Basic GIT

- Simple tutorial -

GIT

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Distributed version control system

Git repository

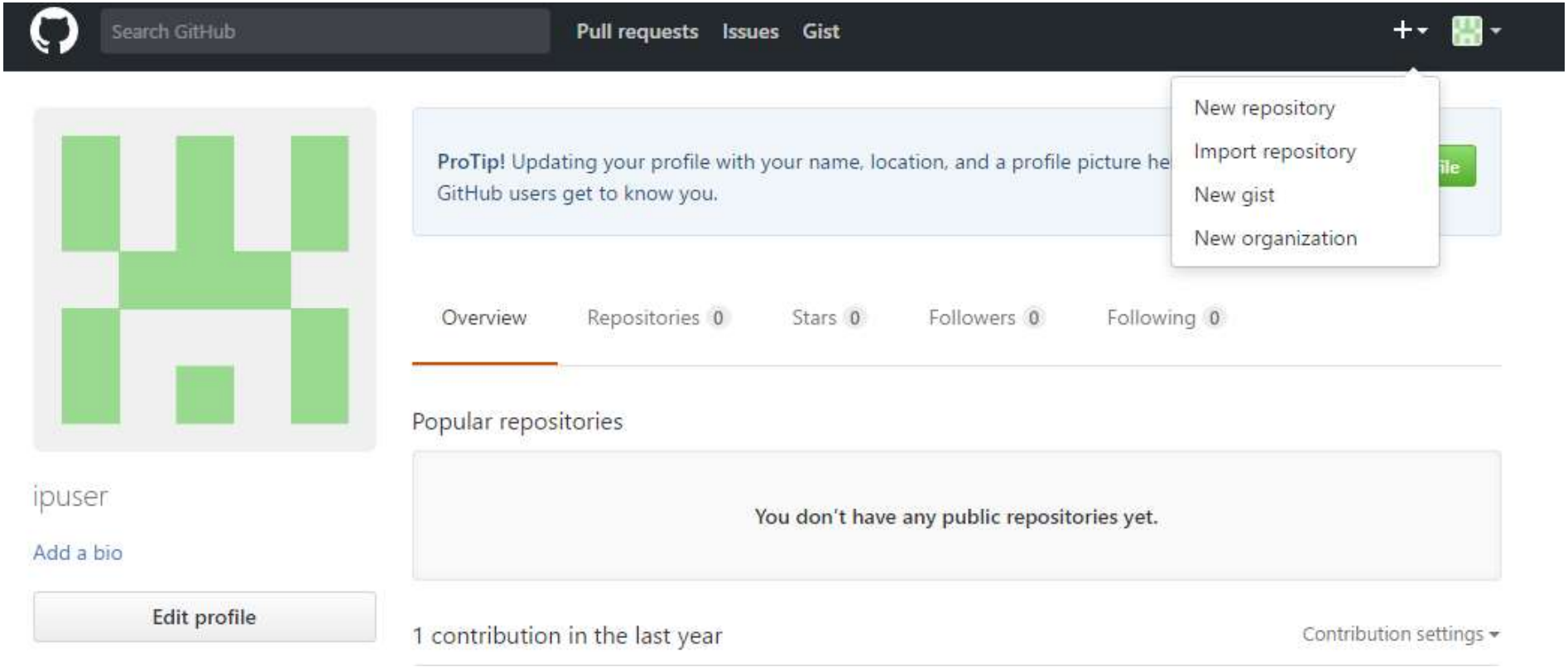
- The history of a collection of files starting from a certain directory
  - Why is such a thing useful?

- **GitHub** : a web-based git repository hosting
  - + issue tracker, wiki support, code review, pull requests support, etc.

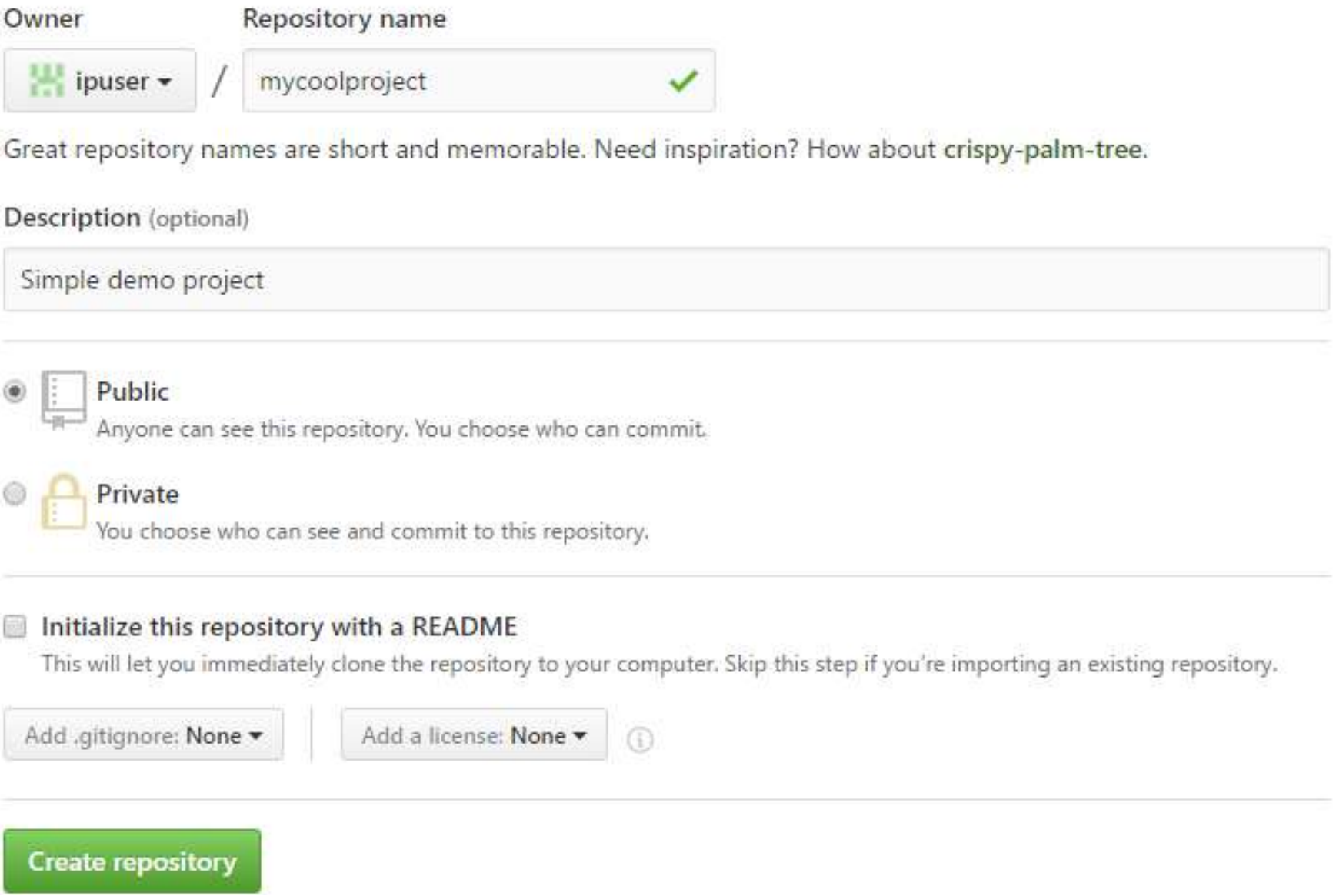
Let’s start!

- Create an account at https://github.com

Create new repository



Create new repository



Creating successful

Cloning on the local machine

- Git installation: https://git-scm.com/downloads
- Windows: https://git-scm.com/download/win

- At command line:

```
git clone https://github.com/ipuser/mycoolproject.git
```

- Branch: master vs. origin

Case study: adding README file

1. Create file
   1. Create file README.md (in local folder mycoolproject)
   2. Add the following lines:

```
## My cool project

-----------
This is a simple demo.
```

2. Preparation for commit :

```
git add README.md
```

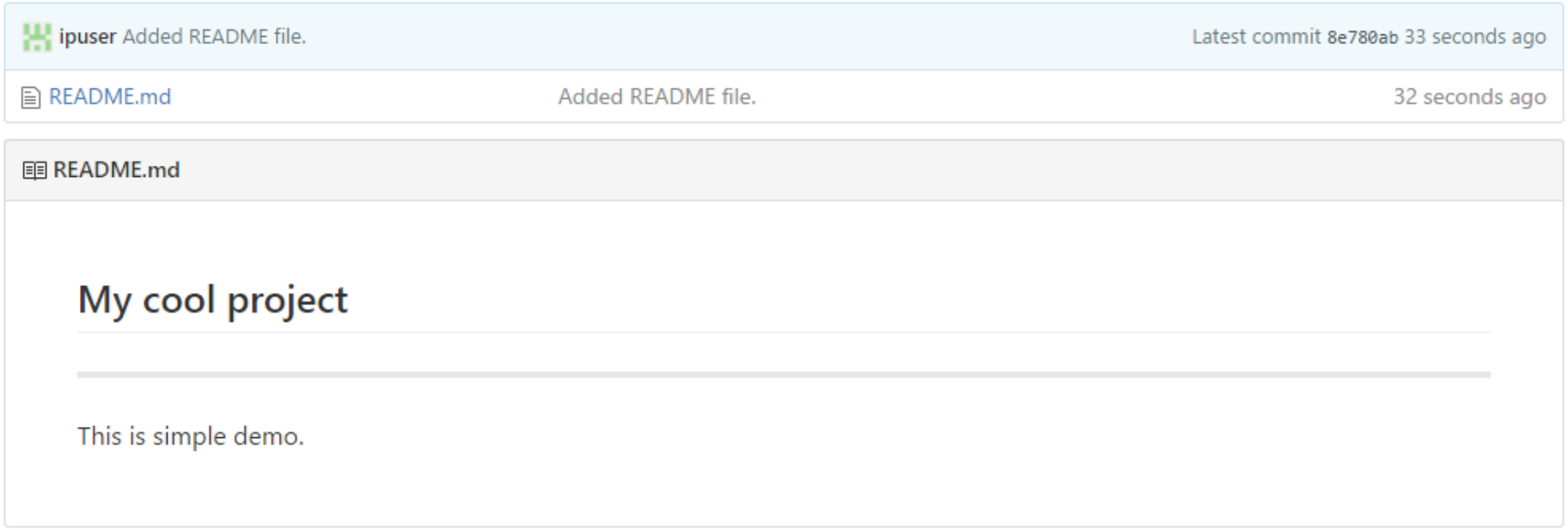
3. Local commit

```
git commit –m “Added README file.”
```

4. Sending updates to git:

```
git push origin master
```

On Github:


ipuser Added README file.
Latest commit 8e780ab 33 seconds ago
README.md
Added README file.
32 seconds ago
README.md
My cool project
This is simple demo.

Branches

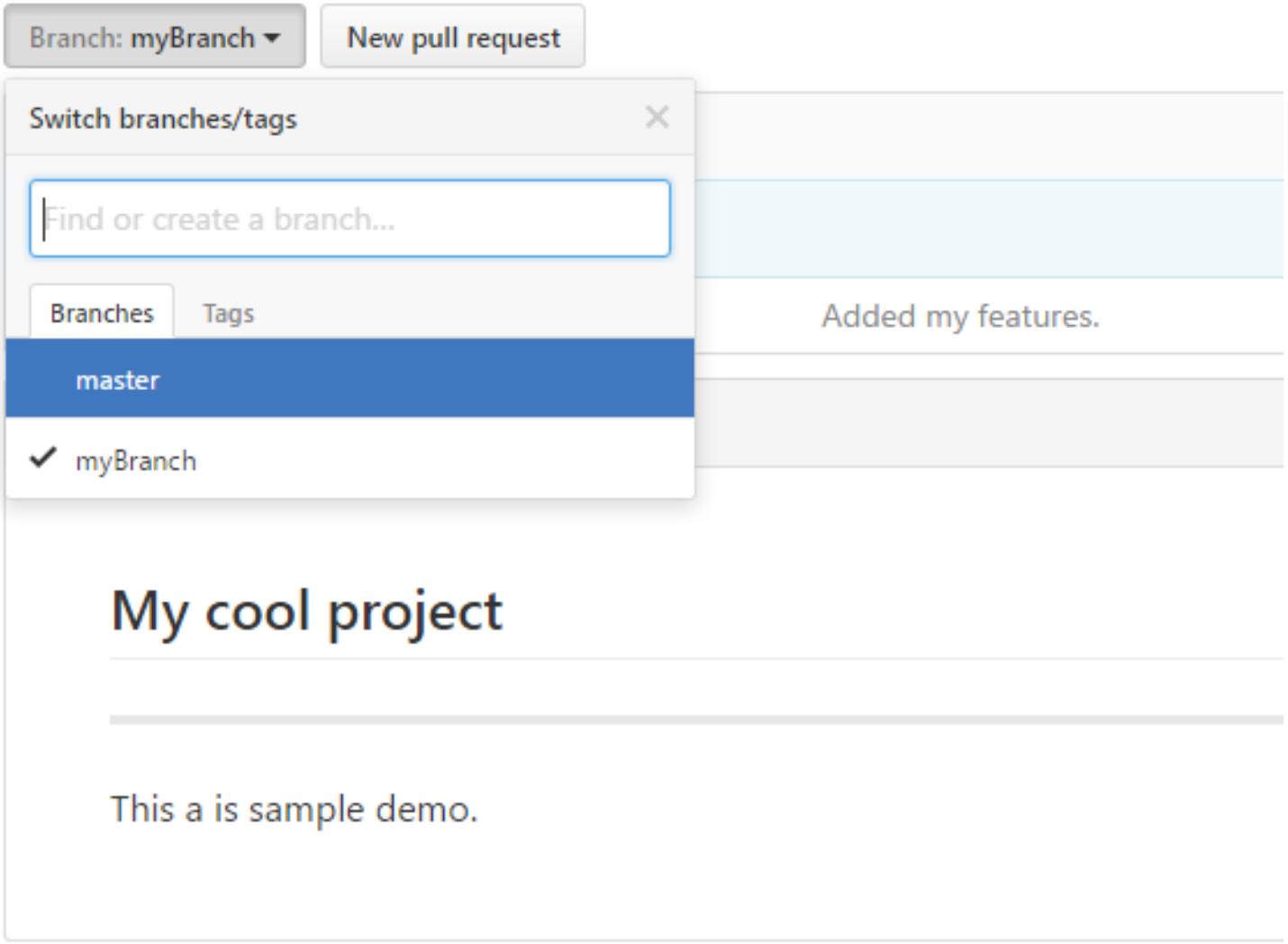
- Most times it is better not to work directly in master
- It is preferable to have a branch (copy) in which you can work independently of others
- To create a branch:

```
git checkout –b myBranch master
```

- To make the push of a branch:

```
git push origin myBranch
```

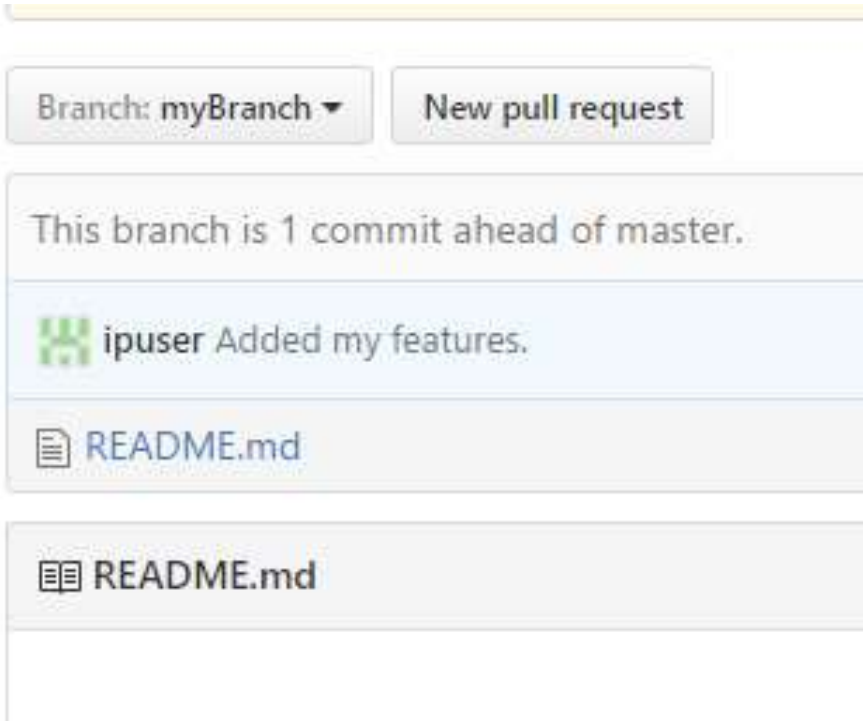
The branch is visible on GitHub



Pull request

1. How to get changes in master?

   Press “New pull request”



Added my features. #1

Open **ipuser** wants to merge 1 commit into `master` from `myBranch`

Conversation 0 | Commits 1 | Files changed 1

ipuser commented just now — Owner

Modified README.

Added my features. ce203b1

Add more commits by pushing to the **myBranch** branch on **ipuser/mycoolproject**.

This branch has no conflicts with the base branch

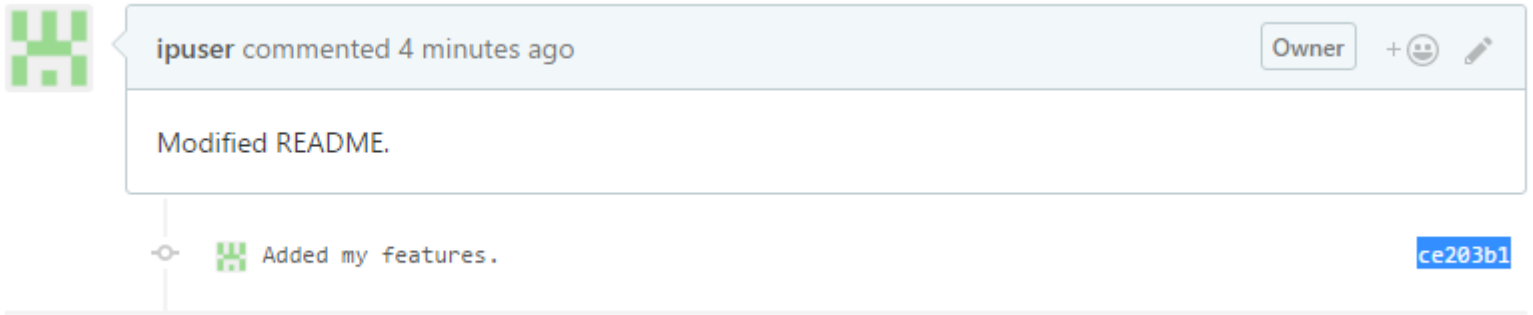
Merging can be performed automatically.

Merge pull request | You can also open this in GitHub Desktop or view command line instructions.

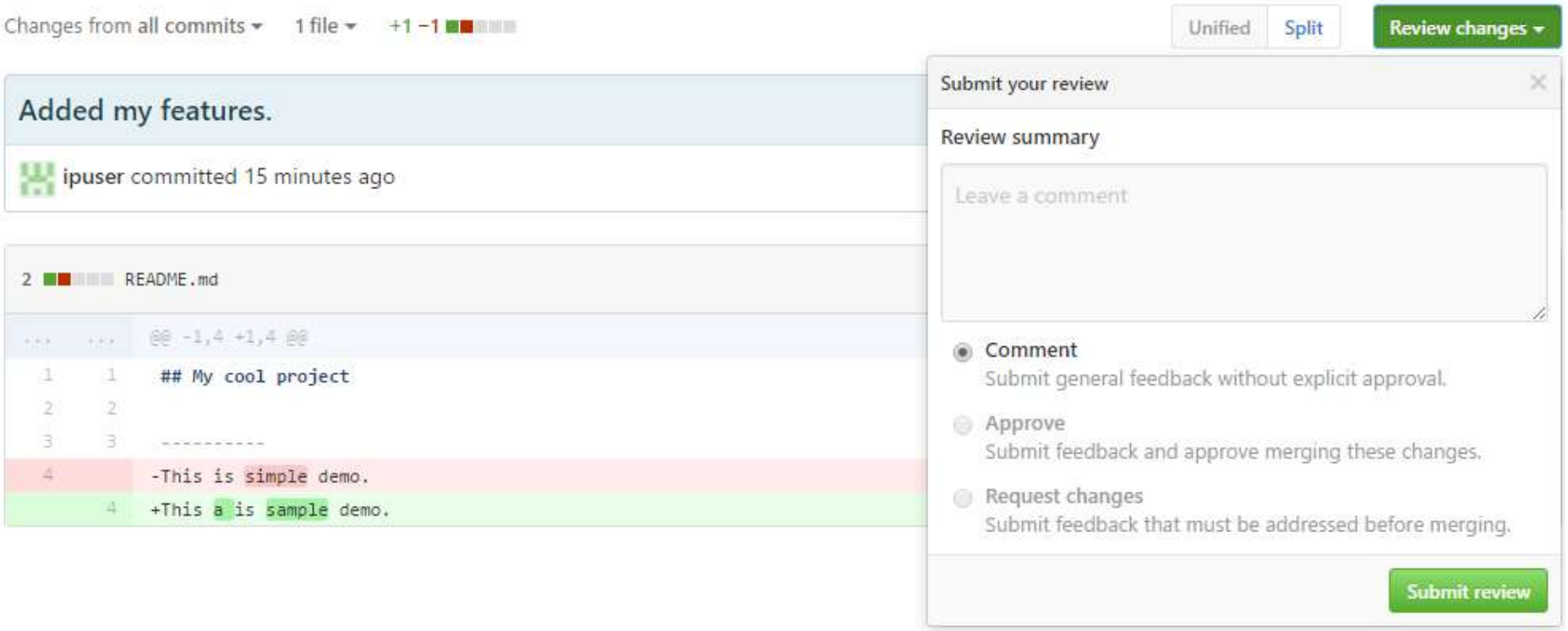
Write | Preview

Leave a comment

Code review

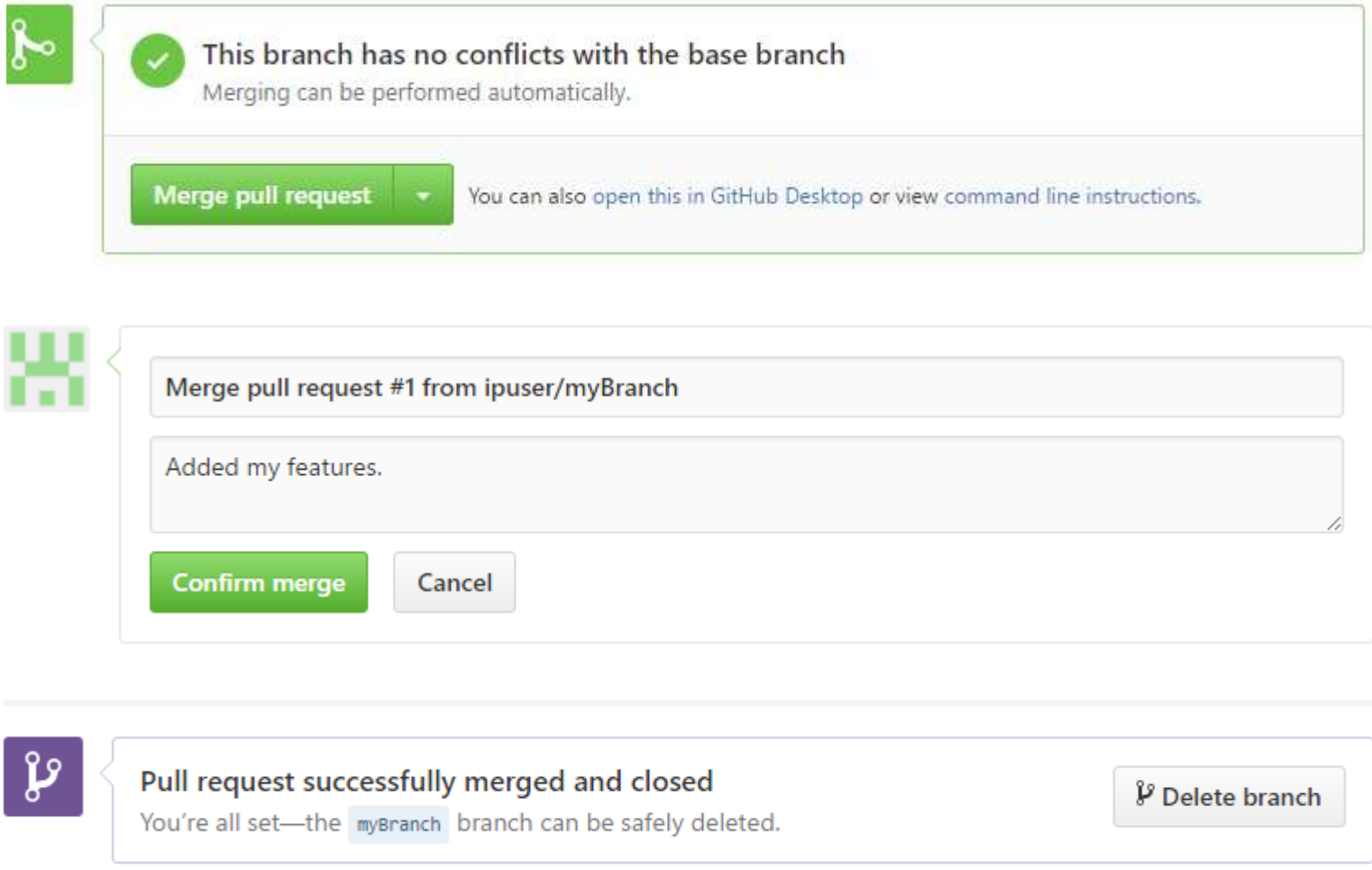

ipuser commented 4 minutes ago
Owner
Modified README.
Added my features.
ce203b1

Code review


Changes from all commits
1 file
+1 −1
Unified
Split
Review changes
Added my features.
ipuser committed 15 minutes ago
2 README.md
@@ -1,4 +1,4 @@
My cool project

-This is simple demo.
+This a is sample demo.
Submit your review
Review summary
Leave a comment
Comment
Submit general feedback without explicit approval.
Approve
Submit feedback and approve merging these changes.
Request changes
Submit feedback that must be addressed before merging.
Submit review

Merging


This branch has no conflicts with the base branch
Merging can be performed automatically.
Merge pull request
You can also open this in GitHub Desktop or view command line instructions.
Merge pull request #1 from ipuser/myBranch
Added my features.
Confirm merge
Cancel
Pull request successfully merged and closed
You're all set—the myBranch branch can be safely deleted.
Delete branch

Git and IDEs

- **Using Git Support in NetBeans IDE**
- https://netbeans.org/kb/docs/ide/git.html

- **Develop with Git in Eclipse**
- https://eclipse.github.io/

- **IntelliJ - Using GitHub Integration**
- https://www.jetbrains.com/help/idea/2016.3/using-github-integration.html

Conclusions

- GIT: distributed "versioning system"
- Each working on their own copy
- The changes are visible only to pull request
- It makes code review -> higher quality of code
- Not alter the master, only tested and verified changes from branches