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RedHat Ansible Automation Platform

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1. RedHat Ansible Automation Platform

a. Introduction

Red Hat Ansible Automation Platform (AAP) is a strategic, flexible, and scalable automation solution that works across your IT environment and meets you where you are in your automation journey. A trusted solution for enterprises, it provides a unified, highly capable platform that allows you to build and operate intelligent automation workflows across hybrid environments.

AAP is the enterprise-ready evolution of the original Ansible project—backed by Red Hat to help organizations manage growing complexity across hybrid and multicloud environments, while providing the flexibility to adapt to future IT challenges.

[Getting started with Ansible Automation Platform | RH AAP | 2.5 | Docs](#)

b. Key Features

1. YAML syntax

Uses YAML to automate tasks without coding, making infrastructure management simple and readable.

2. Agentless

Doesn't require installing agents on machines, making it easy to manage and highly scalable across multiple systems.

3. Integrated gen AI capabilities

Red Hat Ansible Lightspeed uses AI to boost automation efficiency, improve IT productivity, close skill gaps, and speed up onboarding for better IT management.

4. Built for hybrid cloud

Enables scalable automation across hybrid and multicloud environments, simplifying cloud integration and deployment.

5. Self-healing infrastructure

Event-Driven Ansible automates responses to IT events, like triggering alerts and logging issues. This reduces manual work, errors, and boosts resilience and efficiency.

6. Built for resilience and consistency

Uses role-based access control (RBAC) and Policy as Code (PaC) to enforce permissions, compliance, and automation policies, ensuring security and trust.

2. Core Components and Deployment Models

Automation execution environments contain:

- Ansible Core
- Ansible Runner
- Ansible Collections
- Python libraries
- System dependencies
- Custom user needs

Depending on your organization's needs, you can install Red Hat Ansible Automation Platform using one of the following methods, based on your environment:

- [RPM installation](#)
- [Installing on OpenShift Container Platform](#)
- [Cloud environments](#)
- [Containerized installation](#)

Mode	Infrastructure	Description	Tested topologies
RPM	Virtual machines and bare metal	The RPM installer deploys Ansible Automation Platform on Red Hat Enterprise Linux by using RPMs to install the platform on host machines. Customers manage the product and infrastructure lifecycle.	RPM growth topology RPM enterprise topology
Containers	Virtual machines and bare metal	The containerized installer deploys Ansible Automation Platform on Red Hat Enterprise Linux by using Podman which runs the platform in containers on host machines. Customers manage the product and infrastructure lifecycle.	Container growth topology Container enterprise topology
Operator	Red Hat OpenShift	The Operator uses Red Hat OpenShift Operators to deploy Ansible Automation Platform within Red Hat OpenShift. Customers manage the product and infrastructure lifecycle.	Operator growth topology Operator enterprise topology

System, Hardware and Network Requirements change according to required deployment model.

Refer: [Tested deployment models | Red Hat Ansible Automation Platform | 2.5 | Docs](#)

3. Cloud Support

Ansible Automation Platform is available on Microsoft Azure and Amazon Web Services as a managed application.

a. Prerequisites for Installing on Microsoft Azure

- **Azure requirements**
 - A subscription for Microsoft Azure.
 - Contributor or Administrator access to that Azure subscription.
 - Access to the Azure command line interface (CLI).
- **Ansible Automation Platform requirements**
 - An account on the Red Hat Red Hat Customer Portal (access.redhat.com).
 - A specific subscription entitlement for Red Hat Ansible Automation Platform.

b. Provisioning Ansible Automation Platform on Microsoft Azure

Refer this: [RH AAP on Microsoft Azure Guide | Ansible on Clouds | 2.x | Docs](#)

c. Setting up RH AAP Service on AWS

To set up Red Hat Ansible Automation Platform Service on AWS you must first accept a public offer through the AWS marketplace, or a private offer directly from a Red Hat seller.

- **Accepting a Public offer**
Refer: [Accepting a public offer | RH AAP on AWS | Ansible on Cloud | 2.x | Docs](#)
- **Accepting a Private offer**
Refer: [Accepting a Private offer | RH AAP on AWS | Ansible on Cloud | 2.x | Docs](#)

4. Limitations

Limitation	Justification
No persistent connection due to Agentless model thus lacks event-driven triggers	Clients can't initiate automation; not ideal for real-time or reactive use cases.
No built-in state tracking as it relies on idempotency	Lacks drift detection and rollback; each run must fully define desired state.
Limited error context due to lack of step-through execution	Troubleshooting complex playbooks is difficult due to vague logs and lack of step-by-step tools.
Complicated WinRM setup	Windows automation is less mature and more setup-intensive than for Linux.
Requires Python on managed Linux hosts	Can't manage lightweight systems without pre-installing Python.
UI (Controller) lacks advanced flexibility	Some features (e.g., dynamic inventories) are easier via CLI or API than GUI.
Requires Red Hat subscription which can be expensive	Enterprise features are behind a paywall where costs scale with node count.
Needs governance and infrastructure planning	Large deployments require RBAC, credential management, and GitOps workflows.
Key features are proprietary to Red Hat	Controller, Hub, and Insights are not portable outside Red Hat's ecosystem.
Default ports for core services are hard to change	Inflexible ports (e.g., 443, 5432, 6379) complicate use in secure or shared environments.