**Lesson 9 Lesson-End Project**

**Dynamic Inventory with AWS**

**Project Agenda:** To build dynamic inventory with AWS

**Description: Ansible** is an open-source IT automation tool. It is straightforward to use but so powerful. **Ansible**is suitable for managing all environments, from small setups with a few instances to big ones with hundreds of instances. **Ansible**has a dynamic external inventory system that has two ways to use external inventory: **inventory scripts**and the most recent updated **inventory plugin.**

**Tools required:** Ansible, AWS CLI

**Prerequisites:** You must have Ansible installed in the lab to proceed. You can refer to Lesson 2 Demo 1 to install and set up Ansible. Also, you must have AWS CLI installed to configure AWS.

**Expected Deliverables:**

Write configuration to describe inventory file

Run the playbook

Configure dynamic inventory

**Steps to be followed:**

1. Pinging the target nodes with static inventory
2. Working With dynamic inventory

**Step 1: Pinging the target nodes with static inventory:**

1. Confirm the availability of ansible by running the below command:

**ansible --version**

Text

Description automatically generated

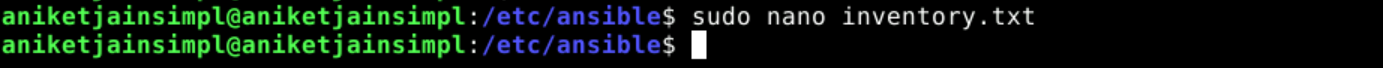
1. Move to the ansible directory:

**cd /etc/ansible**



1. Create a text file and add the following code:

**sudo nano inventory.txt**



Text

Description automatically generated

1. Open the ansible configuration file and add the following code:



**[defaults]**

**host\_key\_checking = False**

**inventory=inventory.txt**

**interpreter\_python=auto\_silent**

Graphical user interface, text

Description automatically generated

1. Check the inventory:

**ansible-inventory –graph**

Graphical user interface, text, application

Description automatically generated

1. Check the connectivity to the target nodes:

**ansible all -m ping**



**Step 2: Working with dynamic inventory:**

1. Create a file named inventory\_aws\_ec2.yml and add the following code:

**sudo nano inventory\_aws\_ec2.yml**



**plugin: aws\_ec2**

**aws\_access\_key: your\_access\_key\_here**

**aws\_secret\_key: your\_secret\_key\_here**

**aws\_security\_token: your\_token\_here**

**regions:**

**- "us-east-1"keyed\_groups:**

**- key: tags.Name**

**- key: tags.task**

**filters:**

**instance-state-name : running**

**compose:**

**ansible\_host: public\_ip\_address**

**Note:** Make sure to replace **aws\_access\_key, aws\_secret\_key, and aws\_security\_token** with your credentials.

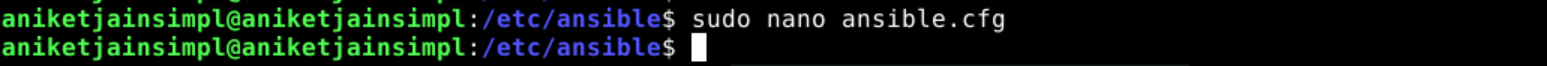
1. Check the inventory and use the “**-i”**flag to refer to the **inventory\_aws\_ec2.yml** file because we haven’t changed the inventory variable in the config file yet:

**ansible-inventory --graph -i inventory\_aws\_ec2.yml**



1. Open the ansible.cfg file, and change the inventory variable path to use the dynamic inventory file and add the following code:

**sudo nano ansible.cfg**



**[defaults]**

**host\_key\_checking = False**

**inventory=inventory\_aws\_ec2.yml**

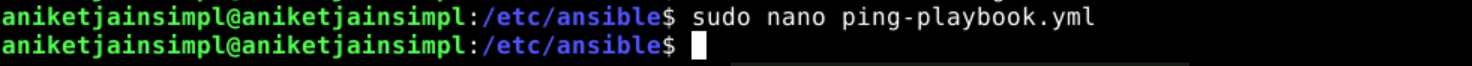
**interpreter\_python=auto\_silent**

Graphical user interface, text

Description automatically generated

1. Create a file named ping-playbook.yml and add the following code:

**sudo nano ping-playbook.yml**



**---**

**- name: ping them all**

**hosts: \_servers**

**vars:**

**ansible\_ssh\_private\_key\_file: "your\_pem\_file"**

**tasks:**

**- name: pinging**

**ping:**

**Note:** Make sure to replace **ansible\_ssh\_private\_key\_file: "your\_pem\_file"** with your file.

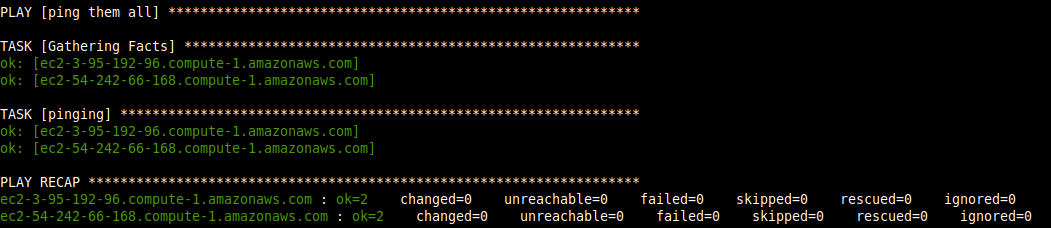
Text

Description automatically generated

1. Run the command below for pinging the servers:

**ansible-playbook ping-playbook.yml**



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You have completed working with the EC2 Dynamic inventory.