PRAGMADEV PROCESS
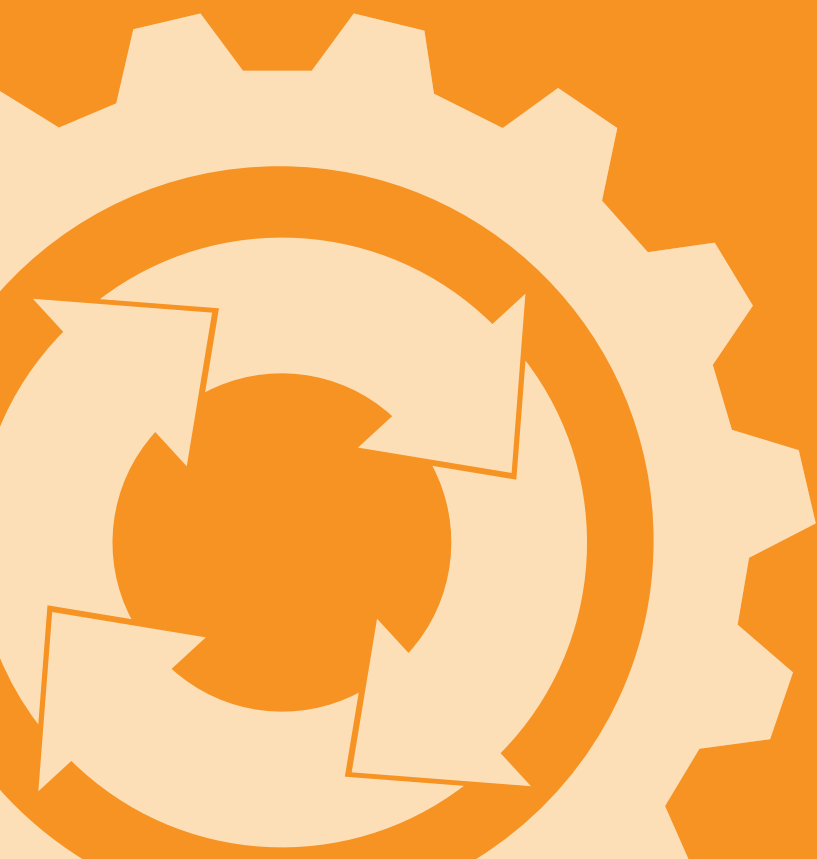
INSTALLATION MANUAL

PRAGMADEV

modeling and testing tools

Contents

1 Introduction

## 1.1 What needs to be installed

Depending on the desired features the installation might require different items:
- PragmaDev Process for editing and viewing the BPMN models.
- The latest distribution of Java required by OBP for automatic property checking. For Windows and Mac use the Oracle Java distribution, for Linux prefer the OpenJDK distribution which might actually be already installed on your machine.
- A valid license for executing more than 30 steps (manually or automatically). PragmaDev Process comes with a free mode and 2 different license managers: PragmaDev License Manager (PLM), and PragmaDev On Line License Manager (POLLM).

This is summarized in the following table:

	Free version	Java JRE required	Valid license required
BPMN viewer	yes	no	no
BPMN editor	yes	no	no
BPMN executor	<30 steps	no	>30 steps
BPMN property checker	<30 steps	yes	>30 steps

The type of license can be selected the first time you start PragmaDev Process:
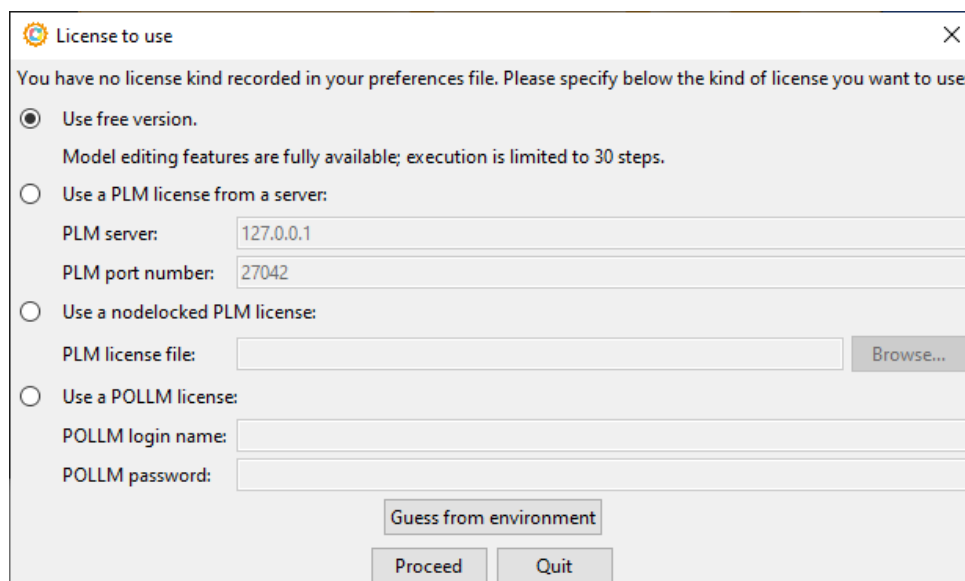
Or it can be changed later via the menu "Process / Preferences…" in the tab "Licensing":
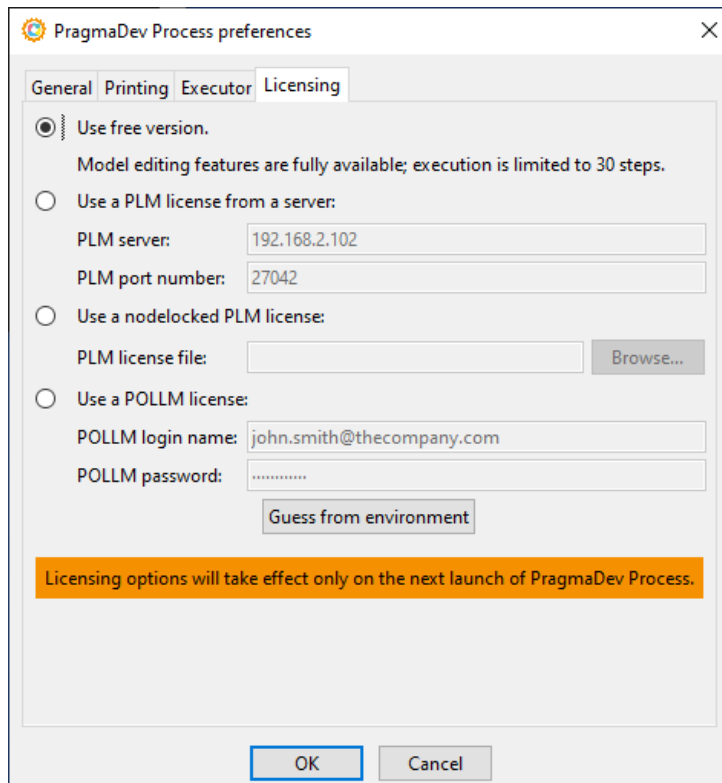
The following paragraphs describe PLM and POLLM license managers different architectures so that you can choose which one is the best for you. Then the installation process for each platform is described in Windows installation chapter, in Unix installation chapter, and in Mac installation chapter. So pick the paragraphs depending on your target platform and the license management you are willing to use.

1.2 PragmaDev On Line License Management

As its name states POLLM is an on-line license management. The license is bought on line through PragmaDev web site and when the tool is launched the license is checked out on line. The license server is actually PragmaDev web site. This very flexible licensing allows to use the license anywhere on any computer but requires an internet connection.

In order to use such a license a member profile must be created on PragmaDev web site as presented below:

PRAGMADEV
modeling and testing tools

Products	Applications	Technology	Support	Company	News

Home > Members > View   Logout

MEMBER PROFILE

Company: My July 26 Company
Address: 26 July Street
Zip: 26026
City: Paris
Country: France
VAT:

First name: John
Last name: John
E-mail: john26@mail.com
Phone:

PURCHASES

Invoice	Tool	Amount	Licenses	Purchase date	Starts	Expires
258	Studio	348	1	2019-07-26	2019-07-26	2019-08-25
259	Studio	348	1	2019-08-25	2019-08-26	2019-09-25

Activity logs

Force release

Purchase on line

Tool	Subscription	Purchased	Available
Studio	Active	1	1
Process	Not active	0	0
Specifier	Not active	0	0
Developer	Not active	0	0
Tester	Not active	0	0

Modify profile

Select if you want to buy at once or subscribe to a monthly payment:

PRAGMADEV
modeling and testing tools

Products	Applications	Technology	Support	Company	News

Home > Members > Purchase   Logout

ONE TIME PURCHASE

Tool: Studio
Number of licenses: 1
Starting date: 03 / 09 / 2019
Number of months: 3
Price per months: 290
Total excl. of VAT: 870
Apply VAT (*):   ● Yes ○ No

Buy

(*): VAT is due by all individuals whatever country you live in, it is also due by French corporations, but it is not due by foreign corporations.

HISTORY

Invoice	Tool	Amount	Licenses	Purchase date	Starts	Expires
258	Studio	348	1	2019-07-26	2019-07-26	2019-08-25
259	Studio	348	1	2019-08-25	2019-08-26	2019-09-25

SUBSCRIBE

Subscription can be stopped any time. Please note any started period is fully due.

Tool: Studio
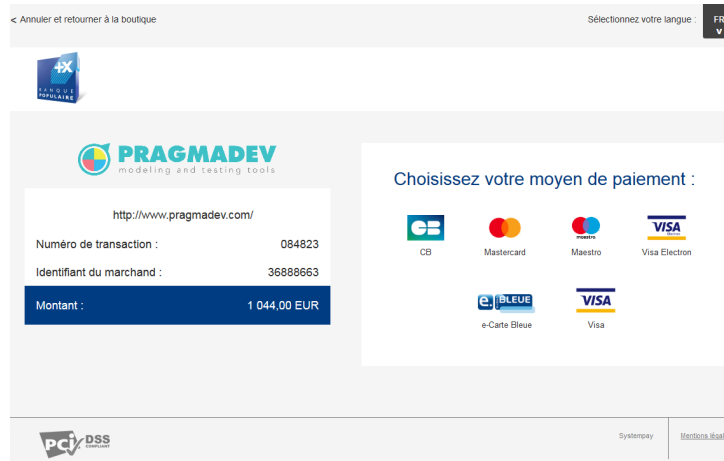Number of licenses: 1
Starting date: Today
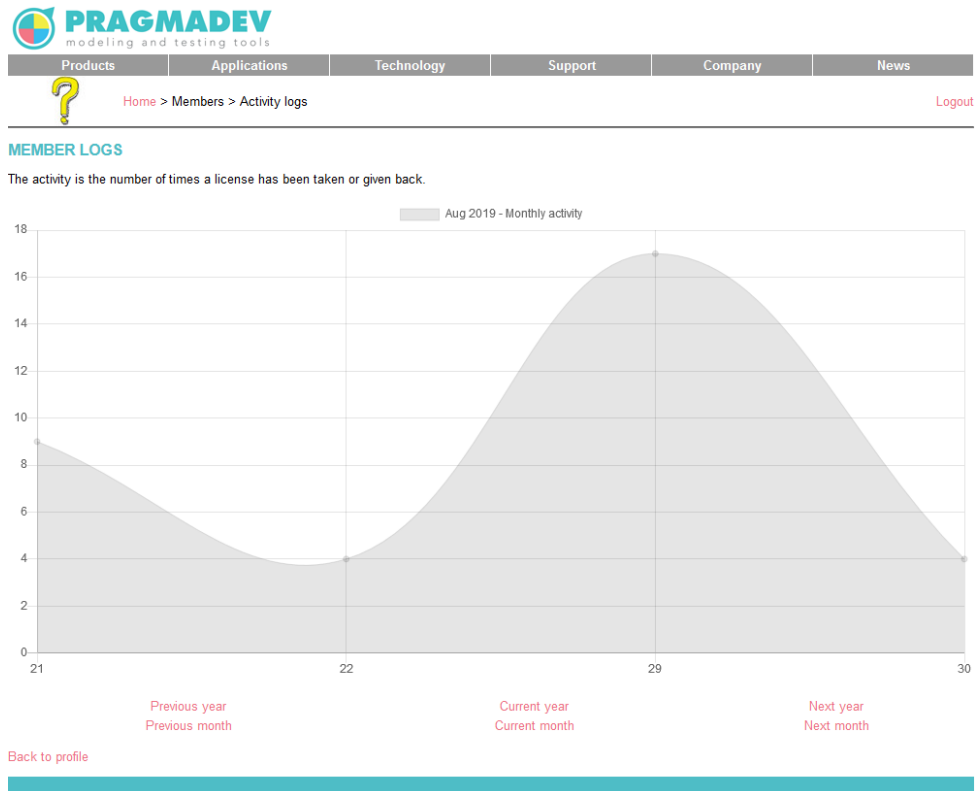Price per license: 290
Total per month excl. of VAT: 290
Apply VAT (*):   ● Yes ○ No

Subscribe

(*): VAT is due by all individuals whatever country you live in, it is also due by French corporations, but it is not due by foreign corporations.

And pay on line with your credit card:

An example activity log is presented below:

The login and password of the member are to be set in the tool preferences to access the license.

1.3 PragmaDev License Manager

PragmaDev License Manager (PLM) is based on a client-server architecture. The client is embedded in PragmaDev Process while the server must be started separately before the client. The license server reads the license file and starts the vendor daemons. The

vendor daemons will verify the keys in the license file are valid. If all is correct the license server will create a pool of available licenses. PragmaDev Process embeds a PLM client that connects to the PLM server. The PLM server will grant or not a license to the client.
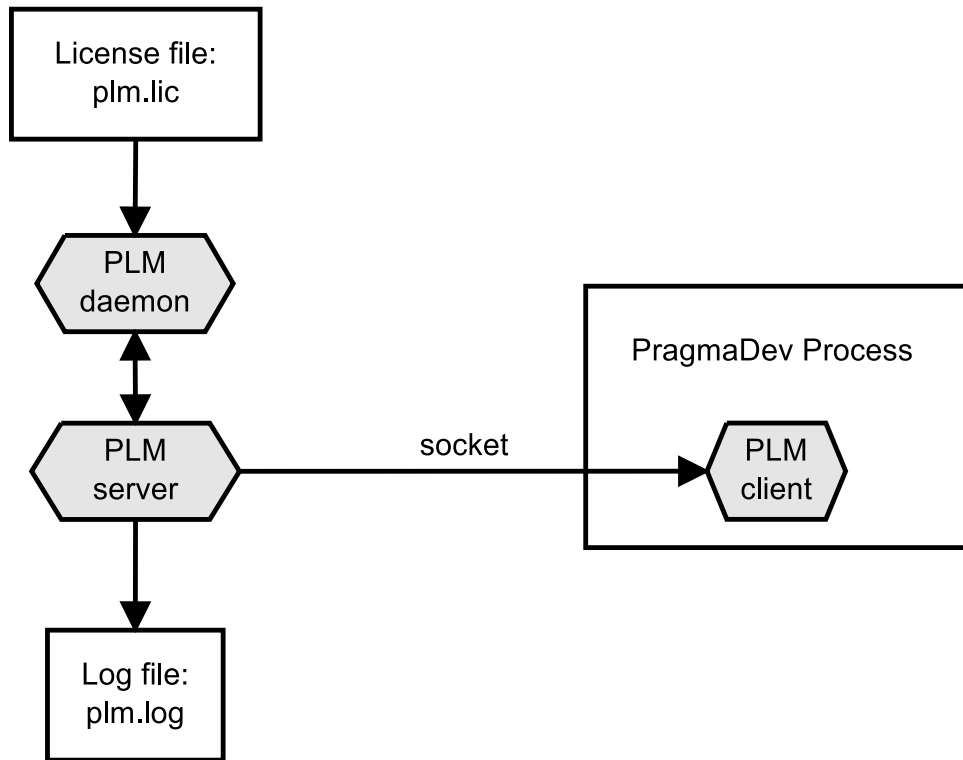
The PLM server, PLM daemon, PLM license file, and PLM log file must be in the same directory. The names of the files are:

PLM element	File name
PLM server	sPlmServer
PLM daemon	pragmadev
PLM license file	plm.lic
PLM log file	plm.log

The PLM server and the PLM client can be executed on the same computer. Communications between the different modules is done through sockets. The socket port number to use is defined by the environment variable PLM_PORT_NUMBER.

1.4 Model checker

PragmaDev Process comes with ENSTA Bretagne OBP (Observer Based Prover) checking tool to verify properties on the BPMN model. This tool does not require any license but is java based, so an up-to-date Java installation is required in order to use the property checking features.

1.5 Tutorial

PragmaDev Process comes with a tutorial we recommend to go through.

2 Windows installation

2.1 PragmaDev Process

The installation is made by running `process_install.exe` that should start automatically when the CD-ROM is inserted; if not, the installation will run by double-clicking on the executable which is located in the root directory of the CD-ROM. This setup starts an installation wizard to follow step by step. It is required to have administrator privileges in order to run the installation on Windows.

The installation program creates the `PRAGMADEV_PROCESS_HOME` environment variable to point to the installation directory and `%PRAGMADEV_PROCESS_HOME%/bin` is added to the path.

2.2 PragmaDev On Line License Management

One of the license manager is based on an on-line license management. The license is bought on line through PragmaDev web site and when the tool is launched the license is checked out on line. This very flexible licensing allows to use the license anywhere on any computer.

On the client side, when PragmaDev Process is launched, a pop windows will ask for the type of license to use:

Use the login and password used in the members area of PragmaDev web site and that's it.

This can be changed later via the menu "Process / Preferences..." in the tab "Licensing":

2.3 PLM

2.3.1 PLM server

All the necessary files are located in

%PRAGMADEV_PROCESS_HOME%\share\plm\plm_server\bin\win32

directory.

The PLM_PORT_NUMBER environment variable should be defined as a system variable so that it is always defined. Its value should be set to a valid socket port number on the computer. We recommend a default value of 27042.

The license file you will receive from PragmaDev should be named plm.lic and put in the same directory.

Once you have received the license file, PLM server should be installed as a Windows service so that it is started automatically when the computer boots and even if no user is logged in. The utility PlmService will install a service that will start the executables defined in PlmService.ini. Make sure the path to sPlmServer.exe is correct within that file.

Start a Command Prompt as administrator and go to the %PRAGMADEV_PROCESS_HOME%\share\plm\plm_server\bin\win32 directory.

To install the service, run: PlmService -i

To remove the service, run: PlmService -u

Once the service is installed, it will appear in the list of Windows services that can be accessed with the Services utility through the Control Panel, and the Administrative Tools folder:
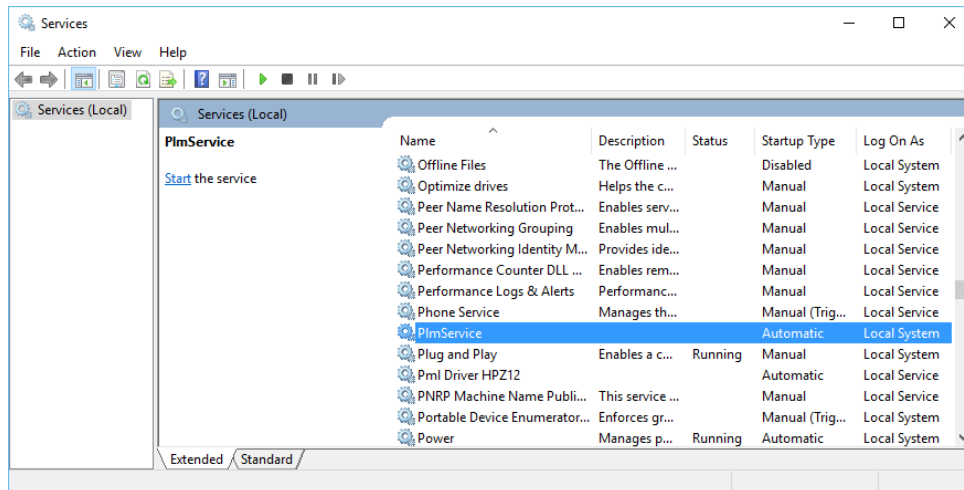

The service should be set to start automatically. As installing the service does not actually starts it the first time, it is necessary to start it manually in order to check everything is fine: double click on the service and click on the start button.
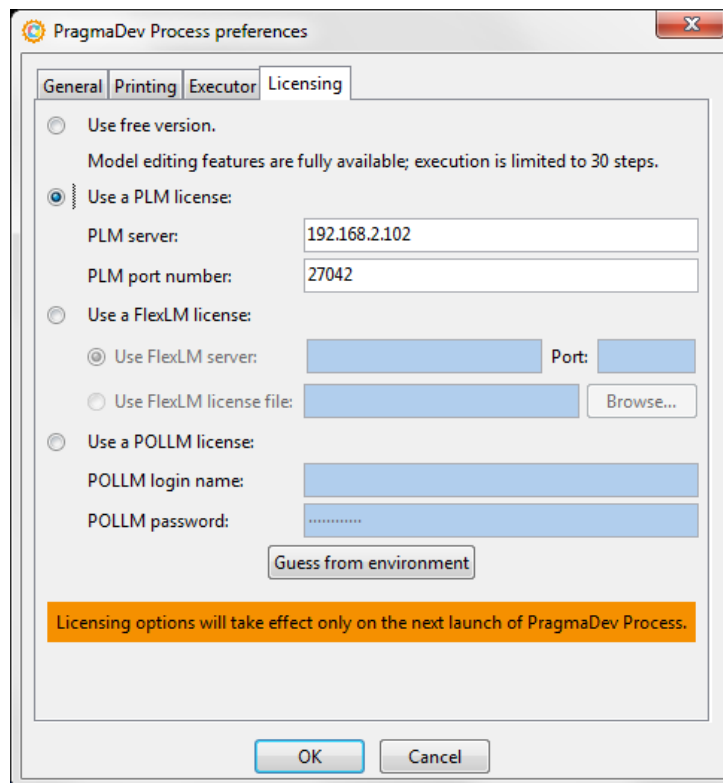
Note it is also possible to manually start the server, to do so just type: sPlmServer in the Command Prompt. In this case all the log information will also be printed in the Command Prompt.

2.3.2 PLM client

The PLM client can be configured the first time PragmaDev Process is started:
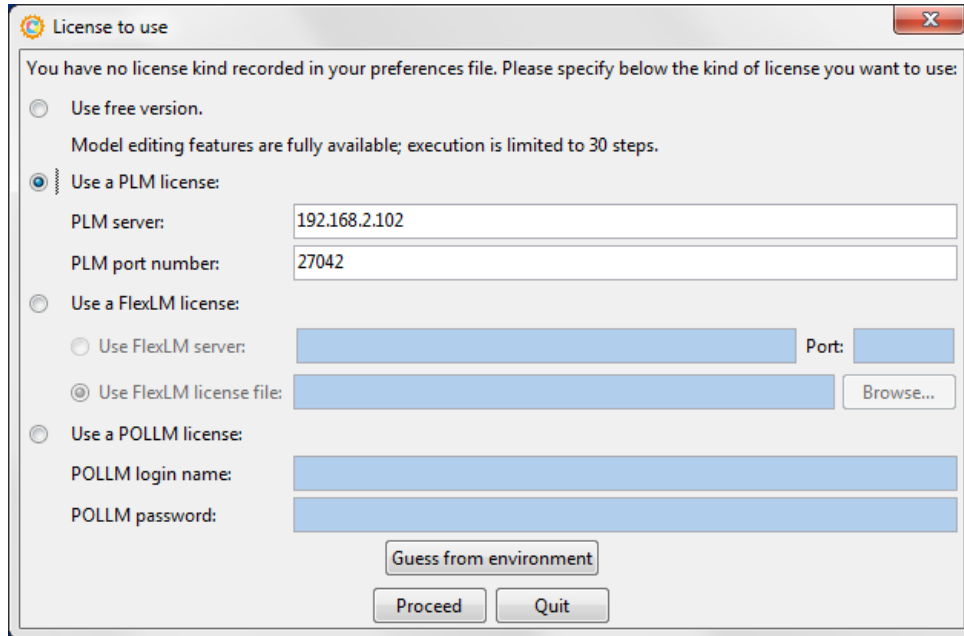
This can be changed later via the menu "Process / Preferences…" in the tab "Licensing":

The "PLM server" is the server hostname or IP address and the "PLM port number" is the port number defined on the server (the PLM_PORT_NUMBER environment variable).

The PLM client can be configured also by defining following environment variables:

• PLM_SERVER set to the server hostname or IP address,

- PLM_PORT_NUMBER set to the port number defined on the server.

If both environment variables are defined, their values will be picked up automatically when starting PragmaDev Process the first time, or at any time via the "Guess from environment" button. Note that because name resolution is not always successful, if the hostname does not work use the IP address of the server. For example, if the license server and the client are the same computer, use 127.0.0.1 instead of localhost.

2.3.3 PLM management

PLM includes a management tool to analyze license usage. It can be run on any computer on the network via the menu "Process / Manage PLM licenses..." provided that a PLM licence was already configured (see "PLM client" on page 14).

Another way is to run

`%PRAGMADEV_PROCESS_HOME%\share\plm\plm_manager\bin\win32\PLM_Manager.exe`

provided that both PLM_SERVER and PLM_PORT_NUMBER environment variables have been defined.

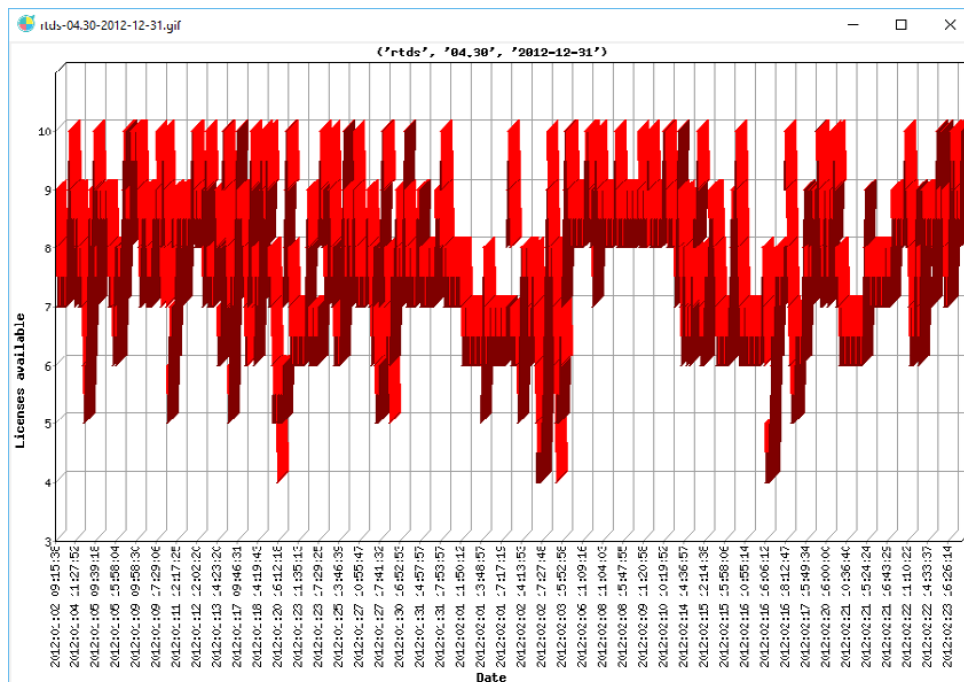The following window will open and connect to the license server:

The following features are available:
- Refresh
  This will ask the license server some updated information. This is usually not
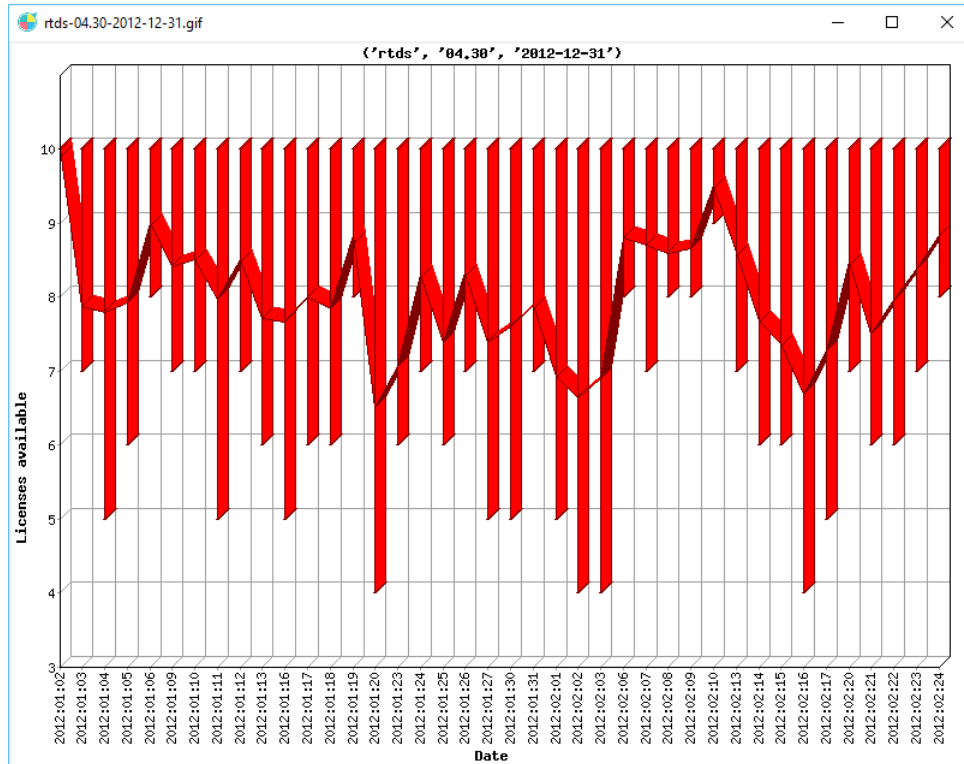
needed since the PLM Manager is refreshed automatically each time the a license is taken or given back.

• Reread
When updating the license file on the server, Reread will read again the license file. When reading a new license file, licenses are not lost if available in the new license file.

• Log
Retrieves the whole log file from the server and displays it on the top of the window.

• Rejected license requests
Retrieves the whole log file - so it might take some time- and displays all license requests that I have rejected.

• Generates license usage charts
Retrieves the whole log file - so it might take some time- and generates a basic license usage chart for each feature based on the log file such as the following:

Please note the window title is the name of the generated gif file for the graphic.

• Generate license usage high low average graph
Retrieves the whole log file - so it might take some time- and generates a license usage chart for each feature based on the log file with the highs and lows for each day such as the following:

Please note the window title is the name of the generated gif file for the graphic.

- Force release of selected license
  As PLM does not implement any heartbeat mechanism to test the connection to each client, it might happen a license stays locked because the client did not re-lease it. For that matter it is possible to force the release of a license in the license manager interface. Select a license to release and click on the "Force release of selected license" button.

3 Unix installation

3.1 PragmaDev Process

The installation is made by running the shell script `install.sh` located in the top directory. Once the questions asked by the script are answered, the installation will just copy the required files at the specified location. Make sure you have the proper permissions to write to the installation directory.

The installation script installs PragmaDev Process for the current platform. If you need to install for another platform (e.g. shared installation on a Unix server for Windows clients), you can give the target platform name as a parameter to the script. The possible platform names are `linux64`, `windows` and `macosx64`.

Then, as indicated by `install.sh`, each PragmaDev Process client account should then be configured by "sourcing" the configuration script in their shell startup script. For sh-compatible shells, this is done by including the line:

```
. <installation dir>/pragmaprocess-config.sh
```

in your `.profile`; if you use a csh-compatible script, this is done by including the line:

```
source <installation dir>/pragmaprocess-config.csh
```

in your `.cshrc`.

PragmaDev Process should appear in the available applications. To launch the tool via the command line, type:

```
pragmaprocess
```

3.2 PragmaDev Process fonts

This part of the installation is optional but recommended to ensure a WYSIWYG behavior of PragmaDev Process when printing and exporting diagrams to images. To do so, PragmaDev Process should preferably use the same font on the display and when printing and exporting.

PragmaDev Process will try to install its fonts itself in the local fonts directory (`~/.fonts`). You may have to quit the application and run it again for the fonts to be seen the first time you run it. If it still does not work, you can run the following command to add the correct font directory to the font search path:

```
xset +fp $PRAGMADEV_PROCESS_HOME/share/print/fonts
```

This command must be run after running the application configuration script and after the X server is launched. The command is usually put in the `.xsession` script (if
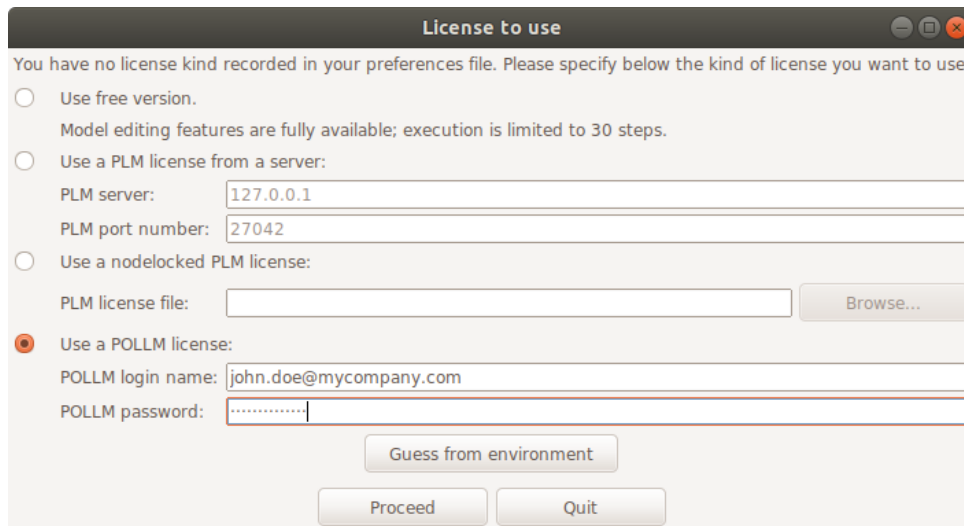
using xdm) or the `.xinitrc` script (if not). This is however highly dependent on the X server and the window manager. Please refer to the platform documentation for more information.

## 3.3 PragmaDev On Line License Management

One of the license manager is based on an on-line license management. The license is bought on line through PragmaDev web site and when the tool is launched the license is checked out on line. This very flexible licensing allows to use the license anywhere on any computer.

On the client side, when PragmaDev Process is launched, a pop windows will ask for the type of license to use:

Use the login and password used in the members area of PragmaDev web site and that's it.

This can be changed later via the menu "Process / Preferences…" in the tab "Licensing":
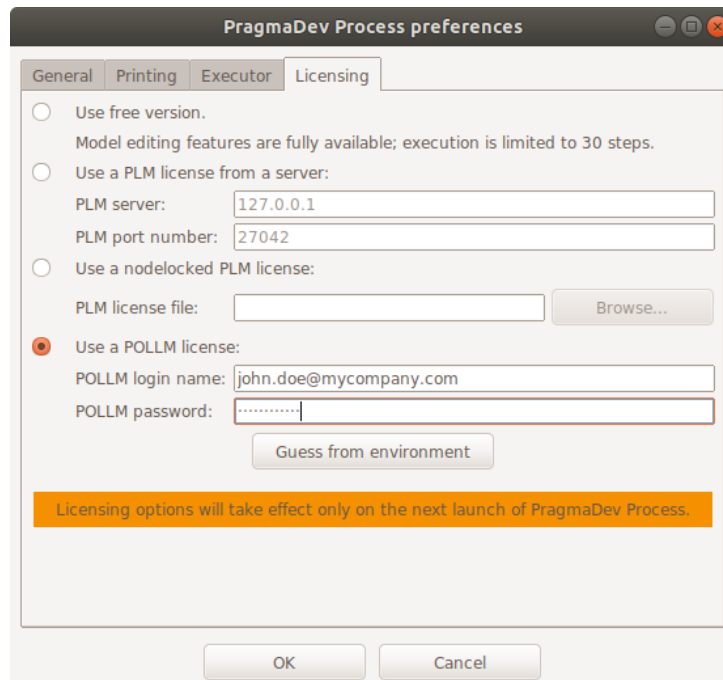
3.4 PLM

3.4.1 PLM server

All the necessary files are located in $PRAGMADEV_PROCESS_HOME/share/plm/plm_-server/bin/<platform> directory.

The PLM_PORT_NUMBER environment variable should be defined as a system variable so that it is always defined. Its value should be set to a valid socket port number on the computer. We recommend a default value of 27042.

The license file you will receive from PragmaDev must be put in the directory where all the files are and named plm.lic. The PLM server requires a /tmp folder to exist.

Once you have received the license file, PLM server should be installed as a Unix daemon to be started automatically when the computer boots. A sample script called plmd is provided to be put in /etc/init.d. We suggest to set up a symbolic link from rc5.d/S09plmd to that script so that it is started n°9 at startup level 5. In the example script, all the necessary files have been copied to:

```
/opt/pragmadev/plm/bin
```

If a PLM server is started while another one is running, the new server will start and the old one will eventually die by itself.

3.4.2 PLM client

The PLM client can be configured the first time PragmaDev Process is started:
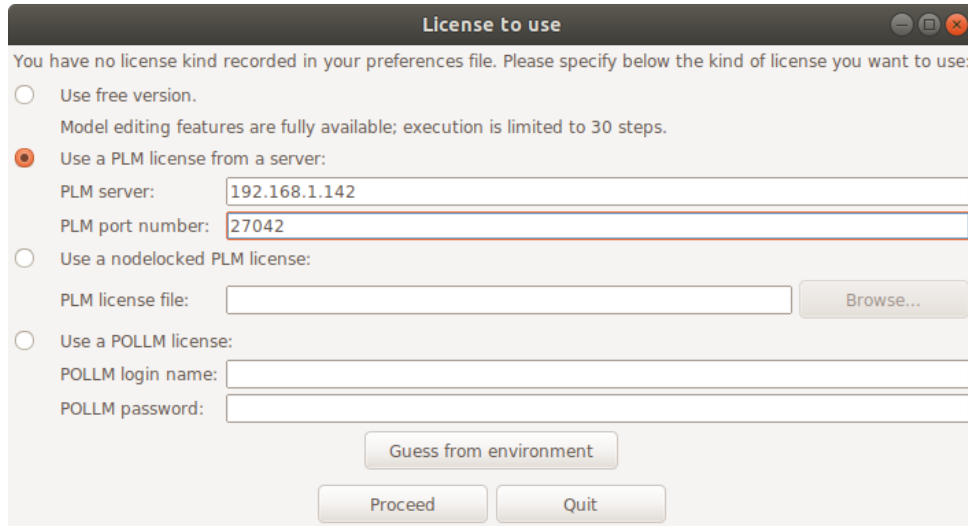
This can be changed later via the menu "Process / Preferences…" in the tab "Licensing":
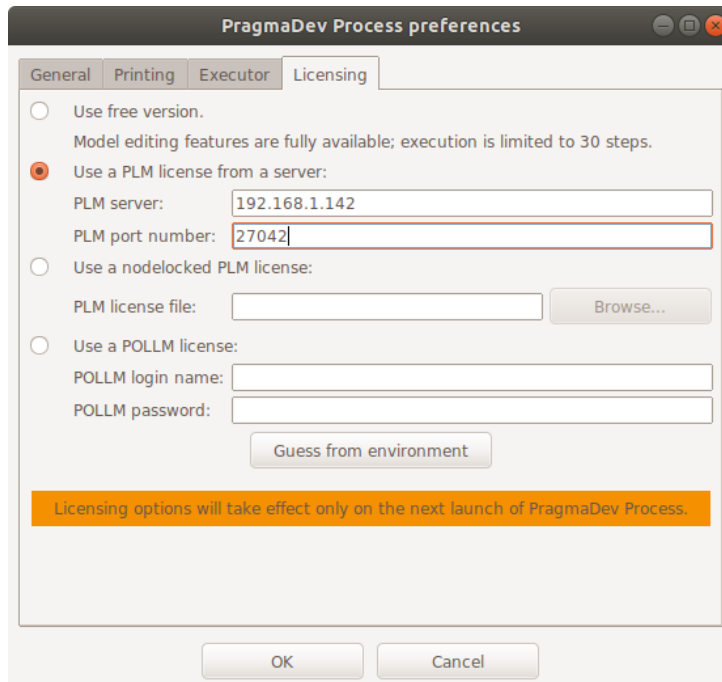
The "PLM server" is the server hostname or IP address and the "PLM port number" is the port number defined on the server (the PLM_PORT_NUMBER environment variable).

The PLM client can be configured also by defining the following environment variables:

- PLM_SERVER set to the server hostname or IP address,
- PLM_PORT_NUMBER set to the port number defined on the server.

If both environment variables are defined, their values will be picked up automatically when starting PragmaDev Process the first time, or at any time via the "Guess from environment" button.

3.4.3 PLM management

PLM includes a management tool to analyze license usage. It can be run on any computer on the network via the menu "Process / Manage PLM licenses…" provided that a PLM license was already configured (see "PLM client" on page 18).

Another way is to run:

`$PRAGMADEV_PROCESS_HOME/share/plm/plm_manager/bin/linux64/PLM_Manager`

provided that both `PLM_SERVER` and `PLM_PORT_NUMBER` environment variables have been defined.

The following window will open and connect to the license server:

PLM License Manager connected to 192.168.2.102 port 27042				
Updating license tree.				

server	hostid			
PowerEdge1900	00188B4BE6D3			
vendor	pragmadev			
feature	number	version		expiration date
rtds	20	05.10		9999-12-31
user	license id	checkout date		
ericb on ericb-VirtualBox	3	Mon Nov 7 09:55:18 2016		
feature	number	version		expiration date
diversity	2	05.10		9999-12-31
user	license id	checkout date		

Refresh
Reread
Log
Rejected license requests
Generate license usage charts
Generate license usage high low average graph
Force release of selected license
Activity:

The following features are available:

- Refresh
  This will ask the license server some updated information. This is usually not needed since the PLM Manager is refreshed automatically each time the a license is taken or given back.

- Reread
  When updating the license file on the server, Reread will read again the license file. When reading a new license file, licenses are not lost if available in the new license file.

- Log
  Retrieves the whole log file from the server and displays it on the top of the window.

- Rejected license requests
  Retrieves the whole log file - so it might take some time- and displays all license requests that I have rejected.

- Generates license usage charts
  Retrieves the whole log file - so it might take some time- and generates a basic license usage chart for each feature based on the log file such as the following:

Please note the window title is the name of the generated gif file for the graphic.

- Generate license usage high low average graph
  Retrieves the whole log file - so it might take some time- and generates a license usage chart for each feature based on the log file with the highs and lows for each day such as the following:

Please note the window title is the name of the generated gif file for the graphic.

- Force release of selected license
As PLM does not implement any heartbeat mechanism to test the connection to each client, it might happen a license stays locked because the client did not release it. For that matter it is possible to force the release of a license in the license manager interface. Select a license to release and click on the "Force release of selected license" button.

4 Mac installation

4.1 PragmaDev Process

The installation on macOS uses a specific tool that must be downloaded from the PragmaDev website, called `macOS_Process_vX.Y_installer`. It is distributed in a standard Apple DMG disk image and will download and install the application.

NB: downloading the zip file directly and trying to install it "manually" on macOS will probably not work and cause the application to be unusable. This is due to Apple's security policy which introduces a lot of constraints on applications downloaded from the internet.

Once the DMG has been downloaded, mounting it will open a folder containing only the installer application:
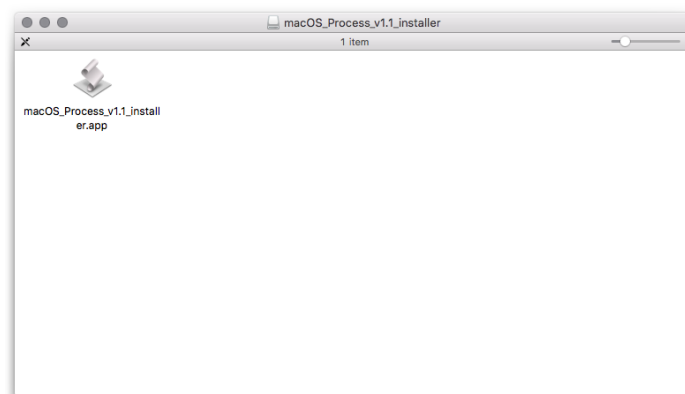
When you run the installer, you might get a warning that it is an application downloaded from the internet and that it wants to control the Finder. Acknowledge both to make sure the installer runs correctly. The installer will then open a dialog asking confirmation for the install:
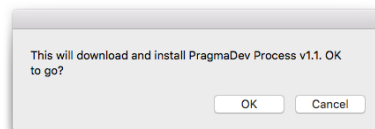
After pressing OK, the download starts. The progress is shown in a dialog giving the size of the downloaded file so far:
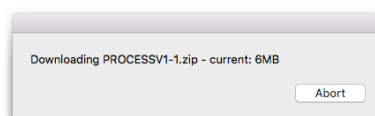
Once the download is finished, the End User License Agreement window will pop up.
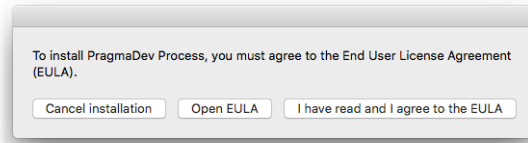
To view the End User License Agreement, click on the "Open EULA" button. When you've read it and if you agree to it, click the "I have read and I agree to the EULA" button to proceed.

The installer then asks for a destination folder. The default is /Applications, but you can choose whatever you like:
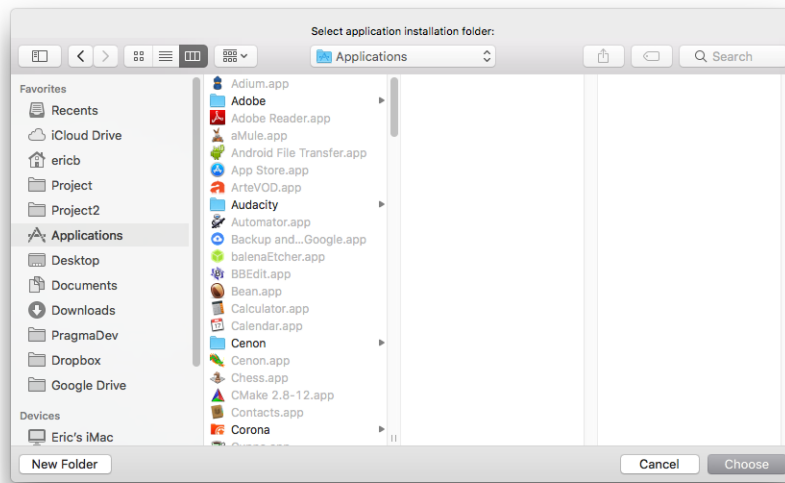
The models and diagrams in PragmaDev Process are displayed better with the fonts provided with the application, so we advise you to install these fonts. They can be installed only for your user or system-wide, if you have the permissions:
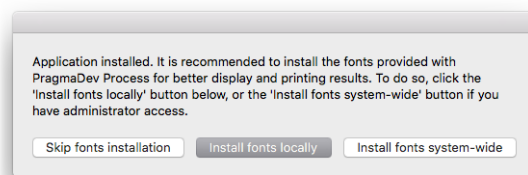
If you have a license server running, you can now start PragmaDev Process.
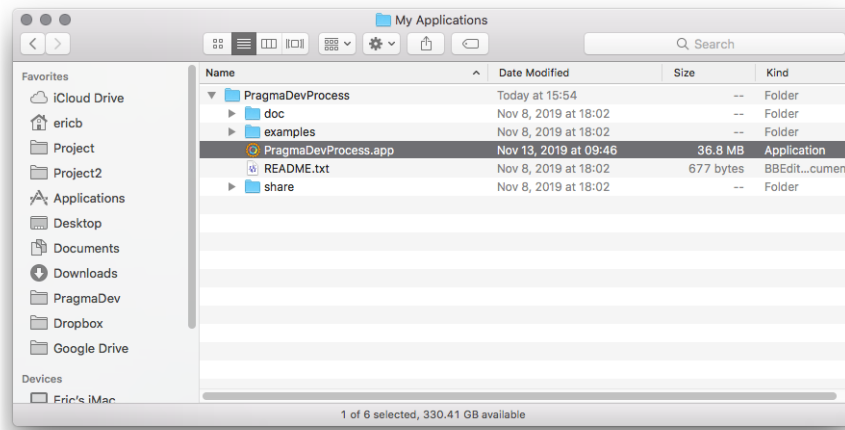
4.2 PragmadDev On Line License Management

One of the license manager is based on an on-line license management. The license is bought on line through PragmaDev web site and when the tool is launched the license is checked out on line. This very flexible licensing allows to use the license anywhere on any computer.

On the client side, when PragmaDev Process is launched, a pop windows will ask for the type of license to use:

Use the login and password used in the members area of PragmaDev web site and that's it.

This can be changed later via the menu "Process / Preferences..." in the tab "Licensing":
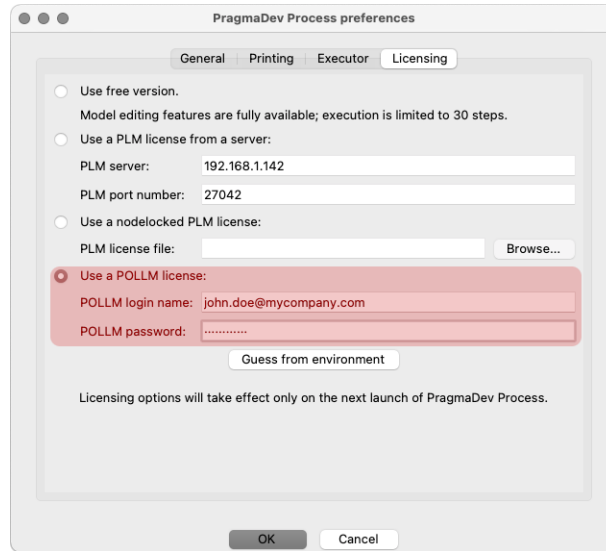
4.3 PLM

4.3.1 PLM Server

4.3.1.1 Manual startup

What follows describes how to start the PLM server manually. The license file must be named `plm.lic` and must be saved in the PLM directory (`<installation folder>/PragmaDevProce` `server/bin/macosx64`).
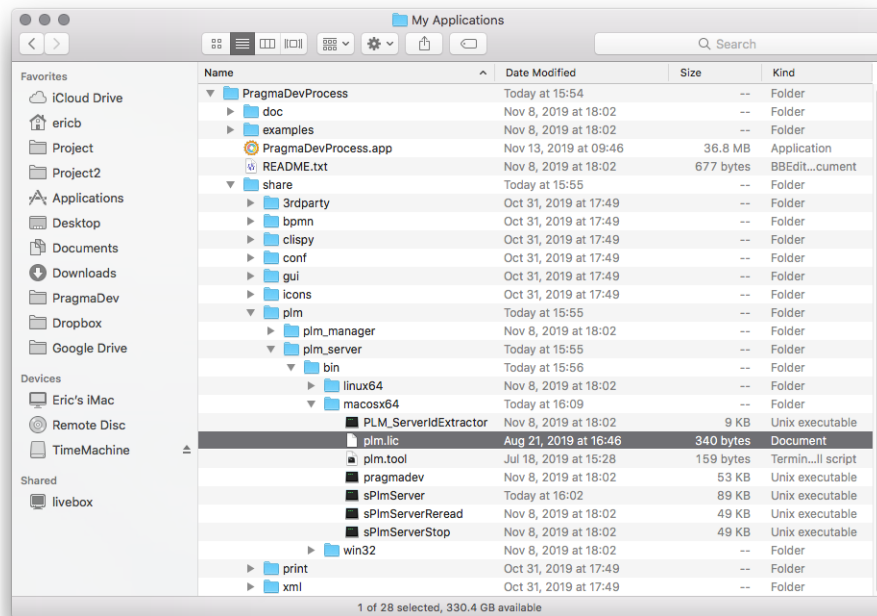
Open a terminal (in Applications/Utilities) and type the following commands:

```
cd <installation folder>/PragmaDevProcess/share/plm_server/bin/macosx64
export PLM_SERVER=127.0.0.1
export PLM_PORT_NUMBER=27042
./sPlmServer
```
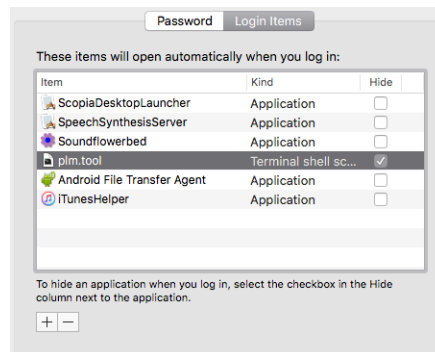

4.3.1.2 Automatic startup
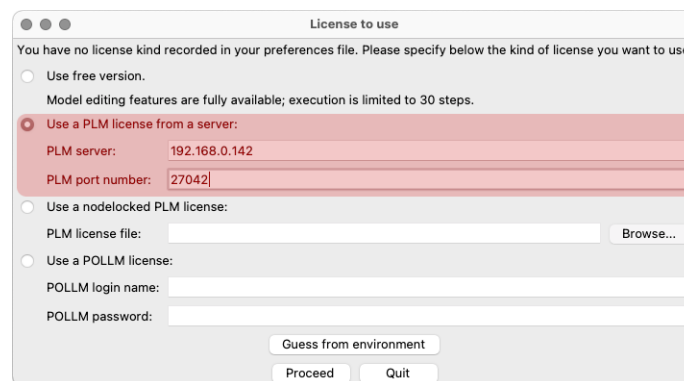
Make sure the tool plm.tool will be executed with the terminal application.
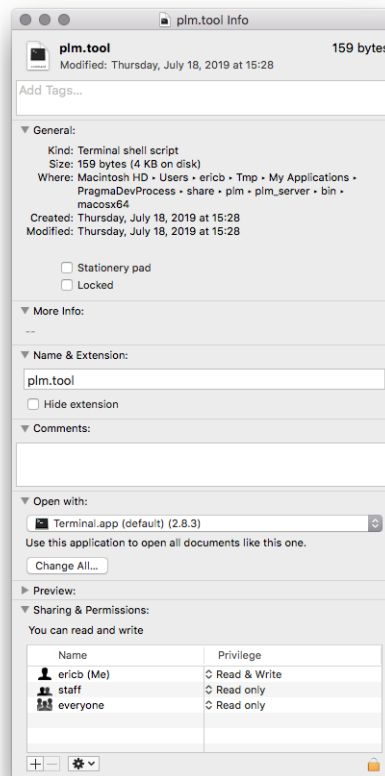
Open the System Preferences, then select the "Users & Groups" category, then the "Login items" tab. Add plm.tool to the items that will open automatically when you log in:

4.3.2 PLM Client

The PLM client can be configured the first time PragmaDev Process is started:

This can be changed later via the menu "Process / Preferences…" in the tab "Licensing":