

Puppet

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Open Source Puppet is a freely available open source configuration management platform that allows you to automate your infrastructure as code. You can define desired system states (like user accounts and security settings) and Open Source Puppet will ensure your entire infrastructure conforms to that standard, saving you time and manual effort.

- Discover resources within minutes.
- Provision new nodes easily in cloud, hybrid, or physical deployments.
- Configure a range of setups across Windows and Linux environments.
- Orchestrate changes and events across clusters of nodes.
- Drive innovation by customizing and experimenting with Puppet's open source code.

URLs

- [Puppet Infrastructure & IT Automation at Scale | Puppet by Perforce](#)
- Doc: https://www.puppet.com/docs/puppet/8/puppet_index.html

Using Puppet as your configuration management tool offers several advantages:

- Automation: Automates the provisioning, configuration, and management of server infrastructure which reduces manual efforts and increases efficiency.
- Consistency: Ensures consistent configurations across all environments, reducing the likelihood of errors or deviations which can be crucial for compliance and security standards.
- Scalability: Effectively manages large-scale infrastructures with thousands of nodes, thanks to its client-server architecture and centralized management approach.
- Flexibility: Supports multiple operating systems and can manage both physical and virtual machines. Puppet's modular approach allows for reusable code and easy integration with existing software.
- Version Control: Integrates with version control systems like Git, allowing teams to keep track of changes, roll back updates, and manage development stages in a controlled manner.

Tutorials

- [Mastering Puppet: The Ultimate Practical Guide to Configuration Management Across Linux Distributions | by Warley's CatOps | Medium](#)

- [?4?DevOps????????????? Puppet | iThome](#)

OpenVox

OpenVox is a community implementation of Puppet, an automated administrative engine for your Linux, Unix, and Windows systems, designed to perform administrative tasks (such as adding users, installing packages, and updating server configurations) based on a centralized specification

- [Projects Overview](#)
- [OpenVox Quickstart Guide](#)
- GitHub: <https://github.com/openvoxproject>

Installation

For Server/Master

```
sudo apt install puppet-master
```

How it works

- https://puppet.com/docs/puppet/latest/style_guide.html
- [Puppet Directory Guide: What Each Directory Does](#)

Class

1. ? .pp ????
2. ????????package, file, service
3. ???????????????? (? require, notify) ?????
4. Class ??? `include <class-name>` ?????????
5. `include ::apache` : ?? apache ??

tools.pp : Install htop

```
package { 'htop':
  ensure => present,
}
```

Apply the rule locally

```
sudo puppet apply -v tools.pp
```

Info: Loading facts

Notice: Compiled catalog for ubuntu in environment production in 0.02 seconds

Info: Applying configuration version '1572272642'

Notice: /Stage[main]/Main/Package[htop]/ensure: created

Notice: Applied catalog in 3.81 seconds

ntp.pp: NTP Configuration

```
class ntp {
  package { 'ntp':
    ensure => latest,
  }
  file { ['/etc/ntp.conf':
    source => '/home/user/ntp.conf',
    replace => true,
    require => Package['ntp'],
    notify => Service['ntp'],
  ]
  service { 'ntp':
    enable => true,
    ensure => running,
    require => File['/etc/ntp.conf'],
  }
}

include ntp
```

Module

module ? manifests ????????

Simple module: ntp

- ?? files: ????????????
- ?? manifests: ???????? .pp ???? init.pp (NOTE: init.pp ????????)
- ?? templates: ??????????????
- metadata.json: ??????????

tree modules/

```
modules/  
├─ ntp  
│   └─ files  
│       └─ ntp.conf  
└─ manifests  
    └─ init.pp
```

3 directories, 2 files

Install Apache module from Puppet Labs

```
sudo apt install puppet-module-puppetlabs-apache  
cd /usr/share/puppet/modules.available/puppetlabs-apache  
ls -l
```

Total 20

```
drwxr-xr-x 2 root root 4096 Dec 6 08:36 files  
drwxr-xr-x 4 root root 4096 Dec 6 08:36 lib  
drwxr-xr-x 9 root root 4096 Dec 6 08:36 manifests  
-rw-r--r- 1 root root 4096 Sep 28 2018 metadata.json  
drwxr-xr-x 6 root root 4096 Dec 6 08:36 templates
```

How to include the Apache module in a custom manifest file webserver.pp

webserver.pp :

```
include ::apache
```

Apply the manifest

```
sudo puppet apply -v webserver.pp
```

Node

default node

```
node default {  
  class { 'sudo': }  
  class { 'ntp':  
    servers => ['ntp1.example.com', 'ntp2.example.com']  
  }  
}
```

```
}  
}
```

node : webserver.example.com

```
node webserver.example.com {  
  class { 'sudo': }  
  class { 'ntp':  
    servers => ['ntp1.example.com', 'ntp2.example.com']  
  }  
  class { 'apache': }  
}
```

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