

GitLab vs CircleCI

Decision Kit

[Download Comparison](#)



GitLab

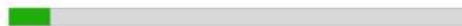
GitLab vs. CircleCI



65% (44/67 Requirements)



CircleCI



9% (6/67 Requirements)



Category	GitLab	CircleCI	Missing in CircleCI
Manage	3/6	2/6	<ul style="list-style-type: none"> • Audit Management • Authentication and Authorization • Workflow Policies • DevOps Score • Code Analysis • Value Stream Management
Plan	5/7	0/7	<ul style="list-style-type: none"> • Issue Tracking • Kanban Boards • Time Tracking • Agile Portfolio Management • Service Desk • Requirements Management • Quality Management
Create	6/7	0/7	<ul style="list-style-type: none"> • Source Code Management • Code Review • Wiki • Web IDE • Snyper • Design Management • Live Coding
Verify	3/7	3/7	<ul style="list-style-type: none"> • Continuous Integration • Code Quality • Load Testing • Performance Testing • System Testing • Usability Testing • Accessibility Testing
Package	3/4	0/4	<ul style="list-style-type: none"> • Dependency Proxy • Helm Chart Registry
Secure	6/8	0/8	<ul style="list-style-type: none"> • SAST • DAST • Secrets Detection • Dependency Scanning • Container Scanning • License Compliance • IAST • Fuzzing
Release	6/8	0/8	<ul style="list-style-type: none"> • SAST • DAST • Secrets Detection • Dependency Scanning • Container Scanning • License Compliance • IAST • Fuzzing
Configure	5/7	0/7	<ul style="list-style-type: none"> • Auto DevOps • Kubernetes Configuration • Helm • Terraform Configuration • Serverless • Infrastructure as Code • Cluster Cost Optimization
Monitor	6/8	0/8	<ul style="list-style-type: none"> • Alerts • Logging • Tracing • Cluster Monitoring • Error Tracking • Incident Management • Digital Experience Manag. • Status Page
Defend	1/5	0/5	<ul style="list-style-type: none"> • Web Application Firewall • Threat Detection • Behavior Analytics • Vulnerability Management • Container Network Security

Summary

Founded in 2011 and headquartered in San Francisco, Ca., CircleCI provides a service that automates the Continuous Integration stage of the Software Development Life Cycle (SDLC). Their CI service offering can be hosted in the cloud or on a private server. CI jobs are built within four different environments: a Docker image, a Linux VM, Windows VM, or a MacOS VM. They demonstrate their support of the Open Source Community by providing organizations with free credits for Open Source builds.

CircleCI Orbs

CircleCI can provide automated services for other stages of the Software Development Life Cycle (SDLC) using third party plug-ins that they call "Orbs". CircleCI can provide automated services for other stages of the Software Development Life Cycle (SDLC) using third party plug-ins that they call "Orbs". They define Orbs as reusable/sharable packages of YAML configurations that condenses repeated pieces of configs into a single line of code. In other words, think of Orbs as a pointer that is included in the YAML configuration file that activates a piece of code during the build process that performs a function. The Orbs are housed in an open source code library.

Strengths

- **YAML File:** CI build jobs are configured in a YAML file
- **Security Accreditations:** CircleCI is FedRamp authorized and SOC 2 compliant
- **Forrester Wave:** CircleCI was recognized as a Leader in The Forrester Wave™: Cloud-Native Continuous Integration Tools, Q3 2019: speed, scale, security, and compliance.
- **Catering to Large Enterprise:**
 - CircleCI provides a large number of preconfigured environments, which is highly favored by enterprises
 - Despite a team size of just over 300 employees, CircleCI has a Customer Success Team and Enterprise support packages, also favored by enterprises
- **iOS application testing on macOS:** CircleCI offers support for building and testing iOS projects in macOS virtual machines (available on CircleCI Cloud only, not currently available on self-hosted installations).
 - GitLab is actively working on integrating this functionality, more details can be found [here](#)

Feature Comparison

FEATURES

Application performance monitoring



GitLab collects and displays performance metrics for deployed apps, leveraging Prometheus. Developers can determine the impact of a merge and keep an eye on their production systems,



without leaving GitLab.

[Learn more about monitoring deployed apps](#)

Application performance alerts

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab allows engineers to seamlessly create service level indicator alerts and be notified of any desired events, all within the same workflow where they write their code.

[Learn more about creating SLI alerts](#)



GitLab Self-monitoring

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab comes out of the box enabled for Prometheus monitoring with extensive instrumentation, making it easy to ensure your GitLab deployment is responsive and healthy.

[Learn more about GitLab self-monitoring](#)



Value Stream Analytics

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab provides a dashboard that lets teams measure the time it takes to go from planning to monitoring. GitLab can provide this data because it has all the tools built-in: from the idea, to the CI, to code review, to deploy to production.

[Learn more about Value Stream Analytics](#)



Group Level Value Stream Analytics

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab provides a group dashboard that lets teams measure the time it takes to go from planning to monitoring. GitLab can provide this data because it has all the tools built-in: from the idea, to the CI, to code review, to deploy to production.

[Learn more about Value Stream Analytics](#)



Built-in Container Registry

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab Container Registry is a secure and private registry for Docker images. It allows for easy upload and download of images from GitLab CI. It is fully integrated with Git repository management. (Codefresh will be ending their support for private docker registries as of May 1, 2020)

[Documentation on Container Registry](#)



Preview your changes with Review Apps

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

With GitLab CI/CD you can create a new environment for each one of your branches, speeding up your development process. Spin up dynamic environments for your merge requests with the ability to preview your branch in a live environment. Review Apps support both static and dynamic URLs.

[Learn more about Review Apps](#)



Built for using containers and Docker

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab ships with its own Container Registry, Docker CI Runner, and is ready for a complete CI/CD container workflow. There is no need to install, configure, or maintain additional plugins.



Cloud Native

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab and its CI/CD is Cloud Native, purpose built for the cloud model. GitLab can be easily deployed on Kubernetes and used to deploy your application to Kubernetes with support out of the box.

[Kubernetes integration](#)



Comprehensive pipeline graphs

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

Pipelines can be complex structures with many sequential and parallel jobs. To make it a little easier to see what is going on, you can view a graph of a single pipeline and its status.

[Learn more about pipeline graphs](#)



Browsable artifacts

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

With GitLab CI you can upload your job artifacts in GitLab itself without the need of an external service. Because of this, artifacts are also browsable through GitLab's web interface.

[Learn more about using job artifacts in your project](#)



Scheduled triggering of pipelines

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

You can make your pipelines run on a schedule in a cron-like environment.

[Learn how to trigger pipelines on a schedule in GitLab](#)



Code Quality MR Widget

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

Code Quality reports are available in the merge request widget area, giving you early insights into how the change will affect the health of your code before deciding if you want to accept it.



[Learn more about Code Quality](#)

Code Quality Reports

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

Full Code Quality reports are available on the pipeline page, showing areas of the codebase that do not meet the organization's preferred style or standards.



[Learn more about Code Quality reports](#)

Multi-project pipeline graphs

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

With multi-project pipeline graphs you can see how upstream and downstream pipelines are linked together for projects that are linked to others via triggers as part of a more complex design, as it is for micro-services architecture.



[Learn more about multi-project pipeline graphs](#)

Protected variables

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

You can mark a variable as "protected" to make it available only to jobs running on protected branches, therefore only authorized users can get access to it.



[Learn how to use protected variables](#)

Environments and deployments

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab CI is capable of not only testing or building your projects, but also deploying them in your infrastructure, with the added benefit of giving you a way to track your deployments. Environments are like tags for your CI jobs, describing where code gets deployed.



[Learn more about environments](#)

Environments history

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

Environments history allows you to see what is currently being deployed on your servers, and to access a detailed view for all the past deployments. From this list you can also re-deploy the current version, or even rollback an old stable one in case something went wrong.



[Learn more about history of an environment](#)

Environment-specific variables

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

Limit the environment scope of a variable by defining which environments it can be available for.



[Learn how to configure environment-specific variables](#)

Group-level variables

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

Define variables at the group level and use them in any project in the group.



[Learn how to configure variables](#)

Customizable path for CI/CD configuration

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

You can define a custom path into your repository for your CI/CD configuration file.



[Learn how to configure a custom CI/CD configuration file](#)

Run CI/CD jobs on Windows

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab Runner supports Windows and can run jobs natively on this platform. You can automatically build, test, and deploy Windows-based projects by leveraging PowerShell or batch files.



[Install GitLab Runner on Windows](#)

Run CI/CD jobs on macOS

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab Runner supports macOS and can run jobs natively on this platform. You can automatically build, test, and deploy for macOS based projects by leveraging shell scripts and command line tools.



[Install GitLab Runner on macOS](#)

Run CI/CD jobs on Linux ARM

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab Runner supports Linux operating systems on ARM architectures and can run jobs natively on this platform. You can automatically build, test, and deploy for Linux ARM based projects by leveraging shell scripts and command line tools.



[Install GitLab Runner on Linux](#)

Run CI/CD jobs on FreeBSD

CORE	STARTER	PREMIUM	ULTIMATE
FREE	Bronze	Silver	Gold

GitLab Runner supports FreeBSD and can run jobs natively on this platform. You can automatically build, test, and deploy for FreeBSD-based projects by leveraging shell scripts and command line tools.



[Install GitLab Runner on FreeBSD](#)

Show code coverage rate for your pipelines

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

GitLab is able to parse job output logs and search, via a customizable regex, any information created by tools like SimpleCov to get code coverage. Data is automatically available in the UI and also as a badge you can embed in any HTML page or publish using GitLab Pages.



[Learn how to generate and show code coverage information in GitLab](#)

Details on duration for each command execution in GitLab CI/CD

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Other CI systems show execution time for each single command run in CI jobs, not just the overall time. We're reconsidering how job output logs are managed in order to add this feature as well.



[Read more on the issue](#)

Auto DevOps

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Auto DevOps brings DevOps best practices to your project by automatically configuring software development lifecycles by default. It automatically detects, builds, tests, deploys, and monitors applications.



[Read more about Auto DevOps in the documentation](#)

Protected Runners

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Protected Runners allow you to protect your sensitive information, for example deployment credentials, by allowing only jobs running on protected branches to access them.



[Read more on the issue](#)

Easy integration of existing Kubernetes clusters

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Add your existing Kubernetes cluster to your project, and easily access it from your CI/CD pipelines to host Review Apps and to deploy your application.



[Read more on the issue](#)

Easy creation of Kubernetes clusters on GKE

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Create a Kubernetes cluster on GKE directly from your project, just connecting your Google Account and providing some information. The cluster can be used also by Auto DevOps to deploy your application.



[Read more on the issue](#)

Support for multiple Kubernetes clusters

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Easily deploy different environments, like Staging and Production, to different Kubernetes clusters. This allows to enforce strict data separation.



[Read more on the issue](#)

Easy Deployment of applications for Kubernetes clusters

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Install Helm Tiller, Nginx Ingress, Cert-Manager, Prometheus, GitLab Runner, JupyterHub, and Knative directly into your cluster from the GitLab Web UI with one click.



[Read through the documentation on installing applications on GKE clusters](#)

Canary Deployments

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

GitLab Premium can monitor your Canary Deployments when deploying your applications with Kubernetes.



[Learn more about configuring Canary Deployments](#)

Automatic Retry for Failed CI Jobs

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

You can specify a retry keyword in your .gitlab-ci.yml file to make GitLab CI/CD retry a job for a specific number of times before marking it as failed.



[Learn more about Automatic Retry for Failed CI Jobs](#)

Pipelines security

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

The ability of running CI/CD pipelines on protected branches is checked against a set of security rules that defines if you're allowed or not. It includes creating new pipelines, retrying jobs, and perform manual actions.



[Learn more about pipeline security](#)

Include external files in CI/CD pipeline definition

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

You can include external files in your pipeline definition file, using them as templates to reuse snippets for common jobs.



[Learn more about including external files](#)

Static Application Security Testing

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

GitLab allows easily running Static Application Security Testing (SAST) in CI/CD pipelines; checking for vulnerable source code or well known security bugs in the libraries that are included by the application. Results are then shown in the Merge Request and in the Pipeline view. This feature is available as part of Auto DevOps to provide security-by-default.



[Learn more about Static Application Security Testing](#)

Secret Detection

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

GitLab allows you to perform Secret Detection in CI/CD pipelines; checking for unintentionally committed secrets and credentials. Results are then shown in the Merge Request and in the Pipeline view. This feature is available as part of Auto DevOps to provide security-by-default.



[Learn more about Secret Detection](#)

Dependency Scanning

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

GitLab automatically detects well known security bugs in the libraries that are included by the application, protecting your application from vulnerabilities that affect dependencies that are used dynamically. Results are then shown in the Merge Request and in the Pipeline view. This feature is available as part of Auto DevOps to provide security-by-default.



[Learn more about Dependency Scanning](#)

Container Scanning

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

When building a Docker image for your application, GitLab can run a security scan to ensure it does not have any known vulnerability in the environment where your code is shipped. Results are then shown in the Merge Request and in the Pipeline view. This feature is available as part of Auto DevOps to provide security-by-default.



[Learn more about container scanning](#)

Dynamic Application Security Testing

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Once your application is online, GitLab allows running Dynamic Application Security Testing (DAST) in CI/CD pipelines; your application will be scanned to ensure threats like XSS or broken authentication flaws are not affecting it. Results are then shown in the Merge Request and in the Pipeline view. This feature is available as part of Auto DevOps to provide security-by-default.



[Learn more about application security for containers](#)

Interactive Application Security Testing

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

IAST combines elements of static and dynamic application security testing methods to improve the overall quality of the results. IAST typically uses an agent to instrument the application to monitor library calls and more. GitLab does not yet offer this feature.



Browser Performance Testing

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Easily detect performance regressions for web apps, prior to merging into master. Browser Performance Testing is included in Auto DevOps, providing automatic performance analytics of the root page with zero configuration.



[Learn more about Browser Performance Testing](#)

Load Performance Testing

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Easily detect performance regressions for software under load, prior to merging into master.



[Learn more about Load Performance Testing](#)

Automated Accessibility scanning of Review Apps

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Performing accessibility testing is important in order to ensure you're serving all the users who use your products. In GitLab you can generate Accessibility reports automatically prior to merging into master.



[Learn more about Automated Accessibility scanning](#)

Step folding for CI/CD logs

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

Collapse the job log output for each command.



[Documentation](#)

View Kubernetes pod logs

CORE	STARTER	PREMIUM	ULTIMATE
FREE	BRONZE	SILVER	GOLD

The monitoring of servers, application, network and security devices via generated log files to identify errors and problems for analysis. GitLab makes it easy to view the logs of running pods in connected Kubernetes clusters. By displaying the logs directly in GitLab, developers can avoid having to manage console tools or jump to a different interface.



[Learn more about viewing Kubernetes pod logs](#)

Windows Container Executor

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

With this feature you are able to use Docker containers on Windows directly, in much the same way as if they were on Linux hosts. This enables more advanced kinds of pipeline orchestration and management for users of Microsoft platforms.



[Learn more about the Windows Container Executor](#)

Visual Reviews

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Visual Review allow users to give feedback on a proposed change in a Merge Request directly from the Review App itself. This feature enables designers, Product Managers, and other stakeholders to comment on the changes to the look and feel / user experience of a change just as easily and quickly as developers working in the MR.



[Learn more about Visual Reviews](#)

On-demand Dynamic Application Security Testing

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

"There's no reason to wait for the next CI pipeline run to find out if your site is vulnerable or to reproduce a previously found vulnerability. GitLab offers scanning your running application with On-demand Dynamic Application Security Testing (DAST), independent of code changes or merge requests."



[Learn more about On-demand DAST](#)

Full Comparison Guide in PDF

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Why GitLab?

- Product
- Solutions
- Services
- DevOps lifecycle
- DevOps tools
- Is it any good?
- Releases
- Pricing
- Get started

Resources

- All resources
- All-Remote
- Blog
- Newsletter
- Events
- Webcasts
- Topics
- Training
- Docs
- Install

Community

- Customers
- Contribute
- Partners
- Channel Partners
- Explore repositories
- Source code
- Shop
- Direction
- Contributors
- Core Team
- Hall of fame
- Community Forum

Support

- Get help
- Contact Sales
- Contact Support
- Support options
- Status
- Customers portal

Company

- About
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