Introduction to SSH and Ansible

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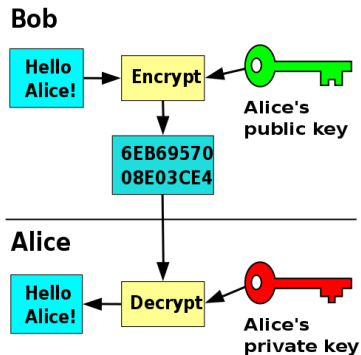October 17, 2018

Section 1

SSH

Overview

- ▶ Identify yourself on SSH servers with SSH keys
- ▶ No password is ever sent over the network (no bruteforce, MiM possibility)
- ▶ Transparent high security!
- ▶ Possibility to use a a different key per server

Asymmetric cryptography 101

SSH keys are generated in pairs:

- ▶ a private key
- ▶ a public key

Hands-on

- ▶ Check server access: `ssh user@server -p SSH_PORT`
- ▶ Generate key pair: `ssh-keygen`
- ▶ Copy to server: `ssh-copy-id user@server -p SSH_PORT`

Hands-on

▶ Add ssh key to ssh-agent:
  ▶ ssh-agent bash
  ▶ ssh-add ~/.ssh/id_rsa

Config

▶ Replace ssh user@server -p port -i identity-file

~/.ssh/config

```
# global options
User user

# host-specific options
Host myserver
HostName server-address
Port port
IdentityFile ~/.ssh/id_rsa_other
```

Section 2

Ansible

Intro

ANSIBLE

- ▶ Python / free software / supported by Red Hat
- ▶ Automation: configure servers, deploy stuff. . . Anything doable via CLI
- ▶ Agent-less
- ▶ Relies on SSH
- ▶ Nice learning curve

Why?

Pet vs Cattle

Why?

Pet vs Cattle

► Immutability

Ad-Hoc Commands

- ▶ ansible -i hosts all -m ping
- ▶ ansible -i hosts all -a "echo hello"

Playbooks

▶ Ansible scripts in YML
▶ Standard way to organize
▶ Can be version controlled
▶ Community-made playbooks: Ansible Galaxy

Structure

```
|-- hosts
|-- playbook.yml
|-- roles
    |-- my-role
        |-- tasks
            |-- main.yml
```

My first playbook

playbook.yml

```
---
- hosts: all
  remote_user: me
  roles:
  - my-role
```

Hands-on

- ▶ Clone ansible playbook at
  https://github.com/ghelouis/agame-player-playbook
- ▶ Complete missing parts indicated by TODO

Modules

- copy
- file

Answer: Copy jar to HOME

`main.yml`

```
- name: copy jar
  copy:
    src: "{{ jar_src }}"
    dest: "{{ ansible_env.HOME }}"
```

Answer: Remove jar

`main.yml`

```yaml
- name: remove jar
  file:
    path: "{{ jar }}"
    state: absent
```

Section 3

Resources

- ▶ wiki.archlinux.org/index.php/Secure_Shell
- ▶ wiki.archlinux.org/index.php/SSH_keys
- ▶ help.github.com/articles/connecting-to-github-with-ssh/
- ▶ en.wikipedia.org/wiki/Public-key_cryptography
- ▶ docs.ansible.com/