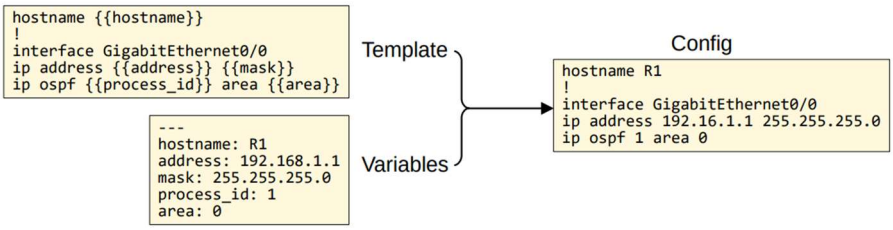
CONFIGURATION MANAGEMENT TOOLS (ANSIBLE, PUPPET, CHEF)

- *Configuration drift* is when individual changes made over time cause a device's configuration to deviate from the standard/correct configurations as defined by the company.
- *Configuration provisioning* refers to how configuration changes are applied to devices.
  - This includes configuring new devices, too.
- Traditionally, configuration provisioning is done by connecting to devices one-by-one via SSH.
  - This is not practical in large networks.
- Config mgmt tools (Ansible, Puppet, Chef) allow us to make changes to devices at mass scale w/ a fraction of the time/effort.
- Two essential components: *templates* and *variables*



Configuration management tools are network automation tools that facilitate the centralized control of large numbers of network devices. They include: Ansible, Puppet, and Chef (which all use a **client-server model**). They can:

- Generate configurations for new devices in a large scale.
- Perform configuration changes on devices.
- Check device configurations for compliance with defined standards.
- Compare configurations between devices, between different versions of configurations on the same devices.

However, they have some differences:

	ANSIBLE	PUPPET	CHEF
KEY FILES DEFINING ACTIONS	Playbook	Manifest	Recipe, Run-list
COMMUNICATION PROTOCOL	SSH	HTTPS (via REST API)	HTTPS (via REST API)
KEY PORT	22 (SSH)	8140	10002
AGENT?	Agentless	Agent-based (or Agentless)	Agent-based
PUSH/PULL	Push	Pull	Pull
WRITTEN IN	Python	Ruby	Ruby
FILES	YAML	Proprietary	Ruby