RadServe Installation Guide

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1 RadServe on Ubuntu 18.04

The provided software contains the RadServe executable and some OpenCV 3.3 library files.

Additional dependencies are:

- *FlyCapture* software: `flycapture2-2.13.3.31-Ubuntu18.04_amd64-pkg.tgz`, available from `https://www.flir.eu/products/flycapture-sdk/`

Start with copying the files to an install-folder and unpacking the FlyCapture software.

The RadServe files should be copied to a folder of your choice.

For installation start by opening a terminal (`Ctrl - Alt + T`) and installing the required packages, such as LibUSB, HDF5 and Qt5 for the GUI version:

```
$ sudo apt-get install libhdf5-serial-dev qt5-default
```

1.1 FlyCapture Library

The FlyCapture library requires installation of the following packages:

```
$ sudo apt-get install libgtkmm-2.4-1v5 libglademm-2.4-1v5 \
  libgtkmm-2.4-dev libglademm-2.4-dev libgtkglextmm-x11-1.2-dev
```

Once these packages were successfully installed, the installation script of the FlyCapture library can be run:

```
$ ./install_flycapture.sh
```

Follow the installation script and enter your username, when asked.

1.2 OpenCV

The following modules are required: `opencv_core`, `opencv_videoio`, `opencv_imcodecs` and `opencv_imgproc`. It is possible to build OpenCV separately, following the installation tutorial from `https://docs.opencv.org/trunk/d7/d9f/tutorial_linux_install.html`, or to use the provided library files. When using the provided files symbolic links, for each file, must be created:

```
$ ln -s libopencv_<module>.so.3.3.0 libopencv_<module>.so.3.3
```

The files and symbolic links must then be either copied to the default library paths (such as `/usr/lib`, `/lib`, or `/usr/local/lib`); or their location must be added to the path; otherwise the RadServe executable can be started by temporarily adding the directory containing the files to the path, with

```
$ LD_LIBRARY_PATH=. ./RadServeGui
```

2 RadServe on Ubuntu 16.04

The provided software contains the RadServe executable and some OpenCV 3.3 library files.

Additional dependencies are:

- *IR Imager Direct-SDK*: for Optris cameras, `libirimager-<version>-<arch>.deb`, available from `http://www.evocortex.org/downloads-1/`
- *FlyCapture* software: `flycapture2-2.11.3.164-amd64-pkg.tgz`, available after registration from `http://eu.ptgrey.com`
- *Qt 5.9.2*: required by the Gui version of RadServe, `qt-opensource-linux-x64-5.9.2.run`, available from `http://download.qt.io/official_releases/qt/5.9/5.9.2/`

Start with copying the files to an install-folder and unpacking the FlyCapture software. The access permissions of the Qt-installer must be changed to executable:

```
$ chmod +x qt-opensource-linux-x64-5.9.2.run.
```

The RadServe files should be copied to a folder of your choice.

For installation start by opening a terminal (`Ctrl - Alt + T`) and installing the required packages, such as LibUSB and HDF5:

```
$ sudo apt-get install libusb-1.0.0 libgl1-mesa-dev libhdf5-serial-dev
```

2.1 FlyCapture Library

The FlyCapture library requires installation of the following packages:

```
$sudo apt-get install libgtkmm-2.4-1v5 libgtkmm-2.4-dev libglademm-2.4-1v5 \
  libavformat-ffmpeg56 libgtkglextmm-x11-1.2-dev libswresample-ffmpeg1 \
  libavcodec-ffmpeg56 libswscale-ffmpeg3 libavutil-ffmpeg54 libglademm-2.4-dev
```

Once these packages were successfully installed, the installation script of the FlyCapture library can be run:

```
$ ./install_flycapture.sh
```

Follow the installation script and enter your username, when asked.

2.2 IR Imager Direct-SDK

The IR Imager library requires installation of the following packages:

```
$ sudo apt-get install cmake freeglut3-dev
```

Afterwards, the installation must be started:

```
$ sudo dpkg -i libirimager-<version>-<arch>.deb
```

Further installation information for using an Optris camera is available at
`http://documentation.evocortex.com/libirimager2/html/Installation.html`.

2.3 Qt Installation

Run the Qt-installer and follow its instructions, select `Qt 5.9.2 > Desktop gcc 64-bit` to install.

2.4 OpenCV

The following modules are required: `opencv_core`, `opencv_videoio`, `opencv_imcodecs` and `opencv_imgproc`. It is possible to build OpenCV separately, following the installation tutorial from `https://docs.opencv.org/trunk/d7/d9f/tutorial_linux_install.html`, or to use the provided library files. When using the provided files symbolic links, for each file, must be created:

```
$ ln -s libopencv_<module>.so.3.3.0 libopencv_<module>.so.3.3
```

The files and symbolic links must then be either copied to the default library paths (such as `/usr/lib`, `/lib`, or `/usr/local/lib`); or their location must be added to the path; otherwise the RadServe executable can be started by temporarily adding the directory containing the files to the path, with

```
$ LD_LIBRARY_PATH=. ./RadServeGui
```

3 RadServe on Vibrante Linux for NVidia Drive PX 2

The provided software contains the RadServe executable and some OpenCV 3.3 library files.

For installation start by opening a terminal (`Ctrl - Alt + T`) and installing the required packages, such as LibUSB and HDF5:

```
$ sudo apt-get install libusb-1.0.0 libgl1-mesa-dev libhdf5-serial-dev
```

RadServe for Vibrante Linux has no other additional dependencies.

For running RadServe start with copying the files to a folder of your choice.
The following OpenCV modules are required: `opencv_core`, `opencv_videoio`, `opencv_imcodecs` and `opencv_imgproc`. It is possible to build OpenCV separately, following the installation tutorial from `https://docs.opencv.org/trunk/d7/d9f/tutorial_linux_install.html`, or to use the provided library files.

When using the GUI version of RadServe QT5.9.2 is required. The necessary files are provided, as well as a batch script to launch RadServeGui or RadServeConsole.

4 RadServe on Windows

RadServe for Windows is provided with all required DLLs.

For using RadServe on Windows 7 the following redistributables must be installed:

- Visual C++ 2005 Redistributable x64, available from
  `https://www.microsoft.com/en-us/download/details.aspx?id=21254`
- Visual C++ 2005 SP1 Redistributable MFC Security Update x64, available from
  `https://www.microsoft.com/en-us/download/details.aspx?id=26347`