S01 Software Development Tools

IDEs
Revision Control
Using Gitlab and Git

Integrated Development Environments

- A rich context for software development

    - Examples: Eclipse, IntelliJ, VisualStudio, XCode

- Syntax highlighting, continuous compilation, testing, debugging, packaging

- Powerful refactoring capabilities
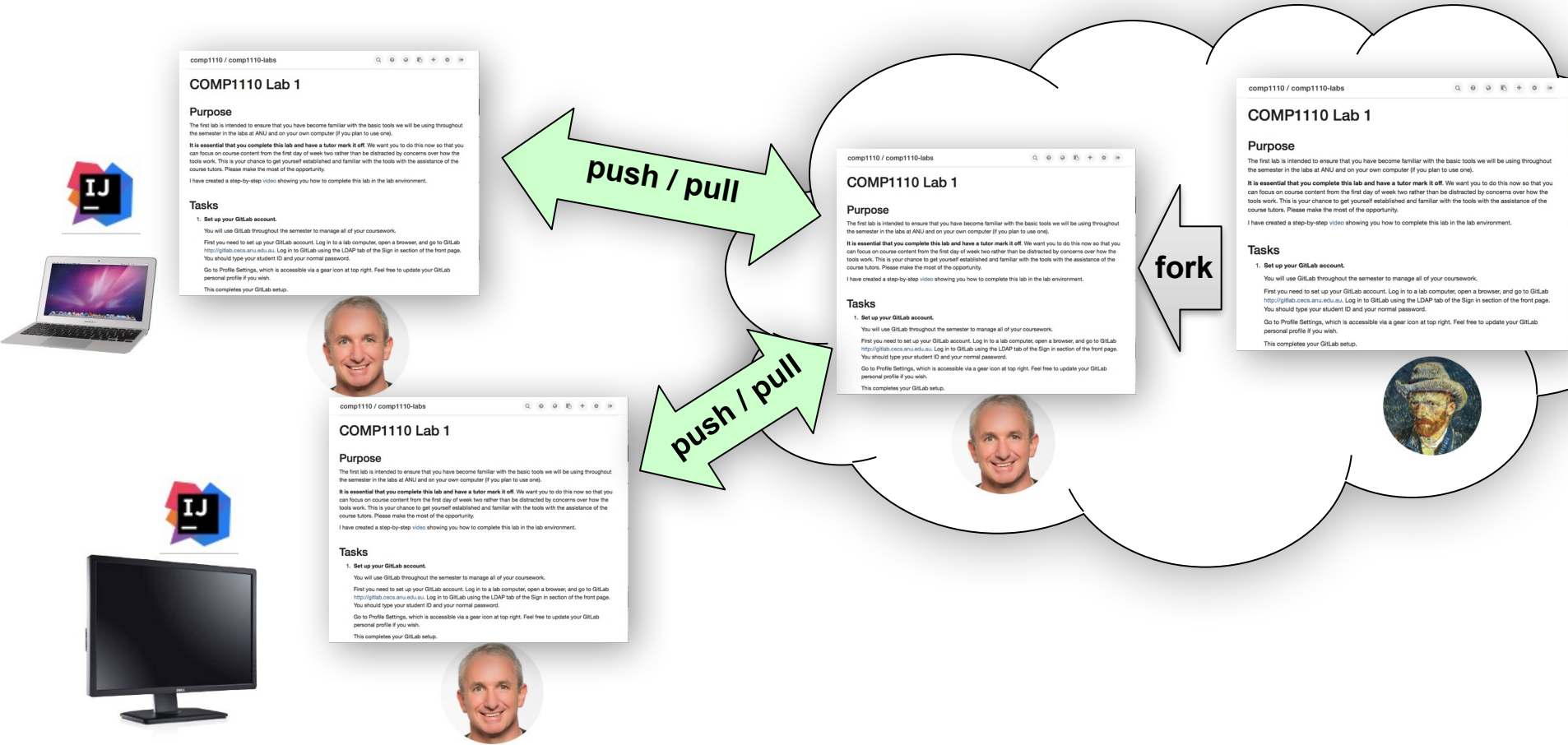
- Code analysis

Revision Control

- Indispensible software engineering tool

- Solitary work

    - Personal audit trail and time machine

    - Establish when bug was introduced

    - Fearlessly explore new ideas (roll back if no good)

- Teamwork

    - Concurrently develop

    - Share work coherently

Git

- Distributed version control system

    - hg, git, others (conceptually very similar)

- Contrast with centralized version control

    - cvs, svn, others

We will focus on distributed version control systems and not discuss centralized version control any further.

Git & GitLab

push / pull

push / pull

fork

IntelliJ Git Integration

- Clone an existing repository:
  - "Get from VCS" on splash screen
- Other operations:
  - Git menu
  - right mouse click > Git