PRAIRIE DEV CON

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Is CI hard? Maybe source control is your problem

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Outline

- □ Migrating from Source Gear Vault to GitHub - Technical
- □ Migrating to Git - People / Culture
- □ AppVeyor CI
- □ Wercker

SourceGear Vault Problems

□ Exclusive Locks

□ Require a web server and a decent SQL server

□ Code review is cumbersome

□ Since we are hosting internally all other CI / CD needs to be internal

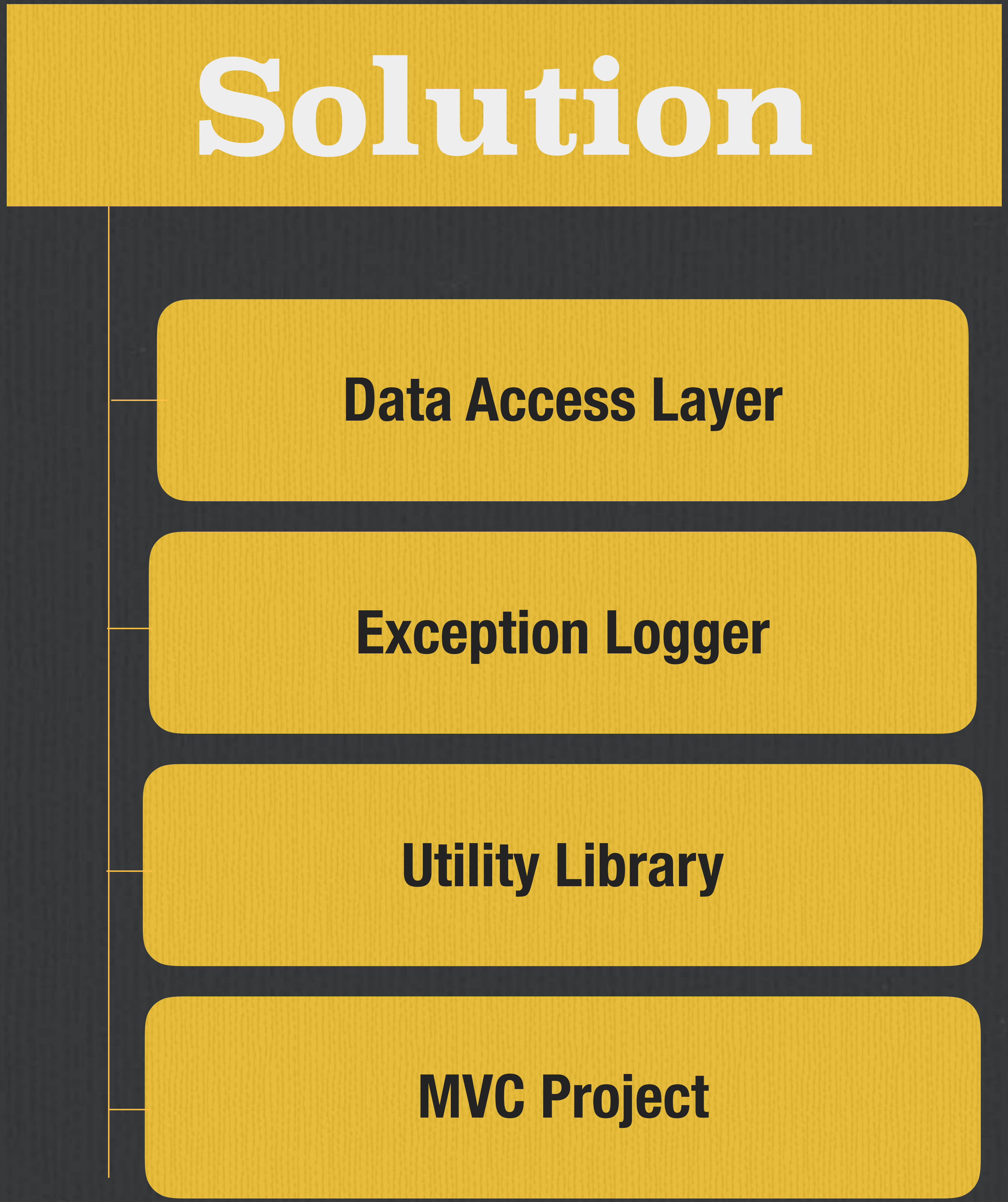
□ Limited integrations

SourceGear => GitHub

1. Restructure .Net projects to Nuget packages

2. Open source migration tools - https://github.com/AndreyNikiforov/vault2git

3. Migration plan - Shared libraries first



Solution

- Data Access Layer
- Exception Logger
- Utility Library
- MVC Project

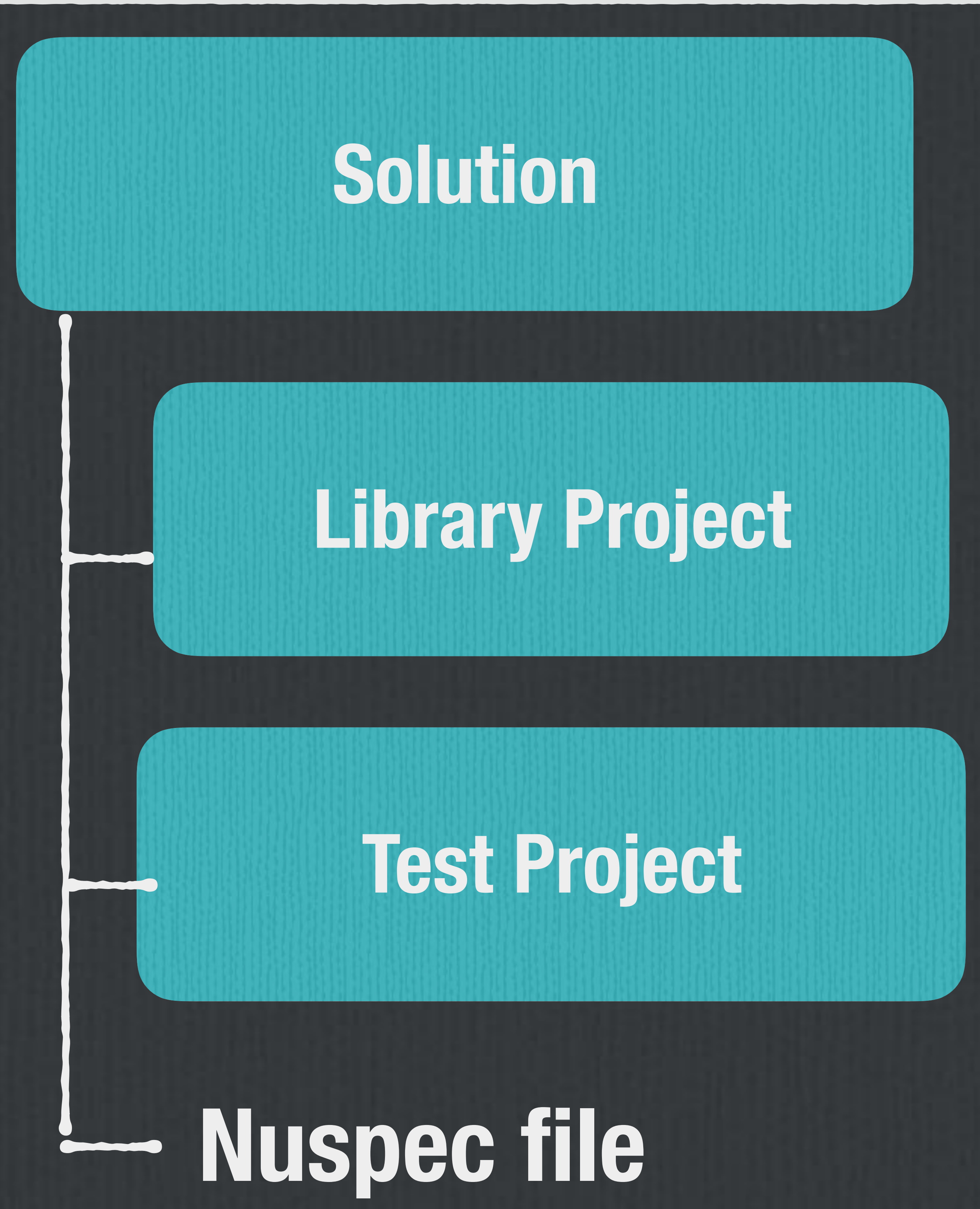
Nuget is your friend

□ You will likely need a private Nuget repo

□ Shared libraries should become Nuget packages

□ Write tests to run the code

Shared Library Nuget



Solution

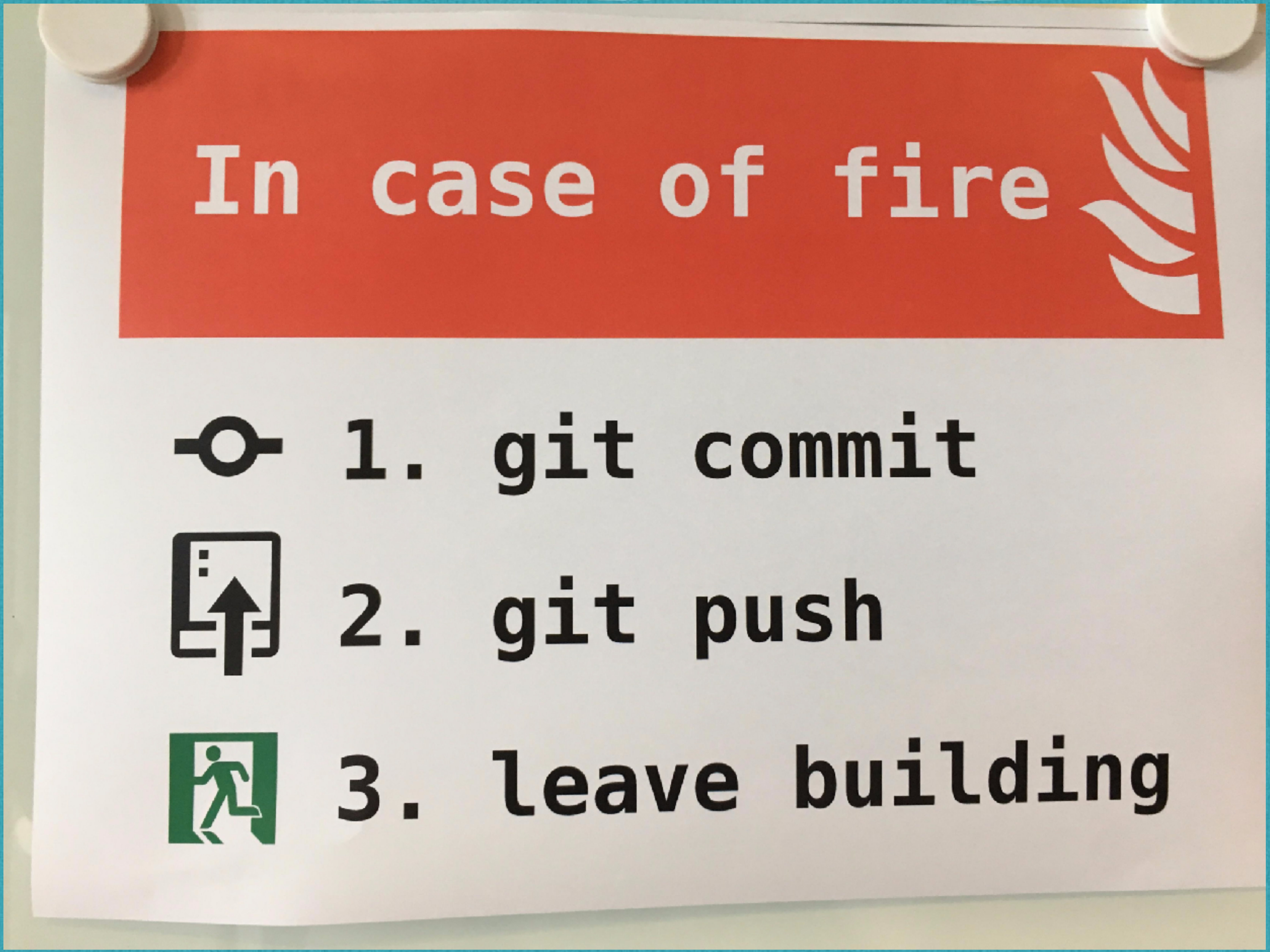
Library Project

Test Project

Nuspec file

Moving projects

1. Move project to GitHub.
2. Turn into a nuget package
3. Add the package & remove the project from solutions
4. Rinse & repeat until your dependencies are all packages

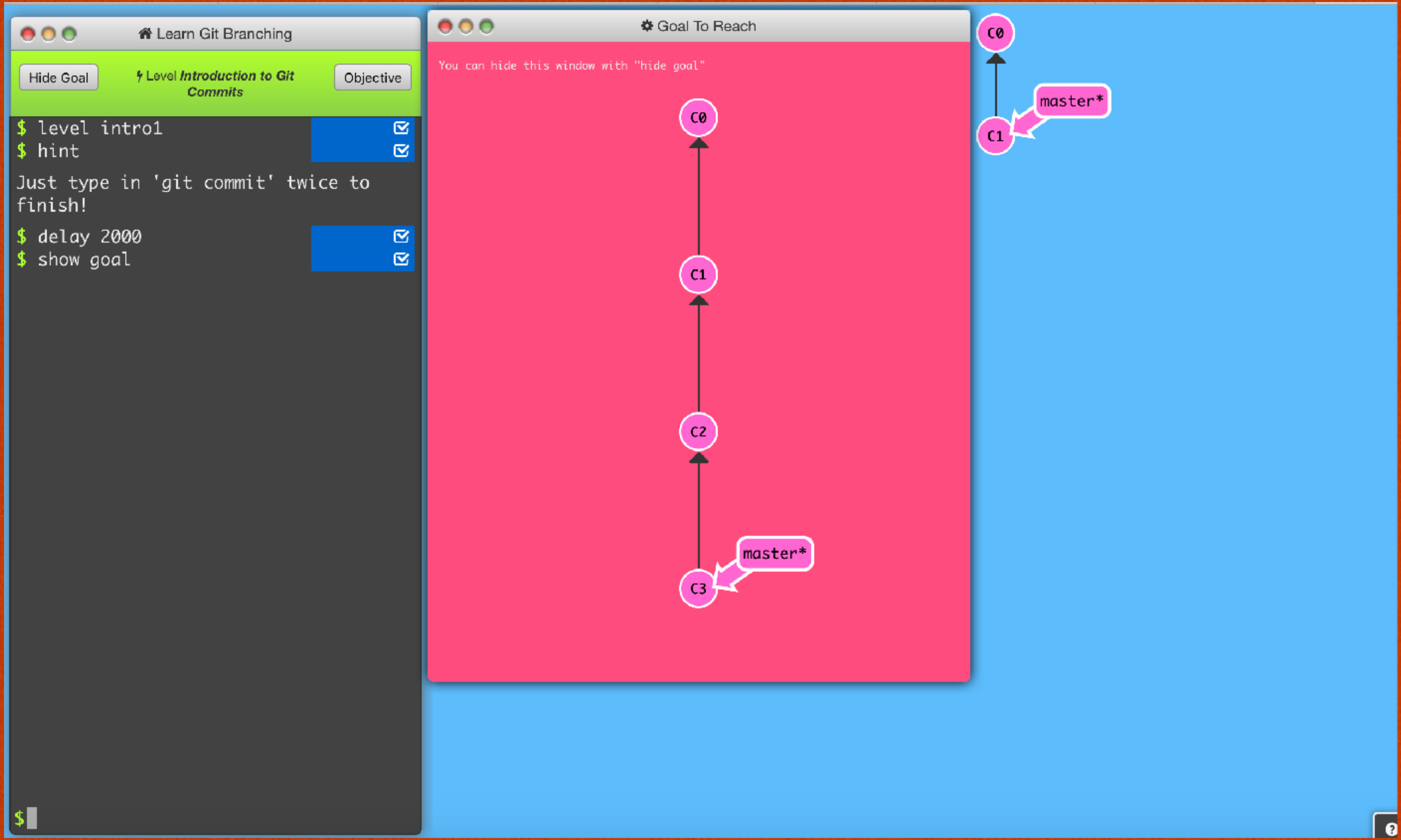


In case of fire

1. git commit
2. git push
3. leave building

The Learning Curve

- □ Migrate gradually
- □ Get people used to new source control. Practice makes perfect
- □ Don’t worry about moving everything



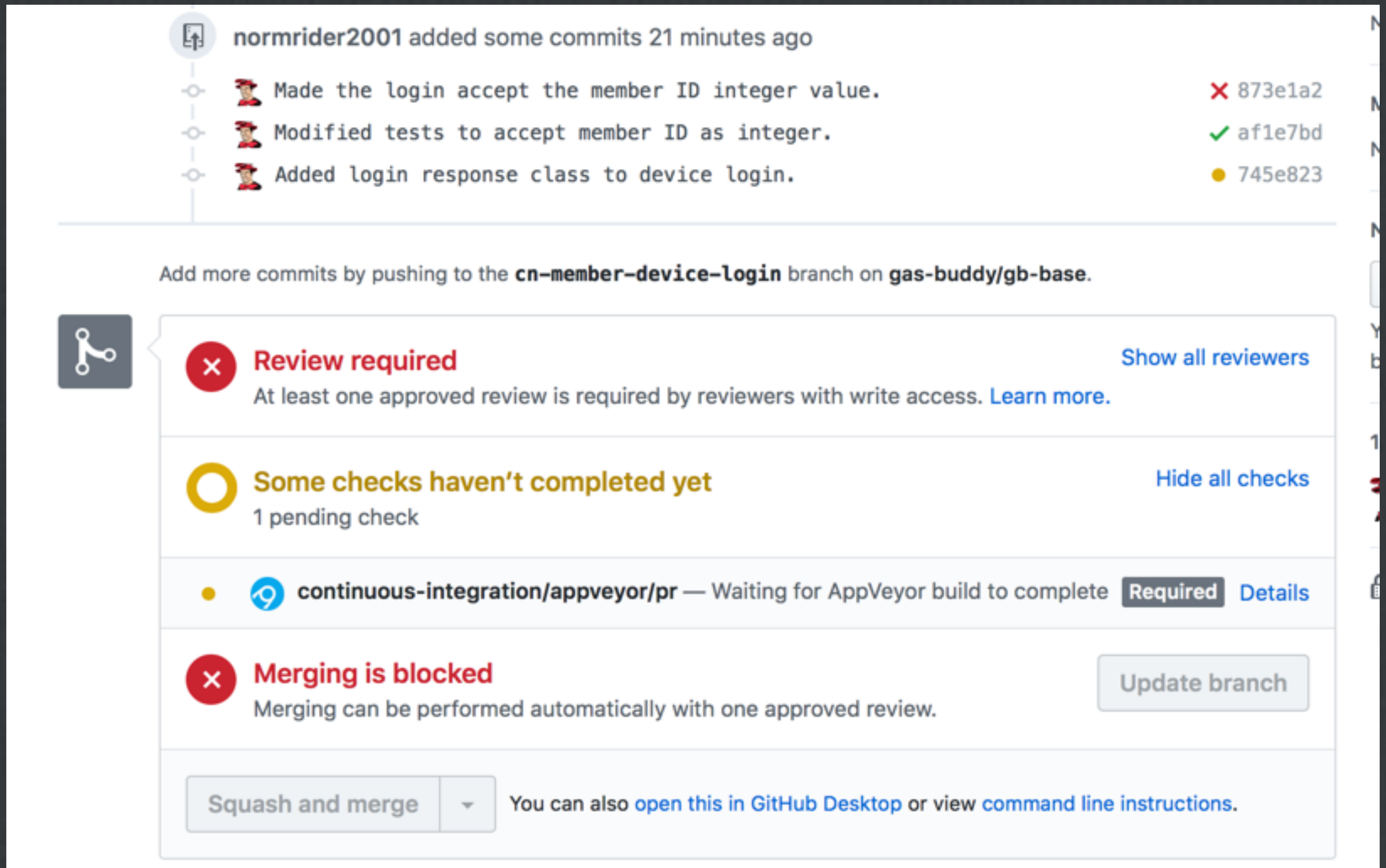
```
$ level intro1                ☑
$ hint                        ☑
Just type in 'git commit' twice to
finish!
$ delay 2000                  ☑
$ show goal                   ☑

$
```

You can hide this window with "hide goal"

http://learngitbranching.js.org

Benefits from GitHub



normrider2001 added some commits 21 minutes ago

- Made the login accept the member ID integer value. ✗ 873e1a2
- Modified tests to accept member ID as integer. ✓ af1e7bd
- Added login response class to device login. ● 745e823

Add more commits by pushing to the **cn-member-device-login** branch on **gas-buddy/gb-base**.

Review required Show all reviewers

At least one approved review is required by reviewers with write access. Learn more.

Some checks haven't completed yet Hide all checks

1 pending check

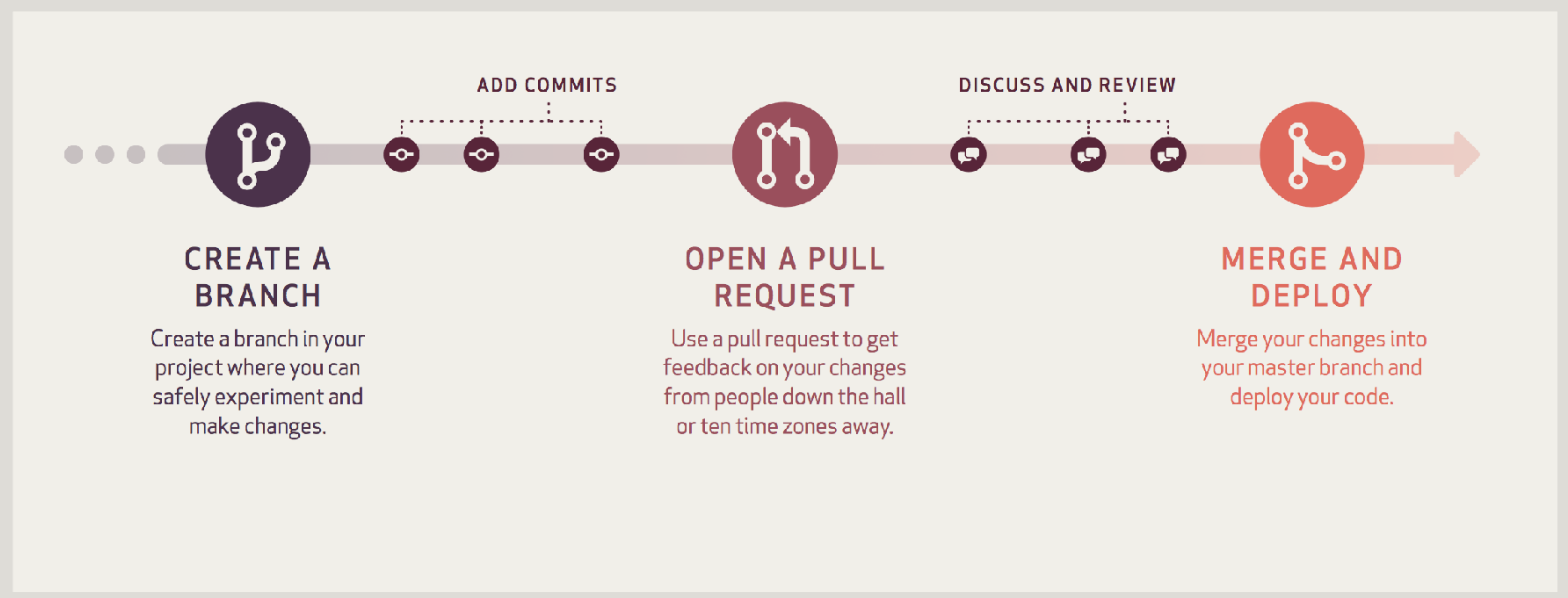
● **continuous-integration/appveyor/pr** — Waiting for AppVeyor build to complete Required Details

Merging is blocked Update branch

Merging can be performed automatically with one approved review.

Squash and merge ▾ You can also open this in GitHub Desktop or view command line instructions.

- ☐ Code Review part of the process
- ☐ Access to some great CI integrations
- ☐ Works with all languages



ADD COMMITS

DISCUSS AND REVIEW

CREATE A BRANCH

Create a branch in your project where you can safely experiment and make changes.

OPEN A PULL REQUEST

Use a pull request to get feedback on your changes from people down the hall or ten time zones away.

MERGE AND DEPLOY

Merge your changes into your master branch and deploy your code.

GitHub Flow

http://guides.github.com

Continous Integration Goals

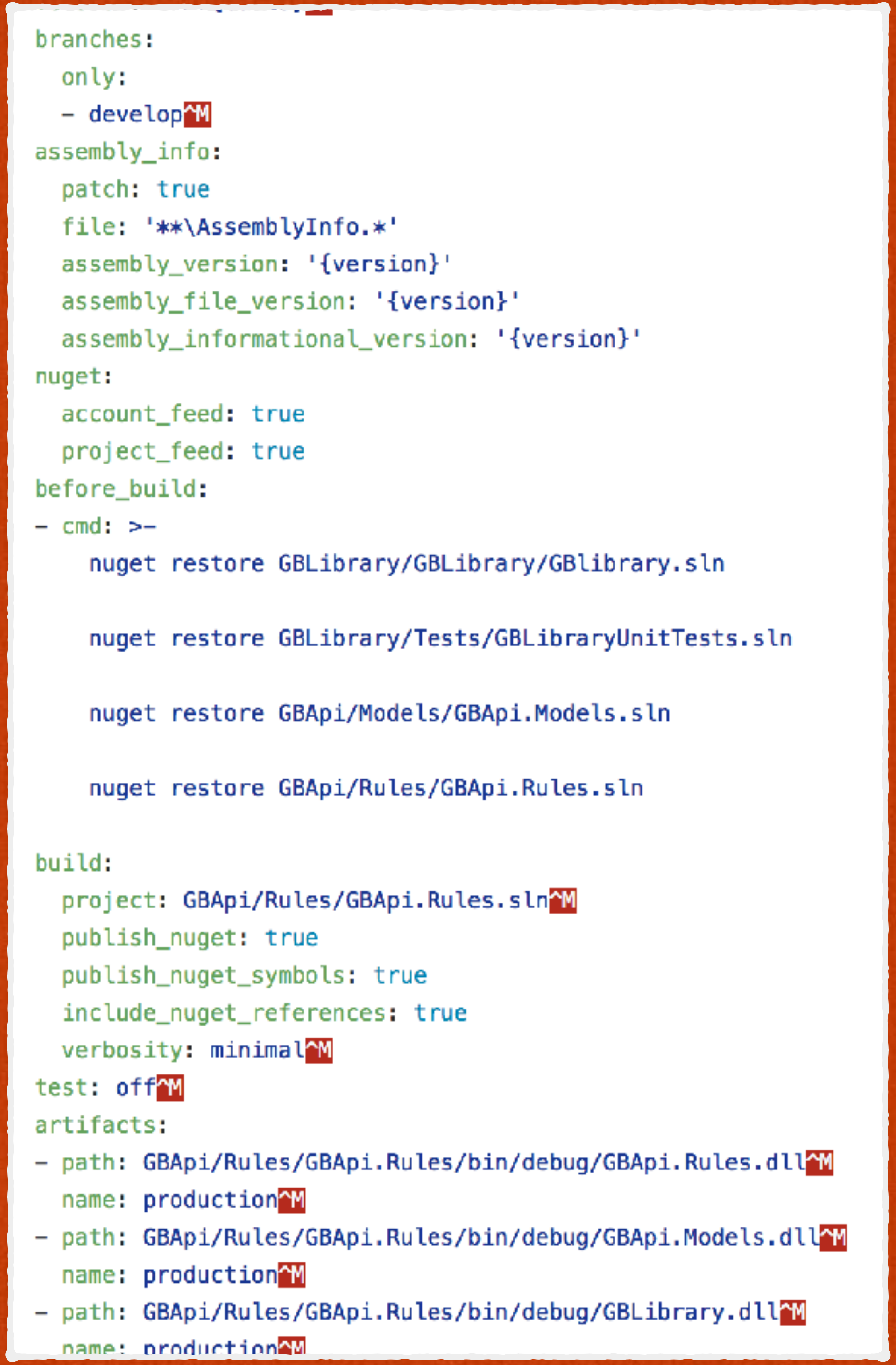
□ Clean builds to deploy. Deployment comes from master

□ Ensure commits don’t break build.

□ Ensure commits don’t break tests.

Appveyor.yml

Simple file to build your project



```
branches:
  only:
  - develop^M
assembly_info:
  patch: true
  file: '**\AssemblyInfo.*'
  assembly_version: '{version}'
  assembly_file_version: '{version}'
  assembly_informational_version: '{version}'
nuget:
  account_feed: true
  project_feed: true
before_build:
- cmd: >-
    nuget restore GBLibrary/GBLibrary/GBlibrary.sln

    nuget restore GBLibrary/Tests/GBLibraryUnitTests.sln

    nuget restore GBApi/Models/GBApi.Models.sln

    nuget restore GBApi/Rules/GBApi.Rules.sln

build:
  project: GBApi/Rules/GBApi.Rules.sln^M
  publish_nuget: true
  publish_nuget_symbols: true
  include_nuget_references: true
  verbosity: minimal^M
test: off^M
artifacts:
- path: GBApi/Rules/GBApi.Rules/bin/debug/GBApi.Rules.dll^M
  name: production^M
- path: GBApi/Rules/GBApi.Rules/bin/debug/GBApi.Models.dll^M
  name: production^M
- path: GBApi/Rules/GBApi.Rules/bin/debug/GBLibrary.dll^M
  name: production^M
```

Other Appveyor Benefits

- Hooks in with GitHub, BitBucket, Visual Studio Online and others
- Includes a private Nuget Repo
- You can include other dependencies on your build like SQL server

Deployment with Appveyor

- □ Deploy with SFTP, Web Deploy
- □ Builds stored in an Artifact
- □ You can run command or Powershell prior to building

Wercker

□ Deploy containers

□ Use a yamL file to build images / containers

□ Could work with dotnetcore

Questions

?

Recap

□ .Net projects may take special consideration to move

□ Moving is worth it. Terms of code review / culture

□ Specialized tools make CI easier