

# **GENESYS**<sup>®</sup>

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## SpeechMiner Administration Guide

Install and Configure Elasticsearch

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# Install and Configure Elasticsearch

## Elasticsearch 5.x

- 1. Download and run java x64 JVM version 8 or later.
- 2. Set the **JAVA\_HOME** system environment variable:
  - a. Enter the Variable name JAVA\_HOME.
  - b. Enter the Variable value. That is, the location of the **Destination Folder** in which you installed **java** x64 JVM version 8 or later. For example, C:\Program Files\Java\jre1.8.0\_161
- Download the Elasticsearch Installer from https://artifacts.elastic.co/downloads/ elasticsearch/elasticsearch-5.6.16.msi.
- 4. Run Elasticsearch.msi.
- 5. Click **Next** in the **Locations** tab.
- 6. Click **Next** in the **Services** tab.
- 7. Set the **Configuration** tab as follow:
  - Cluster Name: Select a unique name.

#### Important

Use the same name in all the **ES Nodes** you install.

- Node Name: Enter your computer name.
- Role: Select Master or Data as needed and deselect Ingest.

## Important

Elasticsearch should include at least one Data node and one Master node.

- Memory: Select ~40% of your available RAM memory and mark Lock JVM memory to prevent the Elasticsearch memory from being swapped.
- Network host: Enter the server's Hostname or IP Address.
- **Discovery:** Enter the (number of master nodes) / 2 + 1. For example, set 2 if there are 3 master nodes in your cluster.
- Unicast Hosts: Add all the master nodes host:port to your cluster.

## Important

If you choose to first create Data node, you can configure **Unicast Hosts** later in **C:\ProgramData\ Elastic\Elasticsearch\config\elasticsearch.yml** 

- 8. Click **Next > Install**.
- 9. Verify that Elasticsearch is functioning successfully:
  - a. Open your Browser and in the Address field type http://<ElasticsearchMachineName>:9200/\_cluster/health.
    Elasticsearch is working as expected if the page opens and the Status attribute is green or yellow.
    If the page does not open or the Status attribute is red, contact Genesys Customer Care for assistance.
- 10. Install **SpeechMiner**. For details refer to installation#Installing SpeechMiner.
- 11. Configure **SpeechMiner**. For details refer to configuration#Configuring SpeechMiner.
- 12. Verify that the Indexer is running and is able to connect to Elasticsearch:
  - a. Enter <a href="http://<IndexerHostName>/indexer/api/v1/status">http://<IndexerHostName>/indexer/api/v1/status</a>. The Indexer is running and is able to connect to Elasticsearch if you see <a href="http://status">isAvailable:true</a>.

## Configure Elasticsearch on Windows

## Important

- Edit your Elasticsearch configuration only in rare cases. For example, when adding an additional Master node to the system.
- You can change the Data nodes indexer after the Indexer installation is complete. To do this, change the **esNodes Environment** value in the Indexer machine. You must use the following format: http://ES1:9200;http://ES2:9200;http://smithES2:9200
- The number of shards and replicas are configured in the SpeechMiner database in the indexParamsTbl table in the numberOfShards and numberOfReplicas columns. You must configure the number of shards and replicas before you run UPlatform for the first time.
- If the customer runs a Migration process, the number of shards and replicas should also be configured in the **LuceneToESMigration** tool configuration file.

1. Open C:\ProgramData\Elastic\Elasticsearch\config\elasticsearch.yml.

- a. Change the following settings:
  - cluster.name
  - node.name
  - Set bootstrap.memory\_lock to true.

- Set network.host as the hostname or the server IP address.
- Set discovery.zen.minimum\_master\_nodes to (number of master-eligible nodes / 2 + 1). For example, if there are three Master-Eligible nodes, then discovery.zen.minimum\_master\_nodes should be set to 2.
- Set discovery.zen.ping.unicast.hosts to a list of Master-Eligible nodes.
- b. By default, a node is a **Master-Eligible** node, a **Data** node and an **Ingest** node.
  - To create a dedicated Master-Eligible node, add the following settings to the [node] section: node.master: true node.data: false node.ingest: false
  - To create a dedicated Data node, add the following settings to the node section: node.master: false node.data: true node.ingest: false
- 2. Open C:\ProgramData\Elastic\Elasticsearch\config\jvm.options.
  - a. Change the JVM heap' size to ~40% of your RAM memory. For example, if you have 32 GB RAM, ensure that both -Xmx and -Xms values are set to 12g. For example, -Xms12g and -Xmx12g.
- 3. Restart the **Elasticsearch** service from the **Services** window to update the settings.

## Elasticsearch 7.x

## Important

Elasticsearch is built using Java and includes a bundled version of OpenJDK. To use your own version of Java, set the **ES\_JAVA\_HOME** environment variable. If you use a version of Java that is different from the bundled JVM, we recommend using a supported version of Java. Elasticsearch will not run if an unsupported version of Java is used. You may remove the bundled JVM directory when using your own JVM.

## Install Elasticsearch 7.17.6

To download Elasticsearch,

- 1. Download **elasticsearch-7.17.6-windows-x86\_64.zip** from **Elasticsearch 7.17.6**. **Note**: Select the **Windows** option to download a zip package.
- 2. Unzip it with your unzip tool. This creates a folder called **elasticsearch-7.17.6**.

To install Elasticsearch as a Windows service, do the following steps:

- 1. Open **Command Prompt** and navigate to the **elasticsearch-7.17.6** > **bin** folder.
- 2. Run the command, elasticsearch-service.bat install. This command installs Elasticsearch as a

Windows service.

- 3. Press **Windows+R** and type **services.msc**, and press **Enter**. This opens the **Services** window that lists all Windows services.
- 4. Verify that Elasticsearch 7.17.6 service is available and then start the service.

## Important

You can also refer to the official Elasticsearch documentation on how to install it on Windows.

After the installation is completed, proceed to the **Configure Elasticsearch on Windows** section below for instructions on configuring Elasticsearch.

## Install Elasticsearch 7.16.3

- Download the Elasticsearch Installer from https://artifacts.elastic.co/downloads/ elasticsearch/elasticsearch-7.16.3.msi.
- 2. Run Elasticsearch.msi.
- 3. Click **Next** in the **Locations** tab.
- 4. Click **Next** in the **Services** tab.
- 5. Set the **Configuration** tab as follow:
  - **Cluster Name:** Select a unique name, for example elasticsearch.

#### Important

Use the same name in all the  $\ensuremath{\text{ES Nodes}}$  you install.

- Node Name: Enter your computer name.
- Role: Select Master or Data as needed and deselect Ingest.

## Important

Elasticsearch should include at least one Data node and one Master node.

- **Memory:** Select ~40% of your available RAM memory and mark **Lock JVM** memory to prevent the **Elasticsearch** memory from being swapped.
- Network host: Enter the server's Hostname or IP Address.
- HTTP port: Set as 9200.

- Transport port: Set as 9300.
- (Optional) This is the first master in a new cluster: Leave it empty.
- Seed Hosts: Add all the master nodes host:port to your cluster.



- 6. Click **Next > Install**.
- 7. Verify that Elasticsearch is functioning successfully:
  - a. Open your Browser and in the Address field type http://<ElasticsearchMachineName>:9200/\_cluster/health.
    Elasticsearch is working as expected if the page opens and the Status attribute is green or yellow.
    If the page does not open or the Status attribute is red, contact Genesys Customer Care for assistance.
- 8. Install **SpeechMiner**. For details refer to installation#Installing SpeechMiner.
- 9. Configure **SpeechMiner**. For details refer to configuration#Configuring SpeechMiner.
- 10. Verify that the Indexer is running and is able to connect to Elasticsearch:
  - a. Enter http://<IndexerHostName>/indexer/api/v1/status. The Indexer is running and is able to connect to Elasticsearch if you see isAvailable:true.

## Configure Elasticsearch on Windows

## Important

- Edit your Elasticsearch configuration only in rare cases. For example, when adding an additional Master node to the system.
- You can change the Data nodes indexer after the Indexer installation is complete. To do this, change the **esNodes Environment** value in the Indexer machine. You must use the following format: ;http://ES1:9200/
- The number of shards and replicas are configured in the SpeechMiner database in the **indexParamsTbl** table in the **numberOfShards** and **numberOfReplicas** columns. You must configure the number of shards and replicas before you run UPlatform for the first time.
- If the customer runs a Migration process, the number of shards and replicas should also be configured in the **LuceneToESMigration** tool configuration file.
- 1. Open C:\ProgramData\Elastic\Elasticsearch\config\elasticsearch.yml.

- a. Change the following settings:
  - cluster.name
  - node.name
  - Set bootstrap.memory\_lock to true.
  - Set **network.host** as the hostname or the server IP address.
  - Set **cluster.initial\_master\_nodes** as the name of the master nodes. This name is the host name that you provided during the installation of Elasticsearch.
  - Set discovery.seed\_hosts to a list of Master-Eligible nodes.
- b. By default, a node is a **Master-Eligible** node, a **Data** node and an **Ingest** node.
  - To create a dedicated Master-Eligible node, add the following settings to the [node] section: node.master: true node.data: false node.ingest: false
  - To create a dedicated Data node, add the following settings to the node section: node.master: false node.data: true node.ingest: false
- 2. Open C:\ProgramData\Elastic\Elasticsearch\config\jvm.options.
  - a. Change the JVM heap' size to ~40% of your RAM memory. For example, if you have 32 GB RAM, ensure that both -Xmx and -Xms values are set to 12g. For example, -Xms12g and -Xmx12g.
- 3. Restart the **Elasticsearch** service from the **Services** window to update the settings.