

# Das Tübinger Softwareprojekt

Git & Social Coding — Workshop

## Arbeiten im Team



# Begriffe

## “Remote Repository”

Ein externes Repository im Netzwerk / Internet.



# Begriffe

## “Remote Repository”

Ein externes Repository im Netzwerk / Internet.

## “Fetchen”

Die lokale Kopie des Remote Repositories im eigenen Repos aktualisieren.



# Begriffe

## “Remote Repository”

Ein externes Repository im Netzwerk / Internet.

## “Fetchen”

Die lokale Kopie des Remote Repositories im eigenen Repos aktualisieren.

## “Pushen”

Die lokale Kopie des Remote Repositories zum externen Repository hochladen.

# Begriffe

## “Remote Repository”

Ein externes Repository im Netzwerk / Internet.

## “Fetchen”

Die lokale Kopie des Remote Repositories im eigenen Repos aktualisieren.

## “Pushen”

Die lokale Kopie des Remote Repositories zum externen Repository hochladen.

## “Remote Branch”

Referenz auf einen Branch in einem Remote Repository.

# Begriffe

## “Remote Repository”

Ein externes Repository im Netzwerk / Internet.

## “Fetchen”

Die lokale Kopie des Remote Repositories im eigenen Repos aktualisieren.

## “Pushen”

Die lokale Kopie des Remote Repositories zum externen Repository hochladen.

## “Remote Branch”

Referenz auf einen Branch in einem Remote Repository.

## “Remote Tracking Branch”

Referenz auf einen Branch in einem Remote Repository, welche automatisch aktualisiert wird.

# Begriffe

## “Remote Repository”

Ein externes Repository im Netzwerk / Internet.

## “Fetchen”

Die lokale Kopie des Remote Repositories im eigenen Repos aktualisieren.

## “Pushen”

Die lokale Kopie des Remote Repositories zum externen Repository hochladen.

## “Remote Branch”

Referenz auf einen Branch in einem Remote Repository.

## “Remote Tracking Branch”

Referenz auf einen Branch in einem Remote Repository, welche automatisch aktualisiert wird.

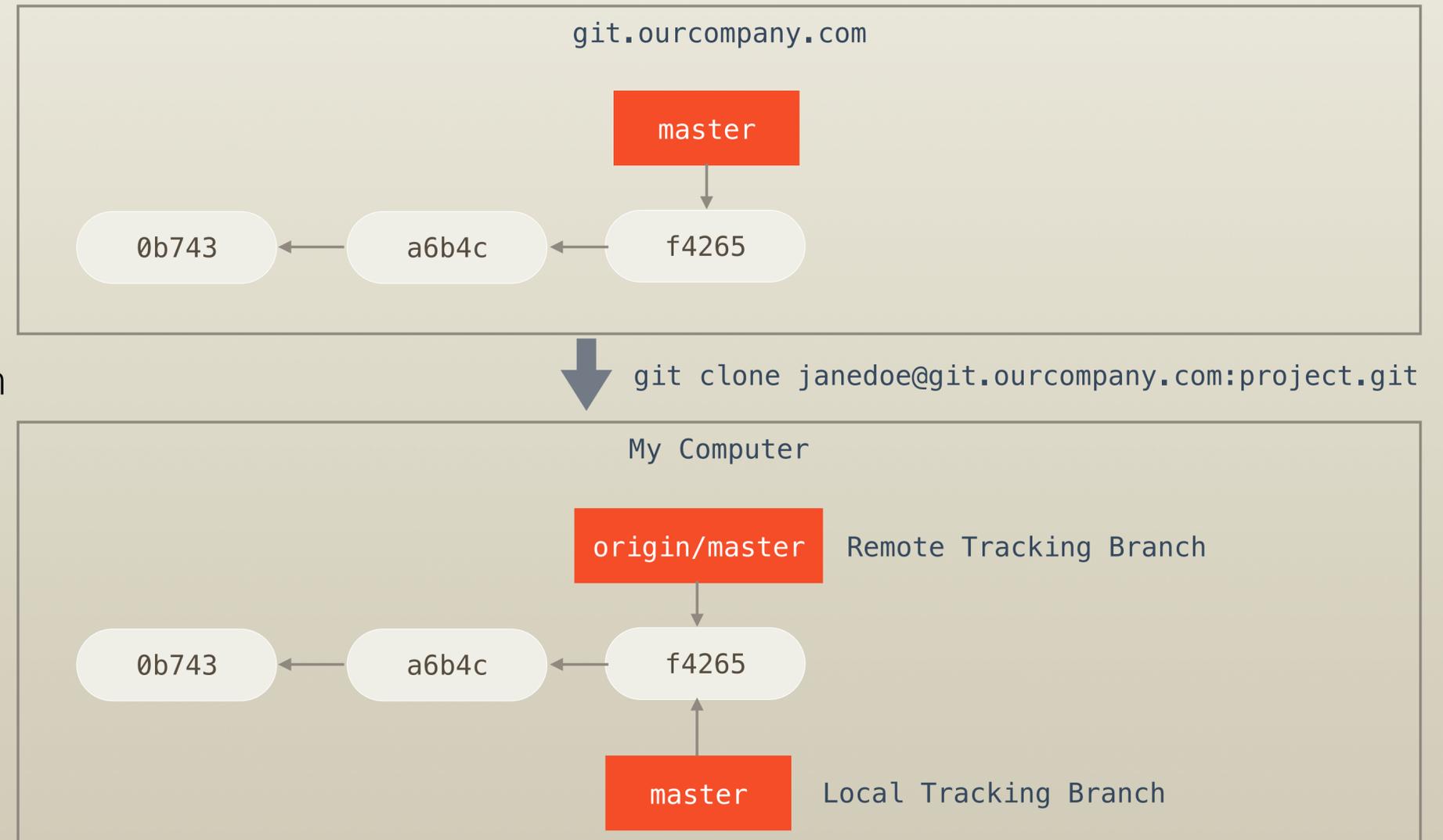
## “Tracking Branch”

Lokale Kopie eines Remote Tracking Branches mit einer Referenz auf den “upstream branch”.

# Beispiel Workflow

## Existierendes Remote-Repository klonen

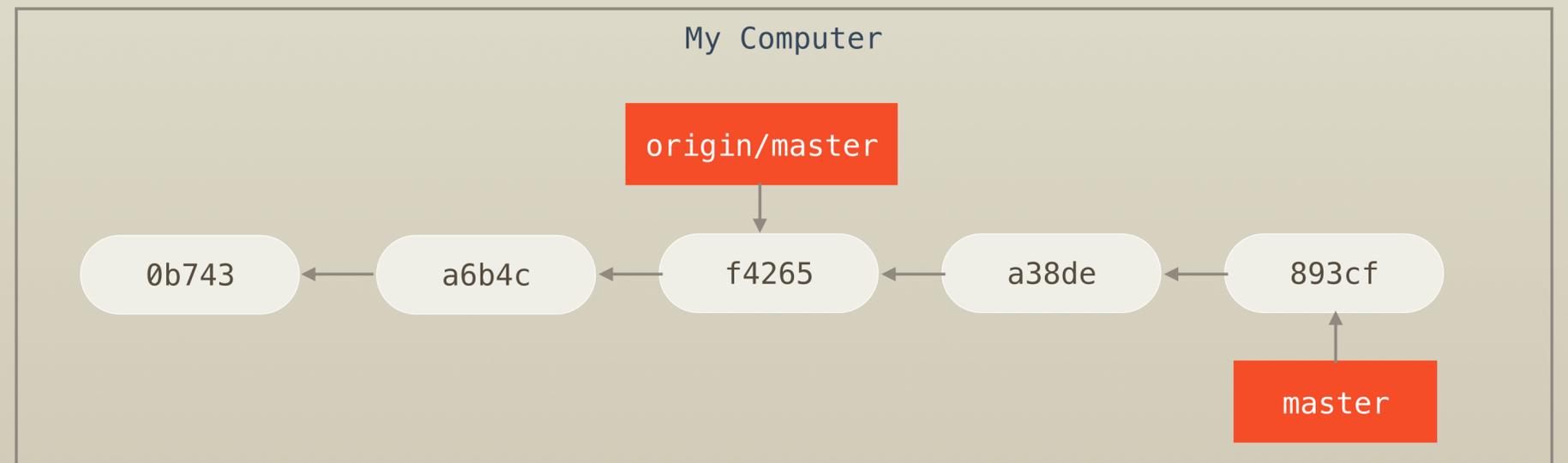
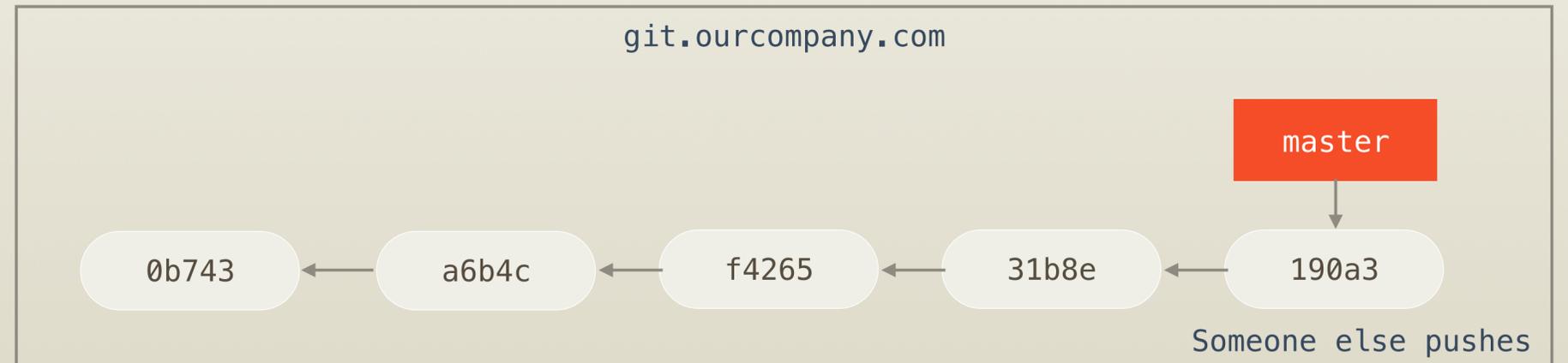
1. Erzeugt ein neues lokales Repository
2. Kopiert das Remote-Repository unter dem lokalen Namen **origin**.
3. Erstellt einen Remote-Branch (Referenz) **origin/master**
4. Erstellt einen entsprechenden lokalen Tracking-Branch **master**.



# Beispiel Workflow

## Paralleles Entwickeln

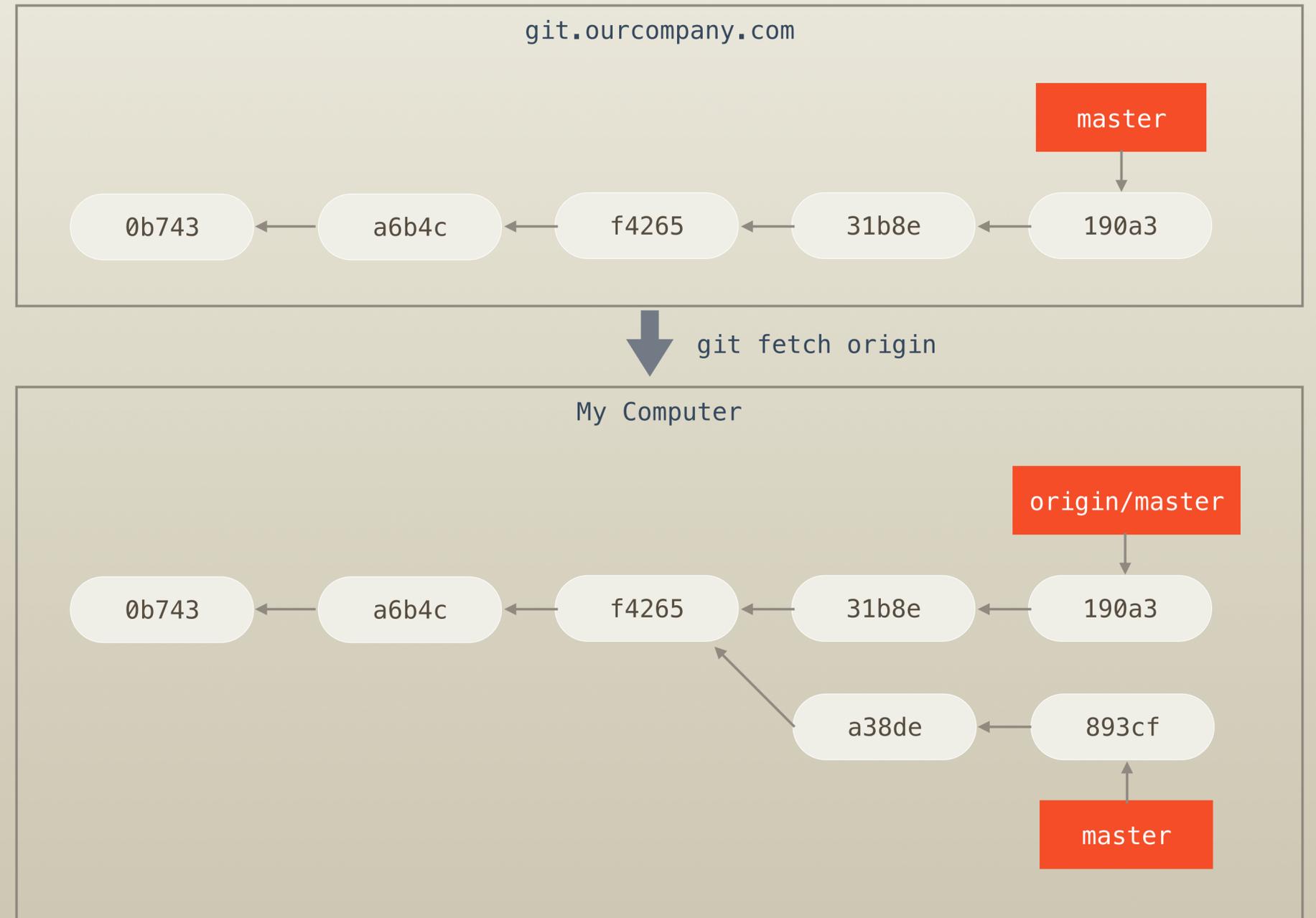
Sowohl im Remote-Repository als auch lokal in **master** wurde weiterentwickelt.



# Beispiel Workflow

## Änderungen “fetchen”

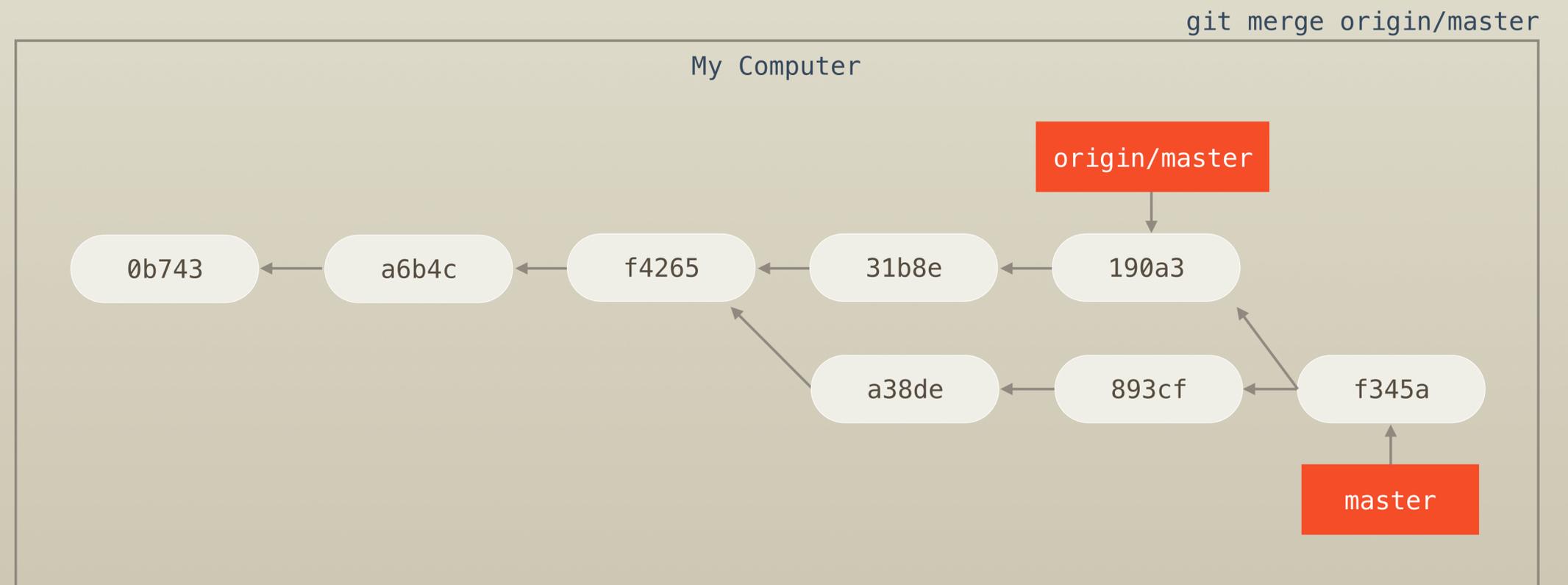
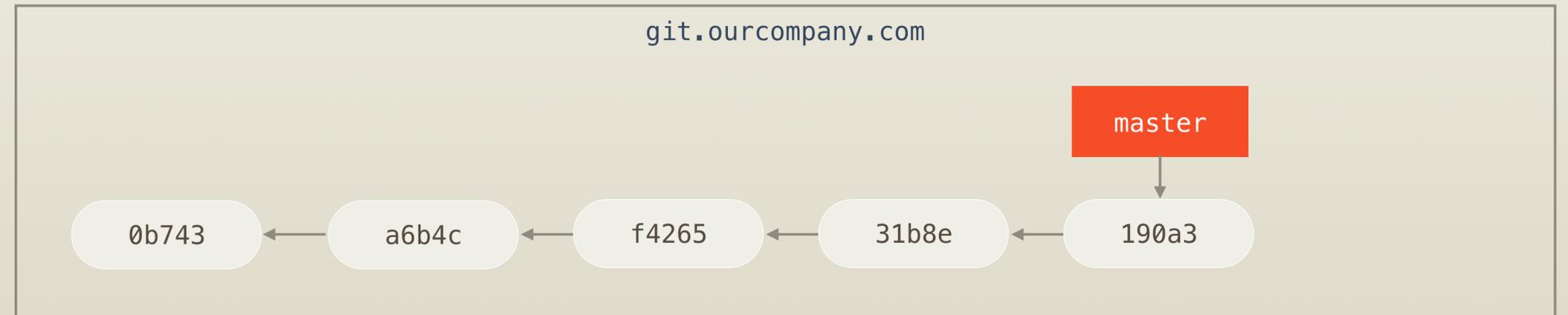
1. Aktualisiert die lokale Kopie des Remote Repositories.
2. Macht keine Änderungen am Tracking Branch `master`.



# Beispiel Workflow

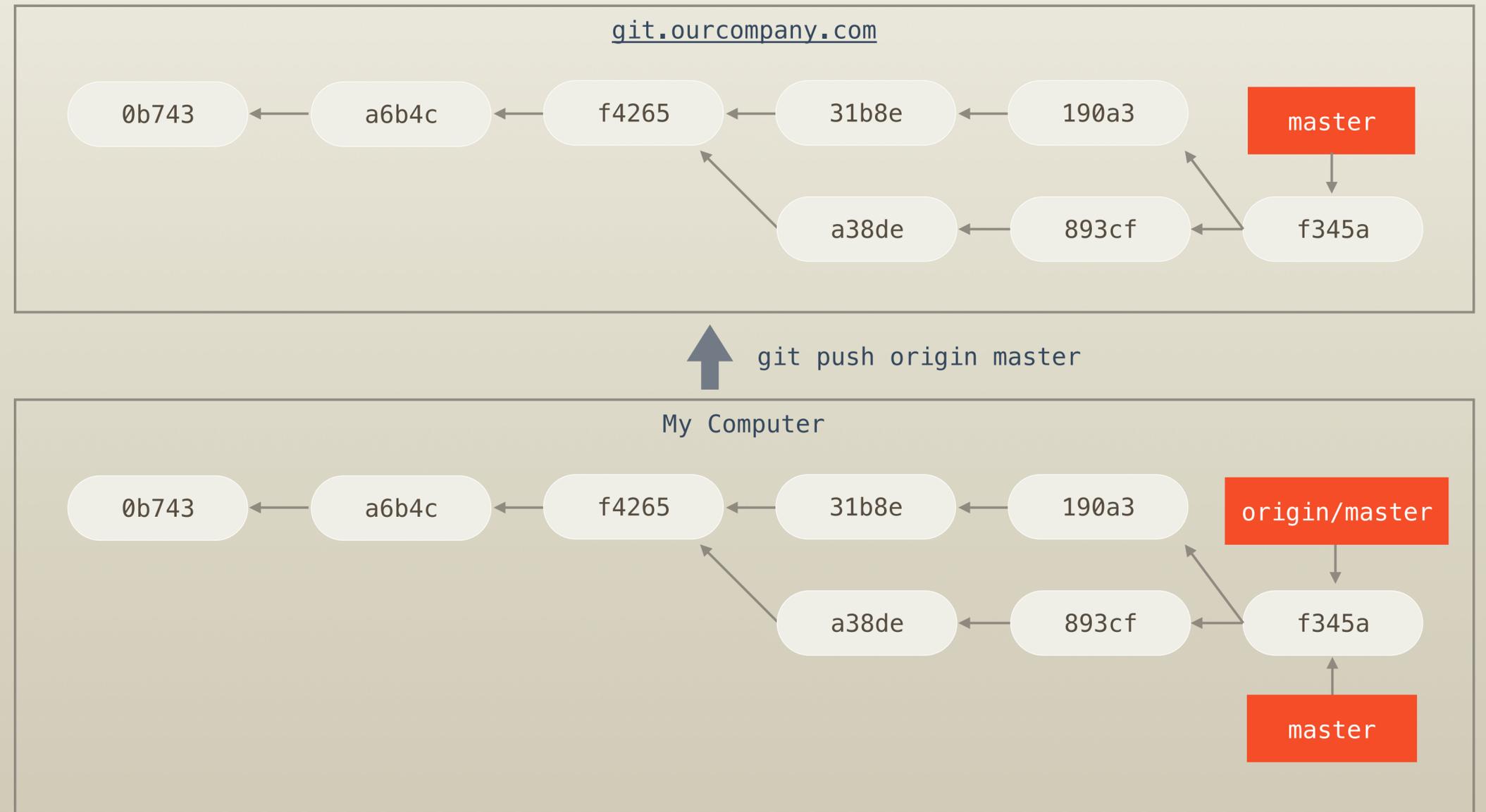
## Änderungen lokal mergen

Achtung: origin/master wird durch merge zunächst nicht geändert!



# Beispiel Workflow

Änderungen  
pushen



# Git Pull

Für **Tracking Branches** ist

```
git pull
```

eine Abkürzung für

```
git fetch  
git merge
```



# Das Tübinger Softwareprojekt

Git & Social Coding — Workshop

## Social Coding



# Warum?

## Nicht nur für Open Source:

- Räumlich und zeitlich verteilte Teams.
- Diskussionen über Source Code werden nicht schriftlich festgehalten.
- Code-Reviews erfordern Terminvereinbarungen und Präsenzzeit.



# Social Coding

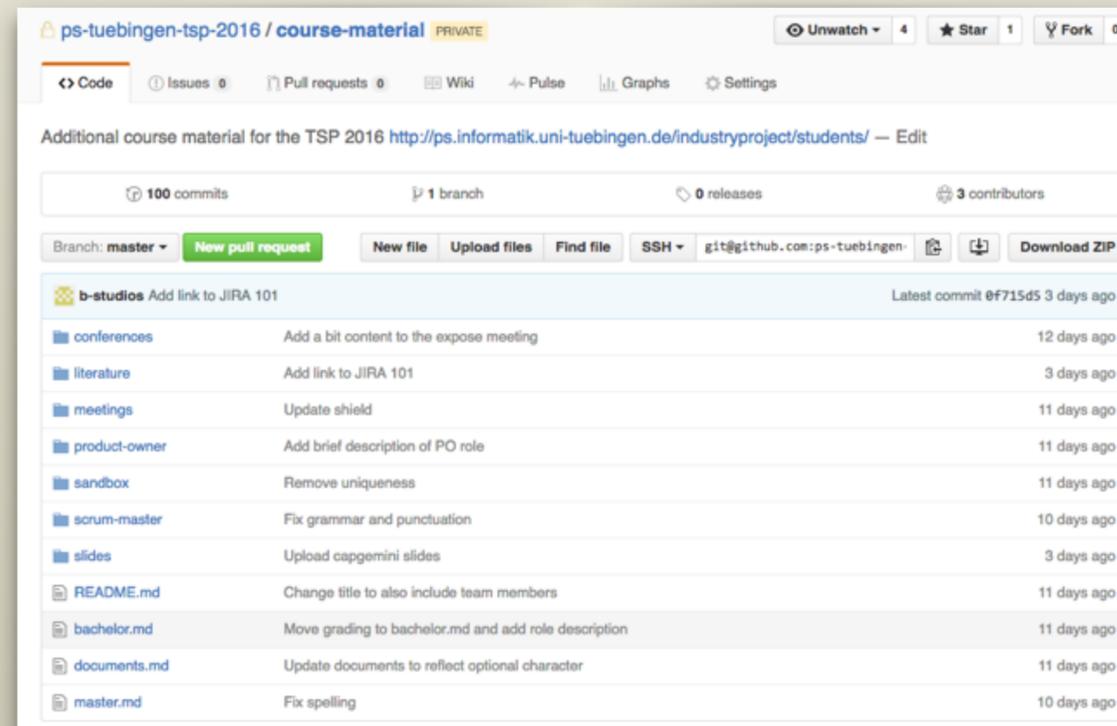
Eine **Social Coding Plattform** stellt zur Verfügung:

Remote Repository

# Social Coding

Eine Social Coding Plattform stellt zur Verfügung:

Remote Repository



# Social Coding

Eine **Social Coding Plattform** stellt zur Verfügung:

Remote Repository

Social Network



# Social Coding

Eine Social Coding Plattform stellt

Remote Repository

The screenshot shows a GitHub profile for Jonathan b-studios. The profile includes a yellow and white checkerboard avatar, a bio, location (Tübingen, Germany), email (jonathan@b-studios.de), website (http://b-studios.de), and join date (Sep 20, 2010). It also displays statistics: 18 Followers, 43 Starred, and 8 Following. Below these are sections for Organizations, Popular repositories (listing ometa-js, lisp.js, ejs, doc.js, and MixinComposition), Repositories contributed to (listing ps-tuebingen/info1-teaching-ma..., ps-mr/exams, ps-mr/website, ps-tuebingen-ts.../course-material, and ps-tuebingen/info1-orga), and a Contributions heatmap. The heatmap shows activity from May to April. Summary statistics include 1,384 total contributions in the last year, a longest streak of 13 days, and a current streak of 0 days. The contribution activity section shows 25 commits and 1 pull request.

Social Network

# Social Coding

Eine Social Coding Plattform

Remote Repository

Kommentieren von Commits /  
Erwähnen von Nutzern

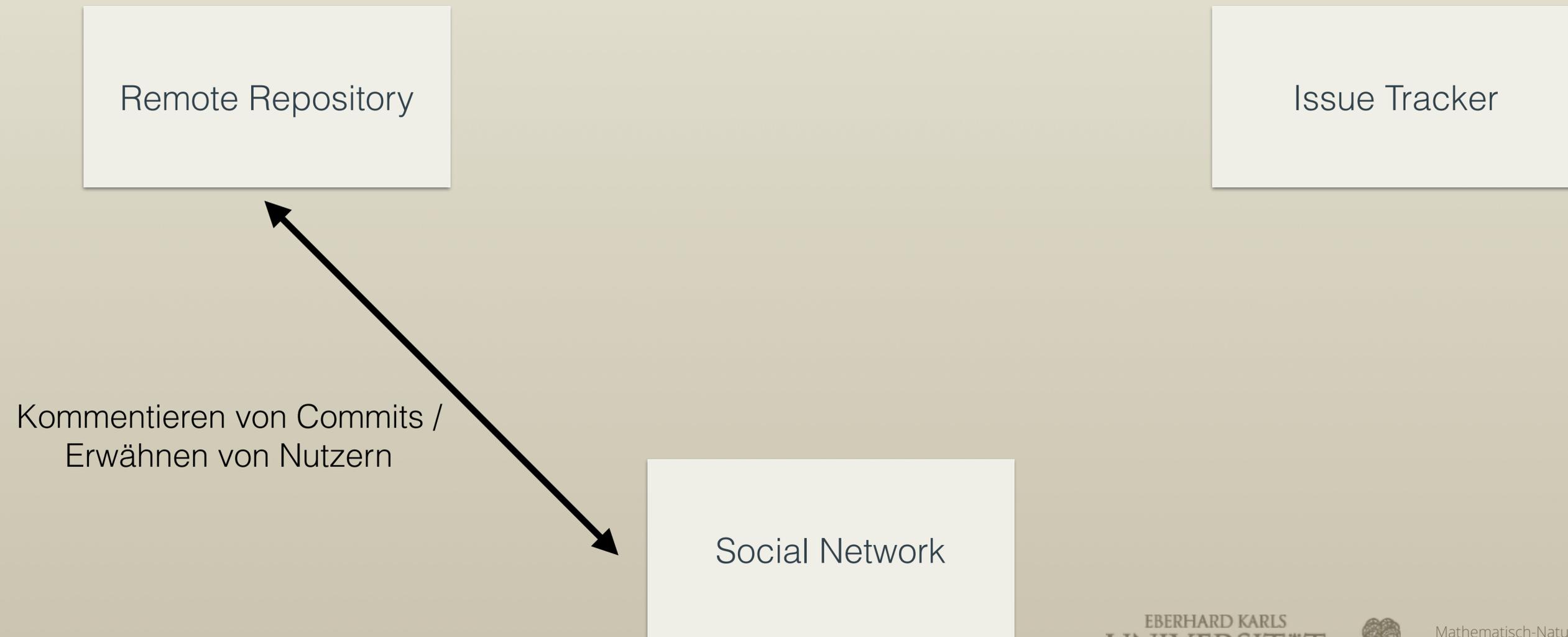
The screenshot shows a GitHub commit titled "FIX: restore in development mode connects to the wrong database" by user nialonde. The commit message is "master (#2) v1.6.0.beta2 latest-release". The commit details show "Showing 1 changed file with 1 addition and 1 deletion." The code diff for "lib/backup\_restore/backup\_restore.rb" shows a change on line 103: a line is removed that sets the configuration to "Rails.env.production?" and a new line is added that sets it to "ActiveRecord::Base.connection\_pool.spec.config". Below the code, there are three comments on the commit. The first comment from tgxworld asks if it was passing in the wrong RAILS\_ENV. The second comment from nialonde explains that RAILS\_ENV was right but the default env is "development" and Rails.configuration.database\_configuration[Rails.env] returns the db config from database.yml. The third comment from tgxworld thanks nialonde for the explanation.

Social Network



# Social Coding

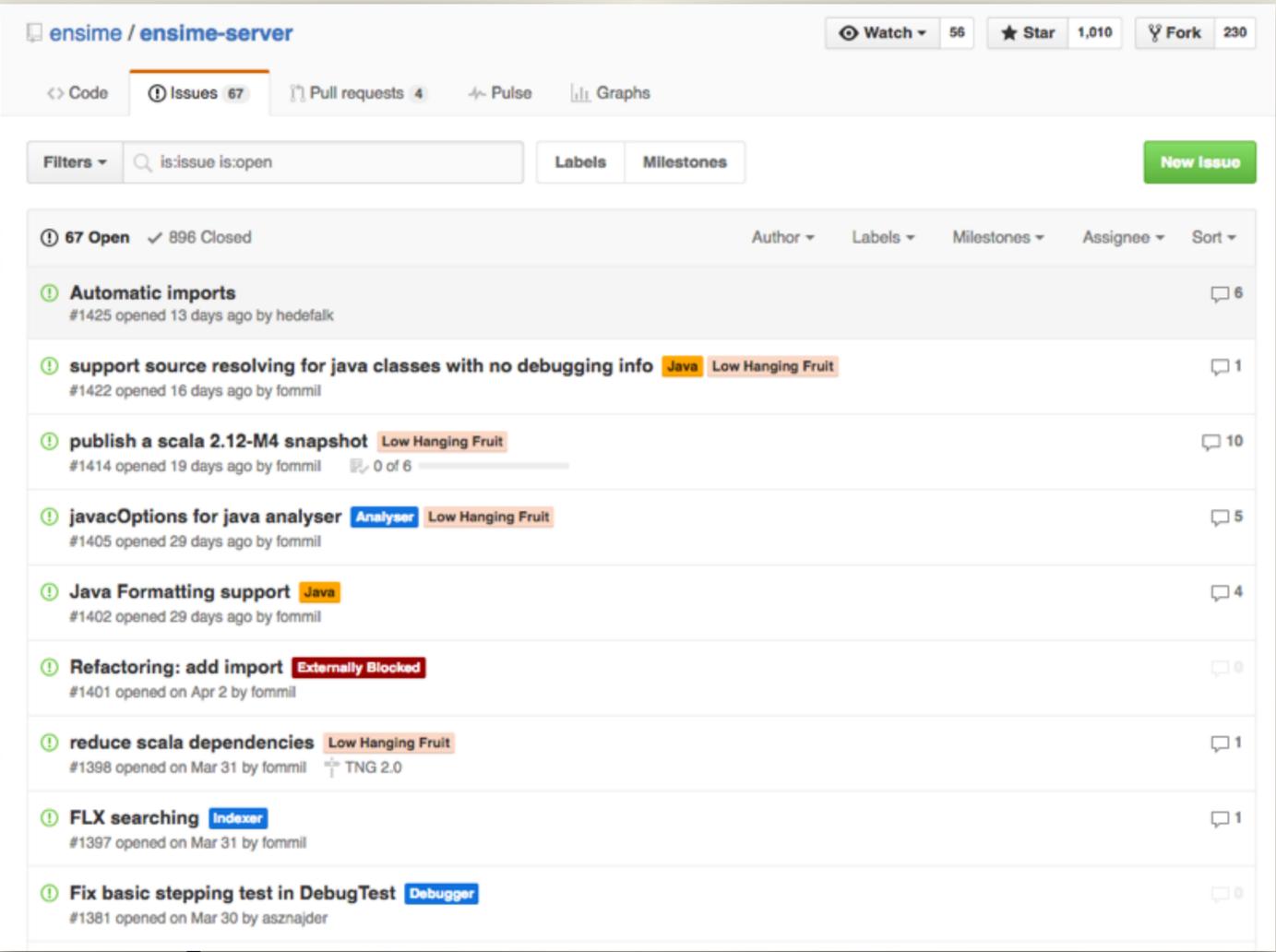
Eine **Social Coding Plattform** stellt zur Verfügung:



# Social Coding

Eine Social Co

Remote Repo



Issue Tracker

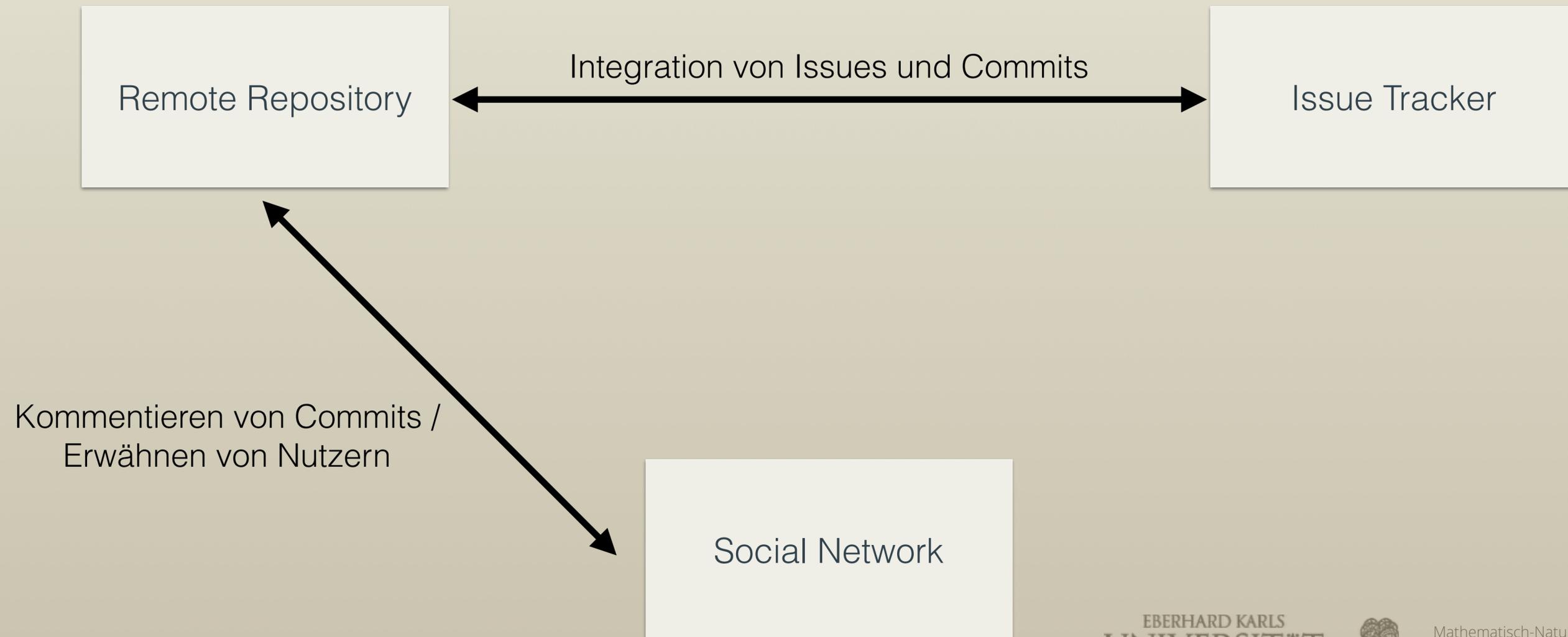
Kommentieren von Commits /  
Erwähnen von Nutzern

Social Network



# Social Coding

Eine Social Coding Plattform stellt zur Verfügung:



# Social Coding

Eine Social Coding Plattform stellt zur Verfügung:



A screenshot of a GitHub issue page titled "javacOptions for java analyser #1405". The issue is marked as "Open" and was opened by user "fommil" 29 days ago, with 5 comments. The main comment from "fommil" states: "We currently ignore the user's javacOptions but we should really be passing them to the java analyser. Will require an extra field added to the EnsiemeConfig and support in ensime-sbt to add the flag." The issue has labels "Analyser" and "Low Hanging Fruit". A commit by "mwielocha" is shown as having referenced this issue.

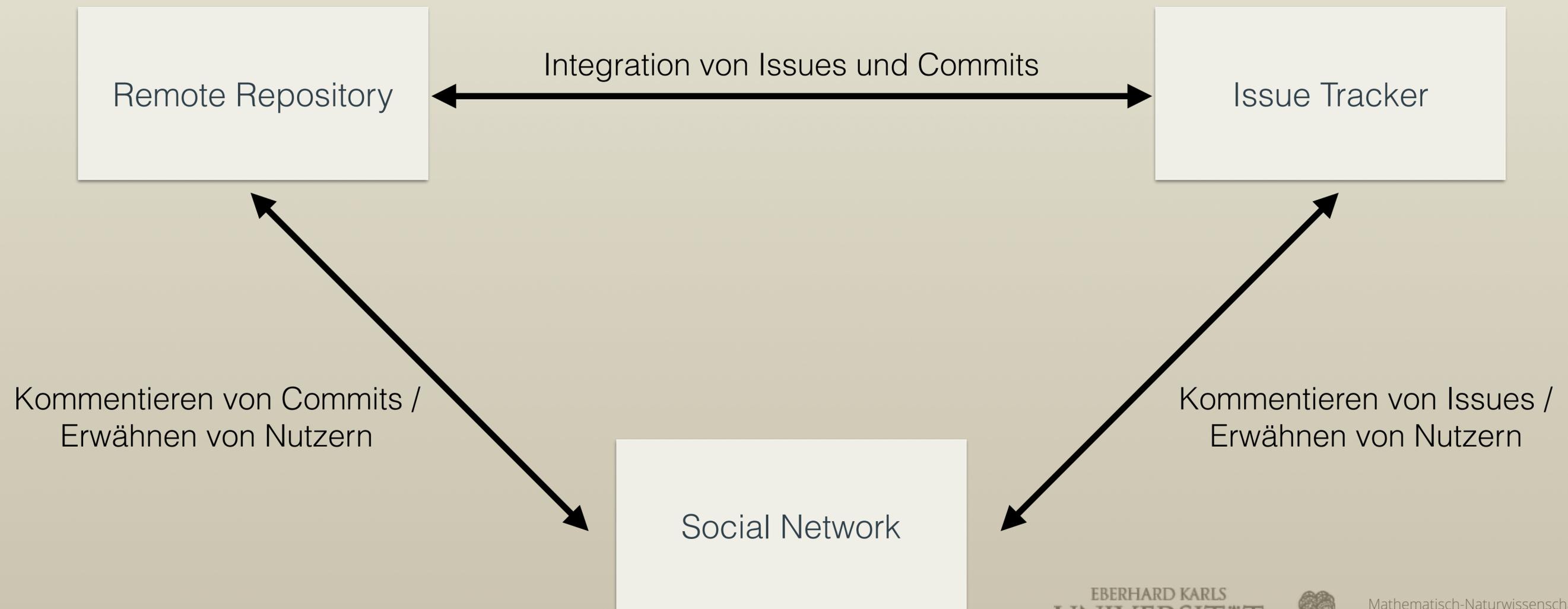
A screenshot of a commit diff for "added javacOptions from EnsiemeConfig #1405" by Mikolaj Wielocha. The diff shows changes to the file "api/src/main/scala/org/ensime/api/config.scala". The code snippet shows a case class definition with a new field "javaCompilerArgs" highlighted in green.

```
@@ -17,6 +17,7 @@ final case class EnsiemeConfig(  
17 | 17 |     name: String,  
18 | 18 |     scalaVersion: String,  
19 | 19 |     compilerArgs: List[String],  
20 | 20 | +   javaCompilerArgs: List[String],  
21 | 21 |     referenceSourceRoots: List[File],  
22 | 22 |     subprojects: List[EnsiemeModule],  
23 | 23 |     formattingPrefs: FormattingPreferences,
```



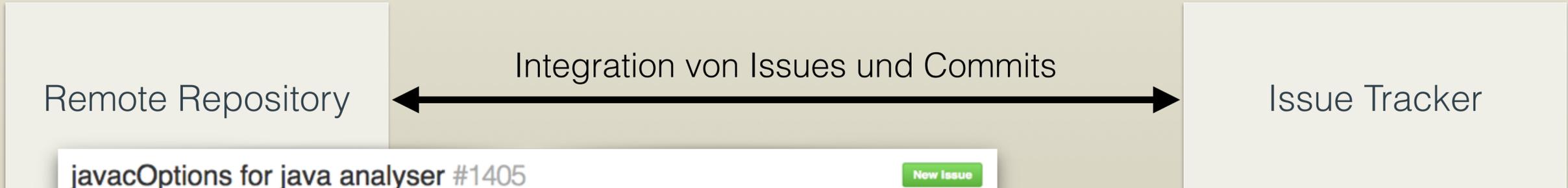
# Social Coding

Eine Social Coding Plattform stellt zur Verfügung:



# Social Coding

Eine Social Coding Plattform stellt zur Verfügung:



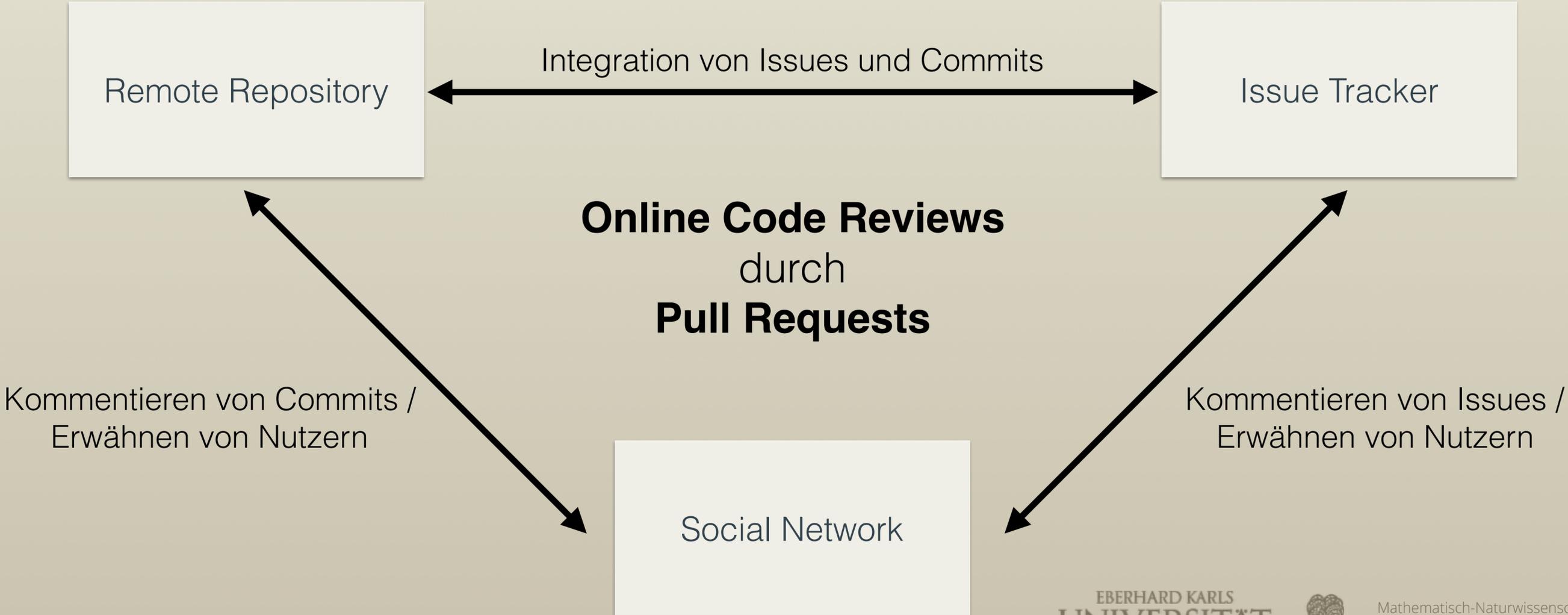
A screenshot of a GitHub issue page. The title is "javacOptions for java analyser #1405" with a "New Issue" button in the top right. The issue status is "Open", opened by "fommil" 29 days ago with 5 comments. The main comment from "fommil" (29 days ago) discusses ignoring user's javacOptions and adding an extra field to EnsimeConfig. A second comment from "mwielocha" (22 days ago) mentions a pull request and testing issues. The right sidebar shows labels "Analyser" and "Low Hanging Fruit", no milestone, no assignee, and a "Subscribe" button.

Kommen  
Erwähnen

Kommentieren von Issues /  
Erwähnen von Nutzern

# Social Coding

Eine Social Coding Plattform stellt zur Verfügung:



# Pull Requests

- Issues mit Verknüpfung zu zwei Branches (“Source” / “Target”)
- Anfrage Source in Target zu mergen
- Kann genutzt werden um:
  - Änderungen in einem Branch vorzuschlagen und zu diskutieren (keine direkte merge-Absicht)
  - Änderungen zu “reviewen” bevor sie gemerged werden (direkte merge-Absicht)

**Zentrales Tool zur Kooperation (und QS) auf Distanz!**



# Pull Requests

- Issues mit Verknüpfung
- Anfrage Source in T
- Kann genutzt werden
  - Änderungen in e
  - (keine direkte me
  - Änderungen zu
  - merge-Absicht)

Zentrales Tool zur

The screenshot shows a GitHub Pull Request interface. At the top, the title is "[WIP] Switch to Scala debugger API #1433". Below the title, it says "Open" and "chipsenkbell wants to merge 8 commits into ensime:master from chipsenkbell:RefactorDebugger". There are statistics for "Conversation 7", "Commits 8", and "Files changed 12", along with a diff indicator "+1,047 -994".

The main content area shows a comment from "chipsenkbell" from 3 days ago, which has been edited. The comment text is: "Resolves #1223. Still needs some refactoring of the `DebuggerActor` class since I don't want all of the logic directly inside an Akka actor. Some of the event handlers can be made more concise as well. Also want to add more integration tests and figure out why the existing integration tests are stalling occasionally." Below the text are four checklist items:

- Add additional integration tests for other message types
- Revamp integration test platform (for debugger) using Scala debugger API utilities such as `JDITools.spawn(...)`
- Refactor `DebuggerActor` command actions to separate classes that can be tested in isolation
- Move from snapshot 1.1.0 version of Scala debugger to an M1 release (Ensime doesn't use snapshots)

Below the comment is a commit history section. It shows "chipsenkbell added some commits on Feb 17" with two entries: "Added Scala debugger API" (commit c189273) and "Fixed broken actor from rebasing" (commit 5419e9a).

Further down, it shows "fommil added the Needs Review label 3 days ago".

At the bottom, there is another comment from "chipsenkbell" from 3 days ago: "Oh, interesting. TODOs aren't allowed. I'll have to switch them to... something else, I guess." Below this comment is a commit entry: "Changed TODOs into CHIPs" (commit a7d2e92).

On the right side of the interface, there are sections for "Labels" (with a "Needs Review" label), "Milestone" (No milestone), "Assignee" (No one assigned), "Notifications" (with a "Subscribe" button and a note "You're not receiving notifications from this thread."), and "2 participants" (with two profile icons).

# Das Tübinger Softwareprojekt

Git & Social Coding — Workshop

Live Demo

