Web Services and Applications Deployment Guide

Initializing Cassandra

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Contents

Creating the Cassandra Keyspace

The procedures below describe how to create the Cassandra keyspace for the following scenarios:

- Development — 1 Cassandra node (appropriate for a development or lab environment)
- Single Datacenter — 1 datacenter with a minimum of three Cassandra nodes
- Two Datacenters — 2 datacenters with a minimum of three Cassandra nodes in each datacenter

Select a tab below for the procedure that matches your deployment scenario.

> **Important**
> For more complex Cassandra deployments, please consult with Genesys.

Development

Creating the Cassandra Keyspace (1 Cassandra node)

Start of Procedure

1. Copy the `ks-schema-local.txt` file from `[installation_CD]/data` to the Cassandra node host.
2. By default, the replication factor is set to 1. Since this is a single node deployment, you do not need to modify this value. Refer to the Cassandra documentation for more information about replication factors.

   ```
   and strategy_options = {replication_factor : 1}
   ```

3. Run the following command to create the Cassandra schema:

   ```
   [cassandra install dir]/bin/cassandra-cli  -h [cassandra host] --file ks-schema-local.txt
   ```

- `[cassandra host]` is the host name (fully qualified domain name) or IP address of the Cassandra node

End of Procedure

Next Steps

- Creating the Column Families

Creating the Column Families

Start of Procedure

1. Copy the `cf-schema.txt` file from `[installation_CD]/data` to the Cassandra node host.
2. Run the following command to create the Cassandra schema:

   ```
   [cassandra install dir]/bin/cassandra-cli  -h [cassandra host] --file cf-schema.txt
   ```

- `[cassandra host]` is the host name (fully qualified domain name) or IP address of the Cassandra node

End of Procedure

Next Steps

- Deploy the Web Application

Single Datacenter

Creating the Cassandra Keyspace (1 datacenter)

Complete the following procedure on one node in your Cassandra cluster.

Start of Procedure

1. Copy the `ks-schema-prod.txt` file from `[installation_CD]/data` to the Cassandra node host.
2. By default, the replication factor is set to 2. Refer to the Cassandra documentation for more information about replication factors. To modify this value, change the following line:

   ```
   and strategy_options = {replication_factor : 2}
   ```

3. Run the following command to create the Cassandra schema:

   ```
   [cassandra install dir]/bin/cassandra-cli  -h [cassandra host] --file ks-schema-prod.txt
   ```

- `[cassandra host]` is the host name (fully qualified domain name) or IP address of the Cassandra node

End of Procedure

Next Steps

- Creating the Column Families

Creating the Column Families

Complete the following procedure on one node in your Cassandra cluster.

Start of Procedure

1. Copy the `cf-schema.txt` file from `[installation_CD]/data` to the Cassandra node host.
2. Run the following command to create the Cassandra schema:

```
[cassandra install dir]/bin/cassandra-cli  -h [cassandra host] --file cf-schema.txt
```

- `[cassandra host]` is the host name (fully qualified domain name) or IP address of the Cassandra node

End of Procedure

Next Steps

- Deploy the Web Application

Two Datacenters

Creating the Cassandra Keyspace (2 datacenters)

Complete the following procedure on one node in your Cassandra cluster.

Start of Procedure

1. Copy the `ks-schema-prod_HA.txt` file from `[installation_CD]/data` to the Cassandra node host.
2. Modify the following line:

```
with strategy_options ={ AZ1 : 3, AZ2 : 3 }
```

   a. Add the datacenter name. You can use nodetool to find the name of the datacenter by examining the output of "nodetool ring" (the tool is located in the `bin` directory of Cassandra). The following is sample output from the nodetool:

```
/genesys/apache-cassandra-1.1.6/bin$ ./nodetool ring
Address         DC           Rack   Status  State   Load      Owns     Token
192.0.2.10      datacenter1  rack1  Up      Normal  14.97 MB  100.00%  0
198.51.100.10   datacenter2  rack1  Up      Normal  14.97 MB  100.00%  100
192.0.2.11      datacenter1  rack1  Up      Normal  14.97 MB  100.00%
56713727820156410577229101238628035242
198.51.100.11   datacenter2  rack1  Up      Normal  14.97 MB  100.00%
56713727820156410577229101238628035242
192.0.2.12      datacenter1  rack1  Up      Normal  14.97 MB  100.00%
113427455640312821154458202477256070484
198.51.100.12   datacenter2  rack1  Up      Normal  14.97 MB  100.00%
113427455640312821154458202477256070484
```

   b. Add the replication factor. Refer to the Cassandra documentation for more information about replication factors.

   Based on the nodetool output above, your line might be:

```
with strategy_options ={ datacenter1 : 3, datacenter2 : 3 }
```

3. Run the following command to create the Cassandra schema:

```
[cassandra install dir]/bin/cassandra-cli  -h [cassandra host] --file ks-schema-
prod_HA.txt
```

- `[cassandra host]` is the host name (fully qualified domain name) or IP address of the Cassandra node

End of Procedure

Next Steps

- Creating the Column Families

Creating the Column Families

Complete the following procedure on one node in your Cassandra cluster.

Start of Procedure

1. Copy the `cf-schema.txt` file from `[installation_CD]/data` to the Cassandra node host.
2. Run the following command to create the Cassandra schema:

```
[cassandra install dir]/bin/cassandra-cli  -h [cassandra host] --file cf-schema.txt
```

- `[cassandra host]` is the host name (fully qualified domain name) or IP address of the Cassandra node

End of Procedure

Next Steps

- Deploy the Web Application