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# **Testing Ansible**

This document describes how to:

- Run tests locally using ansible-test
- Extend
- Requirements
- Test Environments
  - Remote
  - Environment Variables
- Interactive Shell
- Code Coverage

# Requirements

There are no special requirements for running ansible-test on Python 2.7 or later. The argparse package is required for Python 2.6. The requirements for each ansible-test command are covered later.

## **Test Environments**

Most ansible-test commands support running in one or more isolated test environments to simplify testing.

#### Remote

The --remote option runs tests in a cloud hosted environment. An API key is required to use this feature.

Recommended for integration tests.

See the list of supported platforms and versions for additional details.

### **Environment Variables**

When using environment variables to manipulate tests there some limitations to keep in mind. Environment variables are:

- Not propagated from the host to the test environment when using the --docker or --remote options.
- Not exposed to the test environment unless enabled in test/lib/ansible\_test/\_internal/util.py in the common\_environment function.

Example: ANSIBLE\_KEEP\_REMOTE\_FILES=1 can be set when running ansible-test integration --venv. However, using the --docker option would require running ansible-test shell to gain access to the Docker environment. Once at the shell prompt, the environment variable could be set and the tests executed. This is useful for debugging tests inside a container by following the ref: Debugging AnsibleModule-based modules <debugging modules> instructions.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\dev\_guide\((ansible-devel)\) (docs) (docsite) (rst) (dev\_guide) testing\_running\_locally.rst, line 49); backlink

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# **Interactive Shell**

Use the ansible-test shell command to get an interactive shell in the same environment used to run tests. Examples:

- ansible-test shell --docker Open a shell in the default docker container.
- ansible-test shell --venv --python 3.6 Open a shell in a Python 3.6 virtual environment.

### Code Coverage

Code coverage reports make it easy to identify untested code for which more tests should be written. Online reports are available but only cover the <code>devel</code> branch (see <code>ref.'developing testing'</code>). For new code local reports are needed.

```
System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\ansible-devel\docs\docsite\rst\dev_guide\((ansible-devel)(docs)(docsite)(rst)(dev guide) testing running locally.rst, line 66); backlink
```

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Add the --coverage option to any test command to collect code coverage data. If you aren't using the --venv or --docker options which create an isolated python environment then you may have to use the --requirements option to ensure that the correct version of the coverage module is installed:

```
ansible-test coverage erase
ansible-test units --coverage apt
ansible-test integration --coverage aws_lambda
ansible-test coverage html
```

# Reports can be generated in several different formats:

- $\bullet$  ansible-test coverage report Console report.
- ansible-test coverage html HTML report.
- ansible-test coverage xml XML report.

To clear data between test runs, use the ansible-test coverage erase command. For a full list of features see the online help:

```
ansible-test coverage --help
```