

# Automate Ansible playbook deployment

## What is Ansible ?

- It is an opensource automation tool
- It is used to automate provisioning and orchestrate your infrastructure like creating servers(AWS,GCP,Linux systems etc), setting up the initial configuration on all those servers,deploying applications on the servers.
- All manual things which is required to deploy an application the server can be automated using Ansible
- You can make the Zero touch deployment using Ansible that means with one click everything is setup and deployed successfully

## How Ansible Works

- In simple terms, we just need one node as an Ansible Master node where you will install ansible software
- There is no need to install any agent on any of the other nodes
- It use the push mechanism to push the changes on to the remote nodes
- SSH Setup is required to connect to all the remote hosts. You can follow [this](#) article on how to setup the ssh connection between AWS EC2 instances

## Why Ansible?

### *Problem Statement*

- There is a requirement of installing tomcat server on 10 nodes that requires creation of directories, user and groups.
- You will download the software, extract it and do the initial configuration of that software and then restart the tomcat services so that access your application on the browser

### *Manual approach*

- You will login to each of the servers
- Create Users,groups,directories
- Copy the software there and do the initial configuration

## Issues

- You need expert of doing all the above tasks
- Consume lot of time
- Increases chances of having different configuration on servers
- Manual Intervention

## Automated Approach

- You will create an Ansible playbook which does all the above steps using yaml file.
- Run the same playbook on all the servers which means there can't be any surprised issues

## Prerequisite:

1. Launch minimum 2 AWS EC2 instances
2. Setup SSH connection between them
3. Follow [this](#) article to do the prerequisites

## Run Ansible Playbook

- Clone [this](#) repo
- Run the playbook using below command
- This playbook will install everything on the remote hosts without any manual intervention

```
ansible-playbook main.yml -i inventories/dev/hosts --user devops --key-file /home/devops/.ssh/id_rsa -e '@configs/dev.yml'
```

```
[root@ip-172-31-31-3 Ansible-sample-application-deployment]# ansible-playbook main.yml -i inventories/dev/hosts --user devops --key-file /home/devops/.ssh/id_rsa -e '@configs/dev.yml'
PLAY [all] *****
TASK [include_role : tomcat] *****
TASK [tomcat : Install Java 1.7] *****
[WARNING]: Platform linux on host 172.31.46.231 is using the discovered Python interpreter at /usr/bin/python, but future installation of another Python interpreter could change this. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information.
changed: [172.31.46.231]
TASK [tomcat : add group "tomcat"] *****
changed: [172.31.46.231]
TASK [tomcat : add user "tomcat"] *****
changed: [172.31.46.231]
TASK [tomcat : Download Tomcat] *****
changed: [172.31.46.231]
TASK [tomcat : Extract archive] *****
[WARNING]: Consider using the unarchive module rather than running 'tar'. If you need to use command because unarchive is insufficient you can add 'warn: false' to this command task or set
'command_warnings=False' in ansible.cfg to get rid of this message.
changed: [172.31.46.231]
TASK [tomcat : Symlink install directory] *****
changed: [172.31.46.231]
```


- To access the tomcat server you need to add the inbound rule in the security group of the remote host for port 8080
- Now you can access the tomcat server using the public ip as shown below

Home Documentation Configuration Examples Wiki Mailing Lists Find Help

# Apache Tomcat/7.0.61

The Apache Software Foundation  
<http://www.apache.org/>

If you're seeing this, you've successfully installed Tomcat. Congratulations!



Recommended Reading:

- [Security Considerations HOW-TO](#)
- [Manager Application HOW-TO](#)
- [Clustering/Session Replication HOW-TO](#)

Server Status  
Manager App  
Host Manager

### Developer Quick Start

- [Tomcat Setup](#)
- [First Web Application](#)
- [Realms & AAA](#)
- [JDBC DataSources](#)
- [Examples](#)
- [Servlet Specifications](#)
- [Tomcat Versions](#)

#### Managing Tomcat

For security, access to the `manager.webapp` is restricted. Users are defined in:

```
$CATALINA_HOME/conf/tomcat-users.xml
```

In Tomcat 7.0 access to the manager application is split between different users.  
[Read more...](#)

[Release Notes](#)  
[Changelog](#)

#### Documentation

[Tomcat 7.0 Documentation](#)  
[Tomcat 7.0 Configuration](#)  
[Tomcat Wiki](#)

Find additional important configuration information in:

```
$CATALINA_HOME/RUNNING.txt
```

Developers may be interested in:

[Tomcat 7.0 Bug Database](#)

#### Getting Help

[FAQ and Mailing Lists](#)

The following mailing lists are available:

- [tomcat-announce](#)  
Important announcements, releases, security vulnerability notifications. (Low volume).
- [tomcat-users](#)  
User support and discussion
- [taglibs-user](#)  
User support and discussion for [Apache Taglibs](#)
- [tomcat-dev](#)

## Installing Sample index.html

- I have created the index.html using Ansible Jinja template that can have different html file as per the environment
- I can access the url as ip:8080/samples/index.html

← → ↺ ⓘ Not secure | 18.224.214.248:8080/samples/index.html

## This is dev environment

- Everything is automated
- No Manual Intervention
- Lesser Time
- Easy to manage
- Easy to Run

