

Change Communication Mode Between WAN Sites From Non-SSL To SSL

Description

This document describes how to change the communication between WAN sites from Non-SSL to SSL one site at a time without stopping the cluster.

Steps

The steps to do this are:

Initially Non-SSL sites A and B are running.

1. Stop accepting client connections in non-SSL site A (clients connect to non-SSL site B)
2. Stop non-SSL site A once all queues are drained
3. Stop receivers in non-SSL site B
4. Pause senders in non-SSL site B
5. Do puts in non-SSL site B (events are queued)
6. Start SSL site A
7. Start non-SSL proxy in site A
8. Resume senders in non-SSL site B (site B will connect to the non-SSL proxy in site A, and its queues will drain)
9. Stop non-SSL site B once all queues are drained
10. Stop non-SSL proxy in site A
11. Start SSL site B

Now SSL sites A and B are running.

Note: There are two race conditions in the above steps, namely:

In step 2, events in site A's queue may not have been sent but clients are connected to site B.

In step 9, queues may never drain as long as clients are connected to site B.

Example

The attached [ssl-proxy-clean_09-12-2016.tgz](#) example encapsulates the above steps.

Initialization

Modify the GEMFIRE environment variable in the **setenv.sh** script to point to a GemFire 8.2.x installation.

In each terminal window, source the **setenv.sh** script like:

```
./setenv.sh
```

Make sure that ANT_HOME/bin and JAVA_HOME/bin are also on the PATH.

Set the following GemFire properties in the **config/gemfire-security.properties** file to appropriate values:

```
gateway-ssl-keystore  
gateway-ssl-keystore-password  
gateway-ssl-truststore  
gateway-ssl-truststore-password
```

Start Locators

Start locators in both sites using the **startlocators.sh** script like:

```

./startlocators.sh
Starting locator ny on port 10331
.....
Locator in /path/to/locator-ny on boglesbymac-2[10331] as locator-ny is currently online.
Process ID: 50276
Uptime: 17 seconds
GemFire Version: 8.2.1.2
Java Version: 1.7.0_80
Log File: /path/to/locator-ny/locator-ny.log
JVM Arguments: -DgemfirePropertyFile=/path/to/config/gemfire-ny-locator.properties -Dgemfire.enable-cluster-
configuration=true -Dgemfire.load-cluster-configuration-from-dir=false -Dgemfire.launcher.
registerSignalHandlers=true -Djava.awt.headless=true -Dsun.rmi.dgc.server.gcInterval=9223372036854775806
Class-Path: ...
Successfully connected to: [host=boglesbymac-2, port=1091]
Cluster configuration service is up and running.
Starting locator ln on port 10332
.....
Locator in /path/to/locator-ln on boglesbymac-2[10332] as locator-ln is currently online.
Process ID: 50293
Uptime: 16 seconds
GemFire Version: 8.2.1.2
Java Version: 1.7.0_80
Log File: /path/to/locator-ln/locator-ln.log
JVM Arguments: -DgemfirePropertyFile=/path/to/config/gemfire-ln-locator.properties -Dgemfire.enable-cluster-
configuration=true -Dgemfire.load-cluster-configuration-from-dir=false -Dgemfire.launcher.
registerSignalHandlers=true -Djava.awt.headless=true -Dsun.rmi.dgc.server.gcInterval=9223372036854775806
Class-Path: ...
Successfully connected to: [host=boglesbymac-2, port=1092]
Cluster configuration service is up and running.

```

Start Non-SSL Servers

Start the ln-1 non-SSL server using the **ln-1** ant task like:

```

ant ln-1
...
gateway:
[java] Created GemFireCache[id = 1623717470; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:09:03 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: Partitioned Region @165caedc [path='/data'; dataPolicy=PERSISTENT_PARTITION;
gatewayEnabled=false; prId=1; isDestroyed=false; isClosed=false; retryTimeout=3600000; serialNumber=10;
partition attributes=PartitionAttributes@159930692[redundantCopies=1;localMaxMemory=444;
totalMaxMemory=2147483647;totalNumBuckets=113;partitionResolver=null;colocatedWith=null;recoveryDelay=-1;
startupRecoveryDelay=0;FixedPartitionAttributes=null;partitionListeners=null]; on VM boglesbymac-2(ln-1:50309)
<v1>:62011]
[java] ParallelGatewaySenderImpl[id=ny; socketReadTimeout=0]
[java] Region named data size: 0
[java] Region /ny_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0

```

Start the ln-2 non-SSL server using the **ln-2** ant task like:

```

ant ln-2
...
gateway:
[java] Created GemFireCache[id = 745001724; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:09:03 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: Partitioned Region @3a7cbada [path='/data'; dataPolicy=PERSISTENT_PARTITION;
gatewayEnabled=false; prId=1; isDestroyed=false; isClosed=false; retryTimeout=3600000; serialNumber=10;
partition attributes=PartitionAttributes@1866528453[redundantCopies=1;localMaxMemory=444;
totalMaxMemory=2147483647;totalNumBuckets=113;partitionResolver=null;colocatedWith=null;recoveryDelay=-1;
startupRecoveryDelay=0;FixedPartitionAttributes=null;partitionListeners=null]; on VM boglesbymac-2(ln-2:50310)
<v2>:34250]
[java] ParallelGatewaySenderImpl[id=ny; socketReadTimeout=0]
[java] Region named data size: 0
[java] Region /ny_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0

```

Start the ny-1 non-SSL server using the **ny-1** task like:

```

ant ny-1
...
gateway:
[java] Created GemFireCache[id = 1188435730; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:09:04 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: Partitioned Region @4e69f4e7 [path='/data'; dataPolicy=PERSISTENT_PARTITION;
gatewayEnabled=false; prId=1; isDestroyed=false; isClosed=false; retryTimeout=3600000; serialNumber=10;
partition attributes=PartitionAttributes@1670717230[redundantCopies=1;localMaxMemory=444;
totalMaxMemory=2147483647;totalNumBuckets=113;partitionResolver=null;colocatedWith=null;recoveryDelay=-1;
startupRecoveryDelay=0;FixedPartitionAttributes=null;partitionListeners=null]; on VM boglesbymac-2(ny-1:50317)
<v1>:65157]
[java] ParallelGatewaySenderImpl[id=ln; socketReadTimeout=0]
[java] Region named data size: 0
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0

```

Start the ny-2 non-SSL server using the **ny-2** ant task like:

```

ant ny-2
...
gateway:
[java] Created GemFireCache[id = 1765036803; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:09:06 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: Partitioned Region @53d2e924 [path='/data'; dataPolicy=PERSISTENT_PARTITION;
gatewayEnabled=false; prId=1; isDestroyed=false; isClosed=false; retryTimeout=3600000; serialNumber=10;
partition attributes=PartitionAttributes@1233228555[redundantCopies=1;localMaxMemory=444;
totalMaxMemory=2147483647;totalNumBuckets=113;partitionResolver=null;colocatedWith=null;recoveryDelay=-1;
startupRecoveryDelay=0;FixedPartitionAttributes=null;partitionListeners=null]; on VM boglesbymac-2(ny-2:50324)
<v2>:18596]
[java] ParallelGatewaySenderImpl[id=ln; socketReadTimeout=0]
[java] Region named data size: 0
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0

```

Stop In Non-SSL Servers

Stop the ln non-SSL servers using the **shutdown_ln_servers.sh** script like:

```
./shutdown_ln_servers.sh
(1) Executing - connect --locator=localhost[10332]
Connecting to Locator at [host=localhost, port=10332] ..
Connecting to Manager at [host=boglesbymac-2, port=1092] ..
Successfully connected to: [host=boglesbymac-2, port=1092]
(2) Executing - shutdown
Shutdown is triggered
```

Stop ny Gateway Receiver

Stop the ny Gateway Receiver in both ny members using the **stop_ny_gateway_receiver.sh** script like:

```
./stop_ny_gateway_receiver.sh
(1) Executing - connect --locator=localhost[10331]
Connecting to Locator at [host=localhost, port=10331] ..
Connecting to Manager at [host=boglesbymac-2, port=1091] ..
Successfully connected to: [host=boglesbymac-2, port=1091]

(2) Executing - stop gateway-receiver
Member | Result | Message
----- | ----- | -----
boglesbymac-2(ny-1:50317)<v1>:65157 | OK | GatewayReceiver is stopped on member boglesbymac-2(ny-1:50317)<v1>:65157
boglesbymac-2(ny-2:50324)<v2>:18596 | OK | GatewayReceiver is stopped on member boglesbymac-2(ny-2:50324)<v2>:18596
```

Pause ny Gateway Sender

Pause the ny Gateway Sender in both ny members using the **pause_ny_gateway_sender.sh** script like:

```
./pause_ny_gateway_sender.sh
(1) Executing - connect --locator=localhost[10331]
Connecting to Locator at [host=localhost, port=10331] ..
Connecting to Manager at [host=boglesbymac-2, port=1091] ..
Successfully connected to: [host=boglesbymac-2, port=1091]

(2) Executing - pause gateway-sender --id=ln
Member | Result | Message
----- | ----- | -----
boglesbymac-2(ny-1:50317)<v1>:65157 | OK | GatewaySender ln is paused on member boglesbymac-2(ny-1:50317)<v1>:65157
boglesbymac-2(ny-2:50324)<v2>:18596 | OK | GatewaySender ln is paused on member boglesbymac-2(ny-2:50324)<v2>:18596
```

Run ny Client Loader

Run the ny Client Loader to load entries into the ny site using the **ny-client-load** ant task like:

```
ant ny-client-load
...
client:
[java] Created GemFireCache[id = 2019921345; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:14:52 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: com.gemstone.gemfire.internal.cache.LocalRegion[path='/data';scope=LOCAL';
dataPolicy=EMPTY; concurrencyChecksEnabled]
[java] Loaded 1000 entries in 2218 ms
[java] Loaded 1000 entries in 2218 ms
```

The ny server terminal windows will log messages like:

```
[java] Region named data size: 787
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=868;
primarySize=440; entrySetSize=870; entrySetArrayLength=879; primaryEntrySetSize=445;
primaryEntrySetArrayLength=445
[java] Region named data size: 1000
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=1000;
primarySize=508; entrySetSize=1000; entrySetArrayLength=1000; primaryEntrySetSize=508;
primaryEntrySetArrayLength=508
```

Start In SSL Servers

Start the ln-1 SSL server using the **ln-ssl-1** ant task like:

```
ant ln-ssl-1
...
gateway-ssl:
[java] Created GemFireCache[id = 1763038120; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:18:48 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: Partitioned Region @6417f586 [path='/data'; dataPolicy=PERSISTENT_PARTITION;
gatewayEnabled=false; prId=3; isDestroyed=false; isClosed=false; retryTimeout=3600000; serialNumber=10;
partition attributes=PartitionAttributes@1145119737[redundantCopies=1;localMaxMemory=444;
totalMaxMemory=2147483647;totalNumBuckets=113;partitionResolver=null;colocatedWith=null;recoveryDelay=-1;
startupRecoveryDelay=0;FixedPartitionAttributes=null;partitionListeners=null]; on VM boglesbymac-2(ln-1:50522)
<v5>:52207]
[java] ParallelGatewaySenderImpl[id=ny; socketReadTimeout=0]
[java] Region named data size: 0
[java] Region /ny_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0
```

Start the ln-2 SSL server using the **ln-ssl-2** ant task like:

```
ant ln-ssl-2
...
gateway-ssl:
[java] Created GemFireCache[id = 1155454536; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:18:49 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: Partitioned Region @4997439e [path='/data'; dataPolicy=PERSISTENT_PARTITION;
gatewayEnabled=false; prId=3; isDestroyed=false; isClosed=false; retryTimeout=3600000; serialNumber=10;
partition attributes=PartitionAttributes@1413562044[redundantCopies=1;localMaxMemory=444;
totalMaxMemory=2147483647;totalNumBuckets=113;partitionResolver=null;colocatedWith=null;recoveryDelay=-1;
startupRecoveryDelay=0;FixedPartitionAttributes=null;partitionListeners=null]; on VM boglesbymac-2(ln-2:50529)
<v6>:14156]
[java] ParallelGatewaySenderImpl[id=ny; socketReadTimeout=0]
[java] Region named data size: 0
[java] Region /ny_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0
```

Start In non-SSL Proxy

Start the ln non-SSL proxy server using the **ln-proxy** ant task like:

```

ant ln-proxy
...
gateway-proxy:
[java] Created GemFireCache[id = 1426898936; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Tue Sep 06 10:37:42 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: Partitioned Region @237ac531 [path='/data'; dataPolicy=PARTITION;
gatewayEnabled=false; prId=3; isDestroyed=false; isClosed=false; retryTimeout=3600000; serialNumber=7;
partition attributes=PartitionAttributes@172353175[redundantCopies=1;localMaxMemory=0;totalMaxMemory=2147483647;
totalNumBuckets=113;partitionResolver=null;colocatedWith=null;recoveryDelay=-1;startupRecoveryDelay=0;
FixedPartitionAttributes=null;partitionListeners=null]; on VM boglesbymac-2(ln-1-proxy:11650)<v7>:18044]
[java] Region named data size: 1000

```

Resume ny Gateway Sender

Resume the ny GatewaySender in all ny members using the `resume_ny_gateway_sender.sh` script like:

```

./resume_ny_gateway_sender.sh
(1) Executing - connect --locator=localhost[10331]
Connecting to Locator at [host=localhost, port=10331] ..
Connecting to Manager at [host=boglesbymac-2, port=1091] ..
Successfully connected to: [host=boglesbymac-2, port=1091]

(2) Executing - resume gateway-sender --id=ln
Member | Result | Message
----- | ----- | -----
boglesbymac-2(ny-1:11292)<v1>:14874 | OK | GatewaySender ln is resumed on member boglesbymac-2(ny-1:11292)<v1>:
14874
boglesbymac-2(ny-2:11306)<v2>:57278 | OK | GatewaySender ln is resumed on member boglesbymac-2(ny-2:11306)<v2>:
57278

```

The ny Gateway Senders will connect to the ln non-SSL proxy server in the ln site and the ny queues will drain.

The ln server terminal windows will log messages like:

```
[java] Region named data size: 1000
```

The ny server terminal windows will log messages like:

```
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0
```

Stop ny Non-SSL Servers

Stop the ny non-SSL servers using the `shutdown_ny_servers.sh` script like:

```

./shutdown_ny_servers.sh
(1) Executing - connect --locator=localhost[10331]
Connecting to Locator at [host=localhost, port=10331] ..
Connecting to Manager at [host=boglesbymac-2, port=1091] ..
Successfully connected to: [host=boglesbymac-2, port=1091]

(2) Executing - shutdown
Shutdown is triggered

```

Stop ln non-SSL Proxy Server

Stop the ln non-SSL proxy server using `kill -9` or `CMD/CNTL-C`.

Start ny SSL Servers

Start the ny-1 SSL server using the `ny-ssl-1` ant task like:

```

ant ny-ssl-1
...
gateway-ssl:
[java] Created GemFireCache[id = 2073241813; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:23:59 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: Partitioned Region @52dcd527 [path='/data'; dataPolicy=PERSISTENT_PARTITION;
gatewayEnabled=false; prId=3; isDestroyed=false; isClosed=false; retryTimeout=3600000; serialNumber=10;
partition attributes=PartitionAttributes@193834439[redundantCopies=1;localMaxMemory=444;
totalMaxMemory=2147483647;totalNumBuckets=113;partitionResolver=null;colocatedWith=null;recoveryDelay=-1;
startupRecoveryDelay=0;FixedPartitionAttributes=null;partitionListeners=null]; on VM boglesbymac-2(ny-1:50581)
<v8>:43308]
[java] ParallelGatewaySenderImpl[id=ln; socketReadTimeout=0]
[java] Region named data size: 1000
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0

```

Start the ny-2 SSL server using the ny-ssl-2 ant task like:

```

ant ny-ssl-2
...
gateway-ssl:
[java] Created GemFireCache[id = 790162063; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Tue Sep 06 12:59:37 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: Partitioned Region @56986d66 [path='/data'; dataPolicy=PERSISTENT_PARTITION;
gatewayEnabled=false; prId=5; isDestroyed=false; isClosed=false; retryTimeout=3600000; serialNumber=10;
partition attributes=PartitionAttributes@1937993113[redundantCopies=1;localMaxMemory=444;
totalMaxMemory=2147483647;totalNumBuckets=113;partitionResolver=null;colocatedWith=null;recoveryDelay=-1;
startupRecoveryDelay=0;FixedPartitionAttributes=null;partitionListeners=null]; on VM boglesbymac-2(ny-2:13344)
<v10>:21376]
[java] ParallelGatewaySenderImpl[id=ln; socketReadTimeout=0]
[java] Region named data size: 1000
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0

```

At this point, both sites will be up and communicating with each other using SSL sockets.

Run In Client Loader

Run the In client loader using the In-client-load task like:

```

ant ln-client-load
...
client:
[java] Created GemFireCache[id = 1417219418; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:26:29 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: com.gemstone.gemfire.internal.cache.LocalRegion[path='/data';scope=LOCAL';
dataPolicy=EMPTY; concurrencyChecksEnabled]
[java] Loaded 1000 entries in 2300 ms
[java] Loaded 1000 entries in 2301 ms
[java] Region /ny_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=80;
primarySize=47; entrySetSize=80; entrySetArrayLength=82; primaryEntrySetSize=49; primaryEntrySetArrayLength=49
[java] Region /ny_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=55;
primarySize=31; entrySetSize=48; entrySetArrayLength=154; primaryEntrySetSize=25; primaryEntrySetArrayLength=23
[java] Region /ny_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0

```

Run ny Client Loader

Run the ny client loader using the ny-client-load task like:

```
ant ny-client-load
...
client:
[java] Created GemFireCache[id = 1826080114; isClosing = false; isShutDownAll = false;
closingGatewayHubsByShutdownAll = false; created = Wed Aug 31 17:27:52 PDT 2016; server = false; copyOnRead =
false; lockLease = 120; lockTimeout = 60]
[java] Retrieved region: com.gemstone.gemfire.internal.cache.LocalRegion[path='/data';scope=LOCAL';
dataPolicy=EMPTY; concurrencyChecksEnabled]
[java] Loaded 1000 entries in 2137 ms
[java] Loaded 1000 entries in 2137 ms
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=195;
primarySize=98; entrySetSize=198; entrySetArrayLength=205; primaryEntrySetSize=99;
primaryEntrySetArrayLength=100
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=75;
primarySize=0; entrySetSize=63; entrySetArrayLength=75; primaryEntrySetSize=0; primaryEntrySetArrayLength=0
[java] Region /ln_PARALLEL_GATEWAY_SENDER_QUEUE (a ParallelGatewaySenderQueueMetaRegion) size=0; primarySize=0;
entrySetSize=0; entrySetArrayLength=0; primaryEntrySetSize=0; primaryEntrySetArrayLength=0
```

Shutdown Sites

Stop servers and locators in both sites using the **shutdownallsites.sh** script like:

```
./shutdownallsites.sh
(1) Executing - connect --locator=localhost[10331]
Connecting to Locator at [host=localhost, port=10331] ..
Connecting to Manager at [host=boglesbymac-2, port=1091] ..
Successfully connected to: [host=boglesbymac-2, port=1091]

(2) Executing - shutdown --include-locators=true
Shutdown is triggered

(1) Executing - connect --locator=localhost[10332]
Connecting to Locator at [host=localhost, port=10332] ..
Connecting to Manager at [host=boglesbymac-2, port=1092] ..
Successfully connected to: [host=boglesbymac-2, port=1092]

(2) Executing - shutdown --include-locators=true
Shutdown is triggered
```