LESSON 9

site.yml

```yaml
roles:
  - common
  - role: nginx
    vars: { nginx_port: 8080 }
```

YAML

Roles & Galaxy

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ANSIBLE & DEVOPS

LESSON 9

Roles, Collections and Galaxy

Role structure, defaults and vars, using roles, Ansible Galaxy, collections and requirements

Role Structure

terminal

```
$ ansible-galaxy role init roles/nginx
roles/nginx/
├── defaults/main.yml     # default variables
├── handlers/main.yml
├── tasks/main.yml
├── templates/
├── files/
├── vars/main.yml
└── meta/main.yml         # dependencies, platforms
```

- A role packages everything for one job, such as nginx or postgres, in a standard folder …
- ansible-galaxy role init creates the skeleton for you.

01

defaults vs vars

roles/nginx/defaults/main.yml

```yaml
# Port nginx listens on
nginx_port: 80
# Site name and document root
nginx_site_name: school
nginx_root: "/var/www/{{ nginx_site_name }}"
# Enable TLS (requires cert files)
nginx_tls: false
```

- defaults are meant to be overridden: ports, versions, feature switches. vars hold values …
- Document every default, because it is the role's public interface.

02

Using Roles

site.yml

```
- hosts: web
  become: true
  roles:
    - common
    - role: nginx
      vars:
        nginx_port: 8080

- hosts: db
  become: true
  roles:
    - common
    - postgres
```

- List roles in a play's roles section, and pass variables to override defaults. Roles run …
- include_role and import_role call a role from inside the tasks list, even conditionally.

03

Ansible Galaxy and Collections

terminal

```
$ ansible-galaxy collection install community.general
$ ansible-galaxy collection list | grep -E 'posix|general'
ansible.posix        1.6.2
community.general    9.5.0
$ ansible-galaxy role install geerlingguy.docker
```

- Ansible Galaxy is the public hub for shared roles and collections. A collection bundles ...
- Red Hat's Automation Hub offers certified, supported collections.

04

requirements.yml

requirements.yml

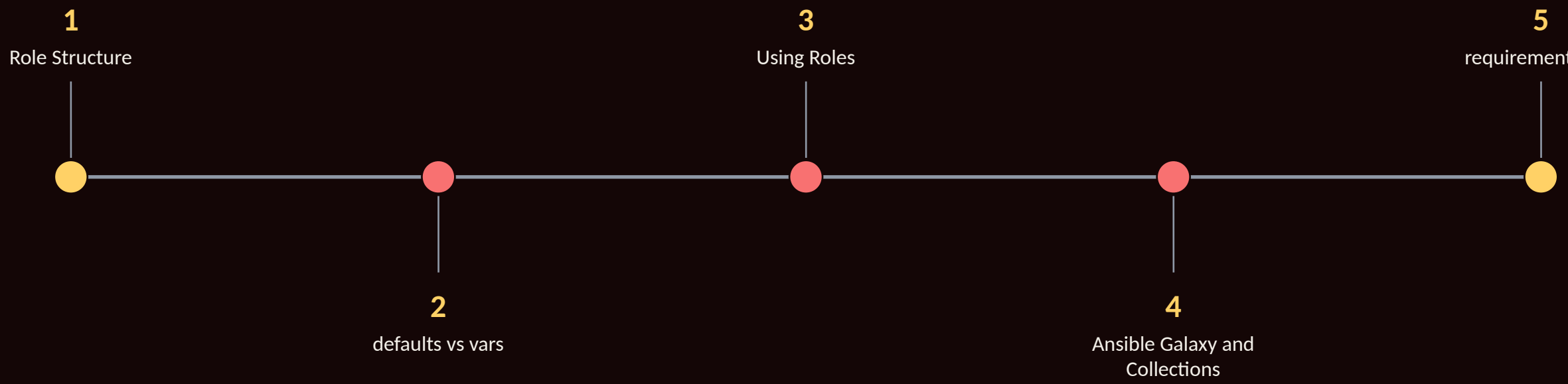
```
collections:
  - name: community.general
    version: ">=9.0.0"
  - name: ansible.posix
    version: 1.6.2
roles:
  - name: geerlingguy.docker
    version: 7.4.1

# ansible-galaxy install -r requirements.yml
```

- Pin every role and collection your project needs, with versions, in requirements.yml. Then …
- Review third-party roles before using them; they run with root privileges on your servers.

05

Lesson Map


1
Role Structure
2
defaults vs vars
3
Using Roles
4
Ansible Galaxy and Collections
5
requirements.yml

Sources and Further Reading

terminal

```
$ ansible-galaxy role init roles/nginx
roles/nginx/
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├── tasks/main.yml
├── templates/
├── files/
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```

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site.yml

```
- hosts: web
  become: true
  roles:
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    - role: nginx
      vars:
        nginx_port: 8080

- hosts: db
  become: true
  roles:
    - common
    - postgres
```

Thank you for watching

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