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.

Genesys Mobile Services Deployment Guide

Cassandra Security

12/18/2025

Contents

Cassandra Security

This page discusses security configurations for Cassandra.

Protecting Data Stored in the Cassandra Database

The *<Genesys Mobile Services installation directory>/etc/cassandra.yaml* file enables or disables encryption of Cassandra inter-node communication using `TLS_RSA_WITH_AES_128_CBC_SHA` as the cipher suite for authentication, key exchange, and encryption of the actual data transfers. To encrypt all inter-node communications, set to *all*. You must also generate keys, and provide the appropriate key and trust store locations and passwords. Details about Cassandra options are available from:

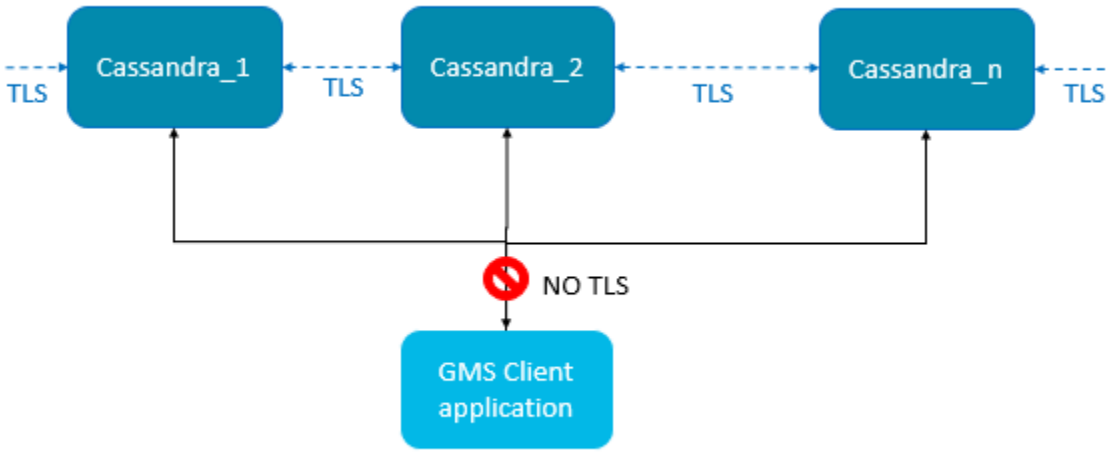
- internode_encryption
- authenticator

All transient service session-related data is stored in a Cassandra database that uses memory and the file system. See the *<Genesys Mobile Services installation directory>/data* folder. Files located here should be protected from unauthorized access.

Cassandra Authentication

The Cassandra API for custom authentication and authorization has been deprecated in 2.x. Although the legacy classes for authentication and authorization are still implemented in GMS for backward compatibility, Genesys recommends that you use the External Cassandra configuration for both authentication and authorization.

Cassandra TLS Support



TLS support for external cassandra includes:

- Inter-node communication (Gossip)
- JMX connection (cassandra tools for monitoring)

GMS Client connections do **not** support TLS when connecting to the Cassandra servers due to internal driver limitations.

Cassandra Gossip TLS

In Cassandra version 1.1.x (the Cassandra version in GMS), the internode (gossip) encryption is set up in the *cassandra.yaml* file. Locate the following lines in the *cassandra.yaml* file:

```
encryption_options:
 internode_encryption: none
 keystore: conf/.keystore
 keystore_password: cassandra
 truststore: conf/.truststore
 truststore_password: cassandra
```

Replace `internode_encryption: none` with `internode_encryption: all`, as shown in the following example:

```
encryption_options:
 internode_encryption: all
 keystore: conf/.keystore
 keystore_password: cassandra
 truststore: conf/.truststore
 truststore_password: cassandra
```

For managing keystore and truststore (and password), see the Oracle documentation keytool-Key and Certificate Management Tool or the Oracle security guide.

Cassandra JMX TLS

Cassandra monitoring and management can be done using a Java Management Extensions (JMX) tool. The JMX access must be protected in order to avoid any remote managing on the GMS embedded Cassandra. To protect JMX access, edit the `launcher.xml` file that contains the following lines (by default):

```
<parameter name="jmxport" displayName="jmxport" mandatory="true"
hidden="true" readOnly="true">
     <description><![CDATA[JMX related]]></description>
     <valid-description><![CDATA[]]></valid-description>
     <effective-description/>
     <format type="string"
default="-Dcom.sun.management.jmxremote.port=9192" />
     <validation></validation>
 </parameter>
 <parameter name="jmxssl" displayName="jmxssl" mandatory="true"
 hidden="true" readOnly="true">
     <description><![CDATA[virtual machine related]]></description>
     <valid-description><![CDATA[]]></valid-description>
     <effective-description/>
     <format type="string" default="-Dcom.sun.management.jmxremote.ssl=false" />
     <validation></validation>
 </parameter>
 <parameter name="jmxauthenticate" displayName="jmxauthenticate"
 mandatory="true" hidden="true" readOnly="true">
     <description><![CDATA[virtual machine related]]></description>
     <valid-description><![CDATA[]]></valid-description>
     <effective-description/>
     <format type="string"
default="-Dcom.sun.management.jmxremote.authenticate=false" />
     <validation></validation>
 </parameter>
```

By default, the TLS and authentication parameters are disabled:

```
   com.sun.management.jmxremote.ssl=false
   com.sun.management.jmxremote.authenticate=false
```

For information about enabling these parameters and managing JMX and TLS, see the *Monitoring and Management Using JMX Technology* chapter in the Oracle Java SE Monitoring and Management Guide.

Embedded Cassandra JMX Authentication

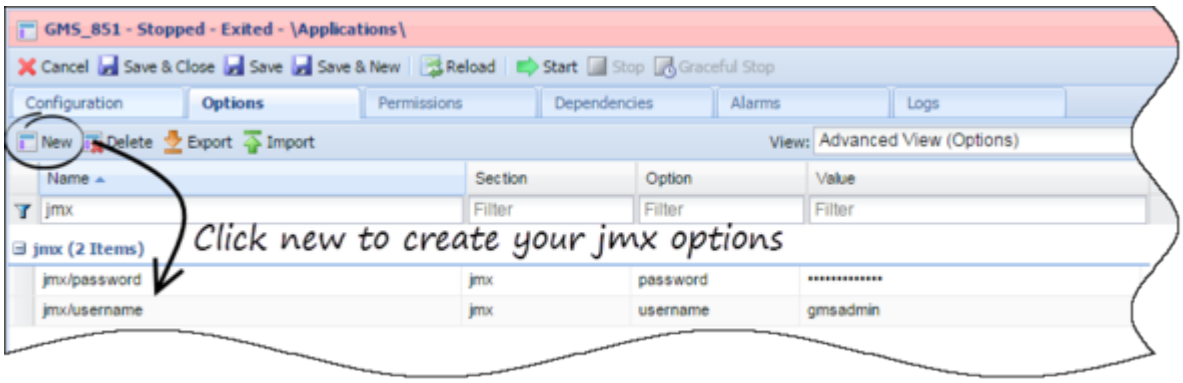
> **Important**
>
> This feature is not available for versions anterior to 8.5.102.18.

You can follow this procedure to activate the JMX anonymous authentication and see your GMS Cassandra nodes status in the Service Management UI.

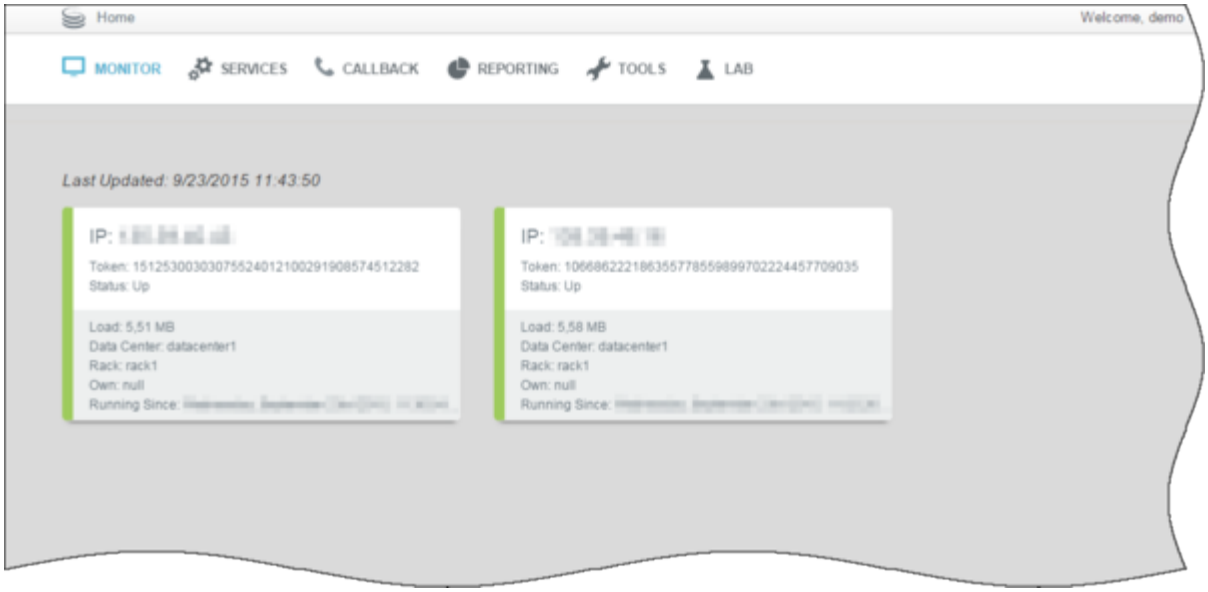
1. Edit the launcher.xml file and set the following parameter to true:
   `-Dcom.sun.management.jmxremote.authenticate=true`
2. If missing, add the following parameter:

```
<parameter name="jmxRemotePassword" displayName="jmxRemotePassword"
mandatory="true" hidden="true" readOnly="true">
<description><![CDATA[virtual machine related]]></description>
<valid-description><![CDATA[]]></valid-description>
<effective-description/>
<format type="string"
default="-Dcom.sun.management.jmxremote.password.file=./etc/jmxremote.password" />
<validation></validation>
</parameter>
```

3. Edit the `<GMS Installation directory>/etc/jmxremote.password` file to add the following username:
   `gmsadmin yourpassword`
4. Edit your GMS configuration and create the following options in the **Options** tab:
   Section `jmx`
   `username=gmsadmin`
   `password=your-password`



5. Start GMS. If you open the Service Administrator UI, you should see the GMS nodes in the **Monitor** panel, as shown below.



Important

If you use Windows and if you want to start GMS from the Management Layer, you should set the **Log on as** GMS option in the Windows services (**services.msc**) to the administrator account that is able to access the `jmxremote.password` file. By default, this option is set with the "Local System" value.