



# Imanami ElasticHealthReporter Utility

For GroupID 10



GroupID  
Authenticate



GroupID  
Automate



GroupID  
Self-Service



GroupID  
Synchronize



GroupID  
Password Center



GroupID  
Insights



GroupID  
Mobile App



GroupID  
Reports

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# Imanami ElasticHealthReporter Utility

The ElasticHealthReporter utility enables you to monitor your network for the following:

- The status of the Elasticsearch service (i.e., stopped or running).
- Elasticsearch cluster health stats, which include:
  - Cluster name, status and shards information.
  - Cluster indices information, like health, number of documents and status.

You can run this utility manually or schedule a task to execute it as a set frequency. When run, the utility reads the Elasticsearch status and health; then sends this information via email notification to one or more recipients.

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## How is this utility shared with customers?

Imanami Client Services will share a folder, **ImanamiElasticHealthReporterUtility**, with you. Copy it to a network location.

The folder contains the following files:

- Newtonsoft.Json.dll
- Nest.JsonNetSerializer.dll
- Nest.dll
- Imanami.ElasticHealthReporter.pdb
- Imanami.ElasticHealthReporter.exe.config
- Imanami.ElasticHealthReporter.exe
- Imanami.Common.dll
- Elasticsearch.Net.dll

Of these files:

- Use Imanami.ElasticHealthReporter.exe.config to configure the utility.
- Use Imanami.ElasticHealthReporter.exe to run the utility.
- A log file, Imanami.ElasticHealthReporter.log, is created in this folder when the utility is run. Use it to view log entries for the utility.

## Configure the Utility

Open the Imanami.ElasticHealthReporter.exe.config file with a text editor, such as Notepad++.

The file is as:

```

1  <?xml version="1.0" encoding="utf-8" ?>
2  <configuration>
3  <appSettings>
4      <add key="SMTPServer" value="virgoexch.virgo.com" />
5      <add key="SMTPPort" value="25" />
6      <add key="SMTPUser" value="administrator@virgo" />
7      <add key="SMTPPassword" value="support123R" />
8      <add key="FromMail" value="no-reply@virgo.com" />
9      <add key="ToMail" value="administrator@virgo.com" />
10
11     <!--Add the number of nodes configured in GroupId cluster -->
12     <add key="ClusterConfigurednodes" value="2" />
13 </appSettings>
14 <startup>
15     <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.7.2" />
16 </startup>
17 </configuration>

```

Figure 1: Configuration file

You can specify the following:

- An SMTP server to use for sending email notifications.
- The ‘sender’ email address. Email notifications would be sent from this ID.
- The ‘recipient’ email address. Email notifications would be sent to this ID.
- The total number of nodes configured in the Elasticsearch cluster for GroupID.

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### Specify an SMTP server

Provide the following information:

Key	Value
SMTPServer	Example value: virgoexch.virgo.com  Replace it with the fully qualified domain name or IP address of an SMTP server in your environment. Email notifications will be routed through this server.

SMTPPort	<p>Example value: 25</p> <p>Replace it with the port number to use for communicating with the SMTP server.</p>
SMTPUser	<p>Example value: administrator@virgo</p> <p>Replace it with the user name of an authorized user account on the SMTP server. The utility will use this account to connect to the SMTP server.</p>
SMTPPassword	<p>Example value: support123R</p> <p>Replace it with the password of the user account you specified for <b>SMTPUser</b>.</p>
FromMail	<p>Example value: <a href="mailto:no-reply@virgo.com">no-reply@virgo.com</a></p> <p>Replace it with the email address the to use for sending Elasticsearch health and service status related notifications.</p>
ToMail	<p>Example value: <a href="mailto:administrator@virgo.com">administrator@virgo.com</a></p> <p>Replace it with the email address of a recipient for receiving Elasticsearch health and service status related notifications.</p> <p>You can specify multiple email addresses, using a comma to separate them.</p>

Table 1: SMTP server settings

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## Specify the nodes in your Elasticsearch cluster

The GroupID Elasticsearch cluster comprises of two or more nodes. In the Imanami.ElasticHealthReporter.exe.config file, you must specify the number of nodes configured in this cluster.

Use the following line in the file to specify the number of nodes:

```
<add key="ClusterConfigurednodes" value="2" />
```

Replace the value (2) with the total number of nodes configured in your GroupID Elasticsearch cluster.

## Run the ElasticHealthReporter Utility

You can run the ElasticHealthReporter utility in any of the three ways:

- Run the .exe file manually
- Run the utility via a command line
- Create a scheduled task to auto run the utility

When the utility runs, it checks the Elasticsearch status and health. It checks if the service is running, if all nodes are working, and if the cluster is broken or not. The utility will investigate the number of nodes mentioned in the configuration file. It also checks the health of each index. All this info is then sent to one or more specified recipients through an email notification.

The utility uses the SMTP server settings in the configuration file (Table 1) to send email notifications.

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### Run the utility manually

In the **ImanamiElasticHealthReporterUtility** folder, double-click the **Imanami.ElasticHealthReporter.exe** file to run the utility.

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### Run the utility using the command line

1. On the Windows start menu, click **Run**.
2. On the **Run** dialog box, type *cmd* in the **Open** box and click **OK**.
3. Type in the following commandlet in the Windows Command Prompt to run the ElasticHealthReporter utility.

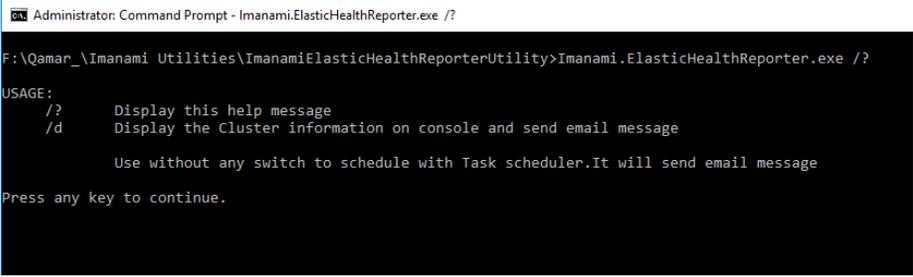
```
[drive name]:\[path to the ElasticHealthReporter folder]>Imanami.ElasticHealthReporter.exe/[parameter_name]
```

Only one parameter is supported: "/d".

- By applying this parameter, the command prompt will display the information and an email notification will be sent to the specified recipient(s).

- If you run the commandlet without this parameter, then an email notification will be sent to the specified recipient(s) but information will not be displayed in the command prompt.

It is as:



```
Administrator: Command Prompt - Imanami.ElasticHealthReporter.exe /?  
F:\Qamar_\Imanami Utilities\ImanamiElasticHealthReporterUtility>Imanami.ElasticHealthReporter.exe /?  
USAGE:  
/?      Display this help message  
/d      Display the Cluster information on console and send email message  
  
        Use without any switch to schedule with Task scheduler.It will send email message  
Press any key to continue.
```

Figure 2: Command prompt showing the commandlet

---

## Schedule a task to auto run the utility

1. Launch the Windows start menu; then search for Task Scheduler and open it.
2. Click **Create Task** in the **Actions** pane and use the **Create Task** dialog box to create a new scheduled task for running the ElasticHealthReporter utility.

# Email Notifications

On every run of the ElasticHealthReporter utility, email notifications are generated and sent to the specified recipient(s).

A separate notification is generated for each Elasticsearch node specified in the configuration file.

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## Notification templates

Some examples of email notifications are given below.

- **When the Elasticsearch service has stopped on the master node, an exception is shown:**

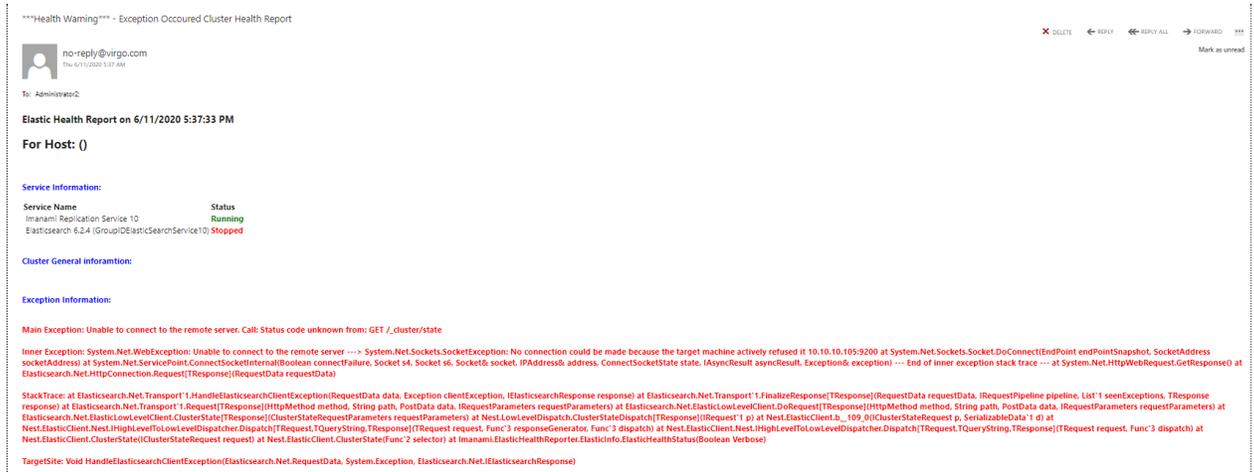


Figure 3: Cluster Health Report showing an error

- **When the cluster is up and services are running on the slave node:**

VirGid92(Slave) Cluster Health Report

 no-reply@virgo.com  
Thu 6/11/2020 5:32 AM

To: Administrator2;

**Elastic Health Report on 6/11/2020 5:32:44 PM**

**For Host: VirGid92 (Slave)**

**Service Information:**

Service Name	Status
Imanami Replication Service 10	Running
Elasticsearch 6.2.4 (GroupIDElasticSearchService10)	Running

**Cluster General information:**

Cluster Name	GroupidCluster10
Cluster Status	Green
Cluster TimedOut	False
Number Of Nodes	2
Number Of DataNodes	2
ActivePrimaryShards	41
ActivePrimaryShards	82
Unassigned Shards	0

**Cluster Indices information:**

Index	Health	DocsCount	DocsDeleted	Status
virgo.com_user_1	green	1019	446	open
virgo.com_history_1	green	703	986	open
virgo.com_group_1	green	75	210	open
virgo.com_ou_1	green	122	93	open
virgo.com_computer_1	green	13	8	open
virgo.com_publicfolder_1	green	0	0	open
searchguard	green	0	6	open
virgo.com_identity_1	green	1	0	open
virgo.com_contact_1	green	0	0	open

Figure 4: Cluster Health Report for a Slave node

- **When the cluster is up and services are running on the master node:**

VirGID10(Master) Cluster Health Report



no-reply@virgo.com  
Thu 6/11/2020 8:00 AM

To: Administrator2;

**Elastic Health Report on 6/11/2020 8:00:31 PM**

**For Host: VirGID10 (Master)**

**Service Information:**

Service Name	Status
Imanami Replication Service 10	<b>Running</b>
Elasticsearch 6.2.4 (GroupIDElasticSearchService10)	<b>Running</b>

**Cluster General information:**

Cluster Name	GroupidCluster10
Cluster Status	<b>Green</b>
Cluster TimedOut	False
Number Of Nodes	2
Number Of DataNodes	2
ActivePrimaryShards	41
ActivePrimaryShards	82
Unassigned Shards	0

**Cluster Indices information:**

Index	Health	DocsCount	DocsDeleted	Status
virgo.com_user_1	green	1019	446	open
virgo.com_history_1	green	703	986	open
virgo.com_group_1	green	75	210	open
virgo.com_ou_1	green	122	93	open
virgo.com_computer_1	green	13	8	open
virgo.com_publicfolder_1	green	0	0	open
searchguard	green	0	6	open
virgo.com_identity_1	green	1	0	open
virgo.com_contact_1	green	0	0	open

Figure 5: Cluster Health Report for a Master node

- **When the cluster is broken due to the reason that the Elasticsearch service has stopped on the master node:**

\*\*\*Health Warning\*\*\* - VirGid92(Master) Cluster Health Report


no-reply@virgo.com  
Thu 6/11/2020 5:41 AM

To: Administrator2:

**Elastic Health Report on 6/11/2020 5:40:58 PM**

**For Host: VirGid92 (Master)**

**Service Information:**

Service Name	Status
Imanami Replication Service 10	<b>Running</b>
Elasticsearch 6.2.4 (GroupIDElasticSearchService10)	<b>Running</b>

**Cluster General information:**

Cluster Name	GroupidCluster10
Cluster Status	<b>Yellow</b>
Cluster TimedOut	False
Number Of Nodes	1
Number Of DataNodes	1 <b>(Difference found. Configured nodes = 2)</b>
ActivePrimaryShards	41
ActivePrimaryShards	41
Unassigned Shards	40

**Cluster Index information:**

Index	Health	DocsCount	DocsDeleted	Status
virgo.com_user_1	yellow	1019	446	open
virgo.com_history_1	yellow	703	1015	open
virgo.com_group_1	yellow	75	210	open
virgo.com_ou_1	yellow	122	93	open
virgo.com_computer_1	yellow	13	8	open
virgo.com_publicfolder_1	yellow	0	0	open
searchguard	green	0	6	open
virgo.com_identity_1	yellow	1	0	open
virgo.com_contact_1	yellow	0	0	open

Figure 6: Custer Health Report for a broken cluster

Notice that the cluster status is shown as 'Yellow' and the slave node has become its own master now.

The cluster can be broken when port 9305 (default) is blocked for 90 seconds or more.

## Cluster health indicators

Health status is indicated by a color:

- Green – the service is running and the cluster is intact.
- Yellow – the service has stopped or the cluster is broken (for reasons such as network connectivity issues).

The cluster is running but with warnings, like Elasticsearch recommends a three-node topology for improved performance and high availability.

- Red – the server hosting the service is down.



If the Elasticsearch service has stopped, you must manually restart it on the host machine.