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## Installation instructions

This section gives an overview of the necessary procedures for installing the *machine learning framework (mlf)* for *Linux*. Please follow these instructions for the installation of the *machine learning framework* and for its use in the *Mathematica* front end step by step.

**Legal notice:** The use of the *machine learning framework* is subject to a license agreement, which you have obtained together with this document. If you do not agree to be bound by the conditions of this license agreement, delete all files related to the *machine learning framework* (e.g. the downloaded archive and the extracted files) and do not install the *machine learning framework*.

### ■ General requirements

The *Linux* version of the *machine learning framework* for *Mathematica 2.0* has been tested with *openSUSE*, but is expected to run on all usual *Linux* distributions where *Mathematica* runs. The *machine learning framework* for *Mathematica 2.0* requires *Mathematica 7.0* or higher running on your system. *Mathematica* is not part of the *machine learning framework* for *Mathematica* and needs to be installed before. Follow the installation instructions for *Mathematica* given by its producer, Wolfram Research, Inc.

### ■ Requirements on 64-bit systems

The *machine learning framework* for *Mathematica* is a 32bit application. That means that on a 64bit *Linux* system it must be ensured that the 32-bit emulation is properly activated. Most of the 64bit distribution kernels are configured for running 32-bit applications. It is possible to check it in `/boot/config-*` file of the running kernel. Furthermore all required 32bit libraries have to be installed. These libraries are typically located in `/lib32/*`. If they are not installed it is necessary to install them. On Debian-based systems like *Ubuntu* this can be achieved by installing the `ia32-libs` package with all its dependencies.

### ■ Installing the *machine learning framework* in the *Mathematica* Front End

#### ■ Introduction

To make the *machine learning framework* available in the *Mathematica* front end, the following steps have to be performed:

- Install *Mathematica*
- Install the *machine learning framework* package

After these steps have been finished successfully, the *machine learning framework* may be started in the *Mathematica* front end.

**Note:** When the *machine learning framework* is loaded for the first time, the license management is invoked automatically; license management will be described in detail later on.

#### ■ Installing *Mathematica*

If you have not installed *Mathematica* on your system yet, please follow the instructions for the installation of *Mathematica* as given by its producer, Wolfram Research, Inc.

### Installing the *machine learning framework* Package

In order to install the machine learning framework on a Linux system, start the self-extracting script `mlf-setup.bin` (with `./mlf-setup.bin` or `sh mlf-setup.bin`) in the directory to which you have downloaded the file.

After `mlf-setup.bin` has been started, just follow the setup instructions. First the setup files get extracted.

You will be asked whether to install the *machine learning framework* to be used by the current user only or by all users.

**Note:** If you want to install *mlf* for all users on your computer, you need to login as *root* when running the setup.

**Note:** If you already have an older version of the *machine learning framework* installed, make sure that it does not run (quit the *Mathematica* kernel in case of doubt).

The programme will be installed into the add-ons directory of *Mathematica* (e.g. `/home/<user>/.Mathematica/Applications/` if installed for one user only). If a directory named `"mlf"` already exists in this directory, you will be asked whether to overwrite or not.

You can find your actual add-ons directory of *Mathematica* by checking the value of the global *Mathematica* variable, `$BaseDirectory` (and add `"\Applications"`). If the given directory does not exist yet, it will be created.

#### ■ Start the *machine learning framework* in the *Mathematica* Front End

Now the *machine learning framework* may be started in the *Mathematica* front end:

```
In[2]:= Needs["mlf`"]
```

At the first start of the *machine learning framework* after installation, you will be informed that no license file was found. Please follow the instructions printed into the *Mathematica* notebook and send the required information to `mlf@scch.at`. The required "Machine ID" will identify your hardware. You will then be sent a hardware-locked licence file ("`license.enc`") which you should copy into your *mlf* base directory. You can find the *mlf* base directory by checking the value of the *Mathematica* variable `$MLFBaseDirectory`, which is available after loading *mlf* (even if aborted due to a missing license). A typical *mlf* base directory is `/home/<user>/.Mathematica/Applications/mlf`.

Now quit the *Mathematica* kernel and re-load *mlf*, which should now run on your computer.

For more details regarding licencing, see further below.

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## License management

This section gives an overview of the necessary procedures to get a valid licence for the *machine learning framework*. Please follow these instructions step by step.

### ■ Introduction

The license management is completely integrated into the *machine learning framework* and therefore no extra license management tool is needed. All you need is a hardware-locked license file (called "`license.enc`") which will be issued on request and which you have to copy to your *mlf* base directory. You can find the *mlf* base directory by checking the value of the *Mathematica* variable `$MLFBaseDirectory`, which is available after loading *mlf* (even if aborted due to a missing license). A typical *mlf* base directory on a Linux system is `/home/<user>/.Mathematica/Applications/mlf`.

Two kinds of license certificates for the *machine learning framework* are available:

- Temporary evaluation license

Permanent single-user hardware-locked license

A license file can be requested by sending a mail with the required information to

`mlf@scch.at`

You will get the required information (including the "Machine ID") by evaluating `"Needs["mlf`"]"` in a *Mathematica* notebook. Please follow the instructions printed out there (if you do not already have a valid license file).

A permanent license requires a purchase of *mlf*. A temporary 21-day license will be issued for free.

### ■ Temporary Evaluation Licenses

For evaluation purposes, you can use a *free* evaluation license. This license allows you to evaluate the product for a period of 21 days. Simply install the *machine learning framework* and evaluate `"Needs["mlf`"]"` in a *Mathematica* notebook to get the required information as explained above. A temporary evaluation license is *absolutely free*.

### ■ Permanent Licenses

Permanent hardware-locked licenses are distributed by `mlf@scch.at` following a purchase of the *machine learning framework*.

To purchase the *machine learning framework*, contact your distributor. To subsequently get an license file, contact `mlf@scch.at`.

**Warning:** If you change hardware items on your computer (CPU, NetBIOS, hard drive, etc.), your license file may become invalid and you will have to order a new one.

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## Uninstalling the *machine learning framework*

For uninstalling the *machine learning framework*, simply delete the directory "mlf" in the respective add-ons directory of *Mathematica* (e.g. `"/home/<user>/.Mathematica/Applications/"`). You can find your actual add-ons directory of *Mathematica* by checking the value of the global *Mathematica* variable, `$BaseDirectory` (and add `"\Applications"`).