Git 基础

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什么是Git

- 分布式版本控制系统

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Git的核心竞争力

- 快、快、快

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- 分支开发如同家常便饭

Git的核心竞争力

- 快、快、快
- 分支开发如同家常便饭
- 灵活可扩展的工作流

哪些项目在使用Git


GIT


Linux


android


Git


RAILS


jQuery
write less, do more.

Tornado

debian

SAMBA

REDMINE

nodeJS

redis

fedora

mootools

perl

GCC

Linux

symfony

CakePHP

android

Git

RAILS

GNOME

compiz

prototype

jQuery
write less, do more.

YUI

Qt

phpMyAdmin

Drupal

puppet
labs

yum
yellowdog updater modified

WINE

X.Org

VLC
media player

为什么要迁移到Git

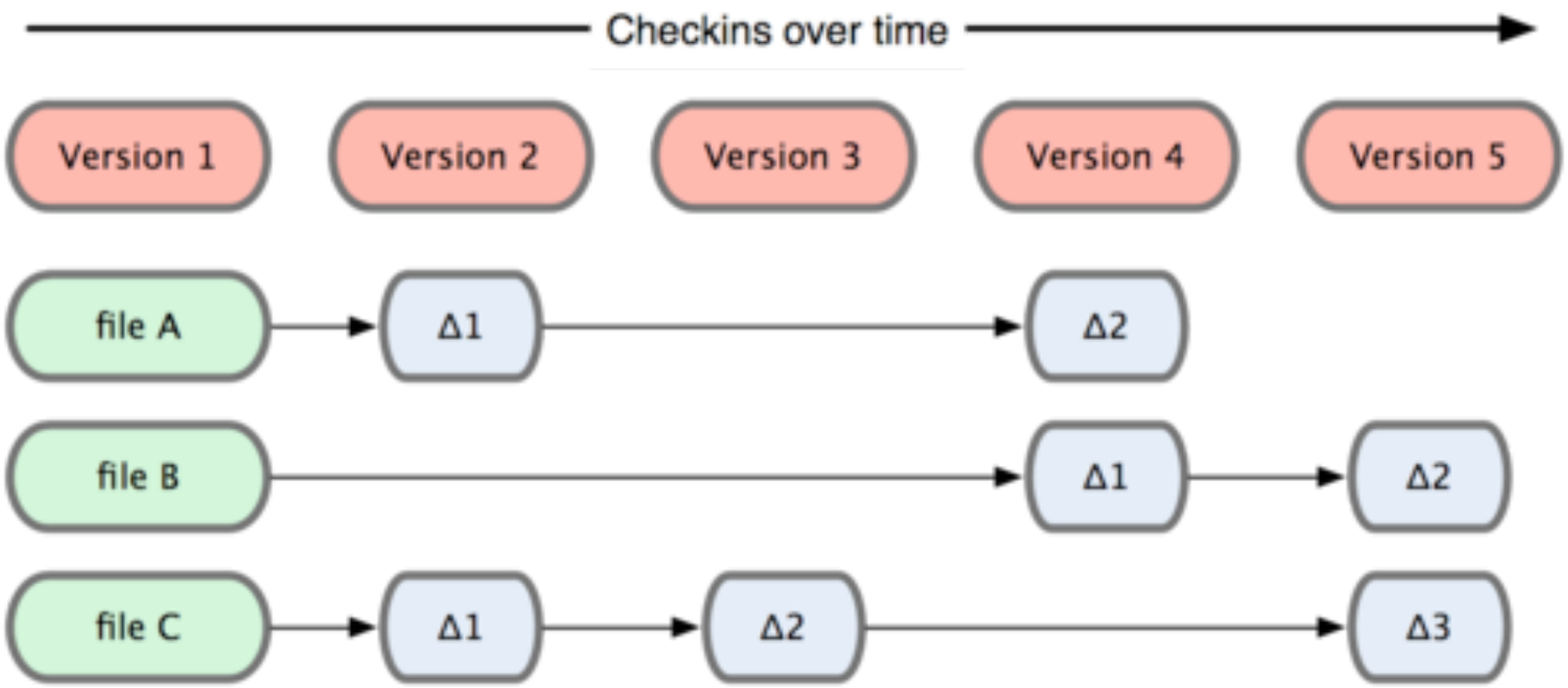
- 团队飞速成长，代码协作带来前所未有的挑战

为什么要迁移到Git

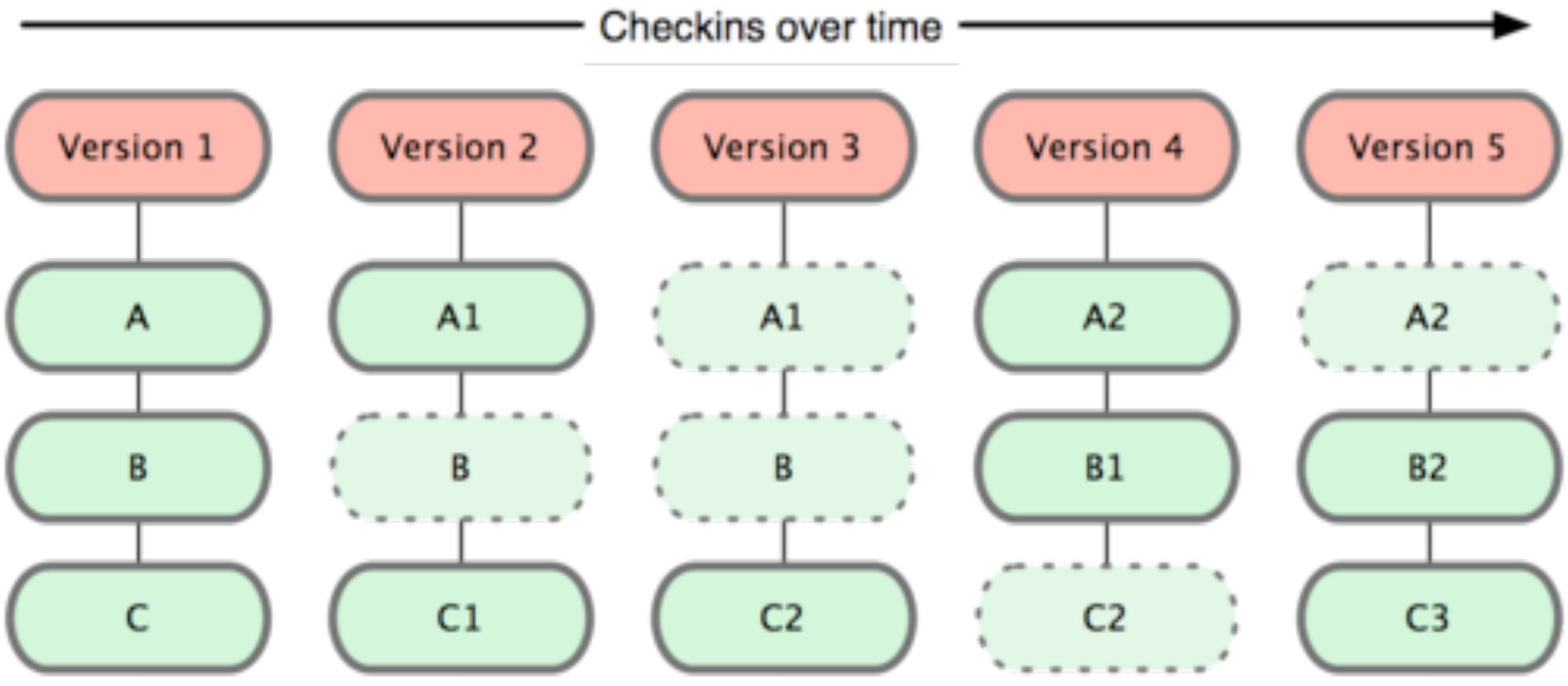
- 团队飞速成长，代码协作带来前所未有的挑战
- 以前的分支开发就像一次分娩

基本原理

其他系统记录文件差异

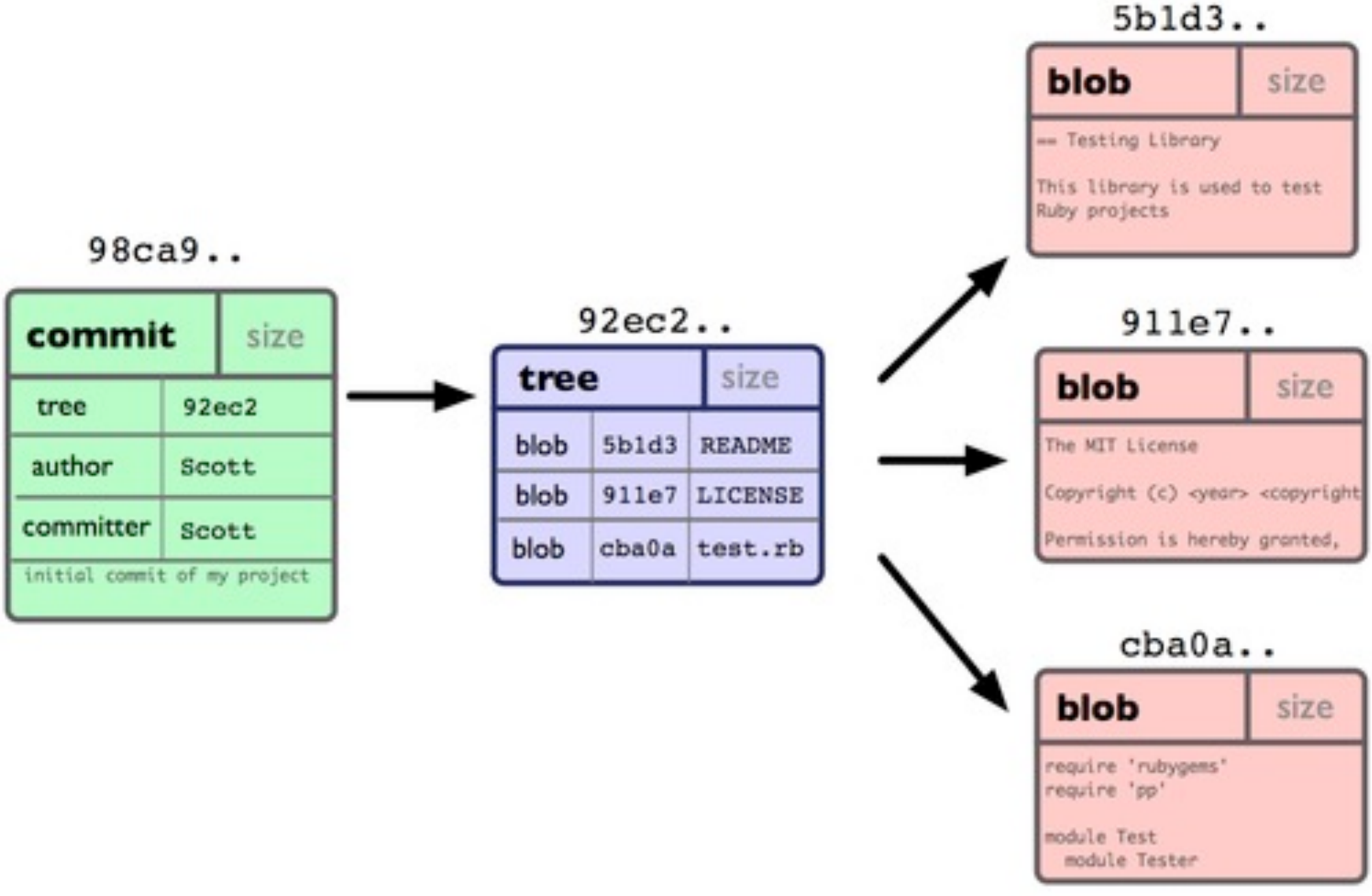

Checkins over time
Version 1
Version 2
Version 3
Version 4
Version 5
file A
Δ1
Δ2
file B
Δ1
Δ2
file C
Δ1
Δ2
Δ3

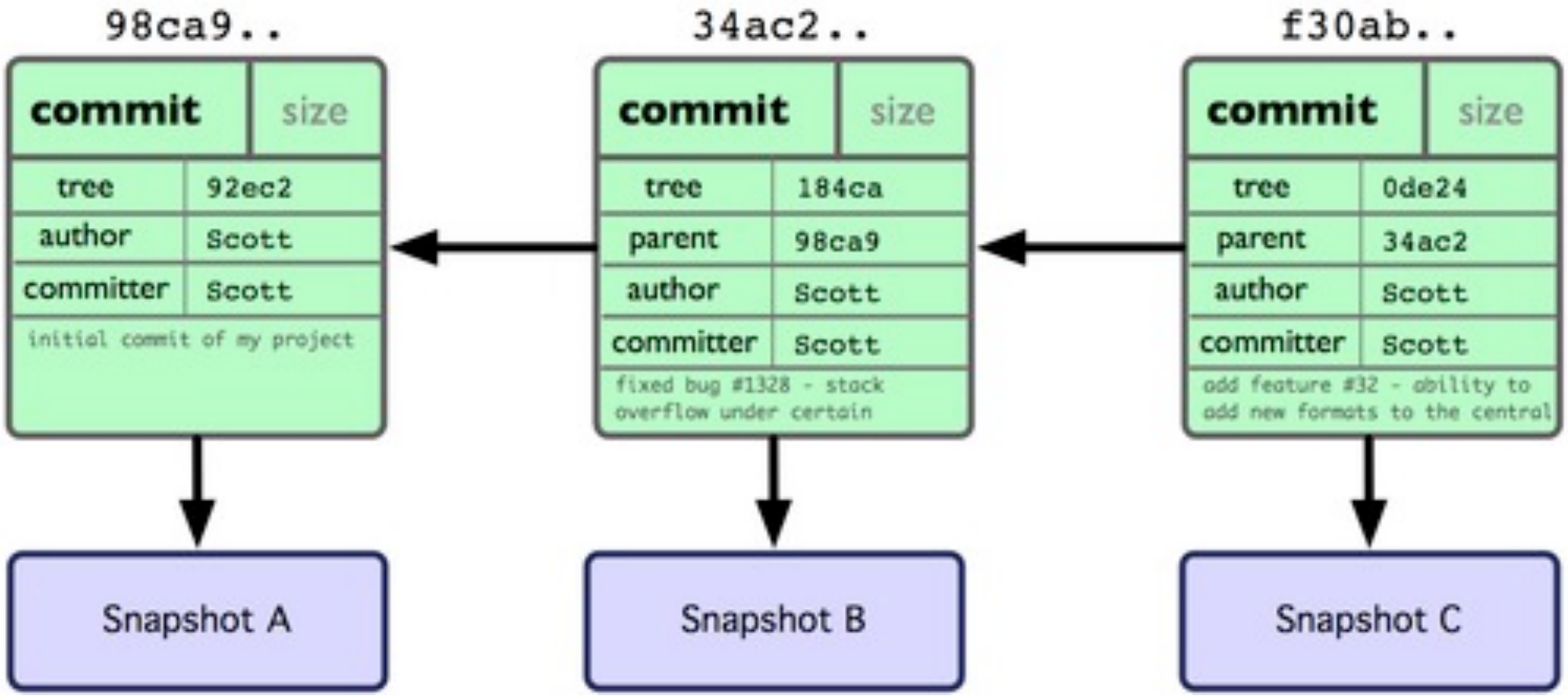
Git 保存文件快照


Checkins over time
Version 1
Version 2
Version 3
Version 4
Version 5
A
A1
A1
A2
A2
B
B
B
B1
B2
C
C1
C2
C2
C3

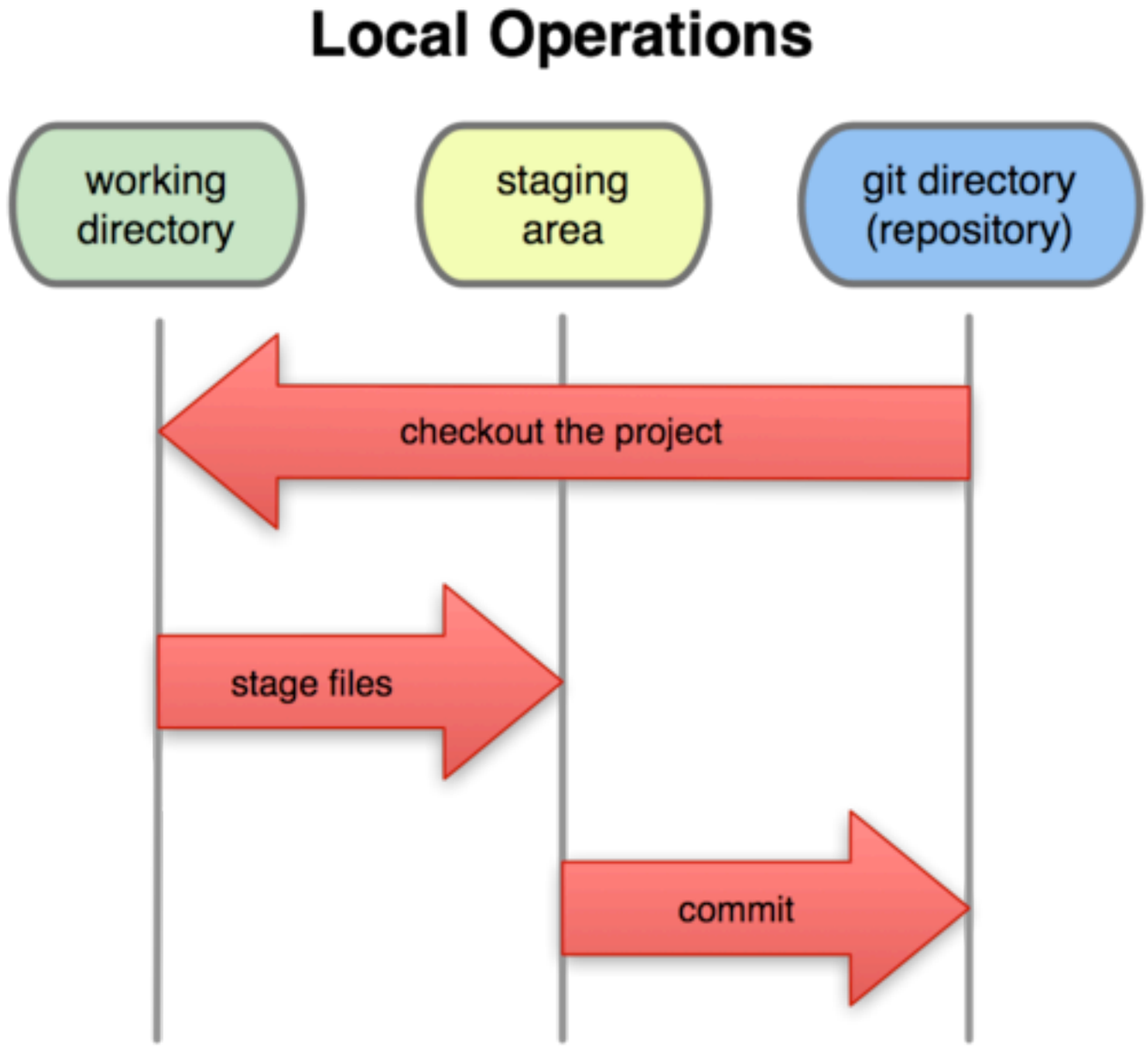
四种对象

- blob - 文件内容，没有属性信息
- tree - 所有文件名字以及其属性的列表
- commit - 表示修改历史，描述一个个 tree 之间如何联系起来
- tag - 标签，它可以指向 blob, tree和 commit，大部分时候是commit


98ca9..
commit
size
tree
92ec2
author
Scott
committer
Scott
initial commit of my project
92ec2..
tree
size
blob
5b1d3
README
blob
911e7
LICENSE
blob
cba0a
test.rb
5b1d3..
blob
size
== Testing Library
This library is used to test
Ruby projects
911e7..
blob
size
The MIT License
Copyright (c) <year> <copyright
Permission is hereby granted,
cba0a..
blob
size
require 'rubygems'
require 'pp'
module Test
module Tester


98ca9..
commit
size
tree
92ec2
author
Scott
committer
Scott
initial commit of my project
34ac2..
commit
size
tree
184ca
parent
98ca9
author
Scott
committer
Scott
fixed bug #1328 - stack overflow under certain
f30ab..
commit
size
tree
0de24
parent
34ac2
author
Scott
committer
Scott
add feature #32 - ability to add new formats to the central
Snapshot A
Snapshot B
Snapshot C

三种状态


Local Operations
working directory
staging area
git directory (repository)
checkout the project
stage files
commit

基本操作

获取代码库

- git clone git@cat.meituan.com:www
- git clone git@cat.meituan.com:www mt

最初设置

- $git config --global user.name "john"
- $git config --global user.email john@gmail.com

提交代码到本地仓库

- git add template/deal/default.php
- git commit -m “update deal ui”

推送代码到远程仓库

- git push

推送代码到远程仓库

- git push
- git push origin master

检查代码状态

- git status

检查代码状态

- git status
- git status -s

文件操作

- git add
- git reset HEAD
- git checkout
- git rm
- git mv

查看差异

- git diff
- git diff --cached
- git diff HEAD
- git diff origin

查看提交历史

- git log
- git log -5
- git log -p
- git log -p --author=panweizeng
- git log --since=2011-05-24
- git log --until=2011-05-25
- git log --name-only

查看提交历史

- git log --pretty=oneline
- git log --pretty=format:%h:%s
- git log --graph

查看提交历史

- git log --pretty=oneline
- git log --pretty=format:%h:%s
- git log --graph
- fisheye
  http://www.atlassian.com/software/fisheye/

更新本地仓库

- git pull

更新本地仓库

- git pull
- git fetch && git merge origin/master

查看帮助信息

- git help command

git help commit
git help push
git help log

分支开发

- Git之杀手锏

创建分支

- git branch hotfix
- git checkout -b hotfix
- git checkout -b hotfix master

切换分支

- git checkout hotfix
- git checkout master

分支合并

- git merge hotfix
- git merge origin/master
- git merge --squash

分支管理

- git branch -v
- git branch -d hotfix
- git branch -D hotfix
- git branch --merged
- git branch --no-merged

远程分支

- git push origin abc #将本地分支保存到远程
- git push origin :abc #将远程分支删除
- git branch -a #查看目录下的所有分支
- git push origin panweizeng/abc
- git push origin :panweizeng/abc

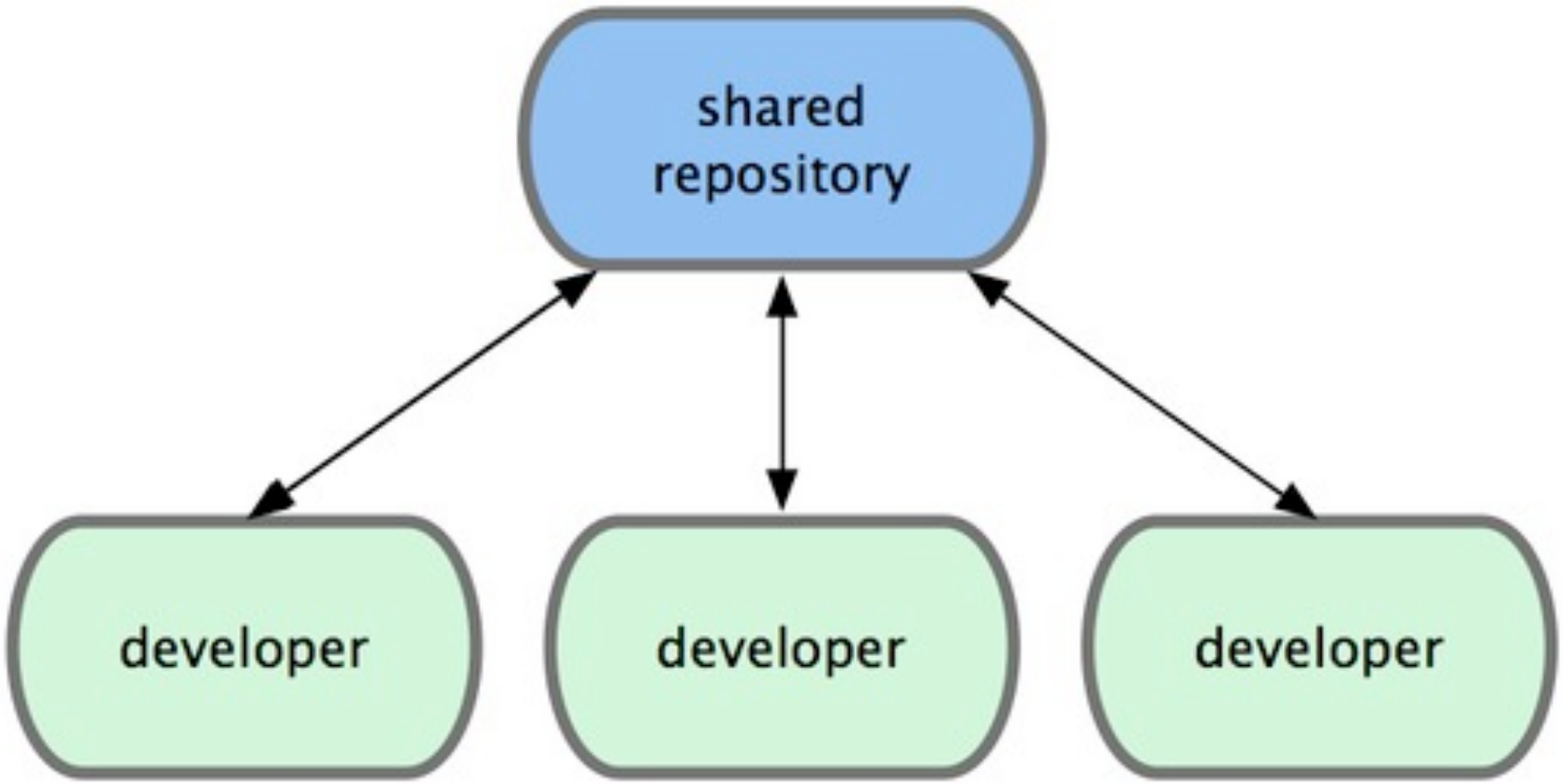
美团工作流

- 快、快、快

美团工作流

- 快、快、快
- 快速开发，快速部署，快速迭代

协作开发模型



更快节奏的开发工作流

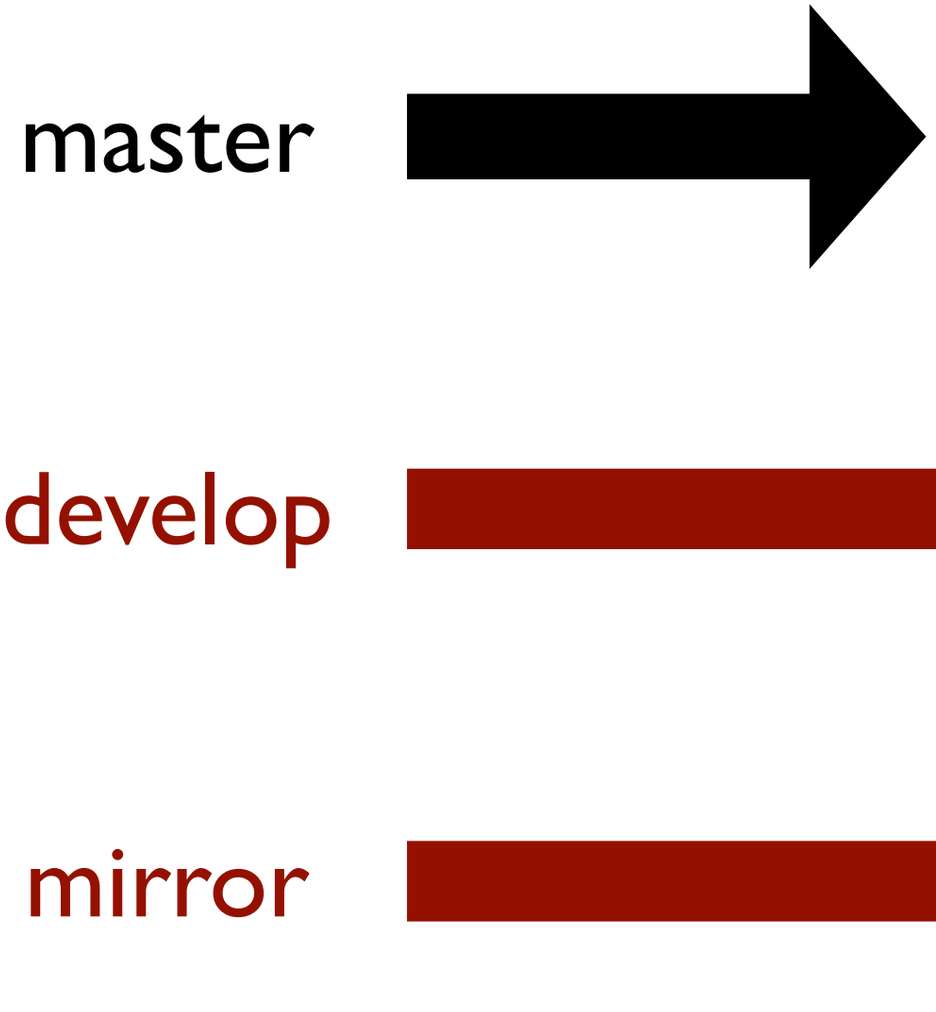
master 

更快节奏的开发工作流

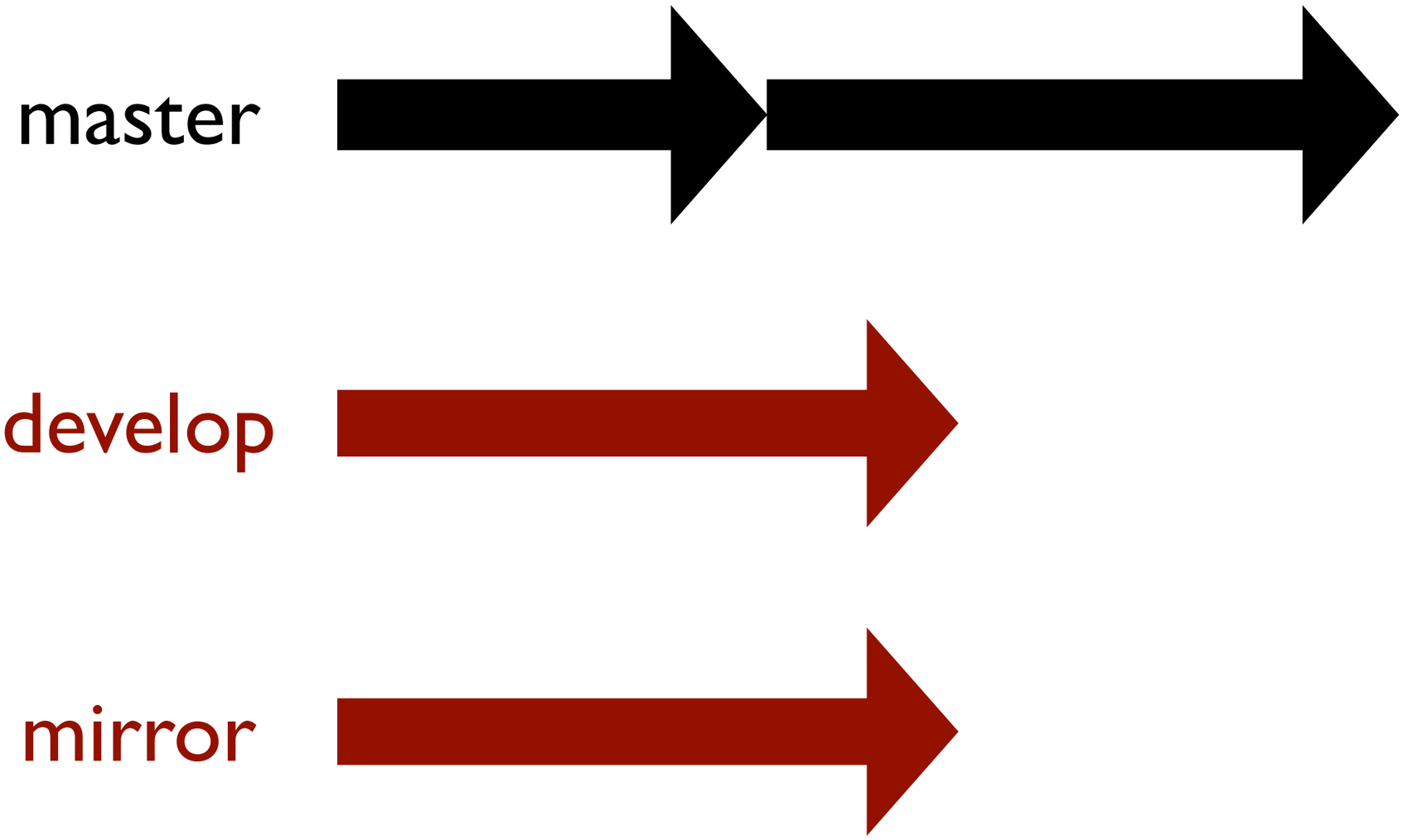
master

develop

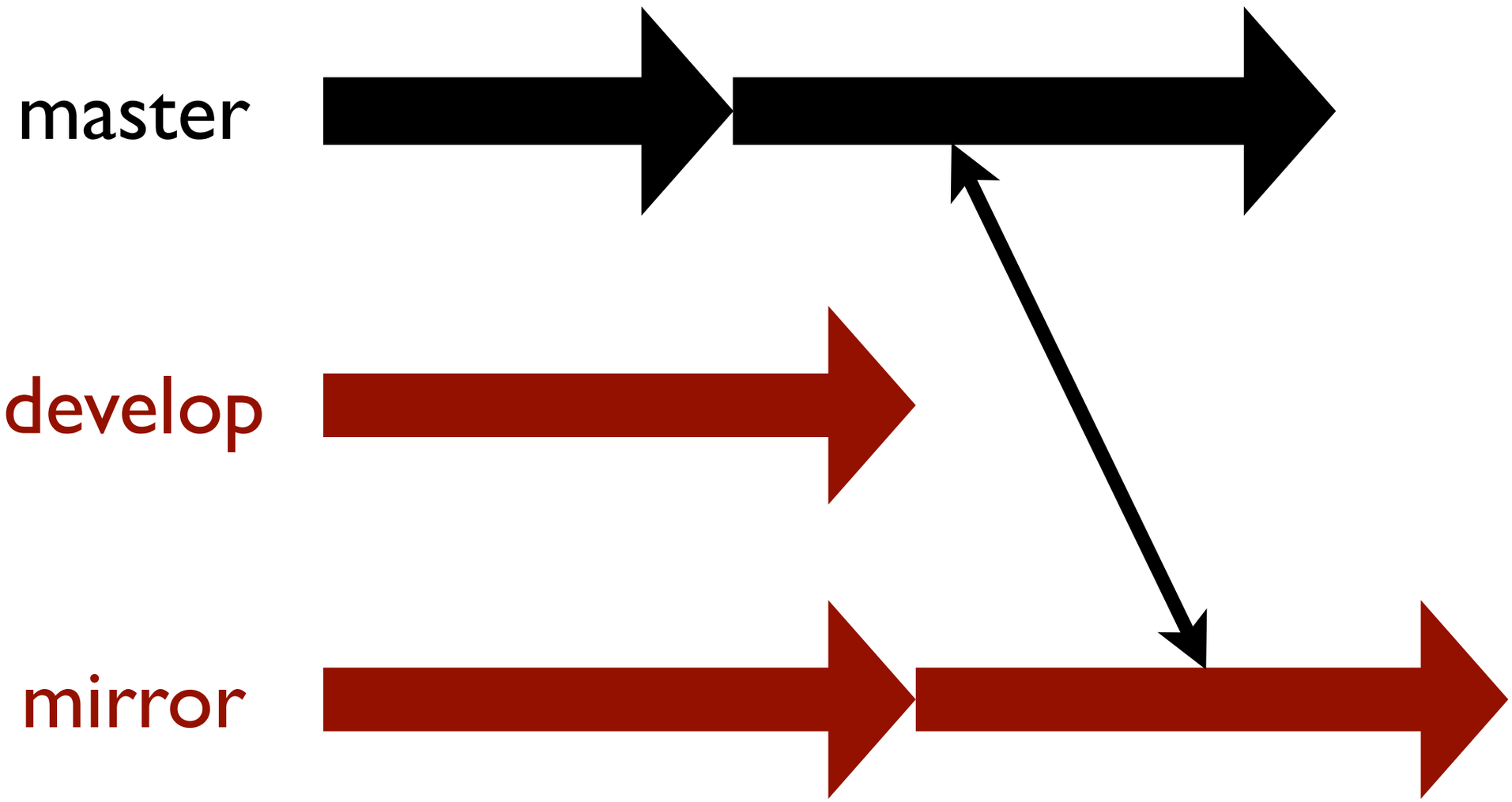
更快节奏的开发工作流



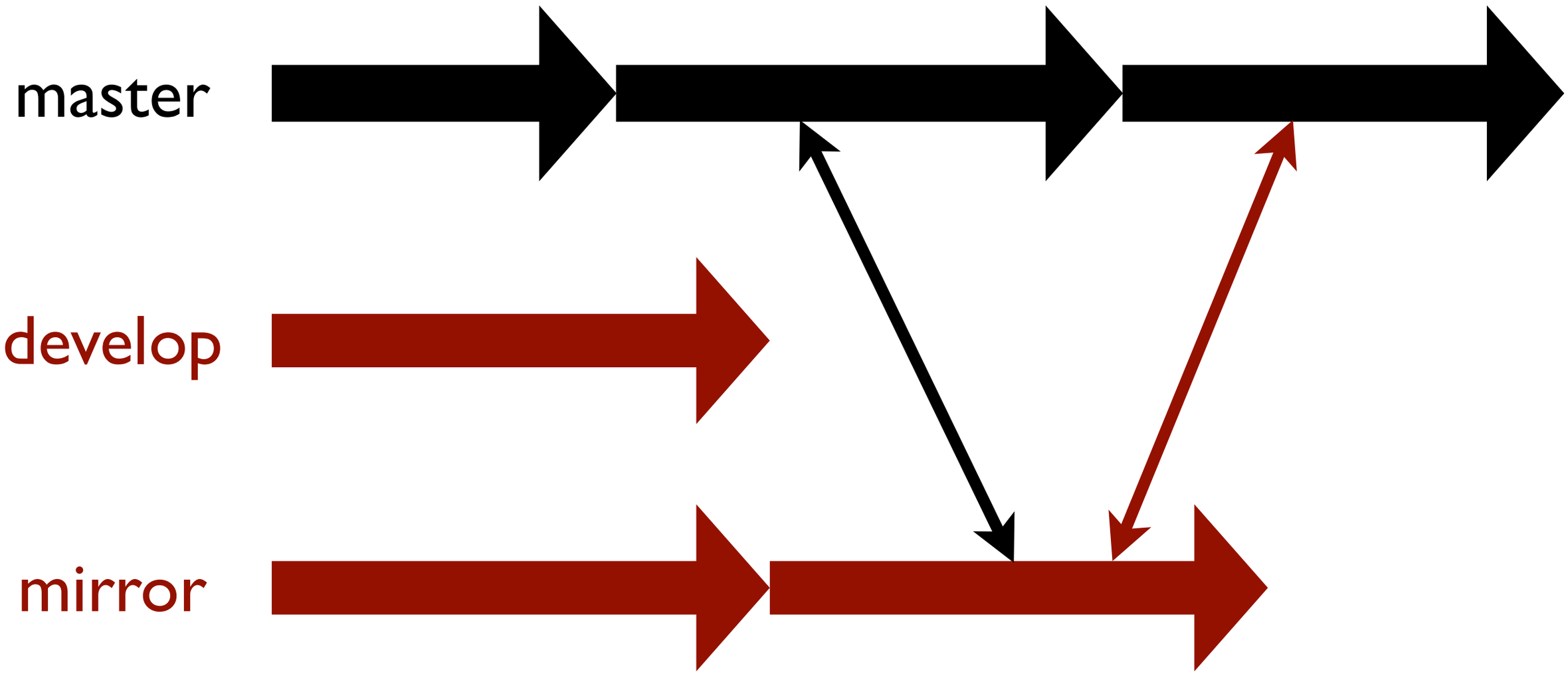
更快节奏的开发工作流



更快节奏的开发工作流



更快节奏的开发工作流



master是一座桥梁

杂项

- 一些改变生活的小技巧

常用设置

- git config --global color.ui auto
- git config --global alias.st status
- git config core.filemode false
- git config -l
- /etc/gitconfig
  ~/.gitconfig
  .git/config

简短的HASH

- git show c2bd66ee2f5ebef7dac171fca57875bd99f47318
- git show c2bd66ee2f5ebef7
- git show c2bd66ee
- git show c2bd

储藏代码

- git stash
- git stash apply
- git stash list
- git stash branch abc

快速查找代码树

- git grep keyword
- git grep keyword -i -A10 -B10

查看代码是谁修改的

- git blame filename

修改最后一次提交

- git commit -m “new mobile”
- git add forgotten_file
- git commit --amend

修改本地某次提交

- git rebase -i 32cb53^
- git commit --amend
- git rebase --continue

修改本地某次提交

- git rebase -i 32cb53^
- git commit --amend
- git rebase --continue

警告：不要修改已经push到远程仓库的提交

将diff复写到相关文件

- git diff > ~/diff # 备份代码到diff文件
- git apply ~/diff # 将diff应用到当前代码树
- patch -p1 < ~/diff #如果没有安装git

命令行提示当前分支

```
[panweizeng@dev:mt(master)]$ git checkout develop
Switched to branch 'develop'
[panweizeng@dev:mt(develop)]$ git checkout mis
Switched to branch 'mis'
[panweizeng@dev:mt(mis)]$
```

命令行提示当前分支

在~/.bashrc中添加

```
function parse_git_branch {
    git branch --no-color 2> /dev/null | sed -e '/^[^*]/d' -e
's/* \(.*\)/(\1)/' -e 's/((/(/' -e 's/))/)/'
}

function proml {
    local GREEN="\[\033[0;32m\]"
    local COLOR_END="\033[0m"
    PS1="[\u@\h:\W$GREEN\$(parse_git_branch)$COLOR_END]\$ "
}
proml
```

命令行自动补全

```
$cd ~/bin
$curl -O https://github.com/git/git/raw/master/contrib/completion/git-completion.bash
$curl -O https://github.com/bobthecow/git-flow-completion/raw/master/git-flow-completion.bash
```

编辑~/.bashrc增加两行

```
source ~/bin/git-completion.bash
source ~/bin/git-flow-completion.bash
```

命令行自动补全

```
$cd ~/bin
$curl -O https://github.com/git/git/raw/master/contrib/completion/git-completion.bash
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```

编辑~/.bashrc增加两行

```
source ~/bin/git-completion.bash
source ~/bin/git-flow-completion.bash
```

也可以放到/etc/bash_completion.d/并编辑/etc/profile

```
for i in /etc/bash_completion.d/* ; do
    if [ -r "$i" ]; then
        . $i
    fi
done
```

如何学习

如何学习

- 多查，手册是你的朋友

如何学习

- 多查，手册是你的朋友
- 多问，同事是你的朋友

如何学习

- 多查，手册是你的朋友
- 多问，同事是你的朋友
- 多练，git也是你的朋友

The End

- http://progit.org/book/zh

The End

- http://progit.org/book/zh