

HyperFlex Zookeeper J UCS جمانرب ةمدخ حرش اهنم ققحتلاو

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ةمدقملا

يلع ةعزوملا ةمظنألل ةيزكرم ةمدخ ساسألل يف هه يتلا، ZooKeeper دنن تسمل اذه فص ي
نم ازملا ةمدخ و عزوملا نيوكتل ةمدخ ري فوتل اهم ادختسا متي و. ةيسيسيئر ةميق وذي مره نزم
نم يلاعلا رفاوتلا ZooKeeper ةينب معدت. ةري بلكلا ةعزوملا ةمظنألل ةيمستلا ليجست و
تان او يجلل ةقيدخل رخآ مي عز اولأسي نأ ءالمعلا عيطتسي يلاتلاب و. ةرركتملا تامدخل لال خ
، ةيمره مسا ءحاسم يف اهاتاناي ب نيزختب ZooKeeper دقعلا موقت. ةباجلا يف لوالا لشف اذا
نم ءارقلا ءالمعلا نكمي. ءرخللا تاناي ةينب و تافلما ماظن ري ب كح لىل هبشت
رابتعلا نكمي و. ءكرتشم نيوكت ةمدخ مهيدل نوكت ةقيرطلا هذبه و اهليل ءباتكلا و دقعلا
لملك لشب تاثير دحتلا بلط هلالخ نم متي يرد ثب ماظن ءباتمب ZooKeeper.

ةيلاتلا ةيسيسيئرلا تازيمل ZooKeeper رفوت:

- لمعلا يف رمتسي هنأل ةري ب ك ءجردب هيلع دامتعالا نكمي ماظنلا - ةقثللاب ري دج ماظن
دقعلا يدخل لشف ءلاح يف يتح.
 - مسا ءحاسم مدختست شح؛ ءماتلا ءاسبلا ZooKeeper ةينب زيمنتت - ءطيسب ةينب
ةيلمعلا قيسنت يف دعاسي امم، ءكرتشم ةيمره.
 - يلع دمتعت يتلا لمعلا لامحال صاخ لكشب ءعيرس ZooKeeper دعت - ءعيرس ءجالع
ءارقلا.
 - دقعلا ءفاضلا لالخ نم ZooKeeper جمانرب ءادا نيسحت نكمي - ريوطتلا ءيلباق.
- ددحمل قيبطتلا اذه كانه، HX يف:

- ءرادلا جمانرب ليغشت فاقيل/ليغشت ءدب ءرادلا **ضراعلا** يمست يتلا ءمدخل موقت
ناويجل.
- TCP 2181 ذفنم ربع لصتت و Zookeeper ل ءالمع هه HX ءومجم نمض ءدوحو مل تايلملعلا
لكلذ لىل ام و STMGR و قباسلا.
- ال. لقتسم لكشب دقعلا ضع ب دقع سمخ نم رثكأ لىل ءوتحت يتلا ءمظنألل نوكتسي
لقتسم لكشب ءدقع لىل لقا و دقع سمخ لىل ءوتحت يتلا ءمظنألل ءوتحت نأ بجي
اقلطم.
- $N/2 + 1 =$ باصنلل ءبولطملا دقعلا ددعل ىندال دحل.

$1 + 1 = 2$ لىل ءبرقم $N/2 = 1.5$ - دقع ثالث نم ءنوكم ءومجمل ءبسنلاب، لاثملا لىبس لىل
(طقف ءدحاو ءدقع لشف عم ءماسنلا نكمي)

$2 + 1 = 3$ لىل ءبرقم $N/2 = 2.5$ - دقع سمخ نم ءنوكم ءومجمل ءبسنلاب، لاثملا لىبس لىل
(طقف ني دقع تاقافخاب ءامسلا نكمي)

نيتدق ع لشف يوس لمحتت ال كنإف، ZK ةومجمل طقف دق ع سمخ ب ال مق ت مل كنأل ارظنو
ةبراقتم ال دق ع ال اذ ع ق دص يو. ةومجمل ماظن يف دق ع ال نم دد ع يأل صقأ دك

ضراع ال ةمدخ ةلح نم ققحت ال

```
root@SpringpathControllerMSH7NHXRFL:/var/log/zookeeper# service exhibitor status
exhibitor start/running, process 4905
```

```
root@help:/var/log/springpath# ps -aux | grep -i exhibitor
root 12519 0.0 0.2 4690592 198892 ? Ssl May19 7:19 exhibitor -cp exhibitor.jar:/etc/exhibitor/ -
Xmx256M -XX:+HeapDumpOnOutOfMemoryError -
XX:HeapDumpPath=/var/log/exhibitor_heap_dump_2019_05_19_22:19:48.hprof -
Dlog4j.configuration=file:///etc/exhibitor/log4j.properties -
Dspringpath.zkdownscript=/usr/share/springpath/storfs-misc/zkMonitor.sh -
Djava.security.egd=file:/dev/./urandom -jar exhibitor.jar --hostname 10.197.252.100 -c file --
fsconfigdir /etc/exhibitor --port 8180 --listenaddress 10.197.252.100
root@help:/var/log/springpath# pidof exhibitor
12519
```

ةمدخ Query Zookeeper

ةلح ال نع مالعتس الال نم كنكمت فرحاً ةعبراً نم ةنوكم رم اوأ ةغاي ص ل ع Zookeeper يوتحت
ك ل ذ ل امو، دق ع ال دد ع و، ةمئاق ل ال اصت ا ضر ع و

ق ف اوم تنأ له (ruok ==> - ةي ل حم ل ال دق ع ال ل ع ناوي ل ال ةي ام ح جم ان رب ةلح نم ققحت
imok=> انا ق ف اوم).

```
root@SpringpathControllerMSH7NHXRFL:/var/log/zookeeper# echo ruok|nc localhost 2181
imok
```

ع بات وأ دئاق ةق ي دح ل سراح ناك اذا ام ققحت

```
root@SpringpathControllerMSH7NHXRFL:/var/log/zookeeper# echo srvr | nc localhost 2181
Zookeeper version: 3.4.6--1, built on 06/16/2015 22:50 GMT
Latency min/avg/max: 0/0/101
Received: 213128515
Sent: 213164119
Connections: 6
Outstanding: 0
Zxid: 0xa000301d0
Mode: leader
Node count: 17090
```

```
root@SpringpathControllerMSH7NHXRFL:/var/log/zookeeper# echo stat | nc localhost 2181
Zookeeper version: 3.4.6--1, built on 06/16/2015 22:50 GMT
Clients:
/192.168.5.161:56128[1](queued=0,recved=169146196,sent=169162634)
/192.168.5.161:38614[1](queued=0,recved=186015,sent=186017)
/192.168.5.164:44412[1](queued=0,recved=184398,sent=184399)
/192.168.5.164:44447[1](queued=0,recved=561168,sent=563034)
/127.0.0.1:60060[0](queued=0,recved=1,sent=0)
/192.168.5.161:58754[1](queued=0,recved=39233,sent=39261)
```

```
Latency min/avg/max: 0/0/101
Received: 213109927
Sent: 213145531
```

```
Connections: 6
Outstanding: 0
Zxid: 0xa000301d0
Mode: leader
Node count: 17090
```

```
root@SpringpathControllerMSH7NHXRFL:/var/log/zookeeper# echo mntr | nc localhost 2181
zk_version      3.4.6--1, built on 06/16/2015 22:50 GMT
zk_avg_latency  0
zk_max_latency  101
zk_min_latency  0
zk_packets_received 213148668
zk_packets_sent  213184272
zk_num_alive_connections 6
zk_outstanding_requests 0
zk_server_state  leader
zk_znode_count  17090
zk_watch_count  4305
zk_ephemerals_count 20
zk_approximate_data_size 1831768
zk_open_file_descriptor_count 43
zk_max_file_descriptor_count 4096
zk_followers    3
zk_synced_followers 3
zk_pending_syncs 0
```

ن اويحل اةي امح جم انرب ني وك ت نم ق قح ت:

```
root@SpringpathControllerMSH7NHXRFL:/var/log/zookeeper# echo conf | nc localhost 2181
clientPort=2181
dataDir=/var/zookeeper/version-2
dataLogDir=/var/zookeeper/version-2
tickTime=3000
maxClientCnxns=60
minSessionTimeout=6000
maxSessionTimeout=60000
serverId=3
initLimit=10
syncLimit=3
electionAlg=3
electionPort=3888
quorumPort=2888
peerType=0
```

رشابم دادع| ي ف Zookeeper ل ج س ت اف لم

يلع رو ثع ل ا ي ف ه ذه ل ج س ل ا ت اف لم دع اس ت س ، Zookeeper ت ام دخ ي ف ل ك اش م ي ا دوج وة ل ا ح ي ف ي ر ا ث ا :

- /var/log/zookeeper/keeper* - ف ي ش ر ا ل ا ي ف ة ظ و ف ح م ل ا ت ا ل ج س ل ا ب ظ ا ف ت ح ا ل ا - /var/log/zookeeper/keeper*
- /var/log/springpath/zk-*
- /var/log/springpath/exhibitor.log

```
root@SpringpathControllerMSH7NHXRFL:/var/log/zookeeper# grep -i leader
/var/log/zookeeper/zookeeper.log*
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:59:26,088 [myid:3] - INFO
[QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Leader@60] - TCP NoDelay set to: true
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:59:26,099 [myid:3] - INFO
[QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Leader@358] - LEADING - LEADER ELECTION TOOK - 354
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:59:26,120 [myid:3] - INFO [LearnerHandler-
```

```
/192.168.5.164:36487:LearnerHandler@522] - Received NEWLEADER-ACK message from 0
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:59:26,120 [myid:3] - INFO [LearnerHandler-
/192.168.5.163:43451:LearnerHandler@522] - Received NEWLEADER-ACK message from 1
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:59:26,120 [myid:3] - INFO
[QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Leader@943] - Have quorum of supporters, sids: [ 0,1,3
]; starting up and setting last processed zxid: 0x100000000
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:59:26,272 [myid:3] - INFO
[WorkerReceiver[myid=3]:FastLeaderElection@597] - Notification: 1 (message format version), 3
(n.leader), 0x0 (n.zxid), 0x1 (n.round), LOOKING (n.state), 2 (n.sid), 0x0 (n.peerEpoch) LEADING
(my state)
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:59:26,291 [myid:3] - INFO [LearnerHandler-
/192.168.5.162:48778:LearnerHandler@486] - Sending snapshot last zxid of peer is 0x0 zxid of
leader is 0x100000000sent zxid of db as 0x100000000
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:59:26,298 [myid:3] - INFO [LearnerHandler-
/192.168.5.162:48778:LearnerHandler@522] - Received NEWLEADER-ACK message from 2
```

```
root@SpringpathControllerMSH7NHXRFL:/var/log/zookeeper# grep -i warn
```

```
/var/log/zookeeper/zookeeper.log*
```

```
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:46:30,354 [myid:] - WARN
[main:QuorumPeerMain@113] - Either no config or no quorum defined in config, running in
standalone mode
/var/log/zookeeper/zookeeper.log.7:2016-10-14 22:52:55,238 [myid:] - WARN
[main:QuorumPeerMain@113] - Either no config or no quorum defined in config, running in
standalone mode
```

```
root@SpringpathControllerMSH7NHXRFL:/var/log/zookeeper# grep -i goodbye
```

```
/var/log/zookeeper/zookeeper.log*
```

```
/var/log/zookeeper/zookeeper.log.1:2017-01-23 03:55:50,429 [myid:3] - WARN [LearnerHandler-
/192.168.5.163:44118:LearnerHandler@646] - ***** GOODBYE /192.168.5.163:44118 *****
/var/log/zookeeper/zookeeper.log.1:2017-01-24 23:30:14,956 [myid:3] - WARN [LearnerHandler-
/192.168.5.164:44720:LearnerHandler@646] - ***** GOODBYE /192.168.5.164:44720 *****
/var/log/zookeeper/zookeeper.log.3:2016-12-01 23:45:22,510 [myid:3] - WARN [LearnerHandler-
/192.168.5.164:44051:LearnerHandler@646] - ***** GOODBYE /192.168.5.164:44051 *****
/var/log/zookeeper/zookeeper.log.3:2016-12-08 00:36:37,752 [myid:3] - WARN [LearnerHandler-
/192.168.5.162:46577:LearnerHandler@646] - ***** GOODBYE /192.168.5.162:46577 *****
/var/log/zookeeper/zookeeper.log.4:2016-11-22 23:45:30,957 [myid:3] - WARN [LearnerHandler-
/192.168.5.163:49016:LearnerHandler@646] - ***** GOODBYE /192.168.5.163:49016 *****
/var/log/zookeeper/zookeeper.log.4:2016-11-23 00:03:59,397 [myid:3] - WARN [LearnerHandler-
/192.168.5.164:45952:LearnerHandler@646] - ***** GOODBYE /192.168.5.164:45952 *****
/var/log/zookeeper/zookeeper.log.4:2016-12-01 22:51:00,538 [myid:3] - WARN [LearnerHandler-
/192.168.5.163:45284:LearnerHandler@646] - ***** GOODBYE /192.168.5.163:45284 *****
/var/log/zookeeper/zookeeper.log.5:2016-11-10 23:39:47,477 [myid:3] - WARN [LearnerHandler-
/192.168.5.163:43576:LearnerHandler@646] - ***** GOODBYE /192.168.5.163:43576 *****
/var/log/zookeeper/zookeeper.log.5:2016-11-11 00:49:39,782 [myid:3] - WARN [LearnerHandler-
/192.168.5.164:35219:LearnerHandler@646] - ***** GOODBYE /192.168.5.164:35219 *****
```

ةقيدحل اسراح لوخد ليجست راي تخ | - تالجلس الل ضعب

```
2017-01-22 23:47:29,427 [myid:3] - INFO [Thread-2:QuorumCnxManager$Listener@504] - My election
bind port: /192.168.5.161:3888
2017-01-22 23:47:29,435 [myid:3] - INFO
[QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:QuorumPeer@714] - LOOKING
2017-01-22 23:47:29,438 [myid:3] - INFO
[QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:FastLeaderElection@815] - New election. My id = 3,
proposed zxid=0x9000a6b4d
2017-01-22 23:47:29,443 [myid:3] - INFO [WorkerReceiver[myid=3]:FastLeaderElection@597] -
Notification: 1 (message format version), 2 (n.leader), 0x800055ea0 (n.zxid), 0x1 (n.round),
FOLLOWING (n.state), 0 (n.sid), 0x9 (n.peerEpoch) LOOKING (my state)
2017-01-22 23:47:29,444 [myid:3] - INFO [WorkerReceiver[myid=3]:FastLeaderElection@597] -
Notification: 1 (message format version), 2 (n.leader), 0x800055ea0 (n.zxid), 0x1 (n.round),
FOLLOWING (n.state), 1 (n.sid), 0x9 (n.peerEpoch) LOOKING (my state)
```

2017-01-22 23:47:29,444 [myid:3] - INFO [WorkerReceiver[myid=3]:FastLeaderElection@597] - Notification: 1 (message format version), 3 (n.leader), 0x9000a6b4d (n.zxid), 0x1 (n.round), LOOKING (n.state), 3 (n.sid), 0x9 (n.peerEpoch) LOOKING (my state)
2017-01-22 23:47:29,444 [myid:3] - INFO [WorkerReceiver[myid=3]:FastLeaderElection@597] - Notification: 1 (message format version), 2 (n.leader), 0x800055ea0 (n.zxid), 0x1 (n.round), FOLLOWING (n.state), 1 (n.sid), 0x9 (n.peerEpoch) LOOKING (my state)
2017-01-22 23:47:29,445 [myid:3] - INFO [WorkerReceiver[myid=3]:FastLeaderElection@597] - Notification: 1 (message format version), 2 (n.leader), 0x800055ea0 (n.zxid), 0x1 (n.round), LEADING (n.state), 2 (n.sid), 0x9 (n.peerEpoch) LOOKING (my state)
2017-01-22 23:47:29,445 [myid:3] - INFO [WorkerReceiver[myid=3]:FastLeaderElection@597] - Notification: 1 (message format version), 2 (n.leader), 0x800055ea0 (n.zxid), 0x1 (n.round), FOLLOWING (n.state), 0 (n.sid), 0x9 (n.peerEpoch) LOOKING (my state)
2017-01-22 23:47:29,446 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:QuorumPeer@784] - FOLLOWING
2017-01-22 23:47:29,449 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Learner@86] - TCP NoDelay set to: true
2017-01-22 23:47:29,449 [myid:3] - INFO [WorkerReceiver[myid=3]:FastLeaderElection@597] - Notification: 1 (message format version), 2 (n.leader), 0x800055ea0 (n.zxid), 0x1 (n.round), LEADING (n.state), 2 (n.sid), 0x9 (n.peerEpoch) FOLLOWING (my state)
2017-01-22 23:47:29,660 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Environment@100] - Server environment:zookeeper.version=3.4.6--1, built on 06/16/2015 22:50 GMT
2017-01-22 23:47:29,661 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Environment@100] - Server environment:host.name=SpringpathControllerMSH7NHXRFL
2017-01-22 23:47:29,661 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Environment@100] - Server environment:java.version=1.7.0_79
2017-01-22 23:47:29,661 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Environment@100] - Server environment:java.vendor=Oracle Corporation
2017-01-22 23:47:29,661 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Environment@100] - Server environment:java.home=/usr/lib/jvm/java-7-openjdk-amd64/jre
2017-01-22 23:47:29,661 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Environment@100] - Server environment:java.class.path=/usr/share/zookeeper/bin/./build/classes:/usr/share/zookeeper/bin/./build/lib/*.jar:/usr/share/zookeeper/bin/./lib/slf4j-log4j12-1.6.1.jar:/usr/share/zookeeper/bin/./lib/slf4j-api-1.6.1.jar:/usr/share/zookeeper/bin/./lib/netty-3.7.0.Final.jar:/usr/share/zookeeper/bin/./lib/log4j-1.2.16.jar:/usr/share/zookeeper/bin/./lib/jline-0.9.94.jar:/usr/share/zookeeper/bin/./zookeeper-3.4.6.jar:/usr/share/zookeeper/bin/./src/java/lib/*.jar:/usr/share/zookeeper/bin/./conf:
2017-01-22 23:47:29,661 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Environment@100] - Server environment:java.library.path=/usr/java/packages/lib/amd64:/usr/lib/x86_64-linux-gnu/jni:/lib/x86_64-linux-gnu:/usr/lib/x86_64-linux-gnu:/usr/lib/jni:/lib:/usr/lib
2017-01-22 23:47:29,661 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Environment@100] - Server environment:java.io.tmpdir=/tmp
2017-01-22 23:47:29,661 [myid:3] - INFO [QuorumPeer[myid=3]/0:0:0:0:0:0:0:0:2181:Environment@100] - Server environment:java.compiler=

LEADER ELECTION TOOK

root@SpringpathControllerMSH7NHXRFL:/var/log/springpath# cat zk-debug-storfs.log

```
2017-01-22 23:47:18,702:5866(0x7fd1f7ef5700):ZOO_INFO@check_events@1760: initiated connection to
server [192.168.5.163:2181]
2017-01-22 23:47:18,704:5866(0x7fd1f7ef5700):ZOO_INFO@check_events@1807: session establishment
complete on server [192.168.5.163:2181], sessionId=0x159165ff6310005, negotiated timeout=17001
2017-01-22 23:47:18,704:5866(0x7fd1f76f4700):ZOO_INFO@process_completions@2170: Calling a
watcher for node s], type = s
2017-01-23 01:50:16,809:5866(0x7fd1f7ef5700):ZOO_ERROR@handle_socket_error_msg@1778: Socket
[192.168.5.163:2181] zk retcode=-4, errno=112(Host is down): failed while receiving a server
response
2017-01-23 01:50:16,818:5866(0x7fd1f76f4700):ZOO_INFO@process_completions@2170: Calling a
watcher for node s], type = s
2017-01-23 01:50:16,818:5866(0x7fd1f7ef5700):ZOO_INFO@check_events@1760: initiated connection to
server [192.168.5.164:2181]
2017-01-23 01:50:16,818:5866(0x7fd1f7ef5700):ZOO_ERROR@handle_socket_error_msg@1778: Socket
[192.168.5.164:2181] zk retcode=-4, errno=112(Host is down): failed while receiving a server
response
2017-01-23 01:50:17,819:5866(0x7fd1f7ef5700):ZOO_ERROR@handle_socket_error_msg@1740: Socket
[192.168.5.162:2181] zk retcode=-4, errno=115(Operation now in progress): poll refused to accept
read/write from the client
```

```
root@help:/var/log/springpath# cat zkEvents.log
```

```
INFO:ZkEvents:Send changes to listeners
INFO:EventDB:Received message{"timestamp": 1559200009008, "description": "Cluster policy
compliance is satisfied", "id": "ClusterPolicyComplianceSatisfiedEvent"}
DEBUG:kazoo.client:Received EVENT: Watch(type=3, state=3,
path=u'/zkEvents/lastModificationTime')
DEBUG:kazoo.client:Sending request(xid=42): GetData(path='/zkEvents/lastModificationTime',
watcher=
```

Cluster is healthy

```
root@SpringpathControllerPZTMTRSH7K:/var/log/springpath# tail exhibitor.log
```

```
05-20 05:28:52.223 INFO org.mortbay.log - Started SocketConnector@10.197.252.99:8180
05-20 05:29:20.106 INFO com.netflix.exhibitor.core.activity.ActivityLog - State: down
05-20 05:29:20.106 INFO com.netflix.exhibitor.core.activity.ActivityLog - Attempting to stop
instance
05-20 05:29:20.106 INFO com.netflix.exhibitor.core.activity.ActivityLog - Attempting to
start/restart ZooKeeper
05-20 05:29:20.328 INFO com.netflix.exhibitor.core.activity.ActivityLog - jps didn't find
instance - assuming ZK is not running
05-20 05:29:20.347 INFO com.netflix.exhibitor.core.activity.ActivityLog - Process started via:
/usr/share/zookeeper/bin/zkServer.sh
05-20 05:29:20.353 ERROR com.netflix.exhibitor.core.activity.ActivityLog - ZooKeeper Server:
ZooKeeper JMX enabled by default
05-20 05:29:20.353 ERROR com.netflix.exhibitor.core.activity.ActivityLog - ZooKeeper Server:
Using config: /usr/share/zookeeper/bin/./conf/zoo.cfg
05-20 05:29:21.366 INFO com.netflix.exhibitor.core.activity.ActivityLog - ZooKeeper Server:
Starting zookeeper ... STARTED
05-20 05:29:50.128 INFO com.netflix.exhibitor.core.activity.ActivityLog - State: serving
```

معدلة وعومجم نم Zookeeper چمانرب لجس تافل م (STORFS)

في رظنلل ةمهم تافل م هذه، معد ةمزح في:

zookeeper.log

/var/log/zookeeper

zk-storfs.log

/var/log/springpath

echo_stat_|nc_localhost_2181.out under cmds_output

ةمچرتل هذه ل و ح

ةلأل تاي نقتل ن م ة و مچ م ادخت ساب دن تسم ل ا ذه Cisco ت مچرت
م ل ا ل ا ا ن ا ع مچ ي ف ن ي م دخت س م ل ل م عد ي و ت ح م م ي دقت ل ة ي ر ش ب ل و
امك ة ق ي ق د ن و ك ت ن ل ة ي ل ا ة مچرت ل ض ف ا ن ا ة ظ ح ال م ي ج ر ي . ة ص ا خ ل ا م ه ت غ ل ب
Cisco ي ل خ ت . ف ر ت ح م مچرت م ا ه م د ق ي ي ت ل ا ة ي ف ا ر ت ح ال ا ة مچرت ل ا ع م ل ا ح ل ا و ه
ي ل ا ا م ا د ع و ج ر ل ا ب ي ص و ت و ت ا مچرت ل ا هذه ة ق د ن ع ا ه ت ي ل و ئ س م Cisco
Systems (ر ف و ت م ط ب ا ر ل ا) ي ل ص ا ل ا ي ز ي ل ج ن ا ل ا دن ت س م ل ا