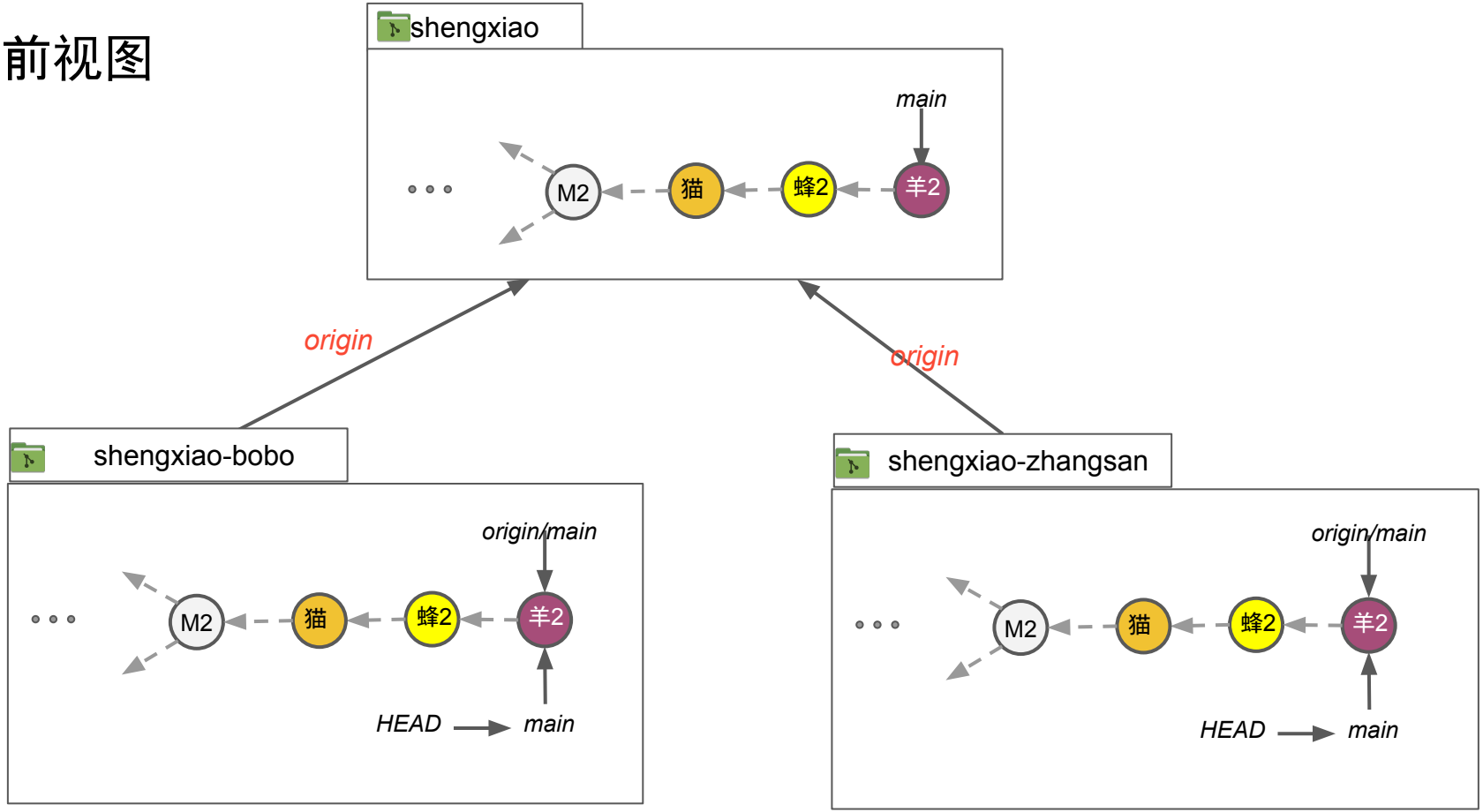
1 1. git pull



2 2. git log



当前视图


shengxiao
main
M2
猫
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羊2
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shengxiao-bobo
origin/main
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shengxiao-zhangsan
origin/main
M2
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羊2
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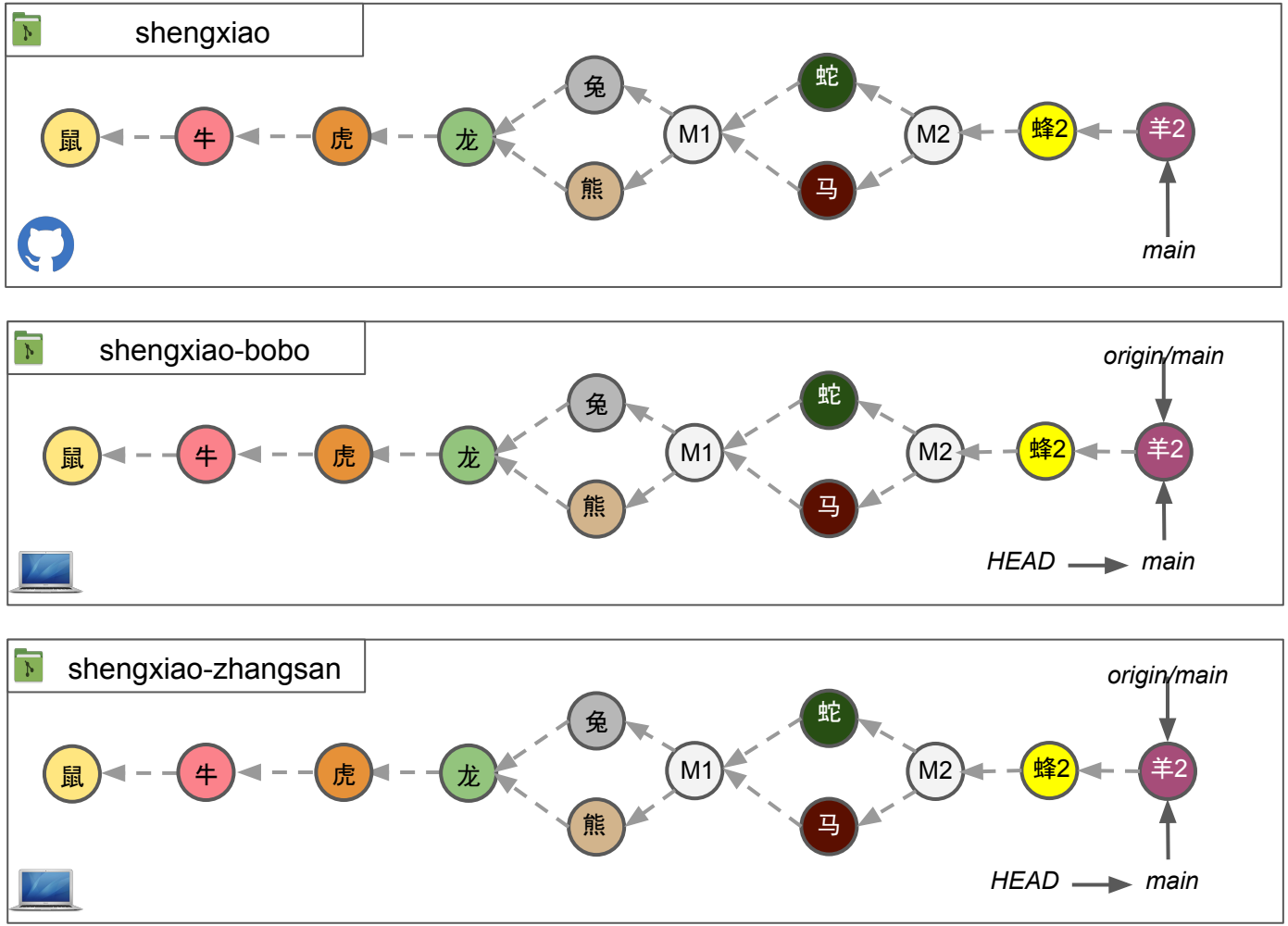
main


shengxiao
鼠
牛
虎
龙
兔
熊
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蛇
马
M2
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羊2
main
shengxiao-bobo
origin/main
HEAD
main
shengxiao-zhangsan
origin/main
HEAD
main

本课小结

- 演示变基(rebase)+冲突解决
  - 变基可以保持线性提交历史，但是会改变提交历史
  - 变基的五个步骤
- 变基的黄金法则
  - 不要对他人可能已基于其工作的分支 进行rebase
  - 可rebase的情况
    - 你的本地分支还未被推到远程仓库
    - 你的本地分支已经被推到远程仓库，但是你100%确信其他人还没有在这个分支上工作/贡献
- 下节课预览
  - 合并请求(pull request)