Standalone Applications

To follow this tutorial you should have finished the previous chapter, Custom Apps and Plugins.

BPS standalone applications are exe programs that can run without the BPS workplace. Some example of standard standalone applications are the bps.exe and gui.exe script interpreters, or reportspooler.exe.

A regular exe becomes a BPS application by using the library bpscore or bpsgui. The libbray link files are found in the lib subdirectory of the BPS installation, the include files are located in subdirectory include and the DLL's are found in the bin subdirectory.

Before we start with our basic test lets create some more feature files to let the subprojects find the include and lib files.

bpscore.prf

Adds the bpscore library. Use this for command line (non-GUI) standalone applications.

```
load(bpsinit.prf)
LIBS += "$$bpsdir/lib/bpscore.lib"
INCLUDEPATH += $$bpsdir/include
```

bpsgui.prf

Adds the bpsgui library. Use this for all plugins and standalone applications with a GUI interface.

```
load(bpscore.prf)
LIBS += "$$bpsdir/lib/bpsgui.lib"
INCLUDEPATH += $$bpsdir/include
```

bpsexe.prf

Makes that a built exe file is copied to the bin folder of the proper bps installation.

Hello EXE

• Right-click on the main project (custom) and run New Subproject... to start the New Subproject wizard.

- Page Choose a template
 - Application
 - \circ Qt Widgets Application
 - Choose...
- Page Introduction and Project Location
 - Name: hello
 - o Create in: C:\dev\mybps\custom
 - Next
- Page Class Information
 - Class name: MainWindow
 - Base class: QMainWindow
 - Header file: mainwindow.h
 - \circ Source file: mainwindow.cpp
 - $\circ\,$ Generate form: [] (no)
 - \circ Next
- Page Project Management
 - Finish

This creates the new subproject hello with the qmake file hello.pro and the source files main.cpp, mainwindow.cpp and mainwindow.h.

Edit hello.pro to:

```
TARGET = hello
TEMPLATE = app
QT += core gui widgets
CONFIG += bpsexe bpsgui
SOURCES += \
    main.cpp\
    mainwindow.cpp
HEADERS += \
    mainwindow.h
```

By adding bpsexe and bpsgui to the CONFIG variable we include the feature files bpsexe.prf and bpsgui.prf directly, and the feature files bpscore.prf and bpsinit.prf indirectly.

Edit main.cpp to:

```
#include "mainwindow.h"
#include <bpsapplication.h>
int main(int argc, char *argv[])
{
    BpsApplication a(argc, argv);
    MainWindow w;
    w.show();
    return a.exec();
```

}

We here just exchange QApplication by BpsApplication. Technically this very simple example might also work without this change, but we generally should use BpsApplication in our standalone BPS applications to be able to fully use all BPS methods and functions.

Edit mainwindow.cpp to:

```
#include "mainwindow.h"
#include <bpsgui.h>
#include <QLabel>
MainWindow::MainWindow(QWidget *parent)
    : QMainWindow(parent)
{
    setWindowTitle(tr("Hello BPS"));
    QLabel* label = new QLabel;
    label->setPixmap(bpsGui->pixmap(bStr("gears_run"), 64));
    label->setAlignment(Qt::AlignCenter);
    setCentralWidget(label);
}
MainWindow::~MainWindow()
{
}
```

This looks a bit more interesting but you might not understand everything unless you are already familiar with Qt. The bpsGui class is used here to set the pixel map of a label, which is shown as the central widget of a main window.

This is a good time to start learning the details and dive into general Qt development and the special BPS classes. The Qt documentation is integrated in the help of Qt Creator and is also available online. The BPS C++ documentation is also available online.

Press Ctrl+Shift+B to build all. Try to resolve possible issues by checking that you really followed all instructions exactly. Finally the program hello.exe should be created in the bin directory of your BPS installation:

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bps64	bps.conf	12.05.2015 11:07	CONF File	E
bpso4	bps.exe	11.05.2015 22:24	Application	
CSS	E Spscore.dll	11.05.2015 22:21	Application extens	:
include	👷 bpsdeb.exe	11.05.2015 22:24	Application	
lib	🚳 bpsgui.dll	11.05.2015 22:24	Application extens	1
plugins	👍 gui.exe	11.05.2015 22:24	Application	
scripts	hello.exe	12.05.2015 14:47	Application	
translations	icudt55.dll	05.05.2015 13:42	Application extens	1
ibk	🚳 icuin55.dll	23.04.2015 21:39	Application extens	1
ico	🚳 icuuc55.dll	23.04.2015 21:39	Application extens	1
	📣 keyboard.exe	11.05.2015 22:24	Application	
icu	🚳 libEGL.dll	10.05.2015 14:49	Application extens	-
🎳 jom		III		- F
hello.exe Date Application	e modified: 12.05.2015 14:47 Da Size: 22,5 KB	ate created: 12.05.2015 13:05		

In the *Details* of the files properties you can find some information that we have set in bpsinit.prf:

l hello.exe Prop	erties				X
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Finally run the new application to see if it works:

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bin		👍 bps.exe	11.05.2015 22:24	Application	
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scripts		hello.exe	015 14:47	Application	
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퉬 ico		keyboard.exe	11.05.2015 22:24	Application	
icu		libEGL.dll	10.05.2015 14:49	Application extens	
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Congratulation, you have successfully created your first BPS application.

Continue from here with Application Plugins.

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