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Git Workflow

Git Workflow is the use of Git the most popular version control system used now to do work in a productive manner. Git is used by developers and DevOps teams due to the flexibility that it grants the user in managing changes. There are multiple different variations of Git Workflow that can be used, selected, or developed to help ensure that a team can agree upon changes. Some versions of Git Workflow scale better with team size, allow users to undo mistakes easier, or may negatively impose unneeded problems on the team. It is important to consider this in order to properly choose which version of Git Workflow to use. It is important to use Git Wroflow to ensure that communication between a team is not chaotic or messy at times.

One of the many useful features of Git Workflow is branches an independent line of development that members can use to code. There are many different ways to use branches and these different ways mostly differentiate different variations of a Git Workflow. One such variation is a centralized branch where everyone code and make changes on a single branch usually called the main branch and all changes are recorded. Usually suited for small teams that can easily communicate with each other at a moment's notice to make sure there are not any contradictions with the code such as two people working on the same line of code as each other. Another variation is forking where each user has a local copy of the repository and allows them to make changes as they like. Then when a user is done with the there work they can commit their work and then push it to the main branch where a pull request will be made to merge the user changes with that of the main branch. There a person usually a higher-up or senior developer would check the changes to make sure nothing goes wrong before the merge is actually made. This is usually good for extremely large teams as it ensures that low-quality work that could possibly destroy the project does not enter the source code. Of course, one can use a couple more variations of Git Workflow. The two listed above simply serve as an example of how vastly different each version can be.

In the previous paragraph when talking about branches and the various forms of Git Workflow available sometimes terms such as commit, push, pull, and merge came up. So what are they? Commit is the action of saving or capturing a project at a certain point in time. This is usually done to capture important points in a project history so that a user can go back to them at any moment in case something happens. Usually, a commit is done on a local repository before being pushed to the main branch. A push is an action of uploading commits from a local repository to a remote repository usually the main branch. Once changes are made to the main repository naturally other repositories will be outdated. To ensure that a local repository is up to date one can use a pull command to fetch and download content from the main to a local repository merging the two together. Sometimes during a merge, a conflict can occur if two developers are modifying the same line of code for instance if someone deletes a line while another has changed it.