



# *Open Source Tools in AWS*

# Infrastructure as Code

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Here are some popular open-source tools for IaC:

- Terraform – A popular tool for provisioning and managing infrastructure across multiple cloud providers, including AWS.
- Ansible – An IT automation and configuration management tool that can be used to provision and manage infrastructure, including on AWS.
- Puppet – A configuration management tool that can be used to automate the provisioning and management of infrastructure, including on AWS.
- Chef – A configuration management tool that can be used to automate the provisioning and management of infrastructure, including on AWS.
- CloudFormation – An AWS-specific IaC tool that allows you to describe and provision AWS infrastructure in a template.

# Containers

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Here are some popular open-source tools for containers:

- Docker – A popular containerization platform that allows you to package applications and dependencies into containers.
- Kubernetes – An open-source system for automating deployment, scaling, and management of containerized applications.
- Apache Mesos – A cluster manager that can be used to run containers, among other things.
- LXC (Linux Containers) – An open-source containerization solution that provides isolated environments on a single Linux system.
- rkt (Rocket) – An open-source container runtime that is designed to be secure and composable.
- OpenShift – A container application platform that provides integrated CI/CD pipelines, application runtimes, and a centralized management console.
- Rancher – A complete container management platform that provides a centralized management console for managing Docker and Kubernetes clusters.
- CRI-O – An open-source implementation of the Kubernetes CRI (Container Runtime Interface) for running containers.

# Monitoring & Alerting

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Here are some popular open-source tools for monitoring and alerting:

- Prometheus – A popular monitoring and alerting tool that uses a pull-based approach to gather metrics from monitored targets.
- Nagios – A widely-used monitoring and alerting tool that can monitor hosts, services, and network devices.
- Zabbix – A mature and feature-rich monitoring and alerting tool that can monitor a variety of systems and devices.
- Grafana – A data visualization and dashboard platform that can be used with many monitoring and alerting tools, including Prometheus.
- Alertmanager – An alert handling component of the Prometheus monitoring system.
- Icinga – A monitoring and alerting tool that is designed to be scalable and extensible.
- ELK Stack (Elasticsearch, Logstash, Kibana) – An open-source platform for analyzing, visualizing, and storing log data, which can also be used for monitoring and alerting.
- InfluxDB – An open-source time-series database that is often used for monitoring and alerting.

# Analysing & Visualizing

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Here are some popular open-source tools for analyzing and visualizing data:

- Elasticsearch, Logstash, and Kibana (ELK Stack) – A powerful platform for analyzing, storing, and visualizing log data.
- Grafana – A platform for creating and analyzing dashboard and alerts for various data sources.
- Tableau – A data visualization tool that provides interactive dashboards and reports.
- Superset – A modern, web-based platform for data exploration and visualization.
- D3.js – A JavaScript library for creating dynamic, interactive data visualizations in web browsers.

# Analysing & Visualizing

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- Gnuplot – A command-line based tool for producing 2D and 3D plots of mathematical functions and data.
- Matplotlib – A Python-based library for creating static, animated, and interactive visualizations.
- Plotly – A platform for creating and sharing interactive, online data visualizations.
- Kibana – An open-source data visualization and exploration platform that is part of the ELK Stack (Elasticsearch, Logstash, Kibana).
- PowerBI – A cloud-based business analytics service by Microsoft that allows you to connect to various data sources, including AWS, and create interactive dashboards and reports.
- Seaborn – A data visualization library for the Python programming language that provides a high-level interface for creating beautiful and informative statistical graphics.

# Configuration Management

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Here are some popular open-source configuration management tools:

- Ansible – A simple IT automation platform for managing and orchestrating multi-tier applications.
- Puppet – A configuration management tool for managing infrastructure as code.
- Chef – A configuration management tool for automating infrastructure and application deployments.
- SaltStack – A fast, scalable, and flexible configuration management tool for multi-cloud and hybrid IT environments.
- CFEngine – A tool for automating IT infrastructure and policy management.

# Deploy Applications

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Here are some popular open-source tools used to deploy applications:

- Docker – Containerization platform used to package and deploy applications as containers.
- Kubernetes – Open-source platform for automating deployment, scaling, and management of containerized applications.
- Jenkins – Open-source automation server that can be used to automate tasks related to deploying applications.
- Ansible – IT automation platform that can be used to deploy applications as well as manage infrastructure.
- Terraform – Infrastructure as Code (IaC) tool that can be used to provision and manage infrastructure resources needed to deploy applications.
- Nagios – Open-source monitoring tool used to monitor the health and availability of applications and servers.
- Capistrano – Ruby-based deployment automation tool that can be used to deploy applications to servers.



# HTTP Server

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Here are some popular open-source tools for serving HTTP traffic:

- Apache HTTP Server – The most widely used open-source HTTP server, known for its stability, flexibility, and security.
- Nginx – High-performance HTTP server that is known for its ability to handle high traffic loads and its support for reverse proxying and load balancing.
- Caddy – An HTTP/2 web server with automatic HTTPS that is easy to configure and use.
- Lighttpd – A lightweight and efficient HTTP server that is designed for high performance and low resource usage.
- H2O – A fast and scalable HTTP server that supports HTTP/1 and HTTP/2.

# Database Management Systems

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Here are some popular open-source relational database management systems (RDBMS):

- MySQL – Widely used open-source RDBMS that is known for its reliability, ease of use, and high performance.
- PostgreSQL – Object-relational database management system that is known for its strong data integrity and security features.
- MariaDB – Community-driven fork of the MySQL database management system that aims to maintain high compatibility with MySQL.
- SQLite – Embeddable RDBMS that is often used for local data storage in desktop and mobile applications.
- Oracle Database Express Edition (Oracle XE) – Limited edition of the Oracle Database that is available for free, suitable for small and medium-sized applications.

Would you like to contribute to the community by  
sharing which tool you use/or missing here...

**Thanks,  
Saurabh Agrawal.**

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Thanks to ChatGPT