



Conceptual View 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 get 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.

Index Terms - Acquisition, Cataloguing, Circulation.

I. INTRODUCTION

For It 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). You must understand the following to run your Playbook successfully. The target: it needs to identify that what it needs to be automated finally i.e., goal state. The task: it is nothing but for ex: if the playbook wants to start any webserver.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 talks 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, cataloguing, circulation, and every automated library system consists of OPAC. The basic requirement for an automated library is Adequate collection of materials, An automated tool, Maintenance.

II. 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". [1] 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. Configuration management states that desired state of a system either by provisioning tools or manually.[2] Application deployment is used for for dumping out one hosted application to either one single machine or series of machines.[3] orchestration states that it in IT environment to manage complex workflows and interconnection. IT team manages the many servers and the applications.

III. EXPERIMENTAL:

Initially, the user needs to set up the Linux environment and the ansible environment

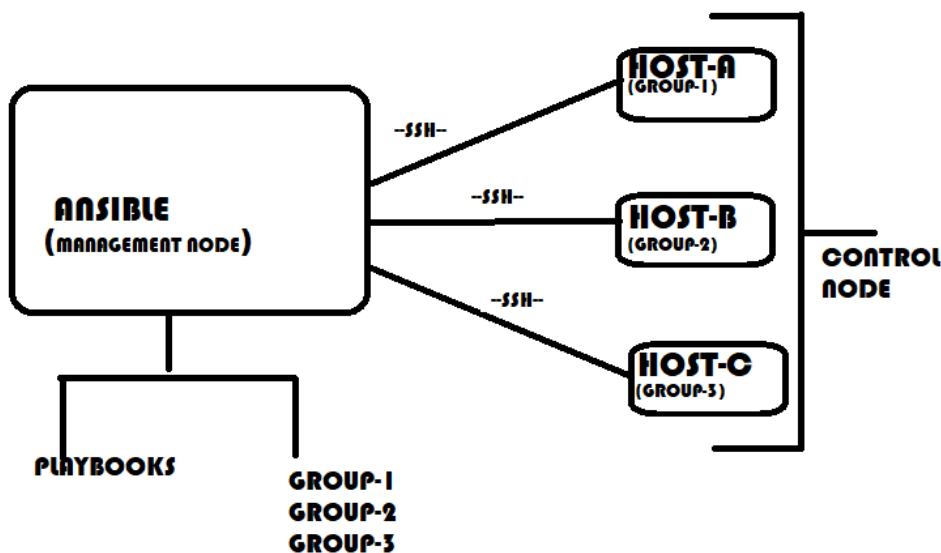
Ex: by dual-booting (or) by using the virtual box.

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
```

IV. Methodology

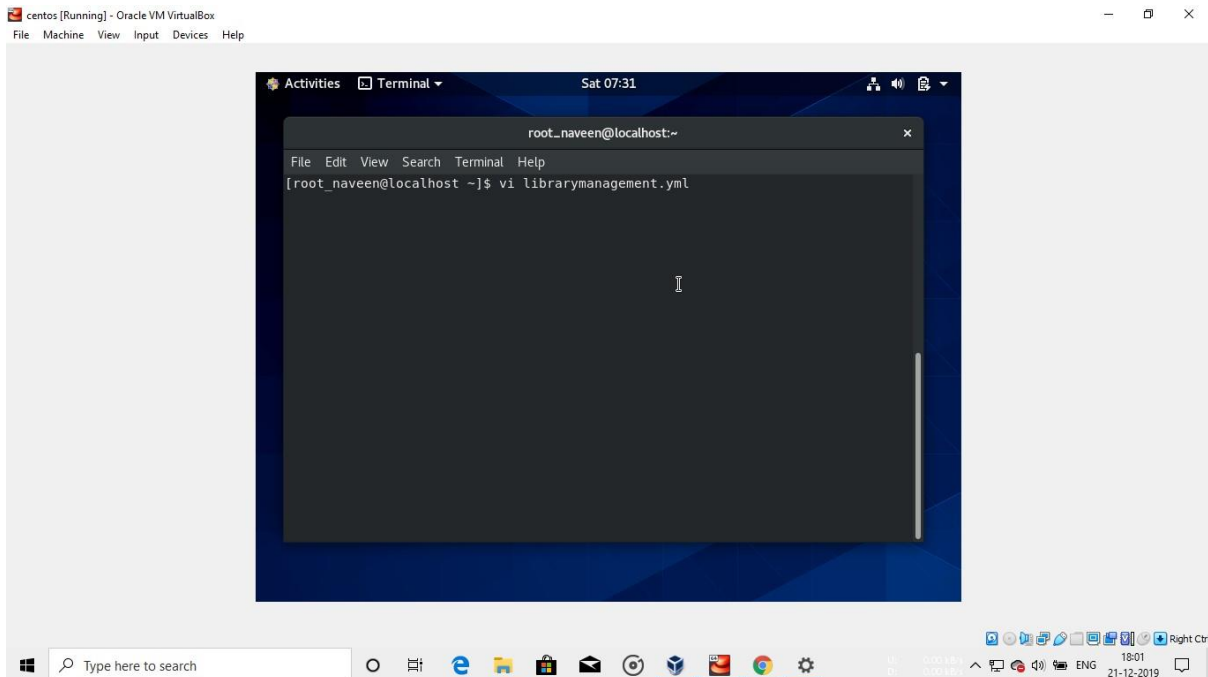


4.1 Ansible Concepts:

Privilege escalation is nothing but 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 and 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 whereas Ssh connections allows the ansible to communicate with the target machine via normal ssh command line. Copy module is used to copy the file from the remote server to the destination nodes. Conditionals are the fundamental parts of any programming language. Whereas ansible provides “WHEN” method. To install any server, we will be using the yum module. Handlers are the regular tasks in ansible. It runs only if the playbook contains the “NOTIFY” statement. Notify Statement It notices that which tasks should get automated. Meta is 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.

V.RESULT

INPUT SCREEN



OUTPUT SCREEN

```
PLAY [dev] *****
TASK [Gathering Facts] *****
ok: [redacted]
TASK [Copy the vsftpd rpm for rhel7] *****
skipping: [redacted]
TASK [Install vsftpd package on rhel 7.] *****
skipping: [redacted]
TASK [Copy the vsftpd rpm for rhel6] *****
changed: [redacted]
TASK [Install vsftpd package on rhel 6.] *****
ok: [redacted]
PLAY RECAP *****
[redacted] : ok=3  changed=1  unreachable=0  failed=0
```

VI. Conclusion:

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.

VII. Future Scope:

In this paper we discussed mainly student-oriented further it can be enhanced to catalogues, circulation.it can be also applied to different management systems.

REFERENCES

- [1] M. Virmani, "Understanding DevOps & Bridging the Gap from Continuous Integration to Continuous Delivery", Proc. 5th Int'l Conf. Innovative Computing Technology, pp. 78-82, 2015.
- [2] D. Spinellis, "Don't Install Software by Hand", IEEE Software, vol. 29, no. 4, pp. 86-87, 2012.
- [3] J. Hernantes, G. Gallardo and N. Serrano, "IT Infrastructure-Monitoring Tools", IEEE Software, vol. 32, no. 4, pp. 88-93, 2015.