



Title	GITHUB VS. GITLAB. WHAT ARE THE DIFFERENCES?
Description	Intro
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Git has been leading the charge in the DevOps revolution as the leading version control system (VCS). Git has enjoyed a meteoric rise since its creation in 2005 to become the world's most widely used version control system. The two most popular hosted Git solutions are GitHub and GitLab. Many businesses and developers are adopting Git today, but GitHub is the most popular. In this article, we are going to get familiar with the 2 most famous Git platforms, GitHub and GitLab. In addition, we are going to compare these two version control systems.

GITHUB:

As the first cloud-hosted Git solution, GitHub launched in 2008 and set the standard. SourceForge, founded in 1999, is one notable exception. With the rise of cloud-based services, such as GitHub, more businesses adopted the model and sought support from leaders such as GitHub. As part of Microsoft's larger emphasis on cloud-based solutions, GitHub was acquired by Microsoft in 2018 as both a tactical move – Microsoft had relied on GitHub services for many of its codebases – and as a strategic move. GitHub's self-management approach allows it to support a wide range of community-developed DevOps solutions. GitHub boasted 56 million developers authoring 1.9 billion updates in 2020, and 60 million new repositories created that year.

GITLAB:

GitLab was founded in 2014 and distributed under the MIT License. During the past few years, the product has evolved not only in terms of its production model but also in terms of its philosophy, eventually morphing into a platform that serves DevOps teams end-to-end from the Software Development Lifecycle (SDLC) to project management. Team members without in-house DevOps experts or who do not have the time to evaluate all the tools available on the open marketplace and prefer a "just works" solution may find the platform approach particularly beneficial.

A hidden cost of GitLab is that it eliminates the freedom to choose and combine tools on a whim, an exercise that is also a hidden cost of GitHub. Earlier this year, GitLab announced it would go public via an initial public offering – TechCrunch has written an excellent report on the announcement. GitLab estimates over 31 million developers in 2020 and a 23% market share in self-managed Git. Biterg.io also provides an interesting live statistics dashboard. GitLab's customers and projects include Goldman Sachs, Ticketmaster, Cloud Native Computing Foundation (CNCF), and many others.

GITLAB:

Because both vendors provide a Git solution, it shouldn't come as a surprise that they share a lot in common and may even be indistinguishable for organizations that require only a few extra features beyond the base version control system. Aside from their inherent similarities, GitLab and GitHub often release features that compete with the capabilities of their rivals, causing their supported features to constantly merge and diverge. In order to deliver value to their customers, GitLab and GitHub look beyond the core Git services.

The GitLab platform's purpose is to enhance the native features of Git and serve customers' end-to-end needs. For example, a Google search for "GitLab continuous integration/continuous delivery examples" yields several results including this one.

Google search for "GitHub ci/cd examples" also returns GitLab results without mentioning GitHub on the first page; GitHub focuses largely on Git activities directly, with few integrated tools, but a vibrant ecosystem of 3rd party applications.

ISSUE TRACKING

A DevOps culture involves actively managing, reporting on, and participating in the life cycle of changes, and issues are one of the most important types of changes. A GitLab / GitHub issue is not necessarily a defect but can refer to any discussion related to a software project related to a repository.. Feature requests, version releases, defects, or a form of help forum can all be discussed. Additionally, issues can be linked to specific branches, or even lines of code within the repository, allowing for focused attention and clear insight into the project's future plans.

DOCUMENTATION

Documentation and communication are integral parts of healthy DevOps organizations, so both GitLab and GitHub support inline documentation, such as Git Readme files. GitLab however, provides free support for wikis.

CONTINUOUS INTEGRATION AND CONTINUOUS DEPLOYMENT

The CI/CD process is important and valuable to the SDLC and the DevOps culture, but both GitLab and GitHub approach this issue in different ways. GitLab has a platform concept that includes a number of tools, such as pipelines and runners. GitHub offers actions similar to GitLab runners. However, other operations, such as continuous deployment, are left up to third parties and community projects.

SAML AND SSO

The provider authenticates the developer who submits a contribution to a public project such as the Linux kernel – GitHub for the Linux kernel. Some organizations have more stringent authentication and authorization requirements that require external workflows, such as integrating with a corporate identity product or a centralized authentication gateway. SSO integration is one of the GitLab tools. But Enterprise organizations require using GitHub (GitHub's top paid service).

SELF-HOSTED

For regulatory, security, or workflow reasons, some organizations may need to host Git themselves, even though both solutions are mostly Software as a Service (SaaS). GitHub and GitLab offer this capability, but the latter requires an Enterprise organization account.

ALTERNATIVES TO GITHUB AND GITLAB

SourceForge

As part of the SourceForge Git service, you can integrate ad hoc services with Git events via webhooks. SourceForge reports that “With the tools we provide, developers on SourceForge create powerful software in more than 502,000 projects. we host millions of registered users.”. In addition to connecting nearly 30 million monthly users with all of these open-source projects, we host over 72,400 software titles in our business software directory, which serves nearly 2.6 million downloads daily.”

Cloud

Public Cloud solutions support Git operations but their primary value comes from the global scale and resilience of their providers, as well as the close integration with other services within the respective Cloud ecosystems. A company's ability to launch Cloud resources automatically in response to code changes, for example, can be a significant benefit to it.

Bitbucket

In addition to sharing many features with GitLab and GitHub, Bitbucket also has a self-hosted option as part of Atlassian's suite of products. With the Atlassian ecosystem, Bitbucket is able to use Jira, Bamboo, Opsgenie, Statuspage, and more to complete the full DevOps lifecycle.

