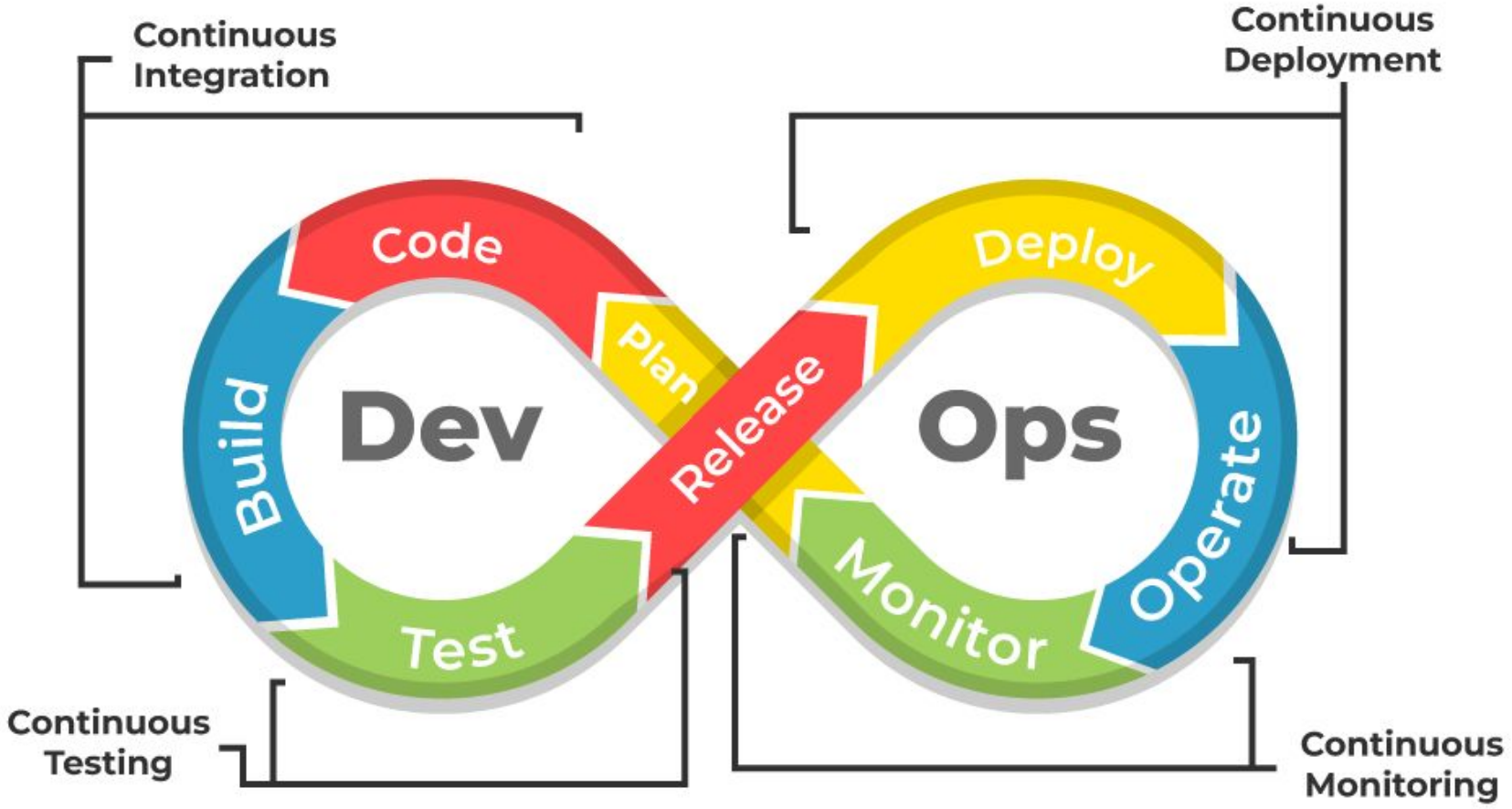
DEVOPS


Continuous Integration
Continuous Deployment
Code
Plan
Build
Dev
Release
Ops
Deploy
Operate
Test
Monitor
Continuous Testing
Continuous Monitoring

What is DEVOPS?

DevOps is a software development approach emphasizing collaboration, automation, and continuous delivery to provide high-quality products to customers quickly and efficiently.

- It shows cooperation between Development and Operations groups to deploy code to production quickly in an automated and repeatable manner.
- This improves productivity, ensures consistency, and lowers error rates in the development process.

DEVOPS Fundamentals

- Linux
- Source code Management
- YAML(Yet Another Markup Language)
- Cloud

LINUX

Linux is one of the most popular operating systems for servers and cloud-based infrastructures. It gives access to a robust CLI, a scripting environment, essential tools and utilities, strong security features, and powerful diagnostic tools for troubleshooting.

Source Code Management

Source Code Management is one of the key aspects of DevOps. It is the practice of tracking and managing the versions of your source code. Git is considered to be one of the best tools for version control of source codes. It allows DevOps Engineers to collaborate, manage code, and implement CI/CD pipelines, code quality, and Infrastructure as a Code.

YAML

It is used for defining and managing Infrastructure as a Code, managing configuration for various tools, defining CI/CD Pipelines and integrating with other technologies like JSON, XML, and Python, which makes it easy to learn and use in different DevOps scenarios.

CLOUD

Cloud Computing is an essential tool to learn to become a DevOps Engineer. Many modern days software applications are deployed on Cloud Platforms like Amazon Web Service , Microsoft Azure , Google Cloud Platform, etc as it provides scalability of the resources, elasticity, automation, tools integrations, and cost-optimizations which helps to manage software applications in the cloud.

Containerization

- Containerization is a software deployment process that packages an application's code and dependencies into a single, lightweight executable called a container.
- Containers are portable and can run on any host operating system, making them a key part of modern software development

DOCKER

Docker is a popular containerization tool that is used to deliver software quickly by using the concept of containerized code which helps for easy management and maintenance of applications.

Orchestration

- Orchestration is the coordination and management of multiple computer systems, applications and/or services, stringing together multiple tasks in order to execute a larger workflow or process.
- These processes can consist of multiple tasks that are automated and can involve multiple systems.

KUBERNETES

Kubernetes is a popular container orchestration tool that provides application scalability, resilience, flexibility, portability, automation, monitoring, and access to a rich ecosystem of tools and plugins which can be applied to various aspects of the DevOps lifecycle, such as deployment, scaling, monitoring, and troubleshooting of applications.

Infrastructure as a Code

IaC enables automating and configuring the infrastructure resources using various tools such as Terraform, CLoudFormation, ARM Templates, etc. It defines cloud resources, manages resource dependencies, creates reusable templates, tests IaC code, and manages code changes using version control systems.

Companies using DEVOPS

- Amazon
- Google
- Netflix
- Meta
- Uber
- AirBnB
- LinkedIn
- Spotify
- Many more.....

Thank You