

Scripted deployment of Globus Server using Ansible

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Context!

- XSEDE Campus Bridging:
 - Making science more accessible (probably what a lot of us here are doing!)
 - Building local clusters with XSEDE-like environments (my sub-section of CB)
 - Providing software toolkits and system administration guidance for resource-constrained institutions



What is Ansible?

- Ansible is one flavor of “Configuration Management”
- Ideally “idempotent” (not in practice!)
- No daemons running on managed hosts
- Extremely simple to “install” (runs from source!)
- Runs via ssh



Installing Globus Server by hand

- This takes a few minutes, particularly including configuration (Less if you know what you're doing, of course...)
- Add repo, rpm / dpkg install; globus-connect-server setup, configure, globus-connect-server
- This is **very** easy!
- (And the documentation online is **correct!**)



...So why Ansible?

- Ansible makes it **fast** - one line setup for all hosts!
- Forces you to back up your configuration
- Repeatability!
- Easy to combine the globus-server installation with firewall and user setup



How easy it becomes:

- ansible-playbook globus_playbook.yml:

```
Enter your Globus Online Username:: jecoulte
Enter your Globus Online Password::

PLAY [headnode] *****
****

TASK [setup] *****
****
ok: [localhost]

TASK [template] *****
****
changed: [localhost]

TASK [expect] *****
****
changed: [localhost]

PLAY RECAP *****
localhost           : ok=8    changed=2    unreachable=0    failed=0
```



Inside the “playbook”

```
---
- hosts: headnode
  gather_facts: yes
  tasks:

    - name: get globus repo rpm
      get_url: url=http://toolkit.globus.org/ftppub/globus-connect-server/globus-connect-server-repo-latest.noarch.rpm dest=/tmp/globus-repo.rpm

    - name: get globus gpg key
      rpm_key: state=present key=http://toolkit.globus.org/ftppub/globus-connect-server/RPM-GPG-KEY-Globus

    - name: install globus repo
      yum: name=/tmp/globus-repo.rpm state=present

    - name: install globus-connect-server rpm
      yum: name=globus-connect-server state=present enablerepo=base
```



Inside the “playbook”

```
- hosts: headnode
gather_facts: yes
tasks:

  - template: src=conf_files/globus-connect-server.conf dest=/etc/globus-connect-server.conf

  - expect:
    command: globus-connect-server-setup
    responses:
      (?i)Globus Username: "{{ globus_username }}"
      (?i)Globus Password: "{{ globus_passwd }}"

vars_prompt:
- name: globus_username
  prompt: "Enter your Globus Online Username:"
  private: no
- name: globus_passwd
  prompt: "Enter your Globus Online Password:"
  private: yes

vars:
  globus_endpoint_name: "{{ globus_username }}#{{ ansible_hostname }}"
```



Template Config File:

Example piece of globus-connect-server.conf:

```
; Name of the endpoint. Can be either user#name or name, but if the former,  
; the user must match [Globus] User above  
; The special value %(SHORT_HOSTNAME)s will substitute the non-qualified  
; portion of an ec2 instance's public hostname, falling back to the  
; non-qualified hostname portion of the machine's nodename  
Name = {{ globus_endpoint_name }}
```

From the playbook: (globus_username taken at prompt)

```
vars:  
  globus_endpoint_name: "{{ globus_username }}#{{ ansible_hostname }}"
```



Questions?

Please contact me at: jecoulte@iu.edu if you have any more questions, comments, or are interested in any sort of collaboration!

