Provisioning and Deployment

System Benchmarking and Deployment

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The main goal of this guide is to understand how to provision systems and deploy services in an automatic and reproducible fashion.

For the exercises described next, the following tools must be installed,

- Ansible - `http://ansible.com`

Ansible documentation is available at:

- Ansible - `http://docs.ansible.com/ansible/`
- Ansible Encrypted Passwords - `http://docs.ansible.com/ansible/latest/faq.html#how-do-i-generate-crypted-passwords-for-the-user-module`

Steps

Provisioning

1. Keep all files regarding Ansible in a Git repository (record and comment each fix)
2. After successful completion of **Task 01** run the same **Playbook** against Google Cloud Platform (GCP) instances.
3. Take into consideration:
   (a) Add a public key to GCP so it can be made available in the instance
   (b) Configure GCP firewall to allow external SSH access
   (c) Manually Create one or more GCP VM instances *(*don't forget to dispose of them, also, try the preemptible option)
   (d) Create an Ansible **Inventory** with the instances addresses (**Slide 18**)
   (e) Run the *ansible-playbook* command with the appropriate flags (**Slide 27**)
   (f) Check if everything worked out

Hints

1. Explore the *apt* module for updating and upgrading the system
2. Explore the *apt* module for installing packages
3. Explore the *user* module for user creation
4. Explore the *user, shell or command* for modifying group membership
5. Explore the *authorized_key* module to handle public keys
6. Explore the *lineinfile, copy or template* module for OpenSSH configuration
7. Explore the *service* module for handling service state

Testing

1. Login into the VM and check if all the changes described in **Steps** are satisfied
   (a) *apt upgrade* should not install any packages
   (b) Should be able to *login* and use *sudo* with the user *deployer*
   Should not be able to *login* with *root*
   (c) Should not be able to *login* with *deployer* using a password
   (d) Command *systemctl status ssh* should display active and enabled
   (e) Command *systemctl status openntpd* should display active and enabled
   (f) After logging in the changed MOTD should be displayed

Learning outcomes

Experiment systems provisioning and configuration management workflows with Ansible and Git. Develop playbooks that hold reproducible provisioning recipes. Understand the importance of task automation, self documentation and access to changes overtime.

Questions?

Feel free to email me your questions or issues regarding Provisioning & Deployment topic.