

# Understanding Ansible

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## What is Ansible?

Ansible is an open source IT automation engine that automates provisioning, configuration management, application deployment, orchestration, and many other IT processes.

Ansible automation is used to install software, automate daily tasks, provision infrastructure, improve security and compliance, patch systems, and share automation across your organization.

## Why Should You Use Ansible?

Let's say a system administrator is responsible for a particular company's extensive infrastructure, which consists of all of its systems. This could include web servers, database servers, various repositories, and so on. As a system administrator, it's crucial to ensure all systems are running updated software versions. Because of the size of a company's infrastructure, it can be difficult for one individual to take care of a task of this magnitude manually. Not only can it quickly become mundane, but manual work such as this is prone to errors. These inefficiencies also stifle innovation.

## How Does Ansible Work?

You have your local machine on one end, which is where you install Ansible. It's also agentless, which means you're installing Ansible only on the local machine with no supporting software or plug-ins being installed on the client. This means that the local machine has complete control over the environment.

Another critical term that is associated with Ansible is "push configuration." Because the local machine has complete control, it "pushes the playbooks out to the nodes, hence the term. The playbooks and the inventory are written at the local machine, which then connects with the nodes through the SSH client.

## Benefits of Ansible

Ansible is currently the most trending tool in the market under the configuration management umbrella. There are various benefits of Ansible, including:

- **Agentless**

No additional software or plugins need to be installed on the client's systems. This creates efficiency because there is more space on the nodes for other resources.

- **Flexible**

Infrastructure is prone to frequent changes, and Ansible doesn't take any time to adjust to these changes.

- **Simple**

Because playbooks are written in YAML, which is as close to English as you can get, Ansible is super easy to write and use.

- **Automated Reporting**

The playbook has several tasks, which are all named. When you run a playbook, a report is generated that shows which tasks ran successfully, which failed, which clients were not reachable, and so on.

This information is crucial when you are dealing with extensive infrastructure.