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# STEPS TO CONFIGURE MULTIPLE NODES CASSANDRA ON A SINGLE WINDOWS MACHINE

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   To get started, you would have to update the windows hosts file. The windows host file is located at :

```
C:\Windows\System32\drivers\etc
```

 Update the file with the following entries:
*You might need to open the file as an administrator in order to save the entries.*

```
127.0.0.1 127.0.0.2
127.0.0.1 127.0.0.3
127.0.0.1 127.0.0.4
```
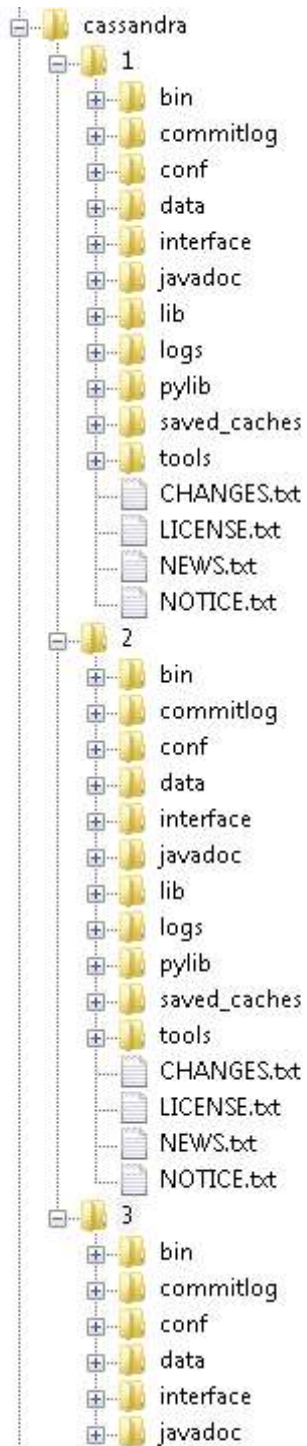
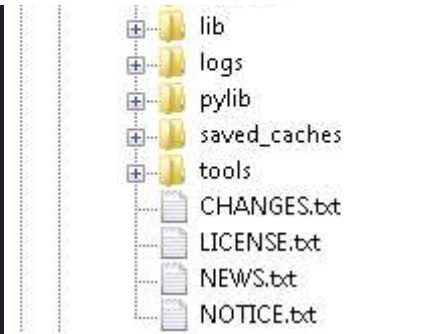Download cassandra next from its apache site.

Create the folder structure for your cassandra installation. Something like the below:

```
c:\opt\cassandra\
c:\opt\cassandra\1
c:\opt\cassandra\2
c:\opt\cassandra\3
```



Extract the cassandra distribution file into folder 1,2 and 3:

cassandra
  1
    bin
    commitlog
    conf
    data
    interface
    javadoc
    lib
    logs
    pylib
    saved_caches
    tools
    CHANGES.txt
    LICENSE.txt
    NEWS.txt
    NOTICE.txt
  2
    bin
    commitlog
    conf
    data
    interface
    javadoc
    lib
    logs
    pylib
    saved_caches
    tools
    CHANGES.txt
    LICENSE.txt
    NEWS.txt
    NOTICE.txt
  3
    bin
    commitlog
    conf
    data
    interface
    javadoc

Configure cassandra.yaml file in each of the cassandra nodes.

Edit the following entries with the values below:

## File name:

```
C:\opt\cassandra\1\conf\cassandra.yaml
```

## File entries:

```
cluster_name: 'YourClusterName'


data_file_directories:
     - /opt/cassandra/1/data



commitlog_directory: /opt/cassandra/1/commitlog
```

```
saved_caches_directory: /opt/cassandra/1/saved_caches


seed_provider:
    # Addresses of hosts that are deemed contact points.
    # Cassandra nodes use this list of hosts to find each other a
    # the topology of the ring.  You must change this if you are
    # multiple nodes!
    - class_name: org.apache.cassandra.locator.SimpleSeedProvider
      parameters:
          # seeds is actually a comma-delimited list of addresses
          # Ex: "<ip1>,<ip2>,<ip3>"
          - seeds: "127.0.0.2"


listen_address: 127.0.0.2



rpc_address: 127.0.0.2
```

File name:

```
C:\opt\cassandra\2\conf\cassandra.yaml
```

File entries:

```
cluster_name: 'YourClusterName'


data_file_directories:
     - /opt/cassandra/2/data



commitlog_directory: /opt/cassandra/2/commitlog



saved_caches_directory: /opt/cassandra/2/saved_caches



seed_provider:
   # Addresses of hosts that are deemed contact points.
   # Cassandra nodes use this list of hosts to find each other a
   # the topology of the ring.  You must change this if you are
   # multiple nodes!
   - class_name: org.apache.cassandra.locator.SimpleSeedProvider
```

```
    parameters:
        # seeds is actually a comma-delimited list of addresses
        # Ex: "<ip1>,<ip2>,<ip3>"
        - seeds: "127.0.0.2"


listen_address: 127.0.0.3



rpc_address: 127.0.0.3
```

File name:

```
C:\opt\cassandra\3\conf\cassandra.yaml
```

File entries:

```
cluster_name: 'YourClusterName'

data_file_directories:
        - /opt/cassandra/3/data


commitlog_directory: /opt/cassandra/3/commitlog
```

```
saved_caches_directory: /opt/cassandra/3/saved_caches


seed_provider:
    # Addresses of hosts that are deemed contact points.
    # Cassandra nodes use this list of hosts to find each other a
    # the topology of the ring.  You must change this if you are
    # multiple nodes!
    - class_name: org.apache.cassandra.locator.SimpleSeedProvider
      parameters:
          # seeds is actually a comma-delimited list of addresses
          # Ex: "<ip1>,<ip2>,<ip3>"
          - seeds: "127.0.0.2"


listen_address: 127.0.0.3



rpc_address: 127.0.0.3
```

## Edit JMX port for nodes

The next step is configure each of the cassandra's nodes JMX port to point to different port numbers.

Open up cassandra.bat file for each of your nodes under the bin directory and look for the value:

```
-Dcassandra.jmx.local.port
```

For my installations I changed mine like this:

```
C:\opt\cassandra\1\bin\cassandra.bat
        -Dcassandra.jmx.local.port=7199



C:\opt\cassandra\2\bin\cassandra.bat
        -Dcassandra.jmx.local.port=7299



C:\opt\cassandra\3\bin\cassandra.bat
        -Dcassandra.jmx.local.port=7399
```

## Test your installation

Open the bin directory for each node.   Start up the first node.

```
C:\opt\cassandra\1\bin>cassandra.bat -f
```

The output on the console should look like this:



Next start up the other two nodes:

```
C:\opt\cassandra\2\bin>cassandra.bat -f


C:\opt\cassandra\3\bin>cassandra.bat -f
```

Now take a look at the first node's console. You should see the other nodes joining the cluster.

```
1.208198c, netty-transport-sctp=netty-transport-sctp-4.0.23.Final.208198c, netty-transport-udt=netty-trans
INFO   19:28:32 Starting listening for CQL clients on /127.0.0.2:9042...
INFO   19:28:32 Binding thrift service to /127.0.0.2:9160
INFO   19:28:32 Listening for thrift clients...
INFO   19:34:00 Handshaking version with /127.0.0.3
INFO   19:34:00 Node /127.0.0.3 has restarted, now UP
INFO   19:34:00 Node /127.0.0.3 state jump to normal
INFO   19:34:00 InetAddress /127.0.0.3 is now UP
WARN   19:34:01 Not marking nodes down due to local pause of 339310798694 > 5000000000
INFO   19:34:22 Handshaking version with /127.0.0.4
INFO   19:34:24 Node /127.0.0.4 is now part of the cluster
INFO   19:34:24 InetAddress /127.0.0.4 is now UP
```

```
33    # See http://wiki.apache.org/cassandra/HintedHandoff
34    # May either be "true" or "false" to enable globally, or contain a list
35    # of data centers to enable per-datacenter.
```

## You can also confirm by checking the nodetool status

```
UN  127.0.0.3  150.00 KB  256        100.0%        edd17770-58a9-4b2f-a8f7-8673d045a6a8  rack1

C:\opt\cassandra\1\bin>nodetool.bat status
Starting NodeTool
Datacenter: datacenter1
=======================
Status=Up/Down
|/ State=Normal/Leaving/Joining/Moving
--  Address    Load       Tokens  Owns (effective)  Host ID                               Rack
UN  127.0.0.2  269.34 KB  256     69.3%             14df64f7-82f2-4bf2-a4ec-add12d60d121  rack1
UN  127.0.0.3  233.42 KB  256     62.8%             edd17770-58a9-4b2f-a8f7-8673d045a6a8  rack1
UN  127.0.0.4  107.59 KB  256     67.9%             1225ce9d-4de7-445c-9451-b415052045a3  rack1

C:\opt\cassandra\1\bin>
```

Thanks for reading.

JAVA    CASSANDRA