

# Licensing Administration

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## Licensing Overview

ClustrixDB must have a valid license in order to run. This license specifies:

1. The maximum number of nodes allowed in the cluster
2. The maximum number of cores that will be utilized by ClustrixDB

On bare metal systems, ClustrixDB will attempt to enable the same number of physical cores as licensed and utilize hyperthreading if available. For virtualized systems, ClustrixDB will enable the number of cores available. If the cluster does not have a valid or current license, the database will operate in read-only mode.

## Obtaining a License

To obtain a license key, please contact [Clustrix Sales](#).

Enterprise Licenses are based on a `cluster_id`, which is a machine-generated unique identifier for your cluster. The value for `cluster_id` is available by providing the following at a MySQL prompt:

```
sql> select @@cluster_id;
```

## Applying a License

Licenses are delivered as long strings of text that begin and end in { } braces. Whenever entering a license key, be sure to include the braces too.

Specify the license key at the command line:

```
sql> set global license = 'license_key_including_braces';
```

If valid, the license is applied dynamically and does not require a restart of the ClustrixDB services.

## Updating Your License

Contact [Clustrix Sales](#) to obtain a new license when you want to add nodes, add cores, or renew your license.

When changing to a license that uses more cores, the CPUs are enabled as soon as the system detects a change in licensing.

To change to a license that uses fewer cores, edit the `CPU_CORES` value in `clxnode.conf` on every node, then restart the database before applying the new license.

## License Expiration

Beginning 30 days prior to expiration, the database will issue an [alert](#) that the license is about to expire. This alert is sent weekly until the license has expired. Once the license has expired, alerts will be sent daily and the database will automatically enter license-expired mode and become read only.

## Checking the Status of Your License

To check the status of your license, run the following query to determine whether your license is valid:

```
sql> select system.license_valid();
```

If your license is not valid, the results of the following query can tell you why:

```
sql> select system.license_status();
```