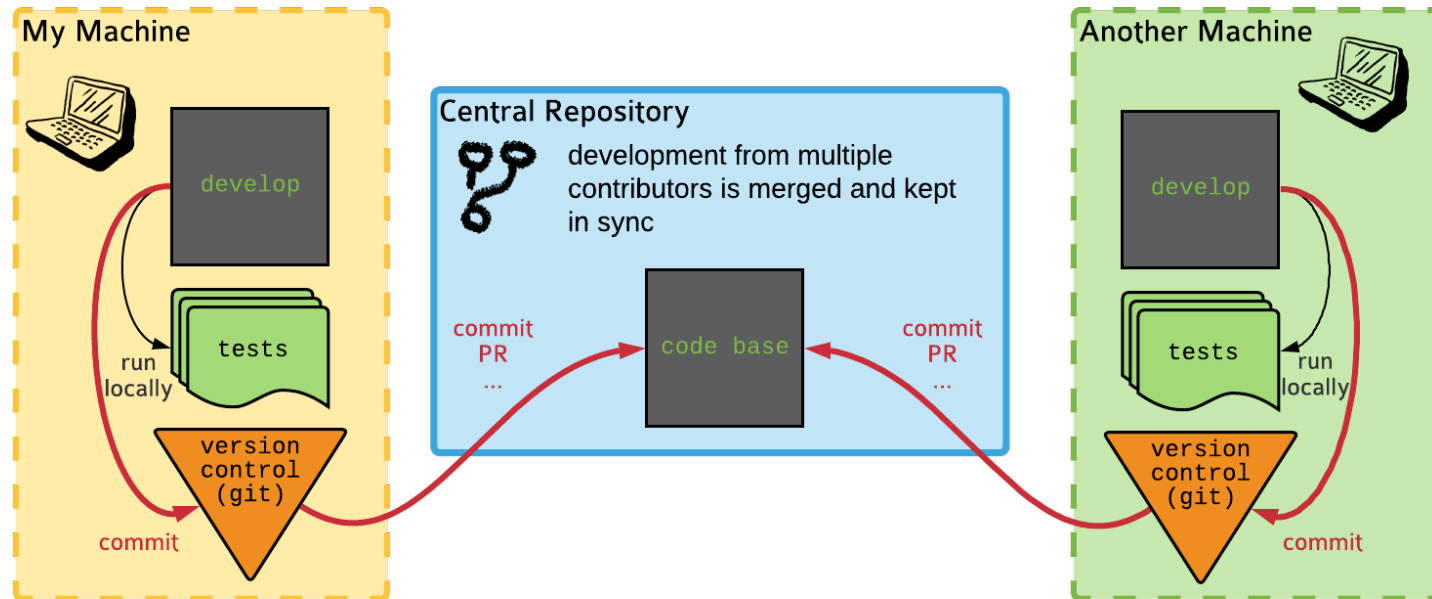


Continuous Integration

Because you're worth it, continuously

Lisa Schwetlick and Pamela Hathway

Collaborative Development without CI



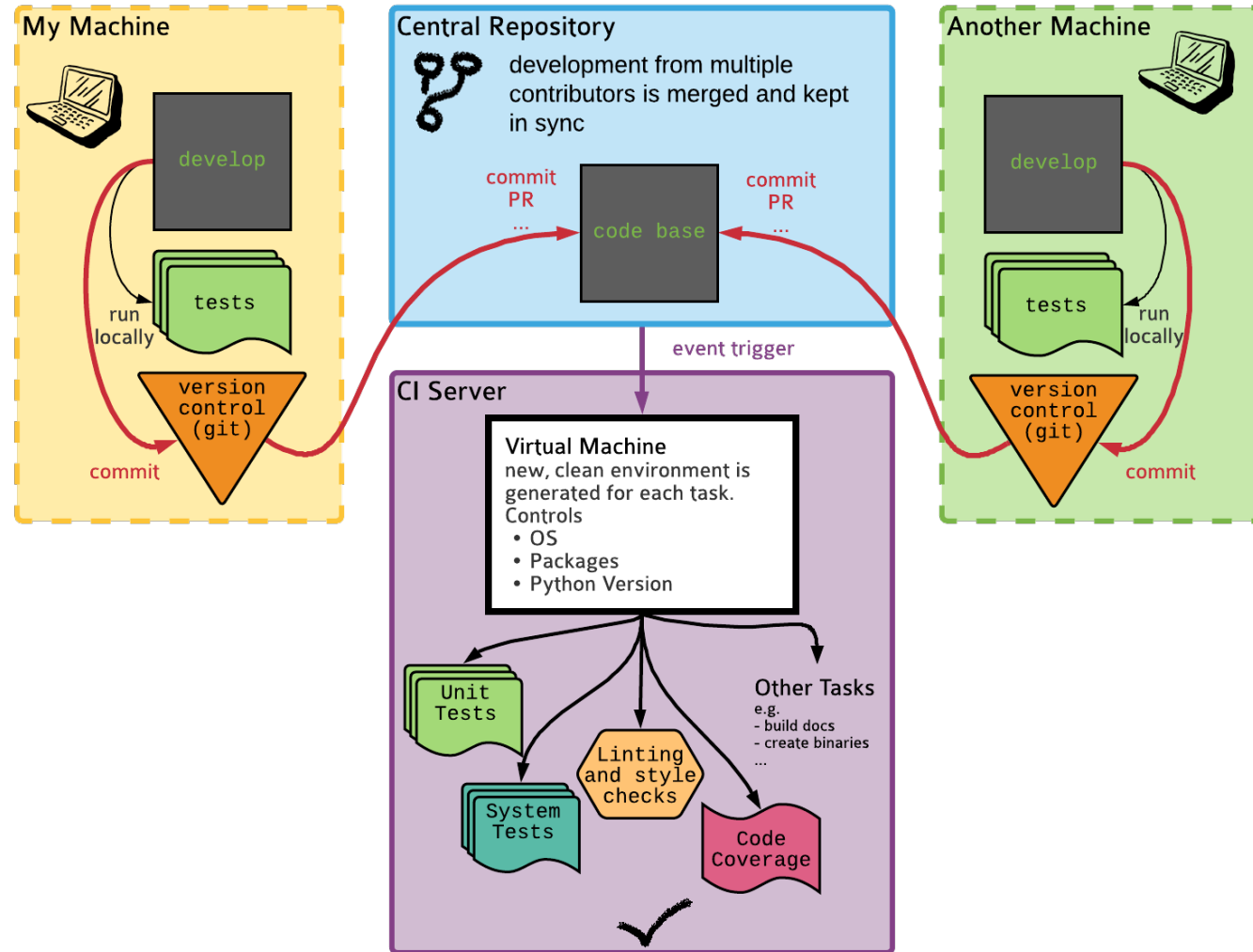
Potential issues

- The tests might pass on one machine and/or the other, but not in a third-party environment (versions, OS, etc.)
- A maintainer needs to ensure that the software works on all the supported combinations of versions / OSs
- A maintainer needs to create and upload artifacts like binary packages, documentation, etc

Continuous Integration

- Continuous Integration is a set of tools and practices to make sure that a project with many contributors (≥ 1) runs smoothly
- One goal is to automatize the non-coding tasks:
 - make sure that the tests always pass
 - check for style consistency
 - build packages for distribution on multiple architectures
 - build documentation
- Another goal is to solve the “it works on my machine” problem

Collaborative Development with CI



The CI tasks that you'll find 95% of the time

- **Task 1: Run test when a PR is created**
 - **Event trigger:** PR is created
 - **Action:** Run all tests for different Python versions

- **Task 2: Release package when version is bumped**
 - **Event trigger:** Version is bumped
 - **Action:** Create binary packages for Linux, Mac, Windows and upload them to a package repository

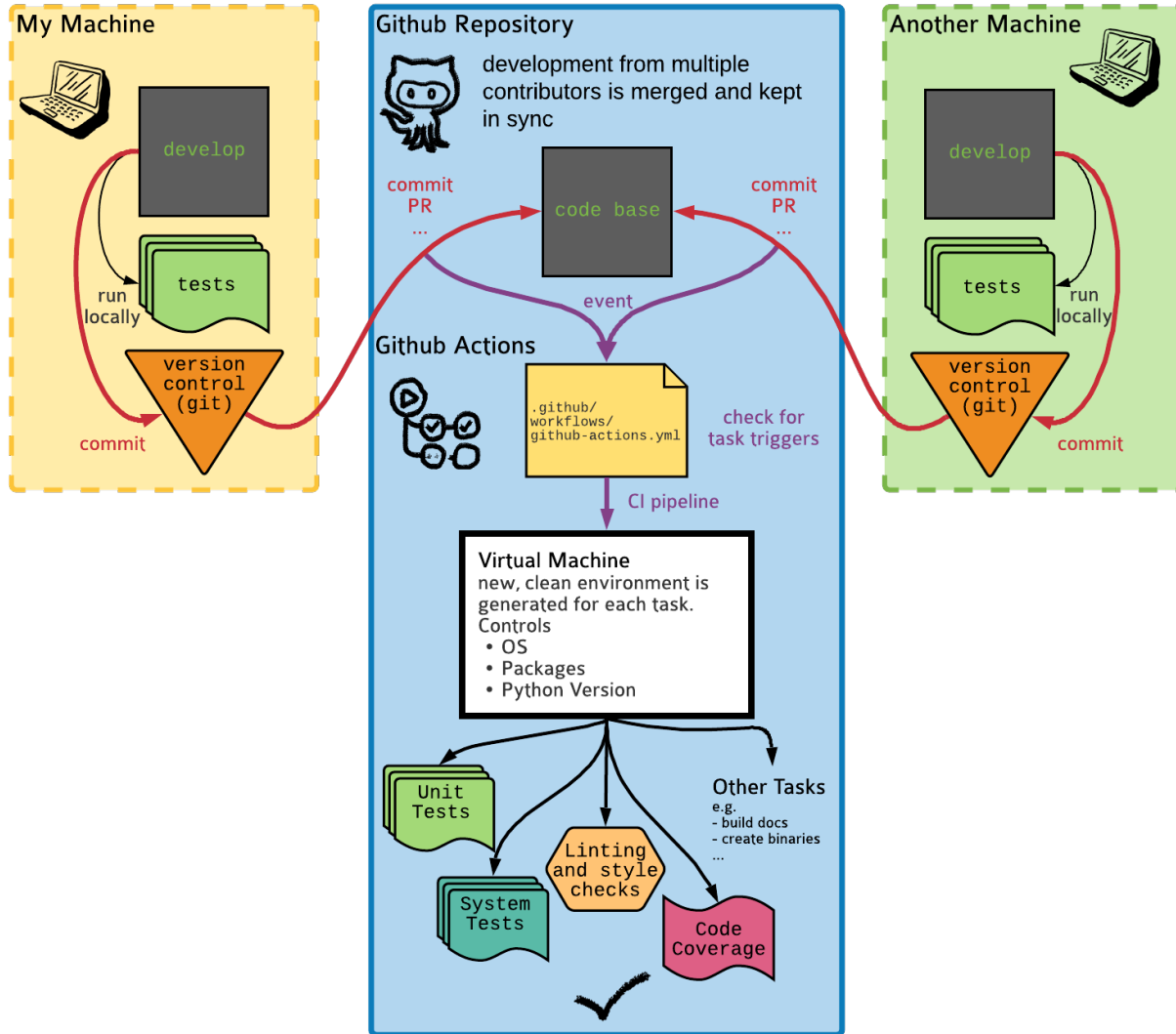
- **Task 3: Publish documentation on request**
 - **Event trigger:** Repository is tagged in a certain way
 - **Action:** Build and publish the documentation

CI options



GitHub Actions is at the moment the preferred choice for many open source projects. It is very flexible and well integrated with GitHub.

Collaborative Development with GitHub Actions



GitHub acts as both the central repository and the CI server, but the rest is the same

EXAMPLE:

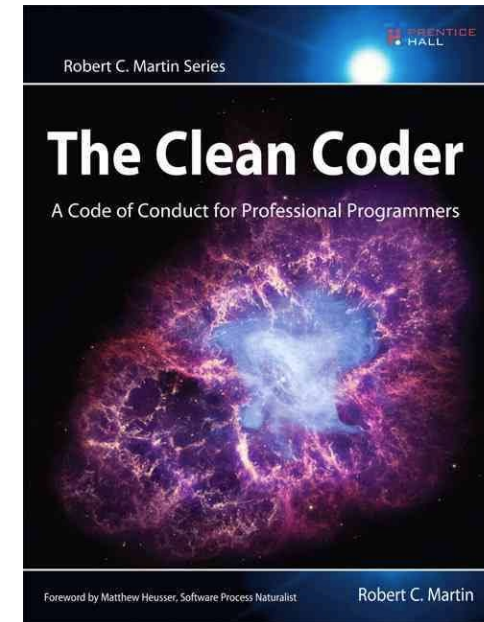
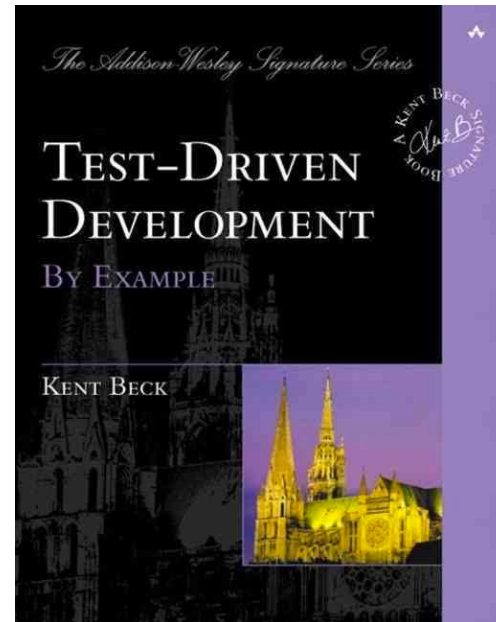
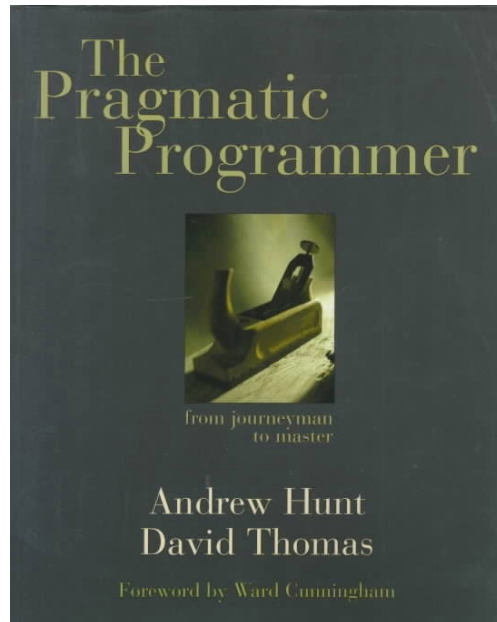
https://github.com/lshwetlick/ASPP_testing_project_ci

Conclusions

- It takes a bit of time to set up and debug a Continuous Integration workflow, but it's a good investment that can save you a lot of time later on!



Recommended reading



Thank you!