



Spectralmind

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SEARCH by Sound

Spectralmind Audio Intelligence Platform

Backend documentation

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Introduction

This text documents the SEARCH by Sound backend.

Note that various information on installation and using it are available from a variety of sources. This document is to centralize this know-how.

This document is work in progress.

Intended audience

The target group for this document are system integrators, database administrators, content officers and IT deciders.

Overview and components

The main components of SEARCH by Sound are

- Audio analyzing and indexing backend ("Smafe")
- System level administration tools for Smafe
- Database to hold fingerprints, index and references to audio files
- Application programming interface (API)
- SEARCH by Sound frontend

System requirements

(See API documention)

Installation

See INSTALL and README shipped together with installation package.

Using

It is assumed that the relevant components and their dependencies have been successfully installed.

Using the daemons

The analyzing and indexing backend (referred to as Smafe) can be controlled by shell scripts. You can start and stop the daemons as well as query the status.

Internally, the daemon that analyzes the audio files and extracts the fingerprint is called *smafewrapd*, whereas the indexing daemon is called *smafedistd*.

Both are polling the database to find not-yet-processed audio files ("jobs"). This happens in intervals of (usually) 10 minutes. As long as open jobs are announced the daemons will continue to process them.

The exact invocation depends on the operating system. Currently, we support Linux and Mac OS X.

Linux (Debian style)

The setup will install the control scripts systemwide to standard locations (/etc/init.d)

Starting the daemons	<code>sudo /etc/init.d/smafed start</code>
Stopping the daemons	<code>sudo /etc/init.d/smafed stop</code>
Querying the status	<code>/etc/init.d/smafed status</code>

Mac OS X

Go to the directory where smafe is installed.

Starting the daemons	<code>cd bin ./run.sh start</code>
Stopping the daemons	<code>cd bin ./run.sh stop</code>
Querying the status	<code>cd bin ./run.sh status</code>

Status

In this section we list some typical status reports.

Both daemons running, no jobs:

```
Smafe daemons running with PIDS: 5149 (=smafewrapd) and 5160
(=smafedistd)
Assuming active log file: /home/shared/code/forlivesmint-
segments/smafewrapd.5147.log
Daemon started at: 2012-03-17 14:37:22
2012-05-21 12:16:04 ii 0 open addfile task(s) found.
2012-05-21 12:16:04 ii No open addfile tasks found
2012-05-21 12:16:04 ii 0 open deletefile task(s) found.
2012-05-21 12:16:04 ii No open deletefile tasks found
2012-05-21 12:16:04 ii 0 open delete collection task(s) found.
2012-05-21 12:16:04 ii No open deletecollection tasks found
2012-05-21 12:16:04 ii Going to sleep for 10 minutes...
Assuming active log file: /home/shared/code/forlivesmint-
segments/smafedistd.5158.log
Daemon started at: 2012-03-17 14:37:24
2012-05-21 12:04:03 ii 0 open task(s) matching current parameters.
2012-05-21 12:14:03 ii 0 open task(s) matching current parameters.
2012-05-21 12:04:03 ii Going to sleep for 10 minutes...
2012-05-21 12:14:03 ii Going to sleep for 10 minutes...
```

Both daemons running, jobs remaining

```
Smafe daemons running with PIDS: 5149 (=smafewrapd) and 5160
(=smafedistd)
Assuming active log file: /home/shared/code/forlivesmint-
segments/smafewrapd.5147.log
Daemon started at: 2012-03-17 14:37:22
2012-05-21 12:16:04 ii 876 open addfile task(s) found.
2012-05-21 12:16:04 ii 0 open deletefile task(s) found.
2012-05-21 12:16:04 ii No open deletefile tasks found
2012-05-21 12:16:04 ii 0 open delete collection task(s) found.
2012-05-21 12:16:04 ii No open deletecollection tasks found
2012-05-21 12:16:04 ii Estimated end time is 2012-05-21 13:03:11. (47
minutes)
Assuming active log file: /home/shared/code/forlivesmint-
segments/smafedistd.5158.log
Daemon started at: 2012-03-17 14:37:24
2012-05-21 12:04:03 ii 264 open task(s) matching current parameters.
```

No daemons running

One or more smafe daemons NOT running.
PID of smafewrapd:
PID of smafedistd:

Using the API

(See API documentation)

Database

Currently we support only PostgreSQL as database system. Usually the postgres daemon is started on boot time and there is no need to manually control the database system.

FAQ

(See FAQ chapter in API documentation)