

## A Guide to APIOps, the Collaborative Approach for API Production



Cloud and IT landscape have changed a great deal over recent years. While Cloud was in the nascent stage, [IT industries](#) adopted different methods, ranging from [Waterfall to Agile](#). Though these methods were productive, innovators never stopped bettering the existing methodologies.

Agile was progressively bettered to pave the way for DevOps. While the world continues to embrace the latter, there have been iterative developments over DevOps, which are GitOps and other such approaches.

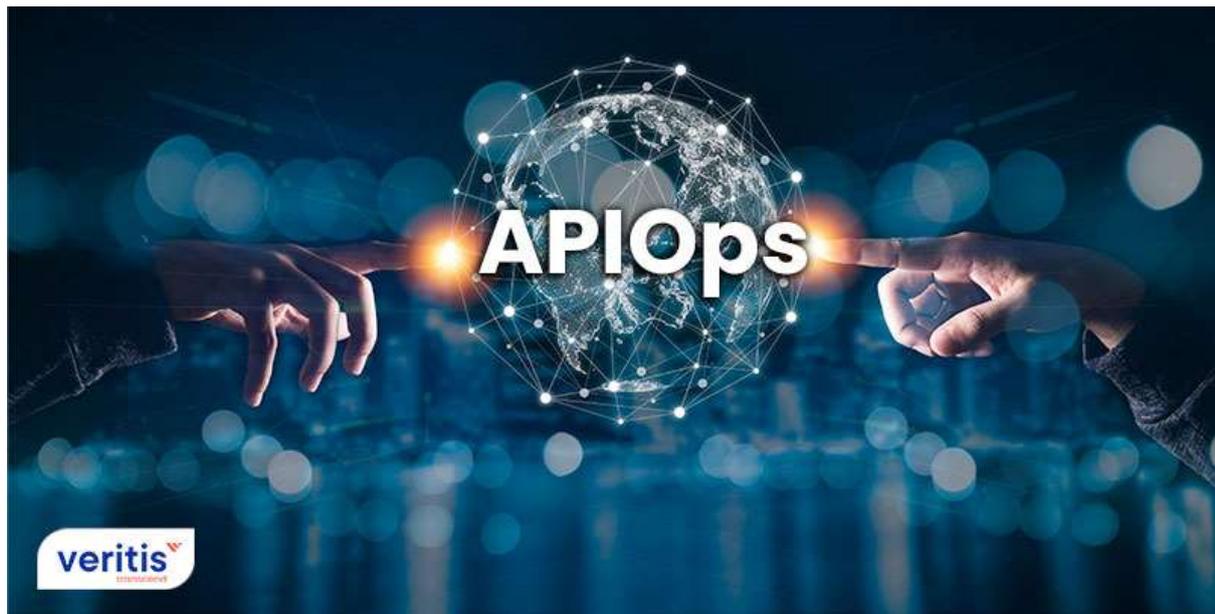
However, they are not enough to deal with every technological requirement one has to deal with. And in this blog, we shall explore one of the technological impediments that a new approach has addressed.

APIOps, the combination of DevOps and GitOps, is a methodology that allows users to achieve high-quality results in the **Application Programming Interface (API)** lifecycle.

Bearing semblance to DevOps, the project members would easily develop and deploy their iterative updates, which can be automated. This semblance and [combination of DevOps and GitOps](#) may make one wonder how it is different from them.

**Let's dive in and explore why APIOps may be the next big thing for your company.**

## Introducing APIOps



API has played an integral role in our lifestyle over the past two decades. The API is code components that allow the data flow between different systems in simpler terms. With the seamless data transmission, there is a betterment in the interconnectivity of applications and databases in multiple ways.

Given the spike in demand for [IT solutions](#) after COVID-19, the demand for **API services** has shot up exponentially. From developing new tools to endowing users with new experiences, developers across the globe have gone into an overdrive to develop and deploy services faster than ever before. And to complicate the matters, we are all at a juncture where one can't afford to err.

An API should tick off certain checkboxes: security, compliance, accessibility, and robustness. In a day where hacks and data espionage incidents are marring the IT landscape, security is a key aspect that none can compromise upon.



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Secondly, the API design should be overcomplicated and locked away from everyone so that none can access it. A well-designed API would be discoverable and accessible to people authorized to access it. Lastly, it should withstand heavy loads and heavy usage. None like a utility that is unreliable.

While we can argue that an API can still be deployed with any one of these qualities being met, one should acknowledge the risks lurking and appreciate the potentiality that their competition at some point would overshadow them. Amid these concerns, delivery time got elongated as quality took priority. As time is of great relevance to all, APIOps was developed to ensure organizations could deliver robust solutions without much delay.

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**Useful Link:** [How DevOps Helps Businesses in Addressing Technical Debt?](#)

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## Understanding APIOps

GitOps is a practice that Git developers use to produce better results when developing using Git. While it takes on the principles and core practices of DevOps, it focuses primarily on bettering the productivity of Git programmers. APIOps is quite similar as it takes the idea of GitOps and core practices of [DevOps](#).

To harness the benefits of APIOps, one has to specify the APIs early on. This approach is called 'API First,' where the developers have to define the service interface and implementation logic. Typically, DevOps members initiate this process with API progression with Open API execution where the framework is defined. In a nutshell, it is a set of instructions that chalks out the lifespan of API service. At this stage, the security policies and data management rules are incorporated to ensure the endpoints.

**APIOps** stunts the delivery time by providing automation and self-serve access to every project member. With automation tools incorporated at every step, API quality is ensured

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without spending much time. Additionally, consistency is established with increased usage of APIOps.

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Useful Link: [Top 10 DevOps Tools to Pick for Your Business](#)

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Essentially, APIOps follows five steps: Design, Build, Deploy, Publish, and Operate. Let's delve deeper into what they are:



## Design

Before development, the first step requires a concrete list of the API specs and the creation of a test suite in the API design tool. Next, the tool should support the governing tests based on the specifications and the generation of the required iteration. The iteration is then sent to a version control system where it is subjected to the first automation checkpoint where it's checked for the governing compliance.

## Build

One of the advantages of API development is that one can use any tool and build it in any programming suite. After the initial development is finished, the code will be subjected to testing. Thankfully, APIOps automatically triggers the testing once the code



is checked in the version control. This testing includes unit-wise testing, and only after the testing evokes satisfactory results will the APIOps proceed to the next step.

## Deployment

A declarative configuration file is created automatically once the positive testing results come in. The file will be based on the APIs design from the pipeline. As these files are stored in the version control system, tracking and rolling back should the user feel so.

The declarative configuration file will enable the deployment of API to an API gateway by creating or updating the endpoints in the gateway, which automatically applies the security and governing policies created at the first stage.

## Publish

An API is published to the consumers after completing all the prior steps. In APIOps, almost everything in this step is automated. Ranging from API registration to self-serve access, most of everything in this step doesn't require human intervention.

Due to the extreme automation, API development and deployment are relatively easy. Due to the stunted requirement for human intervention, the publishing process is one of the favorite steps for any project member, as consistency and accuracy are guaranteed.

## Operate

Managing after publication is what the operation step constitutes. Based on the demand, the users can decide whether to scale the API vertically or horizontally. And without jumping through many hoops, it can be updated. Should the demand fizzle out or for any other reason, the API can be retired without breaking a sweat.

One ought to understand that the declarative configuration file holds the key to easing these mundane operations all along the API lifecycle. The file also allows the users to configure the API to sustain peak usage and be scalability compatible.

## Capping off APIOps

APIOps is one of the solutions which has to come to the fore after COVID-19. The demand for quality solutions has spiked exponentially, and companies are increasingly looking for methodologies and tools to boost productivity to the required levels.

While this blog addressed what APIOps and its practices, there is a lot to it than meets the eye. From the tools for OpenAPI implementation, there are various steps involved.

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