



This PDF is generated from authoritative online content, and is provided for convenience only. This PDF cannot be used for legal purposes. For authoritative understanding of what is and is not supported, always use the online content. To copy code samples, always use the online content.

Deployment Guide

Generic Cassandra Configuration

12/18/2025

Generic Cassandra Configuration

Contents

- **1 Generic Cassandra Configuration**
 - 1.1 Configure the Java heap size
 - 1.2 Configure Local Properties
 - 1.3 Enable data compression on the Cassandra cluster

Configure the Java heap size



Purpose: To configure the size of the Java heap for Cassandra.

Start

1. Navigate to your installation directory for the Backend Server and open the `launcher.xml` file with a text editor.
2. The default values for the Java heap size are stored in the `jvm_option2` and `jvm_option3` parameters:

```
<parameter name="jvm_option2" displayName="jvm_option1" mandatory="true"
hidden="true" readOnly="true">
    <format type="string" default="-Xms512m"/>
...
</parameter>
<parameter name="jvm_option3" displayName="jvm_option2" mandatory="true"
hidden="true" readOnly="true">
    <format type="string" default="-Xmx1024m"/>
    <validation></validation>
...
</parameter>
...
```

Modify the default value in the format element of these parameters according to your hardware configuration. As a rule, the value should be a maximum of 8GB or half your total RAM, whichever is lower; however, Genesys recommends **3GB** or more for a production site. Cassandra's default configuration opens the JVM with a heap size that is based on the total amount of system memory:

System Memory	Heap Size
Less than 2GB	1/2 of system memory
2GB to 4GB	1GB
Greater than 4GB	1/2 system memory, but not more than 4GB

Genesys recommends you set the default value in the format element for both parameters to the same value. For example:

```
<parameter name="jvm_option2" displayName="jvm_option1" mandatory="true"
hidden="true" readOnly="true">
    <format type="string" default="-Xms3072m"/>
...
</parameter>
<parameter name="jvm_option3" displayName="jvm_option2" mandatory="true"
hidden="true" readOnly="true">
    <format type="string" default="-Xmx3072m"/>
    <validation></validation>
...
</parameter>
...
```

Consult the Cassandra documentation at <http://www.datastax.com/docs/1.0/index> for more information about Cassandra clusters and memory.

End

Next Steps

 [Configure Local Properties](#)

Configure Local Properties



Purpose: To configure Cassandra for the Backend Server.

Prerequisites

- Read the documentation on Cassandra configuration parameters, available here: [Apache Cassandra 1.0 Documentation](#)

Start

1. To configure Cassandra, navigate to the Web Engagement installation directory and edit the `\apps\<application name>\environment\environment.local.properties` file.
 - The values specified in `environment.local.properties` are inserted into the `cassandra.yaml` and `wmbackend.properties` files during the application build step. All configuration parameters for Cassandra in `environment.local.properties` start with `wmdb.cassandra.cluster`. The parameters and their default values:

```
# WMDB-Cassandra
# Tokens in cassandra.yaml and wmbackend.properties files will be substituted by
these parameter values.
wmdb.cassandra.cluster.name=Cluster
wmdb.cassandra.cluster.keyspaceName=WebMonitoring
wmdb.cassandra.cluster.defaultStrategy=SimpleStrategy
wmdb.cassandra.cluster.defaultReplicationFactor=1
wmdb.cassandra.cluster.listenAddress=localhost
wmdb.cassandra.cluster.rpcAddress=localhost
wmdb.cassandra.cluster.rpcPort=19160
wmdb.cassandra.cluster.sslStoragePort=17001
wmdb.cassandra.cluster.storagePort=17000
wmdb.cassandra.cluster.seedNodes=127.0.0.1
wmdb.cassandra.cluster.dataDirectory=DATA_DIR_PLACEHOLDER
wmdb.cassandra.cluster.commitLogDirectory=COMMITLOG_DIR_PLACEHOLDER
wmdb.cassandra.cluster.savedCachesDirectory=SAVED_CACHES_DIR_PLACEHOLDER
```

- Read [Node and Cluster Configuration \(cassandra.yaml\)](#) for information on all Cassandra configuration parameters.
Note: Making changes in the `environment.local.properties` file will keep the client and server connection parameters synchronized.
2. Update the Cassandra configuration parameters with values appropriate for your deployment. You will need to modify the following parameters:
 - `wmdb.cassandra.cluster.defaultReplicationFactor` — The keyspace replication factor. When choosing a replication factor value, take into account that Cassandra uses consistency level `QUORUM` for both writes and reads. The recommended formula for the replication factor is $\text{<number_of_nodes> / 2 + 1}$. Consider the following examples when determining your replication factor:

Number of nodes in the cluster	Consistency level	Replication factor	Result
4	QUORUM	1	1 node will contain unique information.
4	QUORUM	3	3 nodes will contain the duplicated information; the information is written to all nodes directly.
4	QUORUM	4	3 nodes will contain the duplicated information; the information is written to all nodes directly. One node will contain information replicas in the background.

- `wmdb.cassandra.cluster.defaultStrategy` — The default value is `SimpleStrategy`, but if you plan to deploy the cluster across multiple data centers, consider using the `NetworkTopologyStrategy`.
- `wmdb.cassandra.cluster.seedNodes` — Choose your seed nodes, keeping in mind that if you plan to deploy the Cassandra cluster across multiple data centers, you should have at least one seed node from each data center. Set the value of `wmdb.cassandra.cluster.seedNodes` to a comma-separated list of the IPs for your seed nodes. For example, `135.225.54.236, 135.225.54.245`.
- `listen_address` and `rpc_address` — These parameters are likely to be different for each Backend Server / Cassandra node in the cluster and must be set directly in the `\servers\backend\etc\cassandra.yaml` file for each Backend Server. See [Configure Cassandra Cluster](#) for details on setting these parameters.
-

3. Save your changes.

End

Next Steps

 [Enable data compression on the Cassandra cluster](#)

Enable data compression on the Cassandra cluster



Purpose: To enable data compression on the Cassandra cluster. After you apply the script in this procedure, Cassandra will use the compression chunk length of 64kb.

Important

Although Cassandra is embedded in Genesys Web Engagement, you must follow the steps in this procedure to download and install a separate instance of Cassandra in order to get the tools needed to enable data compression.

Start

1. Download Cassandra.
 - a. Go to <http://cassandra.apache.org/download/>, find the correct version of Cassandra, and download the archive. Genesys Web Engagement 8.1.1 uses Cassandra 1.0.6, so you should download `apache-cassandra-1.0.6-bin.tar.gz`.
 - b. Extract the files to a directory; for example, `C:\cassandra`. This directory will be referred to as `%CASSANDRA_HOME%` in the steps below.
2. Save the following script in a text file; for example, `compression_script.txt`.

```
// enable compression
use WebMonitoring;
update column family visits with
compression_options={sstable_compression:DeflateCompressor,chunk_length_kb:64};
update column family userAgents with
compression_options={sstable_compression:DeflateCompressor,chunk_length_kb:64};
update column family sessions with
compression_options={sstable_compression:DeflateCompressor,chunk_length_kb:64};
update column family pages with
compression_options={sstable_compression:DeflateCompressor,chunk_length_kb:64};
update column family ixnProfiles with
compression_options={sstable_compression:DeflateCompressor,chunk_length_kb:64};
update column family indexesByString with
compression_options={sstable_compression:DeflateCompressor,chunk_length_kb:64};
update column family identities with
compression_options={sstable_compression:DeflateCompressor,chunk_length_kb:64};
update column family events with
compression_options={sstable_compression:DeflateCompressor,chunk_length_kb:64};
update column family engagementAttempts with
compression_options={sstable_compression:DeflateCompressor,chunk_length_kb:64};
```

3. Apply the script to the seed_provider_node by running the following command inside the `%CASSANDRA_HOME%/bin` directory:

```
>cassandra-cli.bat -h <seed_provider_node_ip_address> -p 19160 -f <path_to_script_file>
```

For example:

```
>cassandra-cli.bat -h 135.225.54.236 -p 19160 -f C:\compression_script.txt
```

4. The existing SSTables are compressed when the normal Cassandra compaction process occurs. You can force Cassandra to rewrite and compress the existing SSTables with the following:

```
nodetool upgradesstables
```

End

You can disable compression with the following script:

```
// disable compression
use WebMonitoring;
```

```
update column family visits with compression_options=null;
update column family userAgents with compression_options=null;
update column family sessions with compression_options=null;
update column family pages with compression_options=null;
update column family ixnProfiles with compression_options=null;
update column family indexesByString with compression_options=null;
update column family identities with compression_options=null;
update column family events with compression_options=null;
update column family engagementAttempts with compression_options=null;
```

Next Steps

 [Back to Task Table](#)