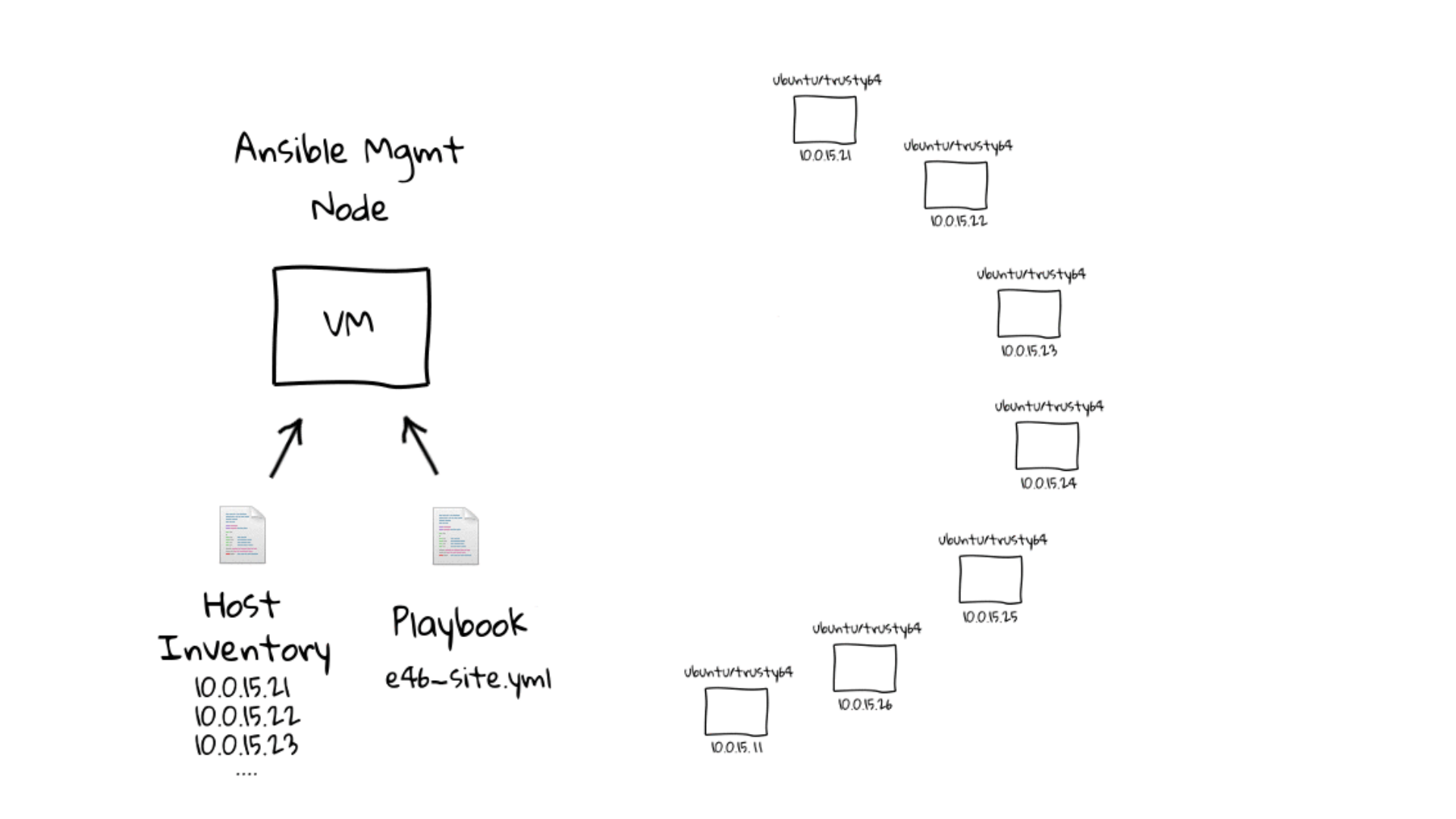
STATIC & DYNAMIC INVENTORIES

Inventories

- Inventories are where you find the information about the hosts you will manage with Ansible.
- There are static and dynamic inventories.
- It's where you group the hosts that will be managed in Ansible.
- An example of the inventory is /etc/ansible/hosts.
- You can use your own hosts inventory using the -i option.


Ansible Mgmt Node
VM
Host Inventory
10.0.15.21
10.0.15.22
10.0.15.23
....
Playbook
e46-site.yml
ubuntu/trusty64
10.0.15.21
ubuntu/trusty64
10.0.15.22
ubuntu/trusty64
10.0.15.23
ubuntu/trusty64
10.0.15.24
ubuntu/trusty64
10.0.15.25
ubuntu/trusty64
10.0.15.26
ubuntu/trusty64
10.0.15.11

Inventories – Static

- Static inventories are as described. They don't change unless you make changes to them.
- A lot of information can be put in the inventory that can be used by ansible.
- Connection information can be put into the inventory files.
  - testserver1:**24**
  - jumpserver ansible_port=5555 ansible_host=192.168.2.8
- Note: Older versions of Ansible < 2.0 instead needs **ansible_ssh_user**, **ansible_ssh_host**. The ssh portion was deprecated after 2.0 so now it's simply **ansible_host** or **ansible_user**
- Adding hosts can be done via patterns. Example:

  [webserver-group1]
  www[01:50].example.com
- If the target is a folder then all the files in the folder will be read.

Inventories – Static (continued)

- You can select connection type and user on a per host basis as follows.

```
[targets]
localhost   ansible_connection=local
other1.example.com  ansible_connection=ssh  ansible_user=user2
```

- Variables can be assigned to groups at the same time.

```
[atlanta]
host1
host2
[atlanta:vars]
ntp_server=ntp.atlanta.example.com
proxy=proxy.atlanta.example.com
```

NOTE: The preferred behavior is to NOT store variables in the main inventory file.

Inventories – Static (continued)

- Default groups.
- There are two default groups: **all** and **ungrouped**.
  all contains every host. **ungrouped** contains all hosts that don't have another group aside from all.
- Host and group variables can be stored in individual files relative to the inventory file.
- If the inventory is /etc/ansible/hosts then the following applies:

  If the host is named 'mainhost', and is in groups 'melbourne' and 'webservers', then variables in YAML files at the following locations will be made available to the host. Note can optionally end in '.yml', '.yaml'

  /etc/ansible/group_vars/melbourne
  /etc/ansible/group_vars/webservers
  /etc/ansible/host_vars/mainhost

Inventories - Dynamic

- While Ansible provides a basic text-based system as described previously, it also has the ability to use dynamic inventories.
- You can pull the inventory from a cloud provider, LDAP, cobbler or other CMDB software providers.
- Some cloud providers supported are EC2, Rackspace, openstack.
- Ansible Tower also provides a database to store inventory results.

Inventories – Dynamic (continued)

- Ansible will accept any kind of executable file as an inventory file.
  ansible-playbook playbook.yml -i ./dynamic.py
  ansible all -i /etc/ansible/ec2.py -m ping
- If its executable the ansible expects a json output.
- You could create a binary or a script as long at it outputs the JSON to stdout.
- Ansible will call it with an argument of --list when you run it.
- Ansible will call it with --host [hostname] for the host information.