**KV SECRET ENGINE**

**KV Secret engine Version1 :**

When running the kv secrets backend non-versioned only the most recently written value for a key will be preserved. The benefits of non-versioned kv is a reduced storage size for each key since no additional metadata or history is stored.

Enable kv secret engine with version 1.

Path : kv-v1/

**Path to write secret into kv version-1:**

**Adding user-1 :**

**vault write kv-v1/user1 username=lahari**

**Success! Data written to: kv-v1/user1**

**Adding user-2:**

**vault write kv-v1/user2 username=pavan**

**Success! Data written to: kv-v1/user2**

**Path to Read Secret for kv version-1:**

/kv-v1/pathForSecret

**Example :**

**vault read kv-v1/user1**

**output:**

**Key Value**

**username lahari**

**Curl command :**

curl \

--header "X-Vault-Token: s.9NuiX2lkeyVB8YhfC7ct3GDS" \

<http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv-v1/user2>

**output:**

{"request\_id":"02d7042d-a3b2-7848-5808-4e2a58f8e2f8","lease\_id":"","renewable":false,"lease\_duration":2764800,"data":{"username":"pavan"},"wrap\_info":null,"warnings":null,"auth":null}

**Path to list secret for kv version-1 :**

**vault list kv-v1/**

**output:**

**Keys**

**user1**

**user2**

**Path to delete the secret for kv version-1 :**

**First adding a new user murali:**

**vault write kv-v1/user3 username=murali**

**Success! Data written to: kv-v1/user3**

**List the users you can see the user3:**

**vault list kv-v1/**

**output:**

**Keys**

**user1**

**user2**

**user3**

**delete the secret in path user3 :**

**vault delete kv-v1/user3**

**Success! Data deleted (if it existed) at: kv-v1/user3**

NOTE :

Even with a ttl set, the secrets engine never removes data on its own.

**KV SECRET ENGINE VERSION-2**

When running v2 of the kv backend a key can retain a configurable number of versions. This defaults to 10 versions. The older versions' metadata and data can be retrieved.

When a version is deleted the underlying data is not removed, rather it is marked as deleted. Deleted versions can be undeleted. To permanently remove a version's data the destroy command or API endpoint can be used. Additionally all versions and metadata for a key can be deleted by deleting on the metadata command or API endpoint. Each of these operations can be ACL'ed differently, restricting who has permissions to soft delete, undelete, or fully remove data.

**Path To Write Secrets for Kv version-2:**

**kv.json:**

{

"data":{

"key1":"value1"

}

}

**curl \**

**--header "X-Vault-Token: s.9NuiX2lkeyVB8YhfC7ct3GDS" \**

**--request POST \**

**--data @kv.json \**

**http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/data/path1/demosecret**

**output:**

{"request\_id":"81a83867-195e-300d-51da-4ef80701d0d6","lease\_id":"","renewable":false,"lease\_duration":0,"data":{"created\_time":"2020-10-15T07:56:30.624252247Z","deletion\_time":"","destroyed":false,"version":1},"wrap\_info":null,"warnings":null,"auth":null}

Perform the same curl command by changing the data in json a version 2 will be created for the same secret the output will be as follows.

{"request\_id":"ab9c80ec-7be1-cc37-39b8-543f4f9e9467","lease\_id":"","renewable":false,"lease\_duration":0,"data":{"created\_time":"2020-10-15T08:00:03.126344223Z","deletion\_time":"","destroyed":false,"version":2},"wrap\_info":null,"warnings":null,"auth":null}

**Path to Read Secret for kv version-2**

**vault read kv1/lahari/secrets/data/path1/secret1**

Key Value

--- -----

data map[secret1:secret1]

metadata map[created\_time:2020-10-15T05:35:33.894083841Z deletion\_time: destroyed:false version:1]

**curl command to read secrets:**

With the following command you will get the latest version of secret:

curl --header "X-Vault-Token: s.9NuiX2lkeyVB8YhfC7ct3GDS" <http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/data/path1/secret1>

{"request\_id":"968bb060-da21-d6ff-fd20-8991a8f6642a","lease\_id":"","renewable":false,"lease\_duration":0,"data":{"data":{"secret123":"secret1"},"metadata":{"created\_time":"2020-10-15T05:35:33.894083841Z","deletion\_time":"","destroyed":false,"version":1}},"wrap\_info":null,"warnings":null,"auth":null}

We can also read secrets based on versions:

curl --header "X-Vault-Token: s.9NuiX2lkeyVB8YhfC7ct3GDS" http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/data/path1/secret1?version=1

{"request\_id":"d4c0af5d-06c2-818e-4906-f1e8d88460d3","lease\_id":"","renewable":false,"lease\_duration":0,"data":{"data":{"secret1":"secret1"},"metadata":{"created\_time":"2020-10-15T05:35:33.894083841Z","deletion\_time":"","destroyed":false,"version":1}},"wrap\_info":null,"warnings":null,"auth":null}

**Path to List Secret for kv version-2 :**

**vault list kv1/lahari/secrets/metadata/path1**

Keys

----

secret1

secret3

**Curl command to list secrets:**

curl --header "X-Vault-Token: s.9NuiX2lkeyVB8YhfC7ct3GDS" --request LIST <http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/metadata/path1>

**output:**

{"request\_id":"f9f57dfd-469b-495b-59a7-d0fcdb695b6d","lease\_id":"","renewable":false,"lease\_duration":0,"data":{"keys":["secret1","secret3"]},"wrap\_info":null,"warnings":null,"auth":null}

**Delete and undelete the version:**

This endpoint issues a soft delete of the specified versions of the secret. This marks the versions as deleted and will stop them from being returned from reads, but the underlying data will not be removed. It can be also be undone.

**Create a json file :**

Deletekv.json – u can give multiple versions to delete

{

"versions": [1]

}

curl \

--header "X-Vault-Token: s.9NuiX2lkeyVB8YhfC7ct3GDS" \

--request POST \

--data @deletekv.json \

<http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/delete/path1/demosecret>

**After delete if you try to retrieve the version you delete then you will get the following output:**

curl --header "X-Vault-Token: s.9NuiX2lkeyVB8YhfC7ct3GDS" [http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/data/path1/demosecret?"version"=1](http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/data/path1/demosecret?%22version%22=1)

{"request\_id":"84847309-5e78-171e-c815-3c2bc5d7ae13","lease\_id":"","renewable":false,"lease\_duration":0,"data":{"data":null,"metadata":{"created\_time":"2020-10-15T07:56:30.624252247Z","deletion\_time":"2020-10-15T08:07:31.163811942Z","destroyed":false,"version":1}},"wrap\_info":null,"warnings":null,"auth":null}

**UNDELETE THE VERSION:**

curl --header "X-Vault-Token: s.9NuiX2lkeyVB8YhfC7ct3GDS" --request POST --data @deletekv.json http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/unde

lete/path1/demosecret

read the deleted version now:

curl --header "X-Vault-Token: s.9NuiX2lkeyVB8YhfC7ct3GDS" [http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/data/path1/demosecret?"version"=1](http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/data/path1/demosecret?%22version%22=1)

{"request\_id":"24b28899-33ca-385c-7711-c30fb6705e23","lease\_id":"","renewable":false,"lease\_duration":0,"data":{"data":{"key1":"value1"},"metadata":{"created\_time":"2020-10-15T07:56:30.624252247Z","deletion\_time":"","destroyed":false,"version":1}},"wrap\_info":null,"warnings":null,"auth":null}

**Destroy secret will delete the version permanently :**

**Path :**

[**http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/destroy/path1/demosecret**](http://1c05353a-default-vault-c083-1304294467.ap-southeast-1.elb.amazonaws.com/v1/kv1/lahari/secrets/destroy/path1/demosecret)