

Tips & Tricks for Effective GitHub Project Management

BY DANIEL COSTANTIN



Before I Begin

The views and opinions expressed in this presentation are that of my own and do not reflect that of my employers (past and present).

This presentation is based on my own experience, research and experimentation.



Who am I?

- Daniel Costantin
- Industry Experience
 - Tech Architecture Specialist at Accenture (1 year and 10 months)
 - Senior Platform Engineer at Harvest Technology (1 year and 5 months)
 - Senior Associate at PricewaterhouseCoopers Australia (5 years)
 - Casual Academic (tutor) at Edith Cowan University (2 years)
- Education
 - Master of Cyber Security – Edith Cowan University
 - Bachelor of Commerce (Business Information Technology and Systems) – Curtin University



Who am I? (Continued)

Cloud Focused



Cyber Security
Focused



Presentation Overview

1. Planning and Communication
2. Project Management Strategies
3. Team Standards
4. Git and Project Management Platforms
5. Git Strategies
6. GitHub Actions
7. Demonstration



What this Presentation Will Cover

Non-Technical GitHub Strategies

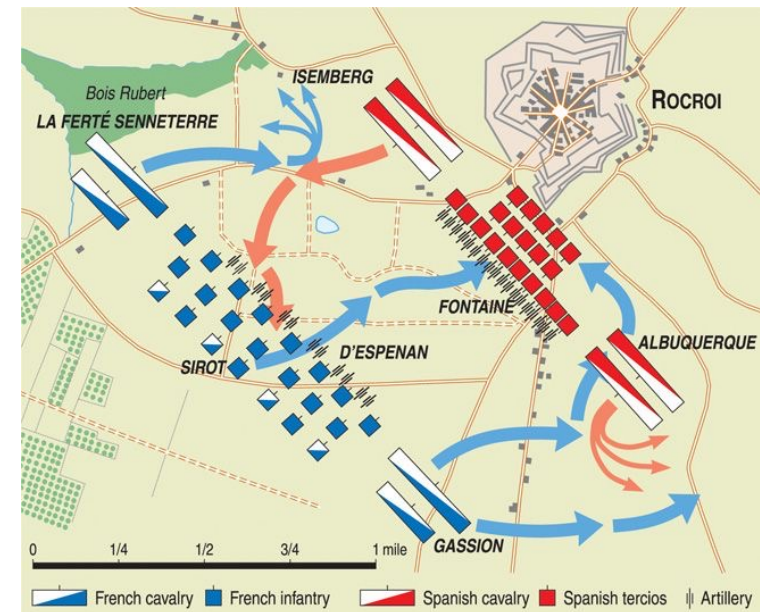


Technical GitHub Strategies



Project Planning

- By far the most important thing
- Most common thing that is overlooked
- Without proper planning, your project will fail!

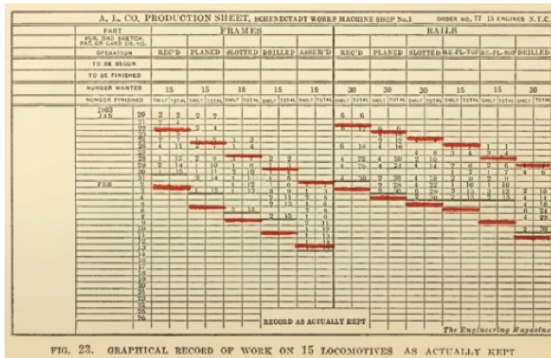


Team Collaboration

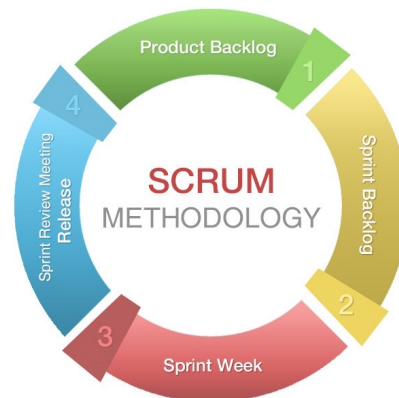
- Communicate, communicate, communicate!
- Don't be afraid to ask for help / clarification
- This also includes communicating with your customer



Project Management Strategies



Traditional



Scrum

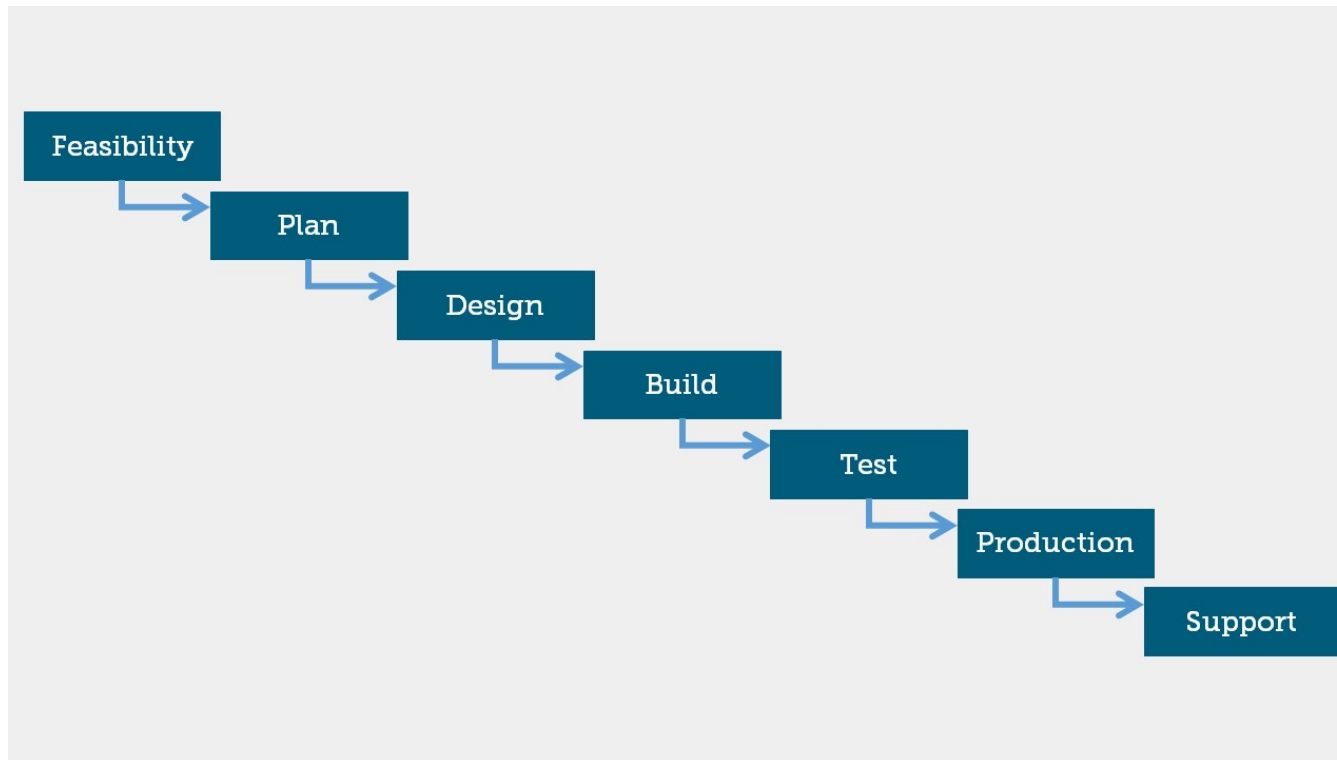


Agile

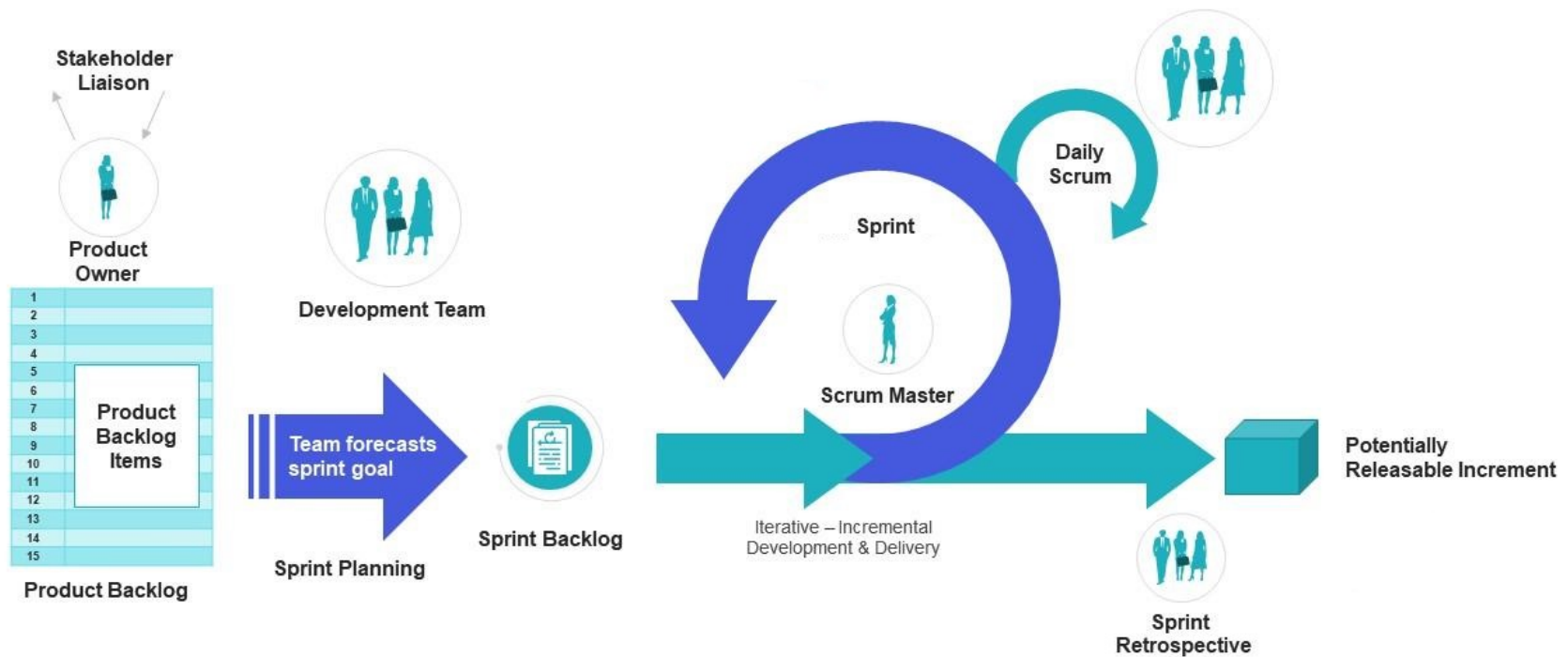
Traditional (Waterfall) Approach



Traditional (Waterfall) Approach



Scrum Methodology



Agile Philosophy

- Most project managers don't fully understand Agile
- Incorrectly used in the industry
- It is a philosophy, not a methodology!



Agile VS Waterfall

Agile

- Individuals and interactions
- Working software
- Customer collaboration
- Responding to change

Waterfall / Traditional

- Processes and tools
- Comprehensive documentation
- Contract negotiation
- Following a plan

Important Links



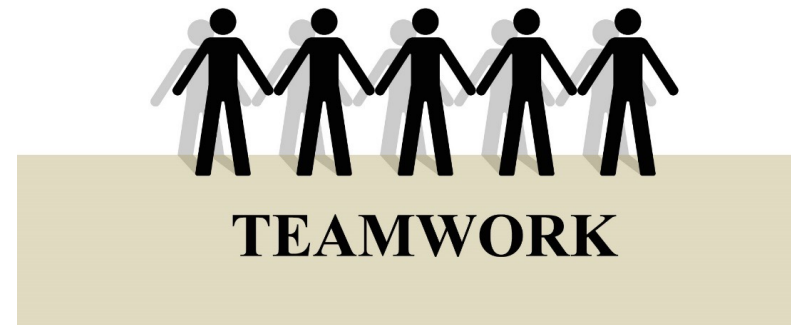
Amazon
Leadership
Principles



Manifesto for
Agile Software
Development

Working as a Team

- Managing a project is one thing
- Effectively working together as a team can be a completely different challenge

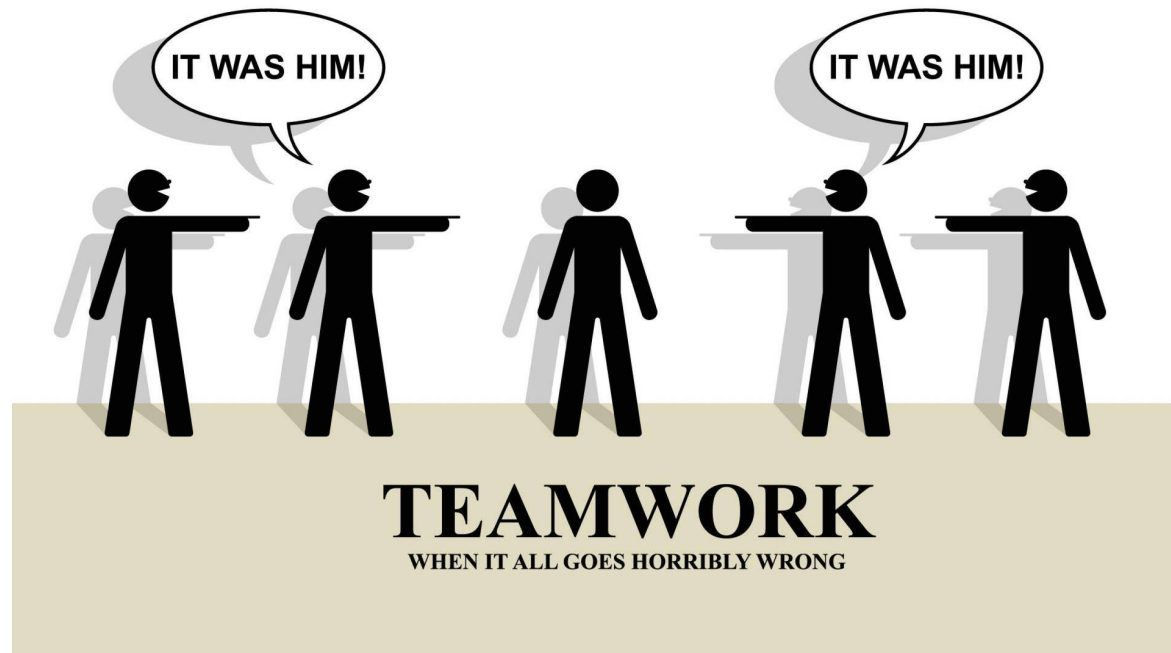


Working as an Effective Team



“If you want
to go fast, go
alone. If you
want to go far,
go together”

When it all Goes Wrong



Did You Sign the Contract?

- How many of you have discussed a team contract?
- Not required for team projects, but can be very helpful when people don't perform



Git Platforms



Managing Your Project



Example Jira Board – During Scrum



Teams in Space

Classic software project

Scrum: Teams in S...

Board

Roadmap

Backlog

Active sprints

Reports

Issues

Components

Releases

Project pages

Add item

Project settings

Board

Release

Quick Filters

TO DO 5

Engage Jupiter Express for
outer solar system travel

SPACE TRAVEL PARTNERS

5 TIS-25

Create 90 day plans for all
departments in the Mars Office

LOCAL MARS OFFICE

9 TIS-12

Engage Saturn's Rings Resort
as a preferred provider

SPACE TRAVEL PARTNERS

3 TIS-17

Enable Speedy SpaceCraft
as the preferred

IN PROGRESS 5

Requesting available flights
is now taking > 5 seconds

SEESPACEEZ PLUS

3 TIS-8

Engage Saturn Shuttle Lines
for group tours

SPACE TRAVEL PARTNERS

4 TIS-15

Establish a catering vendor
to provide meal service

LOCAL MARS OFFICE

4 TIS-15

Engage Saturn Shuttle Lines
for group tours

CODE REVIEW 2

Register with the Mars
Ministry of Revenue

LOCAL MARS OFFICE

3 TIS-11

Draft network plan for Mars
Office

LOCAL MARS OFFICE

3 TIS-15

DONE 8

Homepage footer uses an
inline style - should use a class

LARGE TEAM SUPPORT

68 TIS-68

Engage JetShuttle
SpaceWays for travel

SPACE TRAVEL PARTNERS

5 TIS-23

Engage Saturn Shuttle Lines
for group tours

SPACE TRAVEL PARTNERS

1 TIS-15

Establish a catering vendor
to provide meal service

Example Jira Board – Backlog



SAFe Team A Scrum

Board ▾

Backlog

🔍

QUICK FILTERS: Only My Issues Recently Updated

Team A Sprint 17 issuesACTIVE15920

19/May/16 2:03 PM • 02/Jun/16 2:03 PM

Linked pages

		STMA-1 Team A Story 1	1.0 - Team A	SAFe Epic 11		15
		STMA-2 Team A Story 2	1.0 - Team A	SAFe Epic 11		12
		STMA-6 Team A Story 6	1.0 - Team A	SAFe Epic 10		25
		STMA-7 Team A Story 7	1.0 - Team A	SAFe Epic 4		9
		STMA-5 Team A Story 5	1.0 - Team A	SAFe Epic 5		12
		STMA-4 Team A Story 4	1.0 - Team A	SAFe Epic 5		15
		STMA-3 Team A Story 3	1.0 - Team A	SAFe Epic 6		19

Team A Sprint 23 issues

Start Sprint

Linked pages

		STMA-8 Team A Story 8	1.0 - Team A	SAFe Epic 2		15
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SAFe Team A / STMA-2

Team A Story 2

Estimate: 12

Structure

SAFe Overview

Key	Summary
	Portfolio Overview
SPF-3	SAFe 1
SPR-11	S
STMA-2	

4 items

Open Info

Example Trello Board



Trello

WorkspacesRecentStarredTemplatesCreate

Search

AutomationFilterShow menu

BoardKanban TemplateBOBSTANKE.COMWorkspace visibleInvite

Backlog

Backlog

Backlog

[Example task]

+ Add a card

Design

Design

Design & Research

[Example task with designs]

+ Add a card

To Do

To-Do

To Do

+ Add a card

Doing

Doing

Doing

[Example task]

+ Add a card

Code Review

Code Review

Code Review

This list has the List Limits Power-up enabled, to help the team prioritize and remove bottlenecks before picking up new work. The list will be highlighted if the number of cards in it passes the limit that the team determines based on team size.

[Example task]

[Example task]

+ Add a card



Example GitHub Projects Board – Standup



OctoArcade Invaders



The Plan

Game loop Backlog

Standup

+ New view

Not Started 🕒 3

- OctoArcade #10
Integrate with Leaderboard Service
[Need help](#)
- OctoArcade #183
Interviews with media outlets
- OctoArcade #45
Save score across levels

Planning 🗓️ 3

- OctoArcade #42
Creative design update to aliens for variety
- OctoArcade #79
Alpha go-no-go meeting
- OctoArcade #12
Easter egg with high score unlocking a new paid level on map 8

Building 🛠️ 4

- OctoArcade #19
Updates to alien, beam, and cannon sprites
[Design](#)
- OctoArcade #3
New start screen and multiplayer selection
- OctoArcade #38
Updates to velocity of the ship and alien movements
[Bug](#)
- OctoArcade #17
Update to collision logic
[Bug](#)

Complete ✅ 3

- OctoArcade #56
Game brief and go-no-go
- OctoArcade #21
Engine prototype (physics, rendering)
[Need help](#)
- OctoArcade #31
Initial concept art

Example GitHub Projects Board – The Plan



🐙 OctoArcade Invaders



The Plan ▾

Game loop Backlog

Standup

+ New view

≡	Title	⋮	Team	⋮	Status	⋮	Assignees	⋮	Milestones	▾	+
▼	Prototype 🚧 3										
1	✓ Game brief and go-no-go		Producers 🎬	▾	Complete ✓	▾	preciselyalys	▾	Prototype 🚧	▾	
2	✓ Engine prototype (physics, rendering)		Engine ⚙️	▾	Complete ✓	▾	mariorod and pm	▾	Prototype 🚧	▾	
3	✓ Initial concept art		Art 🌈	▾	Complete ✓	▾	pmarsceill	▾	Prototype 🚧	▾	
+ Add item											
▼	Beta 🌱 5										
4	🔄 Integrate with Leaderboard Service		Game Loop 📈	▾	Not Started ⌚	▾	chiedo	▾	Beta 🌱	▾	
5	🔄 Creative design update to aliens for variety		Art 🌈	▾	Planning 📅	▾	ajashams	▾	Beta 🌱	▾	
6	🔧 Updates to alien, beam, and cannon sprites		Art 🌈	▾	Building 🏗️	▾	mkwng	▾	Beta 🌱	▾	
7	🔄 Update to collision logic		Engine ⚙️	▾	Building 🏗️	▾	mdo	▾	Beta 🌱	▾	
8	🔄 Improve alien respawn rate		Game Loop 📈	▾	Behind ▶️	▾	mattjohnlee	▾	Beta 🌱	▾	
+ Add item											
▼	Launch 🚀 6										
9	🔄 Interviews with media outlets		Producers 🎬	▾	Not Started ⌚	▾	mariorod	▾	Launch 🚀	▾	
10	🔄 Save score across levels		Game Loop 📈	▾	Not Started ⌚	▾	pmarsceill	▾	Launch 🚀	▾	

Helpful Links



About GitHub
Projects



The Dev Board



The KANBAN
Board



Build a
Barker MVP



35 Example
Trello Boards

How Standard is Your Team?

- Another important thing to consider before and during your project
- Make sure you adhere to them
- Add controls and processes to ensure you are following them



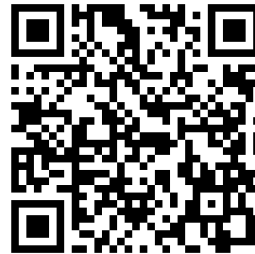
Coding Standards



C Standards



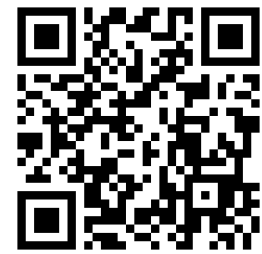
C# Standards



C++ Standards



Node.js
Standards



Python
Standards

Can We all Agree to Commit?

- Did you know, there are standards for git commit messages as well?
- Proper git commit messages can help when:
 - Reviewing or retrieving old versions of code
 - Reviewing other developers code



	COMMENT	DATE
○	CREATED MAIN LOOP & TIMING CONTROL	14 HOURS AGO
○	ENABLED CONFIG FILE PARSING	9 HOURS AGO
○	MISC BUGFIXES	5 HOURS AGO
○	CODE ADDITIONS/EDITS	4 HOURS AGO
○	MORE CODE	4 HOURS AGO
○	HERE HAVE CODE	4 HOURS AGO
○	AAAAAAA	3 HOURS AGO
○	ADKFJSLKDFJSDKLFJ	3 HOURS AGO
○	MY HANDS ARE TYPING WORDS	2 HOURS AGO
○	HAAAAAAAANDS	2 HOURS AGO

AS A PROJECT DRAGS ON, MY GIT COMMIT MESSAGES GET LESS AND LESS INFORMATIVE.

Examples of Good Commit Messages

- `git commit -m "Added tax calculation function"`
- `git commit -m "Added tax calculation unit tests"`
- `git commit -m "Imported common libraries"`
- `git commit -m "Fixed logic evaluation bug"`
- `git commit -m "feat: example hello world api endpoint"`
- `git commit -m "feat(1234): added authentication logic to api endpoint"`
- `git commit -m "documentation(5432): added docker build and run commands"`

Examples of Bad Commit Messages

- `git commit -m "added stuff"`
- `git commit -m "test"`
- `git commit -m "test"`
- `git commit -m "test"`
- `git commit -m "a"`
- `git commit -m "b"`
- `git commit -m "c"`
- `git commit -m ""`

Git Standards References



Amazon Web
Services GitHub
Repositories



Conventional
Commits



Git commit
message
convention



Microsoft GitHub
Repositories

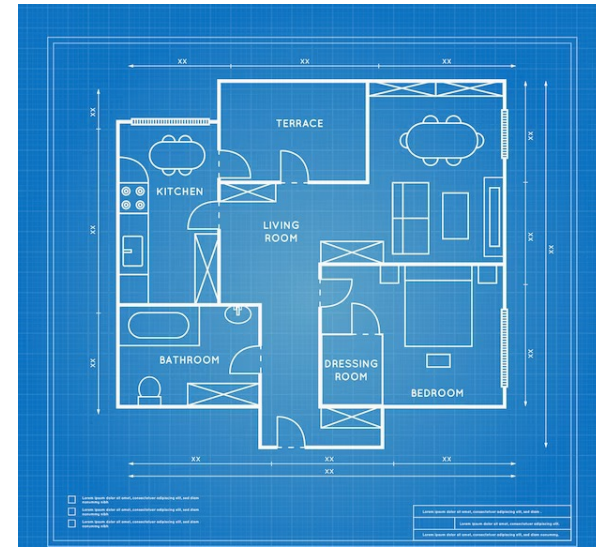
Do you have a Code Review Process?

- What checks (if any) will you include in pull requests?
- What merge rules (if any) will you include in pull requests?
- Do all pull requests need to be reviewed or only certain branches?
- What if a developer is not familiar with a particular language? What happens to approvals?
- Is there a process if you need to merge a pull request immediately?



GitHub Issue and Pull Request Templates

- Did you know, you can create custom templates for Issues and Pull Requests?
- Makes it easier for all developers to follow the same style / format when creating Pull Requests or reporting Issues





Example Pull Request Template



Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#).

 base: master ◯ ← compare: feat-sheet-modal ◯ ✓ **Able to merge.** These branches can be automatically merged.



Feat sheet modal

Write

Preview


H B I ≡ <> 🔗 ≡ ≡ ☑ @ ↗ ↶

<!-- Please refer to our contributing documentation for any questions on submitting a pull request, or let us know here if you need any help: <https://ionicframework.com/docs/building/contributing> -->


Pull request checklist

Please check if your PR fulfills the following requirements:

- ☐ Tests for the changes have been added (for bug fixes / features)
- ☐ Docs have been reviewed and added / updated if needed (for bug fixes / features)
- ☐ Build (``npm run build``) was run locally and any changes were pushed

Attach files by dragging & dropping, selecting or pasting them. 

Create pull request ◯

 Remember, contributions to this repository should follow its [contributing guidelines](#) and [code of conduct](#).

Example Issues Template – Part 1





Bug report

Report an issue with ESLint or rules bundled with ESLint

Get started



Non-rule change request

Request a change that is not a bug fix, rule change, or new rule

Get started



New rule proposal

Propose a new rule to be added to ESLint

Get started



Question

Please go to <https://gitter.im/eslint/eslint>

Get started



Rule change request

Request a change to an existing rule

Get started



Security issue

Please file security issues at <https://hackerone.com/eslint>

Get started

Don't see your issue here? [Open a regular issue.](#)

Example Issues Template – Part 2



Template name



Bug report

 This file lives in **bug_report.md**

About

Used to submit bugs and things that appear broken in ZenHub|

Template content

 Styling with Markdown is supported

****Describe the bug****

A clear and concise description of what the bug is.

****To Reproduce****

Steps to reproduce the behavior:

1. Go to '...'
2. Click on '...'
3. Scroll down to '...'
4. See error

Creating GitHub Templates



Configuring
GitHub Issue
Templates



Configuring
GitHub Pull
Request
Templates

Git with the Flow

- Provides better control over your code
- Two ways to do this:
 - Gitflow
 - Trunk based
- Very important to your health and sanity





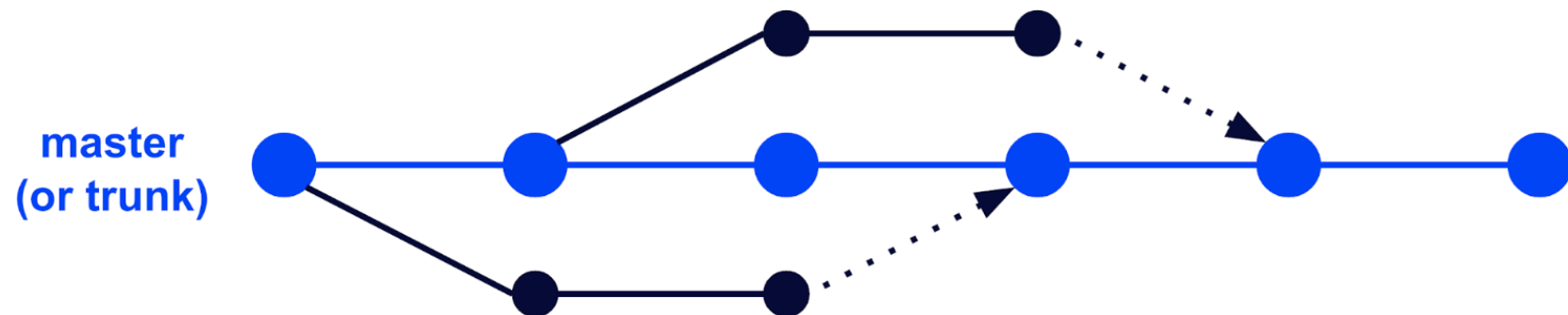
Gitflow 101



Animated
Gitflow



Trunk Based Development



Additional Git Branches

- bugfix/
 - documentation/
 - emergency/
 - experimental/
 - feature/
 - hotfix/
 - security/
-
- You can use whatever you like, but you must agree as a team on what branch names to use and their purpose



Examples of Good Branches

- `git checkout -b feature/upload-profile-picture`
- `git checkout -b feature/containerise-application`
- `git checkout -b bugfix/json-parsing-issue`
- `git checkout -b release/codename-alpha`
- `git checkout -b hotfix/incorrectly-declared-class`
- `git checkout -b experimental/additional-encryption-ciphers`
- `git checkout -b refactor/authentication-evaluation`
- `git checkout -b documentation/pipeline-instructions`

Examples of Good Branches (Continued)

- `git checkout -b feature/ID-1234/add-product-api`
- `git checkout -b feature/ID-5432/list-product-api`

- `git checkout -b feature/backend/pipeline`
- `git checkout -b feature/backend/database`
- `git checkout -b feature/backend/password-store`
- `git checkout -b feature/frontend/main-website`
- `git checkout -b feature/frontend/store-page`

Examples of Bad Branches

- `git checkout -b stuff`
- `git checkout -b stuff2`
- `git checkout -b test`
- `git checkout -b feature/implement-iso-compliance-control-page-10-control-27`

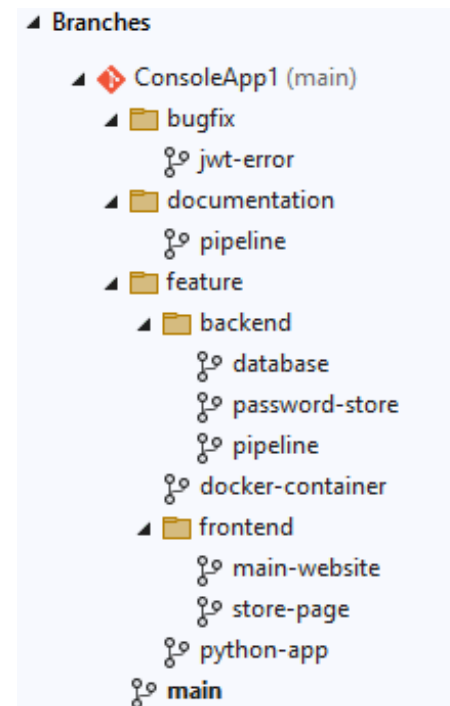
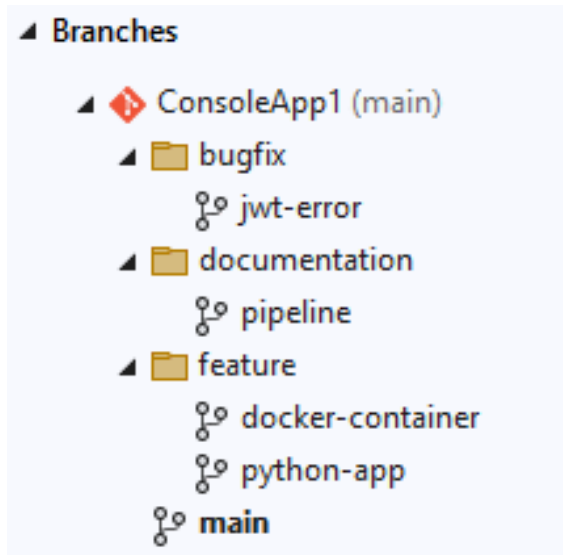
Git Branches in Linux Terminal



Git Branch in
Linux
Terminal

```
Terminal
~$ cd workspaces/my_project/
~/workspaces/my_project (master)$ git checkout my_branch
Switched to branch 'my_branch'
~/workspaces/my_project (my_branch)$ touch a_new_file
~/workspaces/my_project (my_branch*)$
```

Git Branches in Visual Studio



Git Branching References



Git Branching
Naming
Convention
Best Practices



Gitflow
Workflow



GitHub
Branching



GitHub
Branching Best
Practices

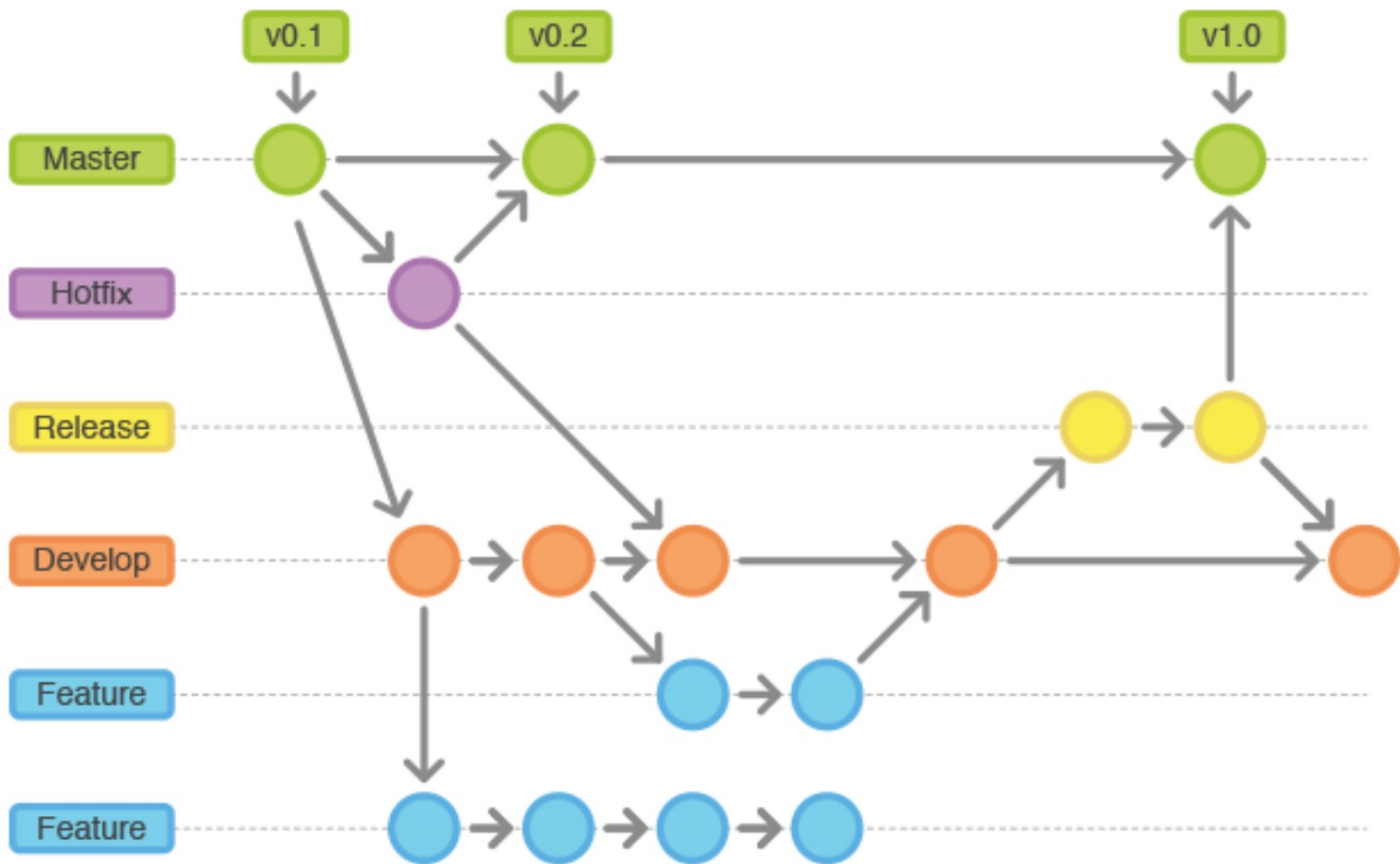


Trunk-based
Development VS
Gitflow

Tag, you're it (with Git)

- Similar to commits, you can also tag your code
- Normally done with stable code that is ready to be shipped / deployed
- Common tagging methods:
 - `v1.2.3`
 - `1.2.3`
- You can revert back to these tags in the future:
- `git checkout v1.0`





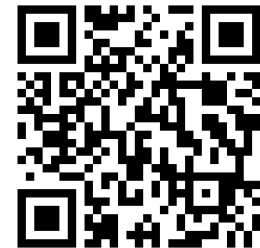
Git Tag References



Git tag
naming
convention



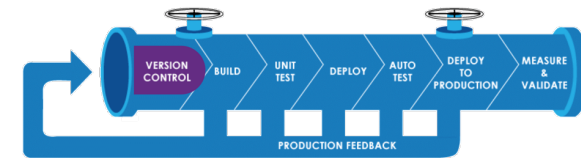
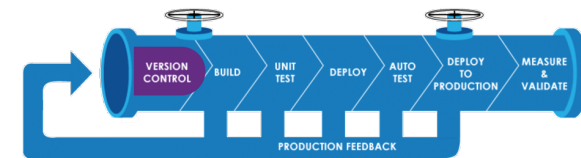
Git tags



What are git
tags

Branches and CI / CD Pipelines

- CI / CD = Continuous Integration and Continuous Delivery / Continuous Deployment
- Part of the DevOps mantra
- Automate as much as you can!
- Provides instant feedback to developers
- Innovate faster!



Example CI / CD Pipelines with GitHub





GitHub
Repository



AWS CodePipeline – Success

The screenshot displays the AWS CodePipeline console for a pipeline named 'AnyCompanyPipeline'. At the top, there are three buttons: 'Edit', 'View history', and 'Release change'. The pipeline is shown in a vertical flow with two stages: 'Source' and 'Deploy'. Both stages are marked with a green checkmark, indicating they have succeeded. The 'Source' stage is using 'CodeCommit' and the 'Deploy' stage is using 'CodeDeploy'. Both stages show a success message: 'Succeeded - 14 minutes ago' followed by a revision ID 'dbb74de'. A 'View current revisions' button is present for each stage. A 'Disable transition' button is located between the two stages. The entire interface is presented with a torn paper effect on a blue background.

AnyCompanyPipeline

Edit View history Release change

Source View current revisions

Source

CodeCommit

Succeeded - 14 minutes ago

dbb74de

Source: Added codepipeline-codecommit-events.yml dbb74de

Disable transition

Deploy View current revisions

Deploy

CodeDeploy

Succeeded - 14 minutes ago

Details

Source: Added codepipeline-codecommit-events.yml dbb74de

AWS CodePipeline – Failure





✔ Build

Build



CodeBuild

✔ Succeeded

- 45 minutes ago

[Details](#)

Source: deleted zip [a29a475b](#) [🔗](#)



Disable transition

✖ Deploy

Deploy



CodeDeploy

✖ Failed - 45 minutes ago


[Details](#)


Source: deleted zip [a29a475b](#) [🔗](#)


Pipeline Notifications



Axolo APP 11:29 AM

Pipeline passed: error

Stage: test
unit-test  failed
lint-test

Stage: deploy
deploy 

Stage: build
build-job 

Stage: test
unit-test 
lint-test 



Lee Hao 9:45 AM

joined #dev-builds along with 5 others



Jira APP 10:08 AM

@leehao has created a task.

TASK-298 Combine sign-upsteps 2&3 on mobile

Status: To do  Type: Task  Assignee: Arcadio Buendia  Priority: High

ADF-Pipeline-Notificat... x

General Posts Files Wiki +

ADF Pipeline Notifications Yesterday 11:11

Pipeline execution alert

Subscription Id: 11111111-0000-aaaa-bbbb-0000000000
Resource Group: contosorg
Data Factory Name: live-adfactory
Pipeline RunId: 867e7534-a54a-4b6c-aa06-9edec1607a6f
Pipeline Name: LoadDataPipeline
Pipeline Status: Succeeded
Execution Start Time (UTC): 03/17/2022 11:11:10
Execution Finish Time (UTC): 03/17/2022 11:11:33
Execution Duration (s): 00:00:22.7240854
Message: LoadDataPipeline ran with success.
Notification Time (UTC): 03/17/2022 11:11:35

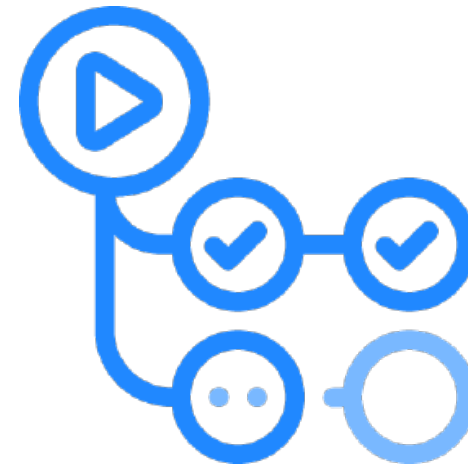
[View pipeline run](#)

Reply

New conversation

Lights, Camera, GitHub Actions!

- Similar to your CI / CD pipelines, did you know you can also get GitHub to perform some automations?
- For example:
 - Run unit tests
 - Build Docker containers
 - Perform code review(s) / linting
 - Enforcing code standards / formatting
 - Update ticketing systems
 - Perform security dependency scanning



Example GitHub Actions Apps



Application

CircleCI

[Set up a plan](#)

✓ GitHub has verified that the publisher controls the domain and meets other [requirements](#).

Categories

[Continuous integration](#)
[Mobile CI](#) [GitHub Enterprise](#)
[Free](#)

About CircleCI

The world's best software teams deliver quality code, confidently, with CircleCI.

Get started in no time

CircleCI's free plan offers more build minutes than any free plan out there. Up to 6,000 build minutes/month and 30 jobs at a time.



Application

Codecov | Code Coverage

[Set up a free trial](#)

✓ GitHub has verified that the application meets the [requirements](#) for listing.

Categories

[Code quality](#) [Code review](#)
[Free Trials](#) [Free](#) [Paid](#)
[GitHub Enterprise](#)

Codecov provides highly integrated tools to group, merge, archive and compare coverage reports.

1. Uploads coverage reports from your CI
2. Merges all builds and languages into one beautiful, coherent report.
3. Displays coverage data in GitHub Files tab

Do you only have 1 user in your organization (or want to start with only 1 user)? You can sign up for free on [codecov.io](#).



Application

Slack + GitHub

[Set up a plan](#)

✓ By GitHub
GitHub owns and operates this app.

Categories

[Chat](#) [Recently added](#)

Bring your code to the conversations you care about with the GitHub and Slack app. A **separate Slack subscription is required**. With two of your most important workspaces connected, you'll get updates about what's happening on GitHub—without leaving Slack.

[Read more...](#)



Application

TestQuality

[Set up a free trial](#)

✓ GitHub has verified that the publisher controls the domain and meets other [requirements](#).

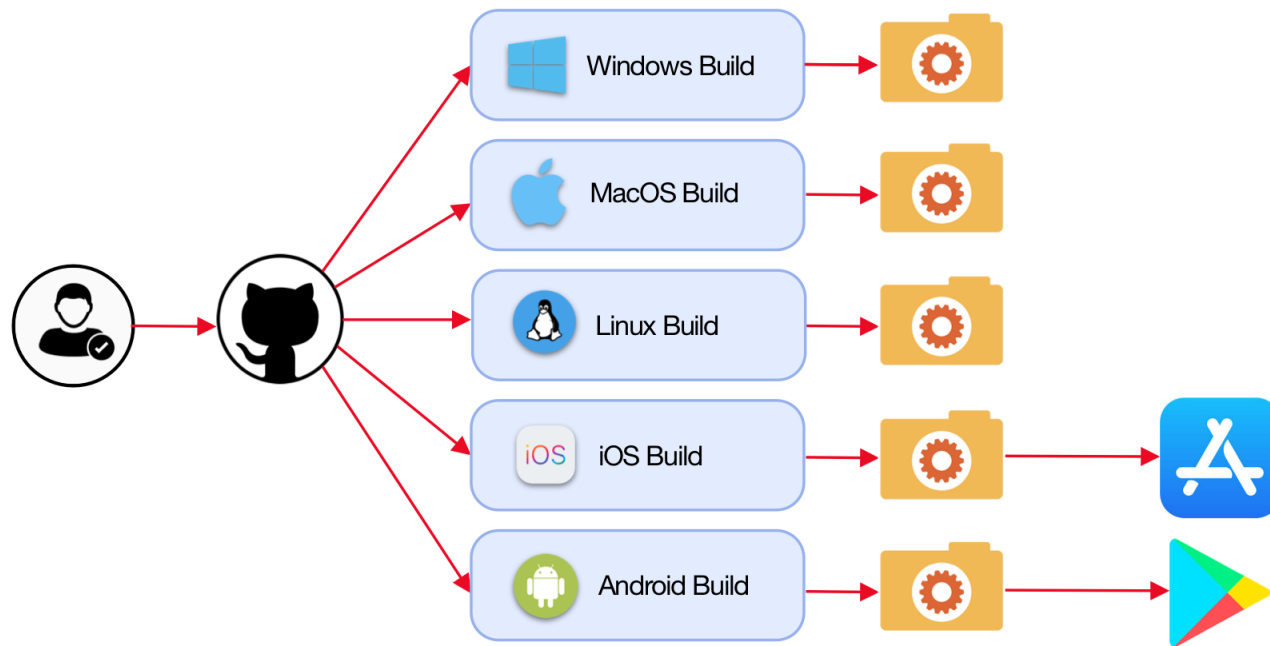
Categories

[Testing](#) [Code quality](#) [Paid](#)
[Free Trials](#)

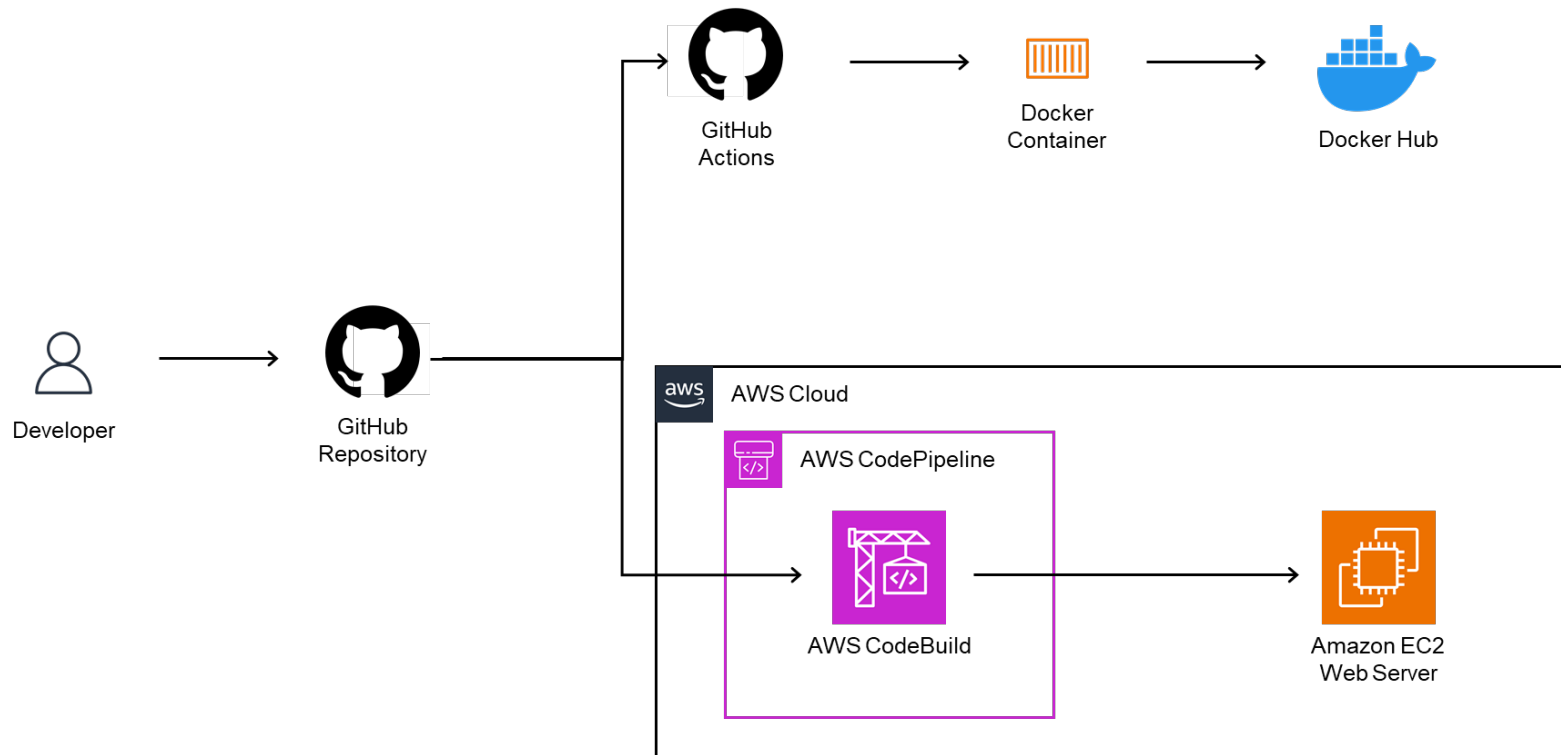
[TestQuality](#) is the #1 Test Case Creation and Management app for GitHub Workflows. TestQuality extends your GitHub DevOps workflow to provide powerful and modern GitHub issue powered test case creation and management. [TestQuality](#) integrates with GitHub, Jira, Selenium, Jenkins, Cloudbees, Cucumber, JUnit and more to complement your entire DevOps workflow. TestQuality is FREE for GitHub public repo's and affordable for teams on private repo's.

[Read more...](#)

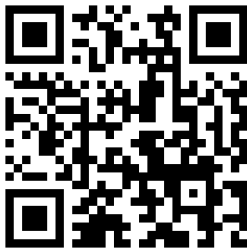
Example GitHub Actions – Workflow 1



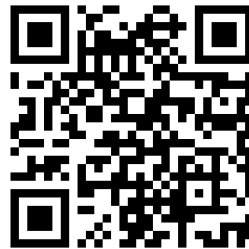
Example GitHub Actions – Workflow 2



GitHub Actions References



GitHub
Actions



GitHub Actions
Documentation



GitHub Actions
Marketplace

Submitting your Pull / Merge Request

- There is no right or wrong way to create pull requests
- You can reference commits, issues and close issues when a pull request is merged.
- Make sure you delete your branch once the pull request has been merged!




Bad Pull Request Example




device login and assign #127

 Merged  merged 1 commit into `develop` from `feature/device-login`  on 20 May

 Conversation 0

 Commits 1

 Checks 0

 Files changed 6



 commented on 20 May




No description provided.



device login and assign

20b8723



 approved these changes on 20 May


[View changes](#)



 merged commit `e9cac2c` into `develop` on 20 May

[Revert](#)




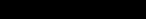
 deleted the `feature/device-login` branch 2 months ago

[Restore branch](#)


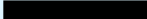
Good Pull Request Example



Feature/ssl connector #9

 Merged  merged 8 commits into `main` from `feature/ssl-connector` 6 days ago


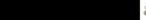
















 Conversation 0  Commits 8  Checks 0  Files changed 8

  commented 6 days ago • edited


This PR includes the following changes:

- Updated the Node.JS code so that the connection to the Amazon Aurora RDS database is encrypted using SSL / TLS.
- Added additional references to the `REFERENCES.md` file.



Closes: #8

-   added 8 commits 6 days ago
-   Added new references 8c6ae5b
 -   Added RDS certificate note 727cd91
 -   Ignore certificates 2af1619
 -   Create database SSL c67a28a
 -   Create table SSL ec737f9
 -   Add sample data SSL a4237dd
 -   Select all data SSL 33ca7e1
 -   Get records count SSL 48fbd1

  self-assigned this 6 days ago


  merged commit 753436a into `main` 6 days ago


Revert

  deleted the `feature/ssl-connector` branch 6 days ago

Restore branch


Pull Request Controls / Checks




 **Review required**

At least 1 approving review is required by reviewers with write access. [Learn more.](#)

Show all reviewers



 1 pending reviewer

▼

 **Some checks were not successful**



1 failing and 3 successful checks

Hide all checks

  Python Pull Request Check / pylint (pull_request)



Failing after 31s — pylint

Details

  Node.js Pull Request Check / Linting (pull_request)



Successful in 1m

Details

  Node.js Pull Request Check / Prettier (pull_request)


Successful in 16s

Details

  Node.js Pull Request Check / Build on ubuntu-18.04 x86_64 (16.x) (pull_request)

Successful in 1m

Details


 **Merging is blocked**


Merging can be performed automatically with 1 approving review.

☐ Merge without waiting for requirements to be met (bypass branch protections)

Squash and merge ▼



You can also [open this in GitHub Desktop](#) or view [command line instructions](#).



 **All checks have passed**



2 successful checks

Hide all checks

  Run Python PEP8 Linting / Linting (push)


Successful in 13s

Details

  Run pytest Unit Tests / Unit-Tests (pull_request)

Successful in 12s

Details

 **This branch has no conflicts with the base branch**

Merging can be performed automatically.

Squash and merge ▼

or view [command line instructions](#).

Pull Request Courtesy

- Pull requests are opportunities for you to learn and grow as a developer
- It is not a blame game or “my code is better than yours”
- Call out anything that is clearly bad
- Be open to improvements and constructive criticism

Me: "Hey can you review my pull request ?"

Them: "Sure"

Me:



Resolving Merge Conflicts

- Refrain from “I know what I’m doing, I don’t need to ask for help”
- If you make small changes and merge often, you can avoid this
- Don’t make too many different changes in your branches
- Talk to your fellow developers!



Resolving Merge Conflicts – Commands

- `git checkout feature/image-resizer`
- `git pull origin develop`
- **Make edits to the affected file(s)**
- `git add --all`
- `git commit -m "Resolved merge conflicts"`
- `git push`

Resolving Merge Conflicts – VS Code

```
13
14  /**
15   | * Prints the welcome message
16   */
17  Accept Current Change | Accept Incoming Change | Accept Both Changes | Compare Changes
18  <<<<<<< HEAD (Current Change)
19  function printMessage(showUsage, message) {
20      console.log(message);
21  }
22  =====
23  function printMessage(showUsage, showVersion) {
24      console.log("Welcome To Line Counter");
25      if (showVersion) {
26          console.log("Version: 1.0.0");
27      }
28  >>>>>>> theirs (Incoming Change)
29      if (showUsage) {
30          console.log("Usage: node base.js <file1> <file2> ... ");
31      }
32  }
33  /**
```

Resolve in Merge Editor

🔍 You, 20 seconds ago Ln 11, Col 26 Spaces: 4 UTF-8 CRLF {} JavaScript

Is your Commit Worthy?

- We have talked about git commit and commit messages
- git relies heavily on the developer
- What happens if you commit the following?:
 - Passwords or API keys
 - Failing unit tests
 - Code that is not compliant to coding standards
- You can configure Git Hooks to perform actions / checks on certain actions



Git Pre-Commit Hook – Example 1

```
HOME@Amit MINGW64 /g/hook_example (master)
$ git commit -m "Added: index.js file"
husky > pre-commit (node v10.15.0)
index.js: line 3, col 15, Expected '===' and instead saw '=='.
index.js: line 4, col 40, Missing semicolon.
index.js: line 8, col 9, Expected '{' and instead saw 'doSomething'.
index.js: line 8, col 22, Missing semicolon.
index.js: line 11, col 36, Missing semicolon.
index.js: line 14, col 2, Missing semicolon.
index.js: line 3, col 9, 'num' is not defined.
index.js: line 7, col 12, 'num' is not defined.

8 errors
husky > pre-commit hook failed (add --no-verify to bypass)
```

Git Pre-Commit Hook – Example 2

```
docroot $ git commit -m"Test PHP linter and codesniffer.

# Running pre-commit git hook.
=====

# Compilation error(s):
-----
PHP Parse error:  syntax error, unexpected '$response' (T_VARIABLE) in docroot/index.php on line 20

# Coding standard issue(s):
-----

FILE: docroot/index.php
-----
FOUND 1 ERROR AFFECTING 1 LINE
-----
 19 | ERROR | [x] Line indented incorrectly; expected 0 spaces, found
    |      |      2
-----
PHPCBF CAN FIX THE 1 MARKED SNIFF VIOLATIONS AUTOMATICALLY
-----

Time: 38ms; Memory: 4Mb

Clean listed file(s). Aborting git commit.
```

Git Hook Software



Husky



pre-commit

Adding DevSecOps to your Project

Dependabot alerts [Beta](#) [Give us feedback](#)

is:open

21,404 Open	1,364 Closed	Organization	Repository	Severity	Package	Ecosystem	Sort
ⓘ				Moderate		dsp-testing/pr-220415-test	
Moderate severity vulnerability that affects activesupport							
Opened 3 hours ago • Detected in activesupport (RubyGems) • Gemfile.lock							
ⓘ				High		dsp-testing/pr-220415-test	
Denial of Service in Action Controller Token Authentication							
Opened 3 hours ago • Detected in actionpack (RubyGems) • Gemfile.lock							
ⓘ				High		dsp-testing/pr-220415-test	
High severity vulnerability that affects actionpack							
Opened 3 hours ago • Detected in actionpack (RubyGems) • Gemfile.lock							
ⓘ				High		dsp-testing/pr-220415-test	
actionpack is vulnerable to denial of service because of a wildcard controller route							
Opened 3 hours ago • Detected in actionpack (RubyGems) • Gemfile.lock							
ⓘ				High		dsp-testing/pr-220415-test	
actionpack is vulnerable to denial of service via a crafted HTTP Accept header							
Opened 3 hours ago • Detected in actionpack (RubyGems) • Gemfile.lock							
ⓘ				Low		dsp-testing/pr-220415-test	
actionpack is vulnerable to remote bypass authentication							
Opened 3 hours ago • Detected in actionpack (RubyGems) • Gemfile.lock							
ⓘ				Moderate		dsp-testing/pr-220415-test	
Moderate severity vulnerability that affects activerecord							
Opened 3 hours ago • Detected in activerecord (RubyGems) • Gemfile.lock							

Example Dependabot Alerts

Q is:open						
<input type="checkbox"/>	🛡️	4 Open	✓ 0 Closed	Package ▾	Ecosystem ▾	Manifest ▾
		Severity ▾	Sort ▾			
<input type="checkbox"/>	🛡️	Flask vulnerable to possible disclosure of permanent session cookie due to missing Vary: Cookie header				High
		#5 opened 3 months ago • Detected in flask (pip) • requirements.txt				
<input type="checkbox"/>	🛡️	High resource usage when parsing multipart form data with many fields				High
		#3 opened 6 months ago • Detected in Werkzeug (pip) • requirements.txt				
<input type="checkbox"/>	🛡️	ReDoS in py library when used with subversion				High
		#1 opened 10 months ago • Detected in py (pip) • requirements.txt				
<input type="checkbox"/>	🛡️	Incorrect parsing of nameless cookies leads to __Host- cookies bypass				Low
		#2 opened 6 months ago • Detected in Werkzeug (pip) • requirements.txt				

Dependabot Pull Request



Bump werkzeug from 2.2.1 to 2.2.3 #38

Edit <> Code

Open dependabot wants to merge 1 commit into main from dependabot/pip/werkzeug-2.2.3

Merging this pull request will resolve 2 Dependabot alerts on Werkzeug including a high severity alert.

Conversation 0

Commits 1

Checks 1

Files changed 1

+1 -1



dependabot bot commented on behalf of github on Feb 16

Bumps werkzeug from 2.2.1 to 2.2.3.

Release notes

Changelog

Commits

compatibility unknown

Dependabot will resolve any conflicts with this PR as long as you don't alter it yourself. You can also trigger a rebase manually by commenting @dependabot rebase .

Dependabot commands and options



Bump werkzeug from 2.2.1 to 2.2.3

Verified 800713c

dependabot bot added the dependencies label on Feb 16

Reviewers



Suggestions

BluCloudEngineer

Request

Still in progress? Convert to draft

Assignees



No one—assign yourself

Labels



dependencies

Projects



None yet

Milestone



No milestone

Development



Successfully merging this pull request may close these issues.

None yet

My Final Tips and Tricks

- Make sure you put some time aside to plan your work!
- Make sure your Proof of Concept (PoC) works first!
- Keep it simple!
- Get feedback from your customer
- Communicate as much as necessary
- Raise issues / concerns early



Live Demonstration Time



Demo Website:
<http://demo.blucloudengineer.com/>



Final References



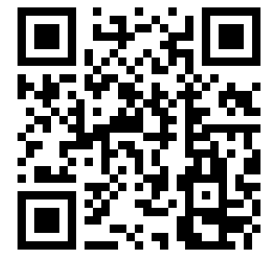
Git Explained
in 100
Seconds



GitHub Pull
Request in
100 Seconds

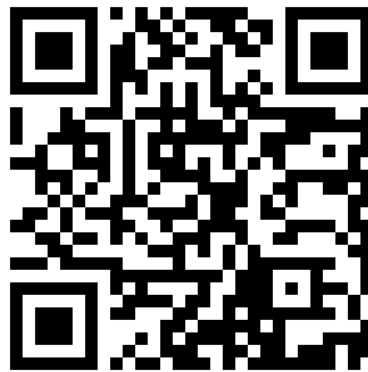


How to Fork a
GitHub
Repository



My GitHub

Got any Feedback for Me?



Feedback Website:
<https://feedback.blucloudengineer.com/>

Questions?

