

The Opmantek Installer



Opmantek Installer

All Opmantek products make use of an interactive installer program that greatly simplifies both initial installation AND upgrading an existing installation.

This document explains the most essential installer features.

- [Installation of Opmantek Applications](#)
 - [Prerequisites](#)
 - [Opmantek Applications Download Formats](#)
 - [Starting the Installer](#)
 - [Alternative procedure if your /tmp should be mounted noexec](#)
 - [Available Installer Options](#)
 - [Logs and Backups](#)
 - [Software Dependencies](#)
 - [Product Coexistence, Migration and Upgrades](#)
 - [Integration and Initial Configuration](#)
 - [FAQ](#)
- [Uninstalling Opmantek Applications](#)
 - [Using the Uninstaller](#)
 - [Manual Removal](#)

Installation of Opmantek Applications

Prerequisites

- With the exception of Open-Audit, which can be installed on Windows Server or Linux, all Opmantek applications are available for Linux 64-bit systems only.
Redhat/CentOS6, Debian 7, Ubuntu 10 and newer are supported (basically anything running glibc 2.3 and up).
- The latest versions of our applications can be found at : <https://opmantek.com/network-tools-download/>
- To run the installer you need superuser/root access on the system in question.
- Please note that as of Feb 2017, all Opmantek applications require that `/tmp` is mounted with execute permissions (i.e. mounted *without* the `noexec` mount flag).
See below for an alternate procedure if your `/tmp` is non-executable.

Opmantek Applications Download Formats

In the past our applications were provided in the form of a compressed tar file, which required some manual steps for unpacking and installer invocation. As of February 2016 we've switched to a self-extracting download format which make this aspect much more user-friendly.

All Opmantek product releases from 16 June 2016 onwards include the installer in both pre-compiled and source form, to ensure that you can install the software on a system without Perl present. The source form of the installer is provided for diagnostic purposes; by default the self-extracting run file will start the pre-compiled installer version.

When you download an Opmantek Application, the file will be called `<product name>-<version>.run` and your browser will likely prompt you regarding what to do with this '.run' file; you should tell it to Save the file. If you are installing the application onto a different system than the one where you downloaded the file, you'll have to use `scp` or some other file transfer method of your choice to transfer the .run file to the target system.



Best Practice

As a best practice, Opmantek recommends you create a dedicated directory, perhaps named "installs" to download and run the installer from. If you are using the Opmantek VM we recommend creating this folder in `/data/installs/`

Starting the Installer

Starting the self-extracting installer is trivial: you simply tell your shell to run it.

Assuming your downloaded file is called `opProduct-version.run`, you would do one of the following:

1. The simplest way to achieve this is to type `"sh ./opProduct-version.run"`
2. You can also modify the permissions of the .run file to indicate that it is executable, then start it directly
To do so, you'd run `"chmod u+x ./opProduct-version.run"` followed by `"./opProduct-version.run"`

The installer will first run an archive integrity check, decompress the archive, then start the interactive phase of the installation.

Please note that the installer needs to run with `root` privileges, and will terminate with an error message if this requirement is not met.

Alternative procedure if your `/tmp` should be mounted `noexec`

As pointed out above, the installer needs to extract the product files into a temporary directory and then restart using the extracted programs. This fails if the standard temp directory `/tmp` is mounted with the `noexec` mount flag.

The simplest workaround is to pick a different location for the temporary directory that is not affected by `noexec` and tell the installer about it by setting the environment variable `TMPDIR`.

1. Become the superuser with `sudo`, `su`, etc.
2. Pick a suitable directory
root's home directory is likely ok. Running `mount` should confirm - look for `noexec`. We recommend that you use an empty new temporary directory for the installer as that simplifies cleanup.

```
cd; # you're in root's homedir now. or pick some other writable and executable place
mkdir installertemp
```

3. Tell the installer to use this local temporary directory and start the installation

```
export TMPDIR=/installertemp
# this assumes that opProduct was downloaded/transferred into root's homedirectory; adjust the path
accordingly if not.
sh ./opProduct-version.run
```

4. Clean up the temporary directory

```
rm -rf /installertemp
unset TMPDIR
```

NOTE: It is important to understand that the `omkd` daemon, which is required for rendering the GUI via Apache also requires the `/tmp` directory to be mounted as executable or the daemon will crash after start. You can, however, redefine the `/tmp` directory for `omkd` by adding the following lines into `/etc/init.d/omkd`

`/etc/init.d/omkd`

```
TMPDIR="/newtmp"
export TMPDIR
```

Add them at line 18 (after the line `# Do NOT "set -e"`).

Obviously, `/tmpdir` will need to exist. If the admin of the box needs to run any `OMK` programs manually, they will need to have exported `/tmpdir` before they do so.

Available Installer Options

You can see an overview of the available options related to the self-extracting aspect when you start a run file with `--help`:

- `--keep` ensures the unpacked data left behind (in the `opProduct-version` directory) after the interactive installer component has finished.
- `--noexec` causes no interactive installer component to be run.

The combination of `--noexec` and `--keep` provides the equivalent of unpacking the tar files provided with earlier releases.

You can also pass options to the interactive installer component, but these must follow after a `"--"` delimiting argument:

- If you want to perform a *simulation run* of the installation, use the `-n` option: the installer will only print what it *would* do, what files it *would* copy and so on, but will not perform any of these steps.
- By default the installer is interactive and will prompt you for decisions and confirmations; If you want to run it in *non-interactive batch mode*, use the `-y` option.
In this case all dialogs and prompts are automatically answered with the default answer (usually 'y').
- Please note that in non-interactive mode the installer will abort upgrades if critical incompatibilities (e.g. license type) are detected; the option to overrule the installer in such situations is only present when the installer is running interactively.
- Certain installer choices can be preset for non-interactive mode:

1. Setting the environment variable `NO_LOCAL_MONGODB` to a non-empty value instructs the installer to not install a local MongoDB server even if none is present.

Please note that you will have to manually adjust the Opmantek daemon init scripts or systemd unit files after installation, as these express the dependency on a local MongoDB installation.

- If you want to install the product into a non-standard directory, you can pass the argument `-t <targetdir>` to the installer component. Please note that you will have to adjust a number of configuration files in this case.
- It is possible to generate more detailed diagnostic output in the installer log file, using the `-d` option.

For example, `sh ./opFlow-3.0.5.run --keep -- -n` would start the installer in simulation mode (`-n`) and leave the unpacked files behind (`--keep`) when done.

Logs and Backups

The installer saves a log of all actions taken, files copied etc. in the installation directory as `install.log`, ie. normally it'll be in `/usr/local/omk/install.log`. Subsequent upgrades or installations of other Opmantek products will add to that logfile, so you may very well want to remove or clear the `install.log` file before upgrading or adding extra software.

Unless this is the very first installation of an Opmantek product on this system, the installer will offer taking a backup of all affected files before the installation commences. This backup will be saved in the `root` user's home directory as `omk-backup-YYYY-MM-DD.tgz`. The backup includes:

- all the directories that the installer will later copy files to,
- the `conf` directory,
- the old software manifest,
- and the old `install.log`.

Software Dependencies

Wherever possible the installer will help you with the installation of any missing software dependencies, using `yum` or `apt-get` depending on your operating system platform.

You'll see a prompt similar to this:

```
+++++
Required package httpd is not installed.
+++++

opEvents requires package httpd to be installed and configured.

Do you want to install this package now?
Type 'y' or hit <Enter> to accept, any other key for 'no':
```

If you answer this prompt with 'n' the installer will continue the installation, but the software will likely not work (at all or partially) until you **manually** fix the missing dependency.

In other cases where the dependency is a "soft" one or where automatic installation isn't an option you will be shown a warning dialog about the missing dependency and the installer will wait until you confirm before continuing.

Product Coexistence, Migration and Upgrades

Before installing any Opmantek software components, a thorough check of the existing state of your system will be made to ensure that the new product does integrate correctly with other already existing Opmantek products. This check relies on the software manifests stored in the installation directory (default `/usr/local/omk`) and the product tarball, and thus won't be fully precise if no manifests exist.

When an installation of older/legacy Opmantek products is detected or if the manifest is missing, then the installer will take a comprehensive backup snapshot of your installation directory first. This is to ensure that you could revert back to the pre-installation state quickly and with minimal downtime, should the installer unexpectedly fail the coexistence check or break existing old applications. Here is an example of the prompts in this situation:

```
+++++
An old legacy installation was detected.
+++++

The installer has found a pre-existing installation of one or more
Opmantek products in /usr/local/omk.

The installation can proceed but may cause disruptions to installed
legacy products other than opEvents.

If you agree to continue, the installer will take a backup snapshot
of your complete previous installation and then prepare the
installation environment for opEvents.
```

```
Do you want to continue the installation?
Type 'y' or hit <Enter> to accept, any other key for 'no': y
Creating legacy snapshot, please wait...
```

```
Snapshot created, file name: /root/omk-legacy-2014-07-14.tgz
```

```
The installer has created a full snapshot of your previous installation
in /root/omk-legacy-2014-07-14.tgz. The installation of opEvents will now proceed.
```

```
Should you need to revert to your previous installation status,
simply remove all contents of /usr/local/omk and unpack the snapshot:
rm -rf /usr/local/omk/* && tar -C / -xzvf /root/omk-legacy-2014-07-14.tgz
```

```
Hit <Enter> when ready to continue:
```

If the installer detects an unresolvable conflict between the module dependencies for your existing products and the new product, it will abort the installation with a detailed error message: in this case we recommend that you contact Opmantek Support for a resolution.

For product upgrades the installer will perform the same check and upgrade only the files and modules that are required, taking great care to not damage the function of any other existing Opmantek products. In that case the installer will also recommend a shut down of any Opmantek daemons before the installation commences, so that all files can be copied safely and without negatively affecting running daemons.

Integration and Initial Configuration

After all necessary files have been installed in their appropriate locations the installer will take care of integrating your product with the operating system, web servers and so on.

Typically this will at the minimum involve the installation of up-to-date init scripts for the Opmantek daemon, integration of the Opmantek GUI with your Apache webserver, setting up of log rotation and the optional first start of the Opmantek daemon. The dialogs in question are all very similar to the following:

```
+++++
Updated init script for the Opmantek daemon available
+++++

Ok to install the init script for the Opmantek daemon?
Type 'y' or hit <Enter> to accept, any other key for 'no': y
```

If you answer the prompt with 'n' the installer will continue after displaying a brief outline of the steps you'll have to take manually later and a confirmation dialog:

```
+++++
Opmantek Daemon Startup
+++++

The Opmantek daemon can now be started, but you might want to delay
that until you have adjusted the configuration files.

Do you want to start the Opmantek daemon now?
Type 'y' or hit <Enter> to accept, any other key for 'no': n
Skipping start of OMKD
Please note that you will have to start the Opmantek daemon to activate
the Opmantek GUI. You can do so by running 'service omkd start' as
the root user.

Hit <Enter> when ready to continue:
```

The installer will also offer to copy any missing default configuration files from the `install` to the `conf` directory to provide you with a basic initial configuration to start with.

In case of an upgrade it'll offer to import any new default config settings. Furthermore, you will be given the opportunity to have all your configuration files compared to the defaults:

```
+++++
Detecting Configuration Changes
+++++
```

```
Would you like to see an overview of all changed configuration items?
Type 'y' or hit <Enter> to accept, any other key for 'no':
Performing config diff check, please wait...
```

```
The configuration comparison tool has detected some differences
between the shipped defaults (in /usr/local/omk/install) and
the active settings (in /usr/local/omk/conf).
```

```
The affected files are:  EventActions.nmis opCommon.nmis
```

```
A detailed listing of these differences has been
saved in /tmp/opEvents-config-diffs-2014-07-14.
```

```
You should review those differences (using less or an editor like
nano, vi or emacs) and adjust your configuration settings accordingly.
```

```
Hit <Enter> when ready to continue:
```

Finally, at the end of the installation process you'll see a message like this:

```
+++++
opEvents is Ready for Configuration
+++++

This initial installation of opEvents is now complete.

However, to configure and fine-tune the application suitably for
your environment you will need to make certain configuration adjustments.

We highly recommend that you visit the documentation site for opEvents at

https://community.opmantek.com/display/opEvents/Home

The next step is to determine what configuration changes
will be required for your environment.

If you have started the Opmantek and the opEvents daemons,
then your new opEvents dashboard should now be accessible at
http://<HOSTNAME_OR_IP>/omk/opEvents/

If your browser is running on the same machine as opEvents was
installed onto, this would be http://localhost/omk/opEvents/

+++++
installation complete.
+++++
```

FAQ

- What's this warning about "incorrect checksum detected"?
This can happen very infrequently, if you are installing an older Opmantek application on top of newer ones, or if you've made extensive changes to your system's Opmantek files.
We strive hard to line up our releases properly so that everything meshes cleanly, but every now and then there are minor changes to files that older installer versions aren't quite aware of.

In general this warning dialog is safe to answer with 'yes' and the installer will leave your system in a consistent working state (by replacing the unrecognizable/mismatching file with a known good version from the shipped product).

Please feel free to submit your comment here or email us with your questions!

Uninstalling Opmantek Applications

Because Opmantek applications share code and modules wherever possible, uninstalling a single application is not completely trivial.

Using the Uninstaller

As of September 2016, all application releases include an uninstaller tool which performs a *limited* uninstallation of a particular application. It's easy to use, but primarily disables an application without removal of application data or files. The uninstaller offers a simulation mode, too. You simply start it up with the application module in question, e.g.

```
# -n invokes the simulation mode
/usr/local/omk/bin/uninstaller.exe -n opCharts
...
Would remove opCharts from load_applications list in opCommon.nmis.
Would restart service omkd.
Would stop service nmisd.
Would move init script nmisd to /root/uninstall-backup.
```

Manual Removal

If you desire a more permanent and complete application removal you will have to remove *all* Opmantek applications: it is infeasibly complicated to determine which files and code modules are removable and which have to remain behind to keep the remaining applications in working shape.

A checklist for complete removal would involve the following steps:

- Removal of all Opmantek daemon init scripts from `/etc/init.d`
This may include init scripts for `omkd`, `nmisd`, `opeventsd`, `opconfigd`, `nfdump`, `opflowd`.
You should stop the daemons before removing the init scripts.
- Removal of `cron` schedules for the Opmantek applications
This may include files in `/etc/cron.d` named `oae`, `opaddress`, `opconfig`, `opevents`, `opflow`, `opreports`, `optrend`.
- Removal of all of `/usr/local/omk`, `/var/log/omk`, `/data/omk`
The latter two may not be present (but will be if your system started as an [Opmantek Virtual Appliance](#)).
- Cleanup or removal of the Opmantek applications' MongoDB databases
Unless you are actively using MongoDB you might simply stop the `mongod` daemon and remove the database files (typically under `/var/lib/mongodb` or `/data/mongodb` for the Opmantek VM).