Machine and Environment Setup

.NET

"Failure is central to engineering. Every single calculation that an engineer makes is a failure calculation. Successful engineering is all about understanding how things break or fail"

– Henry Petroski

Contents

[Chat Platform](#) – Discord. This is where we will communicate, organize, and where I will post important information for you.

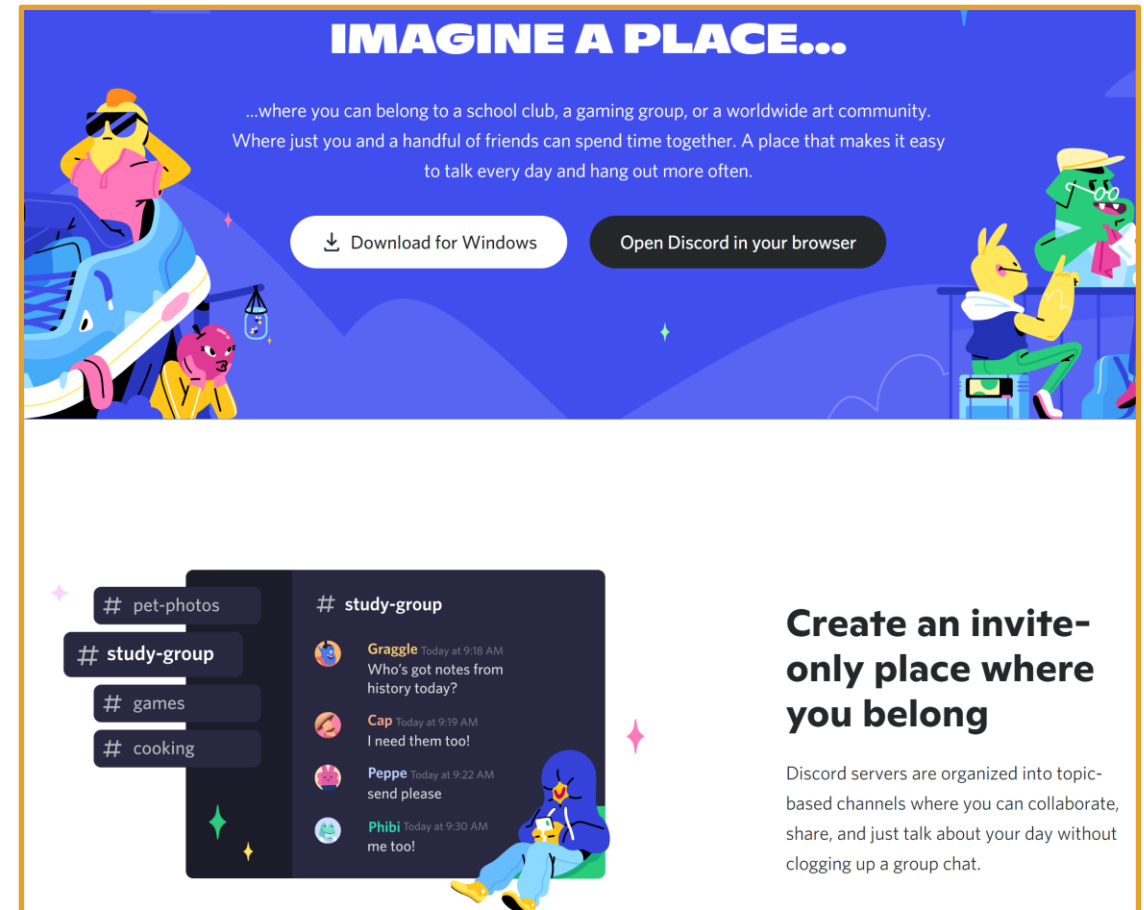Code Editor – Visual Studio Code and Visual Studio. This is where we will create and test code.

SDK (Software Development Kit) – This is the suite of programs that we download that enables us to create, edit, and test code.

Version Control – GitHub. This is where we will store our documents and code, record changes, and control which version of our code we use.

Chat Platform – Discord

https://discord.com/brand-new

1. Download Discord to your PC/Mac and phone

2. Each associate is responsible for maintaining contact and being up to date on messages on Discord. Especially during 9-5 (CST) hours.

gitBash

1. ***Git for Windows*** focuses on offering a lightweight, native set of tools that bring the full feature set of the [Git SCM](Git SCM) to Windows while providing appropriate user interfaces for experienced Git users and novices alike.

2. Go to https://gitforwindows.org/

Useful GitBash Commands

https://tldp.org/LDP/GNU-Linux-Tools-Summary/html/x1712.htm

Version Control – github.com

1. Open Command Line (Terminal). Run 'git –version'.

2. Accept your invite to the class repo.

3. On the class repo, create a personal Repo of the format 'MooreMark'.

4. Clone your remote repo from your local gitBash.

5. Create a text doc in your cloned repo folder.

6. Push a simple text doc.
   - git add .
   - git commit –m "message to self"
   - git push
   - Create new upstream branch, if necessary.
   - Verify it worked by looking at your account online.
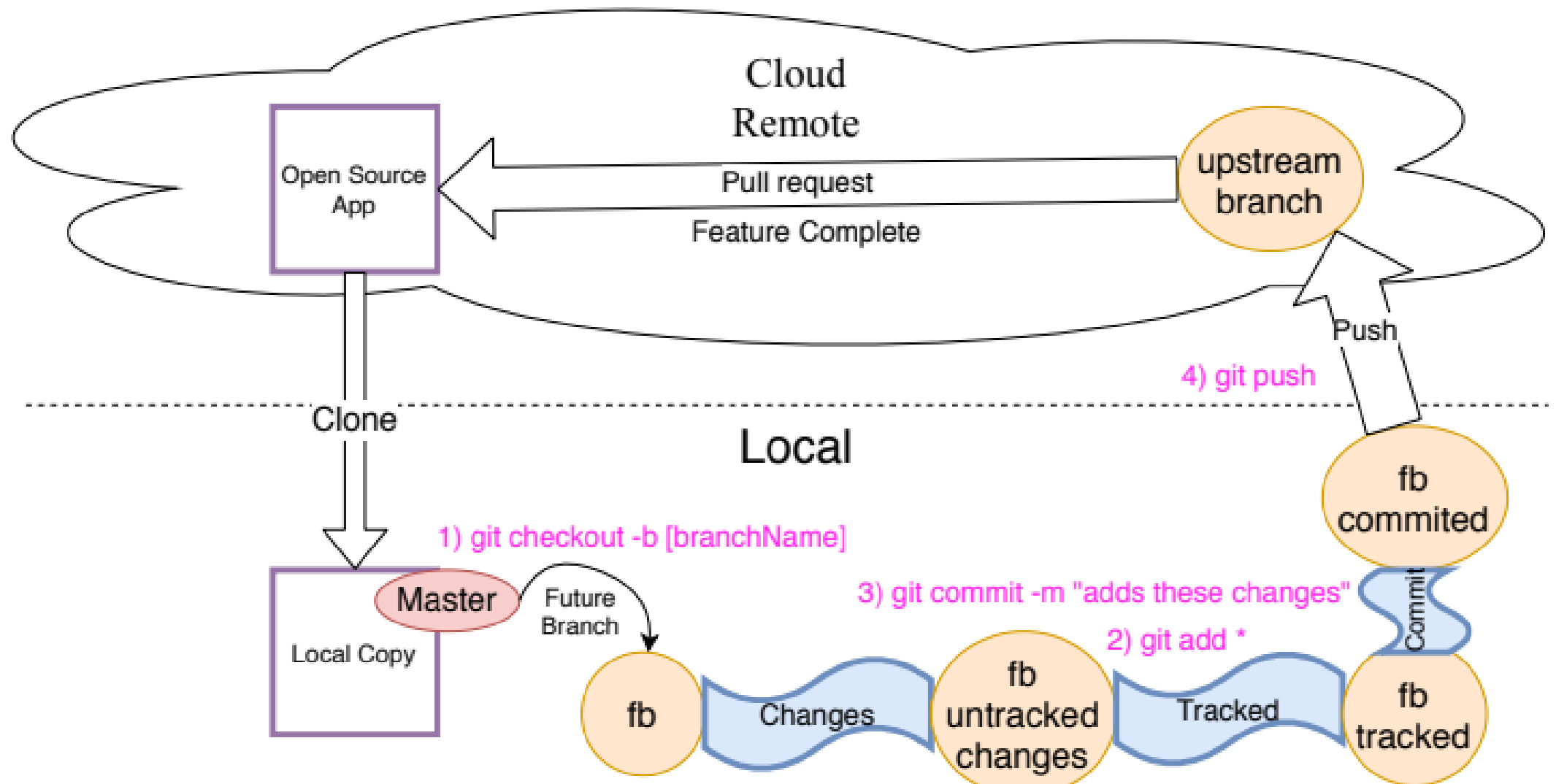
Basic Git Life Cycle

https://education.github.com/git-cheat-sheet-education.pdf

1. git clone [url] or git pull from master branch.
2. git checkout –b [branchName] (Create a new "feature" branch and switch to it.)
3. Make changes to add a feature.
4. git add . (Add all changes made to tracking)
5. git commit –m "This message tells what the changes are" (Add to staging)
6. git pull (to be 100% sure no changes were made to the master branch while you were working)
7. git push
8. Go online and make a pull request (PR) to master.
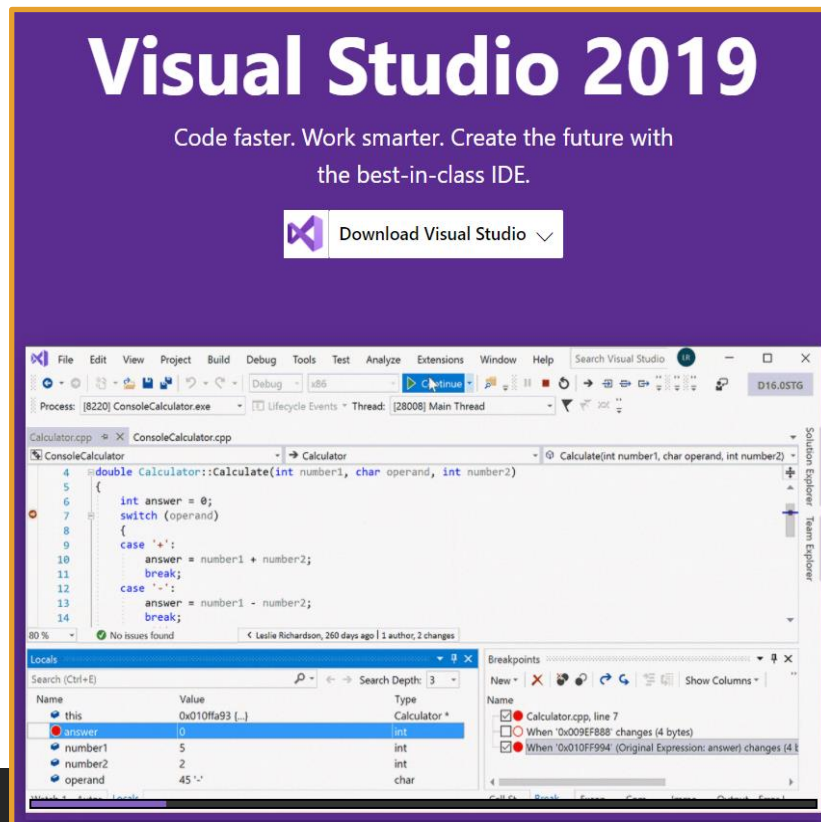9. Return to Local main branch and git pull.
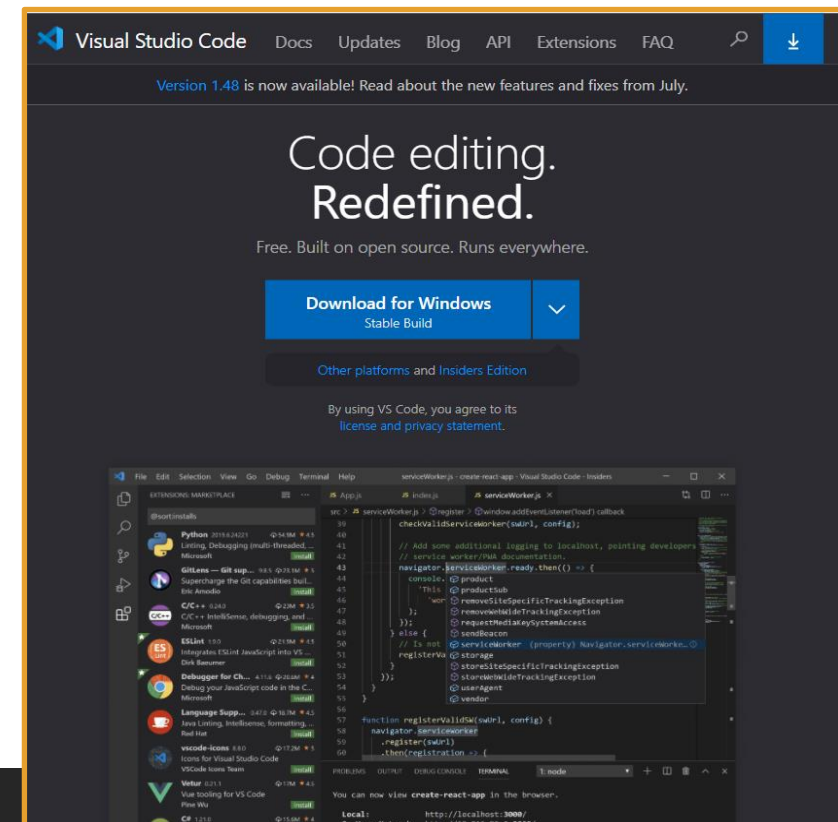
Simple (NO-CONFLICTS) Github Workflow

Cloud
Remote

Open Source App

Pull request

Feature Complete

upstream branch

Push

4) git push

Clone

Local

1) git checkout -b [branchName]

Master

Future Branch

Local Copy

fb commited

Commit

3) git commit -m "adds these changes"

2) git add *

fb

Changes

fb untracked changes

Tracked

fb tracked

Code Editor – Visual Studio

https://visualstudio.microsoft.com/vs/
https://dotnet.microsoft.com/download
https://code.visualstudio.com/

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Visual Studio

VS Code

SDK (Software Development Kit)

A *Software Development Kit (SDK)* is a collection of software development tools in one installable package. They have compiler, debugger and perhaps a software framework. They are normally specific to a hardware platform and operating system combination.

- An *SDK* is required for developing a platform-specific app.
- The development of an Android app on Java platform requires a Java Development Kit.
- For iOS applications (apps) the iOS SDK is required.
- For Universal Windows Platform (UWP) the .NET Framework SDK is used.

Some *SDK*s add additional features and can be installed in apps to provide analytics, data about application activity, and monetization options.

.NET/.NET Core

.NET is a free, cross-platform, open-source developer platform for building many different types of applications.

Version	Status	Visual Studio 2017 SDK ⓘ	Visual Studio 2019 SDK ⓘ
.NET 6.0	Preview ⓘ Download matrix for .NET Core	N/A	x64 SDK | x86 SDK (v6.0.100-preview.4)
.NET 5.0	Current ⓘ	N/A	x64 SDK | x86 SDK (v5.0.300)
.NET Core 3.1	LTS ⓘ	N/A	x64 SDK | x86 SDK (v3.1.409)

Log into Git from Command Line

https://kbroman.org/github_tutorial/pages/first_time.html
https://docs.github.com/en/github/getting-started-with-github/quickstart/set-up-git

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You need to log into github.com from the command line and may have to change some settings.