

1a.

```
manasi@manasi-VirtualBox: ~  
etcd-v3.5.12-linux-amd64/Documentation/dev-guide/apispec/  
etcd-v3.5.12-linux-amd64/Documentation/dev-guide/apispec/swagger/  
etcd-v3.5.12-linux-amd64/Documentation/dev-guide/apispec/swagger/v3election.swag  
ger.json  
etcd-v3.5.12-linux-amd64/Documentation/dev-guide/apispec/swagger/rpc.swagger.js  
on  
etcd-v3.5.12-linux-amd64/Documentation/dev-guide/apispec/swagger/v3lock.swagger.  
json  
etcd-v3.5.12-linux-amd64/README-etcdctl.md  
etcd-v3.5.12-linux-amd64/README-etcdctl.md  
etcd-v3.5.12-linux-amd64/etcd  
manasi@manasi-VirtualBox:~$ rm -f /tmp/etcd-${ETCD_VER}-linux-amd64.tar.gz  
manasi@manasi-VirtualBox:~$ /tmp/etcd-download-test/etcd --version  
etcd Version: 3.5.12  
Git SHA: e7b3bb6cc  
Go Version: go1.20.13  
Go OS/Arch: linux/amd64  
manasi@manasi-VirtualBox:~$ /tmp/etcd-download-test/etcdctl version  
etcdctl version: 3.5.12  
API version: 3.5  
manasi@manasi-VirtualBox:~$ /tmp/etcd-download-test/etcdutl version  
etcdutl version: 3.5.12  
API version: 3.5  
manasi@manasi-VirtualBox:~$
```

2a.

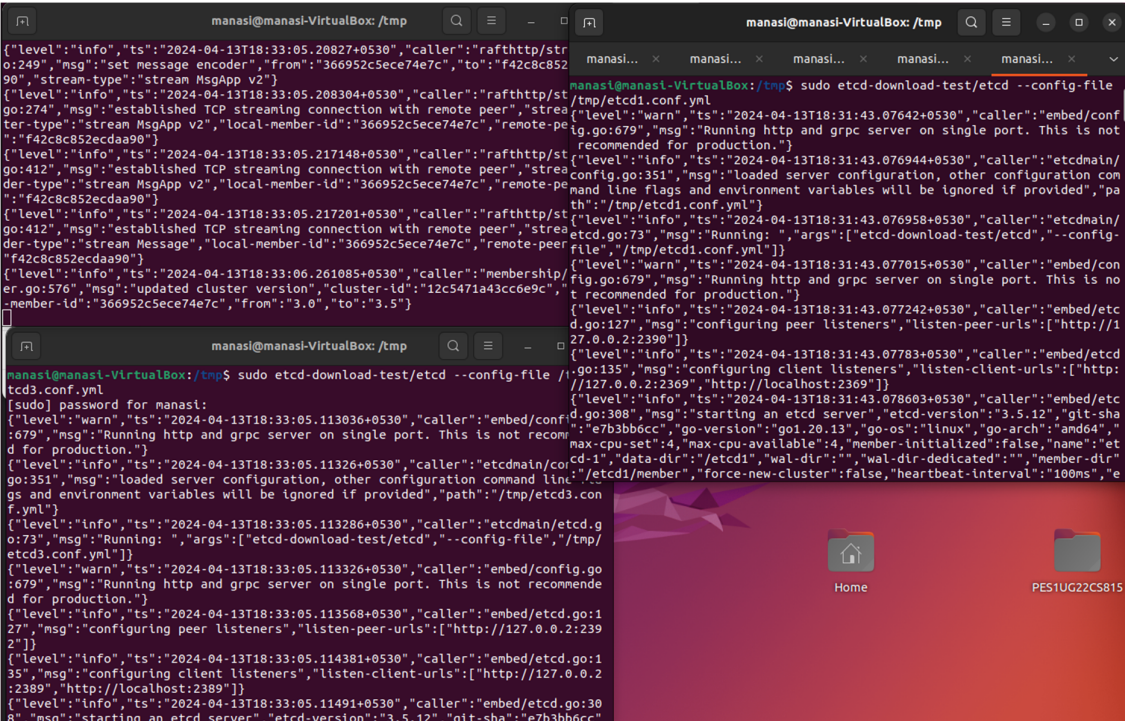
```
manasi@manasi-VirtualBox: ~/etcd  
manasi@manasi-VirtualBox:~/etcd$ /tmp/etcd-download-test/etcd  
{\"level\":\"warn\",\"ts\":\"2024-04-11T00:18:55.240828+0530\",\"caller\":\"embed/config.go  
:679\",\"msg\":\"Running http and grpc server on single port. This is not recommend  
ed for production.\"}  
{\"level\":\"info\",\"ts\":\"2024-04-11T00:18:55.240976+0530\",\"caller\":\"etcdmain/etcd.g  
o:73\",\"msg\":\"Running: \",\"args\":[\"/tmp/etcd-download-test/etcd\"]}  
{\"level\":\"warn\",\"ts\":\"2024-04-11T00:18:55.241005+0530\",\"caller\":\"etcdmain/etcd.g  
o:105\",\"msg\":\"'data-dir' was empty; using default\",\"data-dir\":\"default.etcd\"}  
{\"level\":\"warn\",\"ts\":\"2024-04-11T00:18:55.241035+0530\",\"caller\":\"embed/config.go  
:679\",\"msg\":\"Running http and grpc server on single port. This is not recommend  
ed for production.\"}  
{\"level\":\"info\",\"ts\":\"2024-04-11T00:18:55.241043+0530\",\"caller\":\"embed/etcd.go:1  
27\",\"msg\":\"configuring peer listeners\",\"listen-peer-urls\":[\"http://localhost:238  
0\"]}  
{\"level\":\"info\",\"ts\":\"2024-04-11T00:18:55.241448+0530\",\"caller\":\"embed/etcd.go:1  
35\",\"msg\":\"configuring client listeners\",\"listen-client-urls\":[\"http://localhost  
:2379\"]}  
{\"level\":\"info\",\"ts\":\"2024-04-11T00:18:55.241848+0530\",\"caller\":\"embed/etcd.go:3  
08\",\"msg\":\"starting an etcd server\",\"etcd-version\":\"3.5.12\",\"git-sha\":\"e7b3bb6cc  
\",\"go-version\":\"go1.20.13\",\"go-os\":\"linux\",\"go-arch\":\"amd64\",\"max-cpu-set\":4,\"ma  
x-cpu-available\":4,\"member-initialized\":false,\"name\":\"default\",\"data-dir\":\"defau  
lt.etcd\",\"wal-dir\":\"\",\"wal-dir-dedicated\":\"\",\"member-dir\":\"default.etcd/member\",  
\"force-new-cluster\":false,\"heartbeat-interval\":\"100ms\",\"election-timeout\":\"1s\",  
\"initial-election-tick-advance\":true,\"snapshot-count\":100000,\"max-wals\":5,\"max-sn  
apshots\":5,\"snapshot-catchup-entries\":5000,\"initial-advertise-peer-urls\":[\"http:  
//localhost:2380\"],\"listen-peer-urls\":[\"http://localhost:2380\"],\"advertise-clien  
t-urls\":[\"http://localhost:2379\"],\"listen-client-urls\":[\"http://localhost:2379\"],  
\"listen-metrics-urls\":[],\"cors\":[\"*\"],\"host-whitelist\":[\"*\"],\"initial-cluster\":  
\"default=http://localhost:2380\",\"initial-cluster-state\":\"new\",\"initial-cluster-t  
oken\":\"etcd-cluster\",\"quota-backend-bytes\":2147483648,\"max-request-bytes\":157286  
4,\"max-concurrent-streams\":4294967295,\"pre-vote\":true,\"initial-corrupt-check\":fa
```

2b

```
manasi@manasi-VirtualBox: /tmp
manasi@manasi-VirtualBox: /tmp$ ETCCTL_API=3 etcdctl --endpoints=localhost:2379
put srn pes1ug22cs815
OK
manasi@manasi-VirtualBox: /tmp$ ETCCTL_API=3 etcdctl --endpoints=localhost:2379
get srn
srn
pes1ug22cs815
manasi@manasi-VirtualBox: /tmp$ etcd-download-test/etcdctl watch srn
PUT
srn
pes1ug22cs815_manasi
```

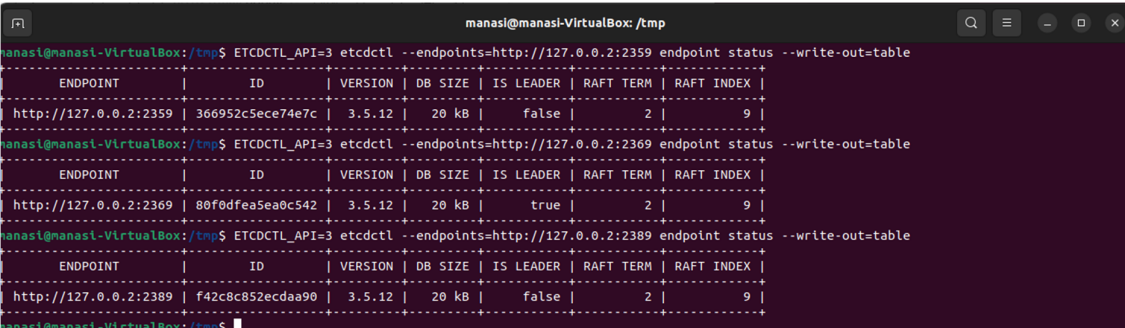
```
manasi@manasi-VirtualBox: /tmp
manasi@manasi-VirtualBox: /tmp$ ETCCTL_API=3 etcdctl --endpoints=localhost:2379
put srn pes1ug22cs815_manasi
OK
manasi@manasi-VirtualBox: /tmp$
```

3a



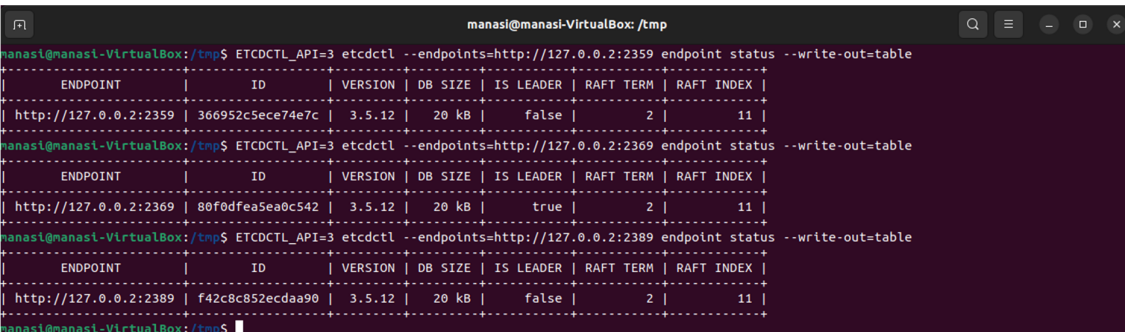
```
manasi@manasi-VirtualBox: /tmp$ sudo etcd-download-test/etcd --config-file /tmp/etcd3.conf.yml
{"level":"info","ts":"2024-04-13T18:33:05.208274+0530","caller":"rafthttp/stream.go:249","msg":"set message encoder","from":"366952c5ece74e7c","to":"f42c8c852cd8a90","stream-type":"stream MsgApp v2"}
{"level":"info","ts":"2024-04-13T18:33:05.208304+0530","caller":"rafthttp/stream.go:274","msg":"established TCP streaming connection with remote peer","stream-type":"stream MsgApp v2","local-member-id":"366952c5ece74e7c","remote-peer-id":"f42c8c852cd8a90"}
{"level":"info","ts":"2024-04-13T18:33:05.217148+0530","caller":"rafthttp/stream.go:412","msg":"established TCP streaming connection with remote peer","stream-type":"stream Message","local-member-id":"366952c5ece74e7c","remote-peer-id":"f42c8c852cd8a90"}
{"level":"info","ts":"2024-04-13T18:33:05.217201+0530","caller":"rafthttp/stream.go:412","msg":"established TCP streaming connection with remote peer","stream-type":"stream Message","local-member-id":"366952c5ece74e7c","remote-peer-id":"f42c8c852cd8a90"}
{"level":"info","ts":"2024-04-13T18:33:06.261085+0530","caller":"membership/peer.go:576","msg":"updated cluster version","cluster-id":"12c5471a43cc0e9c","member-id":"366952c5ece74e7c","from":"3.0","to":"3.5"}
manasi@manasi-VirtualBox: /tmp$ sudo etcd-download-test/etcd --config-file /tmp/etcd3.conf.yml
[sudo] password for manasi:
{"level":"warn","ts":"2024-04-13T18:33:05.113036+0530","caller":"embed/config.go:679","msg":"Running http and grpc server on single port. This is not recommended for production."}
{"level":"info","ts":"2024-04-13T18:33:05.11326+0530","caller":"etcdmain/config.go:351","msg":"loaded server configuration, other configuration command line flags and environment variables will be ignored if provided","path":"/tmp/etcd3.conf.yml"}
{"level":"info","ts":"2024-04-13T18:33:05.113286+0530","caller":"etcdmain/etcd.go:73","msg":"Running: ","args":["etcd-download-test/etcd","--config-file=/tmp/etcd3.conf.yml"]}
{"level":"warn","ts":"2024-04-13T18:33:05.11326+0530","caller":"embed/config.go:679","msg":"Running http and grpc server on single port. This is not recommended for production."}
{"level":"info","ts":"2024-04-13T18:33:05.113568+0530","caller":"embed/etcd.go:127","msg":"configuring peer listeners","listen-peer-urls":["http://127.0.0.2:2359","http://localhost:2369"]}
{"level":"info","ts":"2024-04-13T18:33:05.114381+0530","caller":"embed/etcd.go:135","msg":"configuring client listeners","listen-client-urls":["http://127.0.0.2:2389","http://localhost:2389"]}
{"level":"info","ts":"2024-04-13T18:33:05.11491+0530","caller":"embed/etcd.go:308","msg":"starting an etcd server","etcd-version":"3.5.12","git-sha":"e7b3bb6cc"}
manasi@manasi-VirtualBox: /tmp$
```

4a



```
manasi@manasi-VirtualBox: /tmp$ ETCDCCTL_API=3 etcdctl --endpoints=http://127.0.0.2:2359 endpoint status --write-out=table
+-----+-----+-----+-----+-----+-----+-----+
| ENDPOINT | ID | VERSION | DB SIZE | IS LEADER | RAFT TERM | RAFT INDEX |
+-----+-----+-----+-----+-----+-----+-----+
| http://127.0.0.2:2359 | 366952c5ece74e7c | 3.5.12 | 20 kB | false | 2 | 9 |
+-----+-----+-----+-----+-----+-----+-----+
manasi@manasi-VirtualBox: /tmp$ ETCDCCTL_API=3 etcdctl --endpoints=http://127.0.0.2:2369 endpoint status --write-out=table
+-----+-----+-----+-----+-----+-----+-----+
| ENDPOINT | ID | VERSION | DB SIZE | IS LEADER | RAFT TERM | RAFT INDEX |
+-----+-----+-----+-----+-----+-----+-----+
| http://127.0.0.2:2369 | 80f0dfea5ea0c542 | 3.5.12 | 20 kB | true | 2 | 9 |
+-----+-----+-----+-----+-----+-----+-----+
manasi@manasi-VirtualBox: /tmp$ ETCDCCTL_API=3 etcdctl --endpoints=http://127.0.0.2:2389 endpoint status --write-out=table
+-----+-----+-----+-----+-----+-----+-----+
| ENDPOINT | ID | VERSION | DB SIZE | IS LEADER | RAFT TERM | RAFT INDEX |
+-----+-----+-----+-----+-----+-----+-----+
| http://127.0.0.2:2389 | f42c8c852cd8a90 | 3.5.12 | 20 kB | false | 2 | 9 |
+-----+-----+-----+-----+-----+-----+-----+
manasi@manasi-VirtualBox: /tmp$
```

4b



```
manasi@manasi-VirtualBox: /tmp$ ETCDCCTL_API=3 etcdctl --endpoints=http://127.0.0.2:2359 endpoint status --write-out=table
+-----+-----+-----+-----+-----+-----+-----+
| ENDPOINT | ID | VERSION | DB SIZE | IS LEADER | RAFT TERM | RAFT INDEX |
+-----+-----+-----+-----+-----+-----+-----+
| http://127.0.0.2:2359 | 366952c5ece74e7c | 3.5.12 | 20 kB | false | 2 | 11 |
+-----+-----+-----+-----+-----+-----+-----+
manasi@manasi-VirtualBox: /tmp$ ETCDCCTL_API=3 etcdctl --endpoints=http://127.0.0.2:2369 endpoint status --write-out=table
+-----+-----+-----+-----+-----+-----+-----+
| ENDPOINT | ID | VERSION | DB SIZE | IS LEADER | RAFT TERM | RAFT INDEX |
+-----+-----+-----+-----+-----+-----+-----+
| http://127.0.0.2:2369 | 80f0dfea5ea0c542 | 3.5.12 | 20 kB | true | 2 | 11 |
+-----+-----+-----+-----+-----+-----+-----+
manasi@manasi-VirtualBox: /tmp$ ETCDCCTL_API=3 etcdctl --endpoints=http://127.0.0.2:2389 endpoint status --write-out=table
+-----+-----+-----+-----+-----+-----+-----+
| ENDPOINT | ID | VERSION | DB SIZE | IS LEADER | RAFT TERM | RAFT INDEX |
+-----+-----+-----+-----+-----+-----+-----+
| http://127.0.0.2:2389 | f42c8c852cd8a90 | 3.5.12 | 20 kB | false | 2 | 11 |
+-----+-----+-----+-----+-----+-----+-----+
manasi@manasi-VirtualBox: /tmp$
```