Web Technologies

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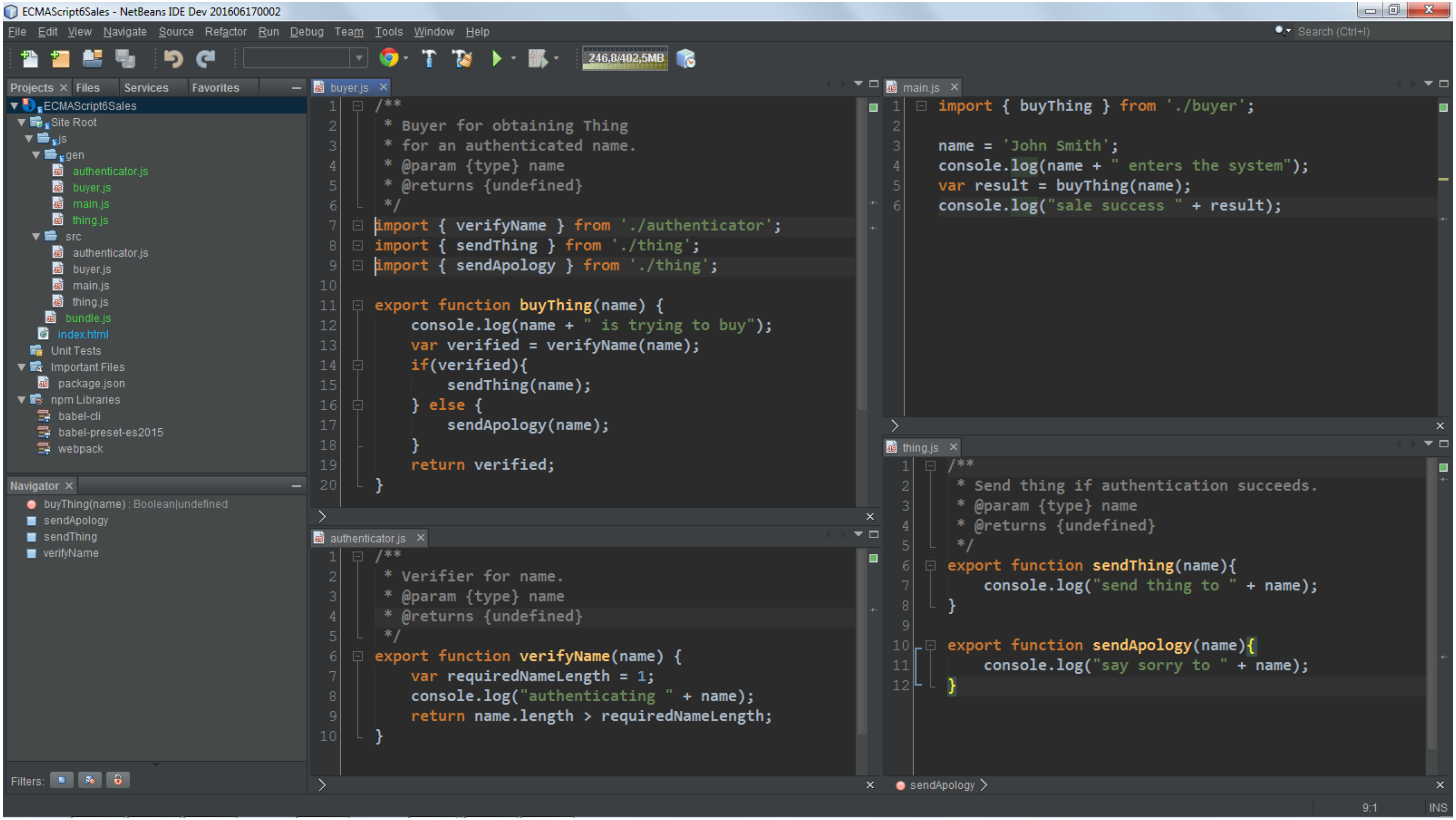
Web Development Environment



buyer.js

```
/**
 * Buyer for obtaining Thing
 * for an authenticated name.
 * @param {type} name
 * @returns {undefined}
 */
import { verifyName } from './authenticator';
import { sendThing } from './thing';
import { sendApology } from './thing';

export function buyThing(name) {
    console.log(name + " is trying to buy");
    var verified = verifyName(name);
    if(verified){
        sendThing(name);
    } else {
        sendApology(name);
    }
    return verified;
}
```

main.js

```
import { buyThing } from './buyer';

name = 'John Smith';
console.log(name + " enters the system");
var result = buyThing(name);
console.log("sale success " + result);
```

authenticator.js

```
/**
 * Verifier for name.
 * @param {type} name
 * @returns {undefined}
 */
export function verifyName(name) {
    var requiredNameLength = 1;
    console.log("authenticating " + name);
    return name.length > requiredNameLength;
}
```

thing.js

```
/**
 * Send thing if authentication succeeds.
 * @param {type} name
 * @returns {undefined}
 */
export function sendThing(name){
    console.log("send thing to " + name);
}

export function sendApology(name){
    console.log("say sorry to " + name);
}
```

Web Development Environment

The keyword **environment** usually refers to a number of things, rather than just a single one (e.g. code editor or IDE)

Web Development Environment

Operating System (SO)

Code Editor/IDE

Browser

....

Web Development Environment

- **Operating System:** it can greatly impact the availability of dev tools.
- **Code editor / IDE:** it is essential for every programmer, with a number of additional functionalities, it can both boost, but also decrease one's productivity if not chosen correctly.
- **Browser:** the most important part of web development workflow, useful for accessing knowledge, testing and so on.
- **Other tools:** browser extensions, repositories, services, and standard/often-used libraries. (Developer's preference).

Operating System

Windows
Linux
MacOS

Chrome
Android
iOS

Operating System

Windows

Linux

MacOS

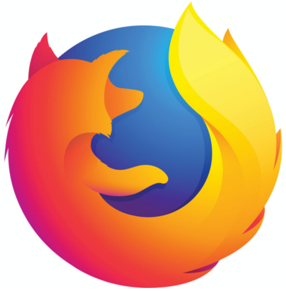
~~Chrome~~

~~Android~~

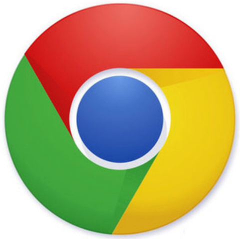
~~iOS~~

Web Browsers

- Dev-tools (Developer edition)
- Include built-in tools to help you with your design, prototype, and code
- Extensions store
- MDN



- Development tools
- Extensions
- Very popular
- Developed by Google



Code editor / IDE

- **IDE,** an integrated environment gives you the ability to do everything in a single editor
  - Visual Studio Code, WebStorm, Eclipse, NetBeans, Komodo IDE, PyCharm
- **Code editor** - simple, lightweight and fast editor, often with great extendibility options
  - Atom, Text Sublime, Vim, Emacs,…

Collaborative Development

Collaborative Development

- Project/task Management
- Team Management
- Team Communication
- Collective code sharing and editing
- Documentation

Collaborative Development

Project/Task Management

- **Jira** is created by developers for developers and incorporates Scrum and Agile methodology perfectly
- **Asana** allows setting detailed to-do lists with automatic notifications, linking a member to the task
- **Trello** includes all essential collaboration features (deadlines, prioritizing regular and urgent tasks, adding tasks, and creating folders)
- **Teamworks** offers multiple time-saving, collaboration-enhancing features to make project management quicker and more efficient.

Collaborative Development

Team Communication

- **Slack** is a team chat app that keeps teams in the know.
- **Skype** and **Google hangouts** are chat and videoconference apps.

Collaborative Development

Collective code sharing and editing

- **GIT** has excellent branching & merging capabilities and lets me commit, branch & merge all locally, offline, without needing to be online to a server
- **Mercurial** is a distributed revision-control tool for software developers
- **Bazaar** is a decentralized version control system designed to be easy to use and intuitive, able to adapt to many workflows, reliable, and easily extendable.

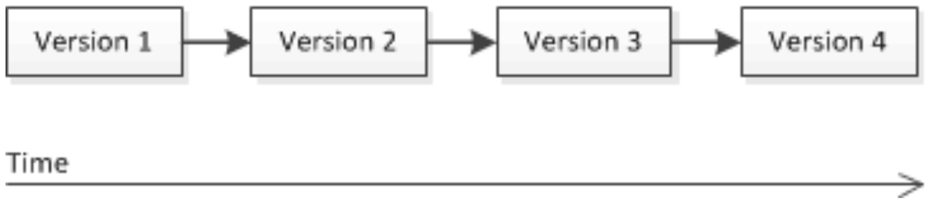
Documentation

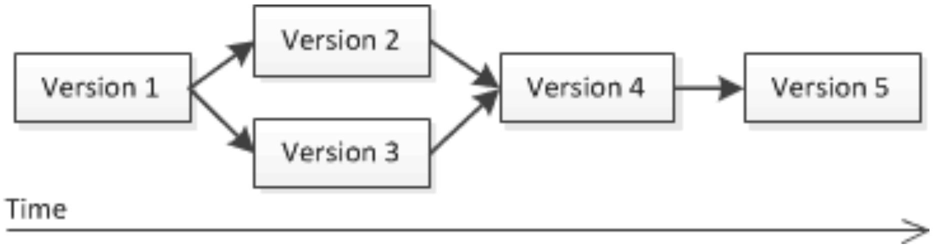
- **Wiki**

Collective code sharing and editing

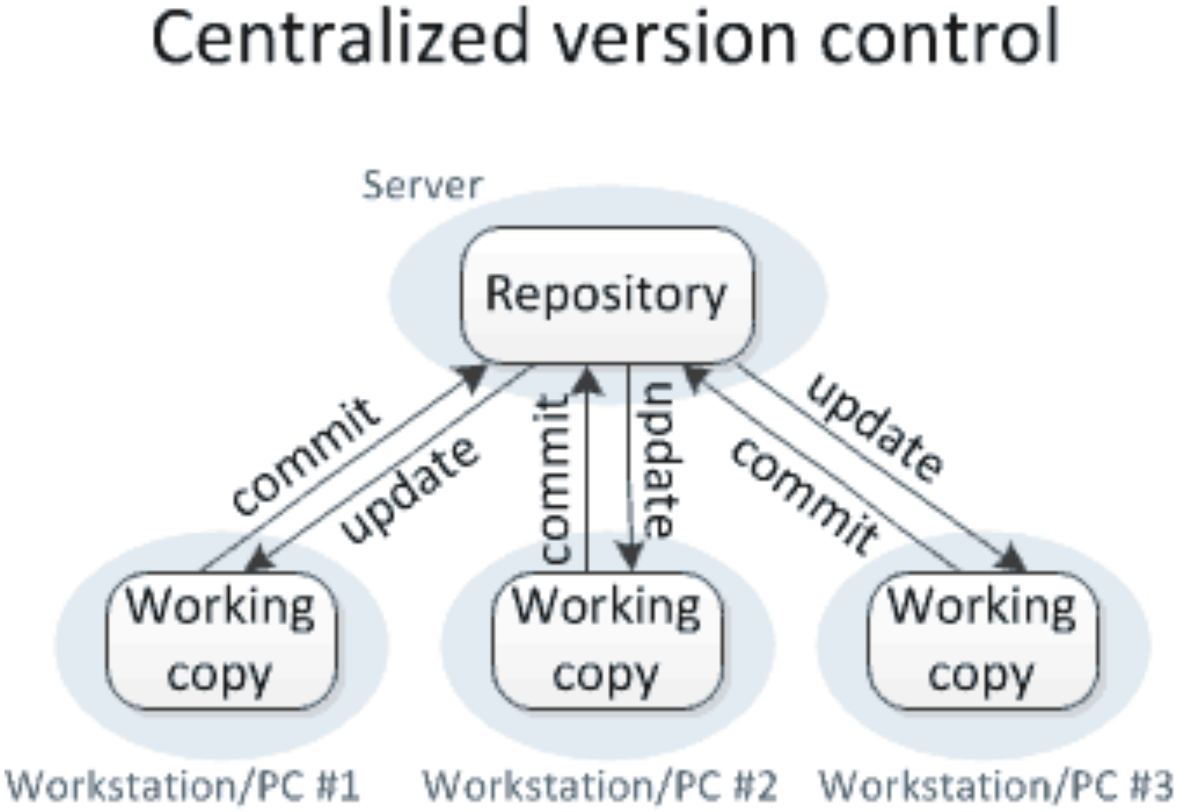
Purpose of version control

- Multiple people can work simultaneously on a single project
- It also enables one person to use multiple computers to work on a project
- It integrates the work that is done simultaneously
- Version control provides access to the historical versions of a project

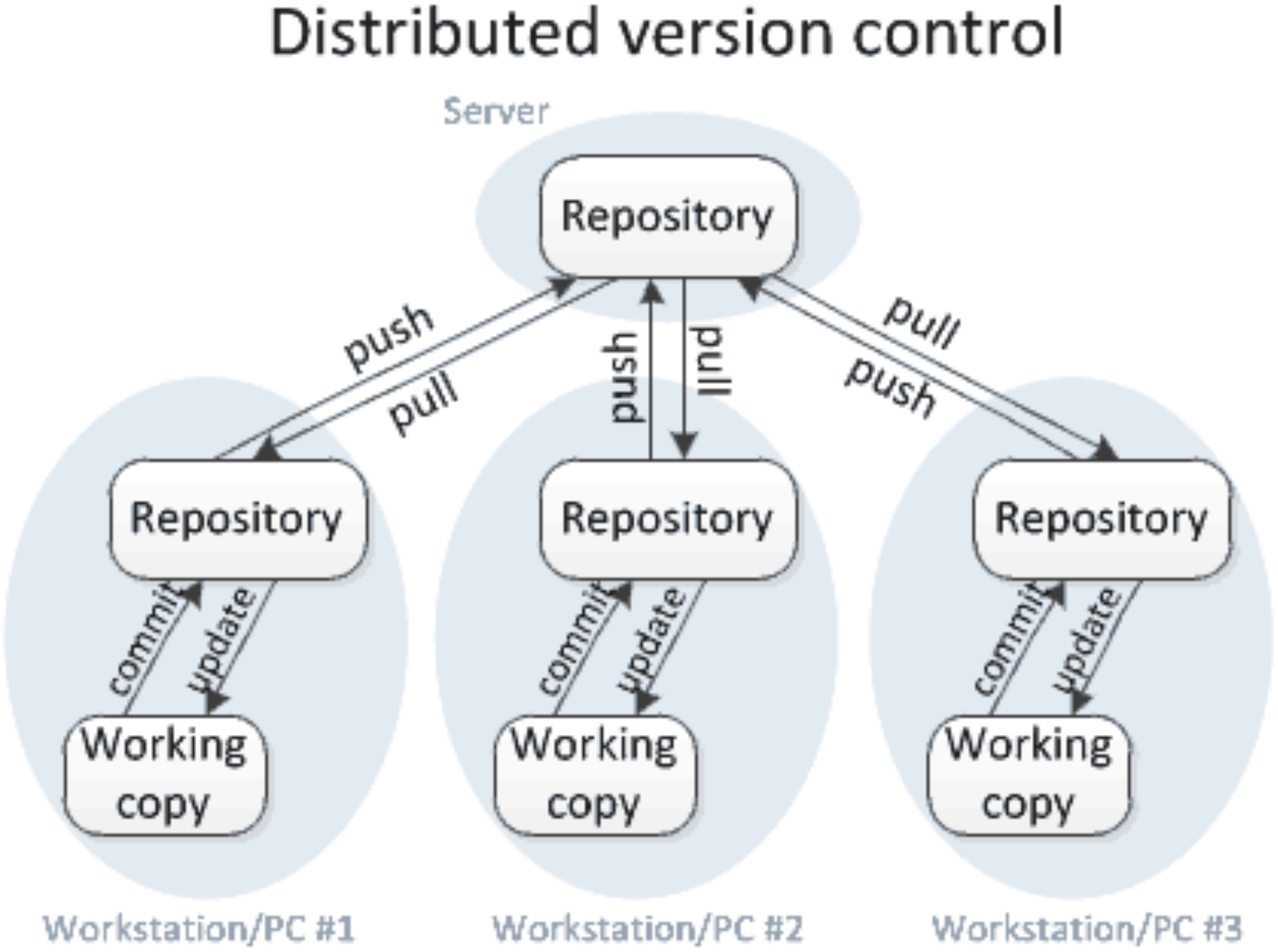




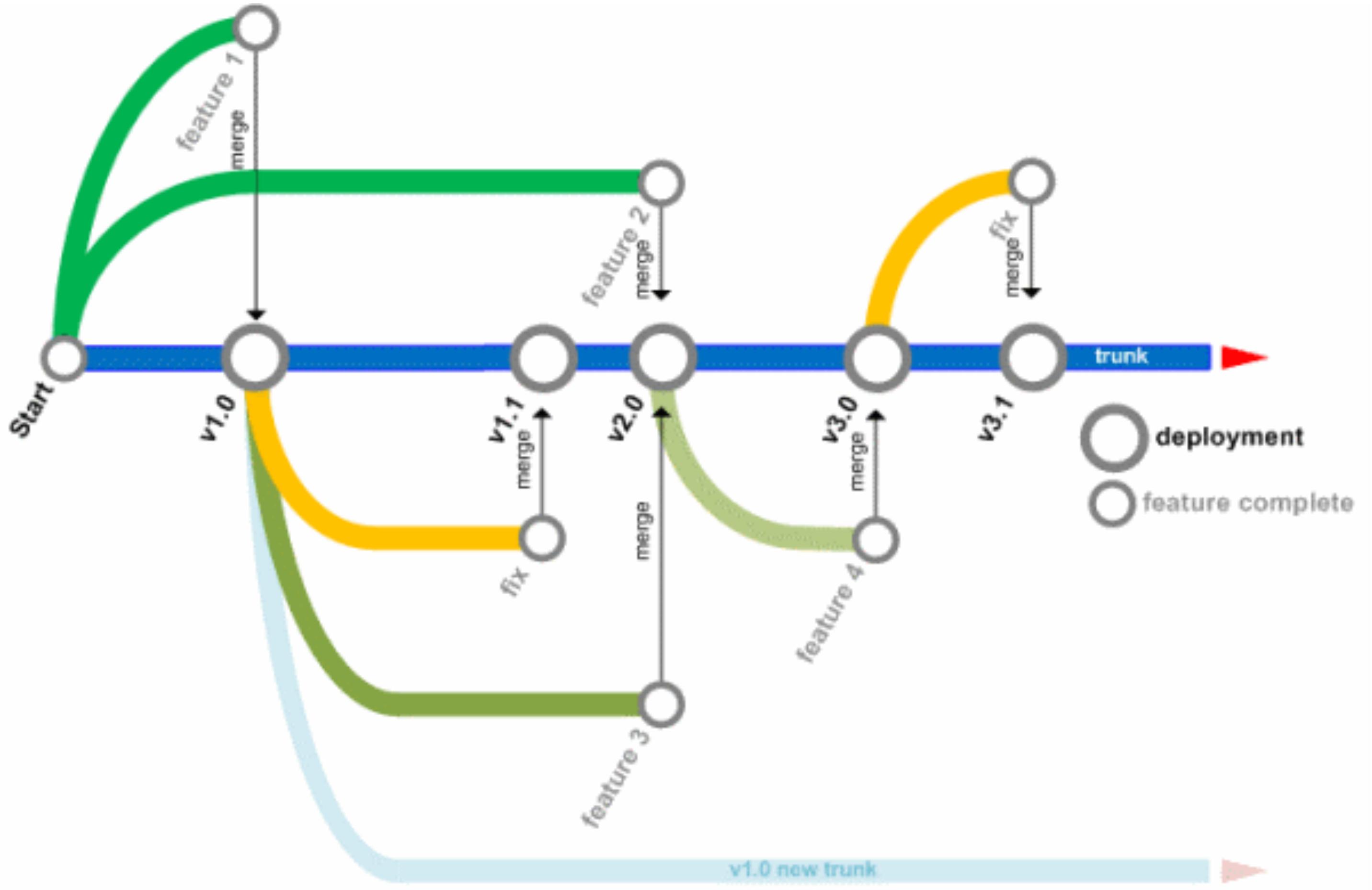
Collective code sharing and editing



Collective code sharing and editing



GIT: Branch and Merge



Activity: git repository

Part 1:

- Create a repository in GitHub (www.github.com)
  - Repository name: **my_repo**
- Clone the repository

```
git clone https://github.com/<username>/my_repo.git
```

- Create a text file within the local repository
- Add, Commit and Push (remote)

Cheat sheet
https://education.github.com/git-cheat-sheet-education.pdf

https://desktop.github.com

Activity: git repository

Part 2 (Group activity):

- Create a repository (one per group) in GitHub (www.github.com)
  - Repository name: **shared_repo**
- Add your classmates as collaborators in this repository
- Clone the repository

```
git clone https://github.com/<username>/my_repo.git
```

- Create a text file within the local repository
- Add, Commit, Push (remote), pull (remote)

Cheat sheet
https://education.github.com/git-cheat-sheet-education.pdf