

Some studies on automation of library management system using the ansible-playbook

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Abstract: Based on library automation software the workload of the librarian is getting reduced. In general they are maintaining acquisition, cataloguing, circulation manually. In this paper, we adopted the automation of library management system by using ansible-playbook.

Keywords: Acquisition, Cataloguing, Circulation

1. INTRODUCTION

Ansible is a configuration management tool that automates the configuration of multiple servers by using this Ansible tool. The architecture of the ansible was agentless. Ansible was written by Michael DeHaan and who was the creator of Cobbler provisioning and application. Ansible was spread a lot because it is simple to use for the administrators. Developers show a keen interest in learning ansible because there is a scenario called python. Ansible is supported by many of the DevOps tools such as Jenkins, chef, puppet, etc.

Ansible playbooks are written in YAML (Ain't mark-up language) therefore there is a necessity of learning the fundamentals of YAML to write the ansible-playbook. A playbook is nothing but a set of plays (tasks) we must understand the following to run our Playbook successfully: The target needs to identify that what it needs to be automated finally i.e., goal state. The task is nothing but for ex: if the playbook wants to start any web server, so thereby you need to know that you need to start the service module and as specified in the name itself.

As part of the ansible-playbook is concerned clearly, we can justify that it tells about the server

Configuration by using the automation tools. An automated library system states that it consists of several modules related to library systems such as acquisitions, cataloging, circulation, and every automated library system consists of OPAC

The basic requirement for an automated library:

- Adequate collection of materials
- An automated tool
- Maintenance

2. LITERATURE REVIEW

Nowadays the usage of high-performance computer system is becoming typically harder in multiple layers of software stack and the node architecture in running the applications and in compiling the applications this study intends to evaluate the effectiveness of the continuous integration tools in addition to this paper also specifies that how a library system can be get automated using automation tools that is "ANSIBLE".

It is an upcoming trend to the human world it cites that any of the certified companies are moving in-depth to ansible it offers two ways to control the nodes.

Many of the MNC companies have adopted the DevOps technology that includes the infrastructure as a code (IAAC), automation (orchestration) and other DevOps tools. Ansible can be complex i.e., by spinning up the entire cloud formation infrastructure in AWS EC2. These sort of automation tasks in IT configuration booth

processes the read(or)write either those are untrained.

APPLICATION DEPLOYMENT

For dumping out one hosted application to either one single machine or series of machines orchestration states that it in IT environment to manage complex workflows and interconnection. IT team manages the many servers and the applications.

3. EXPERIMENTAL RESULTS

For Experimental purpose initially, the user needs to set up the Linux environment and the ansible environment

Ex: by dual-booting (or) by using the virtual box

To set up the ansible environment in virtual box

Below rules to be followed:

```
## RHEL/CentOS 7 64-Bit ##
# wget
http://dl.fedoraproject.org/pub/epel/epel-release-latest-7.noarch.rpm
# rpm -ivh epel-release-latest-7.noarch.rpm
# yum install epel-release
# yum repolist
# yum install python2-pip
# pip install --upgrade pip
# pip install ansible
# ansible --version
# cd /tmp
# wget
https://raw.githubusercontent.com/ansible/ansible/devel/...
# mkdir /etc/...
# cp -p /tmp/ansible.cfg /etc/...
# cd /etc/...
# touch hosts
# chmod 777 hosts
```

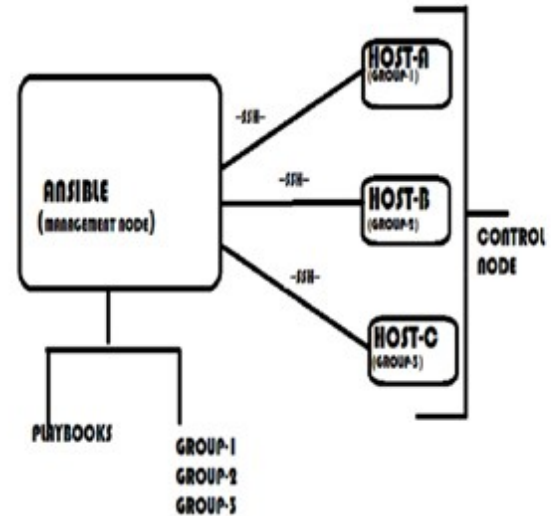


Figure.1: Operation of Ansible

Ansible concepts

Privilege escalation: After connected to managed host as a remote user then ansible can switch to another user on the host before executing an operation this is done using the ansible privilege escalation .Vars comes under the feature that it clearly explains that what are the tasks that we need to get perform those all tasks are represented by using the variable .Ssh connections allows the ansible to communicate with the target machine via normal ssh command line. Copy module is use to copy the file from the remote server to the destination nodes.



Figure.2: Input Screen

Conditional statements are the fundamental parts of any programming language. Whereas ansible provides when method.Yum module is to install any server we will be using the yum module.

[illegible]

Figure.3: Output Screen

Handlers are the regular tasks in ansible. It runs only if the playbook contains the notify statement. It notices that which tasks should get automated. Meta tasks are the special kinds of tasks which influences the internal execution of the playbook. Timestamps plays a crucial role while automating any job. It helps full to capture the current date and time i.e.

when the file or directory has been created or any login's list data etc.

4. CONCLUSIONS

Nowadays in the present trending world library automation system sounding a buzz work. By applying the above methods it can provide better library services than the services provided by the manual as well as other technologies.

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