Ansible MERNSTACK Project

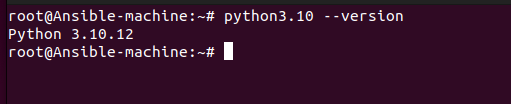
What is the mernstack?

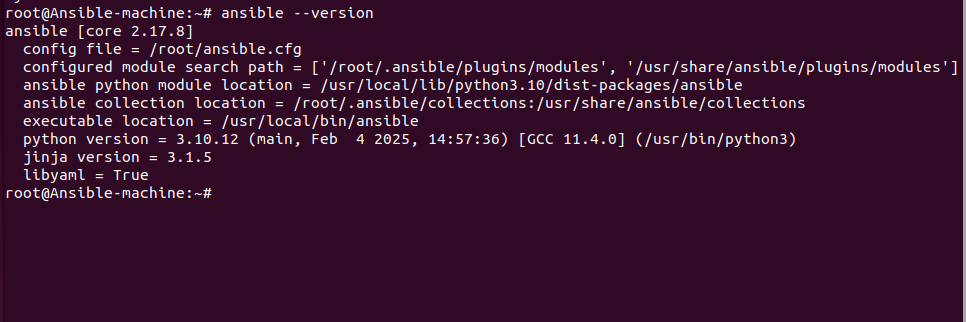
* Package or component use in web development using end-to-end JavaScript (frontend , backend )

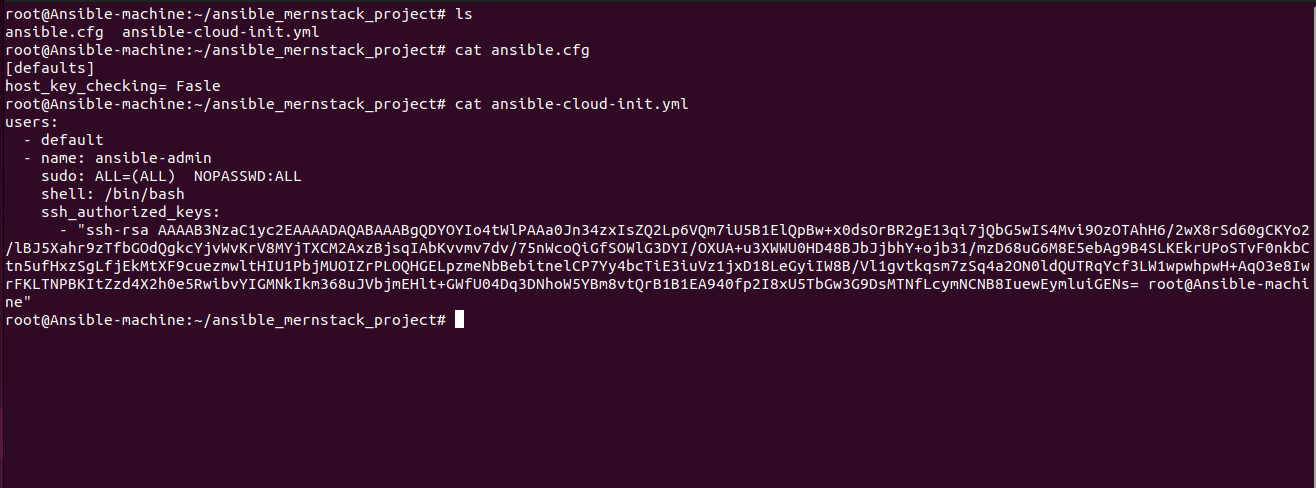
MERN :

* MongoDB
* Express JS
* React JS
* Node JS

1. Prepare environment Using Multipass:



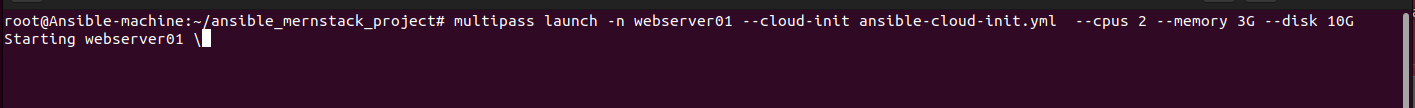




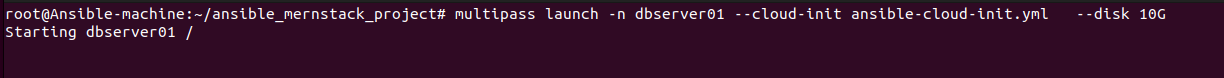
// use a cloud-init.yml to establish reachability between ansible node and targets

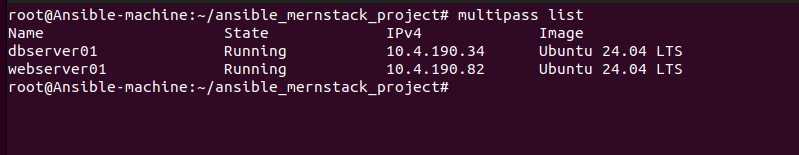
// multipass :

* Web machine (provision with high resources )

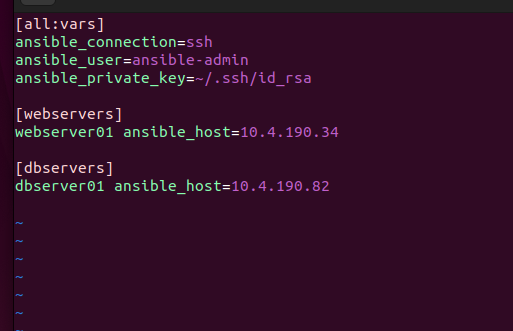


* Db server machine :

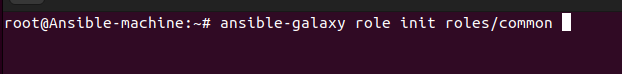


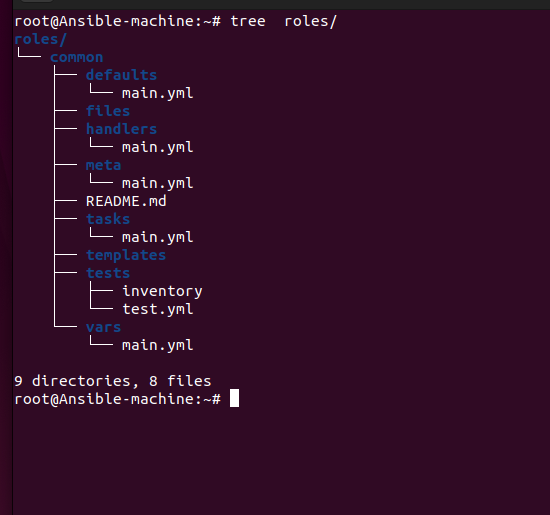


1. Create inventory file (for targets)



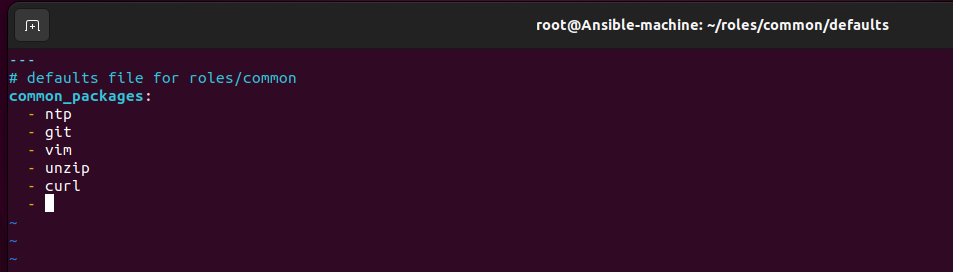
1. Create role for common packages





1. Define variables

* Define default variable defaults/main.yml (can override)

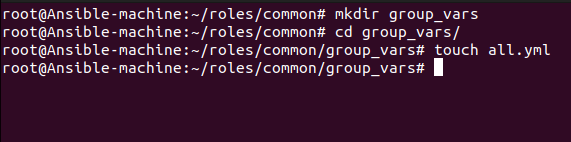


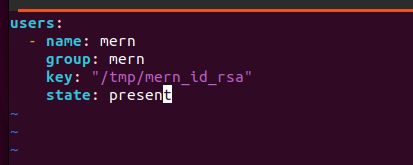
* under make a Directory named group\_vars

group\_vars : put in it variables refer to groups in inventory file

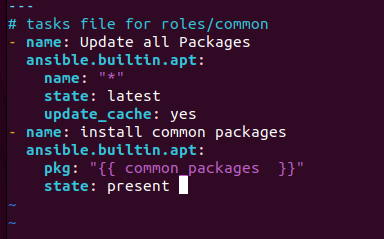
* Do a file name\_of\_group\_in\_inventory.yml
* Override the variables in default/main.yml

Note: can search about variable precedence in ansible





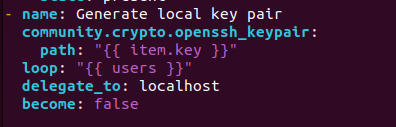
1. Define Tasks
2. update all packages and install common packages



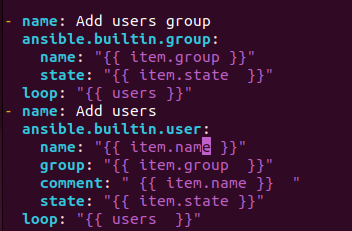
Note :

Pkg with apt : take a list of packages

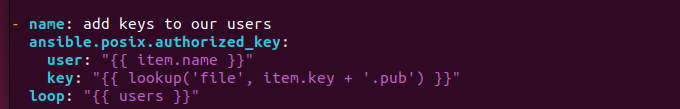
1. create key pair on local machine to user



1. add user on remote machine

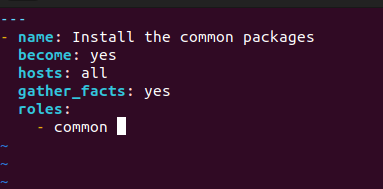


1. send public key to remote machine

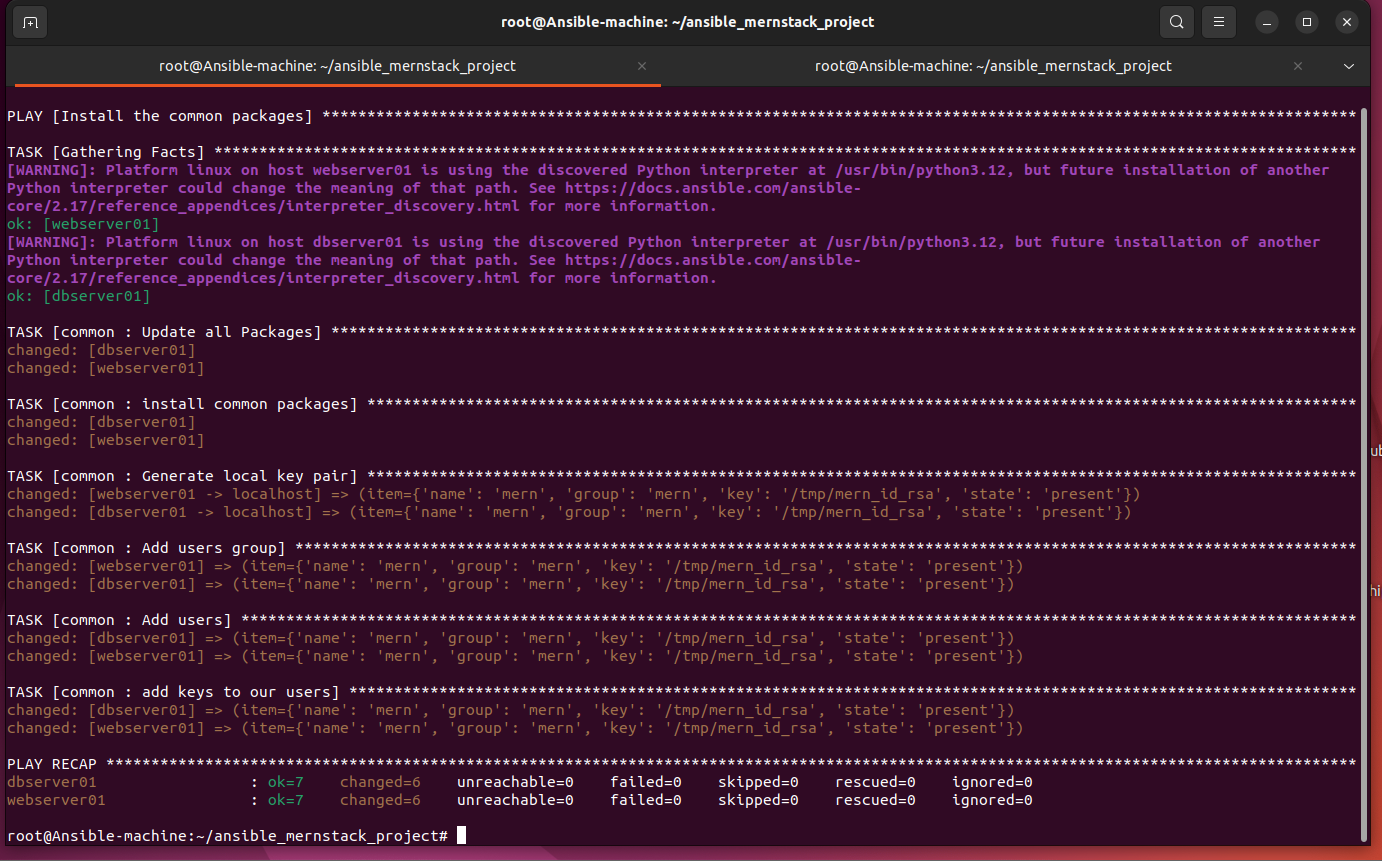


// using lookup plugin to get file , read content of file and put in key:

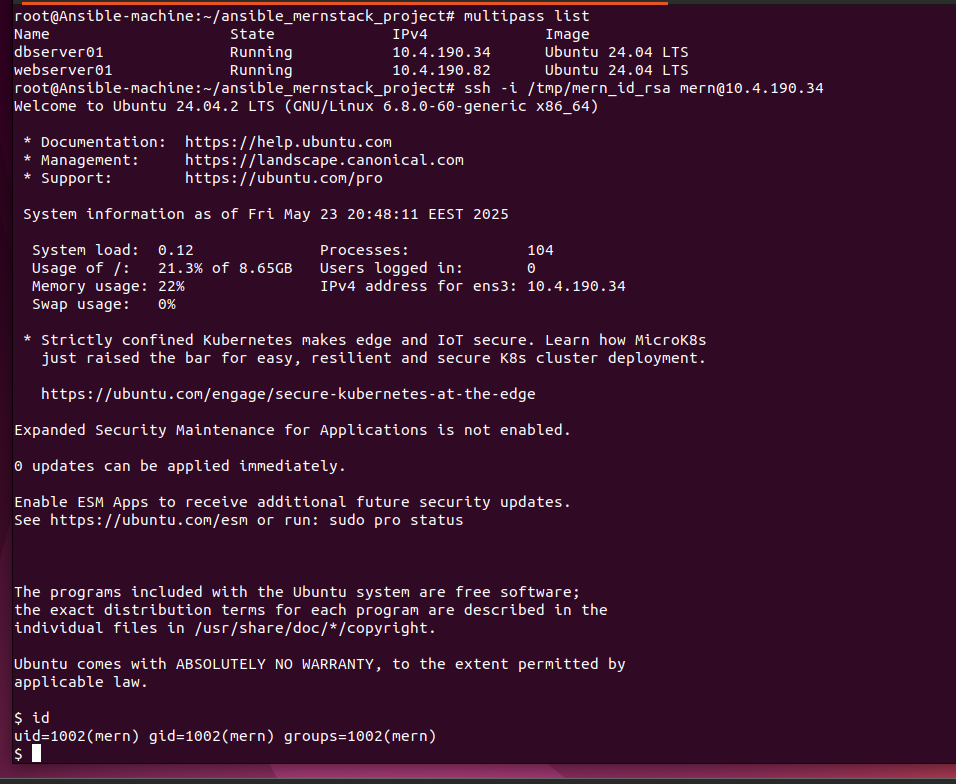
6- create playbook to call role and other roles will create it



* Running playbook :



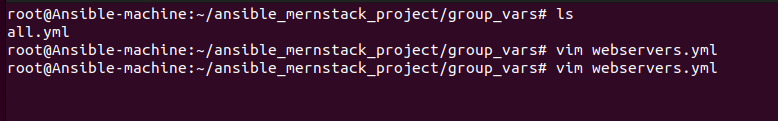
* Verify :

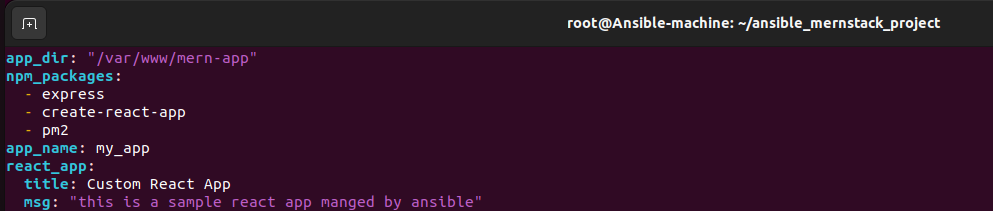


Web server Role

(ExpressJS , ReactJS , NodeJS )

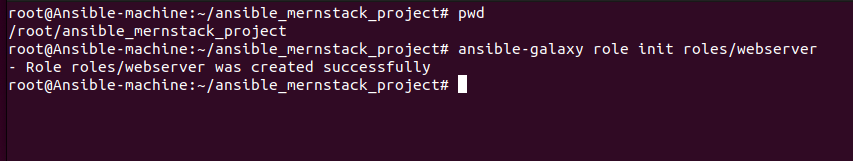
1. Create variables

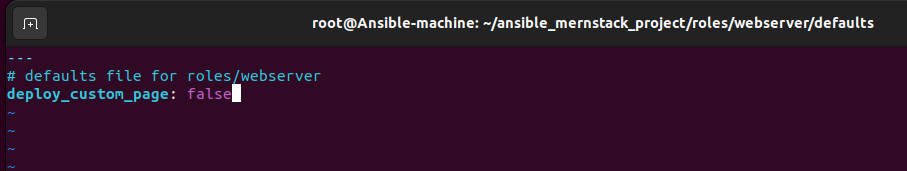
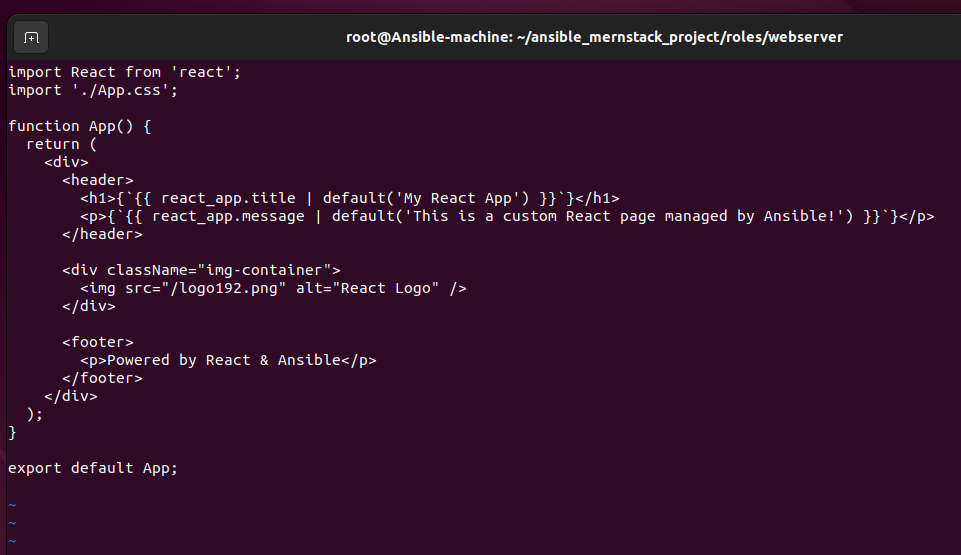




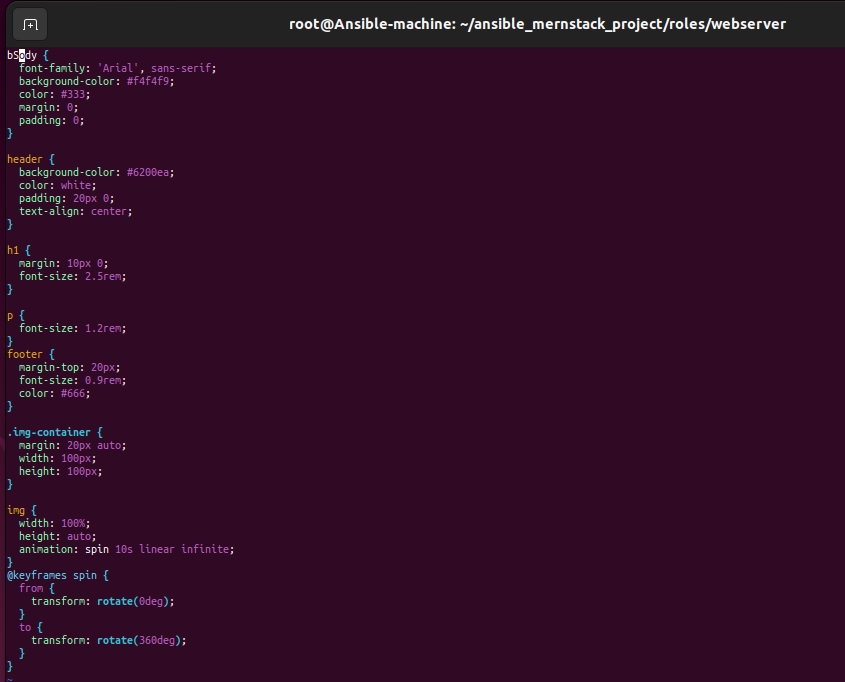
// npm : package manager for JS

1. Create role

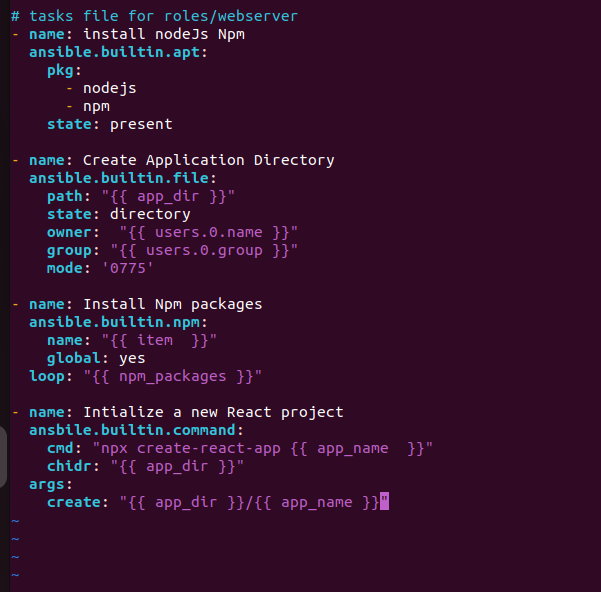


* Add variable in default : 
* Create templating engine 
* Create Static file (fixed not have a variables ) to css



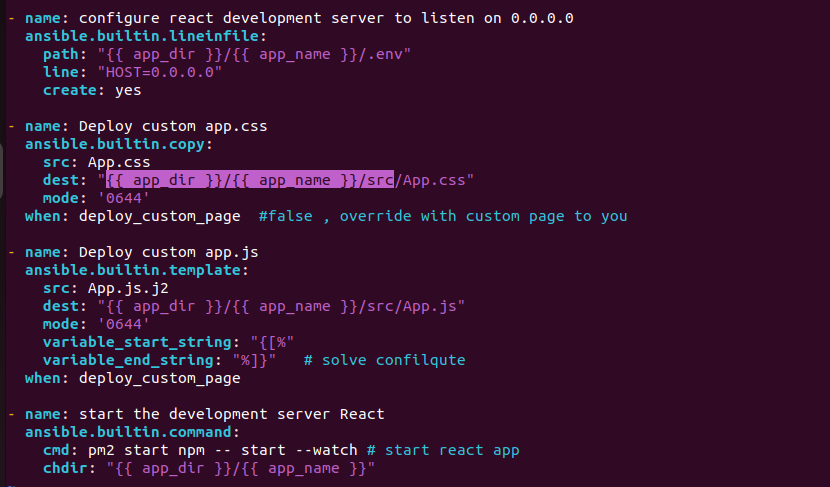


* Create tasks 1



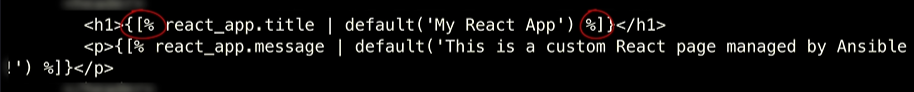
Note :

* user.0.name -> the first user in list
* Global: yes in npm to install to per machine not per project
* Solve idempotent here with args , to create a directory to first time and if run again skipped
* Complete tasks

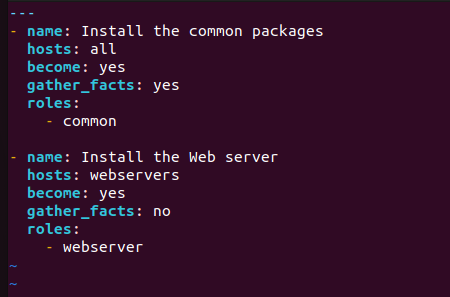


Note :

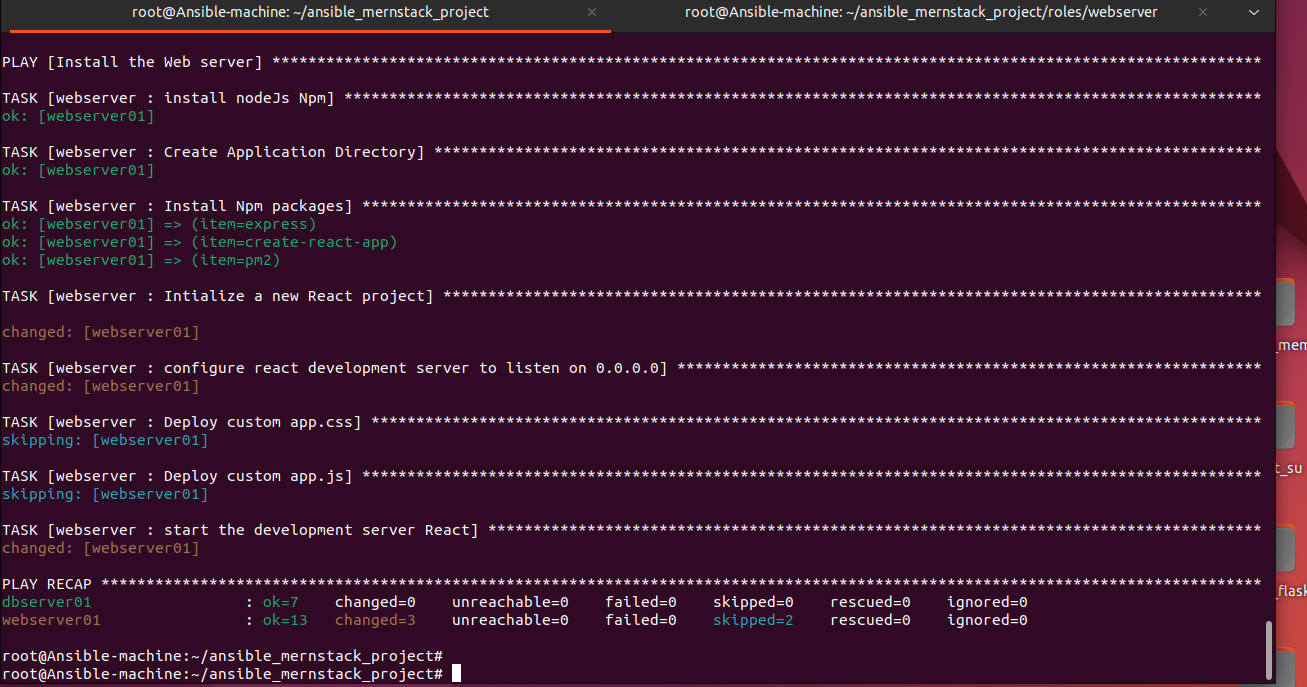
To solve confilqute in this line of template (only ansible with React js )



* Playbook :



Run :

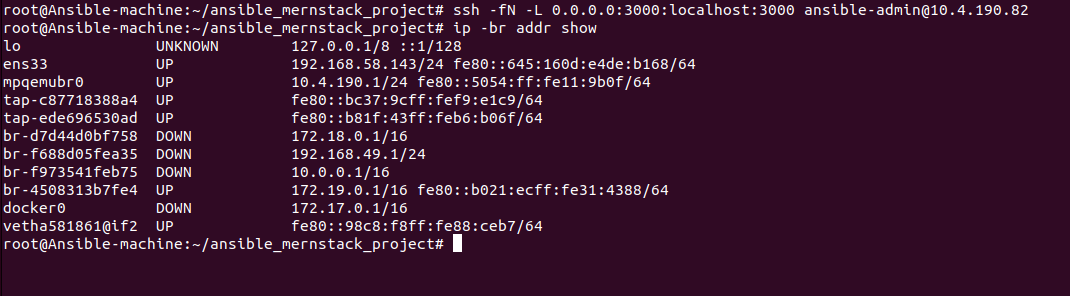


Verify :

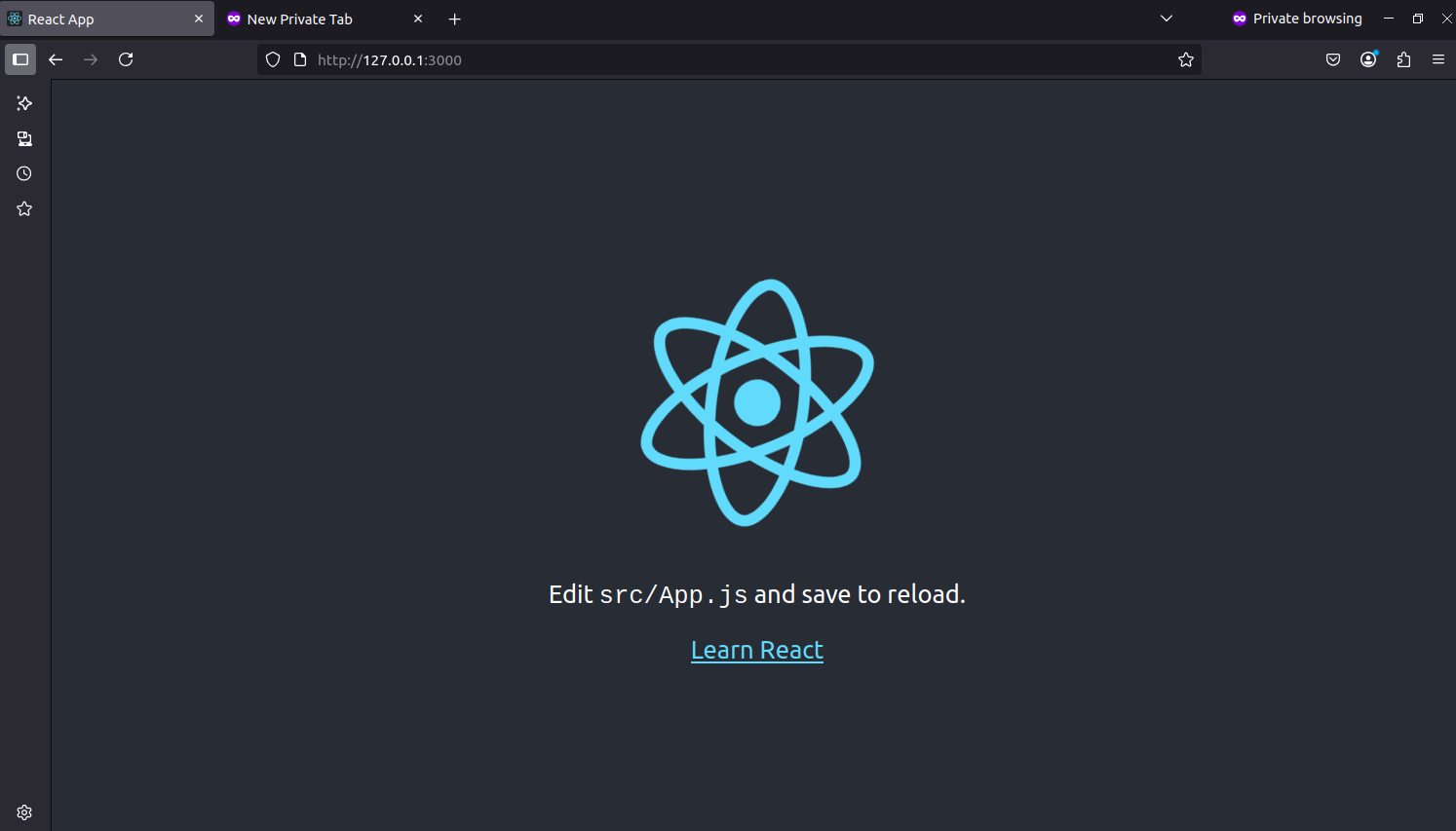
Note:

* In [ multipass ] not open only port 22 ssh
* Access another port through ssh [ssh-tunneling ]

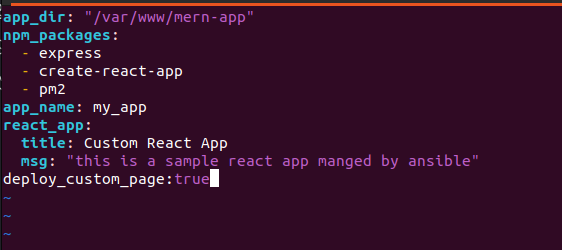
# ssh -fN -L 0.0.0.0:3000:localhost:3000 [ansible-admin@10.4.190.82](mailto:ansible-admin@10.4.190.82)



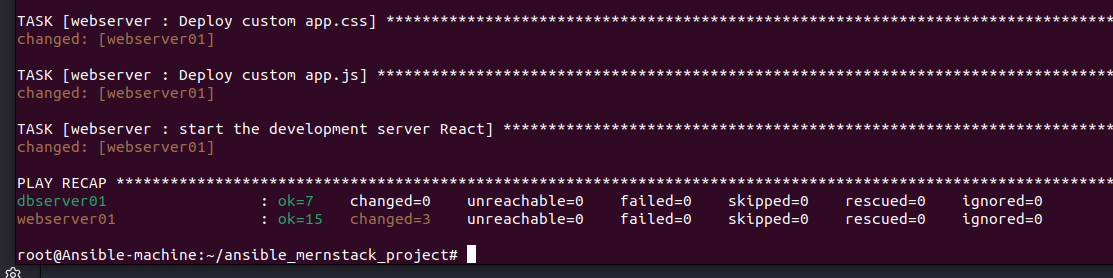
Test :



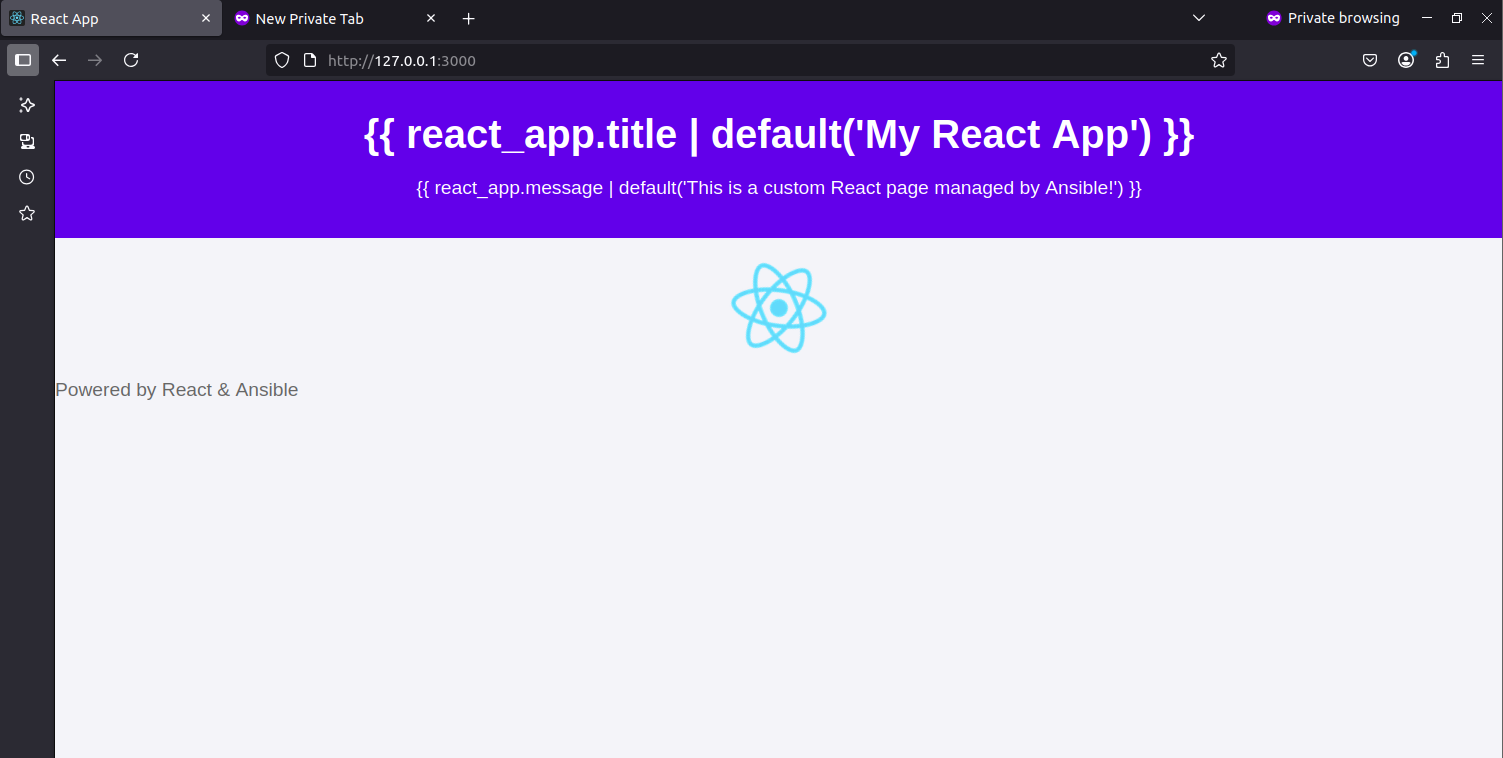
* Add my own app : add group\_vars/webserver.yml
* Override value to defaults



* Run again



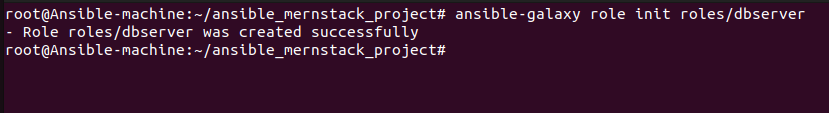
* Test



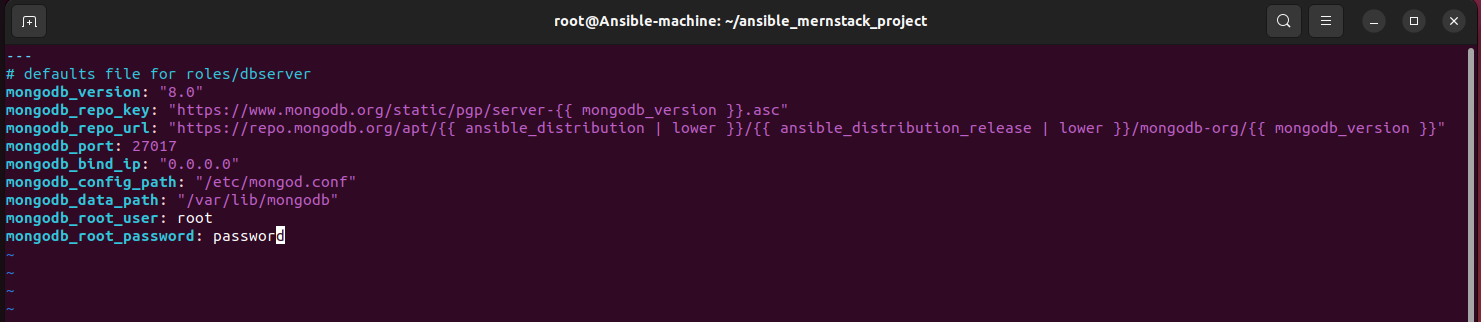
Database Role

MongoDB (NoSQL DB)

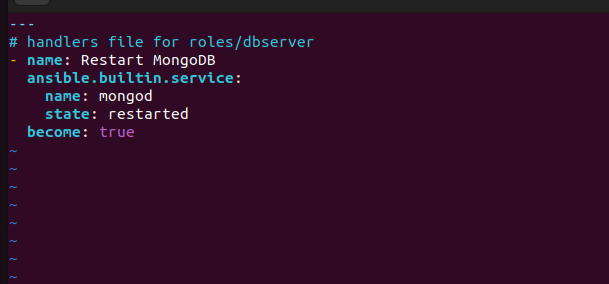
* Create role :



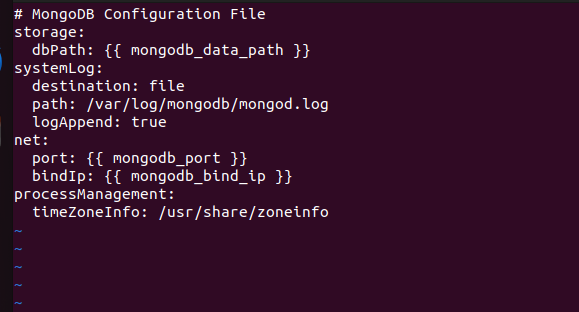
* Default variables



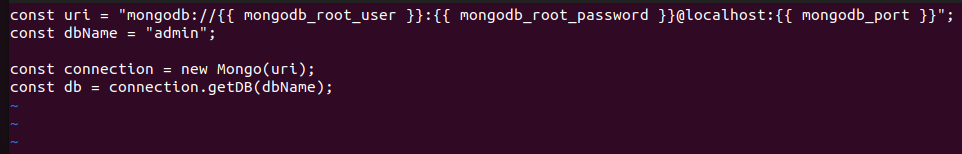
* Create handler



* Create template mongod.conf.j2

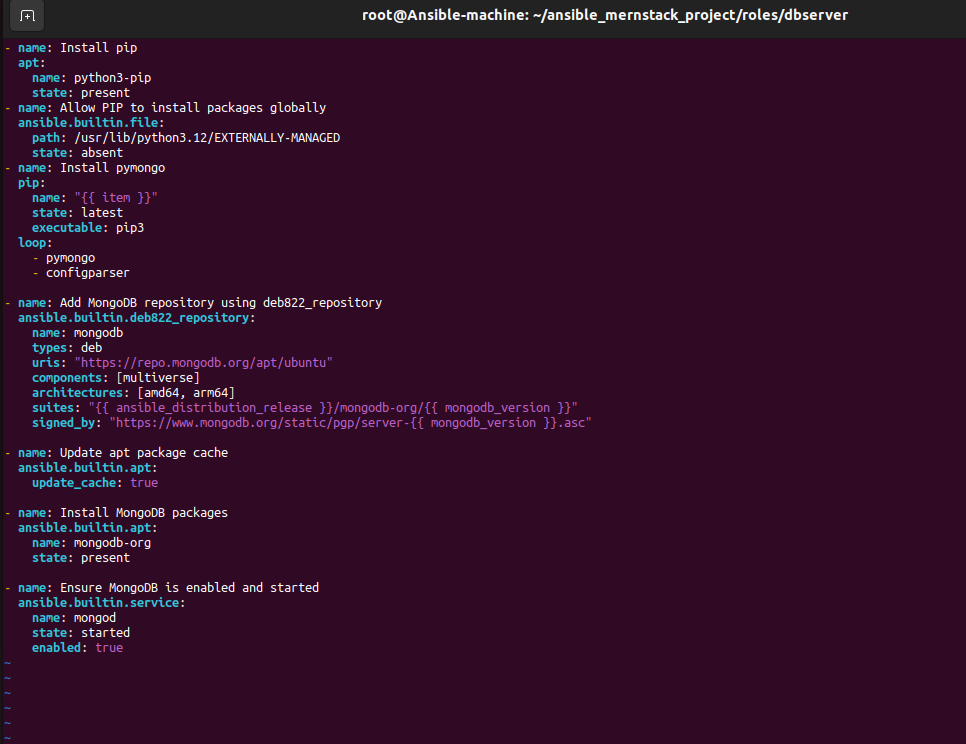


* Auth template mongoshsrc.js.j2



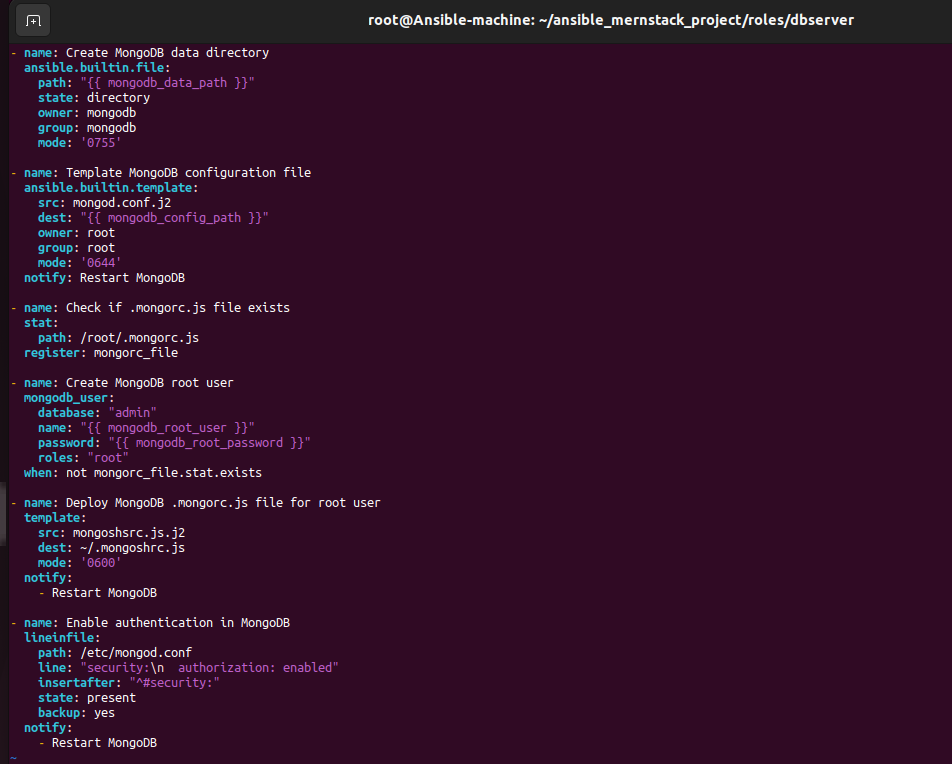
* Tasks : divide tasks (installation)





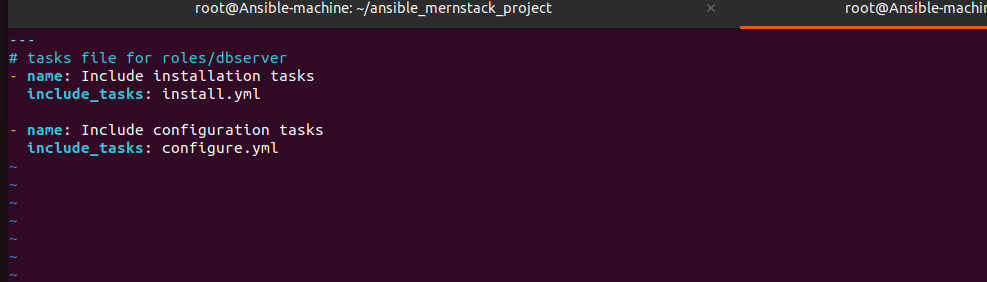
* Task 2 : configuration



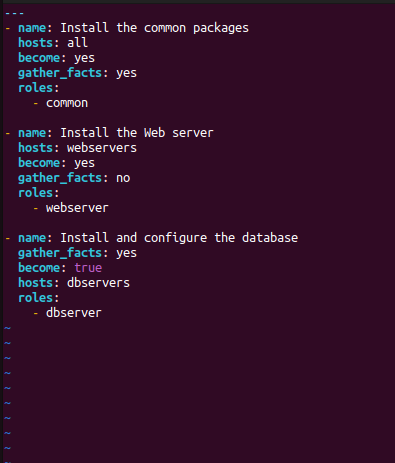


* Include tasks to main.yml :

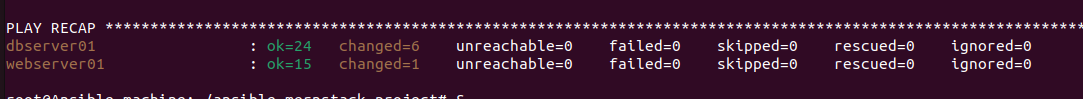




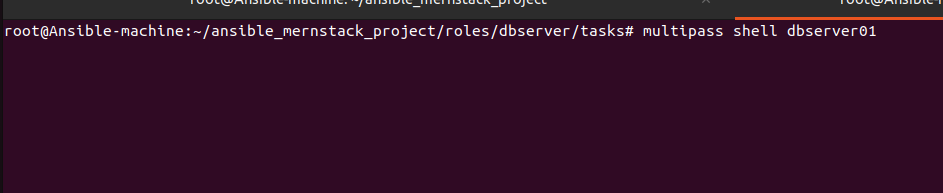
* Configure playbook

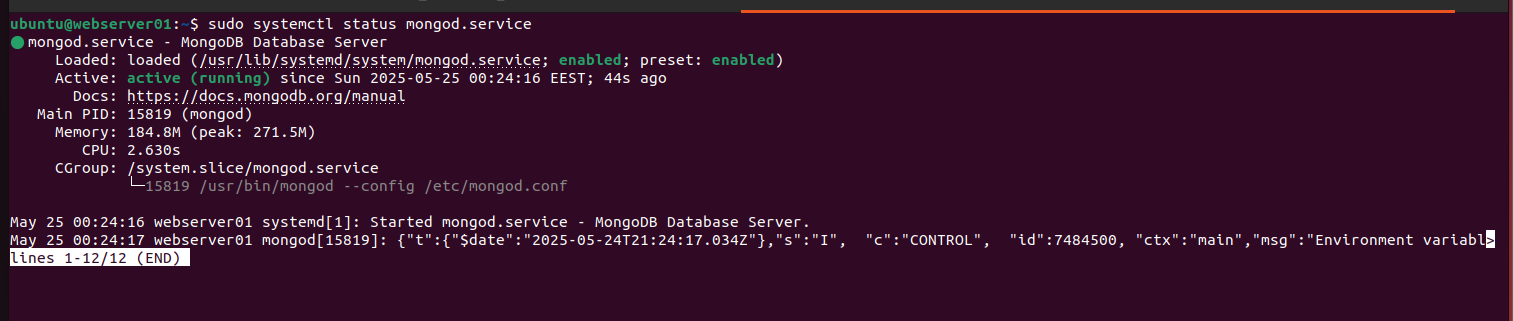


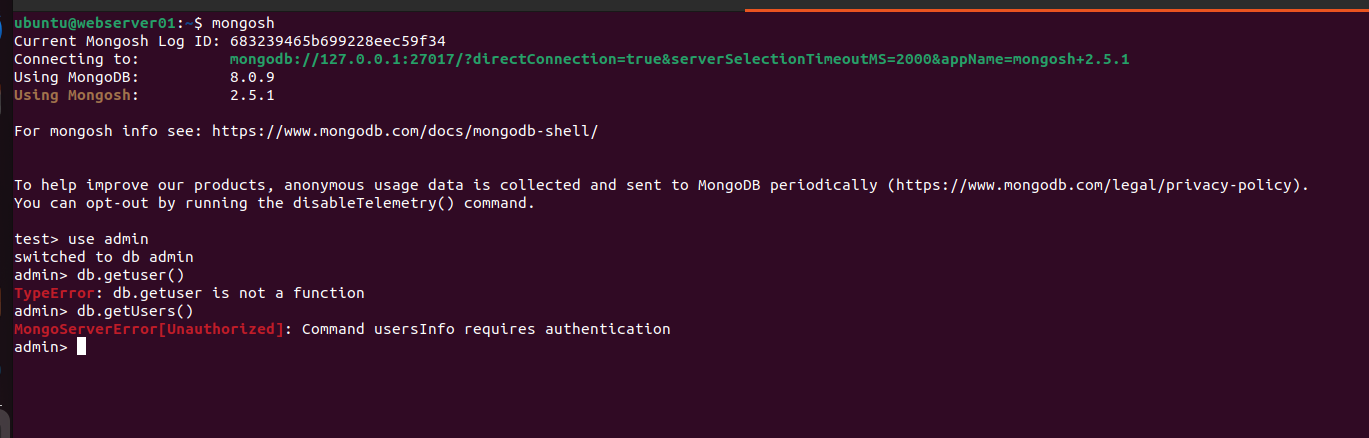
* Run playbook :



* Verify :







// Authentication using file



##############Done ✔✔✔############