MotM - Supervisord

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March 18, 2014

Introduction

- Supervisord is a process control system written in Python that can be used to manage scripts, applications and/or frameworks as Unix daemons
  - Child programs you write that run in supervisord are referred to as sub-processes

- It requires Python 2.4 – 2.7, but not Python 3

- Supervisord has been tested with Linux, Solaris, FreeBSD and Mac OS X, but will not run under any version of Windows

Supervisord Components

- supervisord
  - The server piece that is responsible for starting and managing sub-processes configured in its configuration file, typically located in /etc/supervisord.conf

- supervisorctrl
  - A client command-line tool used to connect and control supervisord and its sub-processes

Supervisord Components

- Web server
  - A simple web UI with similar functionality to supervisorctrl; it must be configured in supervisord.conf

- XML-RPC Interface
  - Provided in the web server, this API can be used to monitor and control supervisor and its sub-processes programmatically

Installing

- The simplest way to install is via pip:
  ```
  pip install supervisor
  ```

- Next, generate a default configuration file (as root):
  ```
  echo_supervisord_conf > /etc/supervisord.conf
  ```

- Scripts are available to automatically run supervisord on startup

Sub-processes

- Don't daemonize programs running in supervisord—they should run in the foreground
    - Sub-processes should not detach themselves from the terminal where they are started

- Environmental variables can be set in supervisord.conf which makes them accessible to sub-processes

Logging

- Supervisord will log messages on its own health and sub-process state changes

- Each program managed by supervisord can have a stderr and stdout log file, or both combined in one file

- Both supervisord and programs can be configured with log file rotation, maximum sizes and the number of backups to keep

- Logging is configured in supervisord.conf

Additional Features

- ☐ Run a sub-process from start to finish continuously while supervisord is running

- ☐ Custom event listeners can be written to respond to changes in supervisord states

- ☐ The XML-RPC API can be extended for deeper programmatic control of supervisord

Demo: Log Monitoring

- Installing and configuring supervisord, including using an init.d script

- Monitoring a log file (/var/log/messages) and replicating 1–10 lines at a time into another file

- Keeping track of where we are, i.e., state management

- Installing the demo:

1. `pip install supervisor`

2. `cp supervisord_demo/config/supervisord.conf /etc/supervisord.conf`

3. `cp supervisord_demo/config/supervisord /etc/init.d/supervisord`

Resources

- All information in this presentation provided by the excellent documentation at:

  http://supervisord.org

- Startup scripts are discussed and referenced from:

  http://supervisord.org/running.html#running-supervisord-automatically-on-startup