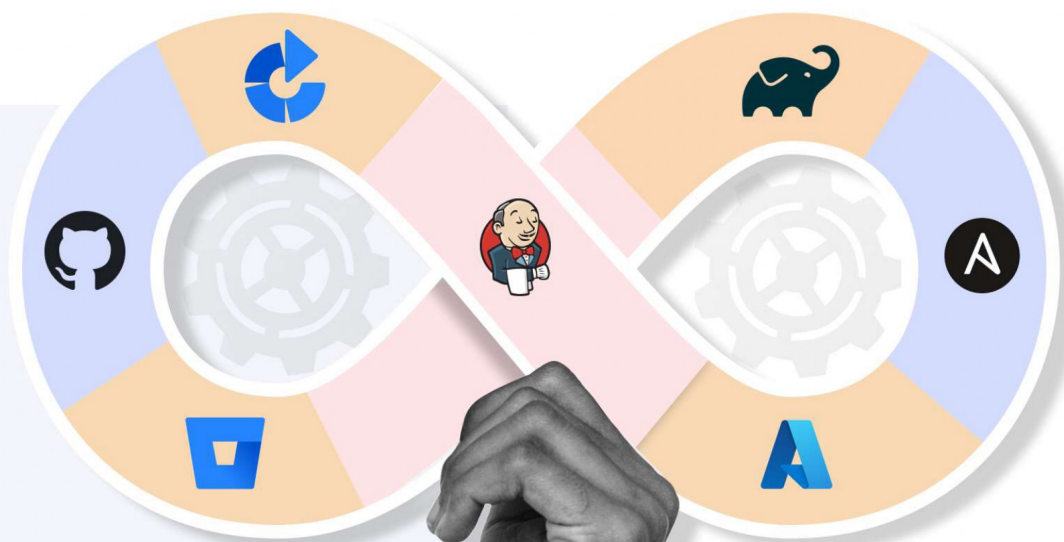# The 2024 DevOps Toolkit

A Practical Guide To Choosing & Using The Best Tools.

1. Version Control Tools

Help you keep track of every small change made to the codebase without making a huge effort.

GitHub

The world's largest source code repository that helps you easily manage, collaborate, and deploy your code.

Key Features
- Easy project management
- Source code management
- Increased safety of packages

BitBucket

A source code management tool that offers private repositories and a low cost for hosting your code, testing, and deploying from a single platform.

Key Features
- Integrated project management
- Code quality and security analysis
- Auto DevOps feature

2. Container Management Tools

Help you create, deploy, & manage application containers without worrying about the underlying infrastructure.

🐳 Docker

A set of platforms that uses OS-level virtualization to deliver software in packages called containers.

Key Features

- Faster and easier configuration
- Application isolation and routing mesh
- Standardized packaging format for diverse applications

⎈ Kubernetes

An open-source container orchestration and management tool that automates containerized apps' deployment, scaling, and management.

Key Features

- Automatic rollouts and rollbacks
- Service discovery and load balancing
- Self-healing capabilities

3. APM tools

Help you identify performance issues & ensures the services meet a certain standard.

AppDynamics

A tool focusing on full-stack application performance management and IT operations analytics.

Key Features
- Analytics-driven approach for solving any problem
- Intelligent insights help to find & fix issues.
- Transaction capturing that happens in an app periodically

Appium

An open-source tool to automate native, mobile web, and hybrid applications.

Key Features
- Parallel execution of test scripts
- Automates testing of web, native, and hybrid apps
- Single API for Android and iOS

4. CI/CD tools

Help you automate the release processes for your software applications by creating a continuous delivery pipeline.

Bamboo

An automated release management tool for software applications with a continuous delivery pipeline.

Key Features

- Provides support for parallel execution
- Easy to set up and configure, even for a newbie
- Allows you to create multi-stage build plans

Jenkins

An open-source platform that facilitates continuous integration and delivery by automating the release processes.

Key Features

- Easy to install and configure for a newbie
- Plenty of ready-to-use plugins
- A strong and active developer community

5. Configuration Management Tools

Help you maintain computer systems, servers, & software in a desired and consistent state for a long period.

Chef

A tool that automates infrastructure configuration using the master-agent model and IaC.

Key Features
- Easy integration with various cloud platforms
- Allows domain-specific infrastructure coding
- Uses a mechanism to get machine's current status

Ansible

A tool that enables infrastructure as a code mechanism and can run on multiple operating systems like Unix, Linux, and Windows.

Key Features
- Powerful tool for complex IT workflows
- Flexible, extensible, and easily scalable
- No need for an external automation agent

6. Test automation tools

Help you run automated test cases, manage test data, and utilize the results to improve software quality.

Selenium

A tool that supports test automation processes across various browsers and operating systems.

Key Features

- Open-source and portable testing tool
- Simple commands to implement testing procedures
- Handling of dynamic web elements with ease

TestSigma

An AI-driven SaaS test automation tool that enables developers to implement the principles of continuous testing.

Key Features

- It works well for the web, mobile, and APIs.
- Complete software testing life cycle
- Support for cross-browser/device/OS testing

7. Project management tools

Help you plan, organize, and manage resources.

JIRA

A tool widely used by agile development teams to track bugs, stories, epics, and other tasks.

Key Features

- Follows agile development practices
- Plenty of add-ons available in the ecosystem
- Project and issue tracking dashboard

Confluence

A tool that allows you to create, collaborate, and organize your projects at one location.

Key Features

- Structured page tree and best practices templates
- Offers unlimited virtual storage space
- Easy integration with JIRA

8. Build Automation Tools

Help to automate manual tasks to create and build software without human intervention.

Gradle

A build automation tool that uses Groovy, supports incremental build, and works with multiple languages.

Key Features

- Flexible and customizable
- Groovy-based
- Incremental build and multi-language support

Maven

A tool that manages dependencies, updates, reports, and documentation with an XML file.

Key Features

- Popular for Java projects
- XML-based
- Dependency and update management

9. DevSecOps Tools

Help you incorporate security values into DevOps and make it an integral part of the whole lifecycle.

Acunetix

A web application security scanner that audits web app vulnerabilities.

Key Features
- Web application security scanner
- Comprehensive reports and fixes
- Easy-to-use interface

Codacy

A tool that identifies security issues, duplication, complexity & style violations directly from Git workflow.

Key Features
- Static code analysis tool
- Code quality and technical debt metrics
- Git workflow integration

10. Cloud Hosting Tools

Help you make applications and websites accessible using cloud resources.

aws AWS

The world's most adopted cloud hosting platform, offering over 200 fully-featured services.

Key Features

- Scalable, elastic, and secure cloud hosting platform
- Fully-managed infrastructure management
- Robust data and relationship management

Azure

A tool that helps build, deploy, test, manage applications & services through a global data center chain.

Key Features

- The powerful and wealthy data analytics engine
- Seamlessly integrate with existing IT infrastructure
- Enhanced flexibility, scalability, and security

If you found this useful, 👍 and ✈ it with your network.