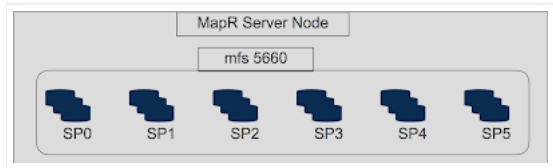


## Multi MFS

### Multi MFS

For MapR deployments on clusters with SSDs more fileserver instances can be configured on every node . On servers with SSDs automatically enabled (2 instances). This was designed since with High network and disk throughput MFS process was becoming

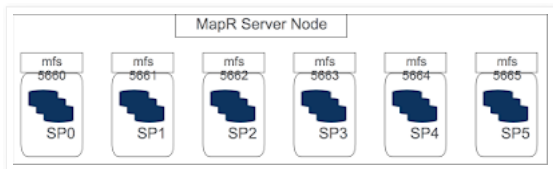


This blog assumes you have a 5.2 MapR cluster installed and has nodes with 6 SP's created ( 1 SSD per SP )

1) To configure 6 instances i.e 1 instance per SP run below command and restart warden .

```
maprecli config save -values {"multimfs.numinstances.pernode":"6"}
```

Once the fileserver come up they would have 6 instances running on each node.



You can confirm by running below commands.

i) /opt/mapr/server/mrconfig info instances

```
6
5660 5661 5662 5663 5664 5665
```

Or

ii) Below command gives SP layout along with port on which instance is started.

```
opt/mapr/server/mrconfig sp list -v
ListSPs resp: status 0:6
No. of SPs (6), totalsize 1350248 MB, totalfree 1346902 MB
```

```
SP 0: name SP1, Online, size 225041 MB, free 224481 MB, path /dev/sdb, log 200 MB, port 5660, guid 8cd70192656eb99200567f391f013f71, cluster
-7342816723903035526, disks /dev/sdb
SP 1: name SP2, Online, size 225041 MB, free 224498 MB, path /dev/sdd, log 200 MB, port 5661, guid 4d1ce1445bb7895200567f392304a1b8, cluster
-7342816723903035526, disks /dev/sdd
SP 2: name SP3, Online, size 225041 MB, free 224501 MB, path /dev/sdc, log 200 MB, port 5662, guid 82c3bef9e8b7107000567f392707cea1, clusterl
-7342816723903035526, disks /dev/sdc
```

SP 3: name SP4, Online, size 225041 MB, free 224446 MB, path /dev/sde, log 200 MB, port 5663, guid 625c0c900f7e9ce500567f392b0b1f75, clusterL-7342816723903035526, disks /dev/sde

SP 4: name SP5, Online, size 225041 MB, free 224496 MB, path /dev/sdf, log 200 MB, port 5664, guid 3984f36383daabe000567f392f0d5cac, clusterL-7342816723903035526, disks /dev/sdf

SP 5: name SP6, Online, size 225041 MB, free 224478 MB, path /dev/sdg, log 200 MB, port 5665, guid 8396bc5ee969dafd00567f3934025547, clusterL-7342816723903035526, disks /dev/sdg

or

```
mapreli config load -json | grep multimfs.numinstances.pernode
"multimfs.numinstances.pernode": "6",
```

2) Any mrconfig commands will give details of all Instances .

```
/opt/mapr/server/mrconfig info threads
```

```
-----
|From Instance 5660::|
-----
No Running threads
```

```
-----
|From Instance 5661::|
-----
No Running threads
```

```
-----
|From Instance 5662::|
-----
No Running threads
```

```
-----
|From Instance 5663::|
-----
No Running threads
```

```
-----
|From Instance 5664::|
-----
No Running threads
```

```
-----
|From Instance 5665::|
-----
No Running threads
```

3) To get details for any specific instance run below command.

```
/opt/mapr/server/mrconfig -i -h `hostname -f` -p 5661 info threads
```

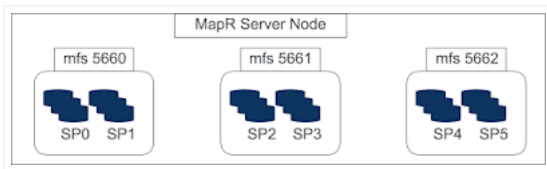
```
-----
|From Instance 5661::|
-----
No Running threads
```

NOTE : - If for any reason you need a specific host to have different number of instances you can achieve via below ways followed by warden restart fi

```
mapreli node modify -nodes <HOSTNAME> -numInstances 3
```

or

```
mv /opt/mapr/conf/mfsinstances_6 /opt/mapr/conf/mfsinstances_3
```



## Understanding Logs

Additional log files are created in `$MAPR_HOME/logs` when this feature enabled.

Log files: one per instance: `mfs.log-<N>` and `mfs.log.<instanceID>-<N>`, where `<N>` is greater than 0. For example:

- - `mfs.log-3` for the primary instance
  - `mfs.log.1-3` for the second instance

Example of logs for my 6 instances :

```
ls mfs.log*-3
mfs.log.1-3 mfs.log.2-3 mfs.log-3 mfs.log.3-3 mfs.log.4-3 mfs.log.5-3
```

When Instances come up below is logged in the log messages in `mfs.log*-3`, from below logs we can cross check which SP/disk is assigned to which instance . Also

Instance 1

```
2015-12-27 01:26:38,2768 INFO loadsp.cc:216 InitStoragePools from disktab, instance 0 numInstances 6
2015-12-27 01:26:38,2769 INFO iomgr.cc:2705 found 6 disks in disktab
2015-12-27 01:26:56,9202 INFO spinit.cc:1045 SP SP1:/dev/sdb Initialized
2015-12-27 01:26:56,9202 INFO loadsp.cc:182 Done loading disks from disktab for instance 0
2015-12-27 01:26:57,0399 INFO cldbha.cc:532 Got registration request from instance 4, numInstances 6
2015-12-27 01:26:57,6216 INFO cldbha.cc:532 Got registration request from instance 2, numInstances 6
2015-12-27 01:26:58,2328 INFO cldbha.cc:532 Got registration request from instance 0, numInstances 6
2015-12-27 01:26:58,2549 INFO cldbha.cc:532 Got registration request from instance 5, numInstances 6
2015-12-27 01:26:58,8337 INFO cldbha.cc:532 Got registration request from instance 3, numInstances 6
2015-12-27 01:27:02,6280 INFO filesrvr.cc:11207 Registered with cldb 10.10.72.18:7222
```

Instance 2

```
2015-12-27 01:26:56,9048 INFO spinit.cc:1045 SP SP2:/dev/sdc Initialized
2015-12-27 01:26:56,9048 INFO loadsp.cc:182 Done loading disks from disktab for instance 1
```

Instance 3

```
2015-12-27 01:26:56,9274 INFO spinit.cc:1045 SP SP3:/dev/sdd Initialized
2015-12-27 01:26:56,9274 INFO loadsp.cc:182 Done loading disks from disktab for instance 2
2015-12-27 01:26:57,6215 INFO cldbha.cc:487 Switching to primary instance to register with CLDB
```

Instance 4

```
2015-12-27 01:26:56,9100 INFO spinit.cc:1045 SP SP4:/dev/sde Initialized
2015-12-27 01:26:56,9100 INFO loadsp.cc:182 Done loading disks from disktab for instance 3
2015-12-27 01:26:58,8336 INFO cldbha.cc:487 Switching to primary instance to register with CLDB
```

Instance 5

```
2015-12-27 01:26:56,8195 INFO spinit.cc:1045 SP SP5:/dev/sdf Initialized
2015-12-27 01:26:56,8195 INFO loadsp.cc:182 Done loading disks from disktab for instance 4
2015-12-27 01:26:57,0399 INFO cldbha.cc:487 Switching to primary instance to register with CLDB
```

Instance 6

```
2015-12-27 01:26:56,9032 INFO spinit.cc:1045 SP SP6:/dev/sdg Initialized
2015-12-27 01:26:56,9032 INFO loadsp.cc:182 Done loading disks from disktab for instance 5
2015-12-27 01:26:58,2548 INFO cldbha.cc:487 Switching to primary instance to register with CLDB
```

CLDB logs :

10/4/2018

## AWS/Azure(Cloud)/Spark/Hadoop / Linux : Multi MFS

2015-12-27 01:27:02,545 INFO FileServerHandler [RPC-2]: FSRegister: Registered FileServer: 10.10.72.18- at topology /default-rack/tss2-18/5660

2015-12-27 01:27:02,546 INFO FileServerHandler [RPC-2]: FileServer Registration Request: Node Configuration

2015-12-27 01:27:02,546 INFO FileServerHandler [RPC-2]: NumCpus: 24 Avail Memory: 22503 Num Sps: 6 Num Instances: 6

From the logs we can see although all the instances start in succession but they do not individually come and register with CLDB but it actually switches to Primary i

Posted by Abizer Adenwala at 12:10 AM

