

User Guide

Note

Making Open Source More Inclusive

Red Hat is committed to replacing problematic language in our code, documentation, and web properties. We are beginning with these four terms: master, slave, blacklist, and whitelist. We ask that you open an issue or pull request if you come upon a term that we have missed. For more details, see [our CTO Chris Wright's message](#).

Welcome to the Ansible User Guide! This guide covers how to work with Ansible, including using the command line, working with inventory, interacting with data, writing tasks, plays, and playbooks; executing playbooks, and reference materials. This page outlines the most common situations and questions that bring readers to this section. If you prefer a traditional table of contents, you can find one at the bottom of the page.

Getting started

- I'd like an overview of how Ansible works. Where can I find:
 - a [ref`quick video overview <quickstart_guide>](#)`

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\ (ansible-devel) (docs) (docsite) (rst) (user_guide) index.rst, line 20); [backlink](#)

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- a [ref`text introduction <intro_getting_started>](#)`

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- I'm ready to learn about Ansible. What [ref`basic_concepts`](#) do I need to learn?

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- I want to use Ansible without writing a playbook. How do I use [ref`ad hoc commands <intro_adhoc>](#)`?

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- I'm running an Ansible command and forgot which flags to use. Do you have a [ref`cheatsheet`](#)?

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Writing tasks, plays, and playbooks

- I'm writing my first playbook. What should I [ref`know before I begin <playbooks_tips_and_tricks>](#)`?

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resources\ansible-devel\docs\docsite\rst\user_guide\ (ansible-devel) (docs) (docsite) (rst) (user_guide) index.rst, line 30); [backlink](#)

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- I have a specific use case for a task or play:
 - Executing tasks with elevated privileges or as a different user with `.ref: 'become <become>'`

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- Repeating a task once for each item in a list with `.ref: 'loops <playbooks_loops>'`

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- Executing tasks on a different machine with `.ref: 'delegation <playbooks_delegation>'`

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- Running tasks only when certain conditions apply with `.ref: 'conditionals <playbooks_conditionals>'` and evaluating conditions with `.ref: 'tests <playbooks_tests>'`

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- Grouping a set of tasks together with `.ref: 'blocks <playbooks_blocks>'`

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- Running tasks only when something has changed with `.ref: 'handlers <handlers>'`

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- Changing the way Ansible `.ref: 'handles failures <playbooks_error_handling>'`

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(docsite) (rst) (user_guide) index.rst, line 39); [backlink](#)

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- Setting remote `ref` environment values `<playbooks_environment>`

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- I want to take advantage of the power of re-usable Ansible artifacts. How do I create re-usable `ref` files `<playbooks_reuse>` and `ref` roles `<playbooks_reuse_roles>`?

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- I need to incorporate one file or playbook inside another. What is the difference between `ref` including and importing `<dynamic_vs_static>`?

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- I want to run selected parts of my playbook. How do I add and use `ref` tags `<tags>`?

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Working with inventory

- I have a list of servers and devices I want to automate. How do I create `ref` inventory `<intro_inventory>` to track them?

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- I use cloud services and constantly have servers and devices starting and stopping. How do I track them using `ref` dynamic inventory `<intro_dynamic_inventory>`?

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- I want to automate specific sub-sets of my inventory. How do I use `ref` patterns `<intro_patterns>`?

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Interacting with data

- I want to use a single playbook against multiple systems with different attributes. How do I use `ref`variables <playbooks_variables>`` to handle the differences?

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- I want to retrieve data about my systems. How do I access `ref`Ansible facts <vars_and_facts>``?

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- I need to access sensitive data like passwords with Ansible. How can I protect that data with `ref`Ansible vault <vault>``?

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- I want to change the data I have, so I can use it in a task. How do I use `ref`filters <playbooks_filters>`` to transform my data?

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- I need to retrieve data from an external datastore. How do I use `ref`lookups <playbooks_lookups>`` to access databases and APIs?

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- I want to ask playbook users to supply data. How do I get user input with `ref`prompts <playbooks_prompts>``?

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- I use certain modules frequently. How do I streamline my inventory and playbooks by `ref`setting default values for module parameters <module_defaults>``?

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Executing playbooks

Once your playbook is ready to run, you may need to use these topics:

- Executing "dry run" playbooks with `ref: check mode and diff <check_mode_dry>`

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- Running playbooks while troubleshooting with `ref: start and step <playbooks_start_and_step>`

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- Correcting tasks during execution with the `ref: Ansible debugger <playbook_debugger>`

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- Controlling how my playbook executes with `ref: strategies and more <playbooks_strategies>`

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- Running tasks, plays, and playbooks `ref: asynchronously <playbooks_async>`

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Advanced features and reference

- Using `ref: advanced syntax <playbooks_advanced_syntax>`

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- Manipulating `ref: complex data <complex_data_manipulation>`

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- Using `ref: plugins <plugins_lookup>`

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- Using `ref:playbook keywords <playbook_keywords>`

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- Using `ref:command-line tools <command_line_tools>`

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- Rejecting `ref:specific modules <plugin_filtering_config>`

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- Module `ref:maintenance <modules_support>`

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Traditional Table of Contents

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Unknown directive type "toctree".

```
.. toctree::
   :maxdepth: 2

   quickstart
   cheatsheet
   basic_concepts
   intro_getting_started
   intro_adhoc
   playbooks
   playbooks_intro
   playbooks_best_practices
   become
   playbooks_loops
   playbooks_delegation
   playbooks_conditionals
   playbooks_tests
   playbooks_blocks
   playbooks_handlers
   playbooks_error_handling
   playbooks_environment
   playbooks_reuse
   playbooks_reuse_roles
```

playbooks_reuse_includes
playbooks_tags
intro_inventory
intro_dynamic_inventory
intro_patterns
connection_details
command_line_tools
playbooks_variables
playbooks_vars_facts
vault
playbooks_filters
playbooks_lookups
playbooks_prompts
playbooks_module_defaults
playbooks_checkmode
playbooks_startnstep
playbooks_debugger
playbooks_strategies
playbooks_async
playbooks_advanced_syntax
complex_data_manipulation
plugin_filtering_config
sample_setup
modules
../plugins/plugins
../reference_appendices/playbooks_keywords
intro_bsd
windows
collections_using