Migrate to AWS using Ansible Automation Platform

Automate your cloud resource life cycles

Ansible automation lets you automate complete cloud workflows. With AWS you can:

- Deploy and migrate web applications.
- Create custom Amazon Machine Images.
- Manage orphaned instances.
- Detach and delete internet gateways.
- Configure AWS CloudTrails.
- Troubleshoot connectivity issues.

Read this overview to learn more about these use cases.

Migrate and manage workloads across hybrid cloud environments

Deploying business-critical applications in cloud environments is now the norm. Even so, migrating to the cloud and managing workloads and resources across hybrid cloud environments can be daunting, time consuming, and error-prone when performed manually. Cloud automation—applying IT automation to cloud technologies—can help you move to and manage cloud environments more efficiently at scale.

Cloud automation lets you streamline complete workflows to manage IT life cycles across your environment. Orchestrate cloud resources by automatically setting up and migrating the environments, systems, and applications that your business needs. Operationalize ongoing cloud processes by automating the Day 1 and Day 2 tasks that keep your environments running. Govern cloud environments by applying and enforcing policies at scale to ensure that all elements run according to business requirements.

Red Hat® Ansible® Automation Platform on Amazon Web Services (AWS) lets you orchestrate, operationalize, and govern workloads and resources across your entire environment—including private clouds, on-site datacenters, and edge locations—to provide a consistent automation experience.

Orchestrate your AWS cloud environment with Ansible Automation Platform

A unified automation platform that works with your cloud provider and other IT technologies is central to effective cloud workflow migration and management. Deployed from the AWS Marketplace, Ansible Automation Platform via AWS speeds migration of your existing applications to AWS, and then simplifies IT workload and resource management across your hybrid cloud environment.

Ansible Automation Platform is an enterprise IT automation solution that includes everything needed to build, deploy, and manage automation at scale. A simple automation language lets you create advanced workflows and share and manage automation assets across your organization. Integration with native AWS services like Elastic Compute Cloud (EC2) and CloudFormation, along with Ansible Content Collections for AWS, help you get started in less time. A library of nearly 100 modules lets you directly automate AWS operations, while another 1,300 modules help you manage operating systems, network infrastructure, and applications no matter where they are deployed.

As part of Ansible Automation Platform, Event-Driven Ansible lets you automate IT actions in response to events observed in your environment via user-defined, rule-based constructs. It receives notifications from third-party tools, decides which actions to take based on your rules, and then responds automatically using your Ansible Playbooks. With Event-Driven Ansible, you can create end-to-end, fully automated workflows for a broad array of complex use cases across your IT landscape.

Red Hat supports this subscription-based, self-managed solution at the Premium Support level, providing unlimited 24x7 access to a global network of experienced technical support engineers, while AWS

provides expert support for your cloud infrastructure. Integrated billing of Ansible Automation Platform with your other AWS services gives full visibility into costs. And you can use your AWS Enterprise Discount Program (EDP) funds and discounts towards Ansible Automation Platform deployments.

Learn more about Red Hat Ansible Certified Content.

Simplify automation with Ansible Certified Content

The Ansible Amazon AWS Certified Content Collection integrates Ansible Automation Platform and AWS so you can automatically manage your entire deployment across IT domains and technologies. Available via Ansible automation hub, this precomposed content includes modules, roles, plug-ins, and documentation for automating many common AWS operations—like EC2 instance creation and management, EC2 Auto Scaling Group (ASG) monitoring, and EC2 security group maintenance—directly from Ansible Automation Platform. Use this collection to build advanced automation workflows based on trusted content developed, tested, and supported by Red Hat. And because Red Hat maintains and releases the direct-to-user automation assets in all Red Hat Ansible Certified Content collections separately from main product releases, you can get started with the latest features and content right away.

Access validated content and playbook examples for AWS automation workflows.

Get started with Ansible validated content

Ansible validated content for AWS provides expert guidance for building automation workflows across your AWS environment. Delivered as playbooks, roles, and documentation, validated content offers customizable, opinionated use cases based on Red Hat Ansible Certified Content. Red Hat curates and tests all Ansible validated content. Content can be loaded into a private automation hub—a repository for storing and controlling access to your automation assets.

Here are some examples of the many use cases that you can customize and automate with Ansible validated content for AWS.

Deploy and migrate web applications on AWS

Using the webapp playbook, you can deploy and migrate complex web applications that use multiple AWS resources. Provide the region you want to deploy in or migrate to, and Ansible Automation Platform follows the playbook to request the necessary instances, move application data, and retire any unused resources.

Create custom Amazon Machine Images

With the customized_ami role, you can build and manage custom Amazon machine images (AMIs) simply and consistently. Set the AMI name and list of packages to install, and Ansible Automation Platform creates, updates, or deletes the AMI based on configurable options.

Manage AWS orphaned instances by tag

To help manage virtual machine sprawl, the ec2_instance_terminate_by_tag role lets you terminate EC2 instances with specific tags. Specify a key-value pair, and Ansible Automation Platform automatically terminates any matching EC2 instances, helping you control cloud resource use.

Detach and delete AWS internet gateways

Using the awsconfig_detach_and_delete_internet_gateway role, you can safely detach and delete internet gateways from Amazon virtual private clouds (VPC). Configure the internet gateway (IGW) identification, and Ansible Automation Platform automatically deletes the gateway after verifying that it is safe to do so.

Read the Automate your hybrid cloud at scale e-book to learn more about building complete, automated hybrid cloud workflows.

Configure multiregion AWS CloudTrails

To help track user activity and use throughout AWS and your hybrid cloud, the awsconfig_multiregion_cloudtrail role lets you create and configure CloudTrails for multiple regions. Designate the Amazon simple storage service (S3) bucket where logs should be stored, and Ansible Automation Platform automatically sets up a multiregion CloudTrail across your AWS infrastructure.

Configure AWS CloudTrail encryption

The enable_cloudtrail_encryption_with_kms role lets you enable a directly manageable security layer for your CloudTrail log files. Specify the name of the CloudTrail you want to encrypt, along with your AWS key management service (AWS KMS) customer managed key, and Ansible Automation Platform configures server-side encryption for your CloudTrail log files.

Troubleshoot Amazon Relational Database Service connectivity

If you are having issues with Amazon Relational Database Service (RDS) connectivity from EC2 instances, the troubleshoot_rds_connectivity role can help you troubleshoot and find the cause of the problem. Provide the EC2 and RDS instances, and Ansible Automation Platform automatically diagnoses connectivity issues, ensures the database instance is available, and checks the associated security group rules, network access control lists (ACL), and route tables for potential issues.

Troubleshoot Amazon virtual private cloud connectivity issues

The connectivity_troubleshooter role can help you effectively diagnose VPC connectivity issues. Configure the required IP addresses and port numbers, and Ansible Automation Platform automatically investigates connectivity issues between AWS resources in the same VPC or different VPCs connected via peering, and between AWS and internet resources using internet or network address translation (NAT) gateways.

Learn more

Discover more about using Ansible Automation Platform to automate your AWS deployment and hybrid cloud environments. Read about Ansible Automation Platform and AWS integrations, and experiment with a wide variety of use cases in an interactive lab.

About Red Hat

Red Hat is the world's leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers develop cloud-native applications, integrate existing and new IT applications, and automate and manage complex environments. A trusted adviser to the Fortune 500, Red Hat provides award-winning support, training, and consulting services that bring the benefits of open innovation to any industry. Red Hat is a connective hub in a global network of enterprises, partners, and communities, helping organizations grow, transform, and prepare for the digital future.

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