

# MANAGING SECRETS IN CODE WITH HASHICORP VAULT

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# WHO AM I?

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- Senior Systems Engineer
- Hashicorp Certified:Vault Associate
- Maintainer SecretManagement.Hashicorp.Vault.KV PowerShell Extension
- Terrible at golf



# WHAT IS IMPORTANT INFORMATION?

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## DEPENDS

- Finance
- Retail
- Education
- Government
- Technology





# SECRETS, PASSWORDS, TOKEN OHMY!

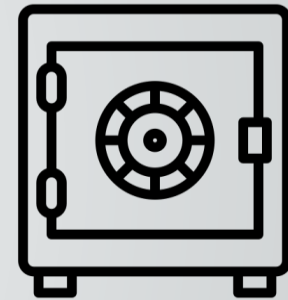
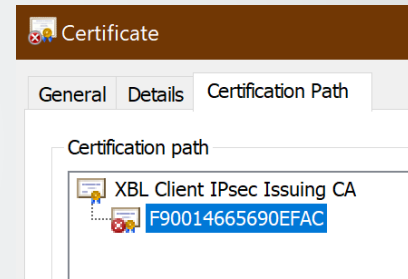
```

18 string simplo;
19 int length, in;
20 double dltcmp;
21 bool again = true;
22
23 while (again) {
24     in = -1;
25     again = false;
26     getline(cin, simplo);
27     system("cls");
28     stringstream(simplo) >> dltcmp;
29     string s = simplo.length();
30     length = s.length();
31     if (length < 4) {
32         again = true;
33         continue;
34     } else if (length[length - 3] != ".") {
35         again = true;
36         continue;
37     } while (again && length) {
38         if (isdigit(simplo[length]) {
39             continue;
40         } else if (in == (length - 3)) {
41             in;
42         }
43     }
44 }

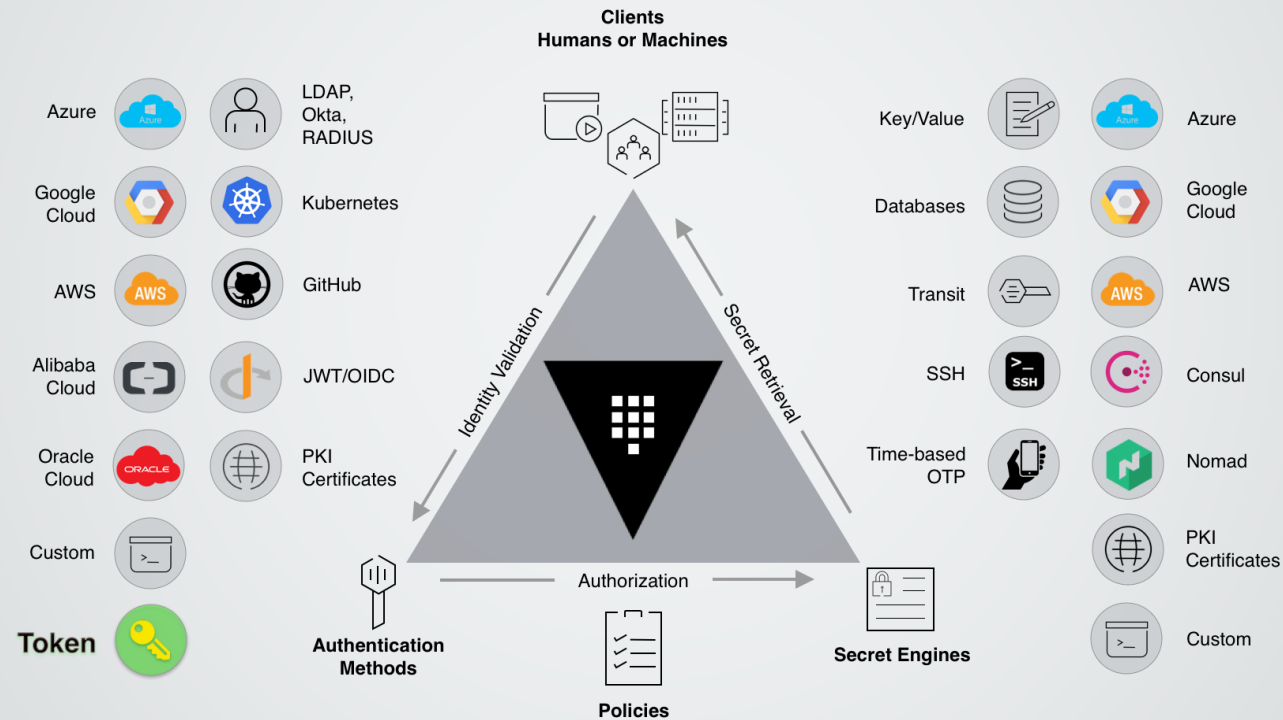
```

```
# app/config/parameters.yml
parameters:
    database_driver:    pdo_mysql
    database_host:      localhost
    database_name:      test_project
    database_user:      root
    database_password:  password
```

```
LANG=en_US.UTF-8
HISTCONTROL=ignoredups
HOSTNAME=vault.corrick.local
PASSWORD=hunter2
XDG_SESSION_ID=5071
USER=josh
SELINUX_ROLE_REQUESTED=
PWD=/home/josh
HOME=/home/josh
```

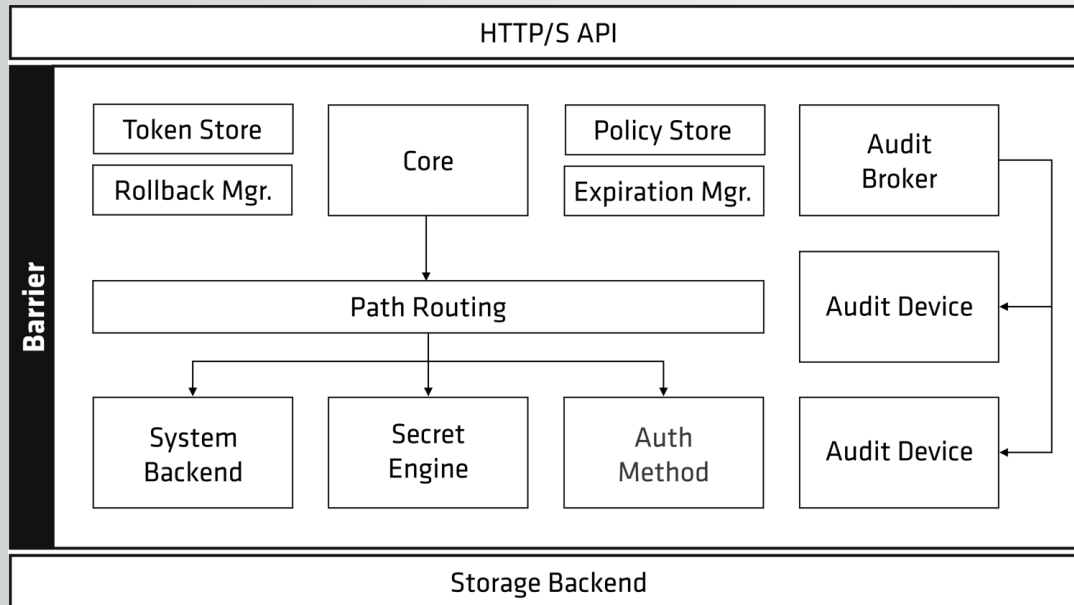


## Functionality vs Security



Images from: <https://learn.hashicorp.com/tutorials/vault/getting-started-intro?in=vault/getting-started>

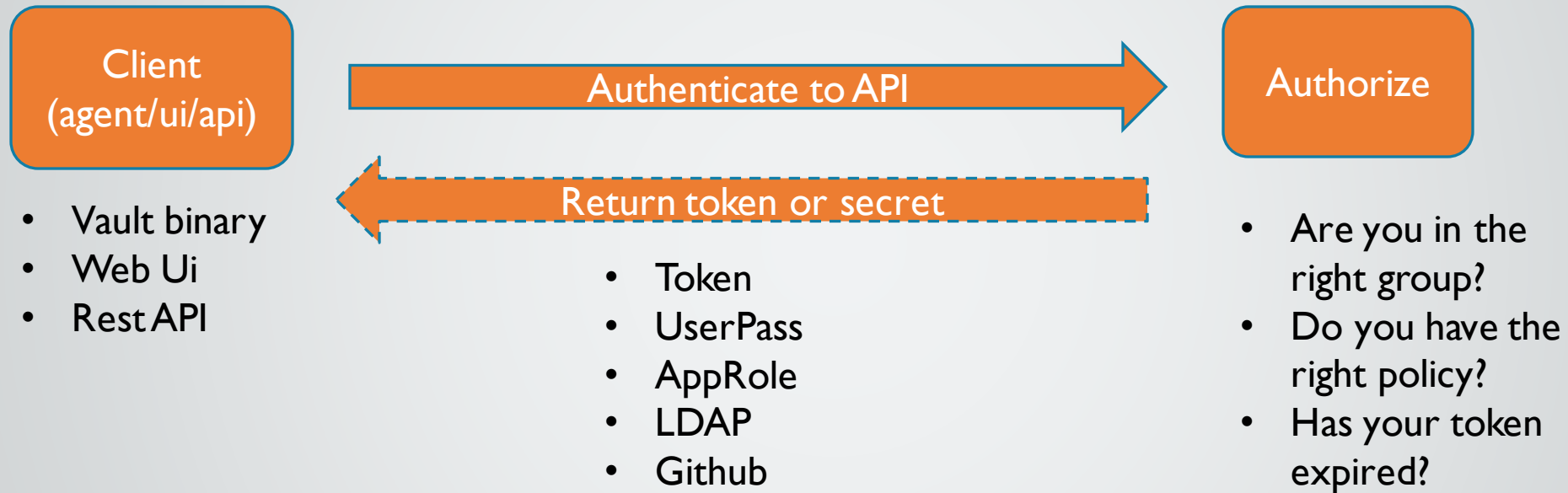
# HOW DOES THE SERVER WORK?



- HTTP/S API
- Barrier
- Storage Backend (Local / Consul)
- Master Key
  - Shamier's Secret Sharing Algorithm
- Encryption Key
- The core handles all request in the barrier

Images from: <https://www.vaultproject.io/docs/internals/architecture>

# CLIENT AUTHENTICATION





# DEMOS

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CoolCat Lemonade



# BENEFITS OF USING VAULT

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- Keeps secrets abstracted away
- Makes it easier to switch out
- Requires verification of access before retrieval
- Gives flexibility to deployment and tools



# THANKS!

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Follow me on Twitter or Collaborate on Github: @joshcorr



## #AutomationSummit

