Purpose of This Document

This document guides developers interested in the POCO\textsuperscript{PRO} C++ Frameworks through the evaluation process.

The document is targeted at developers and development/technical managers wanting to get an overview of the functionality and features offered by the POCO\textsuperscript{PRO} C++ Frameworks. Familiarity with the C++ programming language is assumed.

Validity of This Document

This document covers release 2018.1 and later releases of the POCO\textsuperscript{PRO} C++ Frameworks.

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1 Welcome

Thank you for your interest in the POCO\textsuperscript{PRO} C++ Frameworks, and welcome to our evaluation program. This document will help you in getting a smooth ride while installing the POCO\textsuperscript{PRO} C++ Frameworks evaluation software and evaluating the software for potential use in your project or company.

If at any point during the evaluation you have any questions or need support, please contact us via email at support@appinf.com.
2 Installing the Evaluation Release

Applied Informatics offers evaluation versions of the POCO PRO C++ Frameworks for Windows (Visual Studio), Linux and macOS platforms. Installers can be downloaded from the following address: [https://pocoproject.org/pro](https://pocoproject.org/pro). Multiple versions of the Windows installer are available, supporting Visual Studio versions 2013 to 2017. Installers for Linux distributions and macOS are available as well. Note that the Windows evaluation installers only contain 32-bit libraries and executables. The full product supports building 64-bit libraries and executables as well.

2.1 Installing on Windows

Installing the evaluation package for Windows platforms is straightforward. If you have not done so yet, please download the appropriate installer application for the version of Visual Studio you are using from [https://pocoproject.org/pro](https://pocoproject.org/pro). All installers contain the same software, only compiled with different versions of the compiler. Also, the project and solution files for the samples are different. After downloading has completed, run the installer application.

Click Next to begin the installation.
Review the license agreement and click the checkbox to accept the terms in the license agreement. Then click Next to continue.

Choose a directory where to install the software (the default is C:\POCOpro). Then click Next to continue.
Then select the Start menu folder, where you would like to have the shortcuts to the documentation, samples, and the uninstall application. The default is to create a **POCOpro C++ Frameworks** entry in the Programs menu. Click **Install** to finish the installation.

The installer is now copying the files to your computer. This may take a few minutes.
When the installation is completed, click **Finish** or close the window to exit the installer application. You are now almost ready to explore the POCO\textsuperscript{PRO} C++ Frameworks.

As the final step, you must install the license file which you received from Applied Informatics. The file is called `poco.license`, and you must place the file either in the Windows directory (usually, `C:\WINDOWS`), or in your Windows home directory (on Windows 7 this is `C:\Users\<YourName>`).

*If you have not yet received the license file yet, please go to https://pocoproject.org/pro and fill out the form. The license file will be emailed to you automatically, usually within a few minutes.*

### 2.2 Installing on Unix Platforms

Installing the POCO\textsuperscript{PRO} C++ Frameworks evaluation software on a Unix or Linux system is almost as easy as running a Windows installer.

Unix or Linux installers come as a gzip’ed TAR file. It will be named like `POCopro-2018_1-lxeval-Ubuntu-16_04-x86_64.tar.gz`.

#### 2.2.1 Unpacking the Installer

First, uncompress the TAR file on your target system:

```bash
$ tar -xzf POCopro-2018_1-lxeval-Ubuntu-16_04-x86_64.tar.gz
```
This will create a directory named like the TAR file in the current directory. Change into that directory, and run the installer script (`install.sh`) contained therein.

Note that during the installation you will be asked for a directory where to install the software. If you want to install the software outside of your home directory (e.g. in `/opt` or `/usr/local`), you must run the installer script with superuser privileges (i.e. as root).

### 2.2.2 Running the Install Script

```bash
$ cd POCOpro-2018_1-1xeval-Ubuntu-16_04-x86_64
$ ls
install.sh license.txt postinstall.sh product.tar product.txt README
$ ./install.sh

*** Welcome to the
*** POCOpro C++ Frameworks 2018.1
*** installer program!
***
This program will guide you through the installation of POCOpro C++ Frameworks 2018.1.

Copyright (c) 2007-2018 by Applied Informatics Software Engineering GmbH.

Please review and accept the license terms before the installation begins. Press RETURN to review the License Agreement.

... partnership to find an arrangement that approximates as nearly as possible the inoperative terms.

======== END OF LICENSE AGREEMENT ========

Do you accept the terms in the License Agreement (please answer with 'Yes' to accept)?

====> Yes

Next, you will be asked where to install the software. Enter the path to a directory where the software should be installed. If the directory you specify does not exist, it will be created.

```bash
Please specify the directory where POCOpro C++ Frameworks 2018.1 shall be installed (default: '/home/guenter/pocopro').

====> /opt/pocopro
```

The directory '/opt/pocopro' does not exist and will be created.
Press RETURN to continue, or CTRL-C to cancel.

Press RETURN to begin the installation, or CTRL-C if you wish to cancel.

The software is now being installed. This may take some time.

**** IMPORTANT NOTE ****

The POCOpro C++ Frameworks have been installed into '/Users/guenter/pocopro'.

To compile the sample applications located in '/Users/guenter/pocopro/samples', you have to set the environment variable POCO_BASE to the path given above before invoking GNU make:

```bash
> export POCO_BASE=/Users/guenter/pocopro
```

You can do that by sourcing the script '/Users/guenter/pocopro/etc/poco.env'.

To build the samples for Remoting:

```bash
> source /Users/guenter/pocopro/etc/poco.env
> cd $POCO_BASE/samples/RemotingNG
> make -s
```

To build the samples for OSP:

```bash
> source /Users/guenter/pocopro/etc/poco.env
> cd $POCO_BASE/samples/OSP
> make -s
```

To view the documentation, point your web browser to '/Users/guenter/pocopro/doc/index.html'.

If you have received a license file ('poco.license'), please put this file into your home directory.

The software has been successfully installed.
Thank you for installing POCOpro C++ Frameworks 2018.1.

$ _

You are now almost ready to explore the POCOpro C++ Frameworks.

As the final step, you must install the license file which you received from Applied Informatics. The file is called poco.license, and you must place the file either in your home directory, or in the /etc directory.

2.2.3 Building the Samples

To reduce the size of the downloads, the installer packages do not contain pre-built executables for the sample applications. However, building the samples is easy.
First, ensure that the environment is set up for developing with the POCO C++ Frameworks and its build system. To do this, source the poco.env script shell contained in the etc directory. The script will set the $POCO_BASE environment variable and add $POCO_BASE/bin to the $PATH environment variable.

Note: In the following it is assumed that you have installed the POCO C++ Frameworks into a directory named pocopro in your home directory.

```
$ cd pocopro
$ source etc/poco.env
```

Then, change to the samples directory, and build the Foundation samples.

```
$ cd samples
$ cd Foundation
$ make -s -j4
```

Note: be sure to use GNU make (and not BSD make) to build the samples. Use the GNU Make -jn option to parallelize the build on a multicore machine.

Build the samples for all other libraries as required.

```
[guenter@localhost Foundation]$ cd ../XML
[guenter@localhost XML]$ make -s -j4
```
3 Working with the POCO\textsuperscript{PRO} C++ Frameworks

Now that you have successfully installed the POCO\textsuperscript{PRO} C++ Frameworks evaluation version, it’s time to try it out.

3.1 Viewing the Documentation

Extensive reference documentation in HTML format is installed along with the libraries and tools by the installer. On Windows platforms, you can view the documentation with your default Web browser by opening the Start menu and selecting Programs > POCOpro C++ Frameworks > Documentation. On Unix platforms, open the file doc/index.html using your favorite Web browser.

Alternatively, the reference documentation is available online at https://pocoproject.org/pro/docs/.

3.2 Working with the Samples

On Windows platforms, Visual Studio solution and project files for all samples have been installed. To open all samples for the Foundation library in Visual Studio, open the samples directory using the Windows Explorer. You can do that using the Start menu, by choosing Programs > POCOpro C++ Frameworks > Samples, or by navigating to the samples directory (e.g., C:\POCOpro\samples) using the Windows Explorer. Then locate and open the Foundation directory, which contains a Visual Studio solution file for all Foundation library samples. For Visual Studio 2013 the solution file is named samples_vs120.sln. For Visual Studio 2015 the solution file is named samples_vs140.sln. For Visual Studio 2017, the solution file is named samples_vs150.sln. Double click the solution file to open it in Visual Studio.

Depending on your Visual Studio version, it may be necessary to add the directories containing the POCO\textsuperscript{PRO} C++ Frameworks headers and libraries to the global header file and library search paths. In Visual Studio, select Tools > Options, then select Projects and Solutions > VC++ Directories. Make sure the directory containing the POCO\textsuperscript{PRO} C++ Frameworks header files (e.g., C:\POCOpro\include) is in the search list for Include files, and the library directory (e.g., C:\POCOpro\lib) is in the search list for Library files.

Please make sure that the PATH environment variable includes the directory containing the POCO\textsuperscript{PRO} C++ Frameworks shared libraries (usually C:\POCOpro\bin). The installer normally takes care of this.

On Unix platforms, GNU Makefiles are provided for every sample. There is also a top-level Makefile invoking all sample Makefiles in every sample subdirectory.
Look at the sample code to see what it does and run the samples. Since almost all samples output something to the console, it is best to run the samples from a command shell.

Feel free to modify the samples to try out different features of the POCO PRO C++ Frameworks.

*Do not forget to set the LD_LIBRARY_PATH (DYLD_LIBRARY_PATH on macOS) environment variable accordingly (so that in includes $POCO_BASE/lib), before running a sample application or invoking one of the tools. Normally, this is done by sourcing the etc/poco.env script.*

### 3.3 Using Eclipse on Linux

On Linux platforms, it is possible to use Eclipse (or other integrated development environments) to build applications with the POCO PRO C++ Frameworks. There are two ways to use Eclipse – using Eclipse’s CDT build system, or using the POCO C++ Libraries build system used by the POCO PRO C++ Frameworks.

*Please note that the following steps require some familiarity with Eclipse CDT.*

#### 3.3.1 Eclipse CDT Build System

In the following we’ll show the steps to build the Remoting NG TimeClientTCP sample using Eclipse CDT, with CDT’s build system.

##### 3.3.1.1 Create New Project

The first step is to create a new empty C++ project. Then, copy into the newly created project directory the *include* and *src* directories and their content from *samples/RemotingNG/TimeClientTCP*.

##### 3.3.1.2 Project Settings

The next step is setting up the project configuration. We create a build variable named *POCO_BASE*, containing the path to the POCO PRO C++ Frameworks installation directory. We’ll use this variable later on to define header and library search paths. Make sure this variable is defined for all build configurations. In the following screenshots, the installation directory is */home/guenter/pocopro*. 
Then we'll set up the header search path.

We have to add the project’s `include` directory, the `include` directory of the POCO PRO C++ Frameworks, using the `POCO_BASE` build variable defined previously, as well as the include directory of the `TimeServerTCP` sample, as this contains a header needed by the client. Please make sure to specify the header search paths under `GCC C++ Compiler`.

Finally, the linker settings must be specified.
We need to specify the library search path (again, using \textit{POCO\_BASE} build variable), as well as which libraries to link.

With these settings done, the project can be built.

\textbf{3.3.1.3 Running the Project}

In order to run the project, the shared library search path must be set. This is done under Run/Debug settings, by creating a new launch configuration.
In the launch configuration, specify the shared library search path, using the `LD_LIBRARY_PATH` environment variable.

With these settings, you should be able to launch (and debug, if necessary) the executable directly from Eclipse.

3.3.2 External Build System

You can import the samples directly into Eclipse and use the GNU Make-based build system used by the POCO PRO C++ Frameworks. To do so,
import a project (Existing Code as Makefile Project) and specify the sample directory (e.g., samples/RemotingNG/TimeClientTCP) as project directory.

After importing the project, the project settings must be adjusted. First, create the `POCO_BASE` build variable, which we’ll use later on.
Then, modify the build command used to build the project. We’ll have to pass the `POCO_BASE` environment variable to GNU Make. This can be done in C/C++ Build > Builder Settings.
In order to run the project, a new launch configuration must be created. This can be done under Run/Debug settings.

The launch configuration must specify the path to the executable, as well as the shared library search path (`LD_LIBRARY_PATH`).

Note that the executable is located in the `bin` directory within the project directory.
3.4 Sample Notes

3.4.1 XML Samples

A simple XML file for use with the XML samples is located in the samples/XML/data directory.

3.4.2 Remoting NG Samples

The samples for Remoting NG come in pairs – there is always a server application and the client application. Be sure to start the server application before the client application. Example (Windows command line):

```bash
C:\>cd POCOpro\samples\RemotingNG
C:\POCOpro\samples\RemotingNG>start TimeServer\bin\TimeServer
C:\POCOpro\samples\RemotingNG>TimeClient\bin\TimeClient
```

2012-11-17 10:23:14

The Pizzeria sample is the server application for the PizzeriaClient and PizzeriaClientWS client applications.

There is a known issue with the RemoteGenNG code generator and GCC 4.6.3 on Ubuntu 12.04 that will cause the GCC preprocessor to fail when invoked by RemoteGenNG. As a workaround, install GCC 4.4 (apt-get install gcc-4.4) and change the name of the compiler executable in the RemoteGen.xml configuration file from gcc to gcc-4.4 (or create a new compiler definition for GCC 4.4).

3.4.3 Open Service Platform Samples

The best way to try out the Open Service Platform is to run the BundleServer sample. This server application includes a Web server running on port 22080.

Start the BundleServer application:

```bash
C:\>cd POCOpro\samples\OSP
C:\POCOpro\samples\OSP>BundleServer\bin\BundleServer
osp.core.ServiceRegistry: [Information] Service registered: osp.core.xp ...
Application: [Information] Startup complete.
```

Wait until the “Startup complete” message appears, then direct your favorite Web browser to http://localhost:22080.
Click through the various Web pages to try out the different sample bundles. The user name and password for the Bundle Administration Utility is *admin* and *admin*, respectively.

You can also start the OSP Shell client to try out the command line administration facilities of OSP. To do so, start the *ospsh* executable. The user name and password for the shell is *admin* and *admin*, respectively. After starting the shell, enter *help* for a list of commands, or enter the *ls* command to see all installed bundles.

Please be sure to read the Open Service Platform introduction, tutorial and reference pages that are part of the online documentation.
4 Support, Licensing and Contact

If you need any support during the evaluation period, please contact us via email at support@appinf.com.

The Foundation, XML, JSON, Net, Util, Data and Zip libraries are available under the Boost open source license, which makes them free for both open source and commercial use. The complete source code for these libraries can be downloaded for free from https://pocoproject.org.

For a complete description of the license regulations and support options for the other libraries, please visit https://pocoproject.org/pro.

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