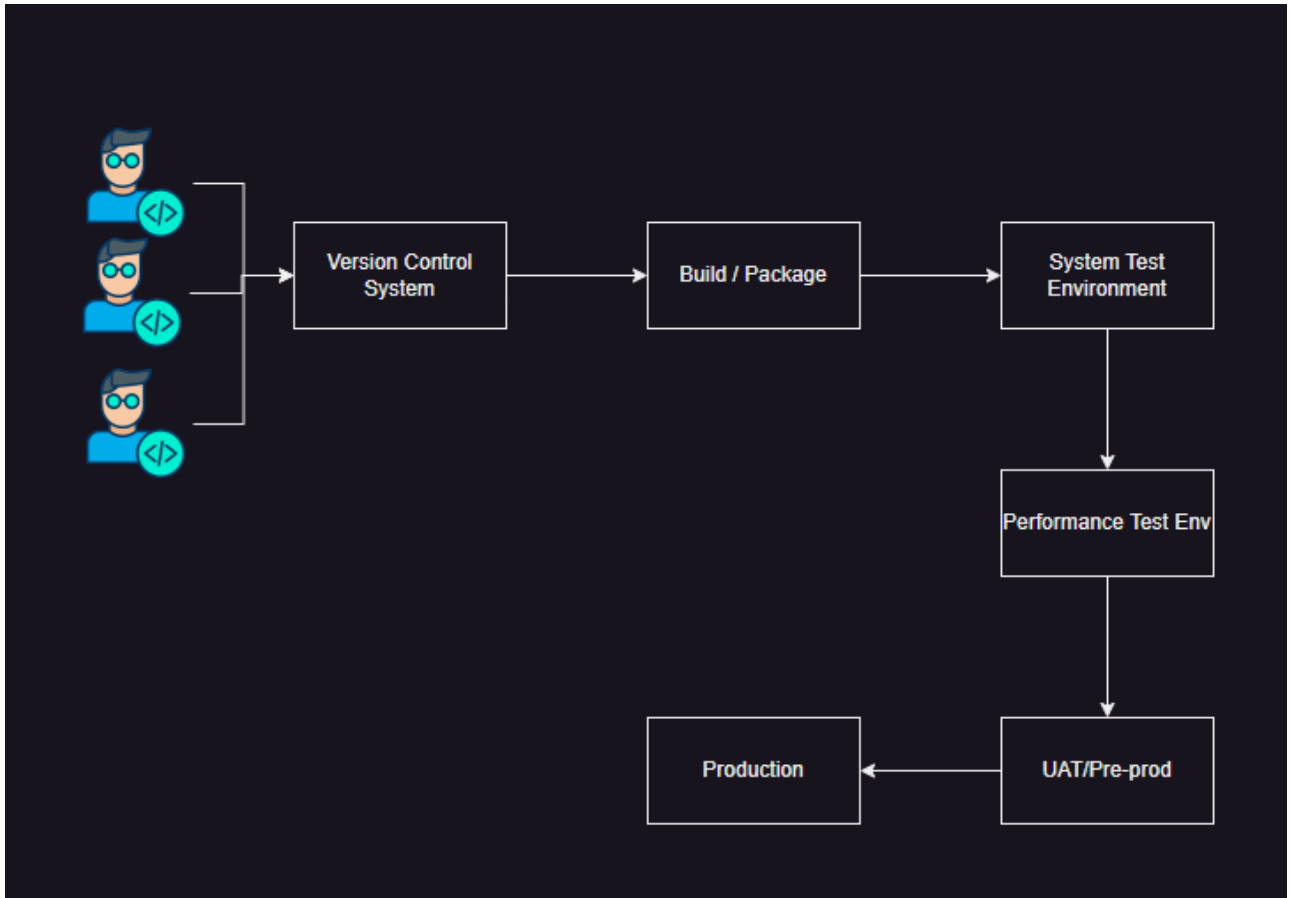
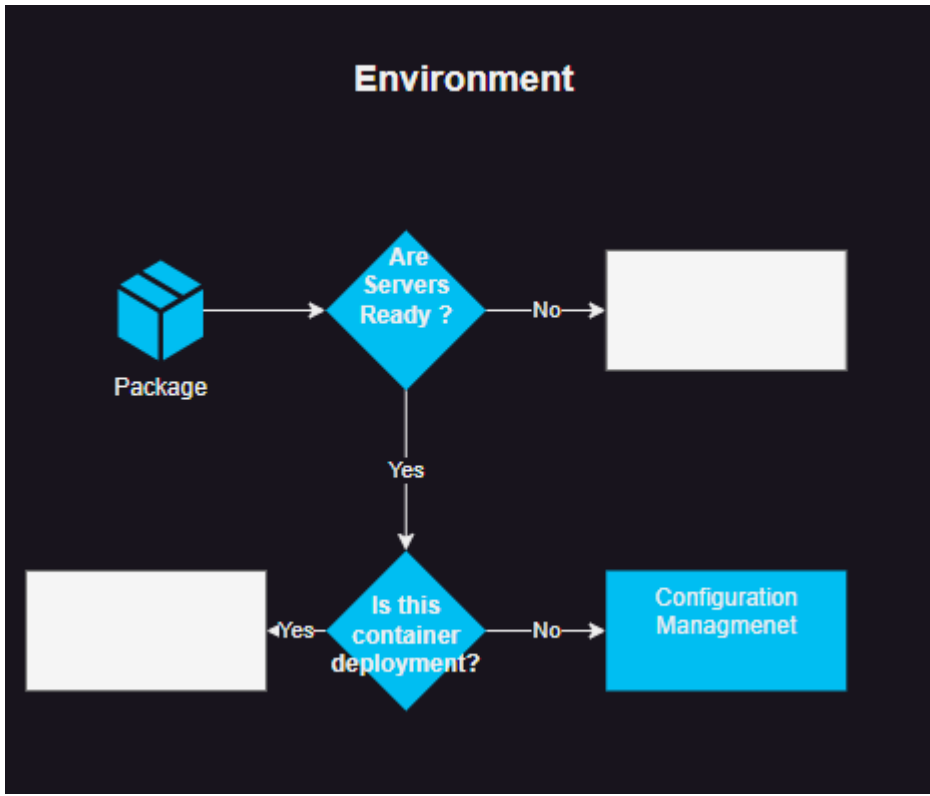


# Role of Configuration Management in CI/CD Pipelines

- CI/CD Pipeline

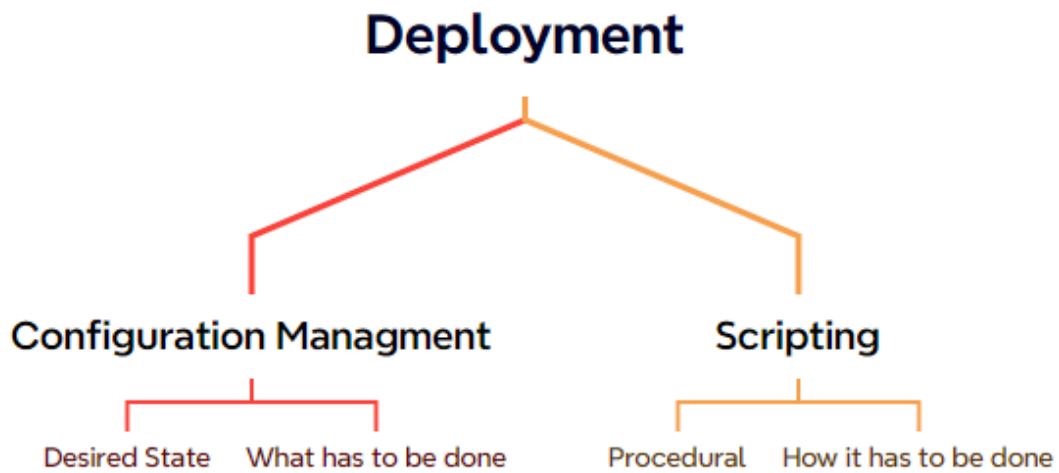


- Usage of Configuration Management in CI/CD Pipeline



- Configuration Management is about configuring servers to be able to run the application (deploying software)

## Scripting vs Configuration Management

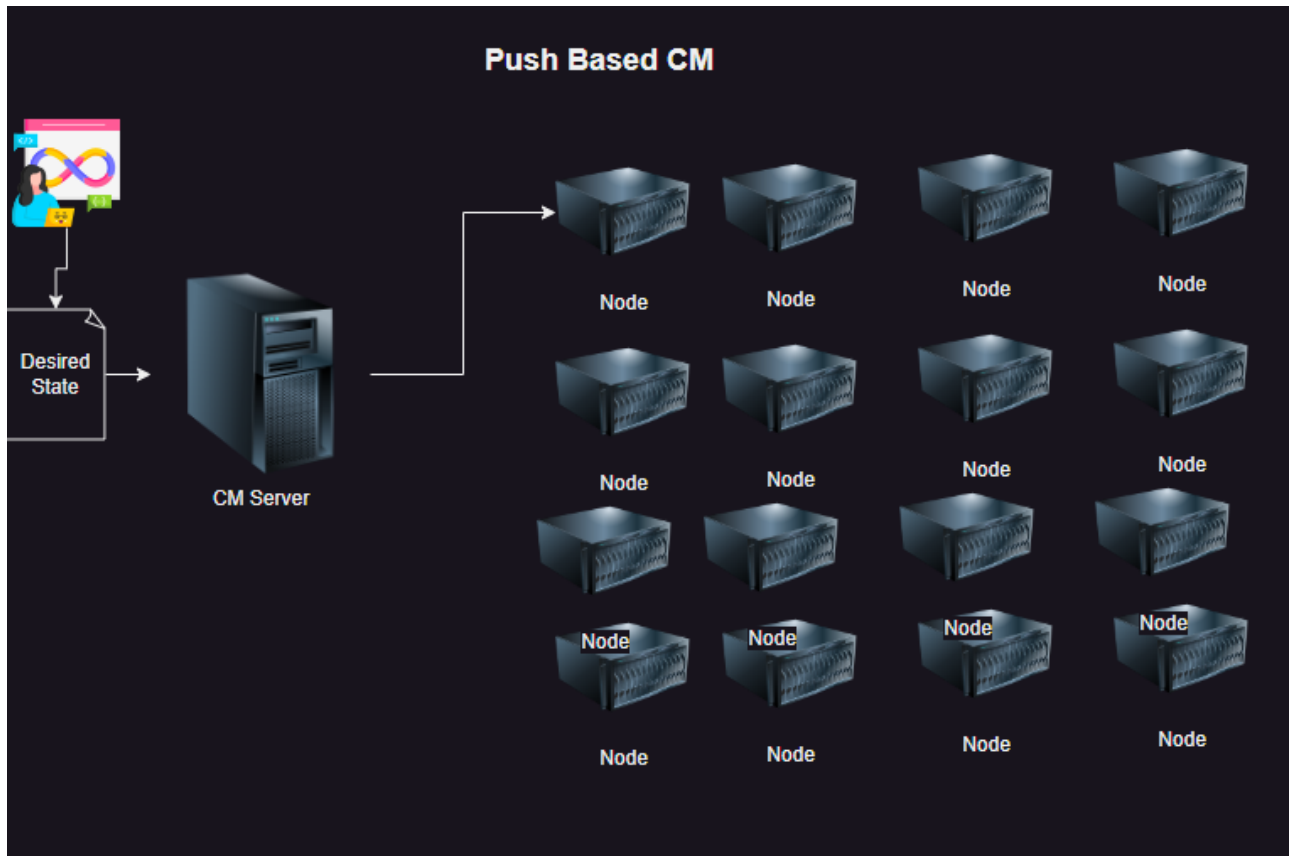


### Tools

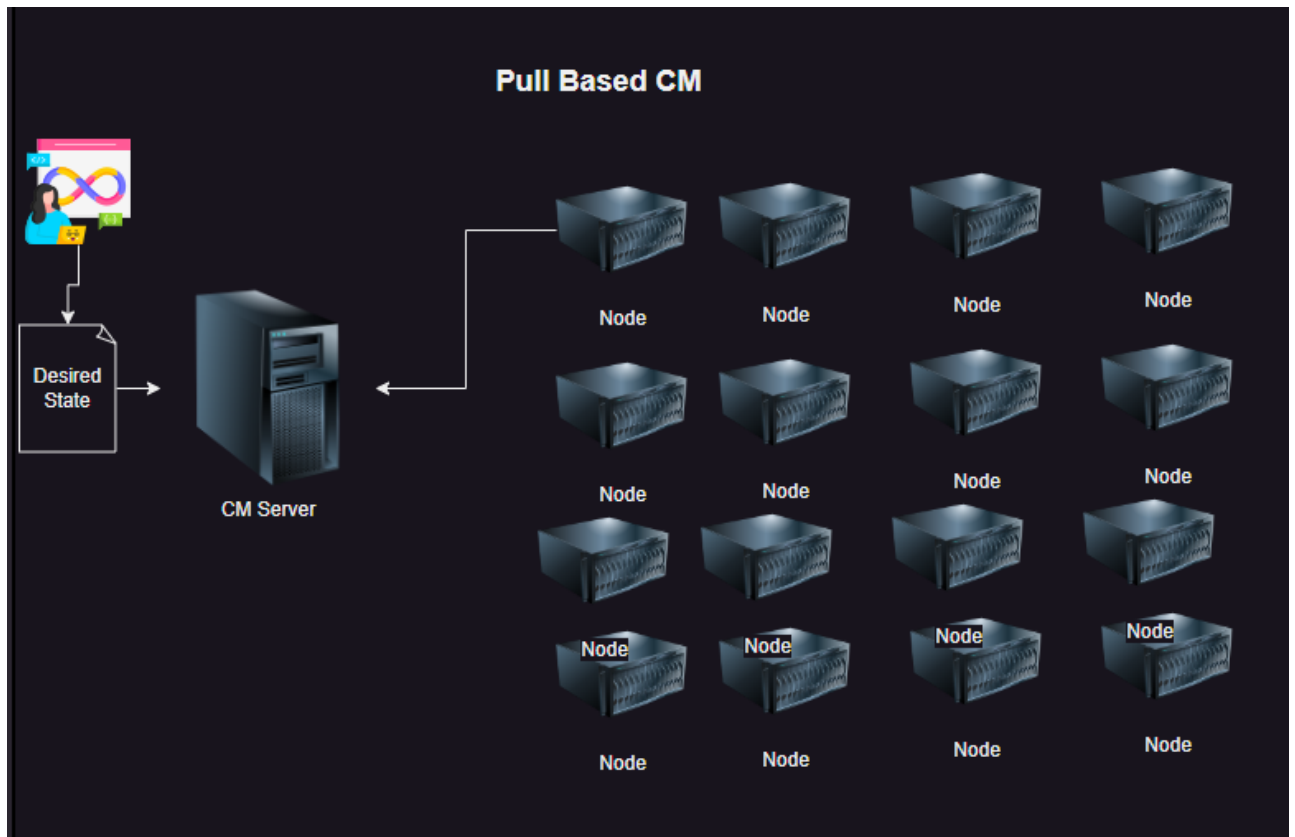
- Ansible (push)
- Chef (pull)
- Puppet (pull)
- Saltstack (push)
- Powershell DSC (push)

### Architecture Models of CM

- Push Based CM



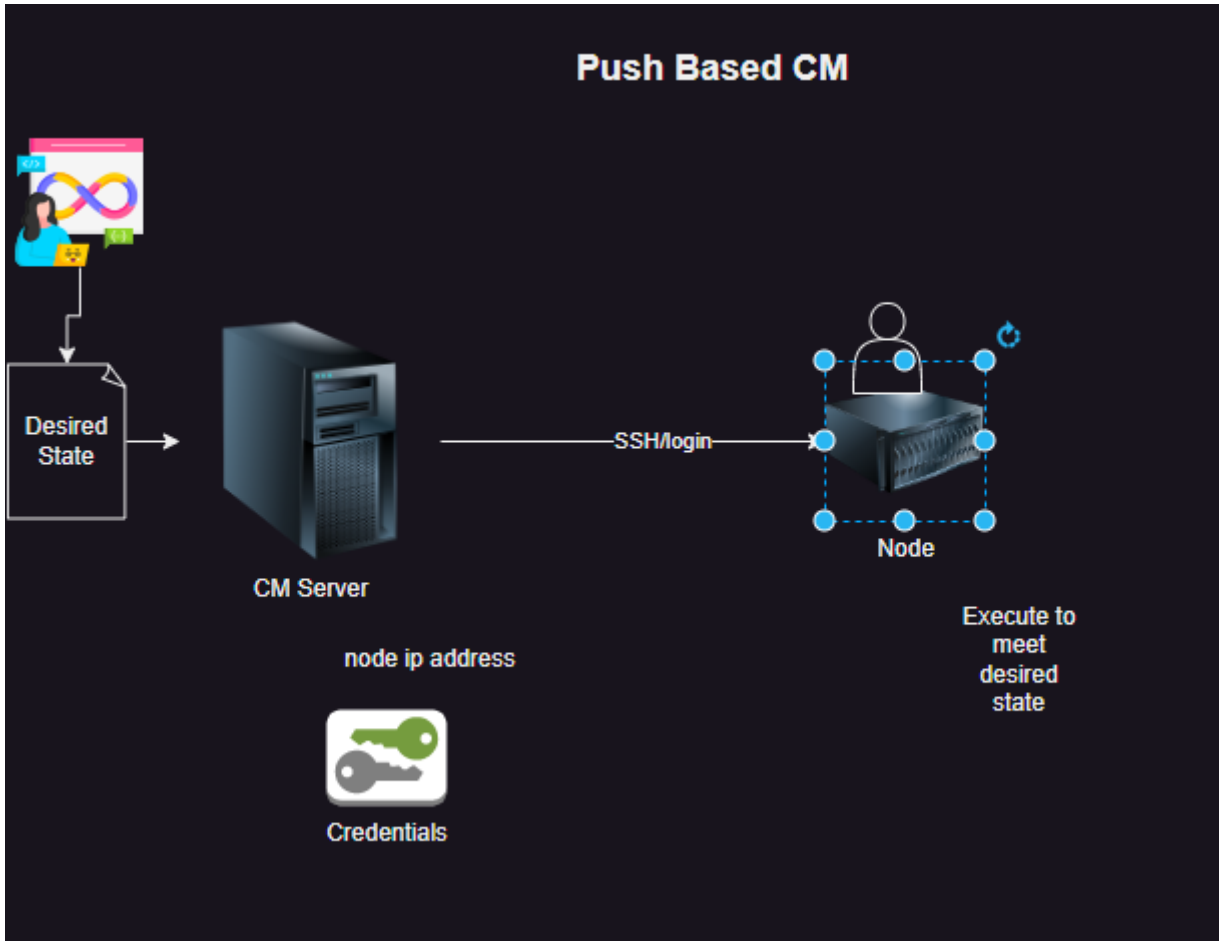
- Pull Based CM



### Push Based CM

- In this model CM Server will communicate first as we need to provide the node ip address and credentials

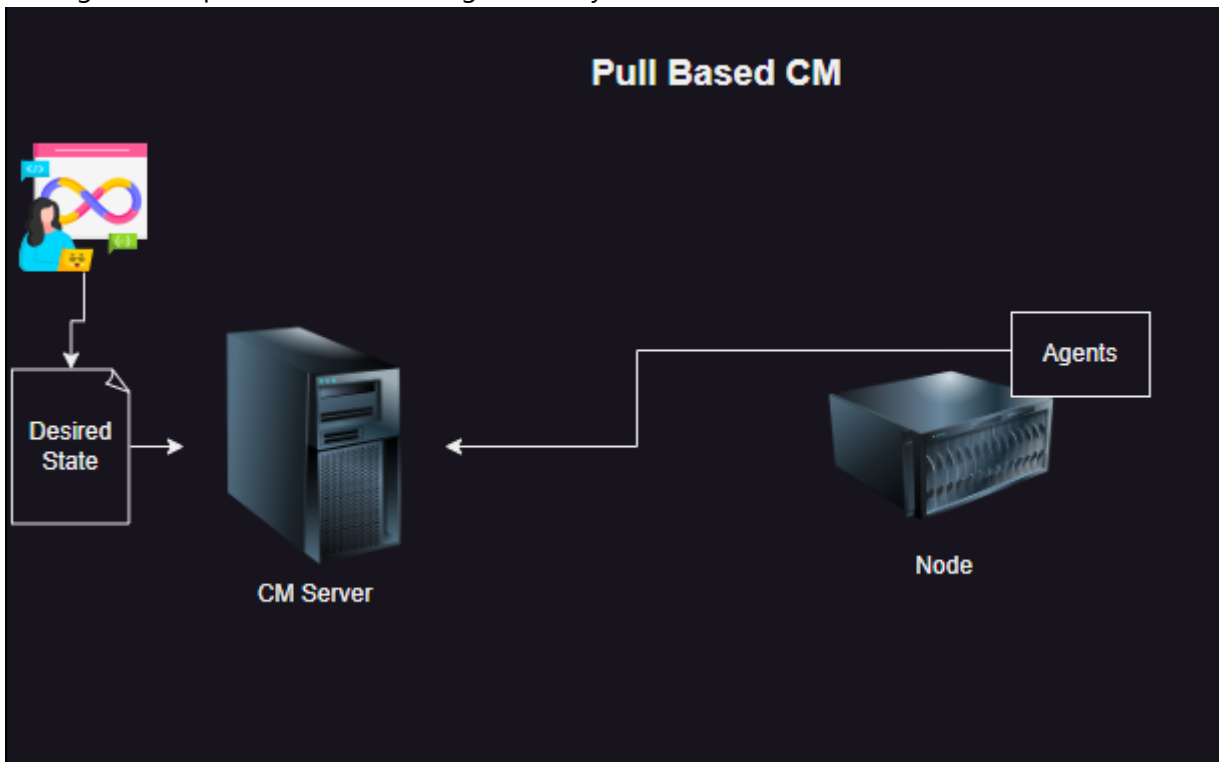
- It will login (ssh/winrm) and execute the necessary instructions to meet the desired state



- No Agents are required.

### Pull Based CM

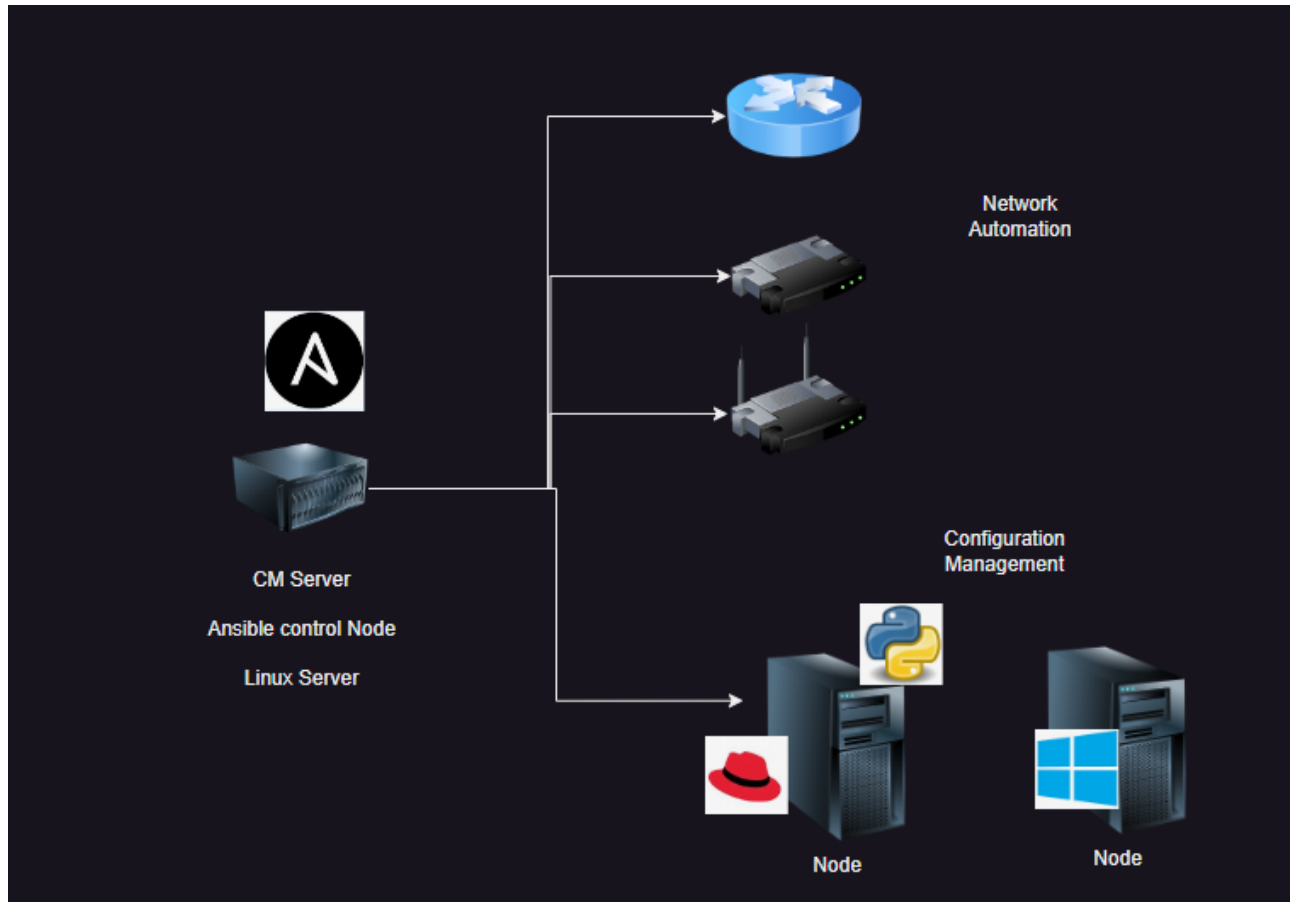
- In this model the agent on the node communicates with CM Server
- This agent is responsible for executing necessary instructions to meet the desired state



- No credentials are required

## Ansible

- Architecture



- In Ansible we have two types of nodes
  - Control Node:
    - This is where we install ansible
    - This has to be a linux instance
  - Node
    - This is where we want to deploy software.
    - This can be in any os,
    - Python is expected on the nodes
    - Ansible nodes on a broader note are classified into
      - Servers:
        - This is used in the case of CI/CD (DevOps Engineers)
      - Network/Infra Devices
        - This is used for network automation by IT Admins for Datacenter automation.

## Terms

- Inventory: Where to deploy
  - This is list of nodes with names or ip addresses
- Playbook: What has to be done
  - This is a desired state expressed in YAML format.