

## An Overview

Thank you for installing NuDesign Technologies, Inc., SNMPv3 / HTTP / CLI Agent Sample, a multiprotocol MS Windows based agent supporting access to its MIB management objects via SNMP, HTTP and CLI applications.

The install process has installed on your machine the following NuDesign components:

1. a standalone SNMPv3/HTTP/CLI Agent implementing ND-GARAGE-MIB, in addition to SNMPv3 configuration MIBs.
2. the NDGarage.mib file containing the ND-GARAGE-MIB module, an example of a MIB for managing garage for motor vehicles.
3. this ReadMe file.

To start the agent please click on "NuDesign Sample Agent" shortcut, then type "?" in the Console Application window to get a list of CLI commands.

The purpose of this package is to let you inspect multiprotocol access aspects of the agent: change the object value from the Console Application, verify it via NuDesign's (or any other) SNMP Visual MIBrowser or point your web browser to agent's IP address (127.0.0.1) to get / set objects via the HTTP web access.

Please try any other combination, btw for questions we are only a phone call away at 416 737 0328 or email us at [contact@ndt-inc.com](mailto:contact@ndt-inc.com).

Now please consider your application, you need to develop a management agent, we offer tools that automate creation of everything that is known up front - code for standard based MIBs, code generator for your MIBs, management and access protocols libraries like SNMPv3 and HTTP. You, the developer can therefore focus on the specific 'value add' tasks, that is your application and your enterprise MIB.

Develop your MIB using our Visual MIBuilder, then use our Visual xAgentBuilder for C++ to generate your MIB-dependant C++ code, build a project for your platform with our xAgentBuilder SDKs and test so created SNMPv3/HTTP/CLI Agent with our Visual MIBrowser.

If you would like to evaluate the Visual xAgentBuilder for C++, MS Windows host based code generation tool for SNMPv3/HTTP/CLI Agents please contact us or download an evaluation package at <http://www.ndt-inc.com/download.html>.

For more information please visit our website at [www.ndt-inc.com](http://www.ndt-inc.com).

Thank you,

NuDesign Team

## A Few Words About Agent Behavior

This agent simulates a fictitious garage for motor vehicles.

**ND-GARAGE-MIB** consists of a few scalar objects, one table and three notifications. Here is the tree structure of the **ND-GARAGE-MIB**

```
[1.3.6.1.4.1] iso.org.dod.internet.private.enterprises
|
+-[4761] nuDesign
|
+-[99] ndtExperimental
|
+-[11] garage
|
+-[ 1] garageObjects
| |
| +-[ 1] -RW- DisplayString garageAddress
| +-[ 2] -RO- INTEGER garageNumVehicles
| +-[ 3] vehiclesTable
|   +-[ 1] vehiclesEntry
|     +-[ 1] -NA- INTEGER vehicleIndex
|     +-[ 2] -RC- DisplayString vehicleLicensePlate
|     +-[ 3] -RC- DisplayString vehicleModel
|     +-[ 4] -RC- RowStatus vehicleStatus
| +-[ 4] -RO- INTEGER garageCOLevel
| +-[ 5] -RW- INTEGER garageCOLevelRisingThreshold
| +-[ 6] -RW- INTEGER garageCOLevelFallingThreshold
|
+-[ 2] garageEvents
|
+-[ 1] notPaidAlarm
+-[ 2] coLevelRisingAlarm
+-[ 3] coLevelFallingAlarm
```

The **garageAddress** is string that contains address of the garage.

The list of vehicles currently parked in the garage is stored in **vehiclesTable**. Number of rows in the table represents the number of vehicles parked in the garage and can be retrieved by reading **garageNumVehicles** object.

The **garageCOLevel** object represents the current level of carbon monoxide (CO) toxicity level in the garage (airborne concentration level expressed in parts per million or PPM). When CO toxicity level becomes dangerous (i.e. it exceeds the value of rising threshold specified in **garageCOLevelRisingThreshold** object) an SNMP trap will be sent.

The prudent implementation of the trap receiver will then turn on the fans in order to ventilate the garage area. After CO toxicity level drops to or below the harmless level (the value of falling threshold specified in **garageCOLevelFallingThreshold** object) an SNMP trap will be sent. In response to this trap, the trap receiver application will turn off the fans in the garage.

The trap that the agent sends when it detects that CO level has exceeded the rising threshold is `coLevelRisingAlarm`. A rising-alarm is generated at the agent start-up if the first sampled CO level exceeds the rising threshold.

After a rising-alarm is generated another such event will not be generated until the CO level has fallen below the rising threshold, reached the falling threshold, and then subsequently reached the rising threshold again.

The trap that the Garage agent sends when it detects that CO level has dropped below falling threshold is `coLevelFallingAlarm`. A falling-alarm is generated at the agent start-up if the first sampled CO level is below the falling threshold.

After a falling-alarm is generated another such event will not be generated until the CO level has risen above the falling threshold, reached the rising threshold, and then subsequently reached the falling threshold again.

This garage has paying customers; hence no `notPaidAlarm` will be generated...☺

## About NuDesign Technologies

NuDesign Technologies, Inc, based in Toronto, Canada, specializes in the development of management agents and client applications used in remote configuration, monitoring and control of Windows and Linux Servers & Workstations, embedded devices, networking services and applications. For all of our software products, supporting standard management protocols such as NETCONF, SNMP, CLI and web protocols such as RESTCONF, please visit our main site at [www.ndt-inc.com](http://www.ndt-inc.com).

The benefits of deploying NuDesign's management software technologies are reliable, low risk, quick-to-market and well supported solutions. The highly automated code generation tools with associated applications and tutorials enable fast prototyping and development. They also facilitate organization and design process for multiple target environments.

## Contact Information

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