

# **NMM Software Developer Kit (NMM-SDK) (Linux, PS3, Mac OS X)**

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This document describes the installation and usage of the NMM-SDK for Linux, PS3, Mac OS X, and other similar platforms.

In this document, we assume that NMM-SDK package is called `nm-sdk-2.2.0.tar.gz` and will be extracted to directory `/home/bob/nm-sdk-2.2.0`. Please replace these names as appropriate, e.g. with the name of the NMM-SDK package that you are actually using.

## 1. Introduction

The NMM Software Developer Kit (NMM-SDK) allows you to quickly get started with developing software based on the Network-Integrated Multimedia Middleware (NMM). The NMM-SDK provides a simple interface specified in NMM-IDL, a plug-in that implements this interface, and an application that uses those two components in a flow graph.

## 2. Requirements

Before using the NMM-SDK, you need to have NMM installed, configured, and successfully tested as described in the corresponding documentation.

In particular, the NMM-SDK only works with an installed version of NMM. In the following, we assume that NMM binaries are installed in directory `/home/bob/nmm-2.2.0-installed/`.

## 3. Installation

### 3.1. Download NMM-SDK

Download NMM-SDK from here ([../././nmmdownload.html](#)).

### 3.2. Extract

Extract the tar.gz package:

- `cd /home/bob`
- `tar xvfz nmm-sdk-2.2.0.tar.gz` (will extract to `/home/bob/nmm-sdk-2.2.0`)

### 3.3. Environment Variables

Set the environment variables as described in the installation guide for NMM. In addition, you need to extend your `LD_LIBRARY_PATH` to not only include the external libraries required for NMM, but also the installed NMM libraries themselves:

- `export LD_LIBRARY_PATH=/home/bob/nmm-2.2.0-installed/lib/nmm:$LD_LIBRARY_PATH`  
(for bash)

- `setenv LD_LIBRARY_PATH /home/bob/nmm-2.2.0-installed/lib/nmm:$LD_LIBRARY_PATH`  
(for tcsh)

Again, you might want to extend your personal `~/.tcshrc` (for tcsh) or `~/.bashrc` (for bash).

## 3.4. Configure

Run configure script for the first time:

- `cd /home/bob/nmm-sdk-2.2.0/`
- `./autogen.sh`
- `./configure --with-nmm=/home/bob/nmm-2.2.0-installed/`  
`--prefix=/home/bob/nmm-2.2.0-installed/` (See `./configure --help` for a list of all options.)

## 3.5. Build

Build NMM-SDK

- Run `make`

## 3.6. Install

In order to make the new NMM plug-in and application included in the NMM-SDK available, you need to install the NMM-SDK:

- `make install`

## 3.7. Register

After the new NMM plug-in is installed to the NMM directory, it needs to be registered:

- `cd /home/bob/nmm-2.2.0-installed/bin/`
- Then execute `./serverregistry -s` as usual. Please make sure that the new plug-in included in the NMM-SDK is printed out in this step (`AudioVolumeFilterNode`).

## 3.8. Run NMM Applications

Finally, you can start the newly installed NMM application:

- `cd /home/bob/nmm-2.2.0-installed/bin/`
- Run `hellovolumefilter <wav file>` using some WAV file. You should be able to hear audio and interactively change the volume using the simple software filter implemented in `AudioVolumeFilterNode` .

## 4. Development

Feel free to extend the NMM interface, plug-in, or application provided in the NMM-SDK. Or, write your own source code by taking the provided source code as reference.

Whenever you make changes to the source code, please remember to install by running `make install` in all affected directories, or in the main directory of the NMM-SDK.

If you add a new plug-in, you also need to run `./serverregistry -s` once as described above.

To simplify the compilation process, the autotools (<http://sourceware.org/autobook/>) are used. Using these tools all required Makefiles are generated automatically. Each Makefile is generated from the information of the corresponding `Makefile.am`, which is included in every folder. If you want to add a new file or directory, you need to edit the corresponding `Makefile.am`.