

# Argument Specs + Ansible Test

Validierung und Integration Testing für Ansible Roles und Playbooks

At 15.02.2022 by Daniel Schier

# Agenda

- Introduction
- `ansible-core 2.12`
- Argument Specs
- Integration Testing
- Q&A

# Introduction

# Introduction

Daniel Schier

- Open Source enthusiast
- Ansible since 1.6
- Meetups, Conferences, Cats, Penguins, Cookies
- Contact:
  - [twitter.com/dschier\\_wtd](https://twitter.com/dschier_wtd)
  - [linkedin.com/u/dschier](https://linkedin.com/u/dschier)
  - [github.com/dschier-wtd](https://github.com/dschier-wtd)



# Introduction

`while-true-do.io`

- Role: Founder
- Motivation:  
Bringing Open Source Development, Infrastructure and Community together and work on things we like, so others can learn from it.
- Activities: articles, code, shared infrastructure
- Contact: `while-true-do.io`

# Introduction

## Dresden OpenSource UserGroup

- Role: Founder
- Motivation:  
We want to connect Open Source beginners, experts and enthusiasts and establish a healthy Open Source community.
- Activities: monthly meetups
- Contact: [ddosug.org](https://ddosug.org)

# Introduction



Wandelbots GmbH

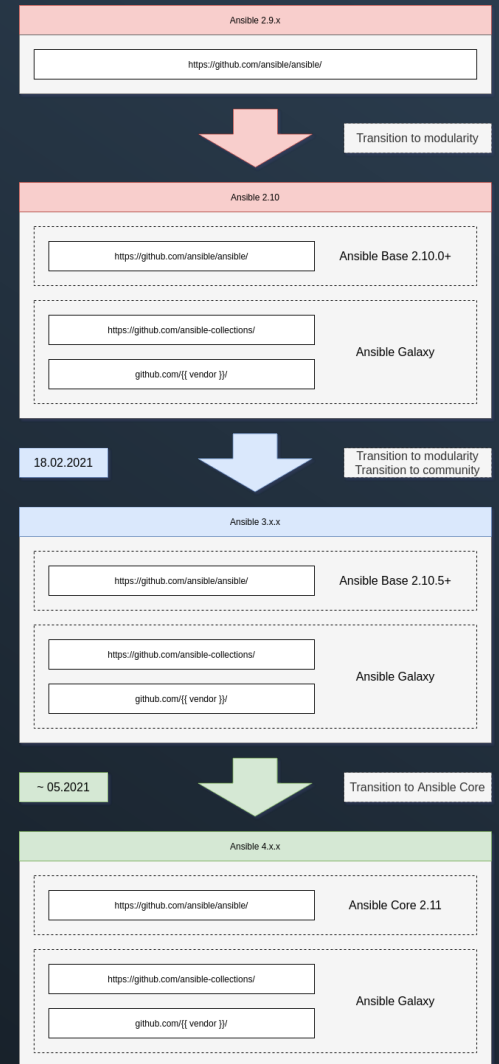
- Role: DevOps Engineer
- Motivation:  
Making robots helpful companions for everyone.
- Contact: [wandelbots.com](https://wandelbots.com)

ansible-core 2.12



# ansible-core 2.12

- Renaming... phew
- ansible-test
- ansible-navigator
- ansible-runner
- collections
- argument specs for roles
- moving stuff around



# Argument Specs

# Argument Specs

- Role development is easy.
- Using roles wrong is easy, too.
- Fixing issues after using it wrong?
- Is there a way to check the correct usage of roles?

# Argument Specs

- The old way
- Check each variable individually
- Check for type, content, definition, etc.
- Documentation?

```
! main.yml U x
roles > bash > tasks > ! main.yml > {} 0 > {} ansible.builtin.assert > [ ] that > 0
Ansible Tasks File (ansible-tasks.json)
1 ---
2 # roles/bash/tasks/main.yml
3
4 - name: "Check input"
5   ansible.builtin.assert:
6     that:
7       - "bash_package_state is defined"
8
9   ## Package Management
10
11 - name: "Manage bash Packages"
12   ansible.builtin.package:
13     name: "{{ bash_package_names }}"
14     state: "{{ bash_package_state }}"
15   become: true
16   tags:
17     - "bash"
18     - "package"
19
20   ## Checks
21
22 - name: "Import Checks for bash"
23   ansible.builtin.import_tasks: "check.yml"
24   when:
25     - "bash_checks_enabled | bool"
26   tags:
27     - "bash"
28     - "check"
29   ...
30
```

# Argument Specs

- The new way
- Similar to modules
  - Type
  - Elements
  - Defaults
  - Description
  - More

```
! argument_specs.yml U X
roles > bash > meta > ! argument_specs.yml > ...
1 ---
2 # roles/bash/meta/argument_specs.yml
3 # reference: https://docs.ansible.com/ansible/latest/user\_guide/playbooks\_reuse
4
5 argument_specs:
6 # roles/bash/tasks/main.yml entry point
7 main:
8   short_description: "The main entrypoint for bash."
9   options:
10    bash_package_names:
11     type: "list"
12     elements: "str"
13     default:
14      - "bash"
15      - "bash-completion"
16     description: "Define the package names."
17    bash_package_state:
18     type: "str"
19     choices:
20      - "present"
21      - "absent"
22      - "latest"
23     default: "present"
24     description: "Define the package state."
25    bash_checks_enabled:
26     type: "bool"
27     default: false
28     description: "Define if checks should run."
29 ...
30
```

# Argument Spec Demo

# Integration Tests

# Integration Tests

- The old way
- Use a different tool for
  - Sanity
  - Integration
- Run a playbook
- Maybe Molecule?



# Integration Tests

- The new way
- `ansible-test`
  - containerized
  - sanity + integration
  - roles, modules, more

```
! main.yml U X
tests > integration > targets > role_bash > tasks > ! main.yml > ...
1 ---
2 # tests/integration/targets/role_bash/tasks/main.yml
3
4 #####
5 # This is a test role, specifically designed for testing. It should not be #
6 # used as a template for proper role development. #
7 #####
8
9 - name: "Import bash Role"
10   ansible.builtin.import_role:
11     name: "while_true_do.general.bash"
12   vars:
13     bash_checks_enabled: true
14   ...
15 |
```

# Integration Test Demo

# Links

- [https://docs.ansible.com/ansible/devel/dev\\_guide/developing\\_collections\\_structure.html#meta-directory](https://docs.ansible.com/ansible/devel/dev_guide/developing_collections_structure.html#meta-directory)
- [https://docs.ansible.com/ansible/latest/dev\\_guide/developing\\_collections\\_structure.html#playbooks-directory](https://docs.ansible.com/ansible/latest/dev_guide/developing_collections_structure.html#playbooks-directory)
- [https://docs.ansible.com/ansible/latest/dev\\_guide/developing\\_collections\\_structure.html#plugins-directory](https://docs.ansible.com/ansible/latest/dev_guide/developing_collections_structure.html#plugins-directory)
- [https://docs.ansible.com/ansible/latest/dev\\_guide/developing\\_collections\\_structure.html#roles-directory](https://docs.ansible.com/ansible/latest/dev_guide/developing_collections_structure.html#roles-directory)
- [https://docs.ansible.com/ansible/latest/dev\\_guide/developing\\_collections\\_testing.html#testing-collections](https://docs.ansible.com/ansible/latest/dev_guide/developing_collections_testing.html#testing-collections)
- [https://docs.ansible.com/ansible/latest/dev\\_guide/developing\\_collections\\_structure.html#tests-directory](https://docs.ansible.com/ansible/latest/dev_guide/developing_collections_structure.html#tests-directory)
- [https://docs.ansible.com/ansible/latest/user\\_guide/playbooks\\_reuse\\_roles.html#role-argument-validation](https://docs.ansible.com/ansible/latest/user_guide/playbooks_reuse_roles.html#role-argument-validation)

# Questions & Answers

Learning something new starts with asking a question.