Red Hat
Training and
Certification

DO467

Travis Michette

Version 1.0

Table of Contents

1. Installing Red Hat Ansible Automation Platform . . . 1
  1.1. Explaining the Red Hat Ansible Automation Platform Architecture . . . 1
    1.1.1. Red Hat Ansible Automation Platform . . . 1
    1.1.2. Red Hat Ansible Automation Platform Components . . . 1
      1.1.2.1. Ansible Core . . . 1
      1.1.2.2. Ansible Content Collections . . . 1
      1.1.2.3. Automation Content Navigator . . . 1
      1.1.2.4. Automation Execution Environments . . . 1
      1.1.2.5. Automation Controller . . . 1
      1.1.2.6. Automation Hub and Private Automation Hub . . . 1
      1.1.2.7. Red Hat Insights for Red Hat Ansible Automation Platform . . . 1
    1.1.3. Why Use Ansible Automation Platform? . . . 1
  1.2. Installing Automation Controller and Private Automation Hub . . . 1
    1.2.1. Planning the Installation . . . 1
      1.2.1.1. Standalone Automation Controller with a Database on the Same Node . . . 1
      1.2.1.2. Standalone Private Automation Hub with a Database on the Same Node . . . 1
      1.2.1.3. Automation Controller and Private Automation Hub with External Database Servers . . . 1
      1.2.1.4. Advanced Deployment Scenarios . . . 2
    1.2.2. Installation Requirements . . . 2
      1.2.2.1. Database Storage . . . 2
    1.2.3. Subscription and Support . . . 2
    1.2.4. Installing Red Hat Ansible Automation Platform . . . 2
      1.2.4.1. Installing Automation Controller . . . 2
      1.2.4.2. Installing Private Automation Hub . . . 2
    1.2.5. Replacing the CA Certificate . . . 2
      1.2.5.1. Gathering Certificates and Private Keys . . . 2
      1.2.5.2. Preparing the Systems . . . 2
      1.2.5.3. Trusting Custom CA Certificates . . . 2
  1.3. Initial Configuration of Automation Controller and Private Automation Hub . . . 2
    1.3.1. Configuration Overview . . . 2
    1.3.2. Making Automation Execution Environments Available from Private Automation Hub . . . 2
      1.3.2.1. Synchronizing Automation Execution Environments . . . 2
      1.3.2.2. Manually Adding Container Images . . . 2
      1.3.2.3. Managing Container Repositories, Images, and Tags . . . 2
    1.3.3. Synchronizing Ansible Content Collections . . . 2
      1.3.3.1. Synchronizing Red Hat Certified Ansible Content Collections . . . 2

1.3.3.2. Synchronizing Ansible Content Collections from Ansible Galaxy . . . 2
1.3.3.3. Manually Adding Ansible Content Collections . . . 3
1.3.4. Testing Basic Automation Controller Functionality . . . 3
1.3.4.1. The Demo Project . . . 3
1.3.4.2. Default Execution Environment Registry Credential . . . 3
1.3.4.3. The Demo Credential . . . 3
1.3.4.4. The Demo Inventory . . . 3
1.3.4.5. The Demo Job Template . . . 3
2. Managing User Access . . . 4
2.1. Creating and Managing Automation Controller Users . . . 4
2.1.1. Role-based Access Controls . . . 4
2.1.2. Automation Controller Organizations . . . 4
2.1.3. Types of Users . . . 4
2.1.4. Creating Users . . . 4
2.1.5. Editing Users . . . 4
2.1.6. Organization Roles . . . 4
2.1.7. Managing User Organization Roles . . . 4
2.2. Managing Automation Controller Access with Teams . . . 4
2.2.1. Teams in Automation Controller . . . 4
2.2.2. Creating Teams . . . 4
2.2.3. Team Roles . . . 4
2.2.4. Adding Users to a Team and Assigning Team Roles . . . 4
2.2.5. Organization Roles . . . 4
2.2.6. Managing Organization Roles . . . 4
2.3. Creating and Managing Users and Groups for Private Automation Hub . . . 4
2.3.1. User Access . . . 5
2.3.1.1. Creating Groups . . . 5
2.3.1.2. Creating Users . . . 5
2.3.1.3. Creating Groups to Manage Content . . . 5
3. Managing Inventories and Machine Credentials . . . 6
3.1. Creating a Static Inventory . . . 6
3.1.1. Red Hat Ansible Inventory . . . 6
3.1.2. Creating an Inventory Using the Automation Controller Web UI . . . 6
3.1.2.1. Creating a New Inventory . . . 6
3.1.2.2. Creating a Host Group in an Inventory . . . 6
3.1.2.3. Creating Hosts in an Inventory . . . 6
3.1.3. Inventory Roles . . . 6
3.1.3.1. Assigning Roles . . . 6

3.1.4. Inventory Variables . . . 6
3.2. Creating Machine Credentials for Access to Inventory Hosts . . . 6
3.2.1. Storing Secrets in Credentials . . . 6
3.2.2. Credential Types . . . 6
3.2.3. Creating Machine Credentials . . . 6
3.2.4. Editing Machine Credentials . . . 6
3.2.5. Credential Roles . . . 6
3.2.6. Managing Credential Access . . . 6
3.2.7. Common Credential Scenarios . . . 7
3.2.7.1. Credentials Protected by Automation Controller, Not Known to Users . . . 7
3.2.7.2. Credential Prompts for Sensitive Password, Not Stored in Automation Controller . . . 7
4. Managing Projects and Launching Ansible Jobs . . . 8
4.1. Creating a Project for Ansible Playbooks . . . 8
4.1.1. Automation Controller Projects . . . 8
4.1.2. Creating a Project . . . 8
4.1.3. Project Roles . . . 8
4.1.4. Managing Project Access . . . 8
4.1.5. Creating SCM Credentials . . . 8
4.1.6. SCM Credential Roles . . . 8
4.1.7. Managing Access to SCM Credentials . . . 8
4.1.8. Updating Projects . . . 8
4.1.8.1. Update Revision on Launch . . . 8
4.1.8.2. Manual Updates . . . 8
4.1.9. Support for Ansible Content Collections and Roles . . . 8
4.2. Creating Job Templates and Launching Jobs . . . 8
4.2.1. Job Templates . . . 8
4.2.2. Creating Job Templates . . . 8
4.2.3. Modifying Job Execution . . . 8
4.2.4. Prompting for Job Parameters . . . 8
4.2.5. Job Template Roles . . . 9
4.2.6. Managing Job Template Access . . . 9
4.2.7. Launching Jobs . . . 9
4.2.8. Evaluating the Results of a Job . . . 9
5. Advanced Job Configuration . . . 10
5.1. Improving Performance with Fact Caching . . . 10
5.1.1. Fact Caching . . . 10
5.1.1.1. Enabling Fact Caching in Automation Controller . . . 10
5.2. Creating Job Template Surveys to Set Variables for Jobs . . . 10

5.2.1. Managing Variables . . . 10
5.2.2. Defining Extra Variables . . . 10
5.2.3. Job Template Surveys . . . 10
5.2.3.1. Managing Answers to Survey Questions . . . 10
5.2.3.2. Creating a Job Template Survey . . . 10
5.3. Scheduling Jobs and Configuring Notifications . . . 10
5.3.1. Scheduling Job Execution . . . 10
5.3.1.1. Temporarily Disabling a Schedule . . . 10
5.3.1.2. Scheduled Management Jobs . . . 10
5.3.2. Reporting Job Execution Results . . . 10
5.3.2.1. Notification Templates . . . 10
5.3.2.2. Creating Notification Templates . . . 10
5.3.2.3. Enabling Job Result Notification . . . 10
6. Constructing Job Workflows . . . 11
6.1. Creating Workflow Job Templates and Launching Workflow Jobs . . . 11
6.1.1. Workflow Job Templates . . . 11
6.1.2. Creating Workflow Job Templates . . . 11
6.1.2.1. Using the Workflow Visualizer . . . 11
6.1.2.2. Adding Multiple Nodes with the Same Relationship . . . 11
6.1.2.3. Creating Convergent Nodes . . . 11
6.1.2.4. Workflow Job Template Surveys . . . 11
6.1.3. Launching Workflow Jobs . . . 11
6.1.3.1. Evaluating Workflow Job Execution . . . 11
6.2. Requiring Approvals in Workflow Jobs . . . 11
6.2.1. Approval Nodes . . . 11
6.2.2. Adding Approval Nodes to Workflows . . . 11
6.2.3. Approving and Denying Workflow Approval Requests . . . 11
6.2.4. Approval Time-outs . . . 11
6.2.5. Approval Notifications . . . 11
7. Managing Advanced Inventories . . . 12
7.1. Importing External Static Inventories . . . 12
7.1.1. Importing Existing Static Inventories . . . 12
7.1.2. Storing an Inventory in a Project . . . 12
7.2. Configuring Dynamic Inventory Plug-ins . . . 12
7.2.1. Dynamic Inventories . . . 12
7.2.2. OpenStack Dynamic Inventories . . . 12
7.2.3. Red Hat Satellite 6 Dynamic Inventories . . . 12
7.3. Filtering Hosts with Smart Inventories . . . 12

7.3.1. Defining Smart Inventories . . . 12
7.3.2. Using Ansible Facts in Smart Inventory Filters . . . 12
7.3.2.1. Creating a Smart Inventory Based on Ansible Facts . . . 12
7.3.3. Other Smart Inventory Filters . . . 12
8. Automating Configuration of Ansible Automation Platform . . . 13
8.1. Configuring Red Hat Ansible Automation Platform with Collections . . . 13
8.1.1. Automating Red Hat Ansible Automation Platform Configuration . . . 13
8.1.2. Getting the Supported Ansible Content Collection . . . 13
8.1.3. Exploring the Supported Ansible Content Collection . . . 13
8.1.3.1. Reading Documentation with Ansible Content Navigator . . . 13
8.1.3.2. Reading Documentation on Automation Hub . . . 13
8.1.4. Examples of Automation with ansible.controller . . . 13
8.1.4.1. Creating Automation Controller Users . . . 13
8.1.4.2. Creating Automation Controller Teams . . . 13
8.1.4.3. Adding Users to Organizations and Teams . . . 13
8.1.5. Community-supported Ansible Content Collections . . . 13
8.2. Automating Configuration Updates with Git Webhooks . . . 13
8.2.1. Introducing Red Hat Ansible Automation Platform Webhooks . . . 13
8.2.1.1. What Are the Benefits of Webhooks . . . 13
8.2.2. Configuring Webhooks . . . 13
8.2.2.1. Configuring a Webhook for a Job Template . . . 13
8.2.2.2. Creating the Webhook for the Repository in GitLab . . . 14
8.2.3. Use Cases for Using Webhooks . . . 14
8.2.3.1. Triggering Different Job Templates Using Branches . . . 14
8.2.3.2. Configuration as Code for Automation Controller . . . 14
8.3. Launching Jobs with the Automation Controller API . . . 14
8.3.1. The Automation Controller REST API . . . 14
8.3.1.1. Using the REST API . . . 14
8.3.1.2. JSON Pagination . . . 14
8.3.1.3. Accessing the REST API From a Graphical Web Browser . . . 14
8.3.2. Launching a Job Template Using the API . . . 14
8.3.3. Launching a Job Using the API from an Ansible Playbook . . . 14
8.3.3.1. Vault Credentials . . . 14
8.3.4. Token-based Authentication . . . 14
9. Maintaining Red Hat Ansible Automation Platform . . . 15
9.1. Performing Basic Troubleshooting of Automation Controller . . . 15
9.1.1. Automation Controller Components . . . 15
9.1.1.1. Starting, Stopping, and Restarting Automation Controller . . . 15

9.1.1.2. Supervisord Components . . . 15
9.1.2. Automation Controller Configuration and Log Files . . . 15
9.1.2.1. Configuration Files . . . 15
9.1.2.2. Log Files . . . 15
9.1.2.3. Other Automation Controller Files . . . 15
9.1.3. Common Troubleshooting Scenarios . . . 15
9.1.3.1. Problems Running Playbooks . . . 15
9.1.3.2. Problems Connecting to Your Host . . . 15
9.1.3.3. Playbooks Do Not Appear in the List of Job Templates . . . 15
9.1.3.4. Playbook Stays in Pending State . . . 15
9.1.3.5. Error: Provided Hosts List Is Empty . . . 15
9.1.4. Performing Command-Line Management . . . 15
9.1.4.1. Changing the Automation Controller Admin Password . . . 15
9.2. Backing Up and Restoring Red Hat Ansible Automation Platform . . . 15
9.2.1. Backing Up Red Hat Ansible Automation Platform . . . 16
9.2.1.1. Backup Procedure . . . 16
9.2.2. Restoring Ansible Automation Platform From Backup . . . 16
9.2.2.1. Restoration Procedure . . . 16
10. Getting Insights into Automation Performance . . . 17
10.1. Gathering Data for Cloud-based Analysis . . . 17
10.1.1. Introducing Red Hat Hybrid Cloud Console Services . . . 17
10.1.2. Collecting Data for Cloud Services . . . 17
10.1.3. Registering Managed Hosts with Insights for Ansible Automation Platform . . . 17
10.1.4. Accessing the Red Hat Hybrid Cloud Console . . . 17
10.2. Getting Insights into Automation Performance . . . 17
10.2.1. Insights for Ansible Automation Platform . . . 17
10.2.2. Generating Remediation Playbooks with Advisor . . . 17
10.2.2.1. Automating Remediation of an Issue for Multiple Systems . . . 17
10.2.2.2. Automating Remediation of Multiple Issues for One System . . . 17
10.2.3. Comparing Systems with Drift . . . 17
10.2.3.1. Finding Differences Between Systems . . . 17
10.2.3.2. Comparing the State of One System at Different Times . . . 17
10.2.3.3. Comparing Systems to a Standard Baseline . . . 17
10.2.4. Sending Alerts Based on Ansible Facts with Policies . . . 17
10.3. Evaluating Performance with Automation Analytics . . . 18
10.3.1. Automation Analytics . . . 18
10.3.2. Reporting Playbook Execution Status . . . 18
10.3.3. Examining Job History . . . 18

10.3.4. Monitoring Notifications . . . 18
10.4. Producing Reports from Automation Analytics . . . 18
10.4.1. Producing Reports from Automation Analytics . . . 18
10.4.1.1. Choosing an Appropriate Report . . . 18
10.4.1.2. Using Automation Calculator to Compute Savings . . . 18
10.4.1.3. Exporting a Report . . . 18
10.4.2. Predicting the Cost Savings of Automation . . . 18
10.4.2.1. Creating a Savings Plan . . . 18
10.4.2.2. Reviewing the Cost Savings Calculations . . . 18
11. Building a Large Scale Red Hat Ansible Automation Platform Deployment . . . 19
11.1. Designing a Clustered Ansible Automation Platform Implementation . . . 19
11.1.1. Running Red Hat Ansible Automation Platform at Scale . . . 19
11.1.2. Automation Mesh . . . 19
11.1.2.1. Benefits of Automation Mesh . . . 19
11.1.2.2. Types of Nodes on Automation Mesh . . . 19
11.1.2.3. What Are Instance Groups? . . . 19
11.1.3. Planning Network Communication and Firewalls . . . 19
11.1.3.1. Requirements for Control Nodes and Hybrid Nodes . . . 19
11.1.3.2. Requirements for Hop Nodes . . . 19
11.1.3.3. Requirements for Execution Nodes . . . 19
11.1.4. Planning for Automation Mesh . . . 19
11.1.4.1. Providing Resilient Services . . . 19
11.2. Deploying Distributed Execution with Automation Mesh . . . 19
11.2.1. Configuring Automation Mesh . . . 19
11.2.1.1. Creating Instance Groups . . . 19
11.2.1.2. Adding Nodes to the Automation Mesh . . . 19
11.2.1.3. Removing Nodes from the Automation Mesh . . . 19
11.2.2. Visualizing Automation Mesh Topology . . . 19
11.2.3. Automation Mesh Design Patterns . . . 20
11.2.4. Validation Checks . . . 20
11.3. Managing Distributed Execution with Automation Mesh . . . 20
11.3.1. Managing Instance Groups in Automation Controller . . . 20
11.3.1.1. Creating Instance Groups . . . 20
11.3.1.2. Assigning Execution Nodes to an Instance Group . . . 20
11.3.1.3. Running a Health Check on the Nodes . . . 20
11.3.1.4. Disassociating a Node from an Instance Group . . . 20
11.3.2. Assigning Default Instance Groups to Inventories and Job Templates . . . 20
11.3.2.1. Configuring an Inventory to Use Instance Groups . . . 20

11.3.2.2. Configure a Job Template to Use Instance Groups . . . 20
11.3.2.3. Running a Job Template with Instance Groups . . . 20
11.3.3. Testing the Resilience of Automation Mesh . . . 20
11.3.3.1. Testing Control Plane Resilience . . . 20
11.3.3.2. Testing Execution Plane Resilience . . . 20
11.3.4. Monitoring Automation Mesh from the Web UI . . . 20
11.3.5. Monitoring Automation Mesh from the Command Line . . . 20
11.3.5.1. Listing Nodes and Instance Groups . . . 20
11.3.5.2. Monitoring Automation Mesh Using the **receptorctl** Command . . . 20

1. Installing Red Hat Ansible Automation Platform

1.1. Explaining the Red Hat Ansible Automation Platform Architecture

Section Info Here

1.1.1. Red Hat Ansible Automation Platform

1.1.2. Red Hat Ansible Automation Platform Components

1.1.2.1. Ansible Core

1.1.2.2. Ansible Content Collections

1.1.2.3. Automation Content Navigator

1.1.2.4. Automation Execution Environments

1.1.2.5. Automation Controller

1.1.2.6. Automation Hub and Private Automation Hub

1.1.2.7. Red Hat Insights for Red Hat Ansible Automation Platform

1.1.3. Why Use Ansible Automation Platform?

1.2. Installing Automation Controller and Private Automation Hub

Section Info Here

1.2.1. Planning the Installation

1.2.1.1. Standalone Automation Controller with a Database on the Same Node

1.2.1.2. Standalone Private Automation Hub with a Database on the Same Node

1.2.1.3. Automation Controller and Private Automation Hub with External Database Servers

1.2.1.4. Advanced Deployment Scenarios

1.2.2. Installation Requirements

1.2.2.1. Database Storage

1.2.3. Subscription and Support

1.2.4. Installing Red Hat Ansible Automation Platform

1.2.4.1. Installing Automation Controller

1.2.4.2. Installing Private Automation Hub

1.2.5. Replacing the CA Certificate

1.2.5.1. Gathering Certificates and Private Keys

1.2.5.2. Preparing the Systems

1.2.5.3. Trusting Custom CA Certificates

1.3. Initial Configuration of Automation Controller and Private Automation Hub

Section Info Here

1.3.1. Configuration Overview

1.3.2. Making Automation Execution Environments Available from Private Automation Hub

1.3.2.1. Synchronizing Automation Execution Environments

1.3.2.2. Manually Adding Container Images

1.3.2.3. Managing Container Repositories, Images, and Tags

1.3.3. Synchronizing Ansible Content Collections

1.3.3.1. Synchronizing Red Hat Certified Ansible Content Collections

1.3.3.2. Synchronizing Ansible Content Collections from Ansible Galaxy

1.3.3.3. Manually Adding Ansible Content Collections

1.3.4. Testing Basic Automation Controller Functionality

1.3.4.1. The Demo Project

1.3.4.2. Default Execution Environment Registry Credential

1.3.4.3. The Demo Credential

1.3.4.4. The Demo Inventory

1.3.4.5. The Demo Job Template

2. Managing User Access

2.1. Creating and Managing Automation Controller Users

Section Info Here

2.1.1. Role-based Access Controls

2.1.2. Automation Controller Organizations

2.1.3. Types of Users

2.1.4. Creating Users

2.1.5. Editing Users

2.1.6. Organization Roles

2.1.7. Managing User Organization Roles

2.2. Managing Automation Controller Access with Teams

Section Info Here

2.2.1. Teams in Automation Controller

2.2.2. Creating Teams

2.2.3. Team Roles

2.2.4. Adding Users to a Team and Assigning Team Roles

2.2.5. Organization Roles

2.2.6. Managing Organization Roles

2.3. Creating and Managing Users and Groups for Private Automation Hub

Section Info Here

2.3.1. User Access

2.3.1.1. Creating Groups

2.3.1.2. Creating Users

2.3.1.3. Creating Groups to Manage Content

3. Managing Inventories and Machine Credentials

3.1. Creating a Static Inventory

Section Info Here

3.1.1. Red Hat Ansible Inventory

3.1.2. Creating an Inventory Using the Automation Controller Web UI

3.1.2.1. Creating a New Inventory

3.1.2.2. Creating a Host Group in an Inventory

3.1.2.3. Creating Hosts in an Inventory

3.1.3. Inventory Roles

3.1.3.1. Assigning Roles

3.1.4. Inventory Variables

3.2. Creating Machine Credentials for Access to Inventory Hosts

Section Info Here

3.2.1. Storing Secrets in Credentials

3.2.2. Credential Types

3.2.3. Creating Machine Credentials

3.2.4. Editing Machine Credentials

3.2.5. Credential Roles

3.2.6. Managing Credential Access

3.2.7. Common Credential Scenarios

3.2.7.1. Credentials Protected by Automation Controller, Not Known to Users

3.2.7.2. Credential Prompts for Sensitive Password, Not Stored in Automation Controller

4. Managing Projects and Launching Ansible Jobs

4.1. Creating a Project for Ansible Playbooks

Section Info Here

4.1.1. Automation Controller Projects

4.1.2. Creating a Project

4.1.3. Project Roles

4.1.4. Managing Project Access

4.1.5. Creating SCM Credentials

4.1.6. SCM Credential Roles

4.1.7. Managing Access to SCM Credentials

4.1.8. Updating Projects

4.1.8.1. Update Revision on Launch

4.1.8.2. Manual Updates

4.1.9. Support for Ansible Content Collections and Roles

4.2. Creating Job Templates and Launching Jobs

Section Info Here

4.2.1. Job Templates

4.2.2. Creating Job Templates

4.2.3. Modifying Job Execution

4.2.4. Prompting for Job Parameters

4.2.5. Job Template Roles

4.2.6. Managing Job Template Access

4.2.7. Launching Jobs

4.2.8. Evaluating the Results of a Job

5. Advanced Job Configuration

5.1. Improving Performance with Fact Caching

Section Info Here

5.1.1. Fact Caching

5.1.1.1. Enabling Fact Caching in Automation Controller

5.2. Creating Job Template Surveys to Set Variables for Jobs

Section Info Here

5.2.1. Managing Variables

5.2.2. Defining Extra Variables

5.2.3. Job Template Surveys

5.2.3.1. Managing Answers to Survey Questions

5.2.3.2. Creating a Job Template Survey

5.3. Scheduling Jobs and Configuring Notifications

Section Info Here

5.3.1. Scheduling Job Execution

5.3.1.1. Temporarily Disabling a Schedule

5.3.1.2. Scheduled Management Jobs

5.3.2. Reporting Job Execution Results

5.3.2.1. Notification Templates

5.3.2.2. Creating Notification Templates

5.3.2.3. Enabling Job Result Notification

6. Constructing Job Workflows

6.1. Creating Workflow Job Templates and Launching Workflow Jobs

Section Info Here

6.1.1. Workflow Job Templates

6.1.2. Creating Workflow Job Templates

6.1.2.1. Using the Workflow Visualizer

6.1.2.2. Adding Multiple Nodes with the Same Relationship

6.1.2.3. Creating Convergent Nodes

6.1.2.4. Workflow Job Template Surveys

6.1.3. Launching Workflow Jobs

6.1.3.1. Evaluating Workflow Job Execution

6.2. Requiring Approvals in Workflow Jobs

Section Info Here

6.2.1. Approval Nodes

6.2.2. Adding Approval Nodes to Workflows

6.2.3. Approving and Denying Workflow Approval Requests

6.2.4. Approval Time-outs

6.2.5. Approval Notifications

7. Managing Advanced Inventories

7.1. Importing External Static Inventories

Section Info Here

7.1.1. Importing Existing Static Inventories

7.1.2. Storing an Inventory in a Project

7.2. Configuring Dynamic Inventory Plug-ins

Section Info Here

7.2.1. Dynamic Inventories

7.2.2. OpenStack Dynamic Inventories

7.2.3. Red Hat Satellite 6 Dynamic Inventories

7.3. Filtering Hosts with Smart Inventories

Section Info Here

7.3.1. Defining Smart Inventories

7.3.2. Using Ansible Facts in Smart Inventory Filters

7.3.2.1. Creating a Smart Inventory Based on Ansible Facts

7.3.3. Other Smart Inventory Filters

8. Automating Configuration of Ansible Automation Platform

8.1. Configuring Red Hat Ansible Automation Platform with Collections

Section Info Here

8.1.1. Automating Red Hat Ansible Automation Platform Configuration

8.1.2. Getting the Supported Ansible Content Collection

8.1.3. Exploring the Supported Ansible Content Collection

8.1.3.1. Reading Documentation with Ansible Content Navigator

8.1.3.2. Reading Documentation on Automation Hub

8.1.4. Examples of Automation with ansible.controller

8.1.4.1. Creating Automation Controller Users

8.1.4.2. Creating Automation Controller Teams

8.1.4.3. Adding Users to Organizations and Teams

8.1.5. Community-supported Ansible Content Collections

8.2. Automating Configuration Updates with Git Webhooks

Section Info Here

8.2.1. Introducing Red Hat Ansible Automation Platform Webhooks

8.2.1.1. What Are the Benefits of Webhooks

8.2.2. Configuring Webhooks

8.2.2.1. Configuring a Webhook for a Job Template

8.2.2.2. Creating the Webhook for the Repository in GitLab

8.2.3. Use Cases for Using Webhooks

8.2.3.1. Triggering Different Job Templates Using Branches

8.2.3.2. Configuration as Code for Automation Controller

8.3. Launching Jobs with the Automation Controller API

Section Info Here

8.3.1. The Automation Controller REST API

8.3.1.1. Using the REST API

8.3.1.2. JSON Pagination

8.3.1.3. Accessing the REST API From a Graphical Web Browser

8.3.2. Launching a Job Template Using the API

8.3.3. Launching a Job Using the API from an Ansible Playbook

8.3.3.1. Vault Credentials

8.3.4. Token-based Authentication

9. Maintaining Red Hat Ansible Automation Platform

9.1. Performing Basic Troubleshooting of Automation Controller

Section Info Here

9.1.1. Automation Controller Components

9.1.1.1. Starting, Stopping, and Restarting Automation Controller

9.1.1.2. Supervisord Components

9.1.2. Automation Controller Configuration and Log Files

9.1.2.1. Configuration Files

9.1.2.2. Log Files

9.1.2.3. Other Automation Controller Files

9.1.3. Common Troubleshooting Scenarios

9.1.3.1. Problems Running Playbooks

9.1.3.2. Problems Connecting to Your Host

9.1.3.3. Playbooks Do Not Appear in the List of Job Templates

9.1.3.4. Playbook Stays in Pending State

9.1.3.5. Error: Provided Hosts List Is Empty

9.1.4. Performing Command-Line Management

9.1.4.1. Changing the Automation Controller Admin Password

9.2. Backing Up and Restoring Red Hat Ansible Automation Platform

Section Info Here

9.2.1. Backing Up Red Hat Ansible Automation Platform

9.2.1.1. Backup Procedure

9.2.2. Restoring Ansible Automation Platform From Backup

9.2.2.1. Restoration Procedure

10. Getting Insights into Automation Performance

10.1. Gathering Data for Cloud-based Analysis

Section Info Here

10.1.1. Introducing Red Hat Hybrid Cloud Console Services

10.1.2. Collecting Data for Cloud Services

10.1.3. Registering Managed Hosts with Insights for Ansible Automation Platform

10.1.4. Accessing the Red Hat Hybrid Cloud Console

10.2. Getting Insights into Automation Performance

Section Info Here

10.2.1. Insights for Ansible Automation Platform

10.2.2. Generating Remediation Playbooks with Advisor

10.2.2.1. Automating Remediation of an Issue for Multiple Systems

10.2.2.2. Automating Remediation of Multiple Issues for One System

10.2.3. Comparing Systems with Drift

10.2.3.1. Finding Differences Between Systems

10.2.3.2. Comparing the State of One System at Different Times

10.2.3.3. Comparing Systems to a Standard Baseline

10.2.4. Sending Alerts Based on Ansible Facts with Policies

10.3. Evaluating Performance with Automation Analytics

Section Info Here

10.3.1. Automation Analytics

10.3.2. Reporting Playbook Execution Status

10.3.3. Examining Job History

10.3.4. Monitoring Notifications

10.4. Producing Reports from Automation Analytics

Section Info Here

10.4.1. Producing Reports from Automation Analytics

10.4.1.1. Choosing an Appropriate Report

10.4.1.2. Using Automation Calculator to Compute Savings

10.4.1.3. Exporting a Report

10.4.2. Predicting the Cost Savings of Automation

10.4.2.1. Creating a Savings Plan

10.4.2.2. Reviewing the Cost Savings Calculations

11. Building a Large Scale Red Hat Ansible Automation Platform Deployment

11.1. Designing a Clustered Ansible Automation Platform Implementation

11.1.1. Running Red Hat Ansible Automation Platform at Scale

11.1.2. Automation Mesh

11.1.2.1. Benefits of Automation Mesh

11.1.2.2. Types of Nodes on Automation Mesh

11.1.2.3. What Are Instance Groups?

11.1.3. Planning Network Communication and Firewalls

11.1.3.1. Requirements for Control Nodes and Hybrid Nodes

11.1.3.2. Requirements for Hop Nodes

11.1.3.3. Requirements for Execution Nodes

11.1.4. Planning for Automation Mesh

11.1.4.1. Providing Resilient Services

11.2. Deploying Distributed Execution with Automation Mesh

11.2.1. Configuring Automation Mesh

11.2.1.1. Creating Instance Groups

11.2.1.2. Adding Nodes to the Automation Mesh

11.2.1.3. Removing Nodes from the Automation Mesh

11.2.2. Visualizing Automation Mesh Topology

11.2.3. Automation Mesh Design Patterns

11.2.4. Validation Checks

11.3. Managing Distributed Execution with Automation Mesh

11.3.1. Managing Instance Groups in Automation Controller

11.3.1.1. Creating Instance Groups

11.3.1.2. Assigning Execution Nodes to an Instance Group

11.3.1.3. Running a Health Check on the Nodes

11.3.1.4. Disassociating a Node from an Instance Group

11.3.2. Assigning Default Instance Groups to Inventories and Job Templates

11.3.2.1. Configuring an Inventory to Use Instance Groups

11.3.2.2. Configure a Job Template to Use Instance Groups

11.3.2.3. Running a Job Template with Instance Groups

11.3.3. Testing the Resilience of Automation Mesh

11.3.3.1. Testing Control Plane Resilience

11.3.3.2. Testing Execution Plane Resilience

11.3.4. Monitoring Automation Mesh from the Web UI

11.3.5. Monitoring Automation Mesh from the Command Line

11.3.5.1. Listing Nodes and Instance Groups

11.3.5.2. Monitoring Automation Mesh Using the receptorctl Command