LESSON 5

site.yml

```
- ansible.builtin.lineinfile:
    path: /etc/ssh/sshd_config
    line: 'PermitRootLogin no'
```

# YAML

## Essential Modules

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# ANSIBLE & DEVOPS

LESSON 5

## Essential Modules

package, service, copy, file, user, lineinfile, command versus shell, and ansible-doc

# Packages and Services



tasks.yml

```yaml
- name: Install tools
  ansible.builtin.package:
    name: [git, curl, vim]
    state: present

- name: Firewall service running
  ansible.builtin.systemd:
    name: firewalld
    state: started
    enabled: true
```

- package works with any package manager; dnf and apt give more options. state present …
- service, or systemd, starts, stops, restarts and enables services.

01

# copy and file



tasks.yml

```yaml
- name: Web root exists
  ansible.builtin.file:
    path: /var/www/school
    state: directory
    owner: nginx
    mode: "0755"

- name: Deploy home page
  ansible.builtin.copy:
    src: files/index.html
    dest: /var/www/school/index.html
    mode: "0644"
```

- copy sends a file from the control node, or writes inline content, and sets owner, group …
- Always quote octal modes, like 0644 in quotes, so YAML does not misread them.

02

# Users and Lines in Files



tasks.yml

```
- name: Create deploy user
  ansible.builtin.user:
    name: deploy
    groups: wheel
    shell: /bin/bash

- name: Disable SSH root login
  ansible.builtin.lineinfile:
    path: /etc/ssh/sshd_config
    regexp: '^#?PermitRootLogin'
    line: 'PermitRootLogin no'
```

- user creates accounts with groups and shells; authorized_key installs their SSH keys. …
- These edit configuration safely without replacing whole files.

03

# command vs shell



tasks.yml

```yaml
- name: Initialize app database once
  ansible.builtin.command:
    cmd: /opt/app/bin/init-db
    creates: /opt/app/.db-initialized

- name: Count log errors
  ansible.builtin.shell: grep -c ERROR /var/log/app.log || true
  register: errors
  changed_when: false
```

- command runs a program directly; shell runs it through a shell, so pipes and redirection …
- Command tasks always report changed. Add creates, or changed_when, to keep them idempotent.

04

# Finding Modules with ansible-doc



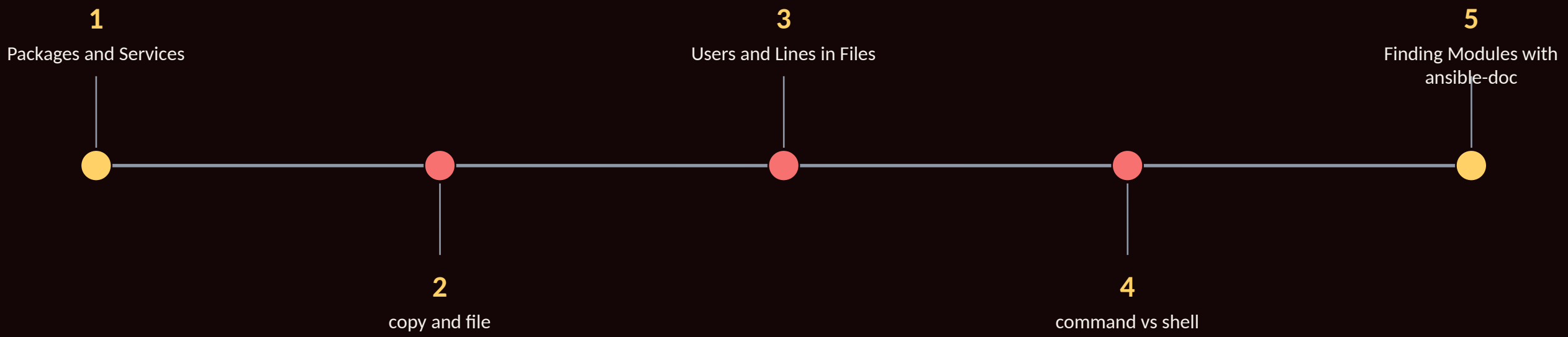
terminal

```
$ ansible-doc -l | grep firewall
ansible.posix.firewalld   Manage arbitrary ports/services with firewalld
community.general.ufw     Manage firewall with UFW
$ ansible-doc -s ansible.posix.firewalld
$ ansible-doc ansible.builtin.lineinfile
```

- ansible-doc shows the documentation and examples for every module, right in the terminal. …
- The examples section is usually the fastest way to learn a new module.

05

# Lesson Map


1
Packages and Services
2
copy and file
3
Users and Lines in Files
4
command vs shell
5
Finding Modules with ansible-doc

# Sources and Further Reading



tasks.yml

```
- name: Install tools
  ansible.builtin.package:
    name: [git, curl, vim]
    state: present

- name: Firewall service running
  ansible.builtin.systemd:
    name: firewalld
    state: started
    enabled: true
```

ANSIBLE & DEVOPS · 5

tasks.yml

```
- name: Create deploy user
  ansible.builtin.user:
    name: deploy
    groups: wheel
    shell: /bin/bash

- name: Disable SSH root login
  ansible.builtin.lineinfile:
    path: /etc/ssh/sshd_config
    regexp: '^#?PermitRootLogin'
    line: 'PermitRootLogin no'
```

Thank you for watching

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