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## Installation instructions

This section gives an overview of the necessary procedures for installing the *machine learning framework (mlf)* for *Mathematica*. 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*.

### ■ Basic Requirements

The *machine learning framework* for *Mathematica 2.0* requires *MS Windows* and *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.

### ■ Optional Requirements

If you are going to use the ODBC Connection feature provided by *mlf* please make sure that you have .NET installed on your computer. You can download the required packages from Microsoft at the following locations:

**Microsoft .NET Framework Version 1.1 Redistributable Package:**

<http://www.microsoft.com/downloads/details.aspx?FamilyID=262d25e3-f589-4842-8157-034d1e7cf3a3&displaylang=en>

**ODBC .NET Data Provider:**

<http://www.microsoft.com/downloads/details.aspx?FamilyID=6ccd8427-1017-4f33-a062-d165078e32b1&DisplayLang=en>

In case of problems, please check if *both* components have been installed on your computer.

### ■ 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

Depending on how you have obtained the *machine learning framework*, the installation process is started differently:

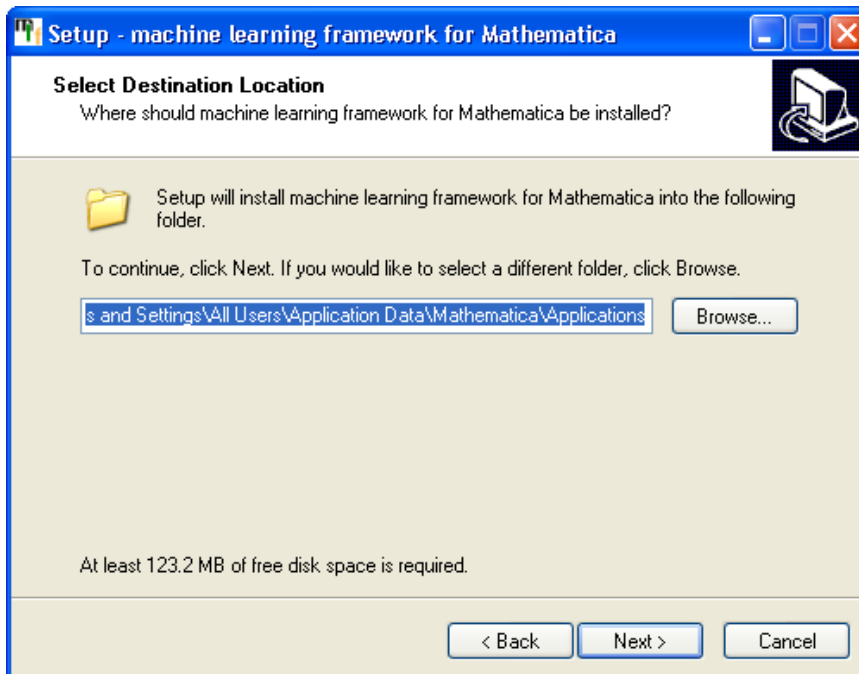
- *Installation from CD-ROM*: Typically the setup programme will start automatically when inserting the CD into your CD drive. However, if this should not happen, please start the program `mlf-setup.exe` on the CD-ROM by double-clicking it.
- *Installation of a downloaded version*: Start `mlf-setup.exe` in the directory to which you have downloaded it.

**Note:** For an installation program to work properly, you need administrator permissions when running it.

**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).

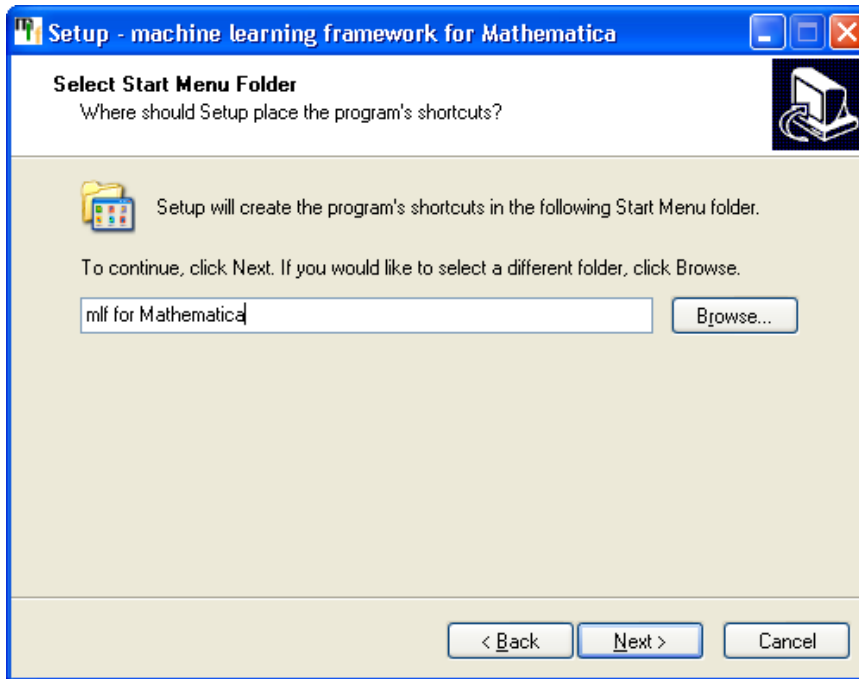
**Note:** If you have already installed an older version of the *machine learning framework*, it will be overwritten when installing the new version.

After `mlf-setup.exe` has been started, just follow the setup instructions. First the setup files get extracted. You will be asked for the destination directory to install to. By default, "`C:\Documents and Settings\All Users\Application Data\Mathematica\Applications`" will be suggested.



In case of doubt, 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.

Next you will be asked where to put the shortcuts in the "Start" menu of Windows (where you can find it when you click "Start" and then "All Programs"):

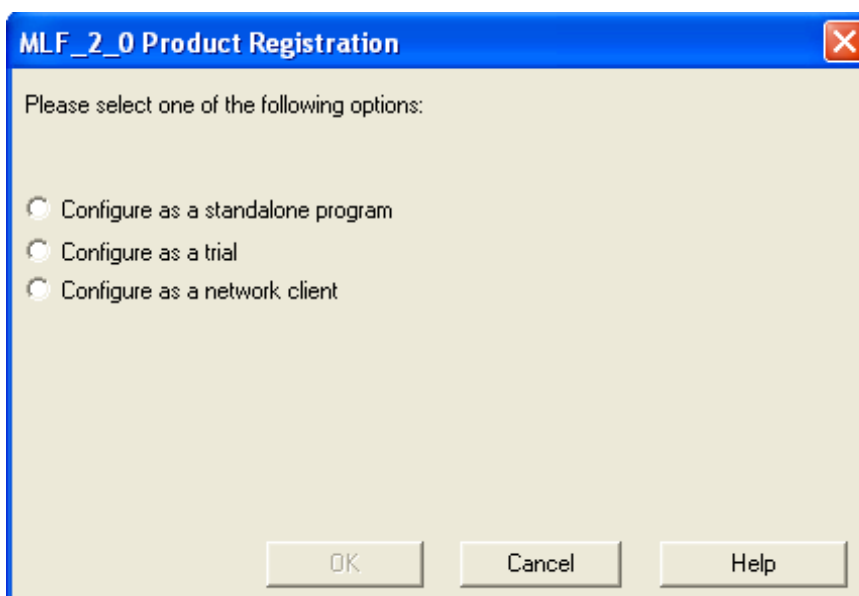


- **Start the *machine learning framework* in the *Mathematica* Front End**

Now the *machine learning framework* may be started in the *Mathematica* front end. This can be done by entering the following command:

```
In[1]:= Needs["mlf`"]
```

At the first start of the *machine learning framework* after installation, product registration will be performed:



After the product registration is done (see below), mlf is installed and you will not be prompted for this information again.

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## License management

### ■ Introduction

The license management of the *machine learning framework* is performed by the *CopyMinder* license manager (developed by Microcosm Ltd.; see also <http://www.copyminder.com>). The license management is completely integrated into the *machine learning framework* executable file, `mlf.exe`, and therefore no extra license management tool is needed.

No matter if you have activated an evaluation license or a permanent license, you are bound to the terms of the corresponding license agreement.

**Note:** The machine learning framework executable file, `mlf.exe`, can typically be found in "C:\Documents and Settings\All Users\Application Data\Mathematica\Application-s\mlf\mlf.exe".

You can find the actual add-ons directory of *Mathematica* by checking the value of the global *Mathematica* variable, `$BaseDirectory`.

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

- Temporary evaluation license
- Permanent license:
  - Single-user license
  - Network-floating license

A permanent license can be ordered by email (for details see below):

`mlf@scch.at`

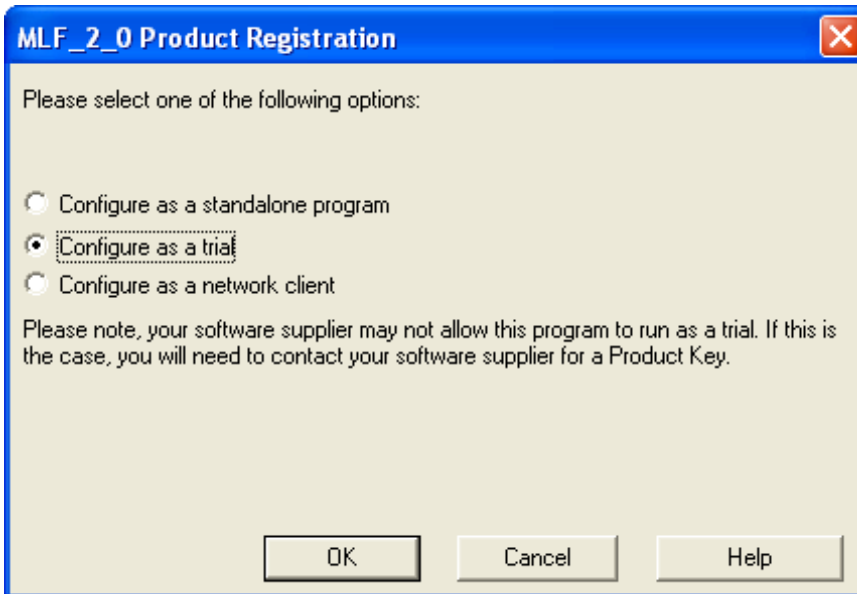
Please state the type of license you want - single-user or network (how many concurrent users?).

It is recommended that you have more or less permanent internet access on the computer on which you run `mlf` to facilitate easy license verification (easy for both you and us). In particular during the first run, by default, the validity of the license will be checked via internet. Later, the program will try to contact the license verifier via internet in periods of a few days. If you cannot guarantee frequent internet access for the computer(s) on which the machine learning framework should be installed, please ask for a license with *manual activation*. The license will then be hardware-locked to a particular computer. Details see below.

### ■ 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. This activation is *absolutely free*. Evaluation licenses are only available in single-user hardware-locked form and require internet access during activation and in certain intervals afterwards.

Simply check the proper box:



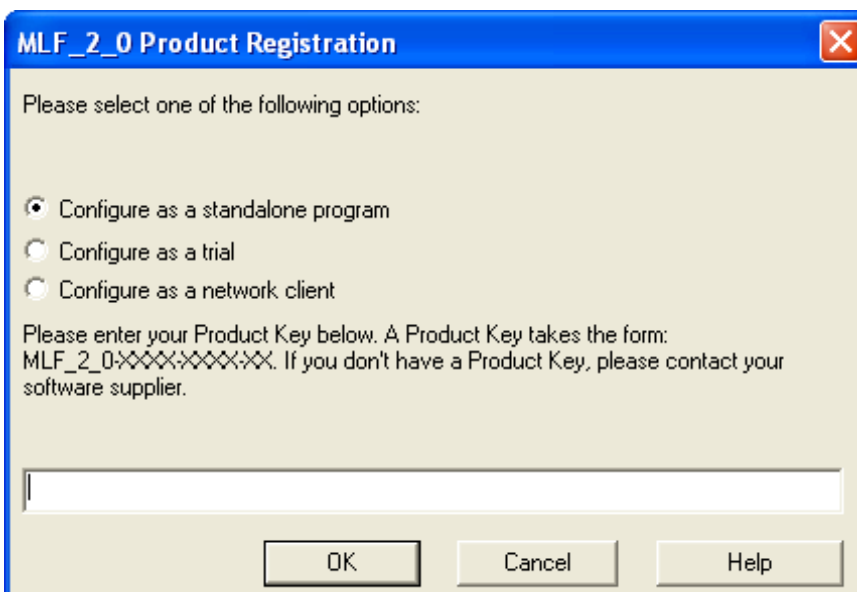
You will be informed that mlf tries to connect to the internet to validate the installation. Click OK. If the internet connection is ok, then after a view seconds mlf is running properly.

#### ■ Permanent Single-user license

Permanent licenses require a Product Key which is distributed by mlf@scch.at. That key encodes, amongst others, whether it is a single-user license or a network license.

Permanent licenses can be activated via internet or manually. The easiest way (for both you and us) is internet-based activation. In this case, internet access is required during the first start of the *machine learning framework* as well as in certain intervals afterwards. If internet access cannot be established for continued license surveillance within one week (as of current settings), after a few tries, the programme will cease to work.

To activate the product with a permanent node-locked single-user license, check the proper box and enter the Product Key you have obtained from mlf@scch.at.



A network - based activated single - user license may be transferred to another computer for a limited number of times (by default, a twice) by re - installing the machine learning framework. At registration of the new installation, the old installation is deactivated so you can run the programme on one machine only at any one time. A manually activated license is locked to a specific computer with a specific hardware profile.

If you cannot guarantee internet access for the computer on which you have installed the programme, a manual activation is possible as well, at least for permanent licenses; for details see below.

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

## ■ Permanent Network-floating Licenses

Also see [www.microcosm.co.uk/copyminder\\_network.php](http://www.microcosm.co.uk/copyminder_network.php) for information about how to install network-licenses.

### ■ Introduction

Network-floating licenses are available which allow a certain maximum number of users to run the *machine learning framework* from arbitrary locations within a network.

Floating means that a license can be used on any computer within a network. The number of copies determines how many users can work with the *machine learning framework* concurrently. Licensing will be done based on a client-server model. Within a network, one distinct computer has to be chosen as license server. On this server, a special programme called *network manager* is to be installed. This network manager handles the license requests and grants or refuses to grant, depending on how many other copies of the machine learning framework are currently running within the network.

The Product Key acquired for the machine learning framework must be issued explicitly for a network license.

The chosen computer for the network manager (license server) needs to be accessible by the clients via a network. At least one directory must be created where both the server and all the clients have access with *write permissions*. License activation is done on the server, so it is recommended that the server has internet access.

The network license runs independently of the chosen type of network (apart from the operating system, i.e. Microsoft Windows; versions for Linux are available on request, but not covered by this document).

**Note:** All users must use the same version of the *machine learning framework* that is licensed by the Product Code.

**Note:** A network license for more than 10 concurrent users requires the server to run on a Microsoft Windows Server operating system, due to restrictions of Windows NT / XP.

### ■ 1) Installing the server

The network license requires a special programme, the CopyMinder Network Manager (CMNet . exe), to be installed on the chosen server. This programme will be distributed together with the Product Key. On the clients, the *machine learning framework* is installed as described on top of this document.

It is recommended that the network manager for the *machine learning framework* is installed and run by the network administrator. The network administrator will need the Product Key to activate the installation on the server. The clients do *not* need the Product Key.

The Network Administrator needs to choose two paths (directories) on the server for use by the network manager:

CMNet Path - this path should contain the `CMNet.exe` program and the `mlf.exe.cm` file (CopyMinder license file, distributed together with the network manager; the same as found in the installations of the *machine learning framework* on the clients). If you have other CopyMinder-protected programmes, the respective `.cm` files can be there as well to be handled by the same `CMNet.exe`. The CMNet program needs write access to this path. Ideally, this machine would have Internet access.

- CopyMinder Network Path. Both `CMNet.exe` and the client machines need write access to this path. This path can be the same as the CMNet Path.

Copy the CopyMinder Network Manager (`CMNet.exe`) and the `mlf.exe.cm` file to the chosen CMNet Path. Run "`CMNet /U`" to uninstall any existing CMNet. Then run CMNet which will do the following:

- For each `.cm` file (in the CMNet Path), it will check to see if it requires activating and prompt you for the respective Product Key if necessary.
- It will then look for `CopyMinderNetworkPath` in the corresponding `.cm.ini` file. If the `CopyMinderNetworkPath` variable does not exist, it will prompt you for a path and save it in a `.cm.ini` file. To be able to run `cmnet.exe` as a service, the `CopyMinderNetworkPath` must be given with a drive letter, e.g. `C:\licences\mlf`. Please note that all directories in the path need to be accessible for the clients (i.e. shared), so in the given example also "licences" must be shared.
- It will place an icon in the System Tray for the CopyMinder Network Viewer (unless it is being installed as a Windows service).

Now the network manager is operational.

`CMNet.exe` can be run as an application or a Windows service. To run it as a service, simply specify "`CMNet /S`".

A `.cm.ini` file can also be created manually. The main entry is the `CopyMinderNetworkPath`. You can do this by specifying it on the command line (see below) or by creating the following lines in a `<program name>.cm.ini` file:

```
[Main]
CopyMinderNetworkPath=path
```

where *path* is the full path to the chosen CopyMinder Network Path.

The general syntax for `CMNet.exe` is:

```
CMNet [/I<CopyMinder Network Path>] [/N] [/Q] [/S] [/T] [/U]
```

where

- /I specifies a CopyMinder Network Path
- /N no icon is placed in the status bar
- /Q display no success (or trivial warning) messages.
- /S starts the program as a Windows service
- /T terminate `cmnet`
- /U uninstall `cmnet`.

Any errors are recorded in a log file or, for the Windows service, in the Windows Event Log.

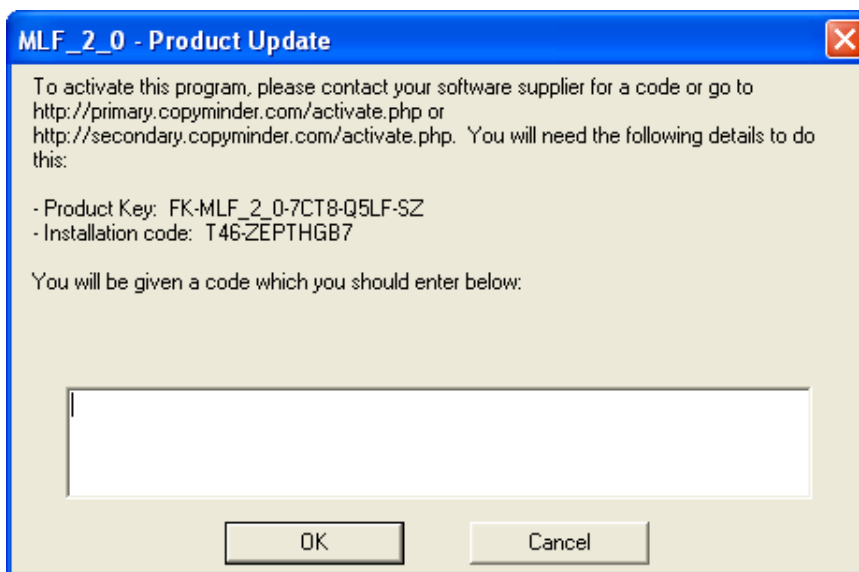
## ■ 2) Installing `mlf` at the clients

When CMNet is running as an application, an icon will appear in the System Tray. By right clicking on this icon, you can choose to terminate CMNet (the equivalent of running `CMNet /U`) or display a list of people currently using the *machine learning framework*.

On all the clients, install the *machine learning framework* as described on top of this document. The first time the *machine learning framework* is run, instead of entering a Product Key, enter the CopyMinder Network Path that was specified by the network administrator when the network manager was installed; however, this time the Network Path must be given in UNC notation, specifying the server machine, e.g. `\\server1\licences\mlf`.

#### ■ Manually Activated Permanent Licenses (no internet available)

If you cannot guarantee internet access for the computer on which you have installed the program, a manual activation is possible as well, at least for permanent licenses. To enforce manual activation with a standard Product Key, *unplug your internet connection* before you press "OK" after entering the product key. In this case, enter the Product Key (you obtained) and press "OK", and you will see a screen with a unique "Installation Code" and a prompt to enter a corresponding "Activation Code":



The Activation Code can be generated by yourself (using another computer with internet connection of course) on the following web address: <http://www.copyminder.com/activate.php>.

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## Uninstalling *mlf*

For uninstalling the *machine learning framework*

- double-click *Add/Remove Programs* in the *Windows Control Panel*,
- select *machine learning framework for Mathematica* in the appearing list,
- and press the *Add/Remove button*.