

Open Source SW & Lab - Summer 2022

6. Distributed Git (2)

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Based on:

Pro Git (2022) by Scott Chacon, Ben Straub

Recap

- Distributed workflows
- Centralized workflow example for a private small team
- **Today:**
 - Integration-manager workflow example

Contribution to a private managed team

- **Integration-manager workflow**
- **Say:**
 - Jessica and John working on “featureA”
 - Jessica and Josie workin on “featureB”
- **Jessica works on “featureA” first (after cloning)**

```
# Jessica's Machine
$ git checkout -b featureA
Switched to a new branch 'featureA'
$ vim lib/simplegit.rb
$ git commit -am 'Add limit to log function'
[featureA 3300904] Add limit to log function
1 files changed, 1 insertions(+), 1 deletions(-)
```

Contd.

- **Jessica pushes “featureA” and emails John**

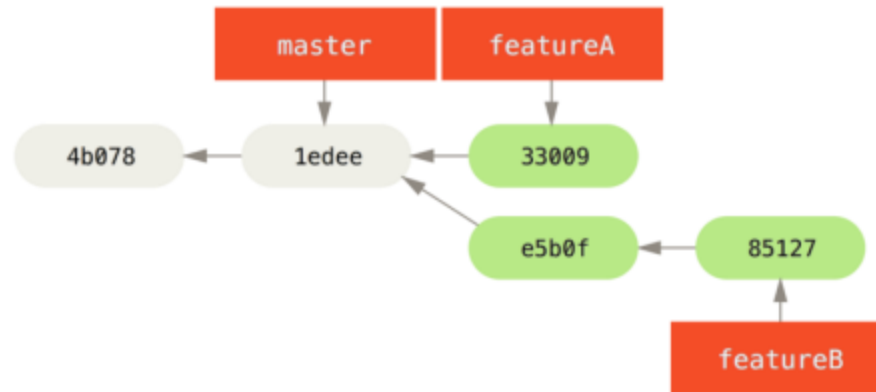
```
$ git push -u origin featureA
...
To jessica@github:simplegit.git
 * [new branch]      featureA -> featureA
```

- **While waiting, Jessica starts working on “featureB”**

```
# Jessica's Machine
$ git fetch origin
$ git checkout -b featureB origin/master
Switched to a new branch 'featureB'
```

Contd.

- **After a few commits, Jessica's repo looks like:**



- **Jessica receives an email from Josie**
 - Josie did some work on "featureB" and pushed to the server as "featureBee" branch

Contd.

- **Jessica fetches and merges**

```
$ git fetch origin
...
From jessica@github:simplegit
* [new branch]      featureBee -> origin/featureBee
```

```
$ git merge origin/featureBee
Auto-merging lib/simplegit.rb
Merge made by the 'recursive' strategy.
 lib/simplegit.rb | 4 ++++
1 files changed, 4 insertions(+), 0 deletions(-)
```

- **Jessica pushes to “featureBee” branch of Josie**

```
$ git push -u origin featureB:featureBee
...
To jessica@github:simplegit.git
 fba9af8..cd685d1  featureB -> featureBee
```

Contd.

- **Jessica receives email from John**
 - John did some changes on "featureA"
- **So, she fetches and compares**

```
$ git fetch origin
...
From jessica@github:simplegit
 3300904..aad881d  featureA  -> origin/featureA
```

```
$ git log featureA..origin/featureA
commit aad881d154acdaeb2b6b18ea0e827ed8a6d671e6
Author: John Smith <jsmith@example.com>
Date:   Fri May 29 19:57:33 2009 -0700
```

Increase log output to 30 from 25

Contd.

- **Jessica likes the changes and merges**

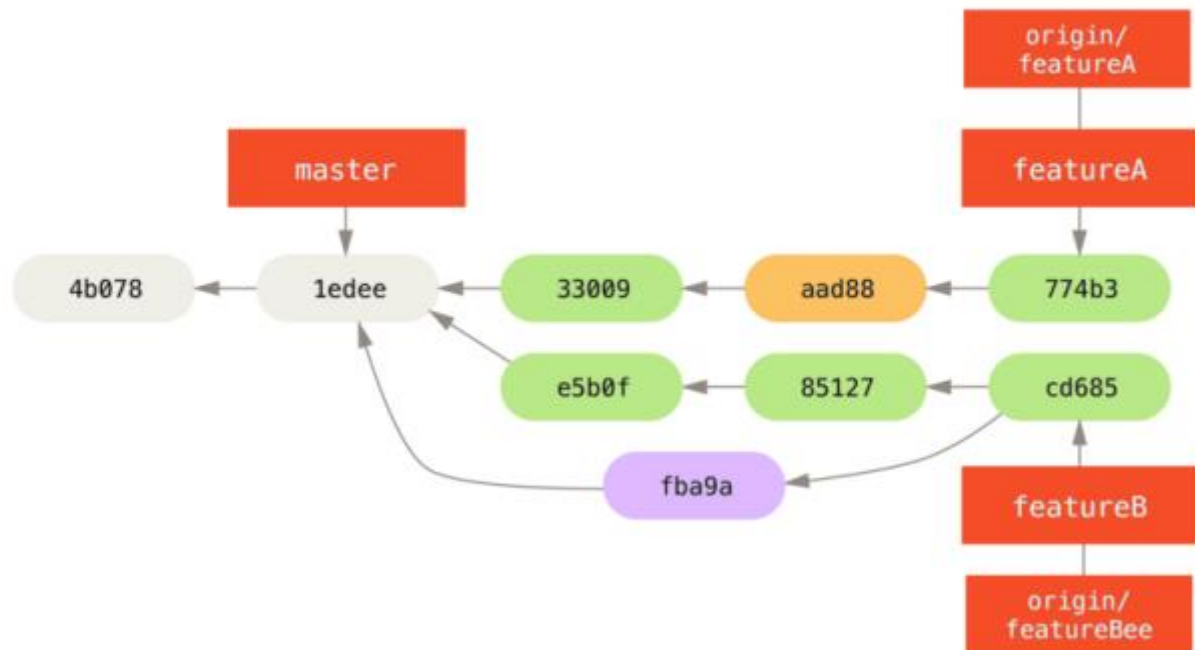
```
$ git checkout featureA
Switched to branch 'featureA'
$ git merge origin/featureA
Updating 3300904..aad881d
Fast forward
 lib/simplegit.rb | 10 ++++++++-
1 files changed, 9 insertions(+), 1 deletions(-)
```

- **After some minor commits, she pushes**

```
$ git commit -am 'Add small tweak to merged content'
[featureA 774b3ed] Add small tweak to merged content
1 files changed, 1 insertions(+), 1 deletions(-)
$ git push
...
To jessica@github:simplegit.git
 3300904..774b3ed featureA -> featureA
```

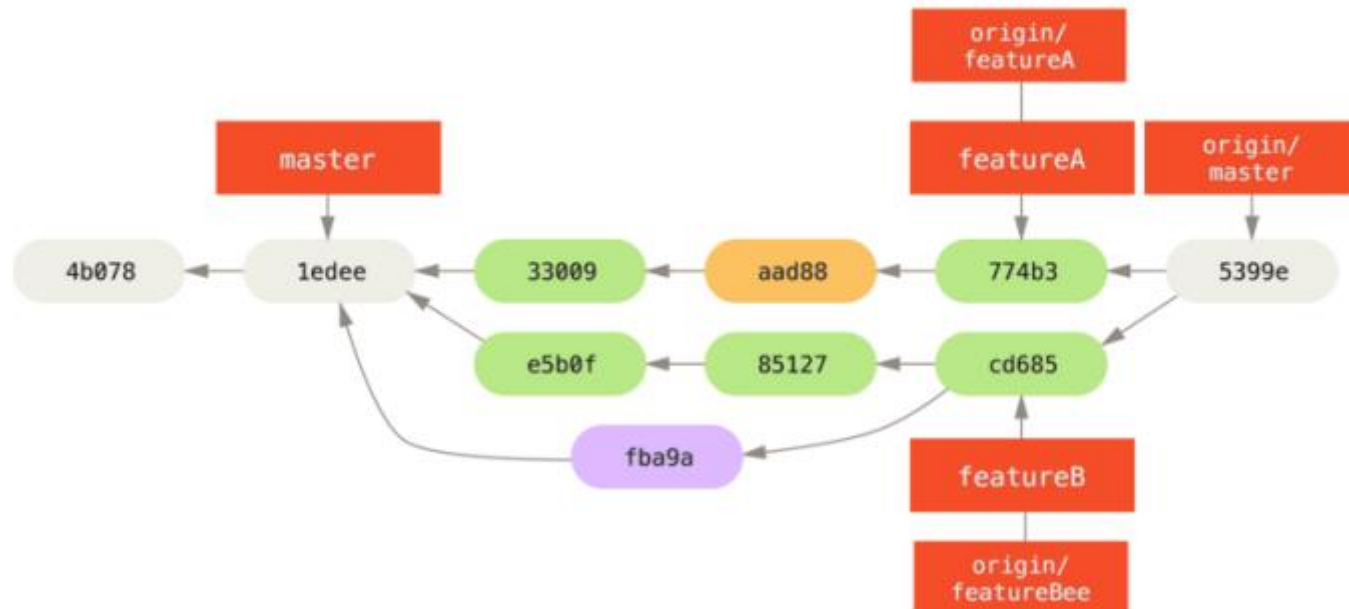

Contd.

- **Jessica's commit history**

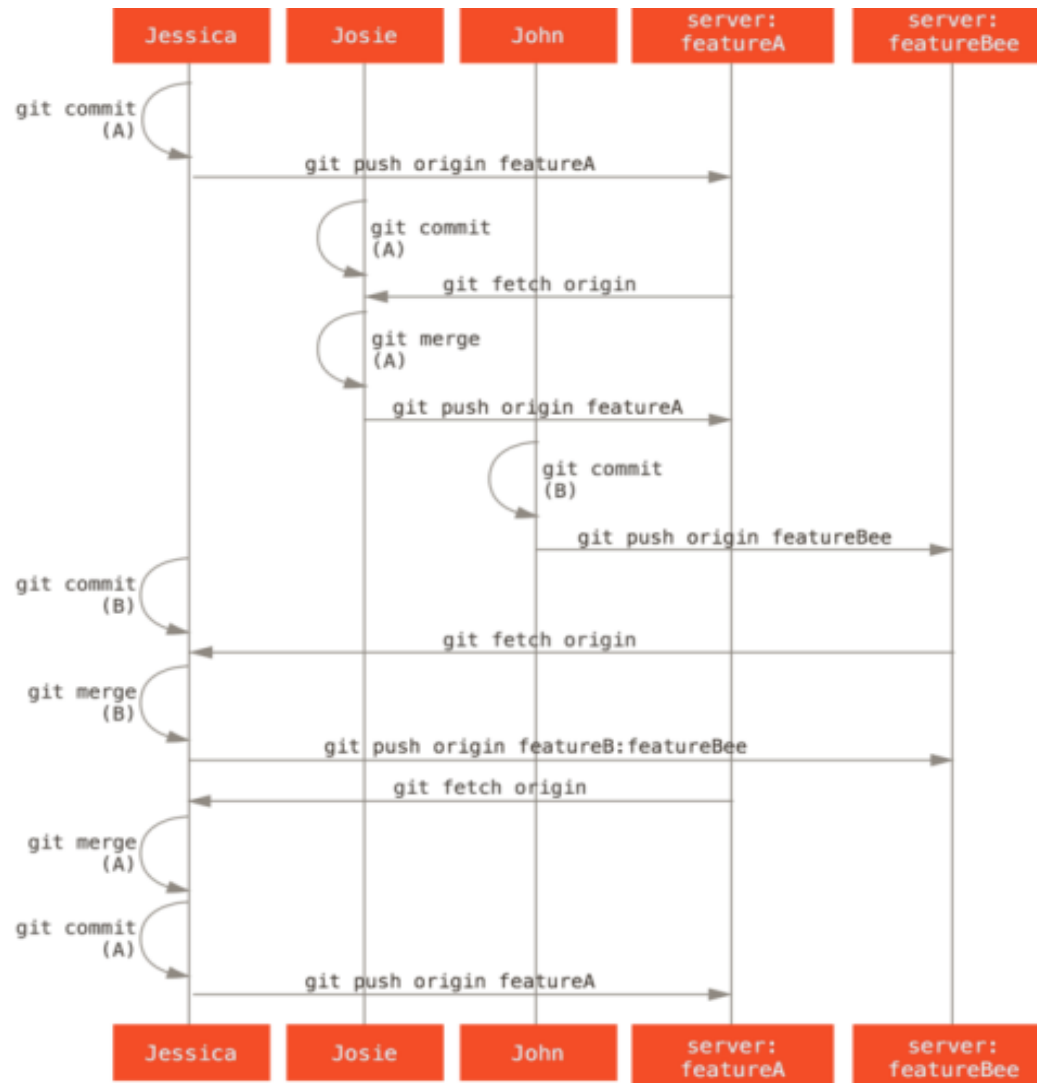


Contd.

- Jessica's commit history **after integrator's merge with mainline**



Workflow



Team assignment: Pong

- **Integration-manager workflow:**
 - **Maintainer:**
 - creates a public Github repository
 - applies branch protection
 - pushes the initial code (available on Eclass)
 - **Members:**
 - don't push to main
 - create new branch, do some commits, and push
 - **Maintainer:**
 - Fetches, verifies, merges, and pushes

Contd.

- **Tasks:**

- **Member1**/maintainer: bind_keys() function
- **Member2**: draw/visualize game-objects
- **Member3**: player move functions

- **Team leader submits:**

- Screenshot of the final game-window
- repository link
- On Eclass