GitOps. What's it all about?

The digital landscape is ever-evolving. From [cloud technology](#) to [DevOps](#), companies have come a long way. One of the new practices that have arisen in recent times is GitOps.

Founded on a set of practices that give room for the developers to perform many more IT tasks, **GitOps** has gained a reputation for fostering seamless innovation. Although relatively new, companies have taken cognizance of this new approach and incorporated it into their production processes.

So, what exactly is this approach? Let's find out.

GitOps

As apparent, GitOps has the open-source platform, Git, at its heart. It is a methodology that makes continuous deployment and Git applications infrastructure management

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easy. In short, it is a set of practices developed specifically for Git applications operations. Hence, the name GitOps.

The practice allows the users to verify and deploy infrastructure changes. Additionally, all the configurations are stored in a repository compatible with Git. With this centralized repository, the developers can make the configuration changes and overview the history of changes.

Also, GitOps betters the deployment process as one can integrate the infrastructure with the same delivery pipelines. This makes application management the core aspect of the GitOps software delivery process.

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Core Practices of GitOps
GitOps was first coined by the co-founder of Weaveworks, Alexis Richardson. The methodology evolved from its inception, and it now has three core practices on which it operates.

Complete Declarative Infrastructure
With this approach, all infrastructure configurations are perceived to be declarative and are to be treated as code. This declarative nature allows the users to proceed with the automated provisioning tools to construct an optimal infrastructure. The declarative nature also lends the required flexibility to initiate rollbacks without any disruptions.

The Repository is the Key
GitOps is gaining traction due to the innovative idea that all Git configurations are stored in one place. This allows the Ops team to view and track every change and addition incorporated into the infrastructure. This transparency provides swift auditing and better decisions which may include rollbacks.

Automated Updates

Updating manually is expensive on resources and time. GitOps does away with this expense as the infrastructure is bettered with automated updates which don't require any manual intervention. In addition, the consolidated storage of the configuration allows the entire infrastructure to be updated in one go.

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As one may observe, GitOps is similar to DevOps. But there are subtle differences between both approaches. Let's explore what they are.

How GitOps is different than DevOps

DevOps and GitOps are both practices that streamline development and deployment processes. However, the primary distinctive feature that GitOps possesses over DevOps is that while DevOps was designed to suit various other cultures, GitOps focuses specifically on operations that run on Git.

While DevOps brings in a fundamental cultural change in the company, GitOps brings the required tools and practices to infrastructure management. These tools foster collaboration, enabling better development and deployment, and bolsters the CI/CD pipelines.

As GitOps is much more focused on the infrastructure, it is more rigid and perfection-oriented than DevOps. But, on the other hand, it is much more compatible with K8s, while DevOps makes up in that area by bringing other benefits such as easy supply chain management.

As one may have observed, GitOps is an extension of DevOps. The former can complement the latter for a much more reliable development environment that would house applications and infrastructures.

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How to get started on GitOps

GitOps doesn't demand drastic changes in the working culture or the development process. The only change that the company would have to welcome is that the existing infrastructure should be managed with code tools and a Git repository.

The first step is to identify your unique needs, which your infrastructure has put forth. Then, the company can integrate its existing structure with Information as Code tools based on that information. However, the company can also prefer to start from scratch. Both the approaches have their own merits. While integration saves time, starting from scratch is advised to support various new projects that a company shall encounter.

As one can observe, GitOps strongarms the organization with various abilities. From reduced errors to the increased yet productive focus on Git, organizations of various

scales are reaping the benefits. However, it is an uphill challenge to identify the needs of the infrastructure rightly and whether to start from scratch or proceed with integration.

This is where [Veritis](#) steps in for our clients. First, we inspect and inform you about how best to proceed with an idea. Then, by identifying your unique needs, we create a solution that suits you best. So, reach out to us and let us help you embrace the power of GitOps!

Services