CCNA 200-301, Volume 2

Chapter 19
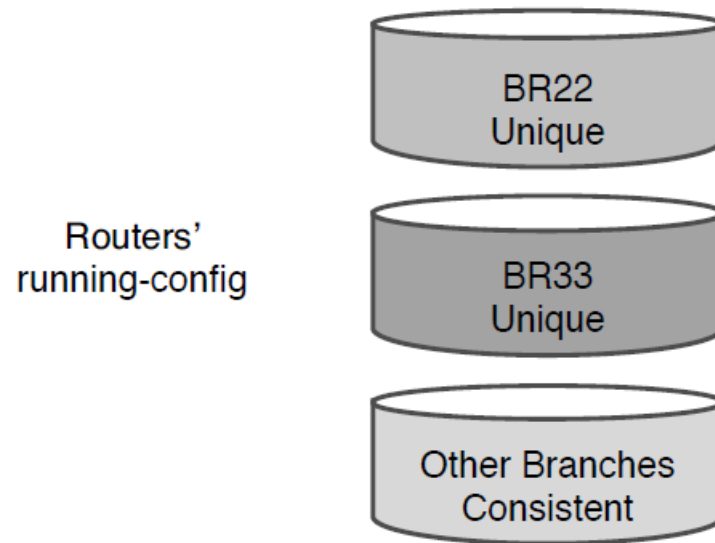
Understanding Ansible, Puppet, and Chef
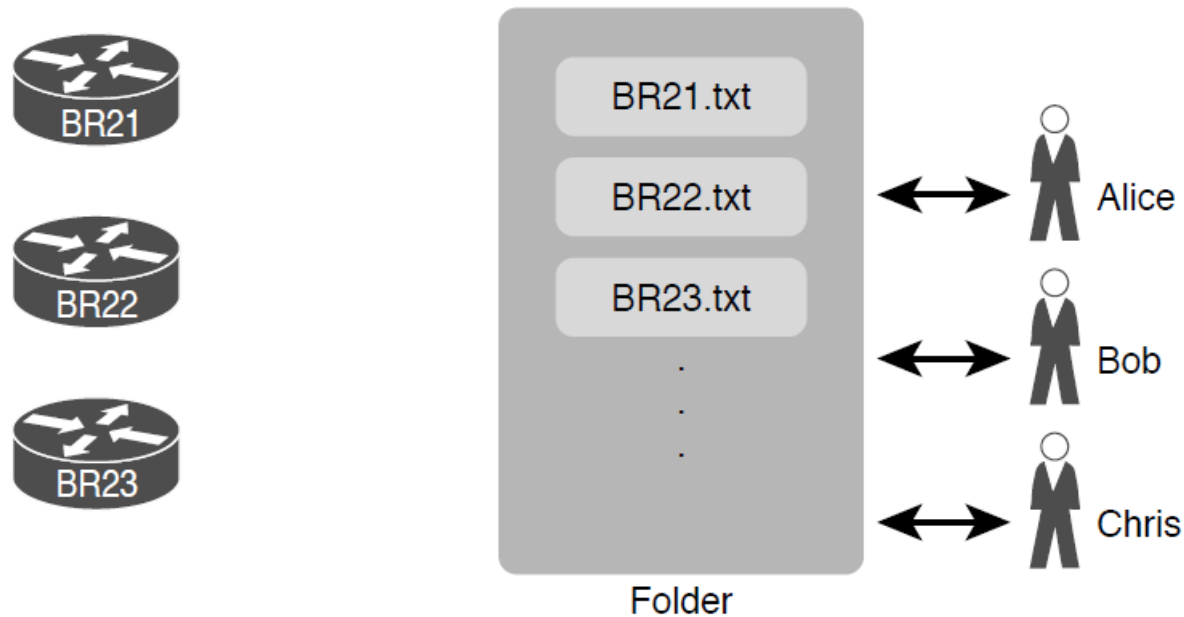
Objectives

- Recognize the capabilities of configuration mechanisms Puppet, Chef, and Ansible

Configuration Drift in Branch Routers BR22 and BR33

Routers'
running-config

Copying Device Configurations to a Central Location
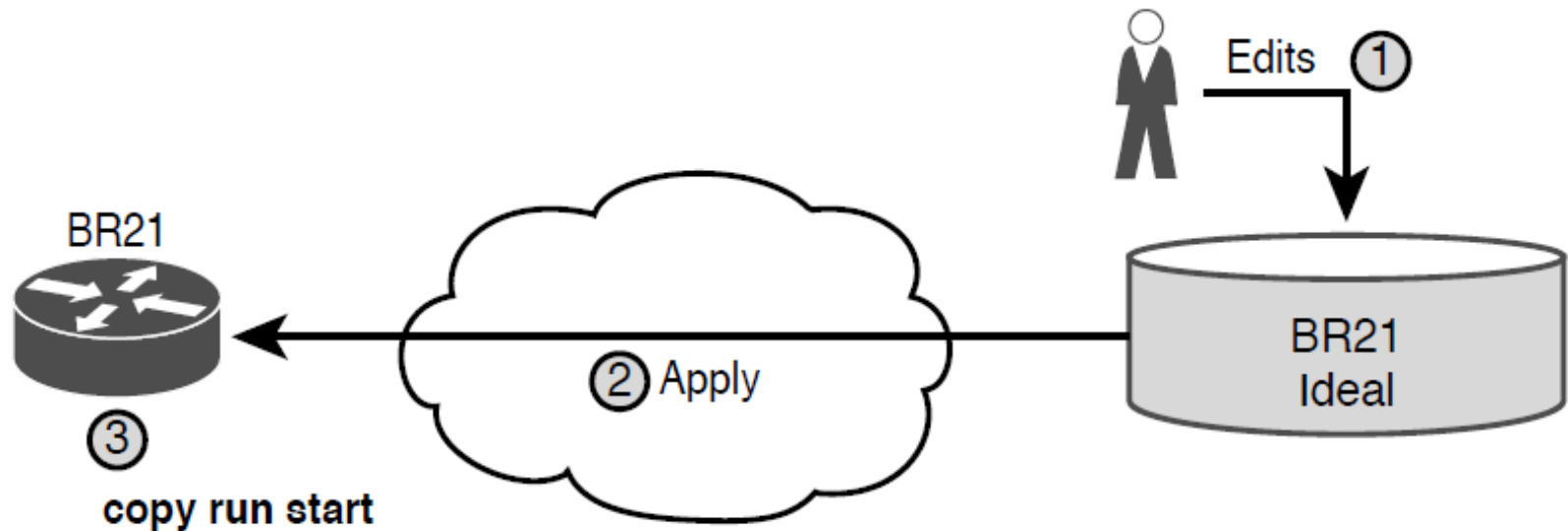
Showing File Differences in GitHub

Pushing Centralized Configuration to a Remote Device

Configuration Monitoring
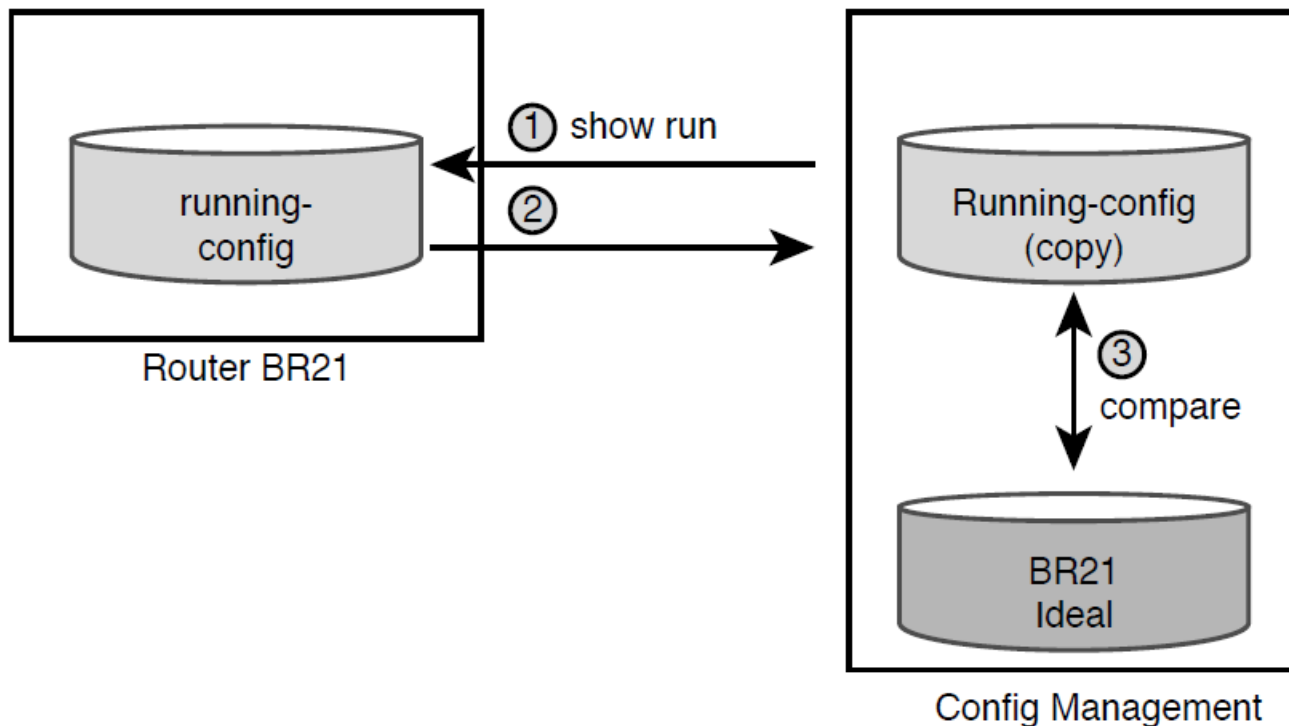
Router BR1 Configuration, with Unique Values Highlighted

```
hostname BR1
!
interface GigabitEthernet0/0
 ip address 10.1.1.1 255.255.255.0
 ip ospf 1 area 11
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/1/0
 ip address 10.1.12.1 255.255.255.0
 ip ospf 1 area 11
!
router ospf 1
 router-id 1.1.1.1
```
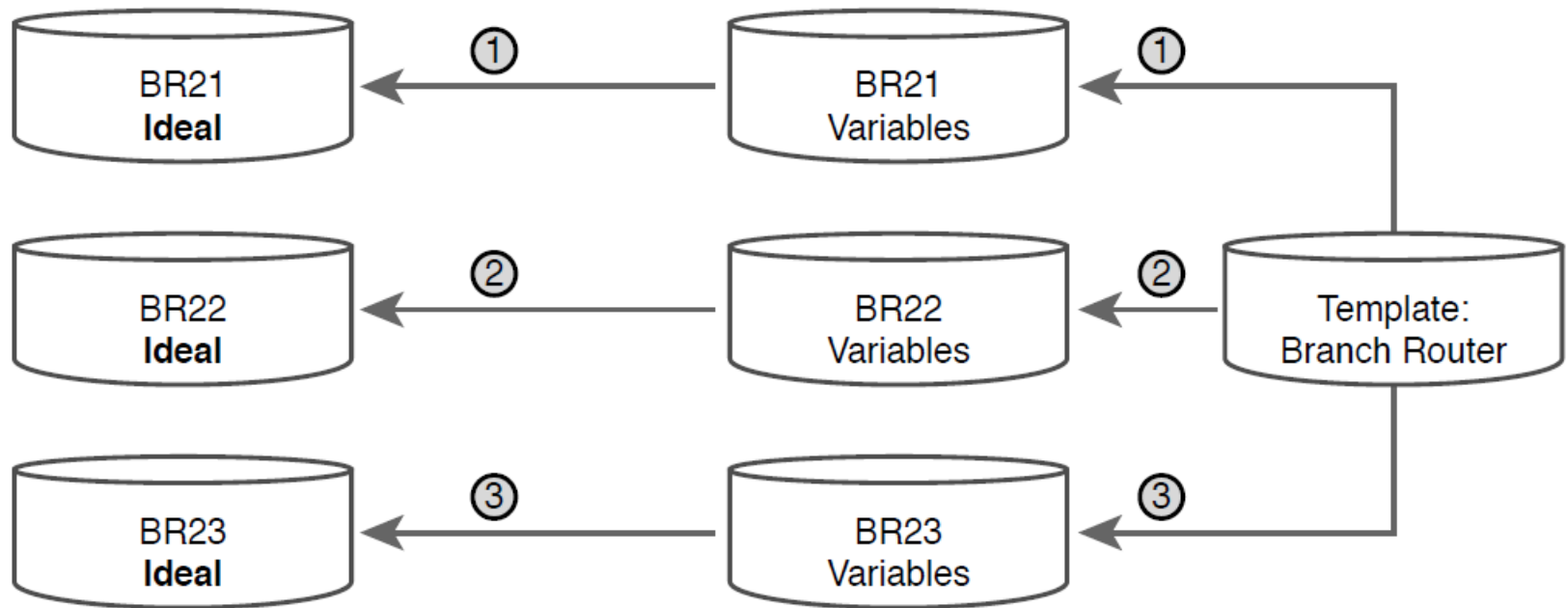
# Concept: Configuration Templates and Variables

Jinja2 Template with Variables Based on Previous Example

```
hostname {{hostname}}
!
interface GigabitEthernet0/0
 ip address {{address1}} {{mask1}}
 ip ospf {{OSPF_PID}} area {{area}}
!
interface GigabitEthernet0/1
!
interface GigabitEthernet0/1/0
 ip address {{address2}} {{mask2}}
 ip ospf {{OSPF_PID}} area {{area}}
!
router ospf {{OSPF_PID}}
 router-id {{RID}}
```
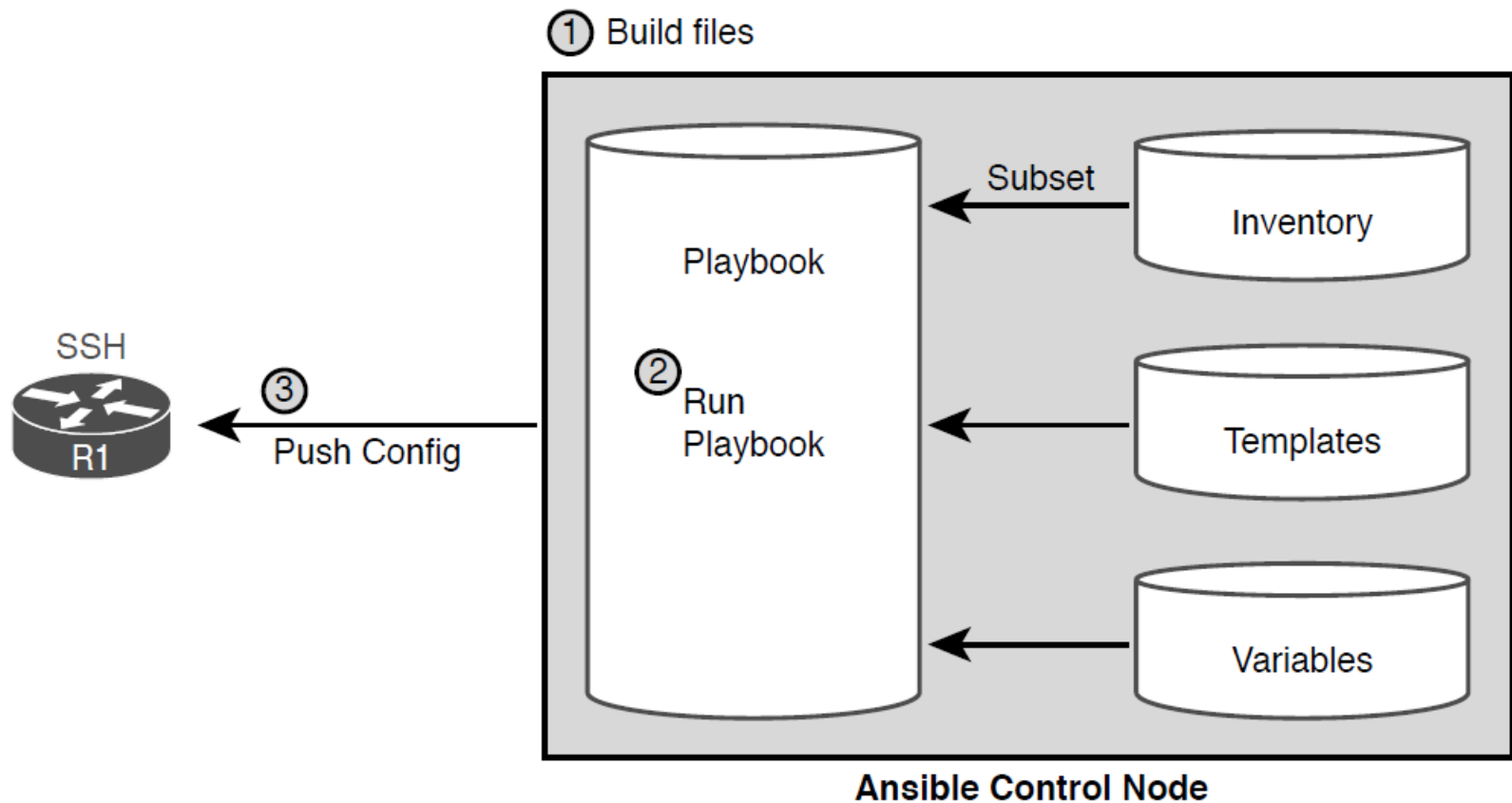
YAML Variables File Based on Previous Example

```
---
hostname: BR1
address1: 10.1.1.1
mask1: 255.255.255.0
address2: 10.1.12.1
mask2: 255.255.255.0
RID: 1.1.1.1
area: '11'
OSPF_PID: '1'
```
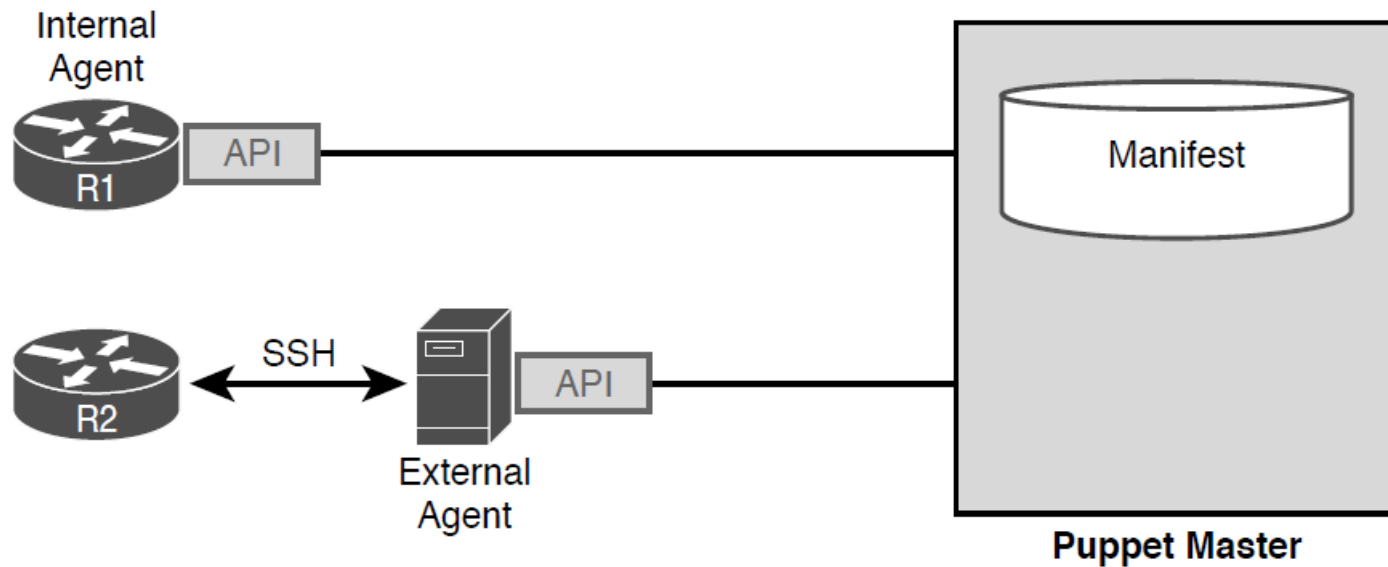
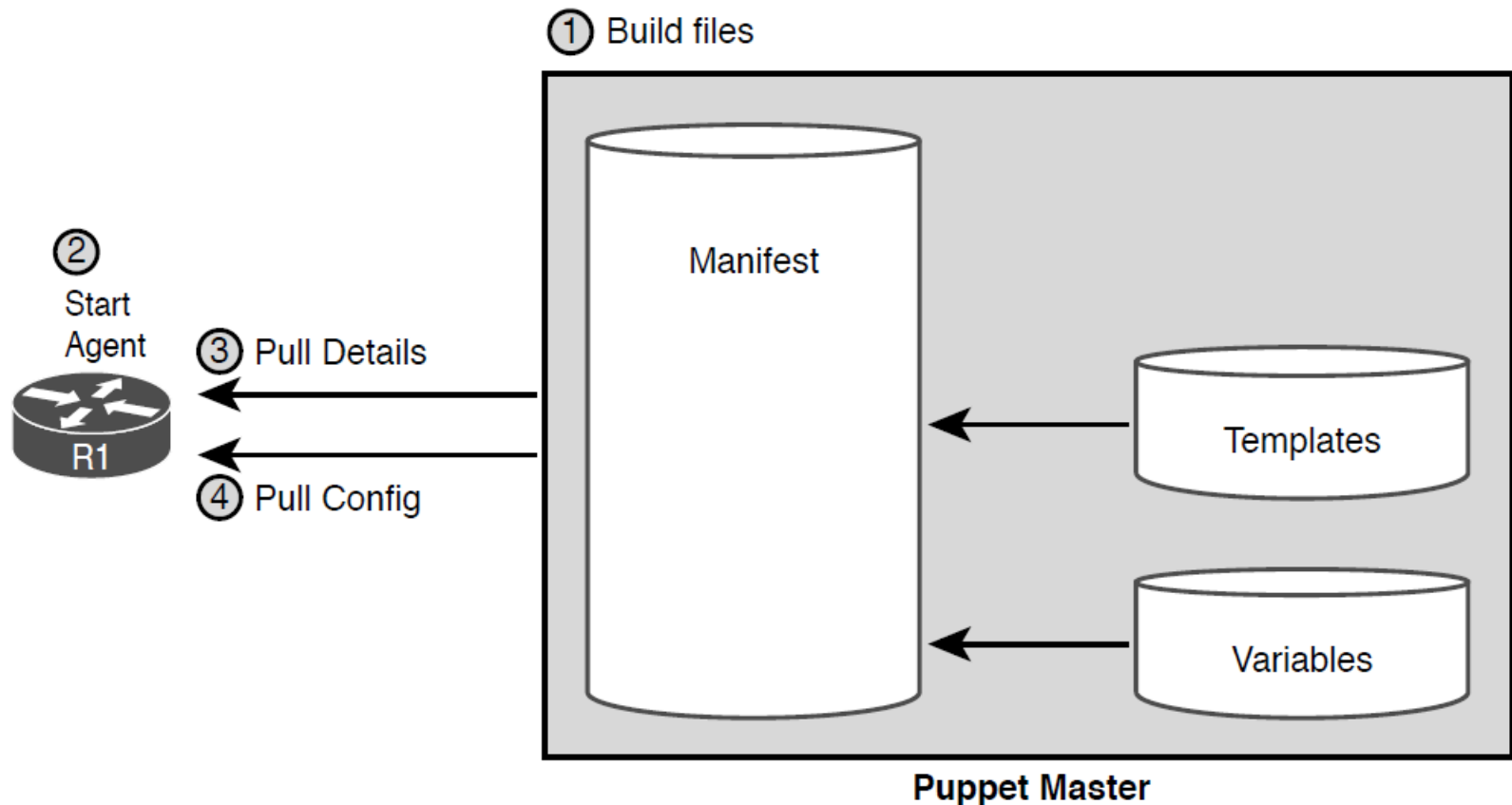# Important Files Used by Configuration Management Tools

Config Management
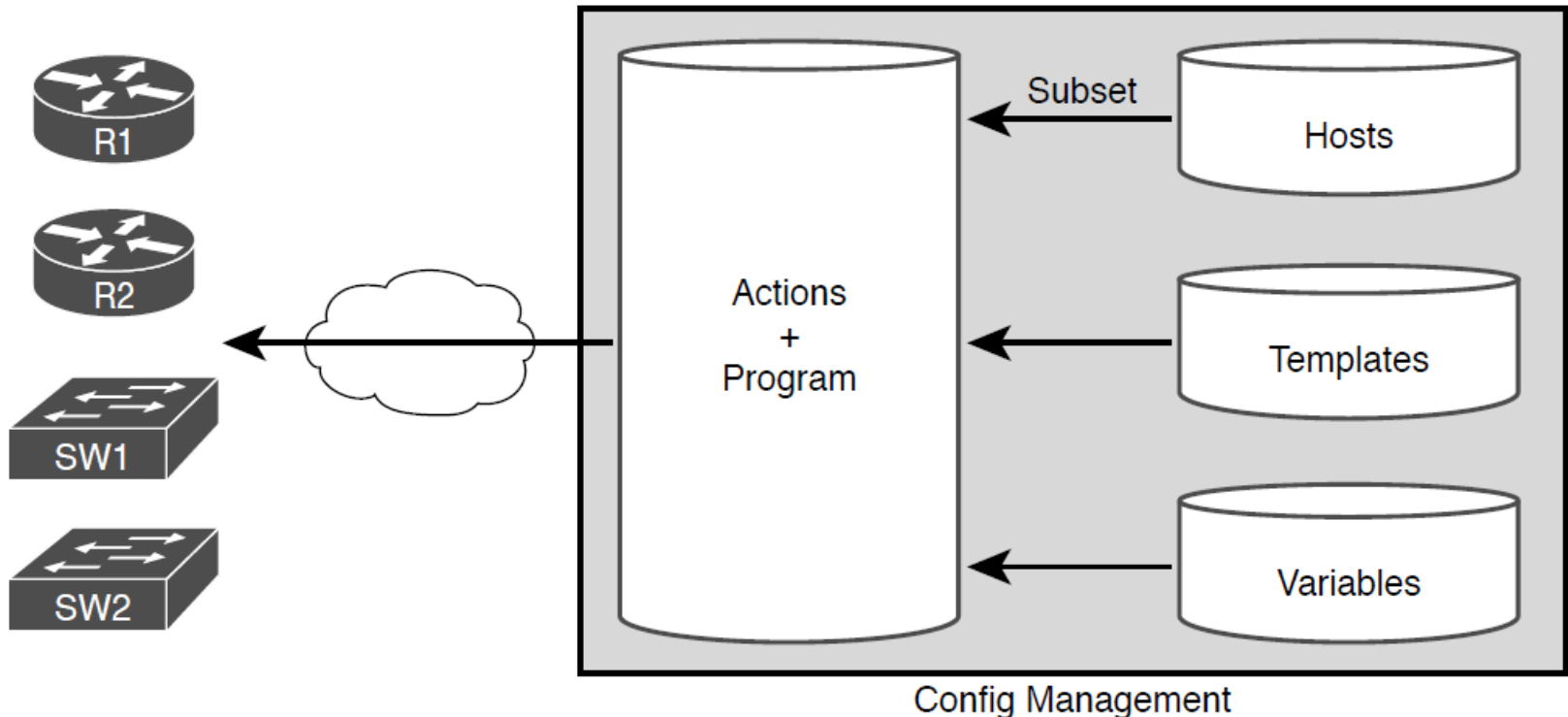
Ansible Push Model

Agent-based and Agentless Operation for Puppet

Pull Model with Puppet

Comparing Ansible, Puppet, and Chef

Action	Ansible	Puppet	Chef
Term for the file that lists actions	Playbook	Manifest	Recipe, Runlist
Protocol to network device	SSH, NETCONF	HTTP (REST)	HTTP (REST)
Uses agent or agentless model	Agentless	Agent*	Agent
Push or pull model	Push	Pull	Pull
* Puppet can use an in-device agent or an external proxy agent for network devices			