

# Getting Started

Now that you have read the [ref:installation guide<installation\\_guide>](#) and installed Ansible on a control node, you are ready to learn how Ansible works. A basic Ansible command or playbook:

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst] [user_guide]intro_getting_started.rst, line 7); backlink
Unknown interpreted text role "ref".
```

- selects machines to execute against from inventory
- connects to those machines (or network devices, or other managed nodes), usually over SSH
- copies one or more modules to the remote machines and starts execution there

Ansible can do much more, but you should understand the most common use case before exploring all the powerful configuration, deployment, and orchestration features of Ansible. This page illustrates the basic process with a simple inventory and an ad hoc command. Once you understand how Ansible works, you can read more details about [ref:ad hoc commands<intro\\_adhoc>](#), organize your infrastructure with [ref:inventory<intro\\_inventory>](#), and harness the full power of Ansible with [ref:playbooks<playbooks\\_intro>](#).

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst] [user_guide]intro_getting_started.rst, line 13); backlink
Unknown interpreted text role "ref".
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst] [user_guide]intro_getting_started.rst, line 13); backlink
Unknown interpreted text role "ref".
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst] [user_guide]intro_getting_started.rst, line 13); backlink
Unknown interpreted text role "ref".
```

- [Selecting machines from inventory](#)
  - [Action: create a basic inventory](#)
  - [Beyond the basics](#)
- [Connecting to remote nodes](#)
  - [Action: check your SSH connections](#)
  - [Beyond the basics](#)
- [Copying and executing modules](#)
  - [Action: run your first Ansible commands](#)
  - [Action: Run your first playbook](#)
  - [Beyond the basics](#)
- [Resources](#)
- [Next steps](#)

## Selecting machines from inventory

Ansible reads information about which machines you want to manage from your inventory. Although you can pass an IP address to an ad hoc command, you need inventory to take advantage of the full flexibility and repeatability of Ansible.

### Action: create a basic inventory

For this basic inventory, edit (or create) `/etc/ansible/hosts` and add a few remote systems to it. For this example, use either IP addresses or FQDNs:

```
192.0.2.50
aserver.example.org
bserver.example.org
```

### Beyond the basics

Your inventory can store much more than IPs and FQDNs. You can create [ref:aliases<inventory\\_aliases>](#), set variable values for a single host with [ref:host vars<host\\_variables>](#), or set variable values for multiple hosts with [ref:group vars<group\\_variables>](#).

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst] [user_guide]intro_getting_started.rst, line 35); backlink
Unknown interpreted text role "ref".
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst] [user_guide]intro_getting_started.rst, line 35); backlink
Unknown interpreted text role "ref".
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst] [user_guide]intro_getting_started.rst, line 35); backlink
Unknown interpreted text role "ref".
```

## Connecting to remote nodes

Ansible communicates with remote machines over the [SSH protocol](#). By default, Ansible uses native OpenSSH and connects to remote machines using your current user name, just as SSH does.

### Action: check your SSH connections

Confirm that you can connect using SSH to all the nodes in your inventory using the same username. If necessary, add your public SSH key to the `authorized_keys` file on those systems.

### Beyond the basics

You can override the default remote user name in several ways, including:

- passing the `-u` parameter at the command line
- setting user information in your inventory file
- setting user information in your configuration file

- setting environment variables

See [ref: general\\_precedence\\_rules](#) for details on the (sometimes unintuitive) precedence of each method of passing user information. You can read more about connections in [ref: connections](#).

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 57); backlink
```

Unknown interpreted text role "ref".

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 57); backlink
```

Unknown interpreted text role "ref".

## Copying and executing modules

Once it has connected, Ansible transfers the modules required by your command or playbook to the remote machine(s) for execution.

### Action: run your first Ansible commands

Use the ping module to ping all the nodes in your inventory:

```
$ ansible all -m ping
```

You should see output for each host in your inventory, similar to this:

```
System Message: WARNING/2 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 74)
```

Cannot analyze code. No Pygments lexer found for "ansible-output".

```
.. code-block:: ansible-output

aserver.example.org | SUCCESS => {
  "ansible_facts": {
    "discovered_interpreter_python": "/usr/bin/python"
  },
  "changed": false,
  "ping": "pong"
}
```

You can use `-u` as one way to specify the user to connect as, by default Ansible uses SSH, which defaults to the 'current user'.

Now run a live command on all of your nodes:

```
$ ansible all -a "/bin/echo hello"
```

You should see output for each host in your inventory, similar to this:

```
System Message: WARNING/2 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 94)
```

Cannot analyze code. No Pygments lexer found for "ansible-output".

```
.. code-block:: ansible-output

aserver.example.org | CHANGED | rc=0 >>
hello
```

### Action: Run your first playbook

Playbooks are used to pull together tasks into reusable units.

Ansible does not store playbooks for you; they are simply YAML documents that you store and manage, passing them to Ansible to run as needed.

In a directory of your choice you can create your first playbook in a file called `mytask.yaml`:

```
---
- name: My playbook
  hosts: all
  tasks:
    - name: Leaving a mark
      command: "touch /tmp/ansible_was_here"
```

You can run this command as follows:

```
$ ansible-playbook mytask.yaml
```

and may see output like this:

```
System Message: WARNING/2 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 125)
```

Cannot analyze code. No Pygments lexer found for "ansible-output".

```
.. code-block:: ansible-output

PLAY [My playbook] *****

TASK [Gathering Facts] *****
ok: [aserver.example.org]
ok: [aserver.example.org]
ok: [192.0.2.50]
fatal: [192.0.2.50]: UNREACHABLE! => {"changed": false, "msg": "Failed to connect to the host via ssh: ssh: connect to host 192

TASK [Leaving a mark] *****
changed: [aserver.example.org]
changed: [bserver.example.org]

PLAY RECAP *****
aserver.example.org      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
bserver.example.org      : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
192.0.2.50               : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescued=0    ignored=0
```

Read on to learn more about controlling which nodes your playbooks execute on, more sophisticated tasks, and the meaning of the output.

## Beyond the basics

By default Ansible uses SFTP to transfer files. If the machine or device you want to manage does not support SFTP, you can switch to SCP mode in [ref: intro\\_configuration](#). The files are placed in a temporary directory and executed from there.

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-
devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 149); backlink
Unknown interpreted text role "ref".
```

If you need privilege escalation (sudo and similar) to run a command, pass the `become` flags:

```
# as bruce
$ ansible all -m ping -u bruce
# as bruce, sudoing to root (sudo is default method)
$ ansible all -m ping -u bruce --become
# as bruce, sudoing to batman
$ ansible all -m ping -u bruce --become --become-user batman
```

You can read more about privilege escalation in [ref: become](#).

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-
devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 162); backlink
Unknown interpreted text role "ref".
```

Congratulations! You have contacted your nodes using Ansible. You used a basic inventory file and an ad hoc command to direct Ansible to connect to specific remote nodes, copy a module file there and execute it, and return output. You have a fully working infrastructure.

## Resources

- [Product Demos](#)
- [Katakoda](#)
- [Workshops](#)
- [Ansible Examples](#)
- [Ansible Baseline](#)

## Next steps

Next you can read about more real-world cases in [ref: intro\\_adhoc](#), explore what you can do with different modules, or read about the Ansible [ref: working\\_with\\_playbooks](#) language. Ansible is not just about running commands, it also has powerful configuration management and deployment features.

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-
devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 176); backlink
Unknown interpreted text role "ref".
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-
devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 176); backlink
Unknown interpreted text role "ref".
```

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-
devel\docs\docsite\rst\user_guide\[ansible-devel] [docs] [docsite] [rst]
[user_guide]intro_getting_started.rst, line 181)
Unknown directive type "seealso".
```

```
.. seealso::

   :ref:'intro_inventory'
      More information about inventory
   :ref:'intro_adhoc'
      Examples of basic commands
   :ref:'working_with_playbooks'
      Learning Ansible's configuration management language
   `Ansible Demos <https://github.com/ansible/product-demos>`_
      Demonstrations of different Ansible usecases
   `RHEL Labs <https://katakoda.com/rhel-labs>`_
      Labs to provide further knowledge on different topics
   `Mailing List <https://groups.google.com/group/ansible-project>`_
      Questions? Help? Ideas? Stop by the list on Google Groups
   :ref:'communication_irc'
      How to join Ansible chat channels
```