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Course/Section: CPE31S24	**Date Submitted: 10/23/2022**
Instructor: Dr. Jonathan Taylar	**Semester and SY: 1st Sem 2022-2023**

Activity 8: Install, Configure, and Manage Availability Monitoring tools

1. Objectives

Create and design a workflow that installs, configure and manage enterprise monitoring tools using Ansible as an Infrastructure as Code (IaC) tool.

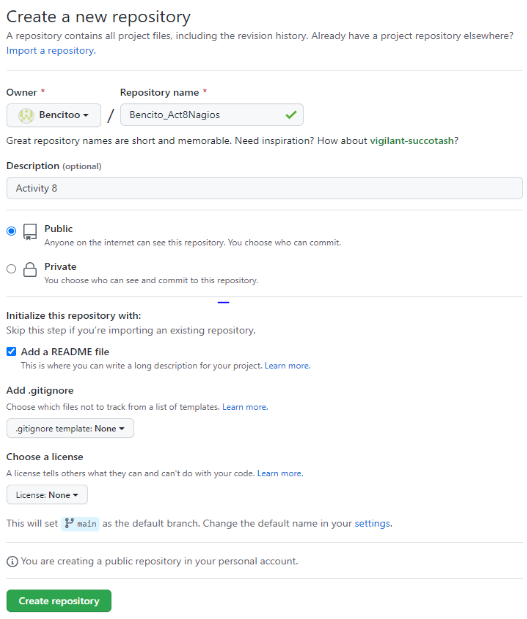
2. Discussion

Availability monitoring is a type of monitoring tool that we use if the certain workload is up or reachable on our end. Site downtime can lead to loss of revenue, reputational damage and severe distress. Availability monitoring prevents adverse situations by checking the uptime of infrastructure components such as servers and apps and notifying the webmaster of problems before they impact on business.

3. Tasks

1. Create a playbook that installs Nagios in both Ubuntu and CentOS. Apply the concept of creating roles.
2. Describe how you did step 1. (Provide screenshots and explanations in your report. Make your report detailed such that it will look like a manual.)
3. Show an output of the installed Nagios for both Ubuntu and CentOS.
4. Make sure to create a new repository in GitHub for this activity.

4. Output (screenshots and explanations)



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

Owner * / Repository name *

Bencitoo / Bencito_Act8Nagios ✓

Great repository names are short and memorable. Need inspiration? How about vigilant-succotash?

Description (optional)

Activity 8

● Public
Anyone on the internet can see this repository. You choose who can commit.

○ Private
You choose who can see and commit to this repository.

Initialize this repository with:
Skip this step if you're importing an existing repository.

☑ Add a README file
This is where you can write a long description for your project. Learn more.

Add .gitignore
Choose which files not to track from a list of templates. Learn more.

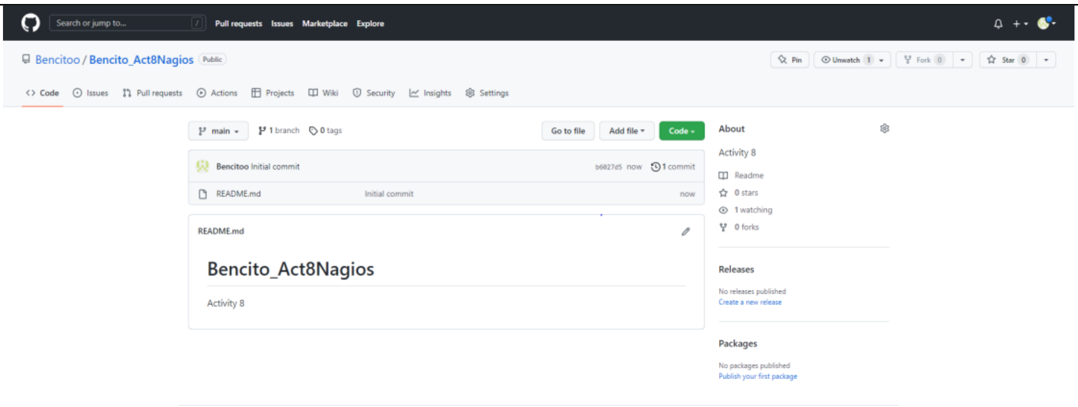
.gitignore template: None

Choose a license
A license tells others what they can and can't do with your code. Learn more.

License: None

This will set `main` as the default branch. Change the default name in your settings.

You are creating a public repository in your personal account.



Bencitoo / Bencito_Act8Nagios Public

Bencitoo Initial commit	b6027d5 now	1 commit
README.md	Initial commit	now

README.md

Bencito_Act8Nagios

Activity 8

About

Activity 8

Readme

0 stars

1 watching

0 forks

Releases

No releases published

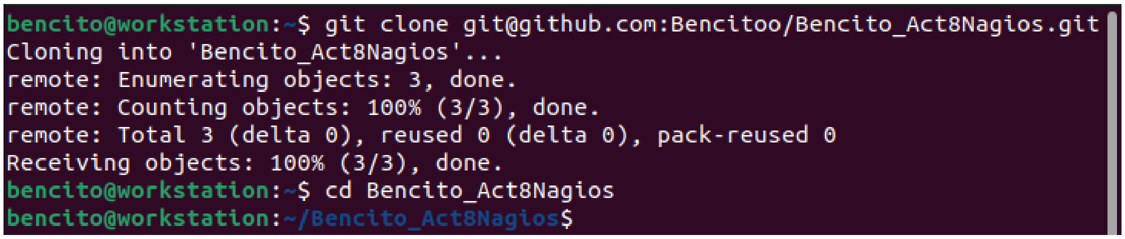
Create a new release

Packages

No packages published

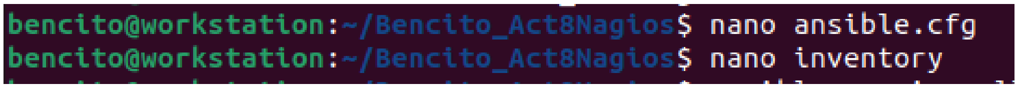
Publish your first package

<u>I create a repository in my github name Bencito_Act8Nagios</u>

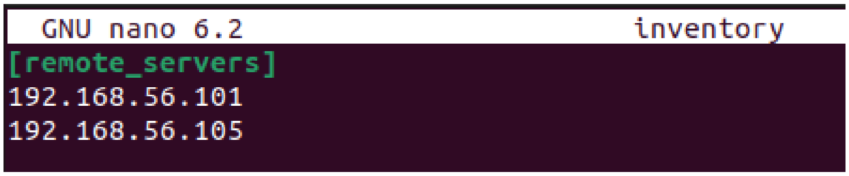


```
bencito@workstation:~$ git clone git@github.com:Bencitoo/Bencito_Act8Nagios.git
Cloning into 'Bencito_Act8Nagios'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.
bencito@workstation:~$ cd Bencito_Act8Nagios
bencito@workstation:~/Bencito_Act8Nagios$
```

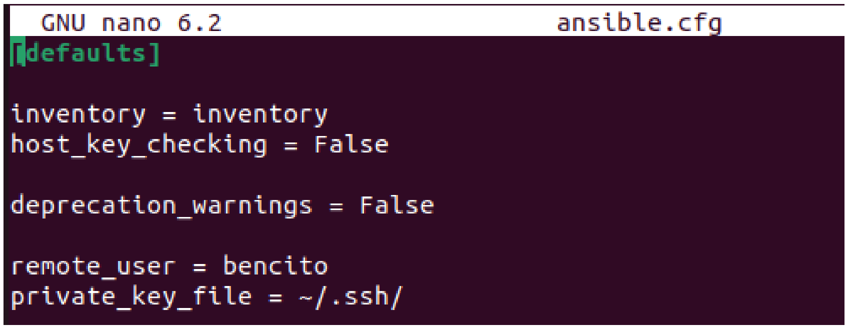
<u>I clone it to my Manage node</u>



```
bencito@workstation:~/Bencito_Act8Nagios$ nano ansible.cfg
bencito@workstation:~/Bencito_Act8Nagios$ nano inventory
```

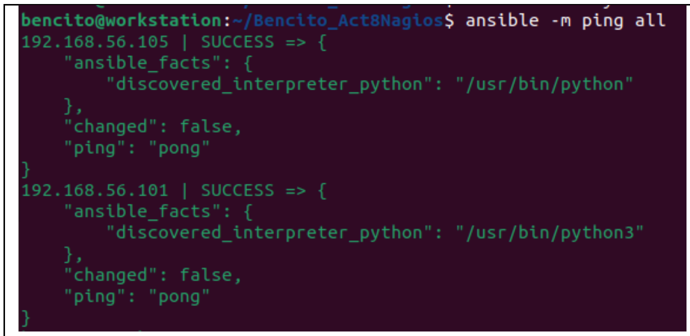


```
  GNU nano 6.2                         inventory
[remote_servers]
192.168.56.101
192.168.56.105
```



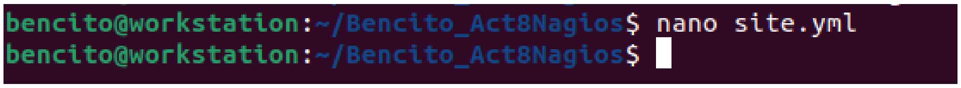
```
  GNU nano 6.2                         ansible.cfg
[defaults]

inventory = inventory
host_key_checking = False

deprecation_warnings = False

remote_user = bencito
private_key_file = ~/.ssh/
```

<u>I add the inventory and ansible.cfg in my new repository to locate my control nodes.</u>

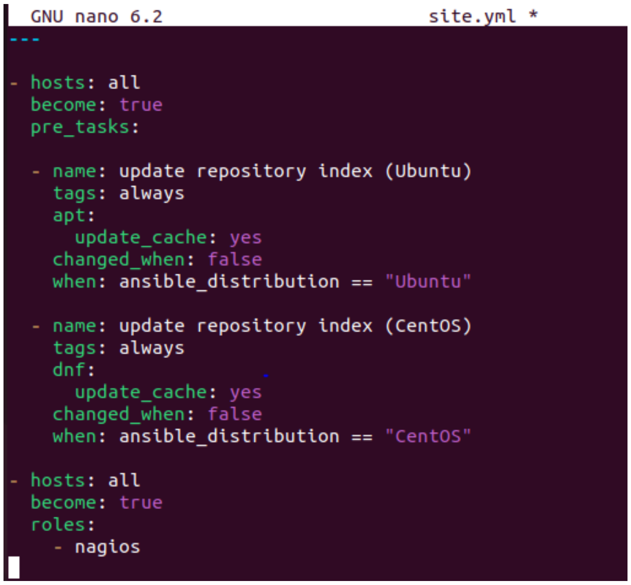


```
bencito@workstation:~/Bencito_Act8Nagios$ ansible -m ping all
192.168.56.105 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python"
    },
    "changed": false,
    "ping": "pong"
}
192.168.56.101 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
    "changed": false,
    "ping": "pong"
}
```

After I add it. I try to ping if it will connect the two control nodes and it’s successful

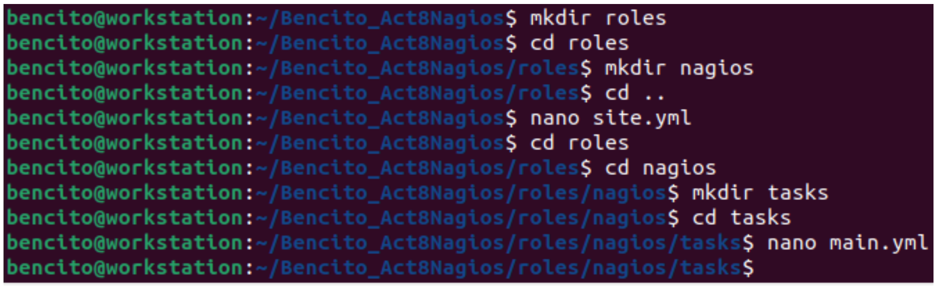


```
bencito@workstation:~/Bencito_Act8Nagios$ nano site.yml
bencito@workstation:~/Bencito_Act8Nagios$ 
```

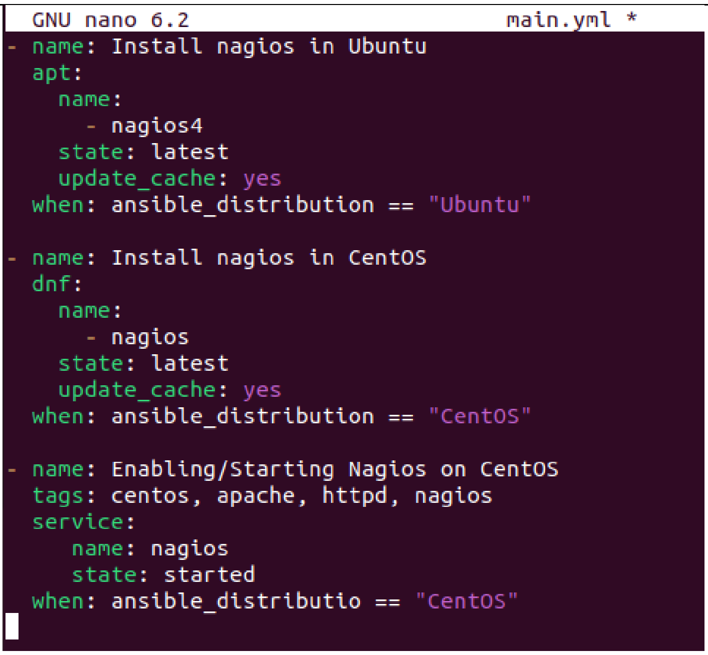


```
  GNU nano 6.2                              site.yml *
---

- hosts: all
  become: true
  pre_tasks:

  - name: update repository index (Ubuntu)
    tags: always
    apt:
      update_cache: yes
    changed_when: false
    when: ansible_distribution == "Ubuntu"

  - name: update repository index (CentOS)
    tags: always
    dnf:
      update_cache: yes
    changed_when: false
    when: ansible_distribution == "CentOS"

- hosts: all
  become: true
  roles:
    - nagios
```

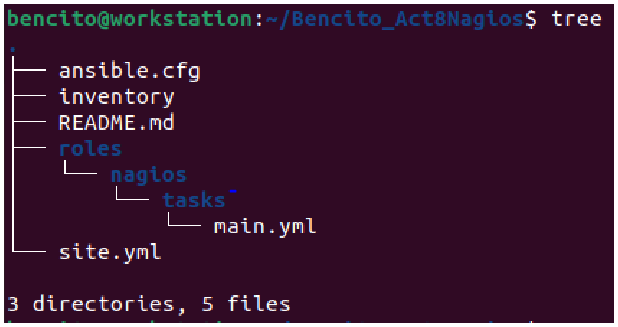
Now I create a site.yml that check and update my CN it also uses to run the installation of the nagios



```
bencito@workstation:~/Bencito_Act8Nagios$ mkdir roles
bencito@workstation:~/Bencito_Act8Nagios$ cd roles
bencito@workstation:~/Bencito_Act8Nagios/roles$ mkdir nagios
bencito@workstation:~/Bencito_Act8Nagios/roles$ cd ..
bencito@workstation:~/Bencito_Act8Nagios$ nano site.yml
bencito@workstation:~/Bencito_Act8Nagios$ cd roles
bencito@workstation:~/Bencito_Act8Nagios/roles$ cd nagios
bencito@workstation:~/Bencito_Act8Nagios/roles/nagios$ mkdir tasks
bencito@workstation:~/Bencito_Act8Nagios/roles/nagios$ cd tasks
bencito@workstation:~/Bencito_Act8Nagios/roles/nagios/tasks$ nano main.yml
bencito@workstation:~/Bencito_Act8Nagios/roles/nagios/tasks$
```

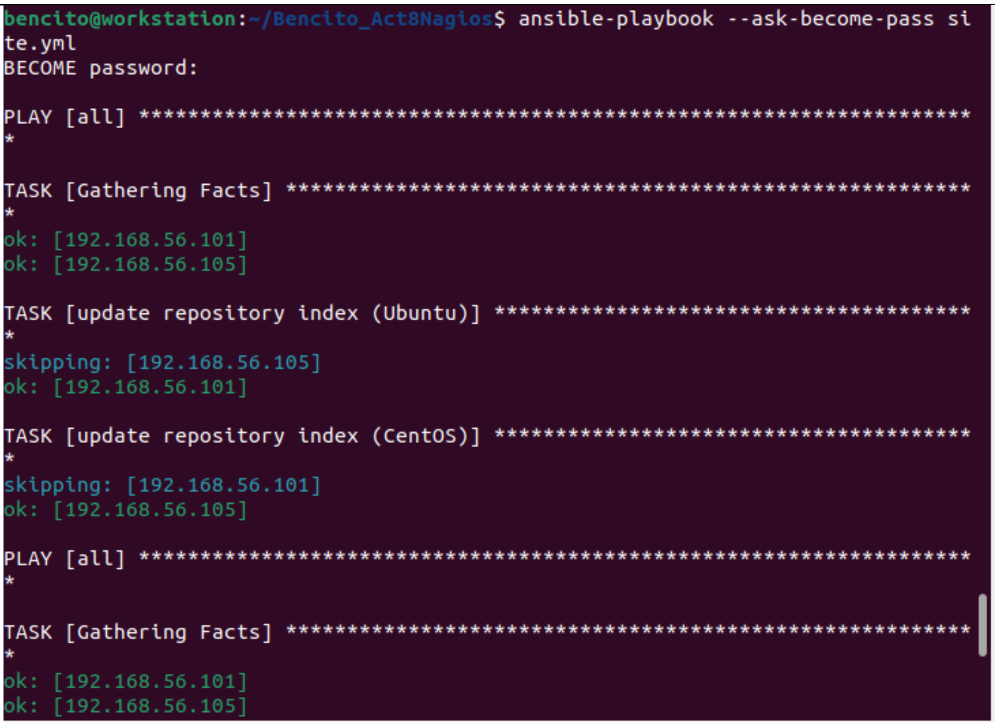


```
  GNU nano 6.2                               main.yml *
- name: Install nagios in Ubuntu
  apt:
    name:
      - nagios4
    state: latest
    update_cache: yes
  when: ansible_distribution == "Ubuntu"

- name: Install nagios in CentOS
  dnf:
    name:
      - nagios
    state: latest
    update_cache: yes
  when: ansible_distribution == "CentOS"

- name: Enabling/Starting Nagios on CentOS
  tags: centos, apache, httpd, nagios
  service:
     name: nagios
     state: started
  when: ansible_distributio == "CentOS"
```

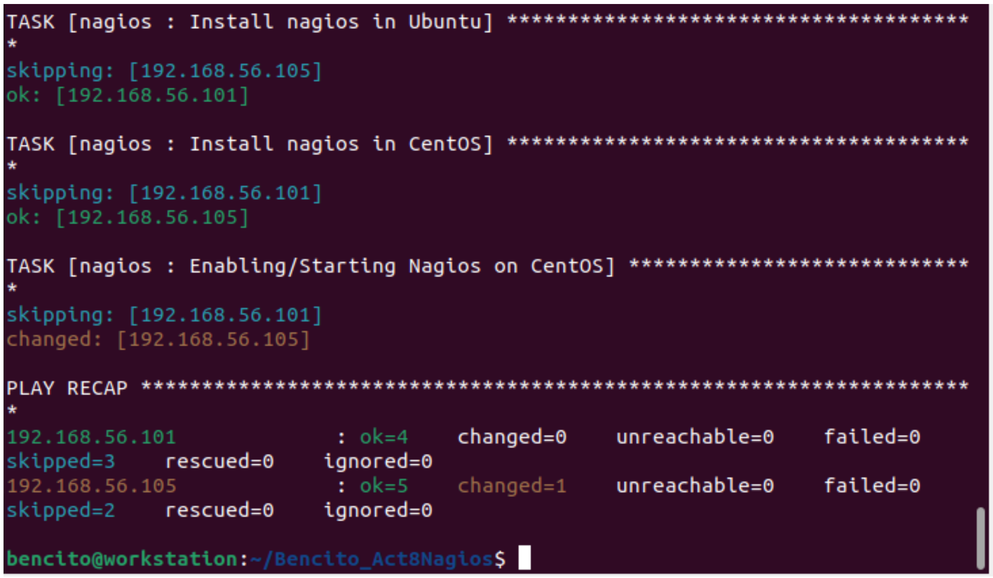


```
bencito@workstation:~/Bencito_Act8Nagios$ tree
.
├── ansible.cfg
├── inventory
├── README.md
├── roles
│   └── nagios
│       └── tasks
│           └── main.yml
└── site.yml

3 directories, 5 files
```

<u>After creating a site.yml I create a directory roles inside of the roles was the installation o nagios, and the playbook code, that main.yml. after that I check using the command tree and it successfully created.</u>



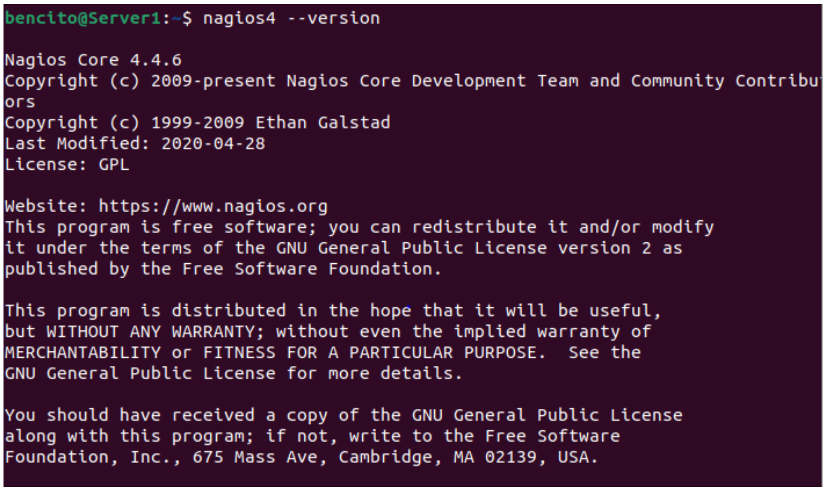
```
bencito@workstation:~/Bencito_Act8Nagios$ ansible-playbook --ask-become-pass si
te.yml
BECOME password:

PLAY [all] ********************************************************************
*

TASK [Gathering Facts] ********************************************************
*
ok: [192.168.56.101]
ok: [192.168.56.105]

TASK [update repository index (Ubuntu)] ***************************************
*
skipping: [192.168.56.105]
ok: [192.168.56.101]

TASK [update repository index (CentOS)] ***************************************
*
skipping: [192.168.56.101]
ok: [192.168.56.105]

PLAY [all] ********************************************************************
*

TASK [Gathering Facts] ********************************************************
*
ok: [192.168.56.101]
ok: [192.168.56.105]
```



```
TASK [nagios : Install nagios in Ubuntu] **************************************
*
skipping: [192.168.56.105]
ok: [192.168.56.101]

TASK [nagios : Install nagios in CentOS] **************************************
*
skipping: [192.168.56.101]
ok: [192.168.56.105]

TASK [nagios : Enabling/Starting Nagios on CentOS] ****************************
*
skipping: [192.168.56.101]
changed: [192.168.56.105]

PLAY RECAP ********************************************************************
*
192.168.56.101             : ok=4    changed=0    unreachable=0    failed=0
skipped=3    rescued=0    ignored=0
192.168.56.105             : ok=5    changed=1    unreachable=0    failed=0
skipped=2    rescued=0    ignored=0

bencito@workstation:~/Bencito_Act8Nagios$ 
```

<u>As you can see after making all of those. I run the created playbook by using the command ansible-playbook –ask-become-pass (I use the site.yml because it is the main playbook to run all those roles that I created.)</u>

Ubuntu Output



```
bencito@Server1:~$ nagios4 --version

Nagios Core 4.4.6
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ors
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License: GPL

Website: https://www.nagios.org
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published by the Free Software Foundation.

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Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.
```

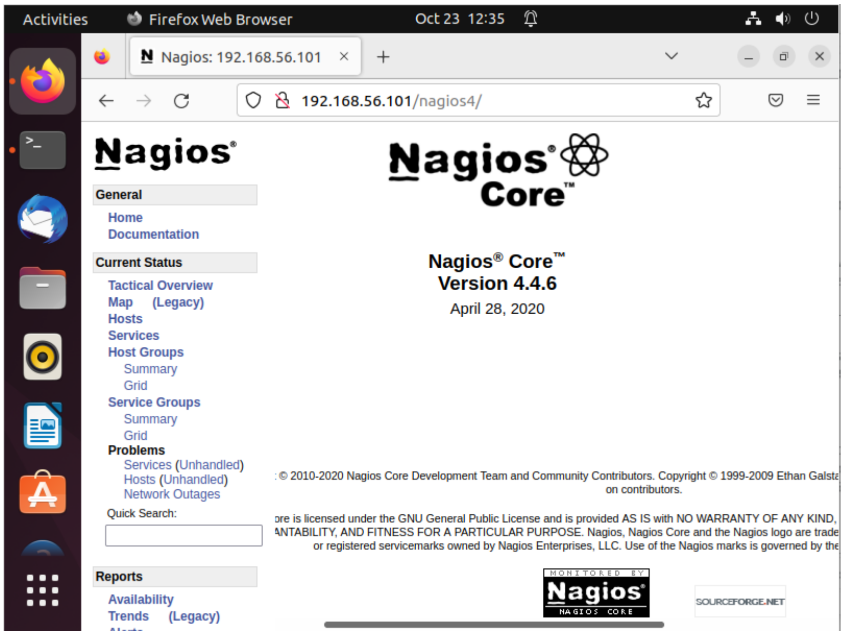

Nagios® Core™
Version 4.4.6
April 28, 2020

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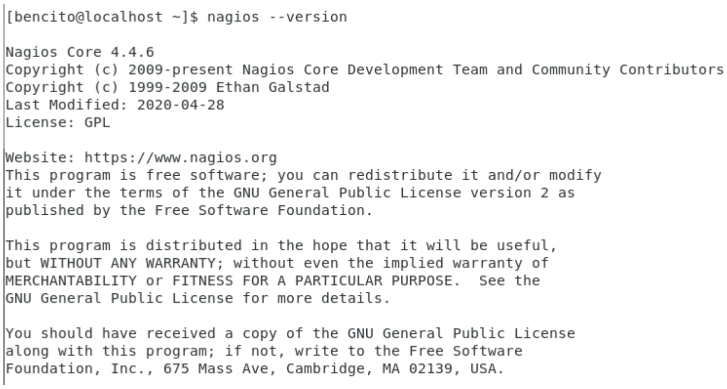
or registered servicemarks owned by Nagios Enterprises, LLC. Use of the Nagios marks is governed by the

As you can see it was successful install on my first control nodes which is Ubuntu

CentOS Output



```
[bencito@localhost ~]$ nagios --version

Nagios Core 4.4.6
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Last Modified: 2020-04-28
License: GPL

Website: https://www.nagios.org
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published by the Free Software Foundation.

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along with this program; if not, write to the Free Software
Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.
```
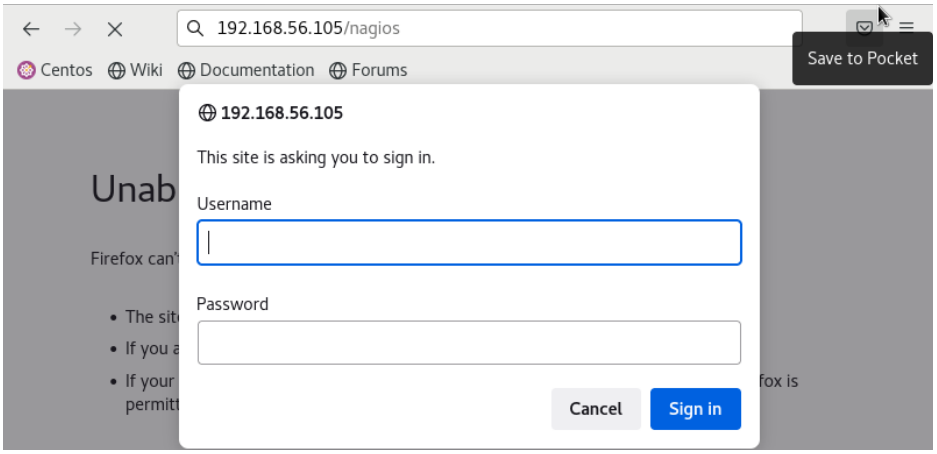
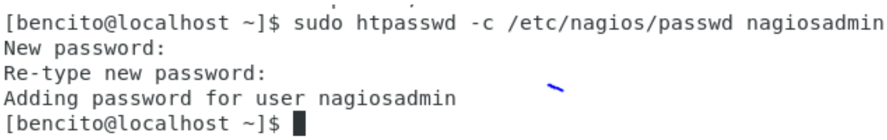



192.168.56.105

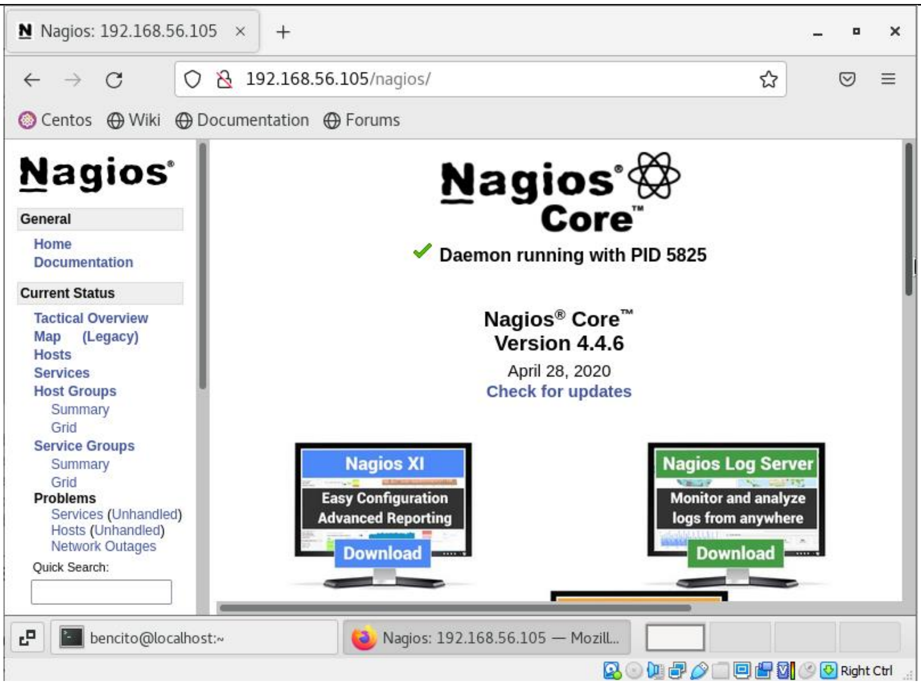
This site is asking you to sign in.

Username:

Password:



```
[bencito@localhost ~]$ sudo htpasswd -c /etc/nagios/passwd nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
[bencito@localhost ~]$ █
```

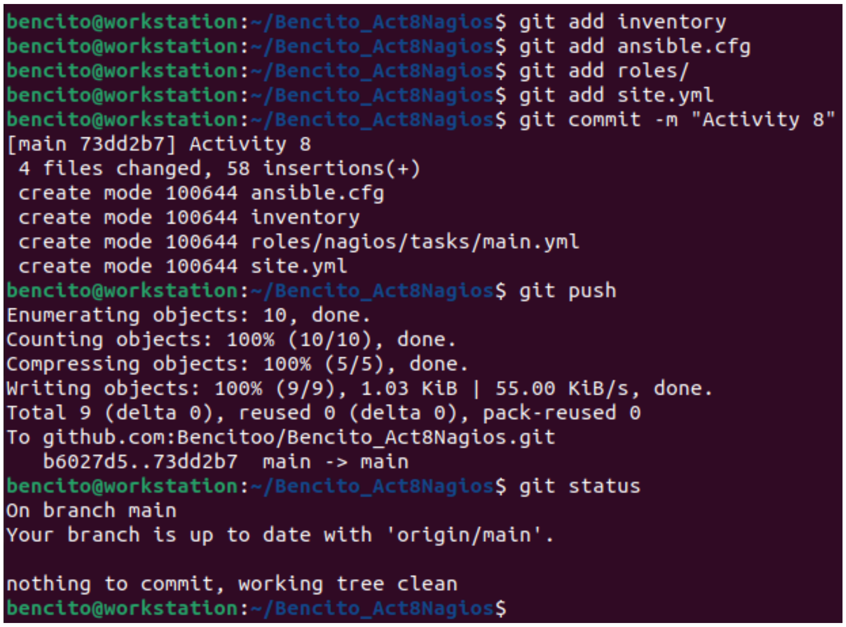


Daemon running with PID 5825

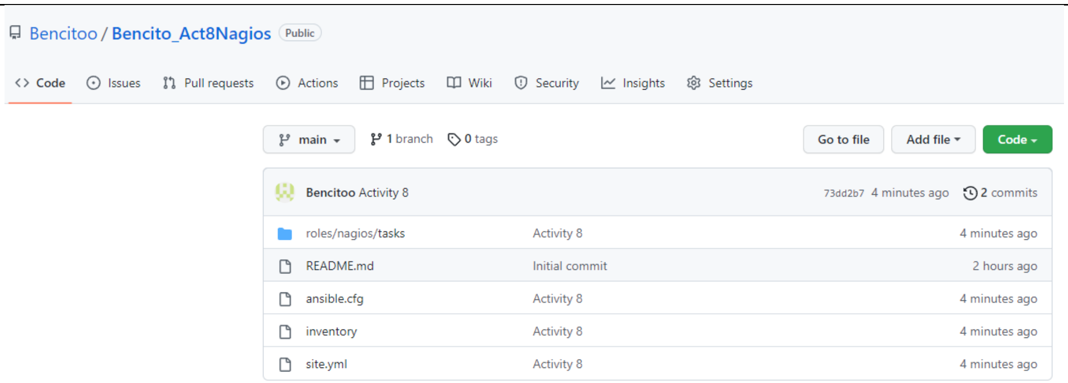
Nagios® Core™
Version 4.4.6
April 28, 2020
Check for updates

<u>As you can see it was successful installed on my second control nodes which is CentOS. It requires admin account to go inside of the nagios. I change pass it and my username were: nagiosadmin password: (own password).</u>

Adding to my Repository



```
bencito@workstation:~/Bencito_Act8Nagios$ git add inventory
bencito@workstation:~/Bencito_Act8Nagios$ git add ansible.cfg
bencito@workstation:~/Bencito_Act8Nagios$ git add roles/
bencito@workstation:~/Bencito_Act8Nagios$ git add site.yml
bencito@workstation:~/Bencito_Act8Nagios$ git commit -m "Activity 8"
[main 73dd2b7] Activity 8
 4 files changed, 58 insertions(+)
 create mode 100644 ansible.cfg
 create mode 100644 inventory
 create mode 100644 roles/nagios/tasks/main.yml
 create mode 100644 site.yml
bencito@workstation:~/Bencito_Act8Nagios$ git push
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Compressing objects: 100% (5/5), done.
Writing objects: 100% (9/9), 1.03 KiB | 55.00 KiB/s, done.
Total 9 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:Bencitoo/Bencito_Act8Nagios.git
   b6027d5..73dd2b7  main -> main
bencito@workstation:~/Bencito_Act8Nagios$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
bencito@workstation:~/Bencito_Act8Nagios$
```



Bencitoo Activity 8 — 73dd2b7 4 minutes ago — 2 commits

roles/nagios/tasks	Activity 8	4 minutes ago
README.md	Initial commit	2 hours ago
ansible.cfg	Activity 8	4 minutes ago
inventory	Activity 8	4 minutes ago
site.yml	Activity 8	4 minutes ago

It was successfully added on my new repository.

Reflections:

Answer the following:

1. What are the benefits of having an availability monitoring tool?

   There so many benefits of monitoring tool. First in a company it will help you to prevent the system downtime. Also, having a monitoring tool helps you to make a Realtime check of the data security and the health of the computer system.

Conclusions:

In my conclusion. After making this activity I learn that how to create a playbook that will install the given task. Like when I'm doing the installation of nagios it is the same on the last activity you need to create a roles and input there the playbook code. I realize that you need to familiarize those codes. Because it will help you to the next activity or on your future works. I'm happy when it was successfully run and I don't encounter some error.