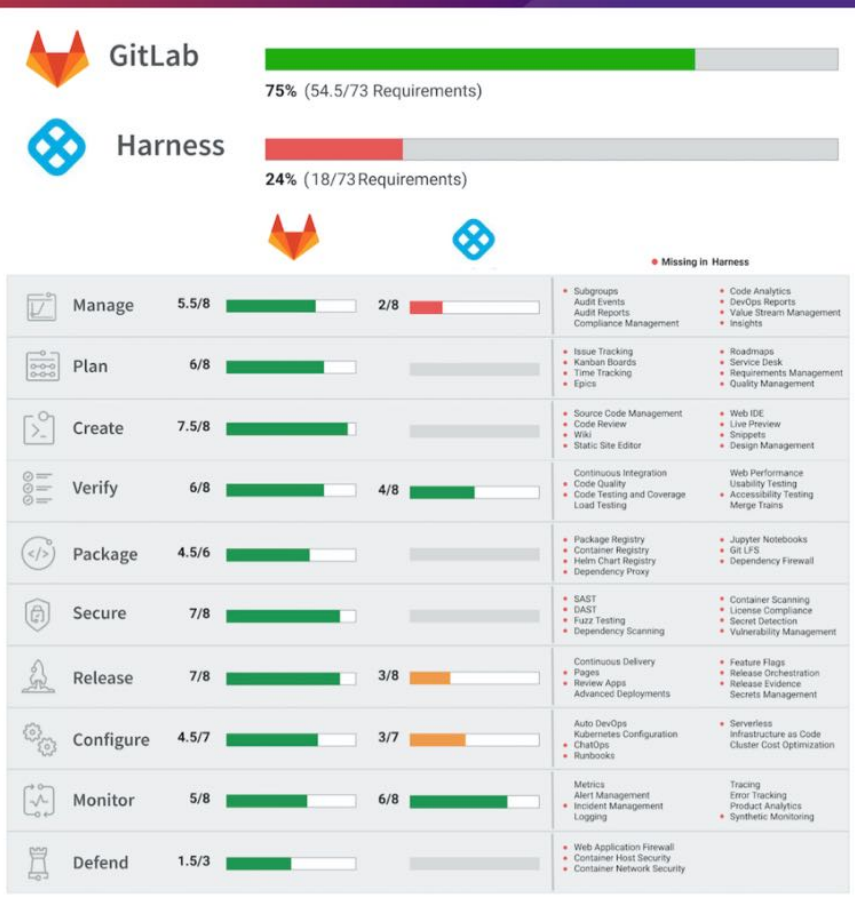
GitLab vs Harness

Decision Kit



Summary

Harness.io is a CI/CD platform that is available both as SaaS and on-premises deployment (Connected On-Premises & Disconnected On-Premises). The basic value prop for Harness is that it abstracts away some of the complexity involved in deploying both traditional applications and in microservices based applications. Harness' strength is more in the newer microservices based architectures. Harness provides a good user interface to perform most Continuous Integration tasks and also connects with various SCM and CI tools.

Strengths

- Strong continuous integration product with features normally found in all CI products.
- Easy to use UI, Visual display of pipeines and pipeline progress.
- Ability to customize and templatize pipelines and pipeline steps
- Continuous Verification capability integrates with several monitoring tools and applies machine learning to detect anomalies and automate rollback of deployment.

Gaps

- No built-in SCM capability - context switching from SourceCode to CI to CD tools to take a pipeline from code to production.
- Several out of the box integrations, but feedback from those systems is via a console type interface, making it harder to monitor tasks and to track down root cause of problems during deployment.
- No built in security - must rely on third party products. This lengthens time to secure, test and deploy.
- Issue management with pipelines requires third party product. This could result in loss of context and delays in addressing problems.

Feature Comparison

Feature Comparison

FEATURES	harness	GitLab
Free CI/CD with shared or personal Runners CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD GitLab.com has shared Runners that allow you to use GitLab CI/CD completely free up to 2000 build minutes for private projects and unlimited for public projects. Alternatively, you can set up your own Runner for faster build processing, unlimited build minutes, or special requirements. Explore GitLab.com offerings	✓	✓
Built-in CI/CD CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD GitLab has built-in Continuous Integration/Continuous Delivery, for free, no need to install it separately. Use it to build, test, and deploy your website (GitLab Pages) or webapp. The job results are displayed on merge requests for easy access. Learn more about CI/CD	✓	✓
CI/CD Horizontal Autoscaling CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD GitLab CI/CD cloud native architecture can easily scale horizontally by adding new nodes if the workload increases. GitLab Runners can automatically spin up and down new containers to ensure pipelines are processed immediately and minimize costs. Learn more about GitLab CI/CD Horizontal Autoscaling	−	✓
CI/CD Pipelines Dashboard CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD Visualize the history and current status of pipelines across projects and groups all in a single dashboard that can be customized for each user. Learn more about Cross-Project Pipelines in the Operations Dashboard	✓	✓
Deploy from Chat CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD Deploy from one environment (e.g. staging) to any other (e.g. production) from Chat Read the documentation on Slash commands	✗	✓
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	✗	✓
Latest artifacts locked to prevent deletion CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD The latest artifact of a successful job and pipeline on any active branch, MR, or tag is automatically locked to prevent being deleted. This makes it possible to set an aggressive expiration policy to clean up older artifacts, reduce disk space consumption, and ensure the latest artifact is always available. Learn more about job artifacts expiration	✗	✓
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	✓	✓
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

	✗	✓

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
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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

	✗	✓

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

	✗	✗

Protected Runners

CORE STARTER PREMIUM ULTIMATE
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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

	✗	✓

Deploy Boards

CORE STARTER PREMIUM ULTIMATE
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GitLab Premium ships with Deploy Boards offering a consolidated view of the current health and status of each CI/CD environment running on Kubernetes. The status of each pod of your latest deployment is displayed seamlessly within GitLab without the need to access Kubernetes.

Learn more about Deploy Boards

Timed and manual incremental rollout deployments

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

GitLab can allow you to deploy a new version of your app on Kubernetes starting with just a few pods, and then increase the percentage if everything is working fine. This can be configured to proceed per a schedule or to pause for input to proceed.

Learn more about configuring incremental rollout deployments

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

Minimal CI/CD configuration

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

GitLab CI/CD requires less configuration for your pipelines than other similar setups like Jenkins.

Learn more about GitLab CI/CD

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

Step folding for CI/CD logs

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Collapse the job log output for each command.

Documentation

CI/CD for external repo

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Connect your projects hosted on external services (like GitHub or Bitbucket) and leverage the power of GitLab CI/CD pipelines to build, test, and deploy your applications easily.

Learn more about CI/CD for external repositories

CI/CD for GitHub

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Connect your projects hosted on GitHub and leverage the power of GitLab CI/CD pipelines to build, test, and deploy your applications easily.

Learn more about CI/CD for GitHub

Interactive Web Terminals

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Interactive web terminals allow you to connect to a running or completed Kubernetes, Docker, or Shell runner job and manually run commands to better understand what's happening in the system.

Learn more about Interactive Web Terminals

Explicit support for monorepos

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

The ability to execute jobs only/except when there are changes for a given path or file support monorepos where many microservices are contained in a single repo. Learn more about only/except CI/CD execution	✗	✓
Pipelines for Merge Requests CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD Specify when you want jobs to run only when they are in a pipeline associated with a Merge Request. Make your pipelines more efficient by running only the neccessary jobs for Merge Requests. Learn more about Pipelines for Merge Requests	✓	✓
Pipelines for Merged Results CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD Keep master green. A special pipeline runs on the results of merged code before merging into master to detect changes that may be green on a branch but will fail master when merged. Learn more about Pipelines for Merged Results	✗	✓
Merge Trains CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD Ensure an orderly and efficient flow of changes in a pipeline to target branches by queueing up pipelines in parallel, each building off the merge result of the previous pipeline. Squash-and-Merge is also supported together with Merge Trains. Learn more about Merge Trains	✓	✓
Run pipelines in the parent project for MRs from forks CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD A member of the parent project with appropriate permissions can run pipelines from a forked MR using the parent project's pipeline configuration and runners. This adds another layer of security to verify that there's no malicious activity in the forked MR that could affect the parent project. Learn more about Forked MR Pipelines	✓	✓
Trigger pipeline on any event in code repository CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD Enables pipelines/workflows to be started based on when any defined event is executed in the code repository. For example, could run a workflow to send a welcome email on adding a new member to a repository or project. Docs on GitLab triggerable events	✓ Multiple trigger types	− Supports 21 event triggers
Community powered workflows (configuration is code so are shareable) CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD GitLab pipeline (workflows) are defined as yml in repos and can be shared just like actions.	✗	✓
Any platform, any language, and cloud CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD Can run on any OS platform, for any language, and on any cloud provider	✗	✓
No configuration, infrastructure setup, or patching necessary CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD As a SaaS offering, can provide software development and delivery services without the need to set up the tool itself, infrastructure to run it, and to maintain it by patching.	✓	✓
Auto suggest pipelines to start with based on code language CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD Through language detection, auto suggest pipeline templates to run to help users quickly get a pipeline running.	✗	✓ Auto Devops runs a pipeline, not just suggest one
Advanced CI/CD configuration linter CORE STARTER PREMIUM ULTIMATE FREE BRONZE SILVER GOLD The CI linter provide warnings and error messages when validating your `.gitlab-ci.yml` file, helping to get up and running quickly with GitLab pipelines. Learn more about the CI YAML linter	✗	✓

Comes with many pre-defined pipelines

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Offers many pre-defined pipelines that capture best practice and make it easy for a user to get started with each project for common languages, platforms, and configurations.

✗	✓

Connects the diff tools & services used during the SDLC

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Can be used as a central glue to orchestrate, and connect data and outputs from your many different tools & services.

✓	✓

Matrix builds

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Built-in ability to define and execute builds that automatically trigger a number of parallel jobs or pipelines based on a multitude of input variables. For example, building for 3 OS's at once, and for 3 different versions of libraries, would automatically be done in 9 parallel jobs. At GitLab, this is implemented using dynamic child pipelines.

Learn more about child/parent pipelines

✗	✓

Run shared Linux runners

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Ability to run runners on a pool of shared Linux systems from the SaaS offering.

✗	✓

Run shared Windows runners

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Ability to run runners on a pool of shared Windows systems from the SaaS offering.

in beta

✗	✗

Run shared macOS runners

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Ability to run runners on a pool of shared macOS systems from the SaaS offering.

✗	✗

Pipeline status visible in pull/merge request

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Status and results of pipeline runs are viewable at least in summary from the merge/pull request that they are part of.

✓	✓

Live streaming of logs from running pipeline

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Ability to see live job logs (while the pipeline is running).

✓	✓

Search across all job logs

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Search across all or more than one job log at once. Enables more efficient search for errors and other content of interest while troubleshooting or reviewing job output.

✗	− browser search within the log at a time

View raw logs in plaintext

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Ability to get the plain text of a log, no mark up, to be able to share it or use it externally.

✓	✓

Multiple pipelines per repo

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Ability to define multiple pipelines per code repository to enable either different processes to be run at different times, and/or to enable monorepos where there are multiple applications within one repo which need to be built and handled differently per application.

Read more about child/parent pipelines

✓	✓

Reference actions/jobs in another repo

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Ability to have pipelines/workflows reference and use actions/jobs from a repo different from the one

✓	✓

It is being run from, without needing any installation.

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