

Installation and basic configuration of Ansible

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Ansible installation on Ubuntu Server

The installation of Ansible on Ubuntu Server is very straightforward and doesn't need any specific configuration during the installation of the program.

```
$ sudo apt update
$ sudo apt install software-properties-common
$ sudo add-apt-repository --yes --update ppa:ansible/ansible
$ sudo apt install ansible
```

Information about the installation of Ansible in Ubuntu Server:

https://docs.ansible.com/ansible/latest/installation_guide/installation_distros.html#installing-ansible-on-ubuntu

Creation of playbooks for ansible

The directory for locating your playbooks is `/etc/ansible`. Inside of this directory is needed to create subdirectories for every installation. So, use: `sudo mkdir directory_name` to create it.

```
vsoc@vsoc:~$ cd /etc/ansible/
vsoc@vsoc:/etc/ansible$ ls
ansible.cfg  elk-ansible  hosts  roles
vsoc@vsoc:/etc/ansible$ cd elk-ansible/
vsoc@vsoc:/etc/ansible/elk-ansible$ ls
vsoc@vsoc:/etc/ansible/elk-ansible$ nano install-elk.yml
vsoc@vsoc:/etc/ansible/elk-ansible$ sudo nano install-elk.yml
[sudo] password for vsoc:
vsoc@vsoc:/etc/ansible/elk-ansible$
```

Example of how looks the document of installation of any program with ansible.

```
GNU nano 6.2                                install-elk.yml *
--
- name: Install and configure ELK Stack
  hosts: all
  become: true
  vars:
    elasticsearch_version: "8.6.0"
    kibana_version: "8.6.0"
    logstash_version: "8.6.0"

  tasks:
    # Install dependencies
    - name: Install required packages
      apt:
        name:
          - apt-transport-https
          - curl
          - gnupg
        state: present
        update_cache: yes

    # Add Elasticsearch GPG key
    - name: Add Elasticsearch GPG key
      apt_key:
        url: https://artifacts.elastic.co/GPG-KEY-elasticsearch
        state: present

    # Add Elasticsearch repository
    - name: Add Elasticsearch APT repository
      apt_repository:
        repo: "deb https://artifacts.elastic.co/packages/{{ elasticsearch_version }}/apt stable main"
```

Remember to add in the file hosts.ini your Ip machine, or localhost. The file is located on /etc/ansible/hosts.ini.

```
vsoc@vsoc:/etc/ansible/elk-ansible$ cat hosts.ini
[elk-servers]
localhost ansible_connection=local
```

Execute the playbook created

sudo ansible-playbook -i /path/to/your/hosts.ini /path/to/your/document.yml -c local

```
vsoc@vsoc:/etc/ansible/elk-ansible$ sudo ansible-playbook -i hosts.ini install-elk.yml -c local
[WARNING]: Invalid characters were found in group names but not replaced, use -vvvv to see details

PLAY [Install and configure ELK Stack] *****

TASK [Gathering Facts] *****
[WARNING]: Platform linux on host localhost is using the discovered Python interpreter at /usr/bin/python3.10,
but future installation of another Python interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-core/2.17/reference\_appendices/interpreter\_discovery.html for more information.
ok: [localhost]

TASK [Install required packages] *****
ok: [localhost]

TASK [Add Elasticsearch GPG key] *****
ok: [localhost]

TASK [Add Elasticsearch APT repository] *****
ok: [localhost]

TASK [Install Elasticsearch] *****
ok: [localhost]

TASK [Ensure Elasticsearch is running and enabled] *****
ok: [localhost]

TASK [Add Logstash GPG key] *****
ok: [localhost]

TASK [Add Logstash APT repository] *****
ok: [localhost]

TASK [Install Logstash] *****
ok: [localhost]

TASK [Ensure Logstash is running and enabled] *****
ok: [localhost]

TASK [Add Kibana GPG key] *****
ok: [localhost]

TASK [Add Kibana APT repository] *****
ok: [localhost]

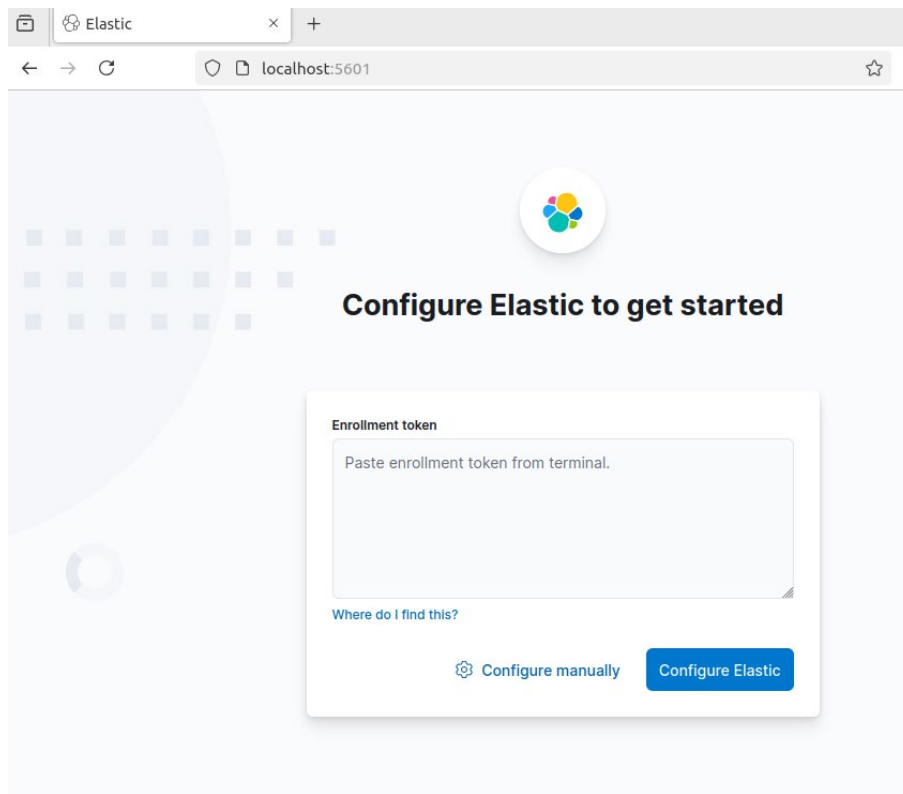
TASK [Install Kibana] *****
ok: [localhost]

TASK [Ensure Kibana is running and enabled] *****
ok: [localhost]

TASK [Open Kibana port in firewall] *****
changed: [localhost]

PLAY RECAP *****
localhost                : ok=15   changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

Now we must check the installation work correctly:



Added code file for the installation of elk, with Kibana:

- name: Install and configure ELK Stack

hosts: all

become: true

vars:

elasticsearch_version: "8.6.0"

kibana_version: "8.6.0"

logstash_version: "8.6.0"

tasks:

Install dependencies

- name: Install required packages

apt:

name:

- apt-transport-https

- curl

- gnupg

state: present

update_cache: yes

Add Elasticsearch GPG key

- name: Add Elasticsearch GPG key

apt_key:

```
url: https://artifacts.elastic.co/GPG-KEY-elasticsearch
state: present
```

```
# Add Elasticsearch repository
```

```
- name: Add Elasticsearch APT repository
  apt_repository:
    repo: "deb https://artifacts.elastic.co/packages/8.x/apt stable main"
    state: present
```

```
# Install Elasticsearch
```

```
- name: Install Elasticsearch
  apt:
    name: elasticsearch
    state: present
    update_cache: yes
```

```
# Start and enable Elasticsearch
```

```
- name: Ensure Elasticsearch is running and enabled
  systemd:
    name: elasticsearch
    state: started
    enabled: true
```

```
# Add Logstash GPG key
```

```
- name: Add Logstash GPG key
  apt_key:
    url: https://artifacts.elastic.co/GPG-KEY-elasticsearch
    state: present
```

```
# Add Logstash repository
```

```
- name: Add Logstash APT repository
  apt_repository:
    repo: "deb https://artifacts.elastic.co/packages/8.x/apt stable main"
    state: present
```

```
# Install Logstash
```

```
- name: Install Logstash
  apt:
    name: logstash
    state: present
    update_cache: yes
```

```
# Start and enable Logstash
```

- name: Ensure Logstash is running and enabled

systemd:

name: logstash

state: started

enabled: true

Add Kibana GPG key

- name: Add Kibana GPG key

apt_key:

url: https://artifacts.elastic.co/GPG-KEY-elasticsearch

state: present

Add Kibana repository

- name: Add Kibana APT repository

apt_repository:

repo: "deb https://artifacts.elastic.co/packages/8.x/apt stable main"

state: present

Install Kibana

- name: Install Kibana

apt:

name: kibana

state: present

update_cache: yes

Start and enable Kibana

- name: Ensure Kibana is running and enabled

systemd:

name: kibana

state: started

enabled: true

Open Kibana port in firewall

- name: Open Kibana port in firewall

ufw:

rule: allow

port: 5601

proto: tcp