

What is DevOps ? Brief overview of Kubernetes and Docker.

In this article we will understand what devops is and what exactly kubernetes and docker do to simplify the software development process.

What is DevOps?

DevOps is a set of software development practices that aim to shorten the time between software development and deployment. The term was first coined in 2009 by Patrick Debois.

The main goal of DevOps is to automate and streamline the software development process. In order to do this, DevOps practitioners use a variety of tools and technologies. Some of the most popular DevOps tools include Kubernetes, Docker, Ansible, terraform, etc.

DevOps is becoming increasingly popular, as it can help organizations to speed up the software development process and improve the quality of their software products. In addition, DevOps can also help to reduce the risks associated with software development.

Brief Overview of Docker

Docker is a tool that helps developers to create and deploy applications. Docker automates the deployment of any application as a lightweight, portable, self-sufficient container that will run virtually anywhere.

A Docker container shares the same operating system as the application it contains, as well as its own libraries and other dependencies. Docker containers are easy to create, ship and run because they don't rely on a pre-existing installation of software on the host machine or additional libraries in the host environment.

Docker containers are built from images - lightweight read only templates with all of the necessary parts to run an application: OS, language runtime, system tools and libraries. Images can be created in a development environment then shipped to production ready for execution by copying them onto servers or using them directly from public registries such as Docker Hub.

Brief Overview of Kubernetes

Kubernetes is an open-source software that is used to orchestrate containers. It helps in solving the problem of how to deploy and manage containerized applications across a cluster of hosts, providing container-centric infrastructure. Kubernetes makes use of the Docker engine and it was originally designed by Google, but now it is governed by the Cloud Native Computing Foundation.

Kubernetes takes care of scaling up and down the number of containers that are running on a host machine. It also handles all the services required for container orchestration like storage, networking, deployment, replication etc. Kubernetes has many use cases such as continuous integration and continuous delivery (CI/CD), load balancing, disaster recovery etc.