Difference Between Git and Github

Key Difference - Git vs Github

Version control system is software that helps software developers to work collaboratively and to maintain a complete history of their work. It can store changes of files and modifications of the source code. Every time the user changes the project, the version control system takes the state of the project and saves them. These different saved states of the project are known as versions. For example, if the programmer is building a website, it is stored as version 1. Later if the programmer adds another page to that website, those changes are saved as version 2. Likewise, the changes are saved as versions in version control systems. Git and Github are two terms associated with version control. The **key difference** between Git and Github is that **Git is an open source version control system and Github is a hosting service for Git repository**. This article discusses the difference between Git and Github.

What is Git?

It may not be necessary for a small project to do version control system but it is necessary to manage large projects. Assume that the software project is developed by three programmers. Each programmer may be following their own tasks. At the end, when combining all together it might create conflicts because there are so many changes. Version control systems solve this issue. Each developer knows the changes occurred in the project and it will save a lot of time. There are two types of version control systems. They are centralized version control system and distributed version control system. In a centralized version control system, the central server stores all the files. If the central server fails, no one can collaborate at all. If the central server's disk gets corrupted and there is no backup, the history of the entire project might get lost. Therefore, distributed version control systems were introduced.

Git is an open source distributed version control system. It is popular than other version control systems such as SVN, CVS, and Mercurial. A repository is a data space to store all the files associated with the project. Each developer has their private workspace as a working copy which is known as the local repository. They can do changes to the local repository when there is no internet connection. It is possible to commit changes and view logs when they are offline.

Figure 01: Git

Once the [internet](#) connection is established, the changes can be transferred to the main server which is the remote repository. If the main server fails, it can be restored back using a local repository.Overall, there are plenty of features available in Git for a better software development. It is distributed, lightweight, fast, reliable and secure.

What is Github?

Github is a web-based hosting service for Git version control repository. It provides services such as source code management and distributed version control like Git. It also contains additional features. It provides access control, bug tracking, feature requests and task management for each project.

Figure 02: Github

One real-world example of Github in Enterprise level is Dominion Enterprise. It is a leading marketing service and publishes company. They have several offices around the world. Their websites get a large number of visitors each day. They

have distributed technical team and they follow various goals and work independently. They need to know what each team is working on and to share resources. There was a need for a flexible platform which can support a variety of workflow and secure place to share codes. They used Github as their Git version control repository hosting service.

What is the Similarity Between Git and Github?

- Both are associated with version control.

What is the Difference Between Git and Github?

Git vs Github	
Git is a distributed version control system that supports distributed non-linear workflows by providing data assurance for developing quality software.	Github is a web-based hosting service for Git version control repository.
Features and Applications	
Git is used for software development and source code management.	Github provides distributed version control, source code management, access control, bug tracking.

Summary - Git vs Github

Git and Github words look similar but they are different. Git is a version control system that provides source code management to develop reliable and accurate software. Github is the hosting platform for Git. Most developers are familiar with Github and it is easy to adapt to it. The difference between Git and Github is that Git is an open source version control system and Github is a web-based hosting service for Git repository. They are used to build quality software.

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