

CAKE LABS

Version Controlling using Git



Agenda

- Company Overview
- What is version controlling
- Life without version controlling
- Software for version controlling
- Advantages of VCS
- Introduction to git
- Introduction to git hub
- Git concepts
- Hands on session

- CAKE is a cutting edge tech company based in the heart of Silicon Valley.
 - <http://www.trycake.com/>
 - Headquartered in Redwood City with several regional offices across US.
- We offer an integrated platform with products for restaurants and consumers
- Sysco is our Parent Company.
 - Serving over 425,000 restaurants, Sysco is the world's largest foodservice provider.

“Our vision is to be the default technology and services gateway
to the restaurant industry in the US by 2018”



We have Engineering and Operations centers based in Colombo.

<http://www.cakelabs.lk>

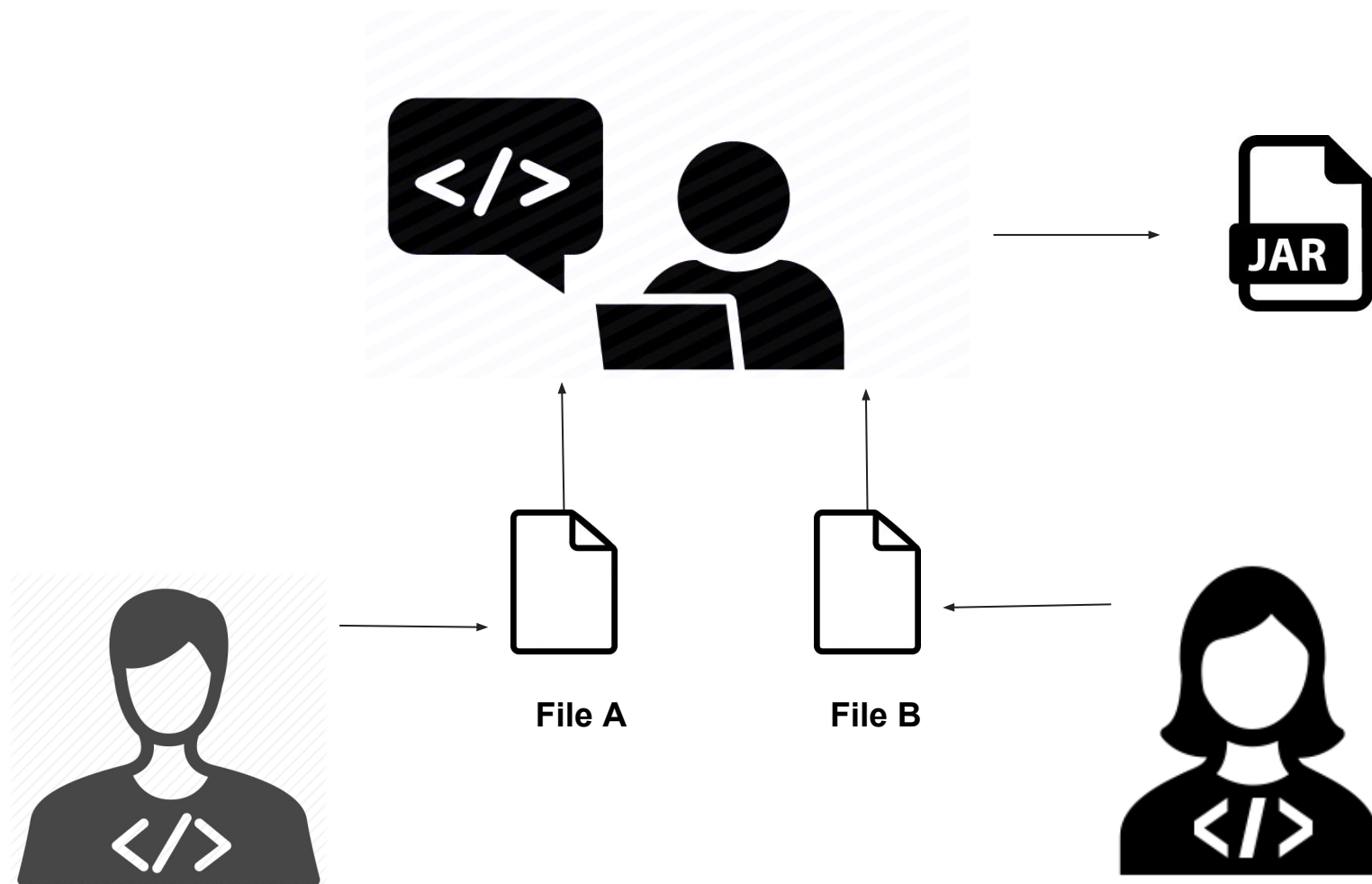
<https://www.facebook.com/cakelabslk>

What is version controlling?

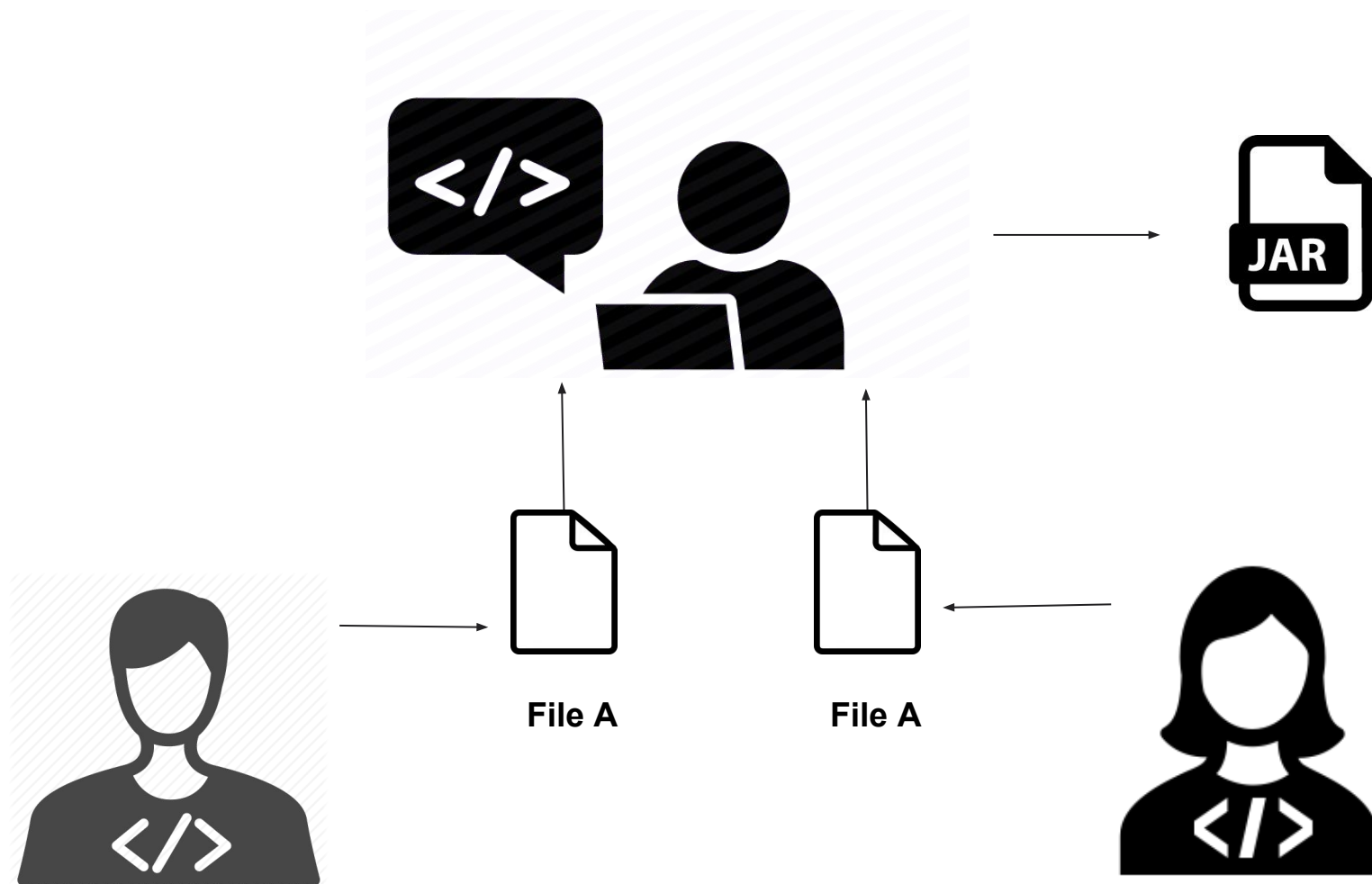
A component of software configuration management, version control, also known as revision control or source control, is the management of changes to documents, computer programs, large web sites, and other collections of information.



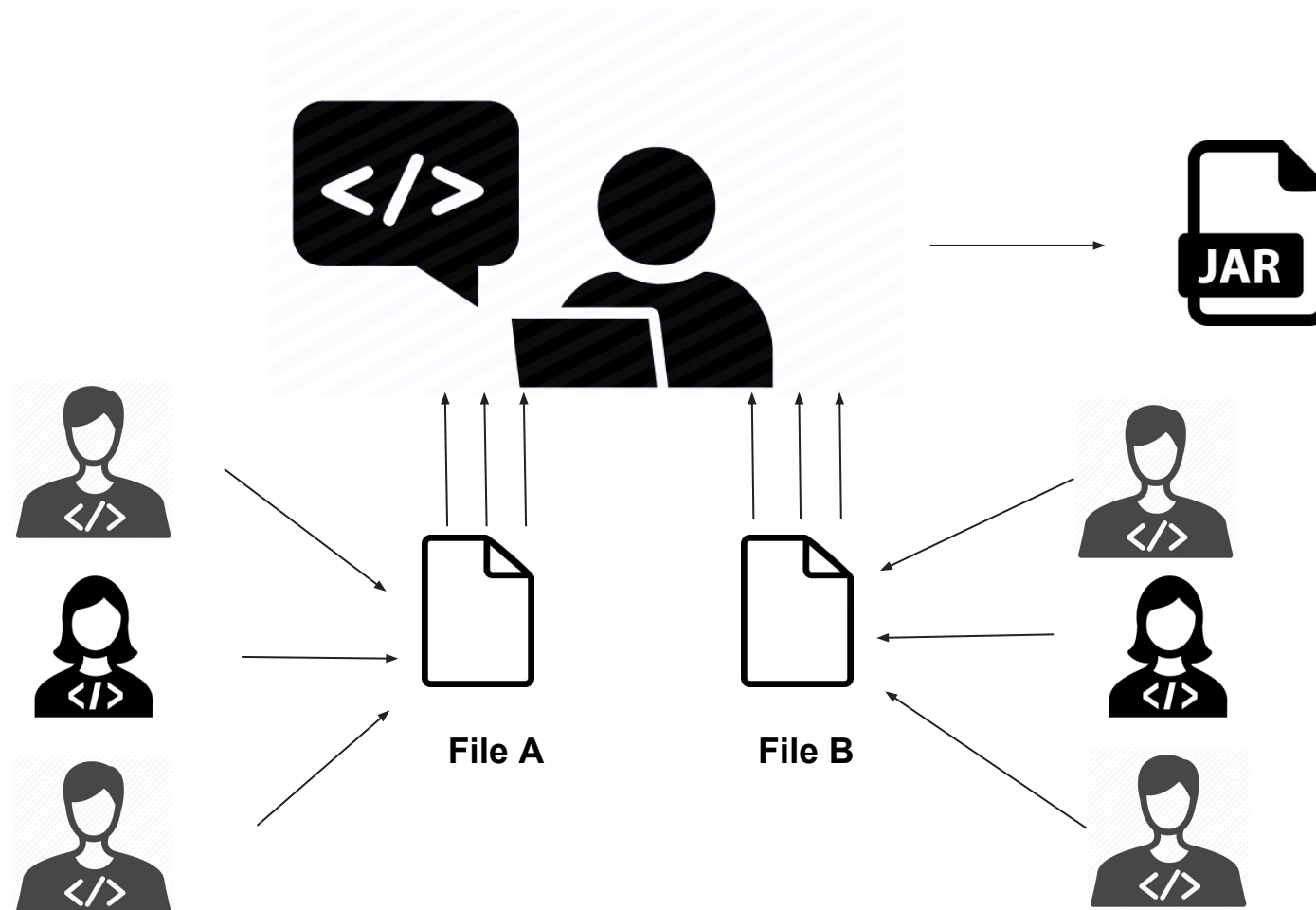
Life without version controlling



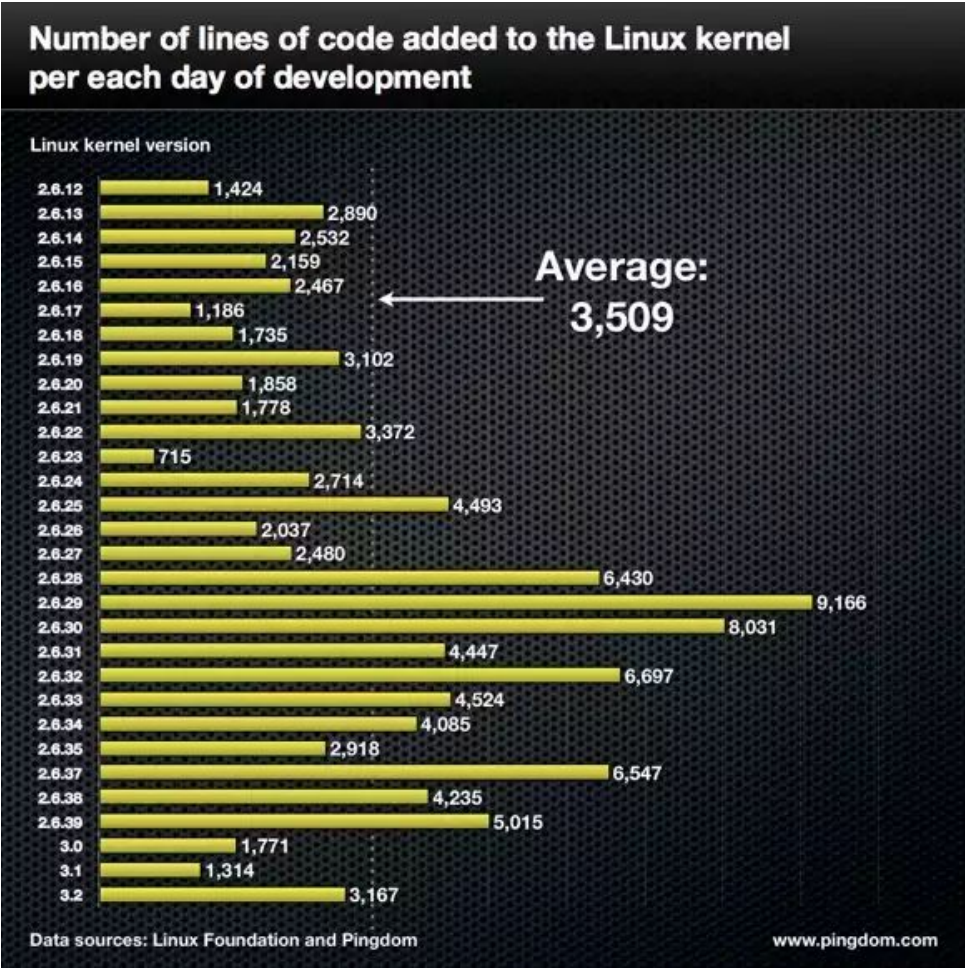
Life without version controlling



Life without version controlling

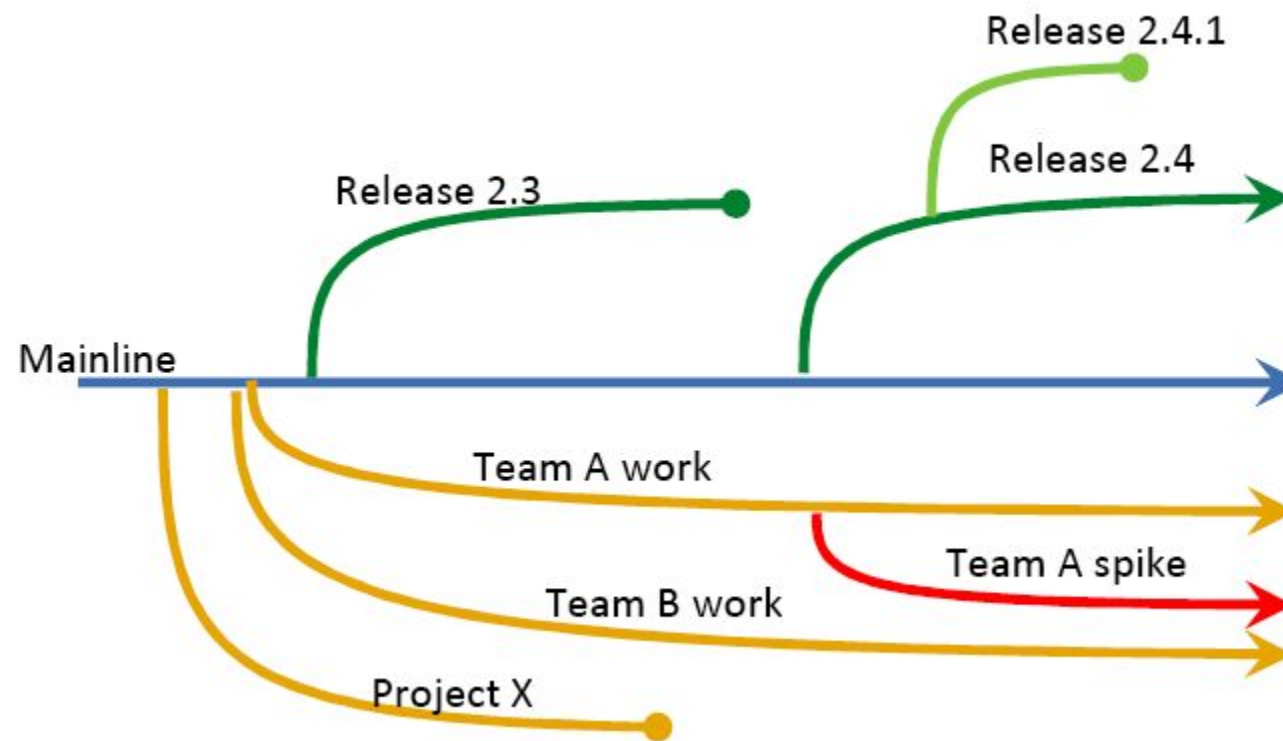


Life without version controlling



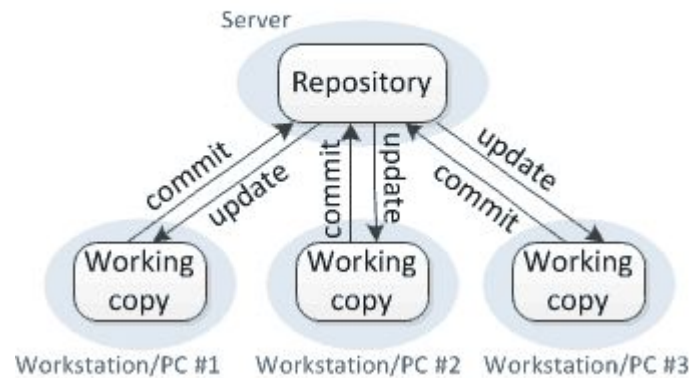
Kernel Version	# of Developers	# of Known Companies
2.6.11	483	71
2.6.12	701	90
2.6.13	637	91
2.6.14	625	89
2.6.15	679	96
2.6.16	775	100
2.6.17	784	106
2.6.18	897	121
2.6.19	878	126
2.6.20	728	130
2.6.21	834	132
2.6.22	957	176
2.6.23	991	178
2.6.24	1,057	186

Life without version controlling

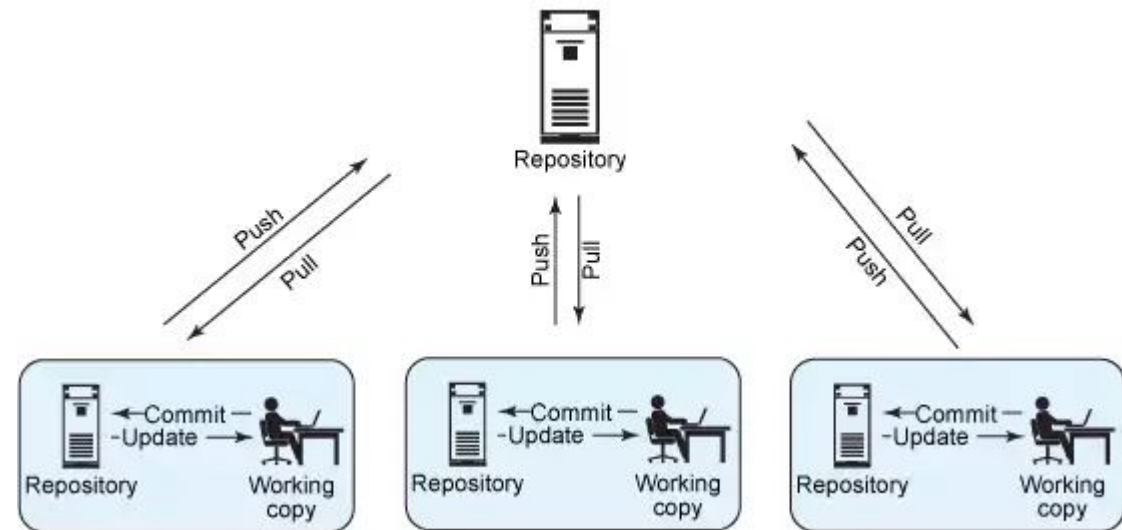


Distributed vs Non Distributed VCS

Centralized version control

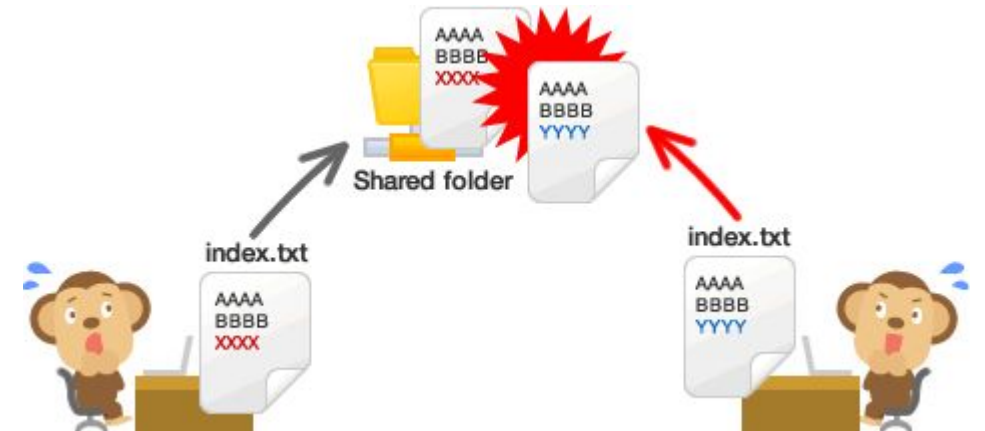


Distributed version control system



Why VCS?

- VCS keeps a record of our changes (who did what and when).
- Allows collaborative development
- Allows to revert changes and go back to a previous state
- Acts as a backup to your code
- Provides access control to your code



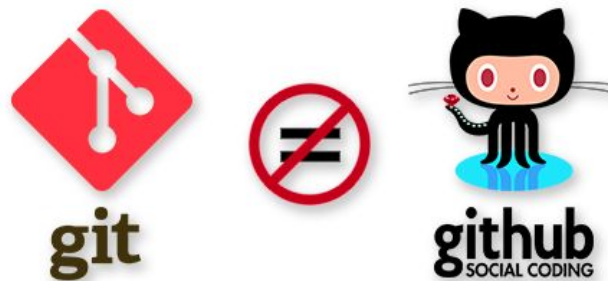


What is GIT?

- Git is a free and open source **distributed** version control system designed to handle everything from small to very large projects with speed and efficiency.
- Git was created by Linus Torvalds in 2005 for development of the Linux kernel, with other kernel developers contributing to its initial development.
- Very efficient and fast even for very large projects

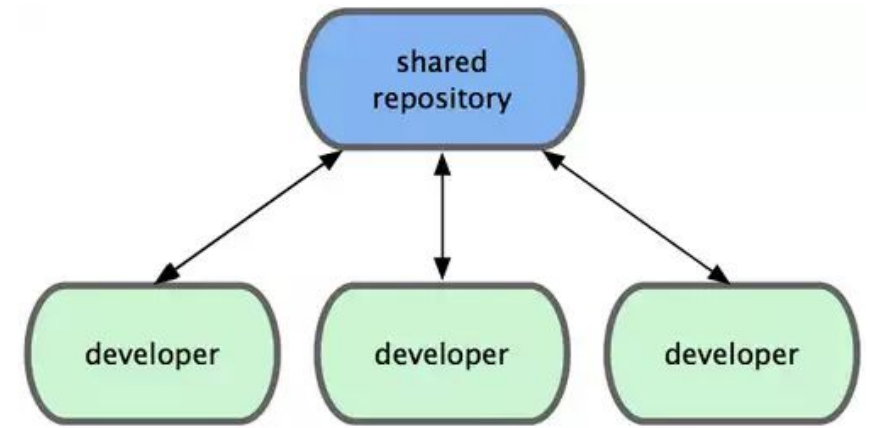


- Github (<https://github.com>) is the most popular repository hosting service for git.
(there are other alternatives like <https://bitbucket.org/>)
- Free for personal or Open source projects
- Almost all the famous open source projects resides in Github
 - <https://github.com/chromium/chromium> (Open-source project behind Google Chrome <https://www.chromium.org/>)
 - <https://github.com/videlal/vlc>
 - <https://github.com/eclipse>
 - <https://github.com/mysql>
- Adds extra functionality on top of git - UI, documentation, bug tracking, feature requests, pull requests, etc.



Repository

- Often shortened to 'repo'
- A collection of related files and the history of those files
- Can have multiple contributors
- Can be private or public
- e.g <https://github.com/videolan/vlc>



Commit

- A set of changes
- eg. Following set of changes can be a commit.
 - removed line 11 of class A
 - Changed type from LinkedList to ArrayList-
class B line 25
 - Added new class C
- A repository consists of a collection of commits
- Can be a noun or verb
 - I just created a new commit.
 - I committed my changes

In case of fire



1. git commit



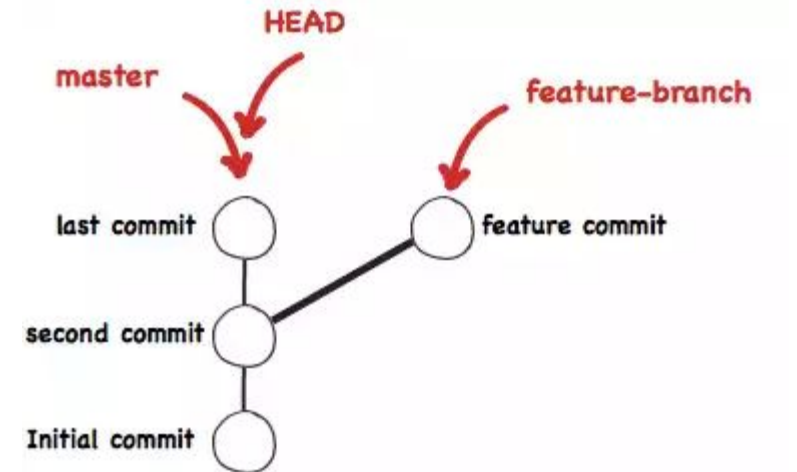
2. git push



3. leave building

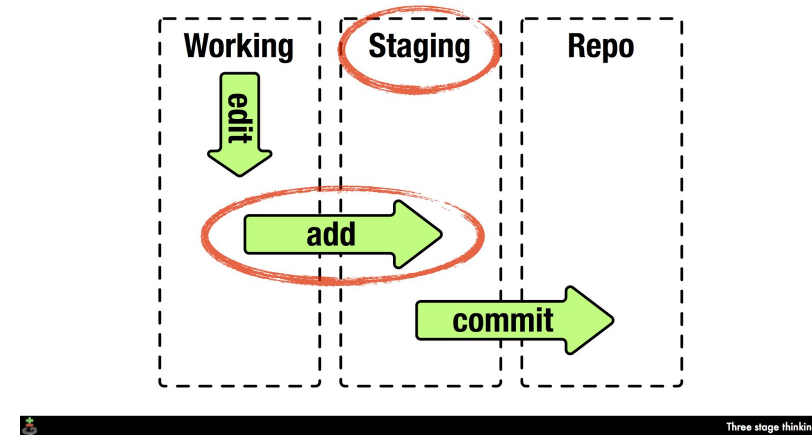
HEAD

- The HEAD in Git is the pointer to the current branch reference, which is in turn a pointer to the last commit you made or the last commit that was checked out into your working directory.



Add

- Tells git to mark a modified file as staged
- Staged changes will be included in the next commit
- See the staged changes using the command **git diff**



Create you first repo. And do the initial commit

Commands

- `git init`
- `git remote add origin https://github.com/prabhath/git-workshop`
- `git remote -v`
- `git add .`
- `git commit -m "Added the java project files"`
- `git push origin master`



Stash

- In Git, the stash operation takes your modified tracked files, stages changes, and saves them on a stack of unfinished changes that you can reapply at any time.

Viewing Repository Status

- git status
- git log
- git show
- git diff



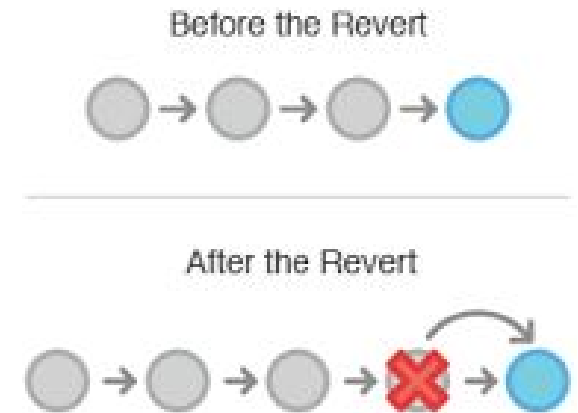
Undoing changes

- git revert

- The git revert command undoes a committed snapshot. But, instead of removing the commit from the project history, it figures out how to undo the changes introduced by the commit and appends a *new* commit with the resulting content. This prevents Git from losing history, which is important for the integrity of your revision history and for reliable collaboration.

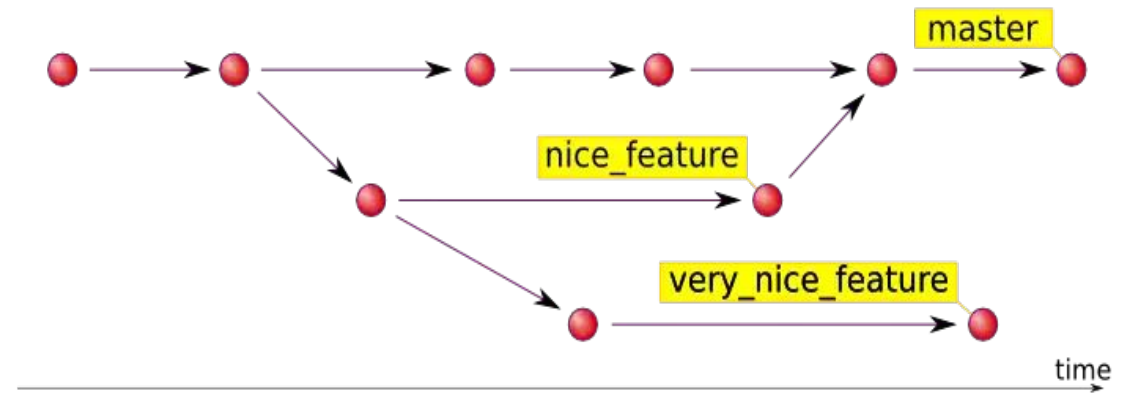
- git reset

- When you undo with git reset there is no way to retrieve the original copy—it is a *permanent* undo. Care must be taken when using this tool, as it's one of the only Git commands that has the potential to lose your work.



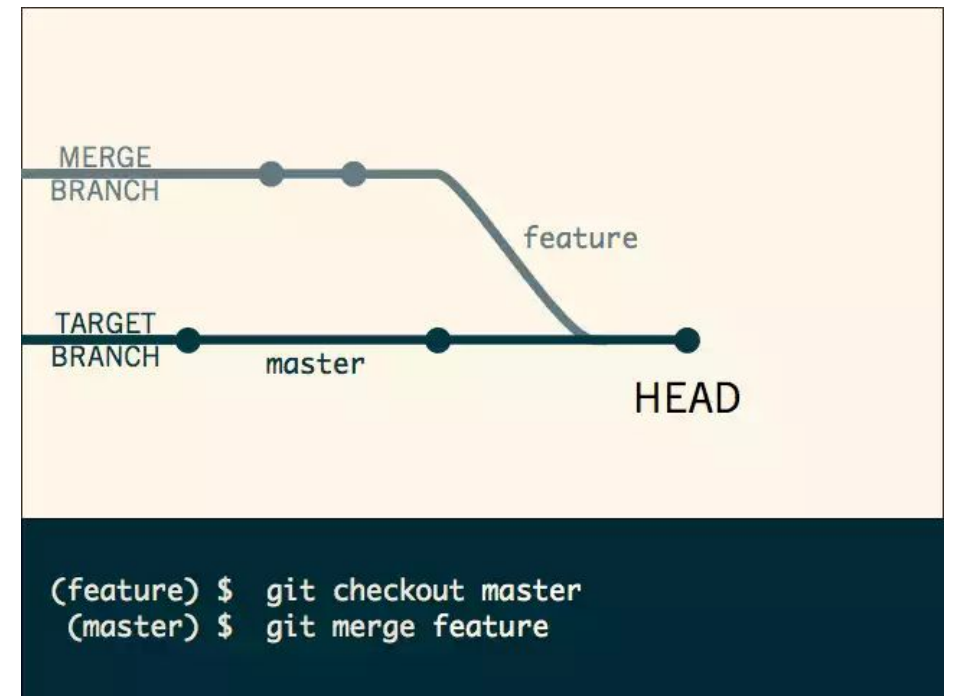
Branch

- A line of development
 - eg. A new feature, A bug fix
- By default there is a branch called master
- We **create** branches, **commit** to them and then **merge** to master when ready



Merge

- After you have finished implementing a new feature on a branch, you want to bring that new feature into the main branch, so that everyone can use it. You can do so with the `git merge` or `git pull` command.



Create your first pull request.

Commands we will cover

- git clone
- git pull
- git branch
- git push
- git merge



- Free ebook on Git. <https://git-scm.com/book/en/v2>
- Free code school course <https://www.codeschool.com/courses/try-git>
- <https://www.atlassian.com/git/tutorials>



Thank you