

Idempotence, Templates, Diffs

- Make changes only when needed
- Render config with Jinja2
- Show and store diffs

Idempotence

- Pre-check → Decide → Apply → Post-check
- Second run is a no-op
- Evidence artifacts (logs + diffs)

Templates (Jinja2)

- `common/templates/ios_vlan.j2`
- `common/templates/junos_vlan.set.j2`
- Render with platform-specific templates

Orchestrator

- `day4_multivendor_config/configure_multivendor.py`
- NAPALM merge candidate for VLAN
- Netmiko for interface descriptions

Diffs

- NAPALM `compare_config()`
- Stdlib `difflib.unified_diff`
- Store in logs or files

Safety

- Dry-run by default (`COMMIT=true` to apply)
- Env secrets; per-host error isolation