

Install ClickHouse on Centos 8

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add repo

```
sudo dnf install -y yum-utils
```

```
sudo yum-config-manager --add-repo https://packages.clickhouse.com/rpm/clickhouse.repo
```

install

```
sudo dnf install -y clickhouse-server clickhouse-client
```

start & enable

```
sudo systemctl enable --now clickhouse-server
```

open firewall (optional)

```
sudo firewall-cmd --permanent --add-port=8123/tcp  
sudo firewall-cmd --permanent --add-port=9000/tcp  
sudo firewall-cmd --reload
```

```
root@clickhouse-cluster-node01/etc/clickhouse-keeper
GNU nano 5.6.1 keeper_config.xml
clickhouse>
<listen_host>0.0.0.0</listen_host>
<logger>
  <!-- Possible levels [1]:
    - none (turns off logging)
    - fatal
    - critical
    - error
    - warning
    - notice
    - information
    - debug
    - trace

    [1]: https://github.com/pocoproject/poco/blob/poco-1.9.4-release/Foundation/include/Poco/Logger.h#L105-L114
  -->
  <level>trace</level>
  <log>/var/log/clickhouse-keeper/clickhouse-keeper.log</log>
  <errorlog>/var/log/clickhouse-keeper/clickhouse-keeper.err.log</errorlog>
  <!-- Rotation policy
    See https://github.com/pocoproject/poco/blob/poco-1.9.4-release/Foundation/include/Poco/FileChannel.h#L54-L85
  -->
  <size>1000M</size>
  <count>10</count>
  <!-- <console>1</console> --> <!-- Default behavior is autodetection (log to console if not daemon mode and is tty) -->
</logger>

<max_connections>4096</max_connections>

<keeper_server>
  <tcp_port>9181</tcp_port>
  <listen_host>0.0.0.0</listen_host>
  <!-- Must be unique among all keeper serves -->
  <server_id>1</server_id>

  <log_storage_path>/var/lib/clickhouse/coordination/logs</log_storage_path>
</keeper_server>
```

Remember the top most `<listen_host>0.0.0.0</listen_host>`

```
root@clickhouse-cluster-node01/etc/clickhouse-keeper
GNU nano 5.6.1 keeper_config.xml

<!-- enable sanity hostname checks for cluster configuration (e.g. if localhost is used with remote endpoints) -->
<hostname_checks_enabled>true</hostname_checks_enabled>
<raft_configuration>
  <server>
    <id>1</id>

    <!-- Internal port and hostname -->
    <hostname>10.240.240.13</hostname>
    <port>9234</port>
  </server>

  <server>
    <id>2</id>

    <!-- Internal port and hostname -->
    <hostname>10.240.240.14</hostname>
    <port>9234</port>
  </server>

  <server>
    <id>3</id>

    <!-- Internal port and hostname -->
    <hostname>10.240.240.15</hostname>
    <port>9234</port>
  </server>

  <!-- Add more servers here -->
</raft_configuration>
</keeper_server>

<openssl>
  <server>
```

Ctrl+H Help	Ctrl+O Write Out	Ctrl+W Where Is	Ctrl+X Cut	Ctrl+J Execute	Ctrl+G Location	Ctrl+U Undo	Ctrl+A Set Mark	Ctrl+I To Bracket	Ctrl+C Previous
Ctrl+X Exit	Ctrl+S Read File	Ctrl+R Replace	Ctrl+V Paste	Ctrl+_ Justify	Ctrl+F Go To Line	Ctrl+R Redo	Ctrl+E Copy	Ctrl+O Where Was	Ctrl+N Next

```
root@clickhouse-cluster-node01:/etc/clickhouse-server
GNU nano 5.6.1 config.xml
</http_forbid_headers> -->

<!-- If element has 'incl' attribute, then for it's value will be used corresponding substitution from another file.
By default, path to file with substitutions is /etc/metrika.xml. It could be changed in config in 'include_from' element.
Values for substitutions are specified in /clickhouse/name_of_substitution elements in that file.
-->

<!-- ZooKeeper is used to store metadata about replicas, when using Replicated tables.
Optional. If you don't use replicated tables, you could omit that.

See https://clickhouse.com/docs/en/engines/table-engines/mergetree-family/replication/

Note: ClickHouse Cloud https://clickhouse.com/cloud has ClickHouse Keeper automatically configured for every service.
-->

<zookeeper>
  <node>
    <host>10.240.240.13</host>
    <port>9181</port>
  </node>
  <node>
    <host>10.240.240.14</host>
    <port>9181</port>
  </node>
  <node>
    <host>10.240.240.15</host>
    <port>9181</port>
  </node>
</zookeeper>

<!-- Substitutions for parameters of replicated tables.
Optional. If you don't use replicated tables, you could omit that.

See https://clickhouse.com/docs/en/engines/table-engines/mergetree-family/replication/#creating-replicated-tables
-->
<!--
<macros>
```

```
- target hostname / ip address (same notes as for source hostname)
- time-based security tokens
-->
<!-- <secret></secret> -->

<shard>
  <!-- Optional. Whether to write data to just one of the replicas. Default: false (write data to all replicas). -->
  <!-- <internal_replication>false</internal_replication> -->
  <!-- Optional. Shard weight when writing data. Default: 1. -->
  <!-- <weight>1</weight> -->
  <replica>
    <host>10.240.240.13</host>
    <port>9000</port>
    <!-- Optional. Priority of the replica for load_balancing. Default: 1 (less value has more priority). -->
    <!-- <priority>1</priority> -->
    <!-- Use SSL? Default: no -->
    <!-- <secure>0</secure> -->
    <!-- Optional. Bind to specific host before connecting to use a specific network. -->
    <!-- <bind_host>10.0.0.1</bind_host> -->
  </replica>

  <replica>
    <host>10.240.240.14</host>
    <port>9000</port>
  </replica>

  <replica>
    <host>10.240.240.15</host>
    <port>9000</port>
  </replica>
</shard>
</default>
</remote_servers>

<!-- The list of hosts allowed to use in URL-related storage engines and table functions.
If this section is not present in configuration, all hosts are allowed.
-->
```

```
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<openssl>
  <server>
```

test locally

```
clickhouse-client -q "SELECT version();"

```

Configure Clickhouse Server Config file

```
sudo nano /etc/clickhouse-server/config.xml
```

Uncomment below this statement :

```
<listen_host>0.0.0.0</listen_host>
```

Verify ClickHouse from DBeaver

Run a test query:

```
SELECT version();
```

```
CREATE DATABASE IF NOT EXISTS demo ON CLUSTER default;
```

```
CREATE TABLE demo.test ON CLUSTER default ( ts DateTime, name String ) ENGINE =  
ReplicatedMergeTree() ORDER BY ts;
```

```
INSERT INTO demo.test (ts, name) VALUES (now(), 'Cluster Test 5');
```

```
CREATE TABLE demo.test_distributed ON CLUSTER default AS demo.test ENGINE =  
Distributed('default', 'demo', 'test', rand());
```

```
select * from demo.test_distributed;
```

```
SELECT hostName(), ts, name FROM clusterAllReplicas('default', demo.test);
```