

You should now be ready to work with database objects and data using NDB Cluster's [NDBCLUSTER](#) storage engine. See [Section 23.2.5, “NDB Cluster Example with Tables and Data”](#), for more information and examples.

You can also install [ndb_mgmd.exe](#), [ndbd.exe](#), and [ndbmtdd.exe](#) as Windows services. For information on how to do this, see [Section 23.2.2.4, “Installing NDB Cluster Processes as Windows Services”](#).

23.2.2.4 Installing NDB Cluster Processes as Windows Services

Once you are satisfied that NDB Cluster is running as desired, you can install the management nodes and data nodes as Windows services, so that these processes are started and stopped automatically whenever Windows is started or stopped. This also makes it possible to control these processes from the command line with the appropriate [SC START](#) and [SC STOP](#) commands, or using the Windows graphical [Services](#) utility. [NET START](#) and [NET STOP](#) commands can also be used.

Installing programs as Windows services usually must be done using an account that has Administrator rights on the system.

To install the management node as a service on Windows, invoke [ndb_mgmd.exe](#) from the command line on the machine hosting the management node, using the [--install](#) option, as shown here:

```
C:\> C:\mysql\bin\ndb_mgmd.exe --install
Installing service 'NDB Cluster Management Server'
as 'C:\mysql\bin\ndbd.exe' "--service=ndb_mgmd"
Service successfully installed.
```



Important

When installing an NDB Cluster program as a Windows service, you should always specify the complete path; otherwise the service installation may fail with the error [The system cannot find the file specified](#).

The [--install](#) option must be used first, ahead of any other options that might be specified for [ndb_mgmd.exe](#). However, it is preferable to specify such options in an options file instead. If your options file is not in one of the default locations as shown in the output of [ndb_mgmd.exe --help](#), you can specify the location using the [--config-file](#) option.

Now you should be able to start and stop the management server like this:

```
C:\> SC START ndb_mgmd
C:\> SC STOP ndb_mgmd
```



Note

If using [NET](#) commands, you can also start or stop the management server as a Windows service using the descriptive name, as shown here:

```
C:\> NET START 'NDB Cluster Management Server'
The NDB Cluster Management Server service is starting.
The NDB Cluster Management Server service was started successfully.

C:\> NET STOP 'NDB Cluster Management Server'
The NDB Cluster Management Server service is stopping..
The NDB Cluster Management Server service was stopped successfully.
```

It is usually simpler to specify a short service name or to permit the default service name to be used when installing the service, and then reference that name when starting or stopping the service. To specify a service name other than [ndb_mgmd](#), append it to the [--install](#) option, as shown in this example: