
aya
Release 1.0

Sep 13, 2019

Contents:

1	Features	3
2	Requirements	5
3	Quick start	7
4	Contribute	9
5	Support	11
6	License	13

With “Aya”, building a web environment or making a website/web app becomes quick and easy. Aya uses ansible, k8s (kubernetes) and other modern tools to facilitate provisioning machines and getting your web app running in a short time.

In a few quick steps you will have your dev and production environments ready:

```
# setup docker, k8s and other tools
ansible-playbook playbooks/1_node_setup/1_local_node_setup.yml --ask-become-
↳pass -i inventories/local_nodes.ini
ansible-playbook playbooks/1_node_setup/2_remote_nodes_setup.yml --ask-
↳become-pass -i inventories/example_nodes.ini

# setup postgres and python and more
ansible-playbook playbooks/2_web_env/1_web_env.yml -i inventories/example_
↳nodes.ini

# add a django project
ansible-playbook playbooks/3_web_projects/django/add_django_project/add_
↳django_project.yml --ask-become-pass -i inventories/example_nodes.ini
```


CHAPTER 1

Features

- Ability to setup truly highly available and scalable clusters for production, or just one node (your laptop for example) for testing and development.
- The setup can be customized according to your needs using “variables” files.
- Aya is made with ansible, and ansible syntax is very easy, this will make you quickly understand what aya is doing on each step, and facilitates modifying the code (roles/playbooks) if needed.

CHAPTER 2

Requirements

- Basic knowledge of ansible and kubernetes.
- To reduce aya complexity it was built only for ubuntu, most of its code can run unmodified on other operating systems, however some of the code needs adjustments to run on another os. (ex: ansible “apt” module needs to be changed to “yum” for CentOS)

To use aya unmodified, ubuntu is required on the controller node and the provisioned nodes.

Aya was tested in ubuntu 18.04

CHAPTER 3

Quick start

- Get aya:

```
git clone https://gitlab.com/aya-projects/aya.git
cd aya/ansible/
```

- Install ansible:

```
bash ansible_install.sh
```

- Define the nodes(machines) you want to provision/setup in an inventory file:

```
cp inventories/sandbox_nodes.ini.example inventories/mycluster_nodes.ini
nano inventories/mycluster_nodes.ini
```

the provided “sandbox_nodes” is an example of vagrant/virtualbox nodes, copy and modify this inventory as needed. https://docs.ansible.com/ansible/latest/user_guide/intro_inventory.html

If you don't have dedicated/cloud nodes you can use your local node (your laptop for example) to set up a dev web environment with microk8s.

You can also use the provided `aya/vagrant/Vagrantfile` to create virtual machines in your local computer.

- Go to the custom directories inside the playbooks directory and check the provided example files, if OPTIONAL is not stated at the top of the file, you need to create one for your inventory and modify as needed, ex:

```
cp playbooks/1_node_setup/custom/k8s/sandbox_nodes_variables.yml.example_
↪playbooks/1_node_setup/custom/k8s/mycluster_nodes_variables.yml
nano playbooks/1_node_setup/custom/k8s/mycluster_nodes_variables.yml
```

- Run the ansible playbooks that will do the heavy lifting (run sequentially one playbook at a time):

```
source /opt/pyvenvs/ansible_controller/bin/activate

# setup docker, k8s and other tools
ansible-playbook playbooks/1_node_setup/1_local_node_setup.yml --ask-
↳become-pass -i inventories/local_nodes.ini
ansible-playbook playbooks/1_node_setup/2_remote_nodes_setup.yml --ask-
↳become-pass -i inventories/example_nodes.ini

# setup postgres and python stacks and more
ansible-playbook playbooks/2_web_env/1_web_env.yml -i inventories/example_
↳nodes.ini

# add a django project
ansible-playbook playbooks/3_web_projects/django/add_django_project/add_
↳django_project.yml --ask-become-pass -i inventories/example_nodes.ini
```

Note: Before running a playbook, check if there is any special instructions/notes at the top of the playbook file.

CHAPTER 4

Contribute

- Issue Tracker: <https://gitlab.com/aya-projects/aya/issues>
- Source Code: <https://gitlab.com/aya-projects/aya>

CHAPTER 5

Support

If you are having issues, please let us know.

<https://gitlab.com/aya-projects/aya/issues>

CHAPTER 6

License

The project is licensed under the MIT license.