

# DEVOPS TOOLS DOCUMENTATION

Version No: 1.0

22/02/2023

## **Contents**

1. Introduction
2. Explanation about Agile process
3. Definition of DevOps and Benefits of DevOps Process
4. DevOps Tools list
5. Configuration Manage Tools
  - 5.1 Chef
  - 5.2 Ansible
  - 5.3 Puppet
6. Containerization Tools
  - 5.1 Docker
  - 5.2 Kubernetes
7. Continuous Integration Tool
  - 6.1 Jenkin
8. Continuous Monitoring Tools
  - 7.1 DataDog
  - 7.2 Nagios
9. Continuous Log Monitoring Tool
  - 8.1 Elasticsearch
10. Code Repository Tool
  - 9.1 GitHub
11. Code Management Tool
  - 10.1 Terraform
12. Build Tool
  - 11.1 Maven

## 1.INTRODUCTION

The document describes about different types of methodologies and different types of DevOps Tools. It explains the benefits of Devops process and also describes various DevOps tools like Github,Terraform, Kubernetes etc.

## 2.EXPLANATION ABOUT AGILE PROCESS

It's a software development methodology which promotes shorter development life cycles and where there is a feedback loop that prioritizes the customer feedback and changes that need to be made according to it.

## 3.DEFINITION OF DEVOPS AND BENEFITS OF DEVOPS PROCESS

**Definition Of DevOps** : DevOps is a combination of software development and operations (ops). It is defined as a software engineering methodology which aims to integrate the work of development teams and operation teams by facilitating a culture of collaboration and shared responsibility.

**Benefits of DevOps Process** :

- Faster, and better product delivery.
- Faster issue resolution and reduce complexity.
- Greater Automation.
- Greater scalability and availability

## 4.DEVOPS TOOLS LIST

- Configuration Manage Tools : ( chef , Ansible, and Puppet)
- Containerization Tools : (Docker , Kubernetes )
- Continuous integration Tools : Jenkins
- Continuous Monitoring Tools : (Datadog & Nagios)
- Continuous Log Monitoring Tools : ELK (Elastic Search )
- Code Repository tool : GitHub
- Issue/Bug Tracking : Jira
- Code Management Tools (IAAC - Infrastructure as a code ) : Terraform
- Built Tool: Maven

## 5.CONFIGURATION MANAGEMENT TOOLS

### 5.1 Chef :

Chef is a Configuration management DevOps tool that manages the infrastructure by writing code rather than using a manual process so that it can be automated, tested and deployed very easily.

### 5.2 Ansible:

Ansible is an open-source platform that facilitates configuration management, task automation, or application deployment.

### 5.3 Puppet:

Puppet is an open source configuration management tool for deployment, management and configuration of servers.

## 6.CONTAINERIZATION TOOLS

### 6.1 Docker:

Docker is a software platform that allows you to build, test and deploy applications quickly.

### 6.2 Kubernetes:

Kubernete is an open source container orchestration tool or system that is used to automate tasks such as the management, monitoring, scaling and deployment of containerized applications.

It is also known as Docker extension tool.

## 7.CONTINUOUS INTEGRATION TOOL

### 7.1 Jenkins:

Jenkins is an open source free automation tool used to build test and software projects.

## **8.CONTINUOUS MONITORING TOOL**

### **8.1 DataDog:**

Datadog is a monitoring and analytics tool for information technology (IT) and DevOps teams that can be used to determine performance metrics as well as event monitoring for infrastructure and cloud services

### **8.2 Nagios:**

Nagios is an open source monitoring system for computer systems. It was designed to run on the Linux operating system and can monitor devices running Linux, Windows and Unix operating systems.

## **9. CONTINUOUS LOG MONITORING TOOL**

### **9.1 Elasticsearch:**

ELK is a log management platform that helps DevOps engineers in making better decisions for the company.

## **10. CODE REPOSITORY TOOL**

### **10.1 GitHub:**

GitHub is a code hosting platform for version control and collaboration. GitHub helps every team member work together on a project from any location while facilitating collaboration

## **11. CODE MANAGEMENT TOOL**

### **11.1 Terraform:**

Terraform is a platform-agnostic tool that allows you to build, change, and version infrastructure securely and efficiently.

## **12. BUILD TOOL**

### **12.1 Maven:**

Maven is a popular open-source build tool developed by the Apache Group to build, publish, and deploy several projects at once for better project management.

## 13. ISSUE/BUG TRACKING TOOL

### 13.1 Jira:

A Jira issue helps track bugs or underlying issues in a project. You can create issues after having imported a project.