Control your GitHub releases with GitVersion and GitReleaseManager

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Agenda

- What is Semantic Versioning?

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- What branching strategy should I use?

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- What is GitVersion?
- Why do I need GitVersion?
- What is GitReleaseManager?
- Putting it all together...

What is Semantic Versioning?

A definition...

"...simple set of rules and requirements that dictate how version numbers are assigned and incremented. These rules are based on, but not necessarily limited to, pre-existing widespread common practices in use in both closed and open-source software."

The rules

Given a version number MAJOR.MINOR.PATCH, increment the:

- MAJOR version when you make incompatible API changes
- MINOR version when you add functionality in a backwards-compatible manner
- PATCH version when you make backwards-compatible bug fixes

Additional labels for pre-release and build metadata are available as extensions to the MAJOR.MINOR.PATCH format.

Examples

- 0.1.0

Examples

- 0.1.0
- 1.0.0

Examples

- 0.1.0
- 1.0.0
- 0.3.13

Examples

- 0.1.0
- 1.0.0
- 0.3.13
- 0.2.0-unstable3

Examples

- 0.1.0
- 1.0.0
- 0.3.13
- 0.2.0-unstable3
- 0.2.0-unstable.3+Branch.develop.Sha.e6eb071cd30974b80d7e237b85e7729a1d791e1e

What branching strategy should I use?

GitHub Flow

Create a branch

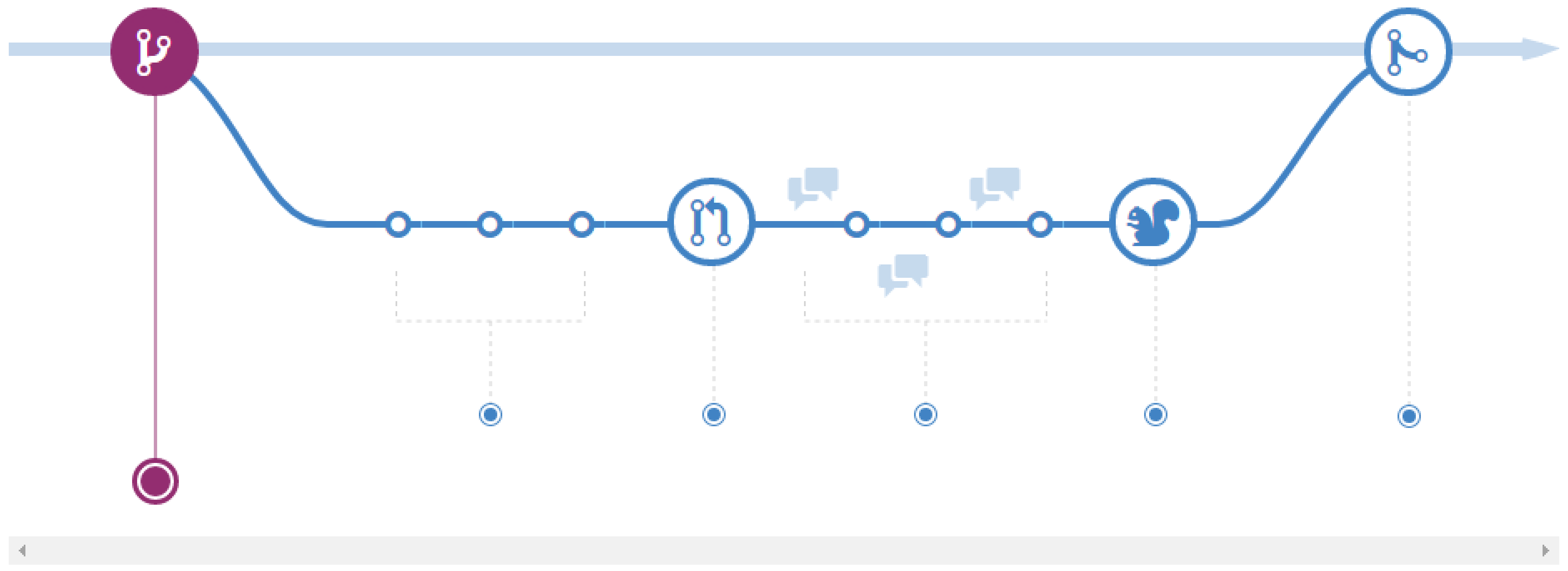


Image borrowed from the GitHub Flow Tutorial

Add commits

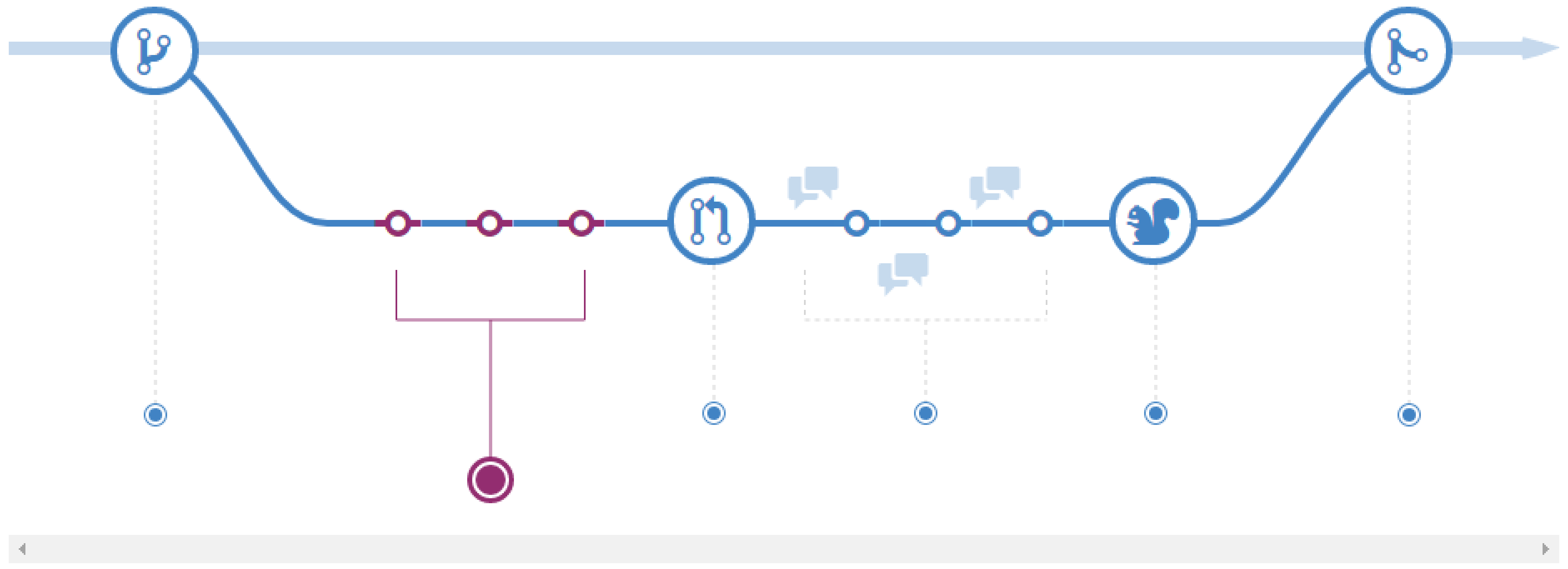


Image borrowed from the GitHub Flow Tutorial

Open a Pull Request

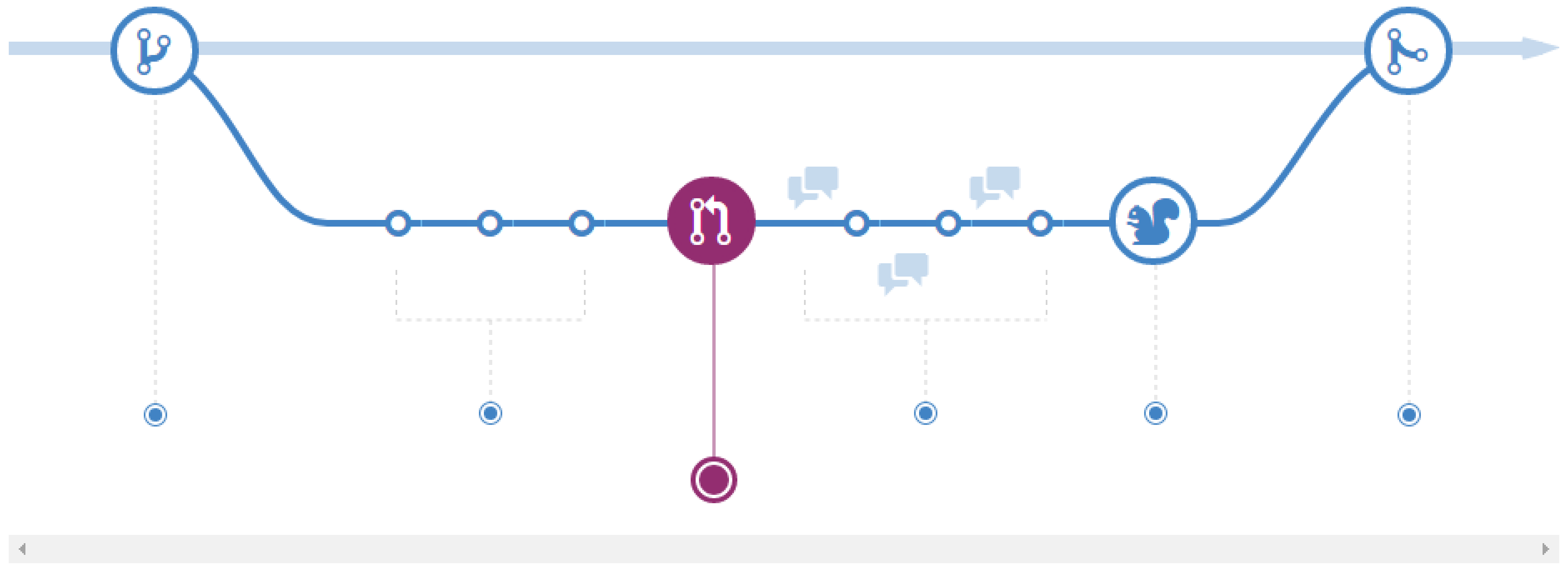


Image borrowed from the GitHub Flow Tutorial

Discuss and review your code

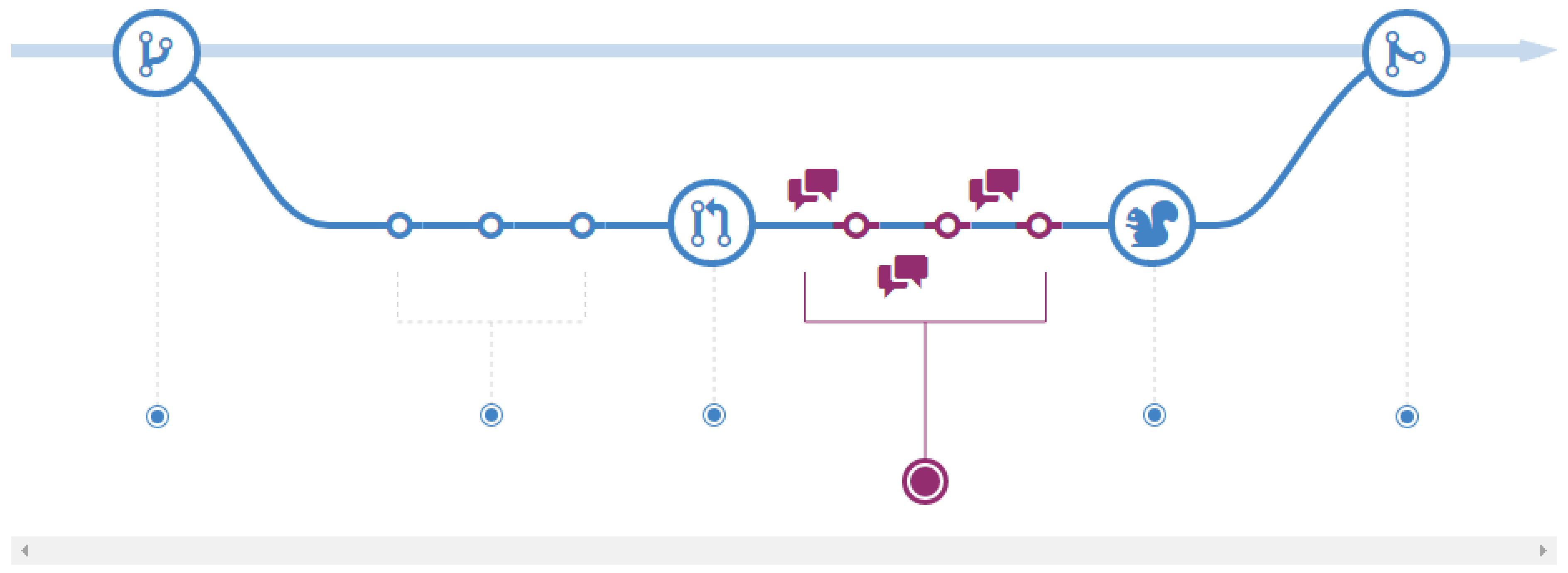


Image borrowed from the GitHub Flow Tutorial

Deploy

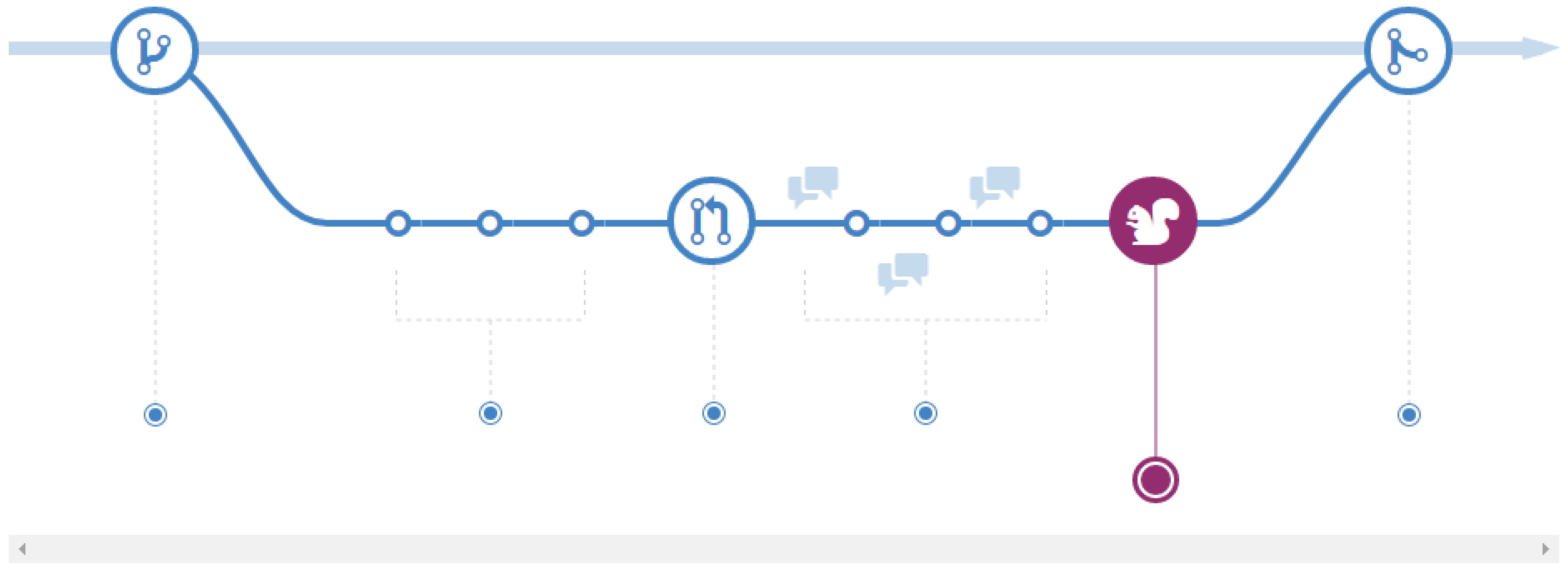


Image borrowed from the GitHub Flow Tutorial

Merge

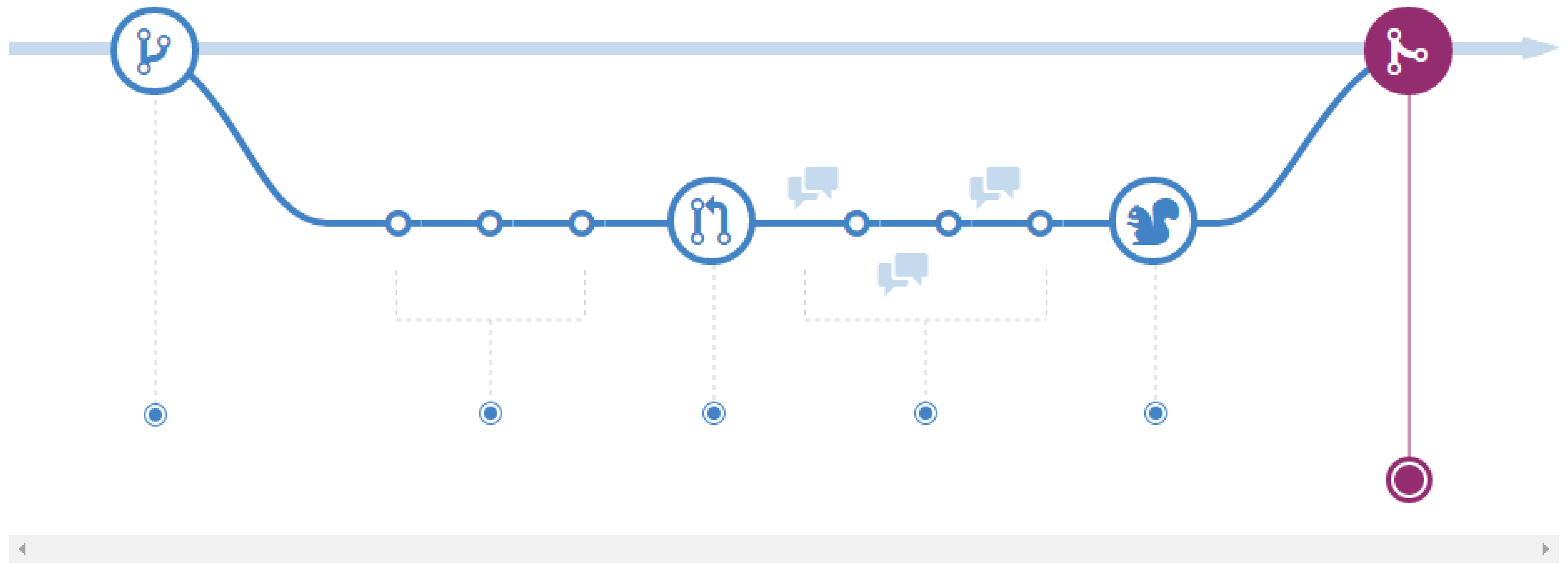


Image borrowed from the GitHub Flow Tutorial

GitFlow

Two Main Branches

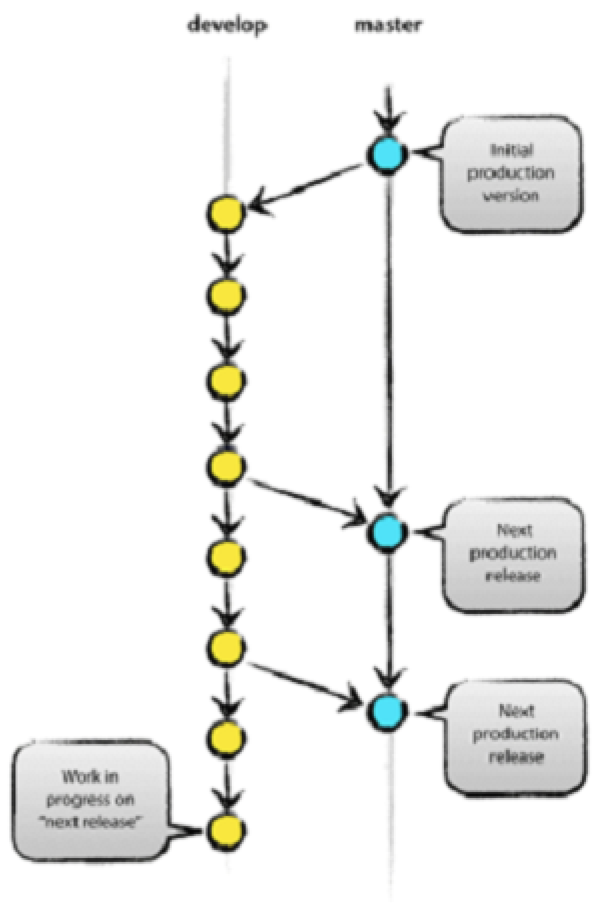

develop
master
Initial production version
Next production release
Next production release
Work in progress on "next release"

Image borrowed from the A successful Git branching model blog post

Feature Branches

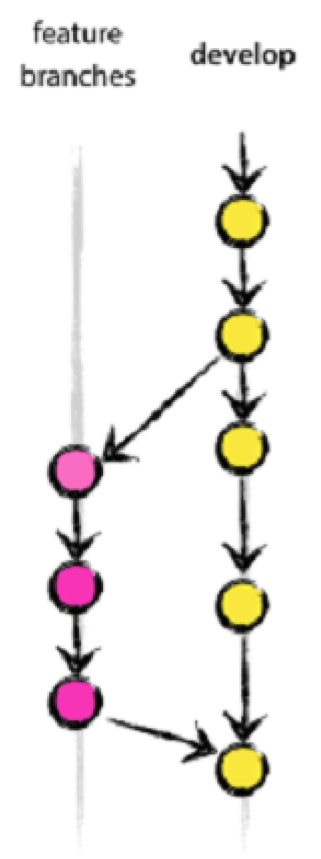


Image borrowed from the A successful Git branching model blog post

Hotfix Branches

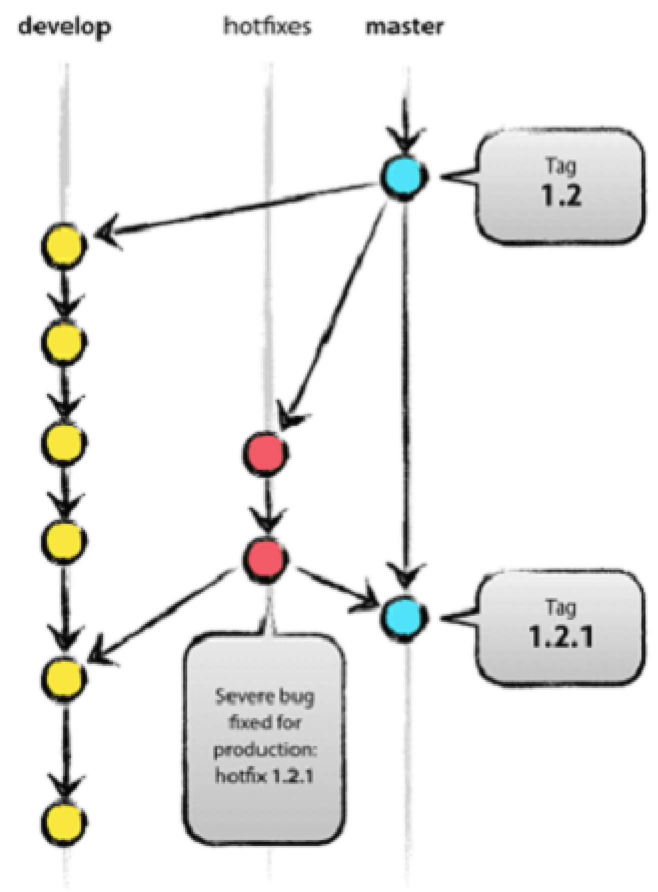


Image borrowed from the A successful Git branching model blog post

Overview

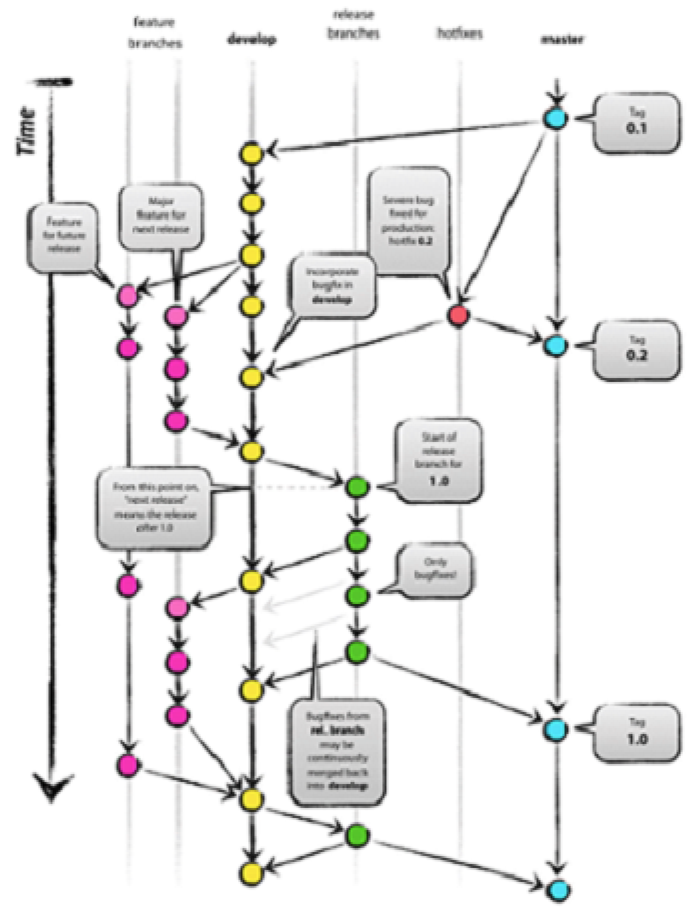

feature branches
develop
release branches
hotfixes
master
Time
Tag 0.1
Major feature for next release
Feature for future release
Severe bug fixed for production: hotfix 0.2
Incorporate bugfix in develop
Tag 0.2
Start of release branch for 1.0
From this point on, "next release" means the release after 1.0
Only bugfixes!
Bugfixes from rel. branch may be continuously merged back into develop
Tag 1.0

Image borrowed from the A successful Git branching model blog post

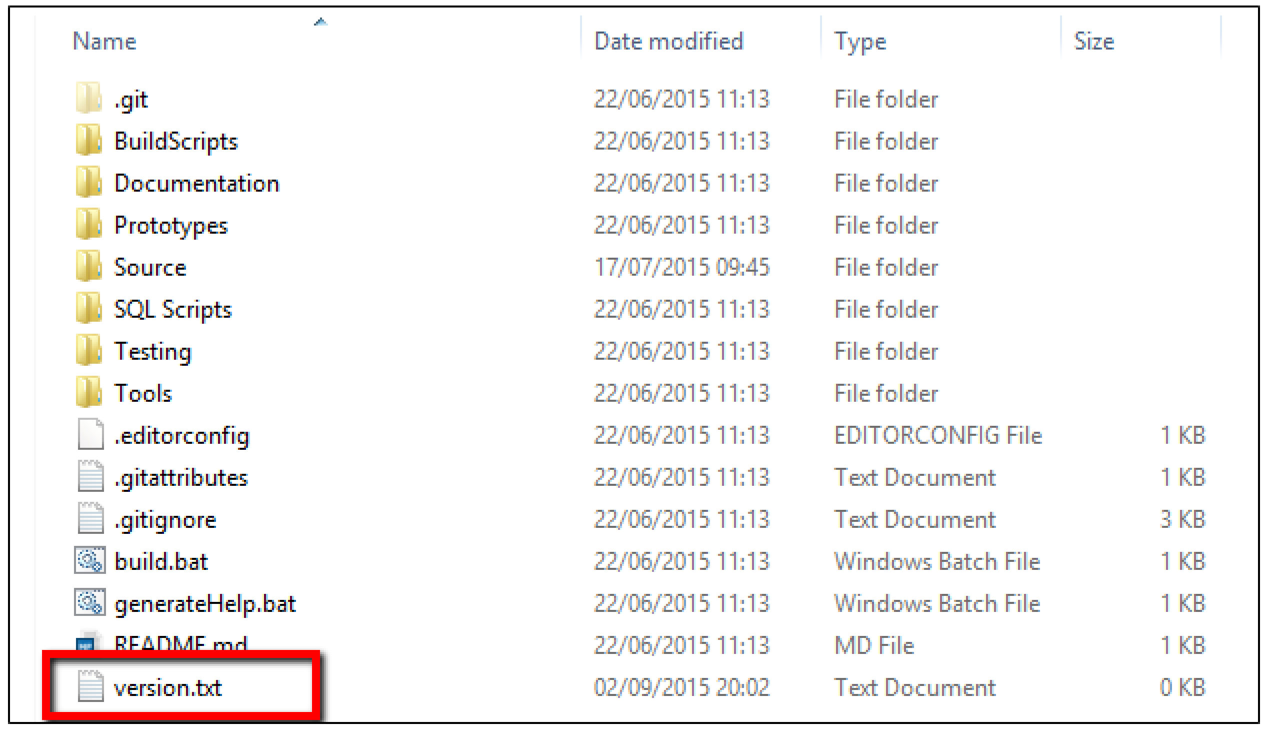
What is GitVersion?

A defintion...

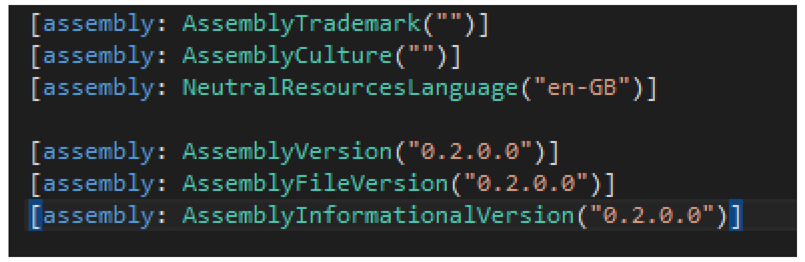
"...is a tool to help you achieve Semantic Versioning on your project."

Ok, but really, what is it?

Why do I need GitVersion?

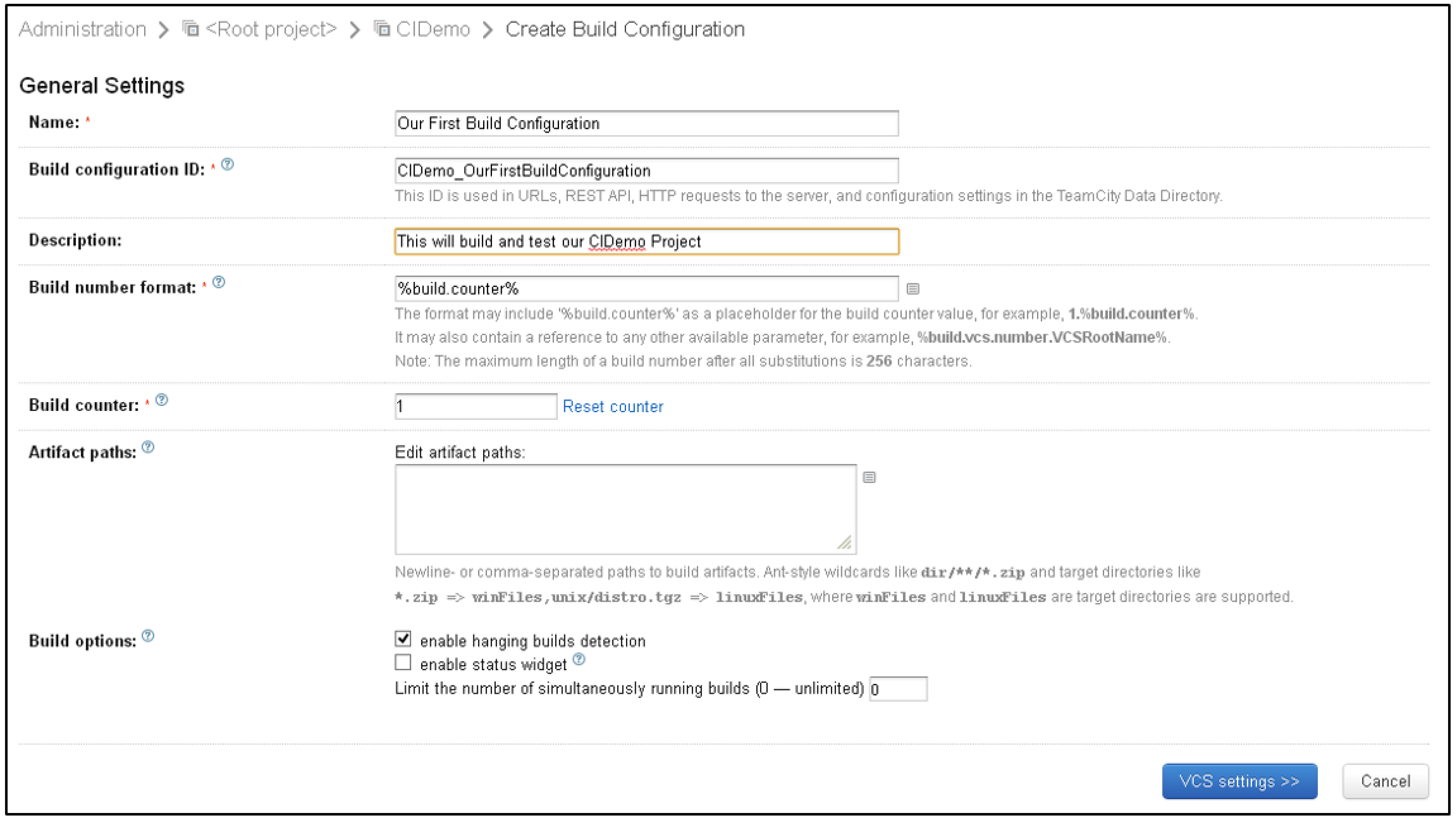


Name	Date modified	Type	Size
.git	22/06/2015 11:13	File folder	
BuildScripts	22/06/2015 11:13	File folder	
Documentation	22/06/2015 11:13	File folder	
Prototypes	22/06/2015 11:13	File folder	
Source	17/07/2015 09:45	File folder	
SQL Scripts	22/06/2015 11:13	File folder	
Testing	22/06/2015 11:13	File folder	
Tools	22/06/2015 11:13	File folder	
.editorconfig	22/06/2015 11:13	EDITORCONFIG File	1 KB
.gitattributes	22/06/2015 11:13	Text Document	1 KB
.gitignore	22/06/2015 11:13	Text Document	3 KB
build.bat	22/06/2015 11:13	Windows Batch File	1 KB
generateHelp.bat	22/06/2015 11:13	Windows Batch File	1 KB
README.md	22/06/2015 11:13	MD File	1 KB
version.txt	02/09/2015 20:02	Text Document	0 KB



```
[assembly: AssemblyTrademark("")]
[assembly: AssemblyCulture("")]
[assembly: NeutralResourcesLanguage("en-GB")]

[assembly: AssemblyVersion("0.2.0.0")]
[assembly: AssemblyFileVersion("0.2.0.0")]
[assembly: AssemblyInformationalVersion("0.2.0.0")]
```


Administration > <Root project> > CIDemo > Create Build Configuration

General Settings

Name: *	Our First Build Configuration
Build configuration ID: *	CIDemo_OurFirstBuildConfiguration This ID is used in URLs, REST API, HTTP requests to the server, and configuration settings in the TeamCity Data Directory.
Description:	This will build and test our CIDemo Project
Build number format: *	%build.counter% The format may include '%build.counter%' as a placeholder for the build counter value, for example, **1.%build.counter%**. It may also contain a reference to any other available parameter, for example, **%build.vcs.number.VCSRootName%**. Note: The maximum length of a build number after all substitutions is **256** characters.
Build counter: *	1 Reset counter
Artifact paths:	Edit artifact paths: Newline- or comma-separated paths to build artifacts. Ant-style wildcards like `dir/**/*.zip` and target directories like `*.zip => winFiles,unix/distro.tgz => linuxFiles`, where `winFiles` and `linuxFiles` are target directories are supported.
Build options:	☑ enable hanging builds detection ☐ enable status widget Limit the number of simultaneously running builds (0 — unlimited) 0

?

What is GitReleaseManager?

A definition...

"...is a tool that will help create a set of release notes for your application/product. It does this using the collection of issues which are stored on the GitHub Issue Tracker for your application/product."

Ok, but really, what is it?

Putting it all together…

Demo

Questions?

Feel free to get in touch

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DAI

Thank you!

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Resources

- GitVersion Documentation
  - http://gitversion.readthedocs.org/en/latest/
- .Net Rocks Episode with Jake Ginnivan
  - https://www.dotnetrocks.com/default.aspx?showNum=1178
- Git Branching Strategies
  - https://www.atlassian.com/git/tutorials/comparing-workflows
- GitFlow
  - http://nvie.com/posts/a-successful-git-branching-model/