Roles

Role Examples

Wordpress	MySQL	JBoss
Repository	Server-Common	Build

Current Playbook

ROLE: Builder

- tasks:
  - name: install gcc
  - name: install jdk
  - name: setup git

ROLE: Server-Common
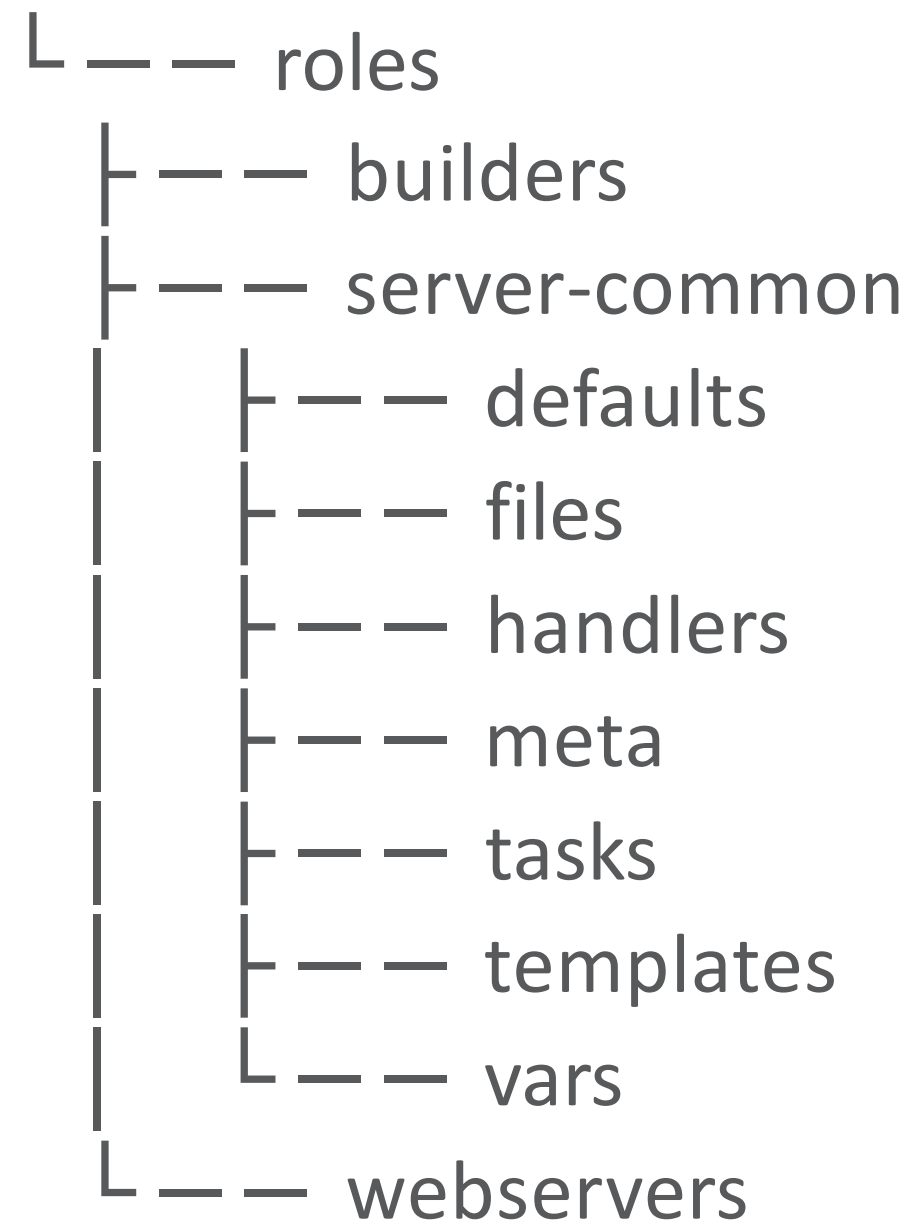
- tasks:
  - name: configure SNMP
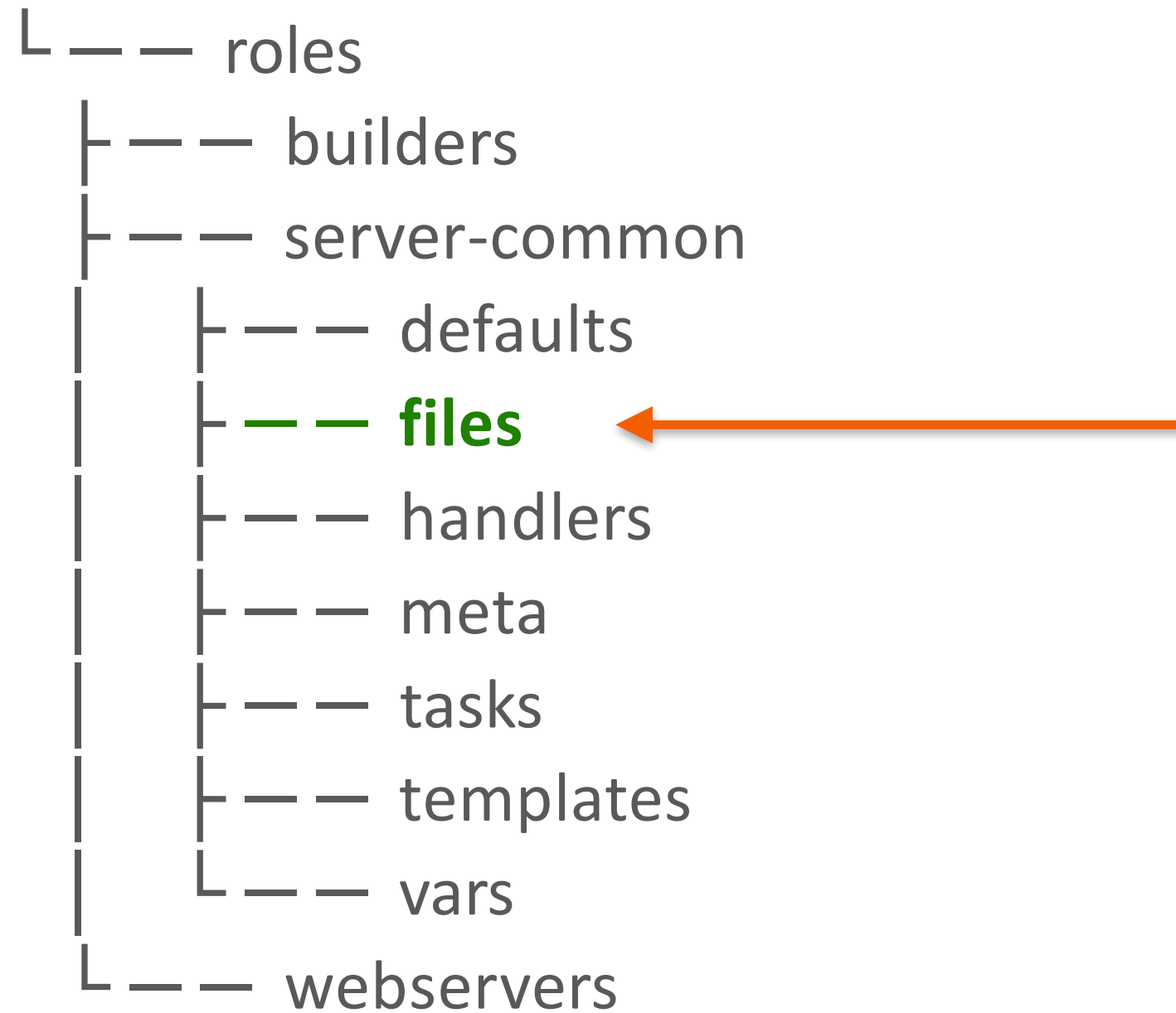 - name: configure SYSLOG
  - name: configure NTP

ROLE: Repo

- tasks:
  - name: git
  - name: configure
 - name: pull latest

Directory Structure

```
└── roles
    ├── builders
    ├── server-common
    │   ├── defaults
    │   ├── files
    │   ├── handlers
    │   ├── meta
    │   ├── tasks
    │   ├── templates
    │   └── vars
    └── webservers
```

Directory Structure

```
└── roles
    ├── builders
    ├── server-common
    │   ├── defaults
    │   ├── files          ⟵
    │   ├── handlers
    │   ├── meta
    │   ├── tasks
    │   ├── templates
    │   └── vars
    └── webservers
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Directory Structure

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    │   ├── meta
    │   ├── tasks          ←
    │   ├── templates
    │   └── vars
    └── webservers
```

Directory Structure

```
└ ── roles
     ├ ── builders
     ├ ── server-common
     │    ├ ── defaults
     │    ├ ── files
     │    ├ ── handlers
     │    ├ ── meta
     │    ├ ── tasks
     │    ├ ── templates        ←────────────
     │    └ ── vars
     └ ── webservers
```
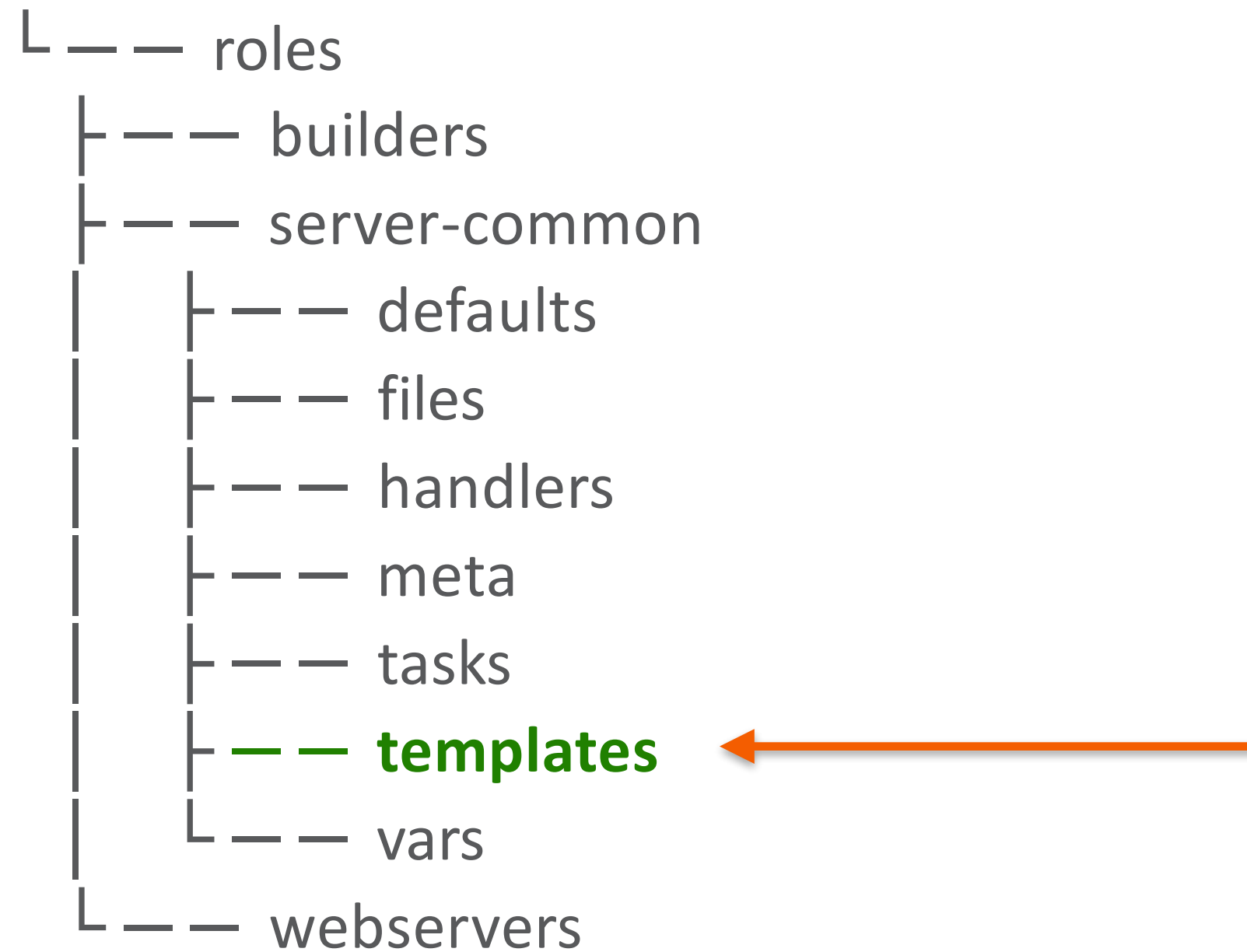
```
├── handlers
│   └── main.yml
├── tasks
│   └── main.yml
├── templates
└── vars
    └── main.yml
```

main.yml

Primary file that Ansible looks for

tasks/main.yml

```
---
- include: webservers.yml
- include: dbservers.yml
```

Can add includes to break-up long files

```
├── site.yml
├── handlers
│   └── main.yml
├── tasks
│   └── main.yml
├── templates
└── vars
    └── main.yml
```

site.yml

Primary file to include entire infrastructure

site.yml

```
---
- include: webservers.yml
- include: dbservers.yml
```

Can add includes to break-up long files

site.yml

```
---
- include: webservers.yml tags=web
- include: dbservers.yml tags=db
```

Use tags to define categories within your playbooks

Tagging Tasks

```
tasks:

  debug: msg="This will only run on tag 'debug'"

  tags:

    - debug


  debug: msg="You can also use multiple tags"

  tags:

    - debug

    - ubercool
```

Adding Roles to Playbook

```yaml
---
- hosts: code-dev
  roles:
    - server-common
    - builders
  gather_facts: no

  tasks:
    # Build your extra tasks here like
    # creating users, or deploying a specific config
```

Pre-tasks and Post-tasks

pre_tasks:

- Executes plays BEFORE roles
  - Use-Cases
    - Setup of maintenance windows
    - Removing servers from Load-balancers
    - Silencing alarms

post_tasks:

- Executes plays AFTER roles
  - Use-Cases
    - Clearing of maintenance windows
    - Adding servers to Load-balancers
    - Enabling Alarms

Adding Pre and Post Tasks

```
---
- hosts: webservers
  pre_tasks:
    - # Remove from load-balancer
  roles:
    - server-common
    - jboss
  post_tasks:
    - # Add to load-balancer
  gather_facts: no
```

Executing Roles - Basic

Basic execution of roles:

```
$ ansible-playbook site.yml
```

Executing Roles - Tags

Tagged execution
of roles:

```
$ ansible-playbook site.yml
    —tags "web"
```

Executing Roles - Tags with Limits

Limited tagged execution of roles:

```
$ ansible-playbook site.yml
    —tags "web"
    —limit atlanta
```

Demo: Build Webserver Role

Define "webserver" role

Define "dbserver" role

Define "common-server" role

Apply roles

Ansible Galaxy

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Installing Galaxy Roles

Use username.role

```
$ ansible-galaxy install username.role
```

Installing Galaxy Roles

Use username.role

```
$ ansible-galaxy install apaxson.ultimate
```

Demo: Ansible Galaxy

Browse/Search Ansible Galaxy

Find a Role and install