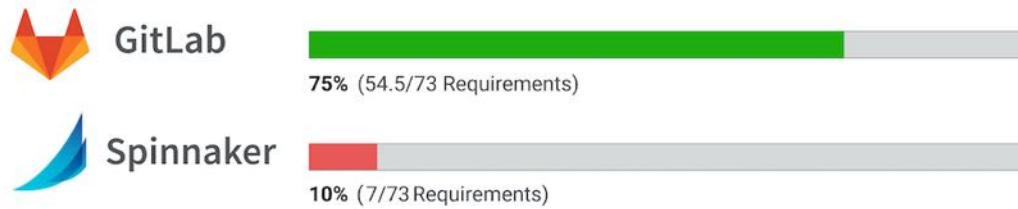


GitLab vs Atlassian Spinnaker

Decision Kit



Category	GitLab Score	Spinnaker Score	Missing in Spinnaker
Manage	5.5/8	1/8	<ul style="list-style-type: none"> Subgroups Audit Events Audit Reports Compliance Management Code Analytics DevOps Reports Value Stream Management Insights
Plan	6/8		<ul style="list-style-type: none"> Issue Tracking Kanban Boards Time Tracking Epics Roadmaps Service Desk Requirements Management Quality Management
Create	7.5/8		<ul style="list-style-type: none"> Source Code Management Code Review Wiki Static Site Editor Web IDE Live Preview Snippets Design Management
Verify	6/8	2/8	<ul style="list-style-type: none"> Continuous Integration Code Quality Code Testing and Coverage Load Testing Web Performance Usability Testing Accessibility Testing Merge Trains
Package	4.5/6	1/7	<ul style="list-style-type: none"> Package Registry Container Registry Helm Chart Registry Dependency Proxy Jupyter Notebooks Git LFS Dependency Firewall
Secure	7/8		<ul style="list-style-type: none"> SAST DAST Fuzz Testing Dependency Scanning Container Scanning License Compliance Secret Detection Vulnerability Management
Release	7/8	4/8	<ul style="list-style-type: none"> Continuous Delivery Pages Review Apps Advanced Deployments Feature Flags Release Orchestration Release Evidence Secrets Management
Configure	4.5/7	1/7	<ul style="list-style-type: none"> Auto DevOps Kubernetes Configuration ChatOps Runbooks Serverless Infrastructure as Code Cluster Cost Optimization
Monitor	5/8	2/8	<ul style="list-style-type: none"> Metrics Alert Management Incident Management Logging Tracing Error Tracking Product Analytics Synthetic Monitoring
Defend	1.5/3		<ul style="list-style-type: none"> Web Application Firewall Container Host Security Container Network Security

Summary

Spinnaker is an open-source, multi-cloud continuous delivery platform that helps you release software changes. Created at Netflix, it has been battle-tested in production by hundreds of teams over millions of deployments. It combines a powerful and flexible pipeline management system with integrations to the major cloud providers. [\(source:\)](#)

Like Spinnaker, GitLab is also open source and also provides a flexible CD pipeline management system, is able to deploy to major cloud providers, and also offers advanced deployment patterns such as canary and incremental (rolling) deployments. In addition to this, GitLab provides not just the CD portion of the SDLC, but also everything else from planning, to CI, to testing, packaging, monitoring, and security scanning, all in a single application.

Spinnaker provides two core sets of features:

1. Application management: This is primarily to view and control your cloud resources. In Spinnaker an Application is modeled along the lines of Microservices. An application contains clusters, which consists of Server Groups. The Application also models Load Balancers and Firewalls.
2. Application deployment: This construct is used to model and manage continuous delivery workflows. A key element of Application Deployment is the Pipeline. A pipeline consists of a series of actions or stages which can be executed manually or automatically triggered. Parameters can also be passed from one stage to another and used for further actions.

At a macro level Spinnaker provides a normalized taxonomy of artifacts and actions that can apply across cloud providers. Using this normalized taxonomy one can build complex pipelines for a cloud provider or across cloud providers.

Spinnaker was created in the pre-kubernetes era and the code base did not take Kubernetes effect. This could lead to higher deployment and maintenance costs. To manage more complex enterprise environments, Armory.io provides an enterprise distribution for Spinnaker.

Armory.io

Armory.io provides an enterprise distribution of Spinnaker. That a third party company has to provide an enterprise distribution provides sufficient indication on the limitations/challenges of the Spinnaker platform.

Furthermore, Armory.io's business model is heavily dependent on their services team's involvement in customer accounts. So it is more services less product. A clear indication of the need for services is the [Armory.io pricing page](#) that lists the three enterprise offerings but no pricing on any of them. This is likely due to the unpredictability of the services component within each customer engagement.

Strengths

- Easy application deployment across cloud providers.
- Pre-packaged actions that can be easily applied, without need for lower level understanding of different cloud provider's concepts.
- Spinnaker is Open Source and has a community of developers contributing to the project.
- Complex, simultaneous deployments as first-class citizens.

Gaps

- Only supports the Continuous Delivery (CD) phase of a DevOps cycle.
- Normalized taxonomy does not apply across cloud providers. For example, an Amazon ECS cluster does not map to any core Spinnaker concept. So these need to be set up separately, thus diminishing the value that Spinnaker can provide.
- Cloud providers differ in how they deploy and manage applications, thus eventually users need to get down to individually understanding each provider.
- Spinnaker does not support OpenStack.
- Only available in Self-hosted and managed option. No Cloud version of Spinnaker.
- Steeper learning curve - Pipeline expression language uses a custom syntax, which entails a learning curve for users. Moreover, some string manipulation and other expression evaluation requires use of java code within the expression language. Nested expressions are not supported in Pipeline expression logic, this can be a limitation in some scenarios.

Resources

- [Pipeline Expression Reference](#)
- [Spinnaker Github Repo](#)

Feature Comparison

FEATURES



Built-in CI/CD



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](#)

Built for using containers and Docker



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.



[Read the docs](#)

Container debugging with an integrated web terminal

CORE STARTER PREMIUM ULTIMATE
FREE BRONZE SILVER GOLD

Easily debug your containers in any of your environments using the built-in GitLab Web Terminal. GitLab can open a terminal session directly from your environment if your application is deployed on Kubernetes. This is a very powerful feature where you can quickly debug issues without leaving the comfort of your web browser.



[Learn more about the web terminal](#)

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
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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
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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
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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](#)

Environments and deployments

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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.



Auto DevOps

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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](#)

Canary Deployments

CORE	STARTER	PREMIUM	ULTIMATE
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GitLab Premium can monitor your Canary Deployments when deploying your applications with Kubernetes.

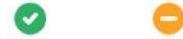


[Learn more about configuring Canary Deployments](#)

Complex, simultaneous deployments per environment

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FREE	BRONZE	SILVER	GOLD

Canaries, blue/green deploys, and other simultaneous deployment concepts where an environment, like production, would have multiple deployments running at the same time. GitLab has this information, and can even show canary deployments in the deploy board, but in some other places only shows the most recent deployment.



Robust deploy and rollback bundle

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Encapsulate knowledge of deploying and rolling back into something more than a script, perhaps similar to a k8s operator. Something that knows how to handle failure. e.g. if you're deploying 7 services and one fails, you can't just stop, you probably have to rollback the 6 that succeeded, as well as the 7th that failed. (Now, depending on implementation, it still might be a script that triggers some kind of operator). GitLab can deploy and rollback, but only via scripts with limited error handling.



Pre-written deploy target mechanisms

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GitLab Auto DevOps knows how to deploy to Kubernetes. Other vendors have built-in mechanisms to deploy to AWS VMs, Fargate, etc.



Managed load balancer

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FREE	BRONZE	SILVER	GOLD

To do proper blue/green, you need to understand and expose the load balancer. With GitLab, you can script management of your load balancer, but it's not built in as a first-class citizen.



Active confirmation of what is running in production

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FREE	BRONZE	SILVER	GOLD

GitLab knows how to deploy to production (and other environments), but then trusts the result. Other vendors actively query the target environment to know what is running.





Why GitLab?

- [Product](#)
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- [DevOps lifecycle](#)
- [DevOps tools](#)
- [Is it any good?](#)
- [Releases](#)
- [Pricing](#)
- [Get started](#)

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