Felix Fontein

September 12th, 2023

Roadmap

- Unrelated things
- 2 What is SOPS?
- 3 How does it compare to Ansible Vault?
- Using SOPS with community.sops

Who am I?

Felix Fontein ('feːliks 'fontain)

• Ofelixfontein felixfontein:matrix.org (Matrix)

Ansible contributor

- (co-)maintainer of several community collections
 - \rightarrow among them community.sops
- co-maintainer of antsibull tools
- member of Ansible Community Steering Committee

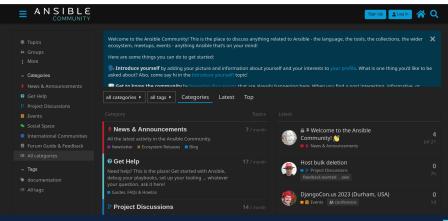
SOPS contributor

co-maintainer of SOPS (for 3 weeks by now)

Ansible Forum

Officially available since September 11th:

forum.ansible.com



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SOPS: Secrets OPerationS (1/3)

Secret handling tool https://github.com/getsops/sops

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 - ... but also binary files (Base64);
 - keys are not encrypted;
 - values and comments are encrypted.

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 - ... but also binary files (Base64);
 - keys are not encrypted;
 - values and comments are encrypted.
- Multiple identities can have access
 - GPG, Age, AWS KMS, Google Cloud KMS, Azure Key Vault, Hashicorp Vault
 - supports Shamir's Secret Sharing (need access to multiple identities to decrypt)

- Written and originally maintained by (ex-)Mozilla employees
- Effectively unmaintained since June 2022
 - A lot of community PRs, but no way to get them merged...
 - Or get a new release with some already merged bugfixes out...

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- May 2023: CNCF sandbox application accepted!

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- August 25th: 3.8.0-rc.1 pre-release

SOPS: Secrets OPerationS (3/3)

- Quick demo!
- Contents:
 - .sops.yaml config
 - example.sops.yaml file

SOPS

asymmetric crypto

Ansible Vault

• symmetric crypto

Other service (via plugin)

• "trust by contract"

 $\begin{array}{c} \mathsf{HashiVault}, \; \mathsf{BitWarden}, \; \longrightarrow \\ \mathsf{OnePasword}, \; \dots \end{array}$

SOPS

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Ansible Vault

- symmetric crypto
- → one passphrase per file

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- ⊕ access management

SOPS

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- multiple identities per file
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SOPS

- asymmetric crypto
- multiple identities per file
- no service needed
- → no native ∧ support

HashiVault, BitWarden, OnePasword. ...

Ansible Vault

- symmetric crypto
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Other service (via plugin)

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Ansible community.sops collection

- Originally PR for sops lookup plugin in ansible/ansible
- Merged into community.general after the big collection split
- ... and moved to own collection a few days later (June 2020)

Ansible community.sops collection: roles and playbooks

Roles

community.sops.install

Playbooks

- community.sops.install
- community.sops.install_localhost
 - → Useful for setting up Execution Environments

- Documentation on docs ansible.com
- Vars plugin: community.sops.sops
- Action plugin: community.sops.load_vars
- Lookup: community.sops.sops
- Filter: community.sops.decrypt
- Module: community.sops.sops_encrypt

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Vars plugin community.sops.sops

Load encrypted files directly from host_vars and group_vars as \(\infty\) variables.

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Action plugin community.sops.load_vars

Load encrypted file similar to ansible.builtin.include_vars as \(\int \) facts. Caveat: interpolation must be done at load time.

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Lookup community.sops.sops

```
Load encrypted file from disk:
lookup('community.sops.sops', '/path/to/file').
```

- Documentation on docs.ansible.com
- Vars plugin: community.sops.sops
- Action plugin: community.sops.load_vars
- Lookup: community.sops.sops
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Filter community.sops.decrypt

```
Decrypt data in Jinja2 expressions: encrypted_data | community.sops.decrypt.
```

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Module community.sops.sops_encrypt

Encrypt data with SOPS, for example output of another task: community.crypto.openssl_privatekey_pipe \rightarrow community.sops.sops_encrypt

Load encrypted data files as variables

```
- hosts: webserver
1
      vars_files:
2
        - data/letsencrypt.yml
3
      pre_tasks:
4
        - name: Load encrypted credentials
5
          community.sops.load_vars:
6
            file: keys/credentials.sops.yml
7
            expressions: ignore # or: evaluate-on-load
8
          tags: always
9
          no_log: true
10
      roles:
11
12
```

Note

Expressions must be evaluated on load time (\neq include_vars).

Create or update SOPS encrypted private key

```
- block:
1
     - community.crypto.openssl_privatekey_pipe:
2
        content: "{{lookup('community.sops.sops',
3
         'keys/private_key.pem.sops',
4
         empty_on_not_exist=true) | default(omit, true) }} "
5
       no_log: true
6
       register: private_key_temp
7
8
     - community.sops.sops_encrypt:
9
        path: keys/private_key.pem.sops
10
        content_text: "{{ private_key_temp.privatekey}}"
11
       when: private_key_temp.changed
12
13
     always:
14
     - ansible.builtin.set_fact:
15
        private_key_temp:
16
```

More demos!

• Demo!

Thank You for your attention!

Questions? Comments?

Link to demo repository