

# Survey on Puppet

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## ABSTRACT

*Puppet is a configuration management tool used for configuring the infrastructure, deploying and managing servers. Puppet is a pull type configuration management tool. Puppet is a master-slave architecture. Puppet master contains all the configuration which is done on puppet agent. Puppet nodes pull configurations from puppet master at regular interval. puppet is high available because it uses multi master architecture. If one puppet master goes down, there will be secondary master to take its place.*

**Keyword:** Puppet, Puppet agent, Manifests, Puppet master, Puppet node, Modules.

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## 1. INTRODUCTION

Puppet is a tool for application deployment and configuration management for the infrastructure of the organization. Puppet helps the system administrator to configure the infrastructure very quickly just by running the script in the puppet node. The time taken to configure one system using puppet can configure all the systems at a time. The time taken to one system can configure all the systems. Puppet helps system administrator to do his job quickly and focus on other jobs. The system administrator has some time to think on other jobs and to do some other productive work.

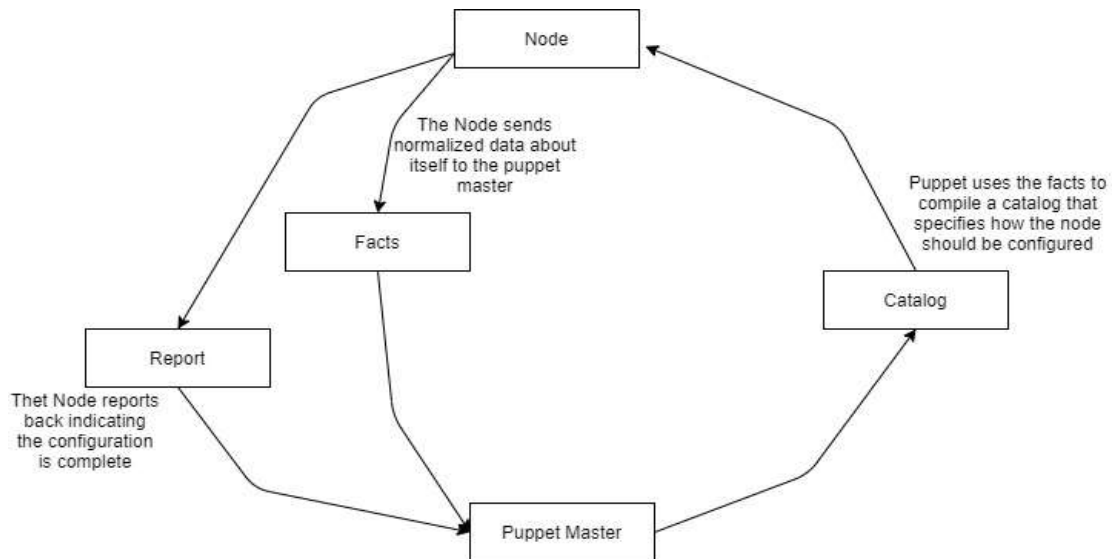
## 2. LITERATURE SURVEY

In this paper, Puppet is different from another available configuration tool. The system administrator must do the same task multiple number of times for all the servers. This may lead to errors doing the same task multiple tasks. This is where the Puppet comes into picture. Puppet is a tool is used to automate the IT infrastructure. This helps the system administrator to configure the infrastructure easily and may work on other productive tasks and concentrate on other tasks[1].

One of the Proposed papers suggests that system administrator is responsible for maintaining the company's infrastructure of all the different servers [4]. There can be web servers running apache and database server running MySQL. If there are a smaller number of web servers and database servers, it is easy to maintain. If there might have chance the servers may increase it is difficult to maintain [5].

In this paper, the system administrator job is to deploy some tools, or software's. Now will see what the other problems are there might be certain application that might not work compatible with the previous version of mongo database. It works in testing now when it reaches production they are using the oldest version of mongo database which is not compatible with the application that the developers have built so it won't work properly their might be certain function which won't work properly in the production environment so there is an inconsistency in the computing environment due to which that application might work in the development environment but in the production not working properly.[2]

### 3. ARCHITECTURE OF PUPPET



**Fig -1:** Architecture of Puppet

This is the puppet architecture, the puppet node sends facts to the puppet master and these facts are basically key value data pairs that describes such as IP address ,operating system or whether it's a virtual machine. Now these facts are then made available in puppet masters as variables. Now puppet master uses that facts received from the puppet agent to combine a catalog that catalog defines how the slave should be configured.

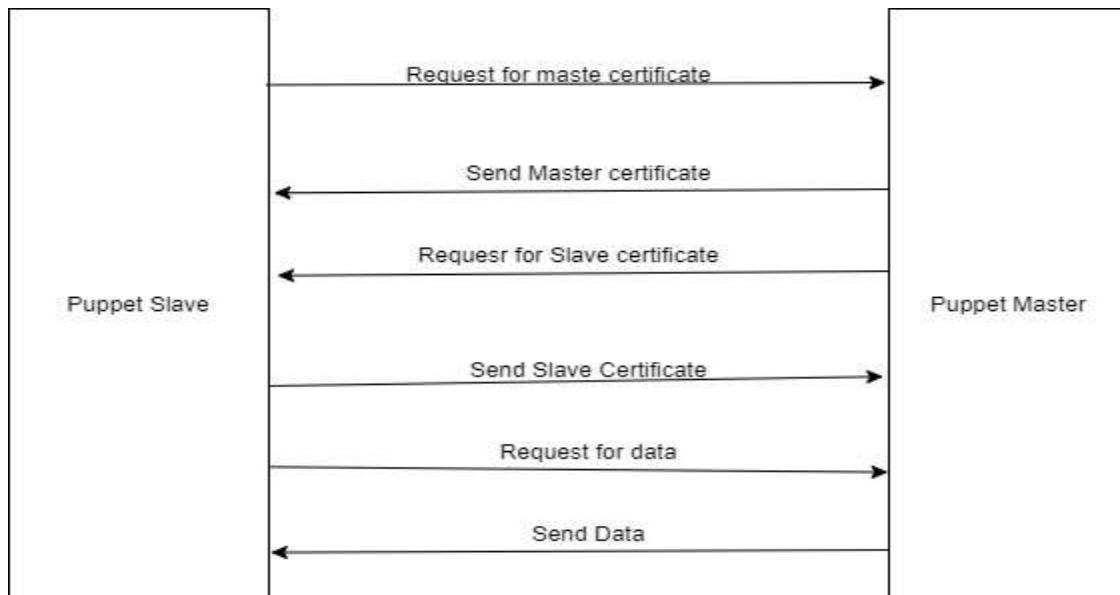
The catalog is a document that describes a desired state of each resource that puppet master manages so it is basically the combination of all the resources that puppet master applied to a given slave as the relationship between those resources. So it is basically a combination of all the resources that puppet master applies to a given slave so the catalog is compiled by the puppet master and then it is sent back with the node and finally slave provides data about it has implemented in that catalog send back a report.

The node agent sends the report back so they can be viewed in puppet dashboard. Now what happens is the connection between the node and the puppet agent and the puppet master happens with the help of SSL(secure sockets layer) the secure encryption .

- **Resources**  
Resources are basic unit for modeling system configurations. Each Resource gives information about some aspect of a system, like a specific service or package
- **Classes**  
Group of resources can be arranged into classes, which are bigger unit of configuration. The resource may indicate a single file or package, a class contains all information needed to configure an entire application
- **Puppet Modules**  
A module is a group of data and manifests, and they have directory structure. Modules are required for your puppet code, because it allows you to split your program into many manifests

- **Puppet Manifests**  
Puppet Programs are called manifests. Manifests are usually made of puppet code and their filenames should end with .pp extension

#### 4. PUPPET MASTER-SALVE CONNECTION



**Fig -2:** Puppet Master-Slave Connection

Fig-2 explains how the puppet master and puppet slave communicates each other for sharing the data.

The master-slave connection uses SSL(secure sockets layer). The puppet slave sends the request for master certificate. Once master receives the request for master certificate, puppet master sends the master certificate to puppet slave.

Then Puppet master requests for slave certificate. Puppet slave sends the slave certificate for puppet master. After the exchanging of certificates. The slave requests for data to master and master sends the data requested by slave. The exchange of data takes place.

#### 5. CONCLUSIONS

Puppet helps the system administrator of the organization to automate the organization infrastructure. The system administrator to configure more systems have to do the same task multiple times, manual work may lead to error some time. Puppet helps the system administrator to automate the configuration of the infrastructure of organization. Puppet helps the system administrator to make his work more efficient. The instructions written in the manifests execute multiple times result in the same output without any errors. The time taken to configure the one system the same will take for the configuration of more systems at a time.

## 6. REFERENCES

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