

SimFQT

0.1.3

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### 1.2 SimFQT at SourceForge

- [Project page](#)
- [Download SimFQT](#)
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- [Mailing lists](#)
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### 1.3 SimFQT Development

- [Git Repository](#) (Subversion is deprecated)
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### 1.4 External Libraries

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- [Python](#)
- [MySQL client](#)
- [SOI](#) (C++ DB API)

### 1.5 Support SimFQT

### 1.6 About SimFQT

SimFQT is a C++ project of airline pricing classes and functions, mainly targeting simulation purposes. [N](#)

SimFQT makes an extensive use of existing open-source libraries for increased functionality, speed and accuracy. In particular [Boost](#) (C++ STL Extensions) library is used.

The SimFQT project originates from the department of Operational Research and - Innovation at [Amadeus](#), Sophia Antipolis, France. SimFQT is released under the terms of the [GNU Lesser General Public License](#) (LGPLv2.1) for you to enjoy.

SimFQT should work on [GNU/Linux](#), [Sun Solaris](#), Microsoft Windows (with - [Cygwin](#), [MinGW/MSYS](#), or [Microsoft Visual C++ .NET](#)) and [Mac OS X](#) operating systems.

#### Note

(N) - The SimFQT library is **NOT** intended, in any way, to be used by airlines for production systems. If you want to report issue, bug or feature request, or if you just want to give feedback, have a look on the right-hand side of this page for the preferred reporting methods. In any case, please do not contact Amadeus directly for any matter related to SimFQT.

## 2 People

## 2.1 Project Admins (and Developers)

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## 2.4 Distribution Maintainers

- **Fedora/RedHat**: Denis Arnaud <[denis\\_arnaud@users.sourceforge.net](mailto:denis_arnaud@users.sourceforge.net)> (N)
- **Debian**: Emmanuel Bastien <[ebastien@users.sourceforge.net](mailto:ebastien@users.sourceforge.net)> (N)

### Note

(N) - **Amadeus** employees.

## 3 Coding Rules

In the following sections we describe the naming conventions which are used for files, classes, structures, local variables, and global variables.

### 3.1 Default Naming Rules for Variables

Variables names follow Java naming conventions. Examples:

- `lNumberOfPassengers`
- `lSeatAvailability`

### 3.2 Default Naming Rules for Functions

Function names follow Java naming conventions. Example:

- `int myFunctionName (const int& a, int b)`

### 3.3 Default Naming Rules for Classes and Structures

Each new word in a class or structure name should always start with a capital letter and the words should be separated with an under-score. Abbreviations are written with capital letters. Examples:

- `MyClassName`
- `MyStructName`

### 3.4 Default Naming Rules for Files

Files are named after the C++ class names.

Source files are named using `.cpp` suffix, whereas header files end with `.hpp` extension. Examples:

- `FlightDate.hpp`
- `SegmentDate.cpp`

### 3.5 Default Functionality of Classes

All classes that are configured by input parameters should include:

- default empty constructor
- one or more additional constructor(s) that takes input parameters and initializes the class instance
- setup function, preferably named `'setup'` or `'set_parameters'`

Explicit destructor functions are not required, unless they are needed. It shall not be possible to use any of the other member functions unless the class has been properly initiated with the input parameters.

## 4 Copyright and License

### 4.1 GNU LESSER GENERAL PUBLIC LICENSE

### 4.1.1 Version 2.1, February 1999

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[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

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any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

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Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the library's name and a brief idea of what it does.>
Copyright (C) <year> <name of author>
```

```
This library is free software; you can redistribute it and/or
modify it under the terms of the GNU Lesser General Public
License as published by the Free Software Foundation; either
version 2.1 of the License, or (at your option) any later version.
```

```
This library is distributed in the hope that it will be useful,
but WITHOUT ANY WARRANTY; without even the implied warranty of
MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU
Lesser General Public License for more details.
```

```
You should have received a copy of the GNU Lesser General Public
License along with this library; if not, write to the Free Software
Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA
```

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the
library 'Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice
```

That's all there is to it!

Source

## 5 Documentation Rules

### 5.1 General Rules

All classes in SimFQT should be properly documented with Doxygen comments in include (.hpp) files. Source (.cpp) files should be documented according to a normal standard for well documented C++ code.

An example of how the interface of a class shall be documented in SimFQT is shown here:

```

/*!
 * \brief Brief description of MyClass here
 *
 * Detailed description of MyClass here. With example code if needed.
 */
class MyClass {
public:
    ///! Default constructor
    MyClass(void) { setup_done = false; }

    /*!
     * \brief Constructor that initializes the class with parameters
     *
     * Detailed description of the constructor here if needed
     *
     * \param[in] param1 Description of \a param1 here
     * \param[in] param2 Description of \a param2 here
     */
    MyClass(TYPE1 param1, TYPE2 param2) { setup(param1, param2); }

    /*!
     * \brief Setup function for MyClass
     *
     * Detailed description of the setup function here if needed
     *
     * \param[in] param1 Description of \a param1 here
     * \param[in] param2 Description of \a param2 here
     */
    void setup(TYPE1 param1, TYPE2 param2);

    /*!
     * \brief Brief description of memberFunction1
     *
     * Detailed description of memberFunction1 here if needed
     *
     * \param[in]      param1 Description of \a param1 here
     * \param[in]      param2 Description of \a param2 here
     * \param[in,out] param3 Description of \a param3 here
     * \return Description of the return value here
     */
    TYPE4 memberFunction1(TYPE1 param1, TYPE2 param2, TYPE3 &param3);

private:
    bool _setupDone;          /*!< Variable that checks if the class is properly
                               initialized with parameters */
    TYPE1 _privateVariable1; /*!< Short description of _privateVariable1 here
    TYPE2 _privateVariable2; /*!< Short description of _privateVariable2 here
};

```

## 5.2 File Header

All files should start with the following header, which include Doxygen's `\file`, `\brief` and `\author` tags, `$Date$` and `$Revisions$` CVS tags, and a common copyright note:

```

/*!
 * \file
 * \brief Brief description of the file here
 * \author Names of the authors who contributed to this code
 * \date Date
 *
 * Detailed description of the file here if needed.
 *
 * -----
 *
 * SimFQT - C++ Standard Airline IT Object Library
 *
 * Copyright (C) 2009-2010 (\see authors file for a list of contributors)
 *
 * \see copyright file for license information
 *
 * -----
 */

```

## 5.3 Grouping Various Parts

All functions must be added to a Doxygen group in order to appear in the documentation. The following code example defines the group `'my_group'`:

```

/*!
 * \defgroup my_group Brief description of the group here
 *
 * Detailed description of the group here
 */

```

The following example shows how to document the function `myFunction` and how to add it to the group `my_group`:

```

/*!
 * \brief Brief description of myFunction here
 * \ingroup my_group
 *
 * Detailed description of myFunction here
 *
 * \param[in] param1 Description of \a param1 here
 * \param[in] param2 Description of \a param2 here
 * \return Description of the return value here
 */
TYPE3 myFunction(TYPE1 param1, TYPE2 &param2);

```

## 6 Main features

A short list of the main features of SimFQT is given below sorted in different categories. Many more features and functions exist and for these we refer to the reference documentation.

### 6.1 Fare calculation

- Calculation of fare from statistics on tickets/coupons

### 6.2 Fare rule engine

- Fare rules: storage, engine, management

### 6.3 Fare retrieval

- Retrieval of fares for specific booking requests or product assesment

### 6.4 Other features

- CSV input file parsing
- Memory handling

## 7 Make a Difference

**Do not ask what SimFQT can do for you. Ask what you can do for SimFQT.**

You can help us to develop the SimFQT library. There are always a lot of things you can do:

- Start using SimFQT
- Tell your friends about SimFQT and help them to get started using it
- If you find a bug, report it to us. Without your help we can never hope to produce a bug free code.
- Help us to improve the documentation by providing information about documentation bugs
- Answer support requests in the SimFQT discussion forums on SourceForge. - If you know the answer to a question, help others to overcome their SimFQT problems.
- Help us to improve our algorithms. If you know of a better way (e.g., that is faster or requires less memory) to implement some of our algorithms, then let us know.

- Help to port SimFQT to new platforms. If you manage to compile SimFQT on a new platform, then tell how you did it.
- Send us your code. If you have a good SimFQT compatible code, which you can release under the LGPL, and you think it should be included in SimFQT, then send it to the community.
- Become an SimFQT developer. Send us an e-mail and tell what you can do for SimFQT.

## 8 Make a new release

### 8.1 Introduction

This document describes briefly the recommended procedure of releasing a new version of SimFQT using a Linux development machine and the SourceForge project site.

The following steps are required to make a release of the distribution package.

### 8.2 Initialisation

Clone locally the full [Git project](#):

```
cd ~
mkdir -p dev/sim
cd ~/dev/sim
git clone git://simfqt.git.sourceforge.net/gitroot/simfqt/simfqt simfqtgit
cd simfqtgit
git checkout trunk
```

### 8.3 Release branch maintenance

Switch to the release branch, on your local clone, and merge the latest updates from the trunk. Decide about the new version to be released.

```
cd ~/dev/sim/simfqtgit
git checkout releases
git merge trunk
```

Update the version in the various build system files, replacing the old version numbers by the correct ones:

```
vi CMakeLists.txt
vi autogen.sh
vi README
```

Update the version, add some news in the NEWS file, add a change-log in the Change-Log file and in the RPM specification files:

```
vi NEWS
vi ChangeLog
vi simfqt.spec
```

## 8.4 Commit and publish the release branch

Commit the new release:

```
cd ~/dev/sim/simfqtgit
git add -A
git commit -m "[Release 0.5.0] Release of the 0.5.0 version of SimFQT."
git push
```

## 8.5 Create distribution packages

Create the distribution packages using the following command:

```
cd ~/dev/sim/simfqtgit
git checkout releases
rm -rf build && mkdir -p build
cd build
export INSTALL_BASEDIR=/home/user/dev/deliveries
export LIBSUFFIX_4_CMAKE="-DLIB_SUFFIX=64"
cmake -DCMAKE_INSTALL_PREFIX=${INSTALL_BASEDIR}/simfqt-0.5.0 \
  -DWITH_STDPAIR_PREFIX=${INSTALL_BASEDIR}/stdair-stable \
  -DWITH_AIRAC_PREFIX=${INSTALL_BASEDIR}/airac-stable \
  -DWITH_AIRAC_PREFIX=${INSTALL_BASEDIR}/airrac-stable \
  -DWITH_RMOL_PREFIX=${INSTALL_BASEDIR}/rmol-stable \
  -DWITH_RMOL_PREFIX=${INSTALL_BASEDIR}/airinv-stable \
  -DWITH_RMOL_PREFIX=${INSTALL_BASEDIR}/simfqt-stable \
  -DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON \
  ${LIBSUFFIX_4_CMAKE} ..
make check && make dist
make install
```

This will configure, compile and check the package. The output packages will be named, for instance, `simfqt-0.5.0.tar.gz` and `simfqt-0.5.0.tar.bz2`.

## 8.6 Upload the HTML documentation to SourceForge

In order to update the Web site files, either:

- **synchronise them with rsync and SSH:** Upload the just generated HTML (and PDF) documentation onto the **SourceForge Web site**.

```
cd ~/dev/sim/simfqtgit/build
git checkout releases
rsync -aiv ${INSTALL_BASEDIR}/simfqt-0.5.0/share/doc/simfqt-0.5.0/html/ \
  your_sf_user,simfqt@web.sourceforge.net:htdocs/
```

where `-aiv` options mean:

- `-a`: archive/mirror mode; equals `-rlptgoD` (no `-H`, `-A`, `-X`)
- `-v`: increase verbosity
- `-i`: output a change-summary for all updates

- Note the trailing slashes (/) at the end of both the source and target directories. It means that the content of the source directory (`doc/html`), rather than the directory itself, has to be copied into the content of the target directory.
- or use the [SourceForge Shell service](#).

## 8.7 Generate the RPM packages

Optionally, generate the RPM package (for instance, for [Fedora/RedHat](#)):

```
cd ~/dev/sim/simfqtgit/build
git checkout releases
make dist
```

To perform this step, `rpm-build`, `rpmlint` and `rpmdevtools` have to be available on the system.

```
cp ../simfqt.spec ~/dev/packages/SPECS \
  && cp simfqt-0.5.0.tar.bz2 ~/dev/packages/SOURCES
cd ~/dev/packages/SPECS
rpmbuild -ba simfqt.spec
cd ~/dev/packages
rpmlint -i SPECS/simfqt.spec SRPMS/simfqt-0.5.0-1.fc16.src.rpm \
  RPMS/noarch/simfqt-* RPMS/i686/simfqt-*
```

## 8.8 Update distributed change log

Update the `NEWS` and `ChangeLog` files with appropriate information, including what has changed since the previous release. Then commit and push the changes into the [SimFQT's Git repository](#).

## 8.9 Create the binary package, including the documentation

Create the binary package, which includes HTML and PDF documentation, using the following command:

```
cd ~/dev/sim/simfqtgit/build
git checkout releases
make package
```

The output binary package will be named, for instance, `simfqt-0.5.0-Linux.tar.bz2`. That package contains both the HTML and PDF documentation. The binary package contains also the executables and shared libraries, as well as C++ header files, but all of those do not interest us for now.

## 8.10 Upload the files to SourceForge

Upload the distribution and documentation packages to the SourceForge server. Check [SourceForge help page on uploading software](#).

## 8.11 Make a new post

- submit a new entry in the [SourceForge project-related news feed](#)
- make a new post on the [SourceForge hosted WordPress blog](#)
- and update, if necessary, [Trac tickets](#).

## 8.12 Send an email on the announcement mailing-list

Finally, you should send an announcement to [simfqt-announce@lists.sourceforge.net](mailto:simfqt-announce@lists.sourceforge.net) (see <https://lists.sourceforge.net/lists/listinfo/simfqt-announce> for the archives)

# 9 Installation

## 9.1 Table of Contents

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## 9.2 Fedora/RedHat Linux distributions

Note that on [Fedora/RedHat](#) Linux distributions, RPM packages are available and can be installed with your usual package manager. For instance:

```
yum -y install simfqt-devel simfqt-doc
```

RPM packages can also be available on the [SourceForge download site](#).

### 9.3 SimFQT Requirements

SimFQT should compile without errors or warnings on most GNU/Linux systems, on UNIX systems like Solaris SunOS, and on POSIX based environments for Microsoft - Windows like Cygwin or MinGW with MSYS. It can be also built on Microsoft Windows NT/2000/XP/Vista/7 using Microsoft's Visual C++ .NET, but our support for this compiler is limited. For GNU/Linux, SunOS, Cygwin and MinGW we assume that you have at least the following GNU software installed on your computer:

- GNU Autotools:
  - `autoconf`,
  - `automake`,
  - `libtool`,
  - `make`, version 3.72.1 or later (check version with ``make --version``)
- `GCC` - GNU C++ Compiler (g++), version 4.3.x or later (check version with ``gcc --version``)
- `Boost` - C++ STL extensions, version 1.35 or later (check version with ``grep "define BOOST_LIB_VERSION" /usr/include/boost/version.hpp``)
- `MySQL` - Database client libraries, version 5.0 or later (check version with ``mysql --version``)
- `SOCI` - C++ database client library wrapper, version 3.0.0 or later (check version with ``soci-config --version``)

Optionally, you might need a few additional programs: `Doxygen`, `LaTeX`, `Dvips` and `Ghostscript`, to generate the HTML and PDF documentation.

We strongly recommend that you use recent stable releases of the GCC, if possible. We do not actively work on supporting older versions of the GCC, and they may therefore (without prior notice) become unsupported in future releases of SimFQT.

### 9.4 Basic Installation

Briefly, the shell commands ``. /cmake .. && make install`` should configure, build, and install this package. The following more-detailed instructions are generic; see the ``README`` file for instructions specific to this package. Some packages provide this ``INSTALL`` file but do not implement all of the features documented below. The lack of an optional feature in a given package is not necessarily a bug. More recommendations for GNU packages can be found in the info page corresponding to "Makefile Conventions: (standards)Makefile Conventions".

The ``cmake`` shell script attempts to guess correct values for various system-dependent variables used during compilation. It uses those values to create a ``-Makefile`` in each directory of the package. It may also create one or more ``.h`` files containing system-dependent definitions. Finally, it creates a ``CMakeCache.txt`` cache file that you can refer to in the future to recreate the current configuration, and a file ``-CMakeFiles`` containing compiler output (useful mainly for debugging ``cmake``).

It can also use an optional file (typically called `'config.cache'` and enabled with `'--cache-file=config.cache'` or simply `'-C'`) that saves the results of its tests to speed up reconfiguring. Caching is disabled by default to prevent problems with accidental use of stale cache files.

If you need to do unusual things to compile the package, please try to figure out how `'configure'` could check whether to do them, and mail diffs or instructions to the address given in the `'README'` so they can be considered for the next release. If you are using the cache, and at some point `'config.cache'` contains results you don't want to keep, you may remove or edit it.

The file `'CMakeLists.txt'` is used to create the `'Makefile'` files.

The simplest way to compile this package is:

1. `'cd'` to the directory containing the package's source code and type `'./cmake . '` to configure the package for your system. Running `'cmake'` is generally fast. While running, it prints some messages telling which features it is checking for.
2. Type `'make'` to compile the package.
3. Optionally, type `'make check'` to run any self-tests that come with the package, generally using the just-built uninstalled binaries.
4. Type `'make install'` to install the programs and any data files and documentation. When installing into a prefix owned by root, it is recommended that the package be configured and built as a regular user, and only the `'make install'` phase executed with root privileges.
5. You can remove the program binaries and object files from the source code directory by typing `'make clean'`. To also remove the files that `'configure'` created (so you can compile the package for a different kind of computer), type `'make distclean'`. There is also a `'make maintainer-clean'` target, but that is intended mainly for the package's developers. If you use it, you may have to get all sorts of other programs in order to regenerate files that came with the distribution.
6. Often, you can also type `'make uninstall'` to remove the installed files again. In practice, not all packages have tested that uninstallation works correctly, even though it is required by the GNU Coding Standards.

## 9.5 Compilers and Options

Some systems require unusual options for compilation or linking that the `'cmake'` script does not know about. -

Run `./cmake --help` for details on some of the pertinent environment variables.

You can give `'cmake'` initial values for configuration parameters by setting variables in the command line or in the environment. Here is an example:

```
./cmake CC=c99 CFLAGS=-g LIBS=-lposix
```

#### See also

[Defining Variables](#) for more details.

## 9.6 Compiling For Multiple Architectures

You can compile the package for more than one kind of computer at the same time, by placing the object files for each architecture in their own directory. To do this, you can use GNU `'make'`. `'cd'` to the directory where you want the object files and executables to go and run the `'configure'` script. `'configure'` automatically checks for the source code in the directory that `'configure'` is in and in `'..'`. This is known as a "VPATH" build.

With a non-GNU `'make'`, it is safer to compile the package for one architecture at a time in the source code directory. After you have installed the package for one architecture, use `'make distclean'` before reconfiguring for another architecture.

On MacOS X 10.5 and later systems, you can create libraries and executables that work on multiple system types--known as "fat" or "universal" binaries--by specifying multiple `'-arch'` options to the compiler but only a single `'-arch'` option to the preprocessor. Like this:

```
./configure CC="gcc -arch i386 -arch x86_64 -arch ppc -arch ppc64" \
           CXX="g++ -arch i386 -arch x86_64 -arch ppc -arch ppc64" \
           CPP="gcc -E" CXXCPP="g++ -E"
```

This is not guaranteed to produce working output in all cases, you may have to build one architecture at a time and combine the results using the `'lipo'` tool if you have problems.

## 9.7 Installation Names

By default, `'make install'` installs the package's commands under `'/usr/local/bin'`, include files under `'/usr/local/include'`,

etc. You can specify an installation prefix other than `‘/usr/local’` by giving `‘configure’` the option `‘--prefix=PREFIX’`, where `PREFIX` must be an absolute file name.

You can specify separate installation prefixes for architecture-specific files and architecture-independent files. If you pass the option `‘--exec-prefix=PREFIX’` to `‘configure’`, the package uses `PREFIX` as the prefix for installing programs and libraries. Documentation and other data files still use the regular prefix.

In addition, if you use an unusual directory layout you can give options like `‘--bindir=DIR’` to specify different values for particular kinds of files. Run `‘configure --help’` for a list of the directories you can set and what kinds of files go in them. In general, the default for these options is expressed in terms of `‘${prefix}’`, so that specifying just `‘--prefix’` will affect all of the other directory specifications that were not explicitly provided.

The most portable way to affect installation locations is to pass the correct locations to `‘configure’`; however, many packages provide one or both of the following shortcuts of passing variable assignments to the `‘make install’` command line to change installation locations without having to reconfigure or recompile.

The first method involves providing an override variable for each affected directory. For example, `‘make install prefix=/alternate/directory’` will choose an alternate location for all directory configuration variables that were expressed in terms of `‘${prefix}’`. Any directories that were specified during `‘configure’`, but not in terms of `‘${prefix}’`, must each be overridden at install time for the entire installation to be relocated. The approach of makefile variable overrides for each directory variable is required by the GNU Coding Standards, and ideally causes no recompilation. However, some platforms have known limitations with the semantics of shared libraries that end up requiring recompilation when using this method, particularly noticeable in packages that use GNU Libtool.

The second method involves providing the `‘DESTDIR’` variable. For example, `‘make install DESTDIR=/alternate/directory’` will prepend `‘/alternate/directory’` before all installation names. The approach of `‘DESTDIR’` overrides is not required by the GNU Coding Standards, and does not work on platforms that have drive letters. On the other hand, it does better at avoiding recompilation issues, and works well even when some directory options were not specified in terms of `‘${prefix}’` at `‘configure’` time.

## 9.8 Optional Features

If the package supports it, you can cause programs to be installed with an extra prefix or suffix on their names by giving `'cmake'` the option `'--program-prefix=PREFIX'` or `'--program-suffix=SUFFIX'`.

Some packages pay attention to `'--enable-FEATURE'` options to `'configure'`, where `FEATURE` indicates an optional part of the package. They may also pay attention to `'--with--PACKAGE'` options, where `PACKAGE` is something like `'gnu-as'` or `'x'` (for the X Window System). The `'README'` should mention any `'--enable-'` and `'--with-'` options that the package recognizes.

For packages that use the X Window System, `'configure'` can usually find the X include and library files automatically, but if it doesn't, you can use the `'configure'` options `'--x-includes=DIR'` and `'--x-libraries=DIR'` to specify their locations.

Some packages offer the ability to configure how verbose the execution of `'make'` will be. For these packages, running  `'./configure --enable-silent-rules'` sets the default to minimal output, which can be overridden with `'make -V=1'`; while running  `'./configure --disable-silent-rules'` sets the default to verbose, which can be overridden with `'make V=0'`.

## 9.9 Particular systems

On HP-UX, the default C compiler is not ANSI C compatible. If GNU CC is not installed, it is recommended to use the following options in order to use an ANSI C compiler:

```
./configure CC="cc -Ae -D_XOPEN_SOURCE=500"
```

and if that doesn't work, install pre-built binaries of - GCC for HP-UX.

On OSF/1 a.k.a. Tru64, some versions of the default - C compiler cannot parse its `'<wchar.h>'` header file. - The option `'-nodtk'` can be used as a workaround. If GNU CC is not installed, it is therefore recommended to try

```
./configure CC="cc"
```

and if that doesn't work, try

```
./configure CC="cc -nodtk"
```

On Solaris, don't put `/usr/ucb` early in your `PATH`. - This directory contains several dysfunctional programs; working variants of these programs are available in `/usr/bin`. So, if you need `/usr/ucb` in your `PATH`, put it *after* `/usr/bin`.

On Haiku, software installed for all users goes in `/boot/common`, not `/usr/local`. It is recommended to use the following options:

```
./cmake -DCMAKE_INSTALL_PREFIX=/boot/common
```

## 9.10 Specifying the System Type

There may be some features `configure` cannot figure out automatically, but needs to determine by the type of machine the package will run on. Usually, assuming the package is built to be run on the *same* architectures, `configure` can figure that out, but if it prints a message saying it cannot guess the machine type, give it the `--build=TYPE` option. TYPE can either be a short name for the system type, such as `sun4`, or a canonical name which has the form CPU-COMPANY-SYSTEM

where SYSTEM can have one of these forms:

- OS
- KERNEL-OS

See the file `config.sub` for the possible values of each field. If `config.sub` isn't included in this package, then this package doesn't need to know the machine type.

If you are *building* compiler tools for cross-compiling, you should use the option `--target=TYPE` to select the type of system they will produce code for.

If you want to *use* a cross compiler, that generates code for a platform different from the build platform, you should specify the "host" platform (i.e., that on which the generated programs will eventually be run) with `--host=TYPE`.

## 9.11 Sharing Defaults

If you want to set default values for `configure` scripts to share, you can create a site shell script called `config.site` that gives default values for variables like `CC`, `cache-file`, and `prefix`. `configure` looks for `PREFIX/share/config.site`

if it exists, then 'PREFIX/etc/config.site' if it exists. Or, you can set the 'CONFIG\_SITE' environment variable to the location of the site script. A warning: not all 'configure' scripts look for a site script.

## 9.12 Defining Variables

Variables not defined in a site shell script can be set in the environment passed to 'configure'. However, some packages may run configure again during the build, and the customized values of these variables may be lost. - In order to avoid this problem, you should set them in the 'configure' command line, using 'VAR=value'. For example:

```
./configure CC=/usr/local2/bin/gcc
```

causes the specified 'gcc' to be used as the C compiler (unless it is overridden in the site shell script).

Unfortunately, this technique does not work for 'CONFIG\_SHELL' due to an Autoconf bug. Until the bug is fixed you can use this workaround:

```
CONFIG_SHELL=/bin/bash /bin/bash ./configure CONFIG_SHELL=/bin/bash
```

## 9.13 'cmake' Invocation

'cmake' recognizes the following options to control how it operates.

- '--help', '-h' print a summary of all of the options to 'cmake', and exit.
- '--help=short', '--help=recursive' print a summary of the options unique to this package's 'configure', and exit. The 'short' variant lists options used only in the top level, while the 'recursive' variant lists options also present in any nested packages.
- '--version', '-V' print the version of Autoconf used to generate the 'configure' script, and exit.
- '--cache-file=FILE' enable the cache: use and save the results of the tests in FILE, traditionally 'config.cache'. FILE defaults to '/dev/null' to disable caching.
- '--config-cache', '-C' alias for '--cache-file=config.cache'.
- '--quiet', '--silent', '-q' do not print messages saying which checks are being made. To suppress all normal output, redirect it to '/dev/null' (any error messages will still be shown).

- '--srcdir=DIR' look for the package's source code in directory DIR. Usually 'configure' can determine that directory automatically.
- '--prefix=DIR' use DIR as the installation prefix.

#### See also

[Installation Names](#) for more details, including other options available for fine-tuning the installation locations.

- '--no-create', '-n' run the configure checks, but stop before creating any output files.

'cmake' also accepts some other, not widely useful, options. Run 'cmake' --help' for more details.

The 'cmake' script produces an output like this:

```
-- Requires Git without specifying any version
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/simfqt-0.5.0 \
-DWITH_STDPAIR_PREFIX=/home/user/dev/deliveries/stdair-stable \
-DLIB_SUFFIX=64 -DCMAKE_BUILD_TYPE:String=Debug -DINSTALL_DOC:BOOL=ON ..
-- Current Git revision name: 0e31d63879056d26f01eb09757d232d247c42164 trunk
-- Requires Boost-1.41
-- Found Boost version: 1.44.0
-- Requires Readline without specifying any version
-- Found Readline version: 6.1
-- Requires MySQL without specifying any version
-- Using mysql-config: /usr/bin/mysql_config
-- Found MySQL version: 5.1.56
-- Requires SOCI-3.0
-- Using soci-config: /usr/bin/soci-config
-- SOCI headers are buried
-- Found SOCI with MySQL back-end support version: 3.0.0
-- Requires StdAir-0.35
-- Found StdAir version: 99.99.99
-- Requires Doxygen without specifying any version
-- Found Doxygen version: 1.7.4
-- Had to set the linker language for 'simfqtlib' to CXX
-- Test 'FQTTestSuite' to be built with 'FQTTestSuite.cpp'
--
-- =====
-- ---      Project Information      ---
-- -----
-- PROJECT_NAME ..... : simfqt
-- PACKAGE_PRETTY_NAME ..... : SimFQT
-- PACKAGE ..... : simfqt
-- PACKAGE_NAME ..... : SIMFQT
-- PACKAGE_BRIEF ..... : C++ Simulated Fare Quote System Library
-- PACKAGE_VERSION ..... : 99.99.99
-- GENERIC_LIB_VERSION ..... : 99.99.99
-- GENERIC_LIB_SOVERSION ..... : 99.99
--
-- -----
-- ---      Build Configuration      ---
-- -----
-- Modules to build ..... : simfqt
```

```

-- Libraries to build/install ..... : simfqtlib
-- Binaries to build/install ..... : simfqt;fareQuote
-- Modules to test ..... : simfqt
-- Binaries to test ..... : FQTestSuitetst
--
-- * Module ..... : simfqt
--   + Layers to build ..... : .;basic;bom;factory;command;service
--   + Dependencies on other layers :
--   + Libraries to build/install . : simfqtlib
--   + Executables to build/install : simfqt;fareQuote
--   + Tests to perform ..... : FQTestSuitetst
--
-- BUILD_SHARED_LIBS ..... : ON
-- CMAKE_BUILD_TYPE ..... : Debug
-- * CMAKE_C_FLAGS ..... :
-- * CMAKE_CXX_FLAGS ..... : -Wall -Werror
-- * BUILD_FLAGS ..... :
-- * COMPILE_FLAGS ..... :
-- CMAKE_MODULE_PATH ..... : /home/localoriuser/dev/sim/simfqt/simfqtgit/config/
-- CMAKE_INSTALL_PREFIX ..... : /home/localoriuser/dev/deliveries/simfqt-99.99.99
--
-- * Doxygen:
--   - DOXYGEN_VERSION ..... : 1.7.4
--   - DOXYGEN_EXECUTABLE ..... : /usr/bin/doxygen
--   - DOXYGEN_DOT_EXECUTABLE ..... : DOXYGEN_DOT_EXECUTABLE-NOTFOUND
--   - DOXYGEN_DOT_PATH ..... :
--
-- -----
-- --- Installation Configuration ---
-- -----
-- INSTALL_LIB_DIR ..... : /home/localoriuser/dev/deliveries/simfqt-99.99.99/lib
-- INSTALL_BIN_DIR ..... : /home/localoriuser/dev/deliveries/simfqt-99.99.99/bin
-- INSTALL_INCLUDE_DIR ..... : /home/localoriuser/dev/deliveries/simfqt-99.99.99/include
-- INSTALL_DATA_DIR ..... : /home/localoriuser/dev/deliveries/simfqt-99.99.99/share
-- INSTALL_SAMPLE_DIR ..... : /home/localoriuser/dev/deliveries/simfqt-99.99.99/share/simfqt
-- INSTALL_DOC ..... : ON
--
-- -----
-- --- Packaging Configuration ---
-- -----
-- CPACK_PACKAGE_CONTACT ..... : Denis Arnaud <denis_arnaud - at - users dot sourceforge dot net>
-- CPACK_PACKAGE_VENDOR ..... : Denis Arnaud
-- CPACK_PACKAGE_VERSION ..... : 99.99.99
-- CPACK_PACKAGE_DESCRIPTION_FILE . : /home/localoriuser/dev/sim/simfqt/simfqtgit/README
-- CPACK_RESOURCE_FILE_LICENSE .... : /home/localoriuser/dev/sim/simfqt/simfqtgit/COPYING
-- CPACK_GENERATOR ..... : TBZ2
-- CPACK_DEBIAN_PACKAGE_DEPENDS ... :
-- CPACK_SOURCE_GENERATOR ..... : TBZ2;TGZ
-- CPACK_SOURCE_PACKAGE_FILE_NAME . : simfqt-99.99.99
--
-- -----
-- --- External libraries ---
-- -----
--
-- * Boost:
--   - Boost_VERSION ..... : 104400
--   - Boost_LIB_VERSION ..... : 1_44
--   - Boost_HUMAN_VERSION ..... : 1.44.0
--   - Boost_INCLUDE_DIRS ..... : /usr/include
--   - Boost required components .. : program_options;date_time;iostreams;serialization;filesystem;atomic
--   - Boost required libraries ... : optimized;/usr/lib/libboost_iostreams-mt.so;debug;/usr/lib/libboost_iostreams-mt.so

```

```
-- * Readline:
--   - READLINE_VERSION ..... : 6.1
--   - READLINE_INCLUDE_DIR ..... : /usr/include
--   - READLINE_LIBRARY ..... : /usr/lib/libreadline.so
--
-- * MySQL:
--   - MYSQL_VERSION ..... : 5.1.56
--   - MYSQL_INCLUDE_DIR ..... : /usr/include/mysql
--   - MYSQL_LIBRARIES ..... : /usr/lib/mysql/libmysqlclient_r.so
--
-- * SOCI:
--   - SOCI_VERSION ..... : 3.0.0
--   - SOCI_INCLUDE_DIR ..... : /usr/include/soci
--   - SOCI_MYSQL_INCLUDE_DIR ..... : /usr/include/soci
--   - SOCI_LIBRARIES ..... : /usr/lib/libsoci_core.so
--   - SOCI_MYSQL_LIBRARIES ..... : /usr/lib/libsoci_mysql.so
--
-- * StdAir:
--   - STDAIR_VERSION ..... : 99.99.99
--   - STDAIR_BINARY_DIRS ..... : /home/localoriuser/dev/deliveries/stdair-0.3.0/bin
--   - STDAIR_EXECUTABLES ..... : stdair
--   - STDAIR_LIBRARY_DIRS ..... : /home/localoriuser/dev/deliveries/stdair-0.3.0/lib
--   - STDAIR_LIBRARIES ..... : stdairlib;stdairuiclib
--   - STDAIR_INCLUDE_DIRS ..... : /home/localoriuser/dev/deliveries/stdair-0.3.0/include
--   - STDAIR_SAMPLE_DIR ..... : /home/localoriuser/dev/deliveries/stdair-0.3.0/share/stdair/
--
-- Change a value with: cmake -D<Variable>=<Value>
-- =====
--
-- Configuring done
-- Generating done
-- Build files have been written to: /home/localoriuser/dev/sim/simfqt/simfqtgit/build
```

It is recommended that you check if your library has been compiled and linked properly and works as expected. - To do so, you should execute the testing process 'make check'. As a result, you should obtain a similar report:

```
[ 0%] Built target hdr_cfg_simfqt
[ 90%] Built target simfqtlib
[100%] Built target FQTestSuitetst
Test project /home/localoriuser/dev/sim/simfqt/simfqtgit/build/test/simfqt
Start 1: FQTestSuitetst
1/1 Test #1: FQTestSuitetst ..... Passed    0.43 sec

100% tests passed, 0 tests failed out of 1

Total Test time (real) = 0.47 sec
[100%] Built target check_simfqtst
[100%] Built target check
```

Check if all the executed tests PASSED. If not, please contact us by filling a [bug-report](#).

Finally, you should install the compiled and linked library, include files and (optionally) HTML and PDF documentation by typing:

```
make install
```

Depending on the PREFIX settings during configuration, you might need the root (administrator) access to perform this step.

Eventually, you might invoke the following command

```
make clean
```

to remove all files created during compilation process, or even

```
cd ~/dev/sim/simfqtgit
rm -rf build && mkdir build
cd build
```

to remove everything.

## 10 Linking with SimFQT

### 10.1 Table of Contents

- [Introduction](#)
- [Dependencies](#)
- [Using the pkg-config command](#)
- [Using the simfqt-config script](#)
- [M4 macro for the GNU Autotools](#)
- [Using SimFQT with dynamic linking](#)

### 10.2 Introduction

There are two convenient methods of linking your programs with the SimFQT library. The first one employs the 'pkg-config' command (see <http://pkgconfig.freedesktop.org/>), whereas the second one uses 'simfqt-config' script. These methods are shortly described below.

### 10.3 Dependencies

The SimFQT library depends on several other C++ components.

#### 10.3.1 StdAir

Among them, as for now, only StdAir has been packaged. The support for StdAir is taken in charge by a dedicated M4 macro file (namely, 'stdair.m4'), from the configuration script (generated thanks to 'configure.ac').

## 10.4 Using the pkg-config command

'pkg-config' is a helper tool used when compiling applications and libraries. It helps you insert the correct compiler and linker options. The syntax of the 'pkg-config' is as follows:

```
pkg-config <options> <library_name>
```

For instance, assuming that you need to compile an SimFQT based program 'my\_prog.cpp', you should use the following command:

```
g++ `pkg-config --cflags simfqt` -o my_prog my_prog.cpp \
    `pkg-config --libs simfqt`
```

For more information see the 'pkg-config' man pages.

## 10.5 Using the simfqt-config script

SimFQT provides a shell script called 'simfqt-config', which is installed by default in '\$prefix/bin' ('/usr/local/bin') directory. It can be used to simplify compilation and linking of SimFQT based programs. The usage of this script is quite similar to the usage of the 'pkg-config' command.

Assuming that you need to compile the program 'my\_prog.cpp' you can now do that with the following command:

```
g++ `simfqt-config --cflags` -o my_prog my_prog.cpp `simfqt-config --libs`
```

A list of 'simfqt-config' options can be obtained by typing:

```
simfqt-config --help
```

If the 'simfqt-config' command is not found by your shell, you should add its location '\$prefix/bin' to the PATH environment variable, e.g.:

```
export PATH=/usr/local/bin:$PATH
```

## 10.6 M4 macro for the GNU Autotools

A M4 macro file is delivered with SimFQT, namely 'simfqt.m4', which can be found in, e.g., '/usr/share/aclocal'. When used by a 'configure' script, thanks to the 'AM\_PATH\_SIMFQT' macro (specified in the M4 macro file), the following Makefile variables are then defined:

- 'SIMFQT\_VERSION' (e.g., defined to 0.2.0)
- 'SIMFQT\_CFLAGS' (e.g., defined to '-I\${prefix}/include')
- 'SIMFQT\_LIBS' (e.g., defined to '-L\${prefix}/lib -lsimfqt')

## 10.7 Using SimFQT with dynamic linking

When using static linking some of the library routines in SimFQT are copied into your executable program. This can lead to unnecessary large executables. To avoid having too large executable files you may use dynamic linking instead. Dynamic linking means that the actual linking is performed when the program is executed. This requires that the system is able to locate the shared SimFQT library file during your program execution. If you install the SimFQT library using a non-standard prefix, the `'LD_LIBRARY_PATH'` environment variable might be used to inform the linker of the dynamic library location, e.g.:

```
export LD_LIBRARY_PATH=<SimFQT installation prefix>/lib:$LD_LIBRARY_PATH
```

## 11 Test Rules

This section describes rules how the functionality of the SimFQT library should be verified. In the `'tests'` subdirectory test files are provided. All functionality should be tested using these test files.

### 11.1 The Test File

Each new SimFQT module/class should be accompanied with a test file. The test file is an implementation in C++ that tests the functionality of a function/class or a group of functions/classes called modules. The test file should test relevant parameter settings and input/output relations to guarantee correct functionality of the corresponding classes/functions. The test files should be maintained using version control and updated whenever new functionality is added to the SimFQT library.

The test file should print relevant data to a standard output that can be used to verify the functionality. All relevant parameter settings should be tested.

The test file should be placed in the `'tests'` subdirectory and should have a name ending with `'_test.cpp'`.

### 11.2 The Reference File

Consider a test file named `'module_test.cpp'`. A reference file named `'module_test.ref'` should accompany the test file. The reference file contains a reference printout of the standard output generated when running the test program. The reference file should be maintained using version control and updated according to the test file.

### 11.3 Testing SimFQT Library

One can compile and execute all test programs from `'tests'` subdirectory by typing

```
% make check
```

after successful compilation of the SimFQT library.

## 12 Users Guide

### 12.1 Table of Contents

- [Introduction](#)
- [Get Started](#)
  - [Get the SimFQT library](#)
  - [Build the SimFQT project](#)
  - [Run the Tests](#)
  - [Install the SimFQT Project \(Binaries, Documentation\)](#)
- [Input file of SimFQT Project](#)
- [The fare quoting BOM Tree](#)
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- [Error Messages](#)
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  - [Error Messages for missing fare rules](#)

### 12.2 Introduction

The `SimFQT` library contains classes for fare rule management. This document does not cover all the aspects of the `SimFQT` library. It does however explain the most important things you need to know in order to start using `SimFQT`.

## 12.3 Get Started

### 12.3.1 Get the SimFQT library

Clone locally the full [Git project](#):

```
cd ~
mkdir -p dev/sim
cd ~/dev/sim
git clone git://simfqt.git.sourceforge.net/gitroot/simfqt/simfqt simfqtgit
cd simfqtgit
git checkout trunk
```

### 12.3.2 Build the SimFQT project

Link with StdAir, create the distribution package (say, 0.5.0) and compile using the following commands:

```
cd ~/dev/sim/simfqtgit
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=~/dev/deliveries/simfqt-0.5.0 \
      -DWITH_STDAIR_PREFIX=~/dev/deliveries/stdair-stable \
      -DCMAKE_BUILD_TYPE:String=Debug -DINSTALL_DOC:BOOL=ON ..
make
```

### 12.3.3 Run the Tests

After building the SimFQT project, the following commands run the tests:

```
cd ~/dev/sim/simfqtgit
cd build
make check
```

As a result, you should obtain a similar report:

```
[ 0%] Built target hdr_cfg_simfqt
[ 90%] Built target simfqtlib
[100%] Built target FQTTestSuitetst
Test project /home/localoriuser/dev/sim/simfqt/simfqtgit/build/test/simfqt
Start 1: FQTTestSuitetst
1/1 Test #1: FQTTestSuitetst ..... Passed    0.15 sec

100% tests passed, 0 tests failed out of 1

Total Test time (real) = 0.16 sec
[100%] Built target check_simfqtst
[100%] Built target check
```

### 12.3.4 Install the SimFQT Project (Binaries, Documentation)

After the step [Build the SimFQT project](#), to install the library and its header files, type:

```
cd ~/dev/sim/simfqtgit
cd build
make install
```

You can check that the executables and other required files have been copied into the given final directory:

```
cd ~/dev/deliveries/simfqt-0.5.0
```

To generate the SimFQT project documentation, the commands are:

```
cd ~/dev/sim/simfqtgit
cd build
make doc
```

The SimFQT project documentation is available in the following formats: HTML, LaTeX. Those documents are available in a subdirectory:

```
cd ~/dev/sim/simfqtgit
cd build
cd doc
```

## 12.4 Input file of SimFQT Project

The fare input file structure should look like the following sample:

```
// Fares: fare ID; OriginCity; DestinationCity; TripType; DateRangeStart;
      DateRangeEnd; DepartureTimeRangeStart; DepartureTimeRangeEnd; POS; CabinCode;
      Channel; AdvancePurchase; SaturdayNight; ChangeFees; NonRefundable; MinimumStay; Price;
      nb Segments
// Segment: AirlineCode; Class;
1; SIN; BKK; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; SIN; Y; IN; 7; T; T; T;
  3; 150.0; SQ; Y;
2; SIN; BKK; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; BKK; Y; IN; 7; T; T; T;
  3; 150.0; SQ; Y;
3; SIN; HND; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; SIN; Y; IN; 7; T; T; T;
  3; 150.0; SQ; Y;
4; SIN; HND; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; HND; Y; IN; 7; T; T; T;
  3; 150.0; SQ; Y;
5; SIN; HND; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; ROW; Y; IN; 7; T; T; T;
  3; 150.0; SQ; Y;
6; SIN; BKK; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; SIN; Y; IF; 7; T; T; T;
  3; 150.0; SQ; Y;
7; SIN; BKK; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; BKK; Y; IF; 7; T; T; T;
  3; 150.0; SQ; Y;
8; SIN; HND; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; SIN; Y; IF; 7; T; T; T;
  3; 150.0; SQ; Y;
9; SIN; HND; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; HND; Y; IF; 7; T; T; T;
  3; 150.0; SQ; Y;
10; SIN; HND; OW; 2010-01-15; 2010-12-31; 00:00; 23:59; ROW; Y; IF; 7; T; T; T;
    3; 150.0; SQ; Y;
```

Each line represents a fare rule (see [SIMFQT::FareRuleStruct](#)), i.e., each line tells us the price a customer will be asked according to a lot of criteria such as:

- the origin and destination of his travel (for instance from Singapour to Bangkok in the first fare rule).

- the type of his travel, i.e. one-way "OW" or round trip "RT".
- the date and time he is willing to travel (each fare rule has a date range and a time range of validity).
- the place where he is buying the ticket, i.e. the point of sale.
- his preferred cabin.
- the channel of the booking described by a two letters code: direct(D)/indirect(I) and online(N)/offline(F).
- the date when he wants to buy the ticket, i.e. the advanced purchase required in number of days.
- the saturday night stay option, i.e. is he staying a saturday night between his inbound trip and his outbound one? "T" stands for true and "F" stands for false.
- the change fees option, i.e. are there fees to change his ticket? "T" stands for true and "F" stands for false.
- the refundable criterion, i.e. is the ticket refundable? "T" stands for true and "F" stands for false.
- the number of days he is willing to stay at the destination location (each fare rule has a minimum stay requirement in number of days).

Some fare input examples (including the example above named fare01.csv) are given in the `stdair::samples` directory.

## 12.5 The fare quoting BOM Tree

The Fare Quoting Business Object Model (BOM) tree is a structure permitting to store all the `SIMFQT::FareRuleStruct` objects of the simulation. That is why, the BOM tree is built parsing the fare file containing all the fare rules (as described in the previous section [Input file of SimFQT Project](#)). For convenience and first use of SimFQT (the input fare file building can be long and heavy), SimFQT API enables to build a small default BOM tree.

### 12.5.1 Build of the fare quoting BOM tree

First, a BOM root object (i.e., a root for all the classes in the project) is instantiated by the `stdair::STDAIR_ServiceContext` context object, when the `stdair::STDAIR_Service` is itself instantiated, that is to say during the instantiation of the `simfqt::SIMFQT_Service` object. The corresponding type (class) `stdair::BomRoot` is defined in the `StdAir` library.

Then, the BOM root can be either constructed thanks to the `simfqt::SIMFQT_Service::buildSampleBom()` method:

```
void buildSampleBom();
```

or can be constructed using the fare dump file described above thanks to the `simfqt-  
::SIMFQT_Service::parseAndLoad (const stdair::Filename_  
T&) method:`

```
void parseAndLoad (const FareFilePath& iFareFilename);
```

### 12.5.2 Display of the fare quoting BOM tree

The fare quoting BOM tree can be displayed as done in the `batches::simfqt.cpp` program:

When the default bom tree is used (`-b` option of the main program `simfqt.cpp`), the fare quoting BOM tree display should look like:

```
=====
BomRoot:  --  ROOT  --
=====
+++++
AirportPair: LHR, SYD
+++++
-----
DatePeriod: [2011-Jan-15/2011-Dec-30]
-----
*****
PosChannel: LHR,DN
*****
-----
TimePeriod: 00:00:00-23:00:00
-----
-----
Fare-Features: RT -- 0-1-1-1-0
-----
-----
AirlineClassList: BA Y
-----
```

Here the fare quoting BOM tree is just composed of one fare rule.

### 12.5.3 Structure of the fare quoting BOM tree

As one can guess looking at the BOM tree display above, the tree is constructed as follow:

- At the top of the tree, we find a `stdair::BomRoot` object (i.e., a root for all the classes in the project).
- Just under the root, at the first level, we find `stdair::AirportPair` objects (i.e., all the possible combinations of origin-destination). In the instance above, the only combination possible is from London to Sydney.
- At the next level, under a particular `stdair::AirportPair`, we find all the date periods of the fare rules applicable for this origin-destination.

- Then, under a particular `stdair::DatePeriod`, we find all the possible combinations of point-of-sale and channel applicable.
- Under a particular `stdair::PosChannel` object, we have the corresponding `stdair::TimePeriod` objects.
- At the next-to-last level, we have `stdair::FareFeatures` objects, that is to say the trip type, the advanced purchase and stay duration required, ...
- Finally we find the code of the airline publishing the current fare rule and the applicable class code.

## 12.6 The fare quoting procedure

The project SimFQT aims at fare quoting a list of `travel solutions` corresponding to a `booking request`. The fare quoter looks for all the fare rules matching a travel solution: when a fare rule matches, it creates a `fare option` object and adds this object to the current travel solution.

A few steps:

- [Instantiate the default booking request](#)
- [Instantiate the default travel solution list](#)
- [Fare Quoting a list of travel solution](#)

### 12.6.1 Instantiate the default booking request

A default booking request can be built using the `simfqt::SIMFQT_Service::buildBookingRequest` method:

```
stdair::BookingRequestStruct buildBookingRequest(const bool isForCRS =
false);
```

### 12.6.2 Instantiate the default travel solution list

In the following sample, a list of travel solutions is given as input/output parameter of the `simfqt::SIMFQT_Service::buildSampleTravelSolutions` method:

```
void buildSampleTravelSolutions (stdair::TravelSolutionList_T&);
```

### 12.6.3 Fare Quoting a list of travel solution

Once a booking request, its corresponding list of travel solutions and the fare Quote BOM tree are constructed, the main fonction of the module can be called:

```
void quotePrices (const stdair::BookingRequestStruct&,
                 stdair::TravelSolutionList_T&);
```

For each travel solution of the list, the applicable fare rules are picked from the BOM tree (information such as the trip type or the booking request date are only contained into the booking request, that is why we need this object too).

Each chosen fare rule enables to create a fare option structure which is finally stored into the travel solution.

## 12.7 Error Messages

This section lists the fatal errors you may encounter when using SimFQT:

- [Fare input file not found](#)
- [Fare input file can not be parsed](#)
- [Error Messages for missing fare rules](#)

### 12.7.1 Fare input file not found

In this case, the output error message will be similar to:

```
terminate called after throwing an instance of 'SIMFQT::FareInputFileNotFoundException'
  what():  The fare input file '~/<YourFileName>.csv' does not exist or can not be read
Aborted
```

You can check:

- the given path to your input file is correct.
- the specified file name <YourFileName> is correct.
- the file permission settings: is the file "readable"?

### 12.7.2 Fare input file can not be parsed

This error message means that your input file has been opened but has not been fully read.

```
terminate called after throwing an instance of 'SIMFQT::FareFileParsingFailedException'
  what():  Parsing of fare input file: ~/<YourFileName>.csv failed
Aborted
```

Your input file structure is somehow incorrect. See the tutorial section [How to build a fare input file?](#).

### 12.7.3 Error Messages for missing fare rules

If you obtain one of the error messages below and you are currently using your own input file, that means it has been fully read. However, at least one fare rule is missing to complete the fare quote.

- If your error message is about a missing airport pair, you should obtain a similar report:

```
terminate called after throwing an instance of 'SIMFQT::AirportPairNotFoundException'
  what(): No available fare rule for the Origin-Destination pair: xxx, xxx
Aborted
```

You need to be sure that all your travel solutions have at least one corresponding origin-destination fare rule. It seems you should add one origin-destination (i.e., xxx, xxx) fare rule into your input file.

- If your error message is about a missing fare rule for a flight date, you should obtain a similar report:

```

terminate called after throwing an instance of 'SIMFQT::FlightDateNotFoundException'
  what(): No available fare rule for the flight date x, xxxx-xxx-xx and to the Origin-Destination
Aborted

```

You need to be sure that all your travel solutions have at least one corresponding fare rule: same origin-destination and valid date range. It seems you should add/change a fare rule with the Origin-Destination pair: xxx, xxx: its date range must include the flight date xxxx-xxx-xx.

- If your error message is about a missing fare rule for a point-of sale and/or channel, you should obtain a similar report:

```

terminate called after throwing an instance of 'SIMFQT::PosOrChannelNotFoundException'
  what():  No available fare rule for the point of sale xxx, the channel xx, the flight date :
Aborted

```

You need to be sure that all your travel solutions have at least one corresponding fare rule: same origin-destination, valid date range, same point-of-sale and same channel. It seems you should add/change a fare rule to have the same combination as given in the output error message: "the point of sale xxx, the channel xx, the flight date x, xxxx-xxx-xx and the Origin-Destination pair: xxx, xxx".

- If your error message is about a missing fare rule for a flight time, you should obtain a similar report:

```
terminate called after throwing an instance of 'SIMFQT::FlightTimeNotFoundException'
  what(): No available fare rule corresponding to 'xx; x, xxxx-xxx-xx; xxx, xxx; xx:xx' (par
Aborted
```

You need to be sure that all your travel solutions have at least one corresponding fare rule: same origin-destination, valid date range, same point-of-sale, same channel and valid time range. Add/change a fare rule if necessary.

- If your error message is about a missing fare rule for some features, you should obtain a similar report:

```
terminate called after throwing an instance of 'SIMFQT::FeaturesNotFoundException'
  what(): No available fare rule corresponding to a trip type xx, to a stay duration of x, t
Aborted
```

You need to be sure that all your travel solutions have at least one corresponding fare rule: same origin-destination, valid date range, same point-of-sale, same channel, valid time range and valid features. The features are:

- the trip type. Maybe you need both "OW" (One-Way) and "RT" (Round-trip) fare rules?
  - the minimum stay duration. You can try "0" for this parameter to include all the possible stay durations.
  - the advance purchase. You can try "0" for this parameter to include all the booking requests up to departure date.
- If your error message is about a missing fare rule for an airline, you should obtain a similar report:

```
terminate called after throwing an instance of 'SIMFQT::AirlineNotFoundException'
  what(): No available fare rule corresponding to 'xx; x, xxxx-xxx-xx; xxx, xxx; xx:xx' (par
Aborted
```

At least one of your fare rules is correct except that the fare into question must be defined by the airline operating (see the first two letters of the parsed key in the error message to know which airline is operating).

## 13 Supported Systems

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## 13.2 Introduction

This page is intended to provide a list of SimFQT supported systems, i.e. the systems on which configuration, installation and testing process of the SimFQT library has been successful. Results are grouped based on minor release number. Therefore, only the latest tests for bug-fix releases are included. Besides, the information on this page is divided into sections dependent on the operating system.

Where necessary, some extra information is given for each tested configuration, e.g. external libraries installed, configuration commands used, etc.

If you manage to compile, install and test the SimFQT library on a system not mentioned below, please let us know, so we could update this database.

## 13.3 SimFQT 3.10.x

### 13.3.1 Linux Systems

#### 13.3.1.1 Fedora Core 4 with ATLAS

- **Platform:** Intel Pentium 4
- **Operating System:** Fedora Core 4 (x86)
- **Compiler:** g++ (GCC) 4.0.2 20051125
- **SimFQT release:** 3.10.0
- **External Libraries:** From FC4 distribution:
  - `fftw3.i386-3.0.1-3`
  - `fftw3-devel.i386-3.0.1-3`
  - `atlas-sse2.i386-3.6.0-8.fc4`
  - `atlas-sse2-devel.i386-3.6.0-8.fc4`
  - `blas.i386-3.0-35.fc4`

```
- lapack.i386-3.0-35.fc4
```

- **Tests Status:** All tests PASSED
- **Comments:** SimFQT configured with:

```
% CXXFLAGS="-O3 -pipe -march=pentium4" ./configure
```

- **Date:** March 7, 2006
- **Tester:** Tony Ottosson

#### 13.3.1.2 Gentoo Linux with ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Gentoo Linux 2006.0 (x86 arch)
- **Compiler(s):** g++ (GCC) 3.4.5
- **SimFQT release:** 3.10.1
- **External Libraries:** Compiled and installed from portage tree:

```
- sci-libs/acml-3.0.0
```

- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% eselect blas set ACML  
% eselect lapack set ACML
```

SimFQT configured with:

```
% export CPPFLAGS="-I/usr/include/acml"  
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.1.3 Gentoo Linux with ATLAS

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86)
- **Compiler:** g++ (GCC) 3.4.5
- **SimFQT release:** 3.10.1
- **External Libraries:** Compiled and installed from portage tree:

```
- sci-libs/fftw-3.1
```

```
- sci-libs/blas-atlas-3.6.0-r1
- sci-libs/lapack-atlas-3.6.0
```

- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% eselect blas set ATLAS
% eselect lapack set ATLAS
```

SimFQT configured with:

```
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.1.4 Gentoo Linux with MKL

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86 arch)
- **Compiler:** g++ (GCC) 3.4.5
- **SimFQT release:** 3.10.0
- **External Libraries:** Intel Math Kernel Library (MKL) 8.0.1 installed manually in the following directory: `/opt/intel/mkl/8.0.1`
- **Tests Status:** All tests PASSED
- **Comments:** SimFQT configured using the following commands:

```
% export LDFLAGS="-L/opt/intel/mkl/8.0.1/lib/32"
% export CPPFLAGS="-I/opt/intel/mkl/8.0.1/include"
% ./configure
```

- **Date:** February 28, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.1.5 Gentoo Linux with NetLib's BLAS and LAPACK

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86)
- **Compiler:** g++ (GCC) 3.4.5
- **SimFQT release:** 3.10.1
- **External Libraries:** Compiled and installed from portage tree:

```
- sci-libs/fftw-3.1
- sci-libs/blas-reference-19940131-r2
- sci-libs/cblas-reference-20030223
- sci-libs/lapack-reference-3.0-r2
```

- **Tests Status:** All tests PASSED
- **Comments:** BLAS and LAPACK libs set by using the following system commands:

```
% blas-config reference
% lapack-config reference
```

SimFQT configured with:

```
% ./configure --with-blas="-lblas"
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.1.6 Red Hat Enterprise Linux with SimFQT External

- **Platform:** Intel Pentium 4
- **Operating System:** Red Hat Enterprise Linux AS release 4 (Nahant Update 2)
- **Compiler:** g++ (GCC) 3.4.4 20050721 (Red Hat 3.4.4-2)
- **SimFQT release:** 3.10.0
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from SimFQT External 2.1.1 package
- **Tests Status:** All tests PASSED
- **Date:** March 7, 2006
- **Tester:** Erik G. Larsson

#### 13.3.1.7 SUSE Linux 10.0 with NetLib's BLAS and LAPACK

- **Platform:** Intel Pentium 4 CPU 3.20GHz (64-bit)
- **Operating System:** SUSE Linux 10.0 (x86\_64)
- **Compiler(s):** g++ (GCC) 4.0.2
- **SimFQT release:** 3.10.0
- **External Libraries:** BLAS, LAPACK and FFTW libraries installed from Open-Suse 10.0 RPM repository:

```
- blas-3.0-926
```

- lapack-3.0-926
- fftw3-3.0.1-114
- fftw3-threads-3.0.1-114
- fftw3-devel-3.0.1-114

- **Tests Status:** All tests PASSED

- **Comments:** SimFQT configured with:

```
% export CXXFLAGS="-m64 -march=nocona -O3 -pipe"
% ./configure --with-lapack="/usr/lib64/liblapack.so.3"
```

- **Date:** March 1, 2006

- **Tester:** Adam Piatyszek (ediap)

#### 13.3.1.8 SUSE Linux 10.0 with MKL

- **Platform:** Intel Pentium 4 CPU 3.20GHz (64-bit)
- **Operating System:** SUSE Linux 10.0 (x86\_64)
- **Compiler(s):** g++ (GCC) 4.0.2
- **SimFQT release:** 3.10.0
- **External Libraries:** Intel Math Kernel Library (MKL) 8.0.1 installed manually in the following directory: /opt/intel/mkl/8.0.1
- **Tests Status:** All tests PASSED
- **Comments:** SimFQT configured with:

```
% export CXXFLAGS="-m64 -march=nocona -O3 -pipe"
% export LDFLAGS="-L/opt/intel/mkl/8.0.1/lib/em64t"
% export CPPFLAGS="-I/opt/intel/mkl/8.0.1/include"
% ./configure
```

- **Date:** March 1, 2006

- **Tester:** Adam Piatyszek (ediap)

#### 13.3.2 Windows Systems

##### 13.3.2.1 Microsoft Windows XP with Cygwin

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **SimFQT release:** 3.10.1
- **External Libraries:** Installed from Cygwin's repository:

- fftw-3.0.1-2
- fftw-dev-3.0.1-1
- lapack-3.0-4

- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. SimFQT configured with:

```
% ./configure
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

#### 13.3.2.2 Microsoft Windows XP with Cygwin and ATLAS

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **SimFQT release:** 3.10.1
- **External Libraries:** Installed from Cygwin's repository:

- fftw-3.0.1-2
- fftw-dev-3.0.1-1

ATLAS BLAS and LAPACK libraries from SimFQT External 2.1.1 package configured using:

```
% ./configure --enable-atlas --disable-fftw
```

- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. SimFQT configured with:

```
% export LDFLAGS="-L/usr/local/lib"
% ./configure
```

- **Date:** March 31, 2006
- **Tester:** Adam Piatyszek (ediap)

## 13.3.2.3 Microsoft Windows XP with Cygwin and ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, Cygwin 1.5.19-4
- **Compiler(s):** g++ (GCC) 3.4.4 (cygming special)
- **SimFQT release:** 3.10.2
- **External Libraries:** ACML version 3.1.0 (acml3.1.0-32-win32-g77.-exe) installed into a default directory, i.e. "c:\Program Files\AMD\acml3.1.0"
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. SimFQT configured with:
 

```
% export LDFLAGS="-L/cygdrive/c/Progra~1/AMD/acml3.1.0/gnu32/lib"
% export CPPFLAGS="-I/cygdrive/c/Progra~1/AMD/acml3.1.0/gnu32/include"
% ./configure --enable-debug
```
- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

## 13.3.2.4 Microsoft Windows XP with MinGW, MSYS and ACML

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, MinGW 5.0.2, MSYS 1.0.10
- **Compiler(s):** g++ (GCC) 3.4.4 (mingw special)
- **SimFQT release:** 3.10.2
- **External Libraries:** ACML version 3.1.0 (acml3.1.0-32-win32-g77.-exe) installed into a default directory, i.e. "c:\Program Files\AMD\acml3.1.0"
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. SimFQT configured with:
 

```
% export LDFLAGS="-L/c/Progra~1/AMD/acml3.1.0/gnu32/lib"
% export CPPFLAGS="-I/c/Progra~1/AMD/acml3.1.0/gnu32/include"
% ./configure --enable-debug
```
- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

## 13.3.2.5 Microsoft Windows XP with MinGW, MSYS and SimFQT External

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2, MinGW 5.0.2, MSYS 1.0.10
- **Compiler(s):** g++ (GCC) 3.4.4 (mingw special)
- **SimFQT release:** 3.10.5
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from SimFQT External 2.2.0 package
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. SimFQT configured with:

```
% export LDFLAGS="-L/usr/local/lib"
% export CPPFLAGS="-I/usr/local/include"
% export CXXFLAGS="-Wall -O3 -march=athlon-tbird -pipe"
% ./configure --disable-html-doc
```

- **Date:** August 11, 2006
- **Tester:** Adam Piatyszek (ediap)

## 13.3.2.6 Microsoft Windows XP with MS Visual C++ and Intel MKL

- **Platform:** AMD Sempron 3000+
- **Operating System:** Microsoft Windows XP SP2
- **Compiler(s):** Microsoft Visual C++ 2005 .NET
- **SimFQT release:** 3.10.5
- **External Libraries:** Intel Math Kernel Library (MKL) 8.1 installed manually in the following directory: "C:\Program Files\Intel\MKL\8.1"
- **Tests Status:** Not fully tested. Some SimFQT based programs compiled and run with success.
- **Comments:** Only static library can be built. SimFQT built by opening the "win32\simfqt.vcproj" project file in MSVC++ and executing "Build -> Build Solution" command from menu.
- **Date:** August 11, 2006
- **Tester:** Adam Piatyszek (ediap)

### 13.3.3 Unix Systems

#### 13.3.3.1 SunOS 5.9 with SimFQT External

- **Platform:** SUNW, Sun-Blade-100 (SPARC)
- **Operating System:** SunOS 5.9 Generic\_112233-10
- **Compiler(s):** g++ (GCC) 3.4.5
- **SimFQT release:** 3.10.2
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from SimFQT External 2.1.1 package. The following configuration command has been used:

```
% export CFLAGS="-mcpu=ultrasparc -O2 -pipe -funroll-all-loops"  
% ./configure
```

- **Tests Status:** All tests PASSED
- **Comments:** SimFQT configured with:

```
% export LDFLAGS="-L/usr/local/lib"  
% export CPPFLAGS="-I/usr/local/include"  
% export CXXFLAGS="-mcpu=ultrasparc -O2 -pipe"  
% ./configure --enable-debug
```

- **Date:** May 15, 2006
- **Tester:** Adam Piatyszek (ediap)

## 14 SimFQT Supported Systems (Previous Releases)

### 14.1 SimFQT 3.9.1

### 14.2 SimFQT 3.9.0

### 14.3 SimFQT 3.8.1

## 15 Tutorials

### 15.1 Table of Contents

- [Preparing the SimFQT Project for Development](#)
- [Your first fareQuote](#)
  - [Summary of the different steps](#)
  - [Result of the Batch Program](#)
- [Fare quoting with an input file](#)

- [How to build a fare input file?](#)
- [Building the BOM tree with an input file](#)
- [Result of the Batch Program](#)

## 15.2 Preparing the SimFQT Project for Development

The source code for these examples can be found in the `batches` and `test/simfqt` directories. They are compiled along with the rest of the SimFQT project. See the [Users Guide](#) for more details on how to build the SimFQT project.

## 15.3 Your first fareQuote

### 15.3.1 Summary of the different steps

All the steps below can be found in the same order in the batch `simfqt.cpp` program.

First, we instantiate the `simfqtService` object:

```
std::ofstream logOutputFile;
const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
SIMFQT::SIMFQT_Service simfqtService (lLogParams);
```

Then, we construct a default sample list of travel solutions and a default booking request (as mentioned in [Instantiate the default booking request](#) and [Instantiate the default travel solution list](#) parts):

```
stdair::TravelSolutionList_T& ioInteractiveTravelSolutionList,
return ioBookingRequestStruct;
```

For basic use, the default BOM tree can be built using:

```
simfqtService.buildSampleBom();
```

The main step is the fare quoting (see [The fare quoting procedure](#)):

```
simfqtService.quotePrices (lInteractiveBookingRequest,
```

### 15.3.2 Result of the Batch Program

When the `simfqt.cpp` program is run (with the `-b` option), the log output file should look like:

```
[D]../../../../simfqt/batches/simfqt.cpp:186: Welcome to Simfqt
[D]../../../../simfqt/batches/simfqt.cpp:212: Travel solutions:
    [0] [0] BA, 9, 2011-06-10, LHR, SYD, 21:45 --- ---
[D]../../../../simfqt/command/FareQuoter.cpp:519: Segment path: BA; 9, 2011-06-10;
```

```

        LHR, SYD; 21:45. A corresponding fare option for the 'BA Y' class is: Class
        path: Y; 450 EUR; conditions: 1 1 1
[D]../../../../simfqt/service/SIMFQT_Service.cpp:352: Fare Quote retrieving: 0.001
    403 - SIMFQT_ServiceContext -- Owns StdAir service: 1
[D]../../../../simfqt/batches/simfqt.cpp:214: BOM tree:
=====
BomRoot:  -- ROOT --
=====
+++++
AirportPair: LHR, SYD
+++++
-----
DatePeriod: [2011-Jan-15/2011-Dec-30]
-----
*****
PosChannel: LHR,DN
*****
-----
TimePeriod: 00:00:00-23:00:00
-----
-----
Fare-Features: RT -- 0-1-1-1-0
-----
-----
AirlineClassList: BA Y
-----

[D]../../../../simfqt/batches/simfqt.cpp:219: Travel solutions:
    [0] [0] BA, 9, 2011-06-10, LHR, SYD, 21:45 --- Y, 450, 1 1 1 ---

```

What is interesting is to compare the travel solution list (here reduced to a single travel solution) displayed before:

```
[0] [0] BA, 9, 2011-06-10, LHR, SYD, 21:45 --- ---
```

and after the fare quoting:

```
[0] [0] BA, 9, 2011-06-10, LHR, SYD, 21:45 --- Y, 450, 1 1 1 ---
```

Between the two groups of dashes, we can see that a fare option structure has been added by the fare quoter: the price is 450 EUR for the Y class, the ticket is refundable but there are exchange fees and the customer must stay over on Saturday night.

Let's return to our default BOM tree display: the only fare rule stored was a match for the travel solution into consideration (same origin airport, same destination airport, flight date included in the fare rule date range, same airline "BA", ...).

By looking at the fare rule trip type "RT", we can guess we face a round trip fare: that means the price given in the default bom tree construction in `stdair::CmdBomManager.hpp` has been divided by 2 because we are considering either an inbound trip or an outbound one.

## 15.4 Fare quoting with an input file

### 15.4.1 How to build a fare input file?

The objective here is to build a fare input file to fare quote the default travel solution list built using:

```
stdair::TravelSolutionList_T& ioInteractiveTravelSolutionList,
```

This travel solution list, reduced to a singleton, can be displayed as done before:

```
[0] [0] BA, 9, 2011-06-10, LHR, SYD, 21:45 --- ---
```

We deduce:

- we need a fare rule whose origin-destination couple is "LHR, SYD".
- the date range must include the date "2011-06-10".
- the time range must include the time "21:45".
- the airline operating is "BA", so it must be the airline pricing.

We can deduce a part of our fare rule file :

```
// Fares: fare ID; OriginCity; DestinationCity; TripType; DateRangeStart;
      DateRangeEnd; DepartureTimeRangeStart; DepartureTimeRangeEnd; POS; CabinCode;
      Channel; AdvancePurchase; SaturdayNight; ChangeFees; NonRefundable; MinimumStay; Price;
      nb Segments
// Segment: AirlineCode; Class;
1; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ???; ?; ??; ?; ?; ?; ?;
  ?; ???; BA; ?;
```

We have no information about stay duration and advance purchase (such information are contained into the booking request): so let us put "0" to embrace all the requests possible.

No information for the point-of-sale and the channel too: let us consider all the channels ("IN", "DN", "IF" and "DF") and all the points of sale (the origin "LHR", the destination "SYD" and the rest-of-the-world "ROW") existing. To access this information, we could look into the default booking request.

The input file is now:

```
// Fares: fare ID; OriginCity; DestinationCity; TripType; DateRangeStart;
      DateRangeEnd; DepartureTimeRangeStart; DepartureTimeRangeEnd; POS; CabinCode;
      Channel; AdvancePurchase; SaturdayNight; ChangeFees; NonRefundable; MinimumStay; Price;
      nb Segments
// Segment: AirlineCode; Class;
1; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; ?; IN; 0; ?; ?; ?;
  0; ???; BA; ?;
2; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; ?; IF; 0; ?; ?; ?;
  0; ???; BA; ?;
3; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; ?; DN; 0; ?; ?; ?;
  0; ???; BA; ?;
4; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; ?; DF; 0; ?; ?; ?;
  0; ???; BA; ?;
5; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; ?; IN; 0; ?; ?; ?;
  0; ???; BA; ?;
6; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; ?; IF; 0; ?; ?; ?;
  0; ???; BA; ?;
7; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; ?; DN; 0; ?; ?; ?;
  0; ???; BA; ?;
8; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; ?; DF; 0; ?; ?; ?;
  0; ???; BA; ?;
9; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; ?; IN; 0; ?; ?; ?;
```

```

0; ????; BA; ?;
10; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; ?; IF; 0; ?; ?; ?;
0; ????; BA; ?;
11; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; ?; DN; 0; ?; ?; ?;
0; ????; BA; ?;
12; LHR; SYD; ??; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; ?; DF; 0; ?; ?; ?;
0; ????; BA; ?;

```

Let us say we have just the Economy cabin "Y" and British Airways prices ticket for class "Y".

No information about the trip type, so we duplicate all the fare rules for both type: one-way "OW" and round-trip "RT" (to access this information, we could look to the default booking request).

The fare options are all set to a default value "T" (meaning true) and the fare values are chosen to be all distinct.

We obtain:

```

// Fares: fare ID; OriginCity; DestinationCity; TripType; DateRangeStart;
//         DateRangeEnd; DepartureTimeRangeStart; DepartureTimeRangeEnd; POS; CabinCode;
//         Channel; AdvancePurchase; SaturdayNight; ChangeFees; NonRefundable; MinimumStay; Price;
//         nb Segments
// Segment: AirlineCode; Class;
1; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; IN; 0; T; T; T;
0; 50; BA; Y;
2; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; IF; 0; T; T; T;
0; 150; BA; Y;
3; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; DN; 0; T; T; T;
0; 250; BA; Y;
4; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; DF; 0; T; T; T;
0; 350; BA; Y;
5; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; IN; 0; T; T; T;
0; 450; BA; Y;
6; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; IF; 0; T; T; T;
0; 550; BA; Y;
7; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; DN; 0; T; T; T;
0; 650; BA; Y;
8; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; DF; 0; T; T; T;
0; 750; BA; Y;
9; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; IN; 0; T; T; T;
0; 850; BA; Y;
10; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; IF; 0; T; T; T;
0; 950; BA; Y;
11; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; DN; 0; T; T; T;
0; 1050; BA; Y;
12; LHR; SYD; OW; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; DF; 0; T; T; T;
0; 1150; BA; Y;
13; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; IN; 0; T; T; T;
0; 90; BA; Y;
14; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; IF; 0; T; T; T;
0; 190; BA; Y;
15; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; DN; 0; T; T; T;
0; 290; BA; Y;
16; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; LHR; Y; DF; 0; T; T; T;
0; 390; BA; Y;
17; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; IN; 0; T; T; T;
0; 490; BA; Y;
18; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; IF; 0; T; T; T;
0; 590; BA; Y;
19; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; DN; 0; T; T; T;
0; 690; BA; Y;
20; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; SYD; Y; DF; 0; T; T; T;
0; 790; BA; Y;
21; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; IN; 0; T; T; T;
0; 890; BA; Y;
22; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; IF; 0; T; T; T;
0; 990; BA; Y;
23; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; DN; 0; T; T; T;

```

```

0; 1090; BA; Y;
24; LHR; SYD; RT; 2011-01-01; 2011-12-31; 00:00; 23:59; ROW; Y; DF; 0; T; T; T;
0; 1190; BA; Y;

```

#### 15.4.2 Building the BOM tree with an input file

The steps are the same as before [Summary of the different steps](#) except the bom tree must be built using the fare input file :

#### 15.4.3 Result of the Batch Program

When the `simfqt.cpp` program is run with the `-f` option linking with the file built just above:

```
~/simfqt -f ~/<YourFileName>.csv
```

the last lines of the log output should look like:

```
[D]~/simfqtgit/simfqt/batches/simfqt.cpp:223: Travel solutions:
[0] [0] BA, 9, 2011-06-10, LHR, SYD, 21:45 --- Y, 145, 1 1 1 ---
```

We have just one fare option added to the travel solution. We can deduce from the price value 145 that the fare quoter used the fare rule number 15 to price the travel solution. We have an inbound or outbound trip of a round trip: the total price 290 has been divided by 2.

## 16 Command-Line Test to Demonstrate How To Test the SimFQT Project

```

*/
// //////////////////////////////////////
// Import section
// //////////////////////////////////////
// STL
#include <sstream>
#include <fstream>
#include <string>
// Boost Unit Test Framework (UTF)
#define BOOST_TEST_DYN_LINK
#define BOOST_TEST_MAIN
#define BOOST_TEST_MODULE FQTTestSuite
#include <boost/test/unit_test.hpp>
// StdAir
#include <stdair/basic/BasLogParams.hpp>
#include <stdair/basic/BasDBParams.hpp>
#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/bom/BookingRequestStruct.hpp>
// SimFQT
#include <simfqt/SIMFQT_Service.hpp>
#include <simfqt/config/simfqt-paths.hpp>

```

```

namespace boost_utf = boost::unit_test;

struct UnitTestConfig {
    UnitTestConfig() {
        static std::ofstream _test_log ("FQTTestSuite_utfresults.xml");
        boost_utf::unit_test_log.set_stream (_test_log);
        boost_utf::unit_test_log.set_format (boost_utf::XML);
        boost_utf::unit_test_log.set_threshold_level (boost_utf::log_test_units);
        //boost_utf::unit_test_log.set_threshold_level
            (boost_utf::log_successful_tests);
    }

    ~UnitTestConfig() {
    }
};

// ////////////////////////////////////////
void testFareQuoterHelper (const unsigned short iTestFlag,
                          const stdair::Filename_T iFareInputFilename,
                          const bool isBuiltin) {

    // Output log File
    std::ostringstream oStr;
    oStr << "FQTTestSuite_" << iTestFlag << ".log";
    const stdair::Filename_T lLogFilename (oStr.str());

    // Set the log parameters
    std::ofstream logOutputFile;
    // Open and clean the log outputfile
    logOutputFile.open (lLogFilename.c_str());
    logOutputFile.clear();

    // Initialise the SimFQT service object
    const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
                                           logOutputFile);

    // Initialise the Simfqt service object
    SIMFQT::SIMFQT_Service simfqtService (lLogParams);

    // Check wether or not a (CSV) input file should be read
    if (isBuiltin == true) {

        // Build the default sample BOM tree (filled with fares) for Simfqt
        simfqtService.buildSampleBom();

    } else {

        // Build the BOM tree from parsing the fare input file
        SIMFQT::FareFilePath lFareFilePath (iFareInputFilename);
        simfqtService.parseAndLoad (lFareFilePath);
    }

    // Build a sample list of travel solutions and a booking request.
    stdair::TravelSolutionList_T lTravelSolutionList;
    simfqtService.buildSampleTravelSolutions (lTravelSolutionList);
    stdair::BookingRequestStruct lBookingRequest =
        simfqtService.buildBookingRequest();

    // Try to fareQuote the sample list of travel solutions
    simfqtService.quotePrices (lBookingRequest, lTravelSolutionList);

    // Close the log file
    logOutputFile.close();
}

// //////////////////////////////////////// Main: Unit Test Suite ////////////////////////////////////////

// Set the UTF configuration (re-direct the output to a specific file)
BOOST_GLOBAL_FIXTURE (UnitTestConfig);

// Start the test suite
BOOST_AUTO_TEST_SUITE (master_test_suite)

```

```
BOOST_AUTO_TEST_CASE (simfqt_simple_pricing_test) {

    // Input file name
    const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "/fare01.csv")
    ;

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to fareQuote the sample default list of travel solutions
    BOOST_CHECK_NO_THROW (testFareQuoterHelper (0, lFareInputFilename, isBuiltin)
    );

}

BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_01) {

    // Input file name
    const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
    /fareError01.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to fareQuote the sample default list of travel solutions
    BOOST_CHECK_THROW (testFareQuoterHelper (1, lFareInputFilename, isBuiltin),
    SIMFQT::AirportPairNotFoundException);

}

BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_02) {

    // Input file name
    const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
    /fareError02.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to fareQuote the sample default list of travel solutions
    BOOST_CHECK_THROW (testFareQuoterHelper (2, lFareInputFilename, isBuiltin),
    SIMFQT::PosOrChannelNotFoundException);

}

BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_03) {

    // Input file name
    const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
    /fareError03.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to fareQuote the sample default list of travel solutions
    BOOST_CHECK_THROW (testFareQuoterHelper (3, lFareInputFilename, isBuiltin),
    SIMFQT::FlightDateNotFoundException);

}

BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_04) {

    // Input file name
    const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
    /fareError04.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to fareQuote the sample default list of travel solutions
    BOOST_CHECK_THROW (testFareQuoterHelper (4, lFareInputFilename, isBuiltin),
    SIMFQT::FlightTimeNotFoundExpection);

}

BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_05) {
```

```
// Input file name
const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError05.csv");

// State whether the BOM tree should be built-in or parsed from an input file
const bool isBuiltin = false;

// Try to fareQuote the sample default list of travel solutions
BOOST_CHECK_THROW (testFareQuoterHelper (5, lFareInputFilename, isBuiltin),
    SIMFQT::FeaturesNotFoundException);
}

BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_06) {

    // Input file name
    const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError06.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to fareQuote the sample default list of travel solutions
    BOOST_CHECK_THROW (testFareQuoterHelper (6, lFareInputFilename, isBuiltin),
        SIMFQT::AirlineNotFoundException);
}

BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_07) {

    // Input file name
    const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError07.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to fareQuote the sample default list of travel solutions
    BOOST_CHECK_THROW (testFareQuoterHelper (7, lFareInputFilename, isBuiltin),
        SIMFQT::FareFileParsingFailedException);
}

BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_08) {

    // Input file name
    const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/missingFile.csv");

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = false;

    // Try to fareQuote the sample default list of travel solutions
    BOOST_CHECK_THROW (testFareQuoterHelper (8, lFareInputFilename, isBuiltin),
        SIMFQT::FareInputFileNotFoundExpection);
}

BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_09) {

    // Input file name
    const stdair::Filename_T lEmptyInputFilename (STDAIR_SAMPLE_DIR "/" );

    // State whether the BOM tree should be built-in or parsed from an input file
    const bool isBuiltin = true;

    // Try to fareQuote the sample default list of travel solutions
    BOOST_CHECK_NO_THROW(testFareQuoterHelper (9, lEmptyInputFilename, isBuiltin)
    );
}

// End the test suite
BOOST_AUTO_TEST_SUITE_END()

/*!
```

## 17 Directory Hierarchy

### 17.1 Directories

This directory hierarchy is sorted roughly, but not completely, alphabetically:

<b>simfqt</b>	<b>67</b>
<b>basic</b>	<b>65</b>
<b>batches</b>	<b>65</b>
<b>bom</b>	<b>65</b>
<b>command</b>	<b>66</b>
<b>config</b>	<b>66</b>
<b>factory</b>	<b>66</b>
<b>service</b>	<b>66</b>
<b>ui</b>	<b>67</b>
<b>cmdline</b>	<b>66</b>
<b>test</b>	<b>67</b>
<b>simfqt</b>	<b>66</b>

## 18 Namespace Index

### 18.1 Namespace List

Here is a list of all namespaces with brief descriptions:

<b>SIMFQT</b>	<b>67</b>
<b>SIMFQT::FareParserHelper</b>	<b>69</b>
<b>stdair</b>	
<b>Forward declarations</b>	<b>71</b>

## 19 Class Index

### 19.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

```

std::basic_fstream< char >
std::basic_fstream< wchar_t >
std::basic_ifstream< char >
std::basic_ifstream< wchar_t >
std::basic_ios< char >
std::basic_ios< wchar_t >
std::basic_iostream< char >
std::basic_iostream< wchar_t >
std::basic_istream< char >
std::basic_istream< wchar_t >
std::basic_istreamstream< char >
std::basic_istreamstream< wchar_t >
std::basic_ofstream< char >
std::basic_ofstream< wchar_t >
std::basic_ostream< char >
std::basic_ostream< wchar_t >
std::basic_ostreamstream< char >
std::basic_ostreamstream< wchar_t >
std::basic_string< char >
std::basic_string< wchar_t >
std::basic_stringstream< char >
std::basic_stringstream< wchar_t >

```

<b>CmdAbstract</b>	<b>73</b>
<b>SIMFQT::FareParser</b>	<b>79</b>
<b>SIMFQT::FareRuleFileParser</b>	<b>81</b>
<b>SIMFQT::FareRuleGenerator</b>	<b>82</b>
<b>FacServiceAbstract</b>	<b>75</b>
<b>SIMFQT::FacSimfqtServiceContext</b>	<b>75</b>
<b>SIMFQT::FareQuoter</b>	<b>80</b>
<b>FileNotFoundException</b>	<b>100</b>
<b>SIMFQT::FareInputFileNotFoundException</b>	<b>78</b>
<b>grammar</b>	<b>102</b>
<b>SIMFQT::FareParserHelper::FareRuleParser&lt; Iterator &gt;</b>	<b>83</b>
<b>InputFilePath</b>	<b>102</b>
<b>SIMFQT::FareFilePath</b>	<b>78</b>
<b>ObjectNotFoundException</b>	<b>103</b>
<b>SIMFQT::AirlineNotFoundException</b>	<b>71</b>

SIMFQT::AirportPairNotFoundException	72
SIMFQT::FeaturesNotFoundException	99
SIMFQT::FlightDateNotFoundException	100
SIMFQT::FlightTimeNotFoundException	101
SIMFQT::PosOrChannelNotFoundException	105
SIMFQT::FareParserHelper::ParserSemanticAction	103
SIMFQT::FareParserHelper::doEndFare	73
SIMFQT::FareParserHelper::storeAdvancePurchase	113
SIMFQT::FareParserHelper::storeAirlineCode	115
SIMFQT::FareParserHelper::storeCabinCode	117
SIMFQT::FareParserHelper::storeChangeFees	118
SIMFQT::FareParserHelper::storeChannel	120
SIMFQT::FareParserHelper::storeClass	121
SIMFQT::FareParserHelper::storeDateRangeEnd	123
SIMFQT::FareParserHelper::storeDateRangeStart	125
SIMFQT::FareParserHelper::storeDestination	126
SIMFQT::FareParserHelper::storeEndRangeTime	128
SIMFQT::FareParserHelper::storeFare	130
SIMFQT::FareParserHelper::storeFareId	131
SIMFQT::FareParserHelper::storeMinimumStay	133
SIMFQT::FareParserHelper::storeNonRefundable	135
SIMFQT::FareParserHelper::storeOrigin	136
SIMFQT::FareParserHelper::storePOS	138
SIMFQT::FareParserHelper::storeSaturdayStay	140
SIMFQT::FareParserHelper::storeStartRangeTime	141
SIMFQT::FareParserHelper::storeTripType	143
ParsingFileFailedException	105

<a href="#">SIMFQT::FareFileParsingFailedException</a>	<a href="#">77</a>
<a href="#">RootException</a>	<a href="#">106</a>
<a href="#">SIMFQT::QuotingException</a>	<a href="#">106</a>
<a href="#">ServiceAbstract</a>	<a href="#">107</a>
<a href="#">SIMFQT::SIMFQT_ServiceContext</a>	<a href="#">112</a>
<a href="#">SIMFQT::SIMFQT_Service</a>	<a href="#">107</a>
<a href="#">StructAbstract</a>	<a href="#">145</a>
<a href="#">SIMFQT::FareRuleStruct</a>	<a href="#">89</a>

## 20 Class Index

### 20.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

<a href="#">SIMFQT::AirlineNotFoundException</a>	<a href="#">71</a>
<a href="#">SIMFQT::AirportPairNotFoundException</a>	<a href="#">72</a>
<a href="#">CmdAbstract</a>	<a href="#">73</a>
<a href="#">SIMFQT::FareParserHelper::doEndFare</a>	<a href="#">73</a>
<a href="#">FacServiceAbstract</a>	<a href="#">75</a>
<a href="#">SIMFQT::FacSimfqtServiceContext</a> Factory for the service context	<a href="#">75</a>
<a href="#">SIMFQT::FareFileParsingFailedException</a>	<a href="#">77</a>
<a href="#">SIMFQT::FareFilePath</a>	<a href="#">78</a>
<a href="#">SIMFQT::FareInputFileNotFoundException</a>	<a href="#">78</a>
<a href="#">SIMFQT::FareParser</a>	<a href="#">79</a>
<a href="#">SIMFQT::FareQuoter</a> Command wrapping the pricing request process	<a href="#">80</a>
<a href="#">SIMFQT::FareRuleFileParser</a>	<a href="#">81</a>
<a href="#">SIMFQT::FareRuleGenerator</a>	<a href="#">82</a>
<a href="#">SIMFQT::FareParserHelper::FareRuleParser&lt; Iterator &gt;</a>	<a href="#">83</a>

<a href="#">SIMFQT::FareRuleStruct</a>	89
<a href="#">SIMFQT::FeaturesNotFoundException</a>	99
<a href="#">FileNotFoundException</a>	100
<a href="#">SIMFQT::FlightDateNotFoundException</a>	100
<a href="#">SIMFQT::FlightTimeNotFoundException</a>	101
<a href="#">grammar</a>	102
<a href="#">InputFilePath</a>	102
<a href="#">ObjectNotFoundException</a>	103
<a href="#">SIMFQT::FareParserHelper::ParserSemanticAction</a>	103
<a href="#">ParsingFileFailedException</a>	105
<a href="#">SIMFQT::PosOrChannelNotFoundException</a>	105
<a href="#">SIMFQT::QuotingException</a>	106
<a href="#">RootException</a>	106
<a href="#">ServiceAbstract</a>	107
<a href="#">SIMFQT::SIMFQT_Service</a> Interface for the <a href="#">SIMFQT</a> Services	107
<a href="#">SIMFQT::SIMFQT_ServiceContext</a> Class holding the context of the <a href="#">SimFQT</a> services	112
<a href="#">SIMFQT::FareParserHelper::storeAdvancePurchase</a>	113
<a href="#">SIMFQT::FareParserHelper::storeAirlineCode</a>	115
<a href="#">SIMFQT::FareParserHelper::storeCabinCode</a>	117
<a href="#">SIMFQT::FareParserHelper::storeChangeFees</a>	118
<a href="#">SIMFQT::FareParserHelper::storeChannel</a>	120
<a href="#">SIMFQT::FareParserHelper::storeClass</a>	121
<a href="#">SIMFQT::FareParserHelper::storeDateRangeEnd</a>	123
<a href="#">SIMFQT::FareParserHelper::storeDateRangeStart</a>	125
<a href="#">SIMFQT::FareParserHelper::storeDestination</a>	126
<a href="#">SIMFQT::FareParserHelper::storeEndRangeTime</a>	128

<a href="#">SIMFQT::FareParserHelper::storeFare</a>	130
<a href="#">SIMFQT::FareParserHelper::storeFareId</a>	131
<a href="#">SIMFQT::FareParserHelper::storeMinimumStay</a>	133
<a href="#">SIMFQT::FareParserHelper::storeNonRefundable</a>	135
<a href="#">SIMFQT::FareParserHelper::storeOrigin</a>	136
<a href="#">SIMFQT::FareParserHelper::storePOS</a>	138
<a href="#">SIMFQT::FareParserHelper::storeSaturdayStay</a>	140
<a href="#">SIMFQT::FareParserHelper::storeStartRangeTime</a>	141
<a href="#">SIMFQT::FareParserHelper::storeTripType</a>	143
<a href="#">StructAbstract</a>	145

## 21 File Index

### 21.1 File List

Here is a list of all files with brief descriptions:

<a href="#">simfqt/SIMFQT_Service.hpp</a>	204
<a href="#">simfqt/SIMFQT_Types.hpp</a>	206
<a href="#">simfqt/basic/BasConst.cpp</a>	146
<a href="#">simfqt/basic/BasConst_General.hpp</a>	146
<a href="#">simfqt/basic/BasConst_SIMFQT_Service.hpp</a>	147
<a href="#">simfqt/batches/simfqt_parseFareRules.cpp</a>	149
<a href="#">simfqt/bom/FareRuleStruct.cpp</a>	152
<a href="#">simfqt/bom/FareRuleStruct.hpp</a>	154
<a href="#">simfqt/command/FareParser.cpp</a>	158
<a href="#">simfqt/command/FareParser.hpp</a>	159
<a href="#">simfqt/command/FareParserHelper.cpp</a>	160
<a href="#">simfqt/command/FareParserHelper.hpp</a>	171
<a href="#">simfqt/command/FareQuoter.cpp</a>	174

<a href="#">simfqt/command/FareQuoter.hpp</a>	184
<a href="#">simfqt/command/FareRuleGenerator.cpp</a>	186
<a href="#">simfqt/command/FareRuleGenerator.hpp</a>	189
<a href="#">simfqt/config/simfqt-paths.hpp</a>	192
<a href="#">simfqt/factory/FacSimfqtServiceContext.cpp</a>	193
<a href="#">simfqt/factory/FacSimfqtServiceContext.hpp</a>	194
<a href="#">simfqt/service/SIMFQT_Service.cpp</a>	195
<a href="#">simfqt/service/SIMFQT_ServiceContext.cpp</a>	201
<a href="#">simfqt/service/SIMFQT_ServiceContext.hpp</a>	202
<a href="#">simfqt/ui/cmdline/simfqt.cpp</a>	207
<a href="#">test/simfqt/FQTTestSuite.cpp</a>	223

## 22 Directory Documentation

### 22.1 simfqt/basic/ Directory Reference

#### Files

- file [BasConst.cpp](#)
- file [BasConst\\_General.hpp](#)
- file [BasConst\\_SIMFQT\\_Service.hpp](#)

### 22.2 simfqt/batches/ Directory Reference

#### Files

- file [simfqt\\_parseFareRules.cpp](#)

### 22.3 simfqt/bom/ Directory Reference

#### Files

- file [FareRuleStruct.cpp](#)
- file [FareRuleStruct.hpp](#)

## 22.4 simfqt/ui/cmdline/ Directory Reference

### Files

- file [simfqt.cpp](#)

## 22.5 simfqt/command/ Directory Reference

### Files

- file [FareParser.cpp](#)
- file [FareParser.hpp](#)
- file [FareParserHelper.cpp](#)
- file [FareParserHelper.hpp](#)
- file [FareQuoter.cpp](#)
- file [FareQuoter.hpp](#)
- file [FareRuleGenerator.cpp](#)
- file [FareRuleGenerator.hpp](#)

## 22.6 simfqt/config/ Directory Reference

### Files

- file [simfqt-paths.hpp](#)

## 22.7 simfqt/factory/ Directory Reference

### Files

- file [FacSimfqtServiceContext.cpp](#)
- file [FacSimfqtServiceContext.hpp](#)

## 22.8 simfqt/service/ Directory Reference

### Files

- file [SIMFQT\\_Service.cpp](#)
- file [SIMFQT\\_ServiceContext.cpp](#)
- file [SIMFQT\\_ServiceContext.hpp](#)

## 22.9 test/simfqt/ Directory Reference

### Files

- file [FQTTestSuite.cpp](#)

## 22.10 simfqt/ Directory Reference

### Directories

- directory [basic](#)
- directory [batches](#)
- directory [bom](#)
- directory [command](#)
- directory [config](#)
- directory [factory](#)
- directory [service](#)
- directory [ui](#)

### Files

- file [SIMFQT\\_Service.hpp](#)
- file [SIMFQT\\_Types.hpp](#)

## 22.11 test/ Directory Reference

### Directories

- directory [simfqt](#)

## 22.12 simfqt/ui/ Directory Reference

### Directories

- directory [cmdline](#)

# 23 Namespace Documentation

## 23.1 SIMFQT Namespace Reference

### Namespaces

- namespace [FareParserHelper](#)

### Classes

- struct [FareRuleStruct](#)
- class [FareParser](#)
- class [FareRuleFileParser](#)
- class [FareQuoter](#)

*Command wrapping the pricing request process.*

- class [FareRuleGenerator](#)
- class [FacSimfqtServiceContext](#)

*Factory for the service context.*

- class [SIMFQT\\_ServiceContext](#)

*Class holding the context of the SimFQT services.*

- class [SIMFQT\\_Service](#)

*Interface for the [SIMFQT](#) Services.*

- class [FareFileParsingFailedException](#)
- class [AirportPairNotFoundException](#)
- class [PosOrChannelNotFoundException](#)
- class [FlightDateNotFoundException](#)
- class [FlightTimeNotFoundException](#)
- class [FeaturesNotFoundException](#)
- class [AirlineNotFoundException](#)
- class [FareInputFileNotFoundException](#)
- class [QuotingException](#)
- class [FareFilePath](#)

#### Typedefs

- typedef unsigned int [FareQuoteID\\_T](#)
- typedef boost::shared\_ptr < [SIMFQT\\_Service](#) > [SIMFQT\\_ServicePtr\\_T](#)

#### Variables

- const std::string [DEFAULT\\_FARE\\_QUOTER\\_ID](#) = "IATA"

#### 23.1.1 Typedef Documentation

##### 23.1.1.1 typedef unsigned int [SIMFQT::FareQuoteID\\_T](#)

ID for the Fare Quote system.

Definition at line 143 of file [SIMFQT\\_Types.hpp](#).

##### 23.1.1.2 typedef boost::shared\_ptr<[SIMFQT\\_Service](#)> [SIMFQT::SIMFQT\\_ServicePtr\\_T](#)

(Smart) Pointer on the SimFQT service handler.

Definition at line 148 of file [SIMFQT\\_Types.hpp](#).

### 23.1.2 Variable Documentation

#### 23.1.2.1 `const std::string SIMFQT::DEFAULT_FARE_QUOTER_ID = "IATA"`

Default ID for the [SIMFQT\\_Service](#).

Definition at line 10 of file [BasConst.cpp](#).

## 23.2 SIMFQT::FareParserHelper Namespace Reference

### Classes

- struct [FareRuleParser](#)
- struct [ParserSemanticAction](#)
- struct [storeFareId](#)
- struct [storeOrigin](#)
- struct [storeDestination](#)
- struct [storeTripType](#)
- struct [storeDateRangeStart](#)
- struct [storeDateRangeEnd](#)
- struct [storeStartRangeTime](#)
- struct [storeEndRangeTime](#)
- struct [storePOS](#)
- struct [storeCabinCode](#)
- struct [storeChannel](#)
- struct [storeAdvancePurchase](#)
- struct [storeSaturdayStay](#)
- struct [storeChangeFees](#)
- struct [storeNonRefundable](#)
- struct [storeMinimumStay](#)
- struct [storeFare](#)
- struct [storeAirlineCode](#)
- struct [storeClass](#)
- struct [doEndFare](#)

### Variables

- `stdair::int1_p_t` [int1\\_p](#)
- `stdair::uint2_p_t` [uint2\\_p](#)
- `stdair::uint4_p_t` [uint4\\_p](#)
- `stdair::uint1_4_p_t` [uint1\\_4\\_p](#)
- `stdair::hour_p_t` [hour\\_p](#)
- `stdair::minute_p_t` [minute\\_p](#)
- `stdair::second_p_t` [second\\_p](#)
- `stdair::year_p_t` [year\\_p](#)
- `stdair::month_p_t` [month\\_p](#)
- `stdair::day_p_t` [day\\_p](#)

### 23.2.1 Variable Documentation

#### 23.2.1.1 `stdair::int1_p_t SIMFQT::FareParserHelper::int1_p`

Namespaces. 1-digit-integer parser

Definition at line 444 of file [FareParserHelper.cpp](#).

#### 23.2.1.2 `stdair::uint2_p_t SIMFQT::FareParserHelper::uint2_p`

2-digit-integer parser

Definition at line 447 of file [FareParserHelper.cpp](#).

#### 23.2.1.3 `stdair::uint4_p_t SIMFQT::FareParserHelper::uint4_p`

4-digit-integer parser

Definition at line 450 of file [FareParserHelper.cpp](#).

#### 23.2.1.4 `stdair::uint1_4_p_t SIMFQT::FareParserHelper::uint1_4_p`

Up-to-4-digit-integer parser

Definition at line 453 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 23.2.1.5 `stdair::hour_p_t SIMFQT::FareParserHelper::hour_p`

Time element parsers.

Definition at line 456 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 23.2.1.6 `stdair::minute_p_t SIMFQT::FareParserHelper::minute_p`

Definition at line 457 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 23.2.1.7 `stdair::second_p_t SIMFQT::FareParserHelper::second_p`

Definition at line 458 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 23.2.1.8 `stdair::year_p_t SIMFQT::FareParserHelper::year_p`

Date element parsers.

Definition at line 461 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 23.2.1.9 stdair::month\_p\_t SIMFQT::FareParserHelper::month\_p

Definition at line 462 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 23.2.1.10 stdair::day\_p\_t SIMFQT::FareParserHelper::day\_p

Definition at line 463 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

## 23.3 stdair Namespace Reference

Forward declarations.

### 23.3.1 Detailed Description

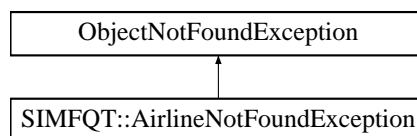
Forward declarations.

## 24 Class Documentation

### 24.1 SIMFQT::AirlineNotFoundException Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::AirlineNotFoundException:



#### Public Member Functions

- [AirlineNotFoundException](#) (const std::string &iWhat)

#### 24.1.1 Detailed Description

The airline can not be found.

Definition at line 99 of file [SIMFQT\\_Types.hpp](#).

#### 24.1.2 Constructor & Destructor Documentation

##### 24.1.2.1 SIMFQT::AirlineNotFoundException::AirlineNotFoundException ( const std::string & *iWhat* ) [inline]

Constructor.

Definition at line 104 of file [SIMFQT\\_Types.hpp](#).

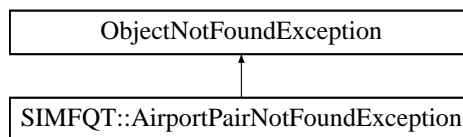
The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.2 SIMFQT::AirportPairNotFoundException Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::AirportPairNotFoundException:



#### Public Member Functions

- [AirportPairNotFoundException](#) (const std::string &iWhat)

#### 24.2.1 Detailed Description

The given airport pair can not be found.

Definition at line 39 of file [SIMFQT\\_Types.hpp](#).

#### 24.2.2 Constructor & Destructor Documentation

##### 24.2.2.1 SIMFQT::AirportPairNotFoundException::AirportPairNotFoundException ( const std::string & *iWhat* ) [inline]

Constructor.

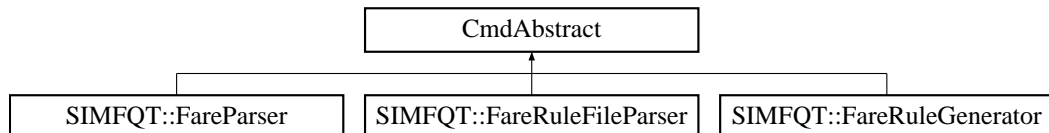
Definition at line 44 of file [SIMFQT\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

### 24.3 CmdAbstract Class Reference

Inheritance diagram for CmdAbstract:



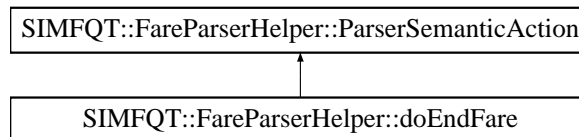
The documentation for this class was generated from the following file:

- [simfqt/command/FareRuleGenerator.hpp](#)

### 24.4 SIMFQT::FareParserHelper::doEndFare Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::doEndFare:



#### Public Member Functions

- [doEndFare](#) (stdair::BomRoot &, [FareRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

#### Public Attributes

- stdair::BomRoot & [\\_bomRoot](#)
- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.4.1 Detailed Description

Mark the end of the fare-rule parsing.

Definition at line [230](#) of file [FareParserHelper.hpp](#).

## 24.4.2 Constructor &amp; Destructor Documentation

## 24.4.2.1 SIMFQT::FareParserHelper::doEndFare::doEndFare ( stdair::BomRoot &amp; ioBomRoot, FareRuleStruct &amp; ioFareRule )

Actor Constructor.

Definition at line 417 of file [FareParserHelper.cpp](#).

## 24.4.3 Member Function Documentation

## 24.4.3.1 void SIMFQT::FareParserHelper::doEndFare::operator() ( boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 424 of file [FareParserHelper.cpp](#).

References [\\_bomRoot](#), [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::describe\(\)](#).

## 24.4.4 Member Data Documentation

## 24.4.4.1 stdair::BomRoot&amp; SIMFQT::FareParserHelper::doEndFare::\_bomRoot

Actor Specific Context.

Definition at line 238 of file [FareParserHelper.hpp](#).

Referenced by [operator\(\)](#).

## 24.4.4.2 FareRuleStruct&amp; SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

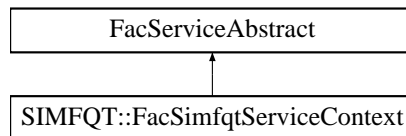
Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [operator\(\)](#).

The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.5 FacServiceAbstract Class Reference

Inheritance diagram for FacServiceAbstract:



The documentation for this class was generated from the following file:

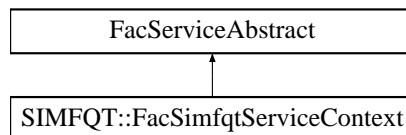
- [simfqt/factory/FacSimfqtServiceContext.hpp](#)

## 24.6 SIMFQT::FacSimfqtServiceContext Class Reference

Factory for the service context.

```
#include <simfqt/factory/FacSimfqtServiceContext.hpp>
```

Inheritance diagram for SIMFQT::FacSimfqtServiceContext:



### Public Member Functions

- [~FacSimfqtServiceContext \(\)](#)
- [SIMFQT\\_ServiceContext & create \(\)](#)

### Static Public Member Functions

- static [FacSimfqtServiceContext & instance \(\)](#)

### Protected Member Functions

- [FacSimfqtServiceContext \(\)](#)

### 24.6.1 Detailed Description

Factory for the service context.

Definition at line 22 of file [FacSimfqtServiceContext.hpp](#).

### 24.6.2 Constructor & Destructor Documentation

#### 24.6.2.1 SIMFQT::FacSimfqtServiceContext::~~FacSimfqtServiceContext ( )

Destructor.

The Destruction put the `_instance` to NULL in order to be clean for the next [FacSimfqtServiceContext::instance\(\)](#).

Definition at line 17 of file [FacSimfqtServiceContext.cpp](#).

#### 24.6.2.2 SIMFQT::FacSimfqtServiceContext::FacSimfqtServiceContext ( ) [inline, protected]

Default Constructor.

This constructor is protected in order to ensure the singleton pattern.

Definition at line 57 of file [FacSimfqtServiceContext.hpp](#).

Referenced by [instance\(\)](#).

### 24.6.3 Member Function Documentation

#### 24.6.3.1 FacSimfqtServiceContext & SIMFQT::FacSimfqtServiceContext::instance ( ) [static]

Provide the unique instance.

The singleton is instantiated when first used.

Returns

FacServiceContext&

Definition at line 22 of file [FacSimfqtServiceContext.cpp](#).

References [FacSimfqtServiceContext\(\)](#).

#### 24.6.3.2 SIMFQT\_ServiceContext & SIMFQT::FacSimfqtServiceContext::create ( )

Create a new ServiceContext object.

This new object is added to the list of instantiated objects.

#### Returns

ServiceContext& The newly created object.

Definition at line 34 of file [FacSimfqtServiceContext.cpp](#).

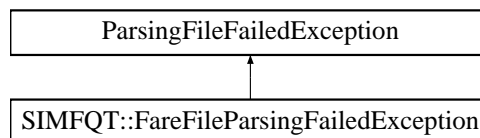
The documentation for this class was generated from the following files:

- [simfqt/factory/FacSimfqtServiceContext.hpp](#)
- [simfqt/factory/FacSimfqtServiceContext.cpp](#)

## 24.7 SIMFQT::FareFileParsingFailedException Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::FareFileParsingFailedException:



#### Public Member Functions

- [FareFileParsingFailedException](#) (const std::string &iWhat)

##### 24.7.1 Detailed Description

The fare input file can not be parsed.

Definition at line 26 of file [SIMFQT\\_Types.hpp](#).

##### 24.7.2 Constructor & Destructor Documentation

**24.7.2.1 SIMFQT::FareFileParsingFailedException::FareFileParsingFailedException ( const std::string & iWhat )**  
[inline]

Constructor.

Definition at line 32 of file [SIMFQT\\_Types.hpp](#).

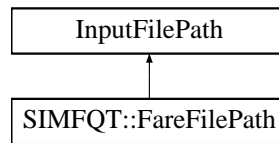
The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.8 SIMFQT::FareFilePath Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::FareFilePath:



### Public Member Functions

- [FareFilePath](#) (const stdair::Filename\_T &iFilename)

#### 24.8.1 Detailed Description

Fare input file.

Definition at line 130 of file [SIMFQT\\_Types.hpp](#).

#### 24.8.2 Constructor & Destructor Documentation

**24.8.2.1 SIMFQT::FareFilePath::FareFilePath ( const stdair::Filename\_T &iFilename )**  
[inline, explicit]

Constructor.

Definition at line 135 of file [SIMFQT\\_Types.hpp](#).

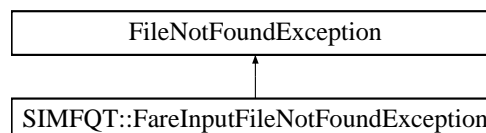
The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.9 SIMFQT::FareInputFileNotFoundException Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::FareInputFileNotFoundException:



## Public Member Functions

- [FareInputFileNotFoundException](#) (const std::string &iWhat)

## 24.9.1 Detailed Description

The fare input file can not be found.

Definition at line 111 of file [SIMFQT\\_Types.hpp](#).

## 24.9.2 Constructor &amp; Destructor Documentation

#### 24.9.2.1 SIMFQT::FareInputFileNotFoundException::FareInputFileNotFoundException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 116 of file [SIMFQT\\_Types.hpp](#).

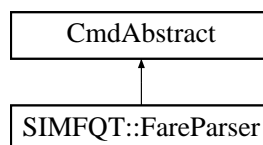
The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.10 SIMFQT::FareParser Class Reference

```
#include <simfqt/command/FareParser.hpp>
```

Inheritance diagram for SIMFQT::FareParser:



## Static Public Member Functions

- static void [fareRuleGeneration](#) (const [FareFilePath](#) &, stdair::BomRoot &)

## 24.10.1 Detailed Description

Class wrapping the parser entry point.

Definition at line 23 of file [FareParser.hpp](#).

## 24.10.2 Member Function Documentation

24.10.2.1 void **SIMFQT::FareParser::fareRuleGeneration** ( const [FareFilePath](#) & *iFareFilename*, [stdair::BomRoot](#) & *ioBomRoot* ) [static]

Parses the CSV file describing the fares for the simulator, and generates the fare bom tree accordingly.

## Parameters

<i>const</i>	<a href="#">FareFilePath</a> & The file-name of the CSV-formatted fare input file.
<i>stdair::Bom-Root</i> &	Root of the BOM tree.

Definition at line 17 of file [FareParser.cpp](#).

References [SIMFQT::FareRuleFileParser::generateFareRules\(\)](#).

Referenced by [SIMFQT::SIMFQT\\_Service::parseAndLoad\(\)](#).

The documentation for this class was generated from the following files:

- [simfqt/command/FareParser.hpp](#)
- [simfqt/command/FareParser.cpp](#)

## 24.11 SIMFQT::FareQuoter Class Reference

Command wrapping the pricing request process.

```
#include <simfqt/command/FareQuoter.hpp>
```

## Friends

- class [SIMFQT\\_Service](#)

## 24.11.1 Detailed Description

Command wrapping the pricing request process.

Definition at line 29 of file [FareQuoter.hpp](#).

## 24.11.2 Friends And Related Function Documentation

24.11.2.1 friend class **SIMFQT\_Service** [friend]

Friend classes: only the SimFQT service may access to the methods of that command class.

Definition at line 32 of file [FareQuoter.hpp](#).

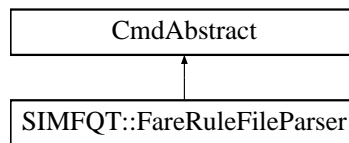
The documentation for this class was generated from the following files:

- [simfqt/command/FareQuoter.hpp](#)
- [simfqt/command/FareQuoter.cpp](#)

## 24.12 SIMFQT::FareRuleFileParser Class Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareRuleFileParser:



### Public Member Functions

- [FareRuleFileParser](#) (stdair::BomRoot &ioBomRoot, const stdair::Filename\_T &i-Filename)
- void [generateFareRules](#) ()

#### 24.12.1 Detailed Description

Class wrapping the initialisation and entry point of the parser.

The seemingly redundancy is used to force the instantiation of the actual parser, which is a templatised Boost Spirit grammar. Hence, the actual parser is instantiated within that class object code.

Definition at line 254 of file [FareParserHelper.hpp](#).

#### 24.12.2 Constructor & Destructor Documentation

##### 24.12.2.1 SIMFQT::FareRuleFileParser::FareRuleFileParser ( stdair::BomRoot &ioBomRoot, const stdair::Filename\_T &iFilename )

Constructor.

Definition at line 642 of file [FareParserHelper.cpp](#).

#### 24.12.3 Member Function Documentation

##### 24.12.3.1 void SIMFQT::FareRuleFileParser::generateFareRules ( )

Parse the input file and generate the fare rules.

Definition at line 664 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParser::fareRuleGeneration\(\)](#).

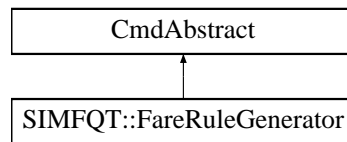
The documentation for this class was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.13 SIMFQT::FareRuleGenerator Class Reference

```
#include <simfqt/command/FareRuleGenerator.hpp>
```

Inheritance diagram for SIMFQT::FareRuleGenerator:



### Friends

- class [FareFileParser](#)
- struct [FareParserHelper::doEndFare](#)
- class [FareParser](#)

### 24.13.1 Detailed Description

Class handling the generation / instantiation of the Fare BOM.

Definition at line 33 of file [FareRuleGenerator.hpp](#).

### 24.13.2 Friends And Related Function Documentation

#### 24.13.2.1 friend class **FareFileParser** [friend]

Definition at line 38 of file [FareRuleGenerator.hpp](#).

#### 24.13.2.2 friend struct **FareParserHelper::doEndFare** [friend]

Definition at line 39 of file [FareRuleGenerator.hpp](#).

#### 24.13.2.3 friend class **FareParser** [friend]

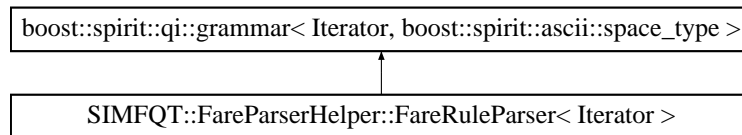
Definition at line 40 of file [FareRuleGenerator.hpp](#).

The documentation for this class was generated from the following files:

- [simfqt/command/FareRuleGenerator.hpp](#)
- [simfqt/command/FareRuleGenerator.cpp](#)

## 24.14 SIMFQT::FareParserHelper::FareRuleParser< Iterator > Struct Template - Reference

Inheritance diagram for SIMFQT::FareParserHelper::FareRuleParser< Iterator >:



### Public Member Functions

- [FareRuleParser](#) (stdair::BomRoot &ioBomRoot, [FareRuleStruct](#) &iofareRule)

### Public Attributes

- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [start](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [comments](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [fare\\_rule](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [fare\\_rule\\_end](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [fare\\_key](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [fare\\_id](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [origin](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [destination](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [tripType](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [dateRangeStart](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [dateRangeEnd](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [date](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [timeRangeStart](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [timeRangeEnd](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [time](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [point\\_of\\_sale](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [cabinCode](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [channel](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [advance-Purchase](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [saturdayStay](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [changeFees](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [nonRefundable](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [minimumStay](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [fare](#)
- boost::spirit::qi::rule < Iterator, boost::spirit::ascii::space\_type > [segment](#)
- stdair::BomRoot & [\\_bomRoot](#)
- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.14.1 Detailed Description

```
template<typename Iterator> struct SIMFQT::FareParserHelper::FareRuleParser< Iterator >
```

Fare: fareID; OriginCity; DestinationCity; DateRangeStart; DateRangeEnd; DepartureTimeRangeStart; DepartureTimeRangeEnd; POS; AdvancePurchase; SaturdayNight; ChangeFees; NonRefundable; MinimumStay; Price; AirlineCode; Class;

fareID OriginCity (3-char airport code) DestinationCity (3-char airport code) DateRangeStart (yyyy-mm-dd) DateRangeEnd (yyyy-mm-dd) DepartureTimeRangeStart (hh:mm) DepartureTimeRangeEnd (hh:mm) POS (3-char point\_of\_sale city) Cabin Code (1-char cabin code) Channel (D=direct, I=indirect, N=online, F=offline) AdvancePurchase - SaturdayNight (T=True, F=False) ChangeFees (T=True, F=False) NonRefundable (T=True, F=False) MinimumStay Price AirlineCode (2-char airline code) ClassList (List of 1-char class code) Grammar for the Fare-Rule parser.

Definition at line 500 of file [FareParserHelper.cpp](#).

#### 24.14.2 Constructor & Destructor Documentation

24.14.2.1 `template<typename Iterator> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser ( std::string & ioBomRoot, FareRuleStruct & ioFareRule ) [inline]`

Definition at line 504 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::\\_bomRoot](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::\\_fareRule](#), [SIMFQT::FareRuleStruct::\\_itDay](#), [SIMFQT::FareRuleStruct::\\_itHours](#), [SIMFQT::FareRuleStruct::\\_itMinutes](#), [SIMFQT::FareRuleStruct::\\_itMonth](#), [SIMFQT::FareRuleStruct::\\_itSeconds](#), [SIMFQT::FareRuleStruct::\\_itYear](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::advancePurchase](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::cabinCode](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::changeFees](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::channel](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::comments](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::date](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::dateRangeEnd](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::dateRangeStart](#), [SIMFQT::FareParserHelper::day\\_p](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::destination](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare\\_id](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare\\_key](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare\\_rule](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare\\_rule\\_end](#), [SIMFQT::FareParserHelper::hour\\_p](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::minimumStay](#), [SIMFQT::FareParserHelper::minute\\_p](#), [SIMFQT::FareParserHelper::month\\_p](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::nonRefundable](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::origin](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::point\\_of\\_sale](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::saturdayStay](#), [SIMFQT::FareParserHelper::second\\_p](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::segment](#), [SIMFQT::FareParserHelper::FareRuleParser<](#)

[Iterator >::start](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::time](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::timeRangeEnd](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::timeRangeStart](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::tripType](#), [SIMFQT::FareParserHelper::uint1\\_4\\_p](#), and [SIMFQT::FareParserHelper::year\\_p](#).

#### 24.14.3 Member Data Documentation

24.14.3.1 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::start`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.2 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::comments`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.3 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare_rule`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.4 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare_rule_end`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.5 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare_key`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

**24.14.3.6** `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare_id`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

**24.14.3.7** `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::origin`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

**24.14.3.8** `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::destination`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

**24.14.3.9** `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::tripType`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

**24.14.3.10** `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::dateRangeStart`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

**24.14.3.11** `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::dateRangeEnd`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.12 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::date`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.13 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::timeRangeStart`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.14 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::timeRangeEnd`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.15 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::time`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.16 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::point_of_sale`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.17 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::cabinCode`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.18 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::channel`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.19 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::advancePurchase`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.20 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::saturdayStay`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.21 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::changeFees`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.22 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::nonRefundable`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.23 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::minimumStay`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.24 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::fare`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.25 `template<typename Iterator> boost::spirit::qi::rule<Iterator, boost::spirit::ascii::space_type> SIMFQT::FareParserHelper::FareRuleParser< Iterator >::segment`

Definition at line 620 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.26 `template<typename Iterator> stdair::BomRoot& SIMFQT::FareParserHelper::FareRuleParser< Iterator >::_bomRoot`

Definition at line 627 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.14.3.27 `template<typename Iterator> FareRuleStruct& SIMFQT::FareParserHelper::FareRuleParser< Iterator >::_fareRule`

Definition at line 628 of file [FareParserHelper.cpp](#).

Referenced by [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

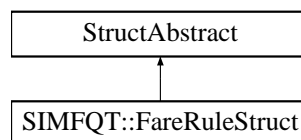
The documentation for this struct was generated from the following file:

- [simfqt/command/FareParserHelper.cpp](#)

## 24.15 SIMFQT::FareRuleStruct Struct Reference

```
#include <simfqt/bom/FareRuleStruct.hpp>
```

Inheritance diagram for SIMFQT::FareRuleStruct:



## Public Member Functions

- [FareRuleStruct](#) ()
- [SIMFQT::FareQuoteID\\_T getFareID](#) () const
- [stdair::AirportCode\\_T getOrigin](#) () const
- [stdair::AirportCode\\_T getDestination](#) () const
- [stdair::TripType\\_T getTripType](#) () const
- [stdair::Date\\_T getDateRangeStart](#) () const
- [stdair::Date\\_T getDateRangeEnd](#) () const
- [stdair::Duration\\_T getTimeRangeStart](#) () const
- [stdair::Duration\\_T getTimeRangeEnd](#) () const
- [stdair::CabinCode\\_T getCabinCode](#) () const
- [const stdair::CityCode\\_T getPOS](#) () const
- [stdair::ChannelLabel\\_T getChannel](#) () const
- [stdair::DayDuration\\_T getAdvancePurchase](#) () const
- [stdair::SaturdayStay\\_T getSaturdayStay](#) () const
- [stdair::ChangeFees\\_T getChangeFees](#) () const
- [stdair::NonRefundable\\_T getNonRefundable](#) () const
- [stdair::DayDuration\\_T getMinimumStay](#) () const
- [stdair::PriceValue\\_T getFare](#) () const
- [stdair::AirlineCode\\_T getAirlineCode](#) () const
- [stdair::ClassCode\\_T getClassCode](#) () const
- [const unsigned int getAirlineListSize](#) () const
- [const unsigned int getClassCodeListSize](#) () const
- [stdair::AirlineCodeList\\_T getAirlineList](#) () const
- [stdair::ClassList\\_StringList\\_T getClassCodeList](#) () const
- [stdair::Date\\_T calculateDate](#) () const
- [stdair::Duration\\_T calculateTime](#) () const
- [const std::string describe](#) () const
- [void setFareID](#) (const [SIMFQT::FareQuoteID\\_T](#) &iFareQuoteID)
- [void setOrigin](#) (const [stdair::AirportCode\\_T](#) &iOrigin)
- [void setDestination](#) (const [stdair::AirportCode\\_T](#) &iDestination)
- [void setTripType](#) (const [stdair::TripType\\_T](#) &iTripType)
- [void setDateRangeStart](#) (const [stdair::Date\\_T](#) &iDateRangeStart)
- [void setDateRangeEnd](#) (const [stdair::Date\\_T](#) &iDateRangeEnd)
- [void setTimeRangeStart](#) (const [stdair::Duration\\_T](#) &iTimeRangeStart)
- [void setTimeRangeEnd](#) (const [stdair::Duration\\_T](#) &iTimeRangeEnd)
- [void setCabinCode](#) (const [stdair::CabinCode\\_T](#) &iCabinCode)
- [void setPOS](#) (const [stdair::CityCode\\_T](#) &iPOS)
- [void setChannel](#) (const [stdair::ChannelLabel\\_T](#) &iChannel)
- [void setAdvancePurchase](#) (const [stdair::DayDuration\\_T](#) &iAdvancePurchase)
- [void setSaturdayStay](#) (const [stdair::SaturdayStay\\_T](#) &iSaturdayStay)
- [void setChangeFees](#) (const [stdair::ChangeFees\\_T](#) &iChangeFees)
- [void setNonRefundable](#) (const [stdair::NonRefundable\\_T](#) &iNonRefundable)
- [void setMinimumStay](#) (const [stdair::DayDuration\\_T](#) &iMinimumStay)
- [void setFare](#) (const [stdair::PriceValue\\_T](#) &iFare)
- [void setAirlineCode](#) (const [stdair::AirlineCode\\_T](#) &iAirlineCode)

- void [setClassCode](#) (const stdair::ClassCode\_T &iClassCode)
- void [clearAirlineCodeList](#) ()
- void [clearClassCodeList](#) ()
- void [addAirlineCode](#) (const stdair::AirlineCode\_T &iAirlineCode)
- void [addClassCode](#) (const stdair::ClassCode\_T &iClassCode)

#### Public Attributes

- stdair::year\_t [\\_itYear](#)
- stdair::month\_t [\\_itMonth](#)
- stdair::day\_t [\\_itDay](#)
- stdair::hour\_t [\\_itHours](#)
- stdair::minute\_t [\\_itMinutes](#)
- stdair::second\_t [\\_itSeconds](#)

#### 24.15.1 Detailed Description

Utility Structure for the parsing of fare-rule structures.

Definition at line 21 of file [FareRuleStruct.hpp](#).

#### 24.15.2 Constructor & Destructor Documentation

##### 24.15.2.1 SIMFQT::FareRuleStruct::FareRuleStruct ( )

Default constructor.

Definition at line 17 of file [FareRuleStruct.cpp](#).

#### 24.15.3 Member Function Documentation

##### 24.15.3.1 SIMFQT::FareQuoteID\_T SIMFQT::FareRuleStruct::getFareID ( ) const [inline]

Get the fare ID.

Definition at line 30 of file [FareRuleStruct.hpp](#).

##### 24.15.3.2 stdair::AirportCode\_T SIMFQT::FareRuleStruct::getOrigin ( ) const [inline]

Get the origin.

Definition at line 35 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storePOS::operator\(\)\(\)](#).

24.15.3.3 `stdair::AirportCode_T SIMFQT::FareRuleStruct::getDestination ( ) const`  
[inline]

Get the destination.

Definition at line 40 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storePOS::operator\(\)](#).

24.15.3.4 `stdair::TripType_T SIMFQT::FareRuleStruct::getTripType ( ) const`  
[inline]

Get the trip type.

Definition at line 45 of file [FareRuleStruct.hpp](#).

24.15.3.5 `stdair::Date_T SIMFQT::FareRuleStruct::getDateRangeStart ( ) const`  
[inline]

Get the date range start.

Definition at line 50 of file [FareRuleStruct.hpp](#).

24.15.3.6 `stdair::Date_T SIMFQT::FareRuleStruct::getDateRangeEnd ( ) const`  
[inline]

Get the date range end.

Definition at line 55 of file [FareRuleStruct.hpp](#).

24.15.3.7 `stdair::Duration_T SIMFQT::FareRuleStruct::getTimeRangeStart ( ) const`  
[inline]

Get the time range start.

Definition at line 60 of file [FareRuleStruct.hpp](#).

24.15.3.8 `stdair::Duration_T SIMFQT::FareRuleStruct::getTimeRangeEnd ( ) const`  
[inline]

Get the time range end.

Definition at line 65 of file [FareRuleStruct.hpp](#).

24.15.3.9 `stdair::CabinCode_T SIMFQT::FareRuleStruct::getCabinCode ( ) const`  
[inline]

Get the cabin code.

Definition at line 70 of file [FareRuleStruct.hpp](#).

24.15.3.10 `const stdair::CityCode_T SIMFQT::FareRuleStruct::getPOS ( ) const`  
[inline]

Get the point-of-sale.

Definition at line 75 of file [FareRuleStruct.hpp](#).

24.15.3.11 `stdair::ChannelLabel_T SIMFQT::FareRuleStruct::getChannel ( ) const`  
`[inline]`

Get the channel.

Definition at line 80 of file [FareRuleStruct.hpp](#).

24.15.3.12 `stdair::DayDuration_T SIMFQT::FareRuleStruct::getAdvancePurchase ( )`  
`const [inline]`

Get the advance purchase.

Definition at line 85 of file [FareRuleStruct.hpp](#).

24.15.3.13 `stdair::SaturdayStay_T SIMFQT::FareRuleStruct::getSaturdayStay ( ) const`  
`[inline]`

Get the saturday stay option.

Definition at line 90 of file [FareRuleStruct.hpp](#).

24.15.3.14 `stdair::ChangeFees_T SIMFQT::FareRuleStruct::getChangeFees ( ) const`  
`[inline]`

Get the change fees.

Definition at line 95 of file [FareRuleStruct.hpp](#).

24.15.3.15 `stdair::NonRefundable_T SIMFQT::FareRuleStruct::getNonRefundable ( )`  
`const [inline]`

Get the refundable option.

Definition at line 100 of file [FareRuleStruct.hpp](#).

24.15.3.16 `stdair::DayDuration_T SIMFQT::FareRuleStruct::getMinimumStay ( ) const`  
`[inline]`

Get the minimum stay.

Definition at line 105 of file [FareRuleStruct.hpp](#).

24.15.3.17 `stdair::PriceValue_T SIMFQT::FareRuleStruct::getFare ( ) const`  
`[inline]`

Get the fare.

Definition at line 110 of file [FareRuleStruct.hpp](#).

24.15.3.18 `stdair::AirlineCode_T SIMFQT::FareRuleStruct::getAirlineCode ( ) const`  
`[inline]`

Get the airline code.

Definition at line 115 of file [FareRuleStruct.hpp](#).

24.15.3.19 `stdair::ClassCode_T SIMFQT::FareRuleStruct::getClassCode ( ) const`  
`[inline]`

Get the class code.

Definition at line 120 of file [FareRuleStruct.hpp](#).

24.15.3.20 `const unsigned int SIMFQT::FareRuleStruct::getAirlineListSize ( ) const`  
`[inline]`

Get the size of the airline code list.

Definition at line 125 of file [FareRuleStruct.hpp](#).

24.15.3.21 `const unsigned int SIMFQT::FareRuleStruct::getClassCodeListSize ( )`  
`const [inline]`

Get the size of the class code list.

Definition at line 130 of file [FareRuleStruct.hpp](#).

24.15.3.22 `stdair::AirlineCodeList_T SIMFQT::FareRuleStruct::getAirlineList ( ) const`  
`[inline]`

Get the airline code list.

Definition at line 135 of file [FareRuleStruct.hpp](#).

24.15.3.23 `stdair::ClassList_StringList_T SIMFQT::FareRuleStruct::getClassCodeList ( ) const`  
`[inline]`

Get the class code list.

Definition at line 140 of file [FareRuleStruct.hpp](#).

24.15.3.24 `stdair::Date_T SIMFQT::FareRuleStruct::calculateDate ( ) const`

Calculate the date from the staging details.

Definition at line 39 of file [FareRuleStruct.cpp](#).

References [\\_itDay](#), [\\_itMonth](#), and [\\_itYear](#).

Referenced by [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)\(\)](#), and [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)\(\)](#).

24.15.3.25 `stdair::Duration_T SIMFQT::FareRuleStruct::calculateTime ( ) const`

Calculate the time from the staging details.

Definition at line 45 of file [FareRuleStruct.cpp](#).

References [\\_itHours](#), [\\_itMinutes](#), and [\\_itSeconds](#).

Referenced by [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)\(\)](#), and [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)\(\)](#).

[MFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#).

24.15.3.26 `const std::string SIMFQT::FareRuleStruct::describe ( ) const`

Display of the structure.

Definition at line 54 of file [FareRuleStruct.cpp](#).

Referenced by [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

24.15.3.27 `void SIMFQT::FareRuleStruct::setFareID ( const SIMFQT::FareQuoteID_T & iFareQuoteID ) [inline]`

Set the fare ID.

Definition at line 158 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#).

24.15.3.28 `void SIMFQT::FareRuleStruct::setOrigin ( const stdair::AirportCode_T & iOrigin ) [inline]`

Set the origin.

Definition at line 163 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#).

24.15.3.29 `void SIMFQT::FareRuleStruct::setDestination ( const stdair::AirportCode_T & iDestination ) [inline]`

Set the destination.

Definition at line 168 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#).

24.15.3.30 `void SIMFQT::FareRuleStruct::setTripType ( const stdair::TripType_T & iTripType ) [inline]`

Set the trip type.

Definition at line 173 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#).

24.15.3.31 `void SIMFQT::FareRuleStruct::setDateRangeStart ( const stdair::Date_T & iDateRangeStart ) [inline]`

Set the date range start.

Definition at line 178 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#).

24.15.3.32 `void SIMFQT::FareRuleStruct::setDateRangeEnd ( const stdair::Date_T & iDateRangeEnd ) [inline]`

Set the date range end.

Definition at line 183 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#).

24.15.3.33 `void SIMFQT::FareRuleStruct::setTimeRangeStart ( const stdair::Duration_T & iTimeRangeStart ) [inline]`

Set the time range start.

Definition at line 188 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#).

24.15.3.34 `void SIMFQT::FareRuleStruct::setTimeRangeEnd ( const stdair::Duration_T & iTimeRangeEnd ) [inline]`

Set the time range end.

Definition at line 193 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#).

24.15.3.35 `void SIMFQT::FareRuleStruct::setCabinCode ( const stdair::CabinCode_T & iCabinCode ) [inline]`

Set the cabin code.

Definition at line 198 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#).

24.15.3.36 `void SIMFQT::FareRuleStruct::setPOS ( const stdair::CityCode_T & iPOS ) [inline]`

Set the point-of-sale.

Definition at line 203 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storePOS::operator\(\)](#).

24.15.3.37 `void SIMFQT::FareRuleStruct::setChannel ( const stdair::ChannelLabel_T & iChannel ) [inline]`

Set the channel.

Definition at line 208 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#).

24.15.3.38 `void SIMFQT::FareRuleStruct::setAdvancePurchase ( const stdair::DayDuration_T & iAdvancePurchase ) [inline]`

Set the advance purchase.

Definition at line 213 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#).

24.15.3.39 void **SIMFQT::FareRuleStruct::setSaturdayStay** ( const  
stdair::SaturdayStay\_T & *iSaturdayStay* ) [inline]

Set the saturday stay option.

Definition at line 218 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#).

24.15.3.40 void **SIMFQT::FareRuleStruct::setChangeFees** ( const stdair::ChangeFees\_T  
& *iChangeFees* ) [inline]

Set the change fees.

Definition at line 223 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#).

24.15.3.41 void **SIMFQT::FareRuleStruct::setNonRefundable** ( const  
stdair::NonRefundable\_T & *iNonRefundable* ) [inline]

Set the refundable option.

Definition at line 228 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#).

24.15.3.42 void **SIMFQT::FareRuleStruct::setMinimumStay** ( const  
stdair::DayDuration\_T & *iMinimumStay* ) [inline]

Set the minimum stay.

Definition at line 233 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#).

24.15.3.43 void **SIMFQT::FareRuleStruct::setFare** ( const stdair::PriceValue\_T & *iFare* )  
[inline]

Set the fare.

Definition at line 238 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFare::operator\(\)](#).

24.15.3.44 void **SIMFQT::FareRuleStruct::setAirlineCode** ( const stdair::AirlineCode\_T  
& *iAirlineCode* ) [inline]

Set the airline code.

Definition at line 243 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#).

24.15.3.45 void **SIMFQT::FareRuleStruct::setClassCode** ( const stdair::ClassCode\_T & *iClassCode* ) [inline]

Set the class code.

Definition at line 248 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#).

24.15.3.46 void **SIMFQT::FareRuleStruct::clearAirlineCodeList** ( ) [inline]

Empty the airline code list.

Definition at line 253 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#).

24.15.3.47 void **SIMFQT::FareRuleStruct::clearClassCodeList** ( ) [inline]

Empty the class code list.

Definition at line 258 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#).

24.15.3.48 void **SIMFQT::FareRuleStruct::addAirlineCode** ( const stdair::AirlineCode\_T & *iAirlineCode* ) [inline]

Add an airline code to the list.

Definition at line 263 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#).

24.15.3.49 void **SIMFQT::FareRuleStruct::addClassCode** ( const stdair::ClassCode\_T & *iClassCode* ) [inline]

Add a class code to the list.

Definition at line 268 of file [FareRuleStruct.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeClass::operator\(\)](#).

#### 24.15.4 Member Data Documentation

24.15.4.1 stdair::year\_t **SIMFQT::FareRuleStruct::\_itYear**

Staging Date.

Definition at line 275 of file [FareRuleStruct.hpp](#).

Referenced by [calculateDate\(\)](#), and [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

24.15.4.2 stdair::month\_t **SIMFQT::FareRuleStruct::\_itMonth**

Definition at line 276 of file [FareRuleStruct.hpp](#).

Referenced by [calculateDate\(\)](#), and [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 24.15.4.3 stdair::day\_t SIMFQT::FareRuleStruct::\_itDay

Definition at line 277 of file [FareRuleStruct.hpp](#).

Referenced by [calculateDate\(\)](#), and [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 24.15.4.4 stdair::hour\_t SIMFQT::FareRuleStruct::\_itHours

Staging Time.

Definition at line 280 of file [FareRuleStruct.hpp](#).

Referenced by [calculateTime\(\)](#), and [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 24.15.4.5 stdair::minute\_t SIMFQT::FareRuleStruct::\_itMinutes

Definition at line 281 of file [FareRuleStruct.hpp](#).

Referenced by [calculateTime\(\)](#), and [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#).

#### 24.15.4.6 stdair::second\_t SIMFQT::FareRuleStruct::\_itSeconds

Definition at line 282 of file [FareRuleStruct.hpp](#).

Referenced by [calculateTime\(\)](#), [SIMFQT::FareParserHelper::FareRuleParser< Iterator >::FareRuleParser\(\)](#), [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), and [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#).

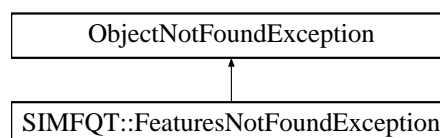
The documentation for this struct was generated from the following files:

- [simfqt/bom/FareRuleStruct.hpp](#)
- [simfqt/bom/FareRuleStruct.cpp](#)

## 24.16 SIMFQT::FeaturesNotFoundException Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::FeaturesNotFoundException:



## Public Member Functions

- [FeaturesNotFoundException](#) (const std::string &iWhat)

## 24.16.1 Detailed Description

The fare features can not be found.

Definition at line 87 of file [SIMFQT\\_Types.hpp](#).

## 24.16.2 Constructor &amp; Destructor Documentation

#### 24.16.2.1 SIMFQT::FeaturesNotFoundException::FeaturesNotFoundException (const std::string &iWhat) [inline]

Constructor.

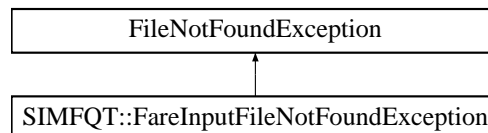
Definition at line 92 of file [SIMFQT\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.17 FileNotFoundException Class Reference

Inheritance diagram for FileNotFoundException:



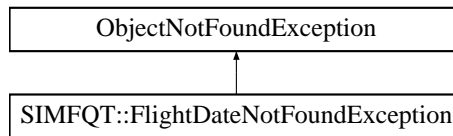
The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.18 SIMFQT::FlightDateNotFoundException Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::FlightDateNotFoundException:



#### Public Member Functions

- [FlightDateNotFounException](#) (const std::string &iWhat)

##### 24.18.1 Detailed Description

The departure date of the flight can not be found.

Definition at line 63 of file [SIMFQT\\_Types.hpp](#).

##### 24.18.2 Constructor & Destructor Documentation

###### 24.18.2.1 SIMFQT::FlightDateNotFounException::FlightDateNotFounException ( const std::string & iWhat ) [inline]

Constructor.

Definition at line 68 of file [SIMFQT\\_Types.hpp](#).

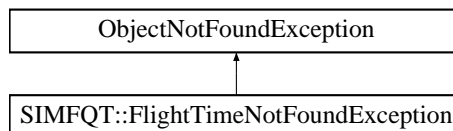
The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.19 SIMFQT::FlightTimeNotFounException Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::FlightTimeNotFounException:



#### Public Member Functions

- [FlightTimeNotFounException](#) (const std::string &iWhat)

## 24.19.1 Detailed Description

The departure time of the flight can not be found.

Definition at line 75 of file [SIMFQT\\_Types.hpp](#).

## 24.19.2 Constructor &amp; Destructor Documentation

### 24.19.2.1 SIMFQT::FlightTimeNotFoundException::FlightTimeNotFoundException ( const std::string & *iWhat* ) [inline]

Constructor.

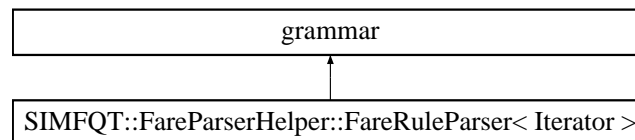
Definition at line 80 of file [SIMFQT\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.20 grammar Class Reference

Inheritance diagram for grammar:

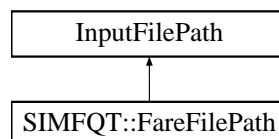


The documentation for this class was generated from the following file:

- [simfqt/command/FareParserHelper.cpp](#)

## 24.21 InputFilePath Class Reference

Inheritance diagram for InputFilePath:

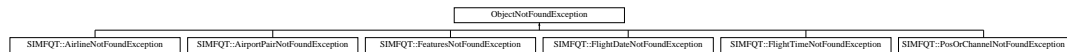


The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.22 ObjectNotFoundException Class Reference

Inheritance diagram for ObjectNotFoundException:



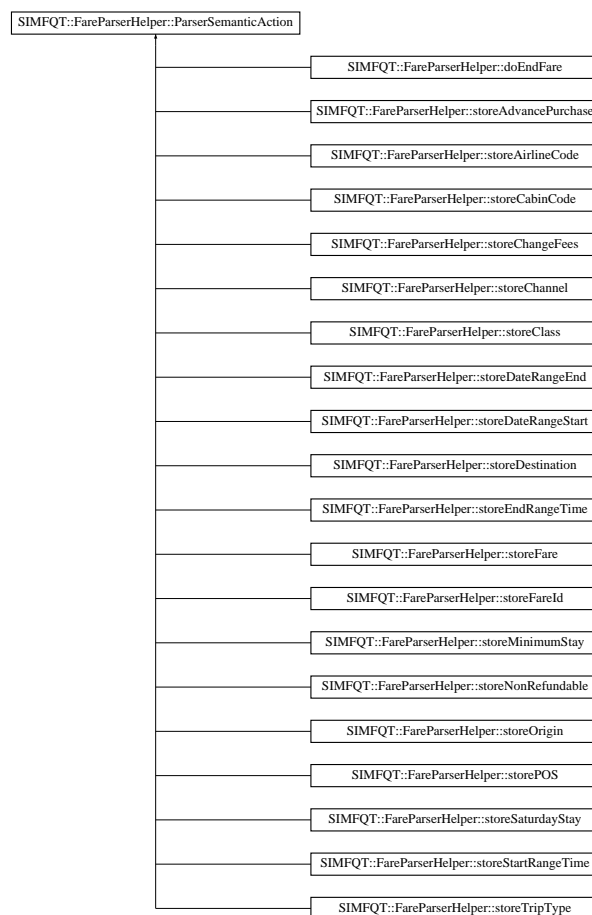
The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.23 SIMFQT::FareParserHelper::ParserSemanticAction Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::ParserSemanticAction:



## Public Member Functions

- [ParserSemanticAction](#) ([FareRuleStruct](#) &)

## Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

## 24.23.1 Detailed Description

Generic Semantic Action (Actor / Functor) for the Fare Parser.

Definition at line 31 of file [FareParserHelper.hpp](#).

## 24.23.2 Constructor &amp; Destructor Documentation

#### 24.23.2.1 SIMFQT::FareParserHelper::ParserSemanticAction- ::ParserSemanticAction ( FareRuleStruct & *ioFareRule* )

Actor Constructor.

Definition at line 29 of file [FareParserHelper.cpp](#).

## 24.23.3 Member Data Documentation

#### 24.23.3.1 FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::\_ fareRule

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

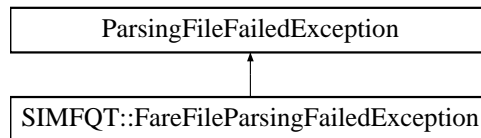
Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.24 ParsingFileFailedException Class Reference

Inheritance diagram for ParsingFileFailedException:



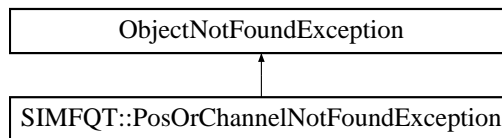
The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.25 SIMFQT::PosOrChannelNotFoundException Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::PosOrChannelNotFoundException:



### Public Member Functions

- [PosOrChannelNotFoundException](#) (const std::string &iWhat)

#### 24.25.1 Detailed Description

The given POS/channel can not be found.

Definition at line 51 of file [SIMFQT\\_Types.hpp](#).

#### 24.25.2 Constructor & Destructor Documentation

24.25.2.1 **SIMFQT::PosOrChannelNotFoundException::PosOrChannelNotFoundException** ( const std::string & *iWhat* )  
[inline]

Constructor.

Definition at line 56 of file [SIMFQT\\_Types.hpp](#).

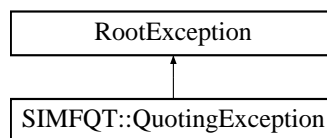
The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.26 SIMFQT::QuotingException Class Reference

```
#include <simfqt/SIMFQT_Types.hpp>
```

Inheritance diagram for SIMFQT::QuotingException:



### 24.26.1 Detailed Description

The pricing operation fails.

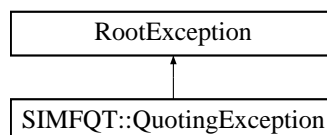
Definition at line 123 of file [SIMFQT\\_Types.hpp](#).

The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.27 RootException Class Reference

Inheritance diagram for RootException:

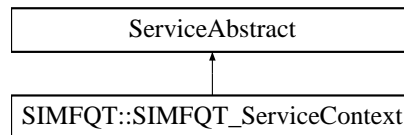


The documentation for this class was generated from the following file:

- [simfqt/SIMFQT\\_Types.hpp](#)

## 24.28 ServiceAbstract Class Reference

Inheritance diagram for ServiceAbstract:



The documentation for this class was generated from the following file:

- [simfqt/service/SIMFQT\\_ServiceContext.hpp](#)

## 24.29 SIMFQT::SIMFQT\_Service Class Reference

Interface for the [SIMFQT](#) Services.

```
#include <simfqt/SIMFQT_Service.hpp>
```

### Public Member Functions

- [SIMFQT\\_Service](#) (const stdair::BasLogParams &)
- [SIMFQT\\_Service](#) (const stdair::BasLogParams &, const stdair::BasDBParams &)
- [SIMFQT\\_Service](#) (stdair::STDAIR\_ServicePtr\_T ioSTDAIR\_ServicePtr)
- void [parseAndLoad](#) (const [FareFilePath](#) &iFareFilename)
- [~SIMFQT\\_Service](#) ()
- void [buildSampleBom](#) ()
- stdair::BookingRequestStruct [buildBookingRequest](#) (const bool isForCRS=false)
- void [buildSampleTravelSolutions](#) (stdair::TravelSolutionList\_T &)
- void [quotePrices](#) (const stdair::BookingRequestStruct &, stdair::TravelSolutionList\_T &)
- std::string [csvDisplay](#) () const
- std::string [csvDisplay](#) (const stdair::TravelSolutionList\_T &) const
- std::string [csvDisplay](#) (const stdair::AirportCode\_T &ioOrigin, const stdair::AirportCode\_T &ioDestination, const stdair::Date\_T &ioDepartureDate) const
- std::string [list](#) () const
- bool [check](#) (const stdair::AirportCode\_T &ioOrigin, const stdair::AirportCode\_T &ioDestination, const stdair::Date\_T &ioDepartureDate) const

### 24.29.1 Detailed Description

Interface for the [SIMFQT](#) Services.

Definition at line 31 of file [SIMFQT\\_Service.hpp](#).

## 24.29.2 Constructor &amp; Destructor Documentation

## 24.29.2.1 SIMFQT::SIMFQT\_Service::SIMFQT\_Service ( const stdair::BasLogParams &amp; iLogParams )

Constructor.

The initSimfqtService() method is called; see the corresponding documentation for more details.

A reference on an output stream is given, so that log outputs can be directed onto that stream.

## Parameters

<i>const</i>	stdair::BasLogParams& Parameters for the output log stream.
--------------	---

Definition at line 36 of file [SIMFQT\\_Service.cpp](#).

## 24.29.2.2 SIMFQT::SIMFQT\_Service::SIMFQT\_Service ( const stdair::BasLogParams &amp; iLogParams, const stdair::BasDBParams &amp; iDBParams )

Constructor.

The initSimfqtService() method is called; see the corresponding documentation for more details.

A reference on an output stream is given, so that log outputs can be directed onto that stream.

## Parameters

<i>const</i>	stdair::BasLogParams& Parameters for the output log stream.
<i>const</i>	stdair::BasDBParams& Parameters for the database access.

Definition at line 56 of file [SIMFQT\\_Service.cpp](#).

## 24.29.2.3 SIMFQT::SIMFQT\_Service::SIMFQT\_Service ( stdair::STDAIR\_ServicePtr\_T ioSTDAIR\_ServicePtr )

Constructor.

The initSimfqtService() method is called; see the corresponding documentation for more details.

Moreover, as no reference on any output stream is given, it is assumed that the StdAir log service has already been initialised with the proper log output stream by some other methods in the calling chain (for instance, when the [SIMFQT\\_Service](#) is itself being initialised by another library service such as SIMCRS\_Service).

## Parameters

<i>stdair::STD-AIR-ServicePtr-T</i>	Reference on the STDAIR service.
-------------------------------------	----------------------------------

Definition at line 78 of file [SIMFQT\\_Service.cpp](#).

#### 24.29.2.4 SIMFQT::SIMFQT\_Service::~~SIMFQT\_Service ( )

Destructor.

Definition at line 94 of file [SIMFQT\\_Service.cpp](#).

### 24.29.3 Member Function Documentation

#### 24.29.3.1 void SIMFQT::SIMFQT\_Service::parseAndLoad ( const FareFilePath & iFareFilename )

Parse the fare dump and load it into memory.

The CSV file, describing the fare rule for the simulator, is parsed and instantiated in memory accordingly.

##### Parameters

<i>const</i>	<a href="#">FareFilePath</a> & Filename of the input fare file.
--------------	---

Definition at line 171 of file [SIMFQT\\_Service.cpp](#).

References [SIMFQT::FareParser::fareRuleGeneration\(\)](#).

Referenced by [main\(\)](#).

#### 24.29.3.2 void SIMFQT::SIMFQT\_Service::buildSampleBom ( )

Build a sample BOM tree, and attach it to the BomRoot instance.

As for now, two sample BOM trees can be built.

- One BOM tree is based on two actual inventories (one for BA, another for A-F). Each inventory contains one flight. One of those flights has two legs (and therefore three segments).
- The other BOM tree is fake, as a hook for RMOL to work.

Definition at line 185 of file [SIMFQT\\_Service.cpp](#).

Referenced by [main\(\)](#).

24.29.3.3 `stdair::BookingRequestStruct SIMFQT::SIMFQT_Service::buildBookingRequest ( const bool isForCRS = false )`

Build a BookingRequest structure (for test purposes).

#### Returns

`stdair::BookingRequestStruct` The created BookingRequest structure.

Definition at line 231 of file [SIMFQT\\_Service.cpp](#).

Referenced by [main\(\)](#).

24.29.3.4 `void SIMFQT::SIMFQT_Service::buildSampleTravelSolutions ( stdair::TravelSolutionList_T & ioTravelSolutionList )`

Build a sample list of travel solutions.

As of now (March 2011), that list is made of the following travel solutions:

- BA9
- LHR-SYD
- 2011-06-10
- Q
- WTP: 900
- Change fee: 20; Non refundable; Saturday night stay

#### Parameters

<i>Travel-SolutionList-T&amp;</i>	Sample list of travel solution structures. It should be given empty. It is altered with the returned sample.
-----------------------------------	--

Definition at line 255 of file [SIMFQT\\_Service.cpp](#).

Referenced by [main\(\)](#).

24.29.3.5 `void SIMFQT::SIMFQT_Service::quotePrices ( const stdair::BookingRequestStruct & iBookingRequest, stdair::TravelSolutionList_T & ioTravelSolutionList )`

Calculate the prices for a given list of travel solutions.

A `stdair::Fare_T` attribute is calculated for every travel solution of the list.

#### Parameters

<i>stdair::BookingRequestStruct</i> &	Booking request.
<i>stdair::TravelSolutionList_T</i> &	List of travel solution.

Definition at line 391 of file [SIMFQT\\_Service.cpp](#).

Referenced by [main\(\)](#).

#### 24.29.3.6 std::string SIMFQT::SIMFQT\_Service::csvDisplay ( ) const

Recursively display (dump in the returned string) the objects of the BOM tree.

##### Returns

std::string Output string in which the BOM tree is logged/dumped.

Definition at line 276 of file [SIMFQT\\_Service.cpp](#).

Referenced by [main\(\)](#).

#### 24.29.3.7 std::string SIMFQT::SIMFQT\_Service::csvDisplay ( const stdair::TravelSolutionList\_T & ioTravelSolutionList ) const

Display (dump in the returned string) the full list of travel solution structures.

##### Returns

std::string Output string in which the list of travel solutions is logged/dumped.

Definition at line 303 of file [SIMFQT\\_Service.cpp](#).

#### 24.29.3.8 std::string SIMFQT::SIMFQT\_Service::csvDisplay ( const stdair::AirportCode\_T & ioOrigin, const stdair::AirportCode\_T & ioDestination, const stdair::Date\_T & ioDepartureDate ) const

Recursively display (dump in the returned string) the fare-rules corresponding to the parameters given as input.

##### Parameters

<i>const</i>	stdair::AirportCode_T& Origin airport of the fare-rules to display
<i>const</i>	stdair::AirportCode_T& Destination airport of the fare- rules to display.
<i>const</i>	stdair::Date_T& Departure date of the fare-rules to display.

**Returns**

std::string Output string in which the BOM tree is logged/dumped.

Definition at line 325 of file [SIMFQT\\_Service.cpp](#).

**24.29.3.9 std::string SIMFQT::SIMFQT\_Service::list ( ) const**

Display (dump in the returned string) the airport pairs and the corresponding departure dates of the fare rules stored in the BOM tree.

**Returns**

std::string Output string in which the airport pairs and departure dates are logged/dumped.

Definition at line 348 of file [SIMFQT\\_Service.cpp](#).

**24.29.3.10 bool SIMFQT::SIMFQT\_Service::check ( const stdair::AirportCode\_T & ioOrigin, const stdair::AirportCode\_T & ioDestination, const stdair::Date\_T & ioDepartureDate ) const**

Check whether the given couple airportpair-date is a valid one.

**Parameters**

<i>const</i>	stdair::AirportCode_T& Origin airport of the fare rule to check.
<i>const</i>	stdair::AirportCode_T& Destination airport of the fare rule to check.
<i>const</i>	stdair::Date_T& Departure date of the fare rule to check.

**Returns**

bool Whether or not the given airportpair-date couple is a valid one.

Definition at line 369 of file [SIMFQT\\_Service.cpp](#).

The documentation for this class was generated from the following files:

- [simfqt/SIMFQT\\_Service.hpp](#)
- [simfqt/service/SIMFQT\\_Service.cpp](#)

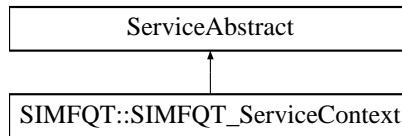
**24.30 SIMFQT::SIMFQT\_ServiceContext Class Reference**

Class holding the context of the SimFQT services.

```
#include <simfqt/service/SIMFQT_ServiceContext.hpp>
```

Inheritance diagram for SIMFQT::SIMFQT\_ServiceContext:

## 24.31 SIMFQT::FareParserHelper::storeAdvancePurchase Struct Reference 113



### Friends

- class [SIMFQT\\_Service](#)
- class [FacSimfqtServiceContext](#)

### 24.30.1 Detailed Description

Class holding the context of the SimFQT services.

Definition at line 25 of file [SIMFQT\\_ServiceContext.hpp](#).

### 24.30.2 Friends And Related Function Documentation

#### 24.30.2.1 friend class SIMFQT\_Service [friend]

The [SIMFQT\\_Service](#) class should be the sole class to get access to ServiceContext content: general users do not want to bother with a context interface.

Definition at line 31 of file [SIMFQT\\_ServiceContext.hpp](#).

#### 24.30.2.2 friend class FacSimfqtServiceContext [friend]

Definition at line 32 of file [SIMFQT\\_ServiceContext.hpp](#).

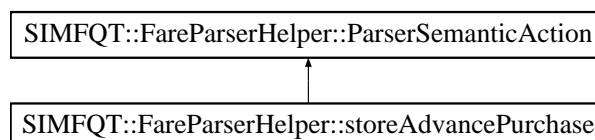
The documentation for this class was generated from the following files:

- [simfqt/service/SIMFQT\\_ServiceContext.hpp](#)
- [simfqt/service/SIMFQT\\_ServiceContext.cpp](#)

## 24.31 SIMFQT::FareParserHelper::storeAdvancePurchase Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeAdvancePurchase:



## 24.31 SIMFQT::FareParserHelper::storeAdvancePurchase Struct Reference 114

### Public Member Functions

- [storeAdvancePurchase](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (unsigned int, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.31.1 Detailed Description

Store the parsed advance purchase days.

Definition at line 150 of file [FareParserHelper.hpp](#).

#### 24.31.2 Constructor & Destructor Documentation

##### 24.31.2.1 SIMFQT::FareParserHelper::storeAdvancePurchase- ::storeAdvancePurchase ( [FareRuleStruct](#) & *ioFareRule* )

Actor Constructor.

Definition at line 251 of file [FareParserHelper.cpp](#).

#### 24.31.3 Member Function Documentation

##### 24.31.3.1 void SIMFQT::FareParserHelper::storeAdvancePurchase::operator() ( unsigned int *iAdvancePurchase*, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 256 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setAdvancePurchase\(\)](#).

#### 24.31.4 Member Data Documentation

##### 24.31.4.1 [FareRuleStruct](#)& SIMFQT::FareParserHelper::ParserSemanticAction::\_ [fareRule](#) [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

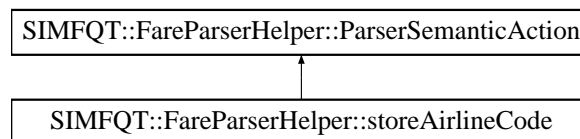
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.32 SIMFQT::FareParserHelper::storeAirlineCode Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeAirlineCode:



### Public Member Functions

- [storeAirlineCode](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.32.1 Detailed Description

Store the parsed airline code.

Definition at line 210 of file [FareParserHelper.hpp](#).

## 24.32.2 Constructor &amp; Destructor Documentation

## 24.32.2.1 SIMFQT::FareParserHelper::storeAirlineCode::storeAirlineCode ( FareRuleStruct &amp; ioFareRule )

Actor Constructor.

Definition at line 375 of file [FareParserHelper.cpp](#).

## 24.32.3 Member Function Documentation

## 24.32.3.1 void SIMFQT::FareParserHelper::storeAirlineCode::operator() ( std::vector&lt; char &gt; iChar, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 380 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::addAirlineCode\(\)](#).

## 24.32.4 Member Data Documentation

## 24.32.4.1 FareRuleStruct&amp; SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

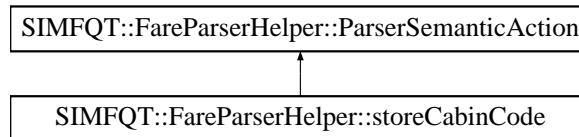
The documentation for this struct was generated from the following files:

- [simfq/command/FareParserHelper.hpp](#)
- [simfq/command/FareParserHelper.cpp](#)

## 24.33 SIMFQT::FareParserHelper::storeCabinCode Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeCabinCode:



## Public Member Functions

- [storeCabinCode](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (char, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

## Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

## 24.33.1 Detailed Description

Store the cabin code.

Definition at line 130 of file [FareParserHelper.hpp](#).

## 24.33.2 Constructor &amp; Destructor Documentation

24.33.2.1 SIMFQT::FareParserHelper::storeCabinCode::storeCabinCode ( [FareRuleStruct](#) & *ioFareRule* )

Actor Constructor.

Definition at line 209 of file [FareParserHelper.cpp](#).

## 24.33.3 Member Function Documentation

24.33.3.1 void SIMFQT::FareParserHelper::storeCabinCode::operator() ( char *iChar*, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 214 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setCabinCode\(\)](#).

## 24.33.4 Member Data Documentation

## 24.33.4.1 FareRuleStruct&amp; SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

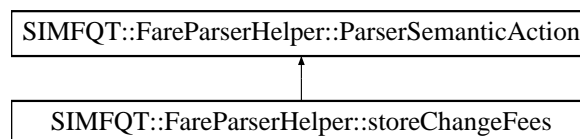
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.34 SIMFQT::FareParserHelper::storeChangeFees Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeChangeFees:



## Public Member Functions

- [storeChangeFees](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (char, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

## Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

## 24.34.1 Detailed Description

Store the parsed change fees.

Definition at line 170 of file [FareParserHelper.hpp](#).

## 24.34.2 Constructor &amp; Destructor Documentation

24.34.2.1 SIMFQT::FareParserHelper::storeChangeFees::storeChangeFees ( [FareRuleStruct](#) & *ioFareRule* )

Actor Constructor.

Definition at line 292 of file [FareParserHelper.cpp](#).

## 24.34.3 Member Function Documentation

24.34.3.1 void SIMFQT::FareParserHelper::storeChangeFees::operator() ( *char iChangefees*, *boost::spirit::qi::unused\_type* , *boost::spirit::qi::unused\_type* ) const

Actor Function (functor).

Definition at line 297 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setChangeFees\(\)](#).

## 24.34.4 Member Data Documentation

24.34.4.1 [FareRuleStruct](#)& [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#) [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::](#)

[::storeNonRefundable::operator\(\)](#)(), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#)(), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#)(), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#)(), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#)(), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#)).

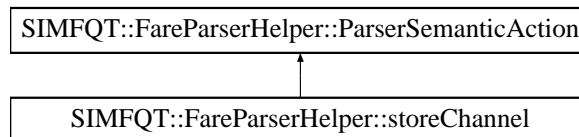
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.35 SIMFQT::FareParserHelper::storeChannel Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeChannel:



### Public Member Functions

- [storeChannel](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.35.1 Detailed Description

Store the channel distribution.

Definition at line 140 of file [FareParserHelper.hpp](#).

#### 24.35.2 Constructor & Destructor Documentation

##### 24.35.2.1 SIMFQT::FareParserHelper::storeChannel::storeChannel ( [FareRuleStruct](#) & *ioFareRule* )

Actor Constructor.

Definition at line 230 of file [FareParserHelper.cpp](#).

## 24.35.3 Member Function Documentation

24.35.3.1 `void SIMFQT::FareParserHelper::storeChannel::operator() ( std::vector< char > iChar, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type ) const`

Actor Function (functor).

Definition at line 235 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setChannel\(\)](#).

## 24.35.4 Member Data Documentation

24.35.4.1 `FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::_fareRule` `[inherited]`

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

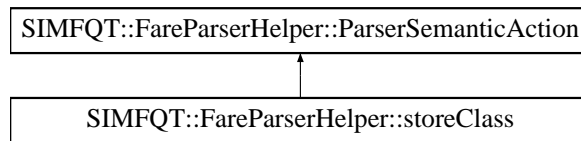
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.36 SIMFQT::FareParserHelper::storeClass Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeClass:



#### Public Member Functions

- [storeClass](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

#### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

##### 24.36.1 Detailed Description

Store the parsed class code.

Definition at line 220 of file [FareParserHelper.hpp](#).

##### 24.36.2 Constructor & Destructor Documentation

###### 24.36.2.1 SIMFQT::FareParserHelper::storeClass::storeClass ( FareRuleStruct & *ioFareRule* )

Actor Constructor.

Definition at line 393 of file [FareParserHelper.cpp](#).

##### 24.36.3 Member Function Documentation

###### 24.36.3.1 void SIMFQT::FareParserHelper::storeClass::operator() ( std::vector< char > *iChar*, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 398 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::addClassCode\(\)](#).

##### 24.36.4 Member Data Documentation

#### 24.36.4.1 FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

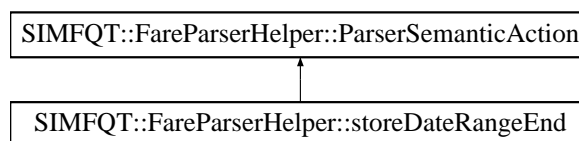
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.37 SIMFQT::FareParserHelper::storeDateRangeEnd Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeDateRangeEnd:



### Public Member Functions

- [storeDateRangeEnd](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

## 24.37.1 Detailed Description

Store the parsed end of the date range.

Definition at line 90 of file [FareParserHelper.hpp](#).

## 24.37.2 Constructor &amp; Destructor Documentation

## 24.37.2.1 SIMFQT::FareParserHelper::storeDateRangeEnd::storeDateRangeEnd (FareRuleStruct &amp; ioFareRule )

Actor Constructor.

Definition at line 128 of file [FareParserHelper.cpp](#).

## 24.37.3 Member Function Documentation

## 24.37.3.1 void SIMFQT::FareParserHelper::storeDateRangeEnd::operator() ( boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 133 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), [SIMFQT::FareRuleStruct::calculateDate\(\)](#), and [SIMFQT::FareRuleStruct::setDateRangeEnd\(\)](#).

## 24.37.4 Member Data Documentation

## 24.37.4.1 FareRuleStruct&amp; SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

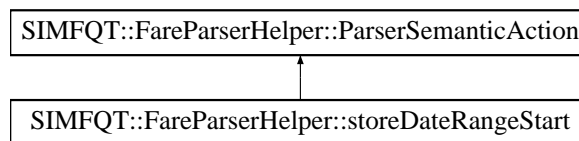
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.38 SIMFQT::FareParserHelper::storeDateRangeStart Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeDateRangeStart:



### Public Member Functions

- [storeDateRangeStart](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.38.1 Detailed Description

Store the parsed start of the date range.

Definition at line 80 of file [FareParserHelper.hpp](#).

#### 24.38.2 Constructor & Destructor Documentation

##### 24.38.2.1 SIMFQT::FareParserHelper::storeDateRangeStart- ::storeDateRangeStart ( FareRuleStruct & *ioFareRule* )

Actor Constructor.

Definition at line 112 of file [FareParserHelper.cpp](#).

## 24.38.3 Member Function Documentation

24.38.3.1 void SIMFQT::FareParserHelper::storeDateRangeStart::operator()  
 ( boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ,  
 boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 117 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), [SIMFQT::FareRuleStruct::calculateDate\(\)](#), and [SIMFQT::FareRuleStruct::setDateRangeStart\(\)](#).

## 24.38.4 Member Data Documentation

24.38.4.1 FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

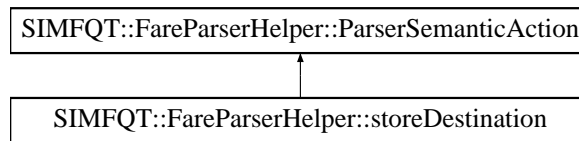
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.39 SIMFQT::FareParserHelper::storeDestination Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeDestination:



#### Public Member Functions

- [storeDestination](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

#### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

##### 24.39.1 Detailed Description

Store the parsed destination.

Definition at line 59 of file [FareParserHelper.hpp](#).

##### 24.39.2 Constructor & Destructor Documentation

###### 24.39.2.1 SIMFQT::FareParserHelper::storeDestination::storeDestination ( [FareRuleStruct](#) & *ioFareRule* )

Actor Constructor.

Definition at line 74 of file [FareParserHelper.cpp](#).

##### 24.39.3 Member Function Documentation

###### 24.39.3.1 void SIMFQT::FareParserHelper::storeDestination::operator() ( std::vector< char > *iChar*, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 79 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setDestination\(\)](#).

##### 24.39.4 Member Data Documentation

#### 24.39.4.1 FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

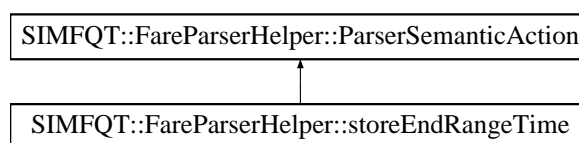
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.40 SIMFQT::FareParserHelper::storeEndRangeTime Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeEndRangeTime:



### Public Member Functions

- [storeEndRangeTime](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

## 24.40.1 Detailed Description

Store the parsed end range time.

Definition at line 110 of file [FareParserHelper.hpp](#).

## 24.40.2 Constructor &amp; Destructor Documentation

24.40.2.1 SIMFQT::FareParserHelper::storeEndRangeTime::storeEndRangeTime  
( FareRuleStruct & ioFareRule )

Actor Constructor.

Definition at line 167 of file [FareParserHelper.cpp](#).

## 24.40.3 Member Function Documentation

24.40.3.1 void SIMFQT::FareParserHelper::storeEndRangeTime::operator()  
( boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ,  
boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 172 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), [SIMFQT::FareRuleStruct::\\_itSeconds](#), [SIMFQT::FareRuleStruct::calculateTime\(\)](#), and [SIMFQT::FareRuleStruct::setTimeRangeEnd\(\)](#).

## 24.40.4 Member Data Documentation

## 24.40.4.1 FareRuleStruct&amp; SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::Fare](#)

[ParserHelper::storeAirlineCode::operator\(\)](#)(), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#)(), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#)).

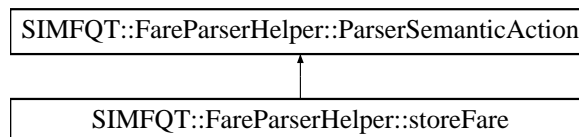
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.41 SIMFQT::FareParserHelper::storeFare Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeFare:



### Public Member Functions

- [storeFare](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (double, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.41.1 Detailed Description

Store the parsed fare value.

Definition at line 200 of file [FareParserHelper.hpp](#).

#### 24.41.2 Constructor & Destructor Documentation

##### 24.41.2.1 SIMFQT::FareParserHelper::storeFare::storeFare ( [FareRuleStruct](#) & [ioFareRule](#) )

Actor Constructor.

Definition at line 359 of file [FareParserHelper.cpp](#).

## 24.41.3 Member Function Documentation

24.41.3.1 `void SIMFQT::FareParserHelper::storeFare::operator() ( double iFare, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type ) const`

Actor Function (functor).

Definition at line 364 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setFare\(\)](#).

## 24.41.4 Member Data Documentation

24.41.4.1 `FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::_fareRule` `[inherited]`

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

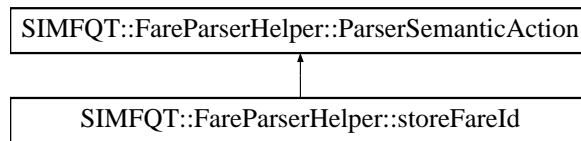
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.42 SIMFQT::FareParserHelper::storeFareId Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeFareId:



#### Public Member Functions

- [storeFareId](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (unsigned int, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

#### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

##### 24.42.1 Detailed Description

Store the parsed fare Id.

Definition at line 39 of file [FareParserHelper.hpp](#).

##### 24.42.2 Constructor & Destructor Documentation

###### 24.42.2.1 SIMFQT::FareParserHelper::storeFareId::storeFareId ( [FareRuleStruct](#) & [ioFareRule](#) )

Actor Constructor.

Definition at line 35 of file [FareParserHelper.cpp](#).

##### 24.42.3 Member Function Documentation

###### 24.42.3.1 void SIMFQT::FareParserHelper::storeFareId::operator() ( unsigned int *iFareId*, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 40 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), [SIMFQT::FareRuleStruct::\\_itSeconds](#), [SIMFQT::FareRuleStruct::clearAirlineCodeList\(\)](#), [SIMFQT::FareRuleStruct::clearClassCodeList\(\)](#), [SIMFQT::FareRuleStruct::setAirlineCode\(\)](#), [SIMFQT::FareRuleStruct::setClassCode\(\)](#), and [SIMFQT::FareRuleStruct::setFareID\(\)](#).

## 24.42.4 Member Data Documentation

## 24.42.4.1 FareRuleStruct&amp; SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

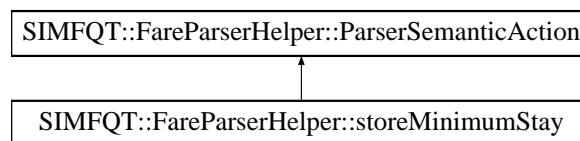
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.43 SIMFQT::FareParserHelper::storeMinimumStay Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeMinimumStay:



## Public Member Functions

- [storeMinimumStay](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (unsigned int, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

## Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

## 24.43.1 Detailed Description

Store the parsed minimum stay.

Definition at line 190 of file [FareParserHelper.hpp](#).

## 24.43.2 Constructor &amp; Destructor Documentation

24.43.2.1 SIMFQT::FareParserHelper::storeMinimumStay::storeMinimumStay (FareRuleStruct & *ioFareRule* )

Actor Constructor.

Definition at line 343 of file [FareParserHelper.cpp](#).

## 24.43.3 Member Function Documentation

24.43.3.1 void SIMFQT::FareParserHelper::storeMinimumStay::operator() ( unsigned int *iMinStay*, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 348 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setMinimumStay\(\)](#).

## 24.43.4 Member Data Documentation

## 24.43.4.1 FareRuleStruct&amp; SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChange-](#)

[Fees::operator\(\)](#)(), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#)(), [operator\(\)](#)(), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#)(), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#)(), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#)(), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#)).

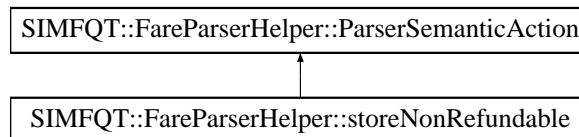
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.44 SIMFQT::FareParserHelper::storeNonRefundable Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeNonRefundable:



### Public Member Functions

- [storeNonRefundable](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (char, [boost::spirit::qi::unused\\_type](#), [boost::spirit::qi::unused\\_type](#)) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.44.1 Detailed Description

Store the parsed refundable option

Definition at line 180 of file [FareParserHelper.hpp](#).

#### 24.44.2 Constructor & Destructor Documentation

##### 24.44.2.1 SIMFQT::FareParserHelper::storeNonRefundable::storeNonRefundable ( FareRuleStruct & ioFareRule )

Actor Constructor.

Definition at line 318 of file [FareParserHelper.cpp](#).

## 24.44.3 Member Function Documentation

24.44.3.1 void SIMFQT::FareParserHelper::storeNonRefundable::operator() ( char *iNonRefundable*, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 323 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setNonRefundable\(\)](#).

## 24.44.4 Member Data Documentation

24.44.4.1 FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

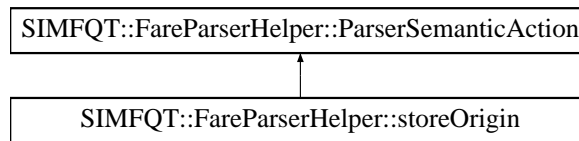
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.45 SIMFQT::FareParserHelper::storeOrigin Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeOrigin:



#### Public Member Functions

- [storeOrigin](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

#### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

##### 24.45.1 Detailed Description

Store the parsed origin.

Definition at line 49 of file [FareParserHelper.hpp](#).

##### 24.45.2 Constructor & Destructor Documentation

###### 24.45.2.1 SIMFQT::FareParserHelper::storeOrigin::storeOrigin ( [FareRuleStruct](#) & *ioFareRule* )

Actor Constructor.

Definition at line 58 of file [FareParserHelper.cpp](#).

##### 24.45.3 Member Function Documentation

###### 24.45.3.1 void SIMFQT::FareParserHelper::storeOrigin::operator() ( std::vector< char > *iChar*, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 63 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setOrigin\(\)](#).

##### 24.45.4 Member Data Documentation

#### 24.45.4.1 FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [operator\(\)](#), [-SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [-SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

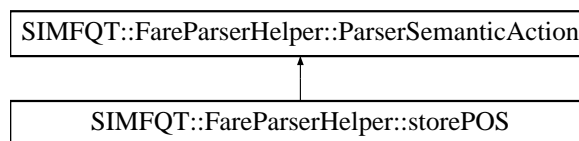
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.46 SIMFQT::FareParserHelper::storePOS Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storePOS:



### Public Member Functions

- [storePOS](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

## 24.46.1 Detailed Description

Store the parsed customer point\_of\_sale.

Definition at line 120 of file [FareParserHelper.hpp](#).

## 24.46.2 Constructor &amp; Destructor Documentation

## 24.46.2.1 SIMFQT::FareParserHelper::storePOS::storePOS ( FareRuleStruct &amp; ioFareRule )

Actor Constructor.

Definition at line 185 of file [FareParserHelper.cpp](#).

## 24.46.3 Member Function Documentation

## 24.46.3.1 void SIMFQT::FareParserHelper::storePOS::operator() ( std::vector&lt; char &gt; iChar, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 190 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), [SIMFQT::FareRuleStruct::getDestination\(\)](#), [SIMFQT::FareRuleStruct::getOrigin\(\)](#), and [SIMFQT::FareRuleStruct::setPOS\(\)](#).

## 24.46.4 Member Data Documentation

## 24.46.4.1 FareRuleStruct&amp; SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

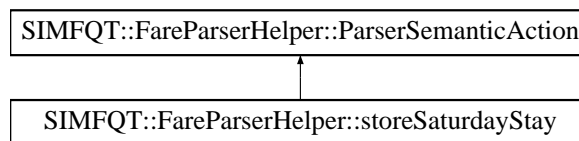
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.47 SIMFQT::FareParserHelper::storeSaturdayStay Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeSaturdayStay:



### Public Member Functions

- [storeSaturdayStay](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (char, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.47.1 Detailed Description

Store the parsed saturday night.

Definition at line 160 of file [FareParserHelper.hpp](#).

#### 24.47.2 Constructor & Destructor Documentation

##### 24.47.2.1 SIMFQT::FareParserHelper::storeSaturdayStay::storeSaturdayStay ([FareRuleStruct](#) & *ioFareRule* )

Actor Constructor.

Definition at line 267 of file [FareParserHelper.cpp](#).

#### 24.47.3 Member Function Documentation

24.47.3.1 `void SIMFQT::FareParserHelper::storeSaturdayStay::operator() ( char iSaturdayStay, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type ) const`

Actor Function (functor).

Definition at line 272 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setSaturdayStay\(\)](#).

#### 24.47.4 Member Data Documentation

24.47.4.1 **FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule** `[inherited]`

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

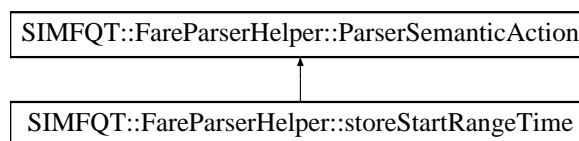
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

#### 24.48 SIMFQT::FareParserHelper::storeStartRangeTime Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeStartRangeTime:



## Public Member Functions

- [storeStartRangeTime](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) ([boost::spirit::qi::unused\\_type](#), [boost::spirit::qi::unused\\_type](#), [boost::spirit::qi::unused\\_type](#)) const

## Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

## 24.48.1 Detailed Description

Store the parsed start range time.

Definition at line 100 of file [FareParserHelper.hpp](#).

## 24.48.2 Constructor &amp; Destructor Documentation

#### 24.48.2.1 SIMFQT::FareParserHelper::storeStartRangeTime- ::storeStartRangeTime ( [FareRuleStruct](#) & *ioFareRule* )

Actor Constructor.

Definition at line 149 of file [FareParserHelper.cpp](#).

## 24.48.3 Member Function Documentation

#### 24.48.3.1 void SIMFQT::FareParserHelper::storeStartRangeTime::operator() ( [boost::spirit::qi::unused\\_type](#) , [boost::spirit::qi::unused\\_type](#) , [boost::spirit::qi::unused\\_type](#) ) const

Actor Function (functor).

Definition at line 154 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), [SIMFQT::FareRuleStruct::\\_itSeconds](#), [SIMFQT::FareRuleStruct::calculateTime\(\)](#), and [SIMFQT::FareRuleStruct::setTimeRangeStart\(\)](#).

## 24.48.4 Member Data Documentation

#### 24.48.4.1 [FareRuleStruct](#)& SIMFQT::FareParserHelper::ParserSemanticAction::\_ [fareRule](#) [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [SIMFQT::FareParserHelper::storeTripType::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

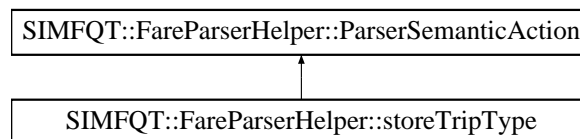
The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.49 SIMFQT::FareParserHelper::storeTripType Struct Reference

```
#include <simfqt/command/FareParserHelper.hpp>
```

Inheritance diagram for SIMFQT::FareParserHelper::storeTripType:



### Public Member Functions

- [storeTripType](#) ([FareRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused\_type, boost::spirit::qi::unused\_type) const

### Public Attributes

- [FareRuleStruct](#) & [\\_fareRule](#)

#### 24.49.1 Detailed Description

Store the parsed customer trip type.

Definition at line 69 of file [FareParserHelper.hpp](#).

### 24.49.2 Constructor & Destructor Documentation

#### 24.49.2.1 SIMFQT::FareParserHelper::storeTripType::storeTripType (FareRuleStruct & ioFareRule )

Actor Constructor.

Definition at line 90 of file [FareParserHelper.cpp](#).

### 24.49.3 Member Function Documentation

#### 24.49.3.1 void SIMFQT::FareParserHelper::storeTripType::operator() ( std::vector< char > iChar, boost::spirit::qi::unused\_type , boost::spirit::qi::unused\_type ) const

Actor Function (functor).

Definition at line 95 of file [FareParserHelper.cpp](#).

References [SIMFQT::FareParserHelper::ParserSemanticAction::\\_fareRule](#), and [SIMFQT::FareRuleStruct::setTripType\(\)](#).

### 24.49.4 Member Data Documentation

#### 24.49.4.1 FareRuleStruct& SIMFQT::FareParserHelper::ParserSemanticAction::\_fareRule [inherited]

Actor Context.

Definition at line 35 of file [FareParserHelper.hpp](#).

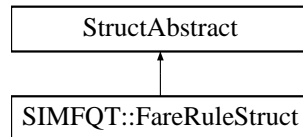
Referenced by [SIMFQT::FareParserHelper::storeFareId::operator\(\)](#), [SIMFQT::FareParserHelper::storeOrigin::operator\(\)](#), [SIMFQT::FareParserHelper::storeDestination::operator\(\)](#), [operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeStart::operator\(\)](#), [SIMFQT::FareParserHelper::storeDateRangeEnd::operator\(\)](#), [SIMFQT::FareParserHelper::storeStartRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storeEndRangeTime::operator\(\)](#), [SIMFQT::FareParserHelper::storePOS::operator\(\)](#), [SIMFQT::FareParserHelper::storeCabinCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeChannel::operator\(\)](#), [SIMFQT::FareParserHelper::storeAdvancePurchase::operator\(\)](#), [SIMFQT::FareParserHelper::storeSaturdayStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeChangeFees::operator\(\)](#), [SIMFQT::FareParserHelper::storeNonRefundable::operator\(\)](#), [SIMFQT::FareParserHelper::storeMinimumStay::operator\(\)](#), [SIMFQT::FareParserHelper::storeFare::operator\(\)](#), [SIMFQT::FareParserHelper::storeAirlineCode::operator\(\)](#), [SIMFQT::FareParserHelper::storeClass::operator\(\)](#), and [SIMFQT::FareParserHelper::doEndFare::operator\(\)](#).

The documentation for this struct was generated from the following files:

- [simfqt/command/FareParserHelper.hpp](#)
- [simfqt/command/FareParserHelper.cpp](#)

## 24.50 StructAbstract Class Reference

Inheritance diagram for StructAbstract:



The documentation for this class was generated from the following file:

- [simfqt/bom/FareRuleStruct.hpp](#)

## 25 File Documentation

25.1 [doc/local/authors.doc](#) File Reference

25.2 [doc/local/codingrules.doc](#) File Reference

25.3 [doc/local/copyright.doc](#) File Reference

25.4 [doc/local/documentation.doc](#) File Reference

25.5 [doc/local/features.doc](#) File Reference

25.6 [doc/local/help\\_wanted.doc](#) File Reference

25.7 [doc/local/howto\\_release.doc](#) File Reference

25.8 [doc/local/index.doc](#) File Reference

25.9 [doc/local/installation.doc](#) File Reference

25.10 [doc/local/linking.doc](#) File Reference

25.11 [doc/local/test.doc](#) File Reference

25.12 [doc/local/users\\_guide.doc](#) File Reference

25.13 [doc/local/verification.doc](#) File Reference

25.14 [doc/tutorial/tutorial.doc](#) File Reference

## 25.15 simfqt/basic/BasConst.cpp File Reference

```
#include <simfqt/basic/BasConst_General.hpp>      #include
<simfqt/basic/BasConst_SIMFQT_Service.hpp>
```

### Namespaces

- namespace [SIMFQT](#)

### Variables

- const std::string [SIMFQT::DEFAULT\\_FARE\\_QUOTER\\_ID](#) = "IATA"

## 25.16 BasConst.cpp

```
00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 #include <simfqt/basic/BasConst_General.hpp>
00005 #include <simfqt/basic/BasConst_SIMFQT_Service.hpp>
00006
00007 namespace SIMFQT {
00008
00010     const std::string DEFAULT_FARE_QUOTER_ID = "IATA";
00011
00012 }
```

## 25.17 simfqt/basic/BasConst\_General.hpp File Reference

### Namespaces

- namespace [SIMFQT](#)

## 25.18 BasConst\_General.hpp

```
00001 #ifndef __SIMFQT_BAS_BASCONST_GENERAL_HPP
00002 #define __SIMFQT_BAS_BASCONST_GENERAL_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007
00008 namespace SIMFQT {
00009
00010 }
00011 #endif // __SIMFQT_BAS_BASCONST_GENERAL_HPP
```

## 25.19 simfqt/basic/BasConst\_SIMFQT\_Service.hpp File Reference

```
#include <string>
```

## Namespaces

- namespace [SIMFQT](#)

## 25.20 BasConst\_SIMFQT\_Service.hpp

```

00001 #ifndef __SIMFQT_BAS_BASCONST_SIMFQT_SERVICE_HPP
00002 #define __SIMFQT_BAS_BASCONST_SIMFQT_SERVICE_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 #include <string>
00008
00009 namespace SIMFQT {
00010
00012     extern const std::string DEFAULT\_FARE\_QUOTER\_ID;
00013
00014 }
00015 #endif // __SIMFQT_BAS_BASCONST_SIMFQT_SERVICE_HPP

```

## 25.21 simfqt/batches/simfqt\_parseFareRules.cpp File Reference

```

#include <cassert> #include <iostream> #include <sstream> ×
#include <fstream> #include <vector> #include <list>
#include <string> #include <boost/date_time/posix_time/posix-
_time.hpp> #include <boost/date_time/gregorian/gregorian.-
hpp> #include <boost/tokenizer.hpp> #include <boost/program-
_options.hpp> #include <stdair/STDAIR_Service.hpp> #include
<stdair/bom/TravelSolutionStruct.hpp> #include <stdair/bom/-
BookingRequestStruct.hpp> #include <stdair/service/Logger.-
hpp> #include <simfqt/SIMFQT_Service.hpp> #include <simfqt/config/simfqt-paths.
hpp>

```

## Typedefs

- typedef std::vector< std::string > [WordList\\_T](#)

## Functions

- const std::string [K\\_SIMFQT\\_DEFAULT\\_LOG\\_FILENAME](#) ("simfqt\_parseFareRules.log")
- const std::string [K\\_SIMFQT\\_DEFAULT\\_FARE\\_INPUT\\_FILENAME](#) (STDAIR\_SAMPLE\_DIR"/fare01.csv")
- template<class T >  
std::ostream & [operator<<](#) (std::ostream &os, const std::vector< T > &v)
- int [readConfiguration](#) (int argc, char \*argv[], bool &iolsBuiltin, stdair::Filename\_T &ioFareInputFilename, std::string &ioLogFilename)
- int [main](#) (int argc, char \*argv[])

## Variables

- const bool [K\\_SIMFQT\\_DEFAULT\\_BUILT\\_IN\\_INPUT](#) = false
- const int [K\\_SIMFQT\\_EARLY\\_RETURN\\_STATUS](#) = 99

## 25.21.1 Typedef Documentation

## 25.21.1.1 typedef std::vector&lt;std::string&gt; WordList\_T

Definition at line 24 of file [simfqt\\_parseFareRules.cpp](#).

## 25.21.2 Function Documentation

## 25.21.2.1 const std::string K\_SIMFQT\_DEFAULT\_LOG\_FILENAME ( "simfqt\_parseFareRules.log" )

Default name and location for the log file.

Referenced by [readConfiguration\(\)](#).

## 25.21.2.2 const std::string K\_SIMFQT\_DEFAULT\_FARE\_INPUT\_FILENAME ( STDAIR\_SAMPLE\_DIR"/fare01.csv" )

Default name and location for the (CSV) input file.

Referenced by [readConfiguration\(\)](#).

## 25.21.2.3 template&lt;class T &gt; std::ostream&amp; operator&lt;&lt; ( std::ostream &amp; os, const std::vector&lt; T &gt; &amp; v )

Definition at line 44 of file [simfqt\\_parseFareRules.cpp](#).

## 25.21.2.4 int readConfiguration ( int argc, char \* argv[], bool &amp; iolsBuiltin, stdair::Filename\_T &amp; ioFareInputFilename, std::string &amp; ioLogFilename )

Read and parse the command line options.

Definition at line 51 of file [simfqt\\_parseFareRules.cpp](#).

References [K\\_SIMFQT\\_DEFAULT\\_BUILT\\_IN\\_INPUT](#), [K\\_SIMFQT\\_DEFAULT\\_FARE\\_INPUT\\_FILENAME\(\)](#), [K\\_SIMFQT\\_DEFAULT\\_LOG\\_FILENAME\(\)](#), [K\\_SIMFQT\\_EARLY\\_RETURN\\_STATUS](#), [PACKAGE\\_NAME](#), [PACKAGE\\_VERSION](#), and [PREFIXDIR](#).

Referenced by [main\(\)](#).

## 25.21.2.5 int main ( int argc, char \* argv[] )

Definition at line 154 of file [simfqt\\_parseFareRules.cpp](#).

References [SIMFQT::SIMFQT\\_Service::buildBookingRequest\(\)](#), [SIMFQT::SIMFQT\\_Service::buildSampleBom\(\)](#), [SIMFQT::SIMFQT\\_Service::buildSampleTravelSolutions\(\)](#), [SIMFQT::SIMFQT\\_Service::csvDisplay\(\)](#), [K\\_SIMFQT\\_EARLY\\_RETURN-](#)

[\\_STATUS](#), [SIMFQT::SIMFQT\\_Service::parseAndLoad\(\)](#), [SIMFQT::SIMFQT\\_Service::quotePrices\(\)](#), and [readConfiguration\(\)](#).

### 25.21.3 Variable Documentation

#### 25.21.3.1 `const bool K_SIMFQT_DEFAULT_BUILT_IN_INPUT = false`

Default for the input type. It can be either built-in or provided by an input file. That latter must then be given with the `-i` option.

Definition at line 37 of file [simfqt\\_parseFareRules.cpp](#).

Referenced by [readConfiguration\(\)](#).

#### 25.21.3.2 `const int K_SIMFQT_EARLY_RETURN_STATUS = 99`

Early return status (so that it can be differentiated from an error).

Definition at line 40 of file [simfqt\\_parseFareRules.cpp](#).

Referenced by [main\(\)](#), and [readConfiguration\(\)](#).

## 25.22 simfqt\_parseFareRules.cpp

```
00001 // STL
00002 #include <cassert>
00003 #include <iostream>
00004 #include <sstream>
00005 #include <fstream>
00006 #include <vector>
00007 #include <list>
00008 #include <string>
00009 // Boost (Extended STL)
00010 #include <boost/date_time/posix_time/posix_time.hpp>
00011 #include <boost/date_time/gregorian/gregorian.hpp>
00012 #include <boost/tokenizer.hpp>
00013 #include <boost/program_options.hpp>
00014 // StdAir
00015 #include <stdair/STDAIR_Service.hpp>
00016 #include <stdair/bom/TravelSolutionStruct.hpp>
00017 #include <stdair/bom/BookingRequestStruct.hpp>
00018 #include <stdair/service/Logger.hpp>
00019 // Simfqt
00020 #include <simfqt/SIMFQT_Service.hpp>
00021 #include <simfqt/config/simfqt-paths.hpp>
00022
00023 // ////////// Type definitions //////////
00024 typedef std::vector<std::string> WordList_T;
00025
00026
00027 // ////////// Constants //////////
00028 const std::string K_SIMFQT_DEFAULT_LOG_FILENAME ("simfqt_parseFareRules.log");
00029
00030 const std::string K_SIMFQT_DEFAULT_FARE_INPUT_FILENAME (STDAIR_SAMPLE_DIR
00031                                                         "/fare01.csv");
00032
00033 const bool K_SIMFQT_DEFAULT_BUILT_IN_INPUT = false;
00034
00035 const int K_SIMFQT_EARLY_RETURN_STATUS = 99;
00036
00037 // ////////// Parsing of Options & Configuration //////////
00038 // A helper function to simplify the main part.
00039 template<class T> std::ostream& operator<< (std::ostream& os,
00040                                           const std::vector<T>& v) {
```

```

00046     std::copy(v.begin(), v.end(), std::ostream_iterator<T> (std::cout, " "));
00047     return os;
00048 }
00049
00051 int readConfiguration (int argc, char* argv[], bool& ioIsBuiltin,
00052                        stdair::Filename_T& ioFareInputFilename,
00053                        std::string& ioLogFilename) {
00054
00055     // Default for the built-in input
00056     ioIsBuiltin = K_SIMFQT_DEFAULT_BUILT_IN_INPUT;
00057
00058     // Declare a group of options that will be allowed only on command line
00059     boost::program_options::options_description generic ("Generic options");
00060     generic.add_options()
00061         ("prefix", "print installation prefix")
00062         ("version,v", "print version string")
00063         ("help,h", "produce help message");
00064
00065     // Declare a group of options that will be allowed both on command
00066     // line and in config file
00067     boost::program_options::options_description config ("Configuration");
00068     config.add_options()
00069         ("builtin,b",
00070          "The sample BOM tree can be either built-in or parsed from an input file.
00071          That latter must then be given with the -f/--fare option")
00072         ("fare,f",
00073          boost::program_options::value< std::string >(&ioFareInputFilename)->
00074          default_value(K_SIMFQT_DEFAULT_FARE_INPUT_FILENAME),
00075          "(CSV) input file for the fare rules")
00076         ("log,l",
00077          boost::program_options::value< std::string >(&ioLogFilename)->
00078          default_value(K_SIMFQT_DEFAULT_LOG_FILENAME),
00079          "Filename for the logs")
00080         ;
00081
00082     // Hidden options, will be allowed both on command line and
00083     // in config file, but will not be shown to the user.
00084     boost::program_options::options_description hidden ("Hidden options");
00085     hidden.add_options()
00086         ("copyright",
00087          boost::program_options::value< std::vector<std::string> >(),
00088          "Show the copyright (license)");
00089
00090     boost::program_options::options_description cmdline_options;
00091     cmdline_options.add(generic).add(config).add(hidden);
00092
00093     boost::program_options::options_description config_file_options;
00094     config_file_options.add(config).add(hidden);
00095
00096     boost::program_options::options_description visible ("Allowed options");
00097     visible.add(generic).add(config);
00098
00099     boost::program_options::positional_options_description p;
00100     p.add ("copyright", -1);
00101
00102     boost::program_options::variables_map vm;
00103     boost::program_options::store (boost::program_options::command_line_parser (argc, argv).
00104                                   options (cmdline_options).positional(p).run(), vm);
00105
00106     std::ifstream ifs ("simfqt.cfg");
00107     boost::program_options::store (parse_config_file (ifs, config_file_options),
00108                                   vm);
00109     boost::program_options::notify (vm); if (vm.count ("help")) {
00110         std::cout << visible << std::endl;
00111         return K_SIMFQT_EARLY_RETURN_STATUS;
00112     }
00113
00114     if (vm.count ("version")) {
00115         std::cout << PACKAGE_NAME << ", version " << PACKAGE_VERSION << std::endl;
00116         return K_SIMFQT_EARLY_RETURN_STATUS;
00117     }
00118
00119     if (vm.count ("prefix")) {

```

```

00118     std::cout << "Installation prefix: " << PREFIXDIR << std::endl;
00119     return K_SIMFQT_EARLY_RETURN_STATUS;
00120 }
00121
00122 if (vm.count ("builtin")) {
00123     ioIsBuiltin = true;
00124 }
00125 const std::string isBuiltinStr = (ioIsBuiltin == true)? "yes": "no";
00126 std::cout << "The BOM should be built-in? " << isBuiltinStr << std::endl;
00127
00128 if (ioIsBuiltin == false) {
00129
00130     // The BOM tree should be built from parsing a fare (and O&D) file
00131     if (vm.count ("fare")) {
00132         ioFareInputFilename = vm["fare"].as< std::string >();
00133         std::cout << "Input fare filename is: " << ioFareInputFilename
00134             << std::endl;
00135     } else {
00136         // The built-in option is not selected. However, no fare file
00137         // is specified
00138         std::cerr << "Either one among the -b/--builtin and -f/--fare "
00139             << "options must be specified" << std::endl;
00140     }
00141 }
00142
00143 if (vm.count ("log")) {
00144     ioLogFilename = vm["log"].as< std::string >();
00145     std::cout << "Log filename is: " << ioLogFilename << std::endl;
00146 }
00147
00148 return 0;
00149 }
00150
00151
00152
00153 // ////////////////////////////////// M A I N //////////////////////////////////
00154 int main (int argc, char* argv[]) {
00155
00156     // State whether the BOM tree should be built-in or parsed from an input file
00157     bool isBuiltin;
00158
00159     // Fare input filename
00160     stdair::Filename_T lFareInputFilename;
00161
00162     // Output log File
00163     stdair::Filename_T lLogFilename;
00164
00165     // Call the command-line option parser
00166     const int lOptionParserStatus =
00167         readConfiguration (argc, argv, isBuiltin, lFareInputFilename, lLogFilename)
00168 ;
00169
00170 if (lOptionParserStatus == K_SIMFQT_EARLY_RETURN_STATUS) {
00171     return 0;
00172 }
00173
00174 // Set the log parameters
00175 std::ofstream logOutputFile;
00176 // Open and clean the log outputfile
00177 logOutputFile.open (lLogFilename.c_str());
00178 logOutputFile.clear();
00179
00180 // Initialise the Simfqt service object
00181 const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
00182
00183 SIMFQT::SIMFQT_Service simfqtService (lLogParams);
00184
00185 // DEBUG
00186 STDAIR_LOG_DEBUG ("Welcome to Simfqt");
00187
00188 // Build a default sample list of travel solutions
00189 stdair::TravelSolutionList_T lTravelSolutionList;
00190 simfqtService.buildSampleTravelSolutions (lTravelSolutionList);
00191

```

```

00191 // Build a default booking request
00192 stdair::BookingRequestStruct lBookingRequest =
00193     simfqtService.buildBookingRequest();
00194
00195 // Check wether or not a (CSV) input file should be read
00196 if (isBuiltin == true) {
00197
00198     // Build the default sample BOM tree (filled with fares) for Simfqt
00199     simfqtService.buildSampleBom();
00200
00201 } else {
00202
00203     // Build the BOM tree from parsing a fare file
00204     SIMFQT::FareFilePath lFareFilePath (lFareInputFilename);
00205     simfqtService.parseAndLoad (lFareFilePath);
00206
00207 }
00208
00209 // DEBUG: Display the travel solutions
00210 const std::string& lTSCSVDump =
00211     simfqtService.csvDisplay (lTravelSolutionList);
00212 STDAIR_LOG_DEBUG (lTSCSVDump);
00213
00214 // FareQuote the sample list of travel solutions
00215 simfqtService.quotePrices (lBookingRequest, lTravelSolutionList);
00216
00217 // DEBUG: Display the whole BOM tree
00218 const std::string& lBOMCSVDump = simfqtService.csvDisplay();
00219 STDAIR_LOG_DEBUG ("BOM tree: " << lBOMCSVDump);
00220
00221 // DEBUG: Display the travel solutions
00222 const std::string& lTSCSVDumpEnd
00223     = simfqtService.csvDisplay (lTravelSolutionList);
00224 STDAIR_LOG_DEBUG (lTSCSVDumpEnd);
00225
00226 // Close the Log outputFile
00227 logOutputFile.close();
00228
00229 /*
00230     Note: as that program is not intended to be run on a server in
00231     production, it is better not to catch the exceptions. When it
00232     happens (that an exception is throwned), that way we get the
00233     call stack.
00234 */
00235
00236 return 0;
00237 }
00238

```

## 25.23 simfqt/bom/FareRuleStruct.cpp File Reference

```

#include <cassert> #include <sstream> #include <vector>
#include <stdair/basic/BasConst_General.hpp> #include
<stdair/service/Logger.hpp> #include <simfqt/bom/Fare-
RuleStruct.hpp>

```

### Namespaces

- namespace [SIMFQT](#)

## 25.24 FareRuleStruct.cpp

```

00001 // //////////////////////////////////////

```

```

00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 #include <vector>
00008 // StdAir
00009 #include <stdair/basic/BasConst_General.hpp>
00010 #include <stdair/service/Logger.hpp>
00011 // SIMFQT
00012 #include <simfqt/bom/FareRuleStruct.hpp>
00013
00014 namespace SIMFQT {
00015
00016 // //////////////////////////////////////
00017 FareRuleStruct::FareRuleStruct ()
00018     :_fareId(0),
00019     _origin(""),
00020     _destination(""),
00021     _dateRangeStart(stdair::DEFAULT_DATE),
00022     _dateRangeEnd(stdair::DEFAULT_DATE),
00023     _timeRangeStart(stdair::DEFAULT_EPSILON_DURATION),
00024     _timeRangeEnd(stdair::DEFAULT_EPSILON_DURATION),
00025     _cabinCode(""),
00026     _pos(""),
00027     _advancePurchase(0),
00028     _saturdayStay("T"),
00029     _changeFees("T"),
00030     _nonRefundable("T"),
00031     _minimumStay(0),
00032     _fare(0),
00033     _airlineCode(""),
00034     _classCode("") {
00035
00036 }
00037
00038 // //////////////////////////////////////
00039 stdair::Date_T FareRuleStruct::calculateDate() const {
00040     _itYear.check(); _itMonth.check(); _itDay.check();
00041     return stdair::Date_T(_itYear._value, _itMonth._value, _itDay._value);
00042 }
00043
00044 // //////////////////////////////////////
00045 stdair::Duration_T FareRuleStruct::calculateTime() const {
00046     _itHours.check(); _itMinutes.check(); _itSeconds.check();
00047     return boost::posix_time::hours(_itHours._value)
00048         + boost::posix_time::minutes(_itMinutes._value)
00049         + boost::posix_time::seconds(_itSeconds._value);
00050 }
00051
00052 // //////////////////////////////////////
00053 const std::string FareRuleStruct::describe() const {
00054
00055     std::ostringstream ostr;
00056     ostr << "FareRule: " << _fareId << ", ";
00057
00058     ostr << _origin << "-" << _destination << " ("
00059         << _pos << "), " << _channel << ", [";
00060     ostr << _dateRangeStart << "/" << _dateRangeEnd << "] - ["
00061         << boost::posix_time::to_simple_string(_timeRangeStart) << "/"
00062         << boost::posix_time::to_simple_string(_timeRangeEnd) << "], ";
00063
00064     ostr << _cabinCode << ", " << _fare << " EUR, ";
00065     ostr << _tripType << ", " << _saturdayStay << ", "
00066         << _changeFees << ", " << _nonRefundable << ", "
00067         << _advancePurchase << ", " << _minimumStay << ", ";
00068
00069     // Sanity check
00070     assert(_airlineCodeList.size() == _classCodeList.size());
00071
00072     // Browse the airline and class pathes
00073     unsigned short idx = 0;
00074     stdair::ClassList_StringList_T::const_iterator itClass =

```

```

00076     _classCodeList.begin();
00077     for (stdair::AirlineCodeList_T::const_iterator itAirline =
00078         _airlineCodeList.begin();
00079         itAirline != _airlineCodeList.end(); ++itAirline, ++itClass, ++idx) {
00080         if (idx != 0) {
00081             oStr << " - ";
00082         }
00083         const stdair::AirlineCode_T lAirlineCode = *itAirline;
00084         const stdair::ClassCode_T lClassCode = *itClass;
00085         oStr << lAirlineCode << " / " << lClassCode;
00086     }
00087
00088     return oStr.str();
00089 }
00090
00091 }
00092

```

## 25.25 simfqt/bom/FareRuleStruct.hpp File Reference

```

#include <string> #include <vector> #include <stdair/stdair-
_demand_types.hpp> #include <stdair/stdair_inventory_-
types.hpp> #include <stdair/basic/StructAbstract.hpp> ×
#include <stdair/basic/BasParserHelperTypes.hpp> #include
<simfqt/SIMFQT_Types.hpp>

```

### Classes

- struct [SIMFQT::FareRuleStruct](#)

### Namespaces

- namespace [SIMFQT](#)

## 25.26 FareRuleStruct.hpp

```

00001 #ifndef __SIMFQT_BOM_FARERULESTRUCT_HPP
00002 #define __SIMFQT_BOM_FARERULESTRUCT_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 #include <vector>
00010 // StdAir
00011 #include <stdair/stdair_demand_types.hpp>
00012 #include <stdair/stdair_inventory_types.hpp>
00013 #include <stdair/basic/StructAbstract.hpp>
00014 #include <stdair/basic/BasParserHelperTypes.hpp>
00015 // SIMFQT
00016 #include <simfqt/SIMFQT_Types.hpp>
00017
00018 namespace SIMFQT {
00019
00021     struct FareRuleStruct : public stdair::StructAbstract {
00022     public:
00023
00025         FareRuleStruct ();
00026

```

```
00027 public:
00028     // ////////// Getters //////////
00030     SIMFQT::FareQuoteID_T getFareID () const {
00031         return _fareId;
00032     }
00033
00035     stdair::AirportCode_T getOrigin () const {
00036         return _origin;
00037     }
00038
00040     stdair::AirportCode_T getDestination () const {
00041         return _destination;
00042     }
00043
00045     stdair::TripType_T getTripType () const {
00046         return _tripType;
00047     }
00048
00050     stdair::Date_T getDateRangeStart () const {
00051         return _dateRangeStart;
00052     }
00053
00055     stdair::Date_T getDateRangeEnd () const {
00056         return _dateRangeEnd;
00057     }
00058
00060     stdair::Duration_T getTimeRangeStart () const {
00061         return _timeRangeStart;
00062     }
00063
00065     stdair::Duration_T getTimeRangeEnd () const {
00066         return _timeRangeEnd;
00067     }
00068
00070     stdair::CabinCode_T getCabinCode () const {
00071         return _cabinCode;
00072     }
00073
00075     const stdair::CityCode_T getPOS () const {
00076         return _pos;
00077     }
00078
00080     stdair::ChannelLabel_T getChannel () const {
00081         return _channel;
00082     }
00083
00085     stdair::DayDuration_T getAdvancePurchase () const {
00086         return _advancePurchase;
00087     }
00088
00090     stdair::SaturdayStay_T getSaturdayStay () const {
00091         return _saturdayStay;
00092     }
00093
00095     stdair::ChangeFees_T getChangeFees () const {
00096         return _changeFees;
00097     }
00098
00100     stdair::NonRefundable_T getNonRefundable () const {
00101         return _nonRefundable;
00102     }
00103
00105     stdair::DayDuration_T getMinimumStay () const {
00106         return _minimumStay;
00107     }
00108
00110     stdair::PriceValue_T getFare () const {
00111         return _fare;
00112     }
00113
00115     stdair::AirlineCode_T getAirlineCode () const {
00116         return _airlineCode;
00117     }
00118
```

```

00120     stdair::ClassCode_T getClassCode () const {
00121         return _classCode;
00122     }
00123
00125     const unsigned int getAirlineListSize () const {
00126         return _airlineCodeList.size();
00127     }
00128
00130     const unsigned int getClassCodeListSize () const {
00131         return _classCodeList.size();
00132     }
00133
00135     stdair::AirlineCodeList_T getAirlineList () const {
00136         return _airlineCodeList;
00137     }
00138
00140     stdair::ClassList_StringList_T getClassCodeList () const {
00141         return _classCodeList;
00142     }
00143
00144 public:
00145     // ////////// Display support methods //////////
00147     stdair::Date_T calculateDate() const;
00148
00150     stdair::Duration_T calculateTime() const;
00151
00153     const std::string describe() const;
00154
00155 public:
00156     // ////////// Setters //////////
00158     void setFareID (const SIMFQT::FareQuoteID_T& iFareQuoteID) {
00159         _fareId = iFareQuoteID;
00160     }
00161
00163     void setOrigin (const stdair::AirportCode_T& iOrigin) {
00164         _origin = iOrigin;
00165     }
00166
00168     void setDestination (const stdair::AirportCode_T& iDestination) {
00169         _destination = iDestination;
00170     }
00171
00173     void setTripType (const stdair::TripType_T& iTripType) {
00174         _tripType = iTripType;
00175     }
00176
00178     void setDateRangeStart (const stdair::Date_T& iDateRangeStart) {
00179         _dateRangeStart = iDateRangeStart;
00180     }
00181
00183     void setDateRangeEnd (const stdair::Date_T& iDateRangeEnd) {
00184         _dateRangeEnd = iDateRangeEnd;
00185     }
00186
00188     void setTimeRangeStart (const stdair::Duration_T& iTimeRangeStart) {
00189         _timeRangeStart = iTimeRangeStart;
00190     }
00191
00193     void setTimeRangeEnd (const stdair::Duration_T& iTimeRangeEnd) {
00194         _timeRangeEnd = iTimeRangeEnd;
00195     }
00196
00198     void setCabinCode (const stdair::CabinCode_T& iCabinCode) {
00199         _cabinCode = iCabinCode;
00200     }
00201
00203     void setPOS (const stdair::CityCode_T& iPOS) {
00204         _pos = iPOS;
00205     }
00206
00208     void setChannel (const stdair::ChannelLabel_T& iChannel) {
00209         _channel = iChannel;
00210     }
00211

```

```

00213     void setAdvancePurchase (const stdair::DayDuration_T& iAdvancePurchase) {
00214         _advancePurchase = iAdvancePurchase;
00215     }
00216
00218     void setSaturdayStay (const stdair::SaturdayStay_T& iSaturdayStay) {
00219         _saturdayStay = iSaturdayStay;
00220     }
00221
00223     void setChangeFees (const stdair::ChangeFees_T& iChangeFees) {
00224         _changeFees = iChangeFees;
00225     }
00226
00228     void setNonRefundable (const stdair::NonRefundable_T& iNonRefundable) {
00229         _nonRefundable = iNonRefundable;
00230     }
00231
00233     void setMinimumStay (const stdair::DayDuration_T& iMinimumStay) {
00234         _minimumStay = iMinimumStay;
00235     }
00236
00238     void setFare (const stdair::PriceValue_T& iFare) {
00239         _fare = iFare;
00240     }
00241
00243     void setAirlineCode (const stdair::AirlineCode_T& iAirlineCode) {
00244         _airlineCode = iAirlineCode;
00245     }
00246
00248     void setClassCode (const stdair::ClassCode_T& iClassCode) {
00249         _classCode = iClassCode;
00250     }
00251
00253     void clearAirlineCodeList () {
00254         _airlineCodeList.clear();
00255     }
00256
00258     void clearClassCodeList () {
00259         _classCodeList.clear();
00260     }
00261
00263     void addAirlineCode (const stdair::AirlineCode_T& iAirlineCode) {
00264         _airlineCodeList.push_back (iAirlineCode);
00265     }
00266
00268     void addClassCode (const stdair::ClassCode_T& iClassCode) {
00269         _classCodeList.push_back (iClassCode);
00270     }
00271
00272 public:
00273     // ////////////////////////////////// Attributes //////////////////////////////////
00275     stdair::year_t _itYear;
00276     stdair::month_t _itMonth;
00277     stdair::day_t _itDay;
00278
00280     stdair::hour_t _itHours;
00281     stdair::minute_t _itMinutes;
00282     stdair::second_t _itSeconds;
00283
00284 private:
00285     // ////////////////////////////////// Attributes //////////////////////////////////
00287     SIMFQT::FareQuoteID_T _fareId;
00288
00290     stdair::AirportCode_T _origin;
00291
00293     stdair::AirportCode_T _destination;
00294
00296     stdair::TripType_T _tripType;
00297
00299     stdair::Date_T _dateRangeStart;
00300
00302     stdair::Date_T _dateRangeEnd;
00303
00305     stdair::Duration_T _timeRangeStart;
00306

```

```

00308     stdair::Duration_T _timeRangeEnd;
00309
00311     stdair::CabinCode_T _cabinCode;
00312
00314     stdair::CityCode_T _pos;
00315
00317     stdair::ChannelLabel_T _channel;
00318
00320     stdair::DayDuration_T _advancePurchase;
00321
00323     stdair::SaturdayStay_T _saturdayStay;
00324
00326     stdair::ChangeFees_T _changeFees;
00327
00329     stdair::NonRefundable_T _nonRefundable;
00330
00332     stdair::DayDuration_T _minimumStay;
00333
00335     stdair::PriceValue_T _fare;
00336
00338     stdair::AirlineCode_T _airlineCode;
00339
00341     stdair::ClassCode_T _classCode;
00342
00345     stdair::AirlineCodeList_T _airlineCodeList;
00346
00349     stdair::ClassList_StringList_T _classCodeList;
00350
00351 };
00352
00353 }
00354 #endif // __SIMFQT_BOM_FARERULESTRUCT_HPP

```

## 25.27 simfqt/command/FareParser.cpp File Reference

```

#include <cassert> #include <string> #include <stdair/basic/-
BasFileMgr.hpp> #include <stdair/service/Logger.hpp> x
#include <simfqt/command/FareParserHelper.hpp> #include
<simfqt/command/FareParser.hpp>

```

### Namespaces

- namespace [SIMFQT](#)

## 25.28 FareParser.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <string>
00007 // StdAir
00008 #include <stdair/basic/BasFileMgr.hpp>
00009 #include <stdair/service/Logger.hpp>
00010 // AirSched
00011 #include <simfqt/command/FareParserHelper.hpp>
00012 #include <simfqt/command/FareParser.hpp>
00013
00014 namespace SIMFQT {
00015
00016 // //////////////////////////////////////
00017 void FareParser::fareRuleGeneration (const FareFilePath& iFareFilename,

```

```

00018                                     stdair::BomRoot& ioBomRoot) {
00019
00020     const stdair::Filename_T lFilename = iFareFilename.name();
00021
00022     // Check that the file path given as input corresponds to an actual file
00023     const bool doesExistAndIsReadable =
00024         stdair::BasFileMgr::doesExistAndIsReadable (lFilename);
00025     if (doesExistAndIsReadable == false) {
00026         STDAIR_LOG_ERROR ("The fare input file, '" << lFilename
00027                         << "', can not be retrieved on the file-system");
00028         throw FareInputFileNotFoundException ("The fare input file '" + lFilename
00029                                             + "' does not exist or can not "
00030                                             "be read");
00031     }
00032
00033     // Initialise the fare file parser.
00034     FareRuleFileParser lFareRuleFileParser (ioBomRoot, lFilename);
00035
00036     // Parse the CSV-formatted fare input file and generate the
00037     // corresponding fare rules.
00038     lFareRuleFileParser.generateFareRules ();
00039
00040 }
00041
00042 }

```

## 25.29 simfqt/command/FareParser.hpp File Reference

```

#include <string>    #include <stdair/stdair_basic_types.-
hpp> #include <stdair/command/CmdAbstract.hpp> #include
<simfqt/SIMFQT_Types.hpp>

```

### Classes

- class [SIMFQT::FareParser](#)

### Namespaces

- namespace [stdair](#)  
*Forward declarations.*
- namespace [SIMFQT](#)

## 25.30 FareParser.hpp

```

00001 #ifndef __SIMFQT_CMD_FAREPARSER_HPP
00002 #define __SIMFQT_CMD_FAREPARSER_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/command/CmdAbstract.hpp>
00012 // SimFQT
00013 #include <simfqt/SIMFQT_Types.hpp>
00014
00015 // Forward declarations.

```

```

00016 namespace stdair {
00017     class BomRoot;
00018 }
00019
00020 namespace SIMFQT {
00021
00023     class FareParser : public stdair::CmdAbstract {
00024     public:
00030         static void fareRuleGeneration (const FareFilePath&, stdair::BomRoot&);
00031     };
00032 }
00033 #endif // __SIMFQT_CMD_FAREPARSER_HPP

```

## 25.31 simfqt/command/FareParserHelper.cpp File Reference

```

#include <cassert> #include <vector> #include <fstream>
#include <stdair/basic/BasFileMgr.hpp> #include <stdair/bom/-
BomRoot.hpp> #include <stdair/service/Logger.hpp> #include
<stdair/basic/BasParserTypes.hpp> #include <simfqt/command/-
FareParserHelper.hpp> #include <simfqt/command/FareRule-
Generator.hpp>

```

### Classes

- struct [SIMFQT::FareParserHelper::FareRuleParser< Iterator >](#)

### Namespaces

- namespace [SIMFQT](#)
- namespace [SIMFQT::FareParserHelper](#)

### Variables

- stdair::int1\_p\_t [SIMFQT::FareParserHelper::int1\\_p](#)
- stdair::uint2\_p\_t [SIMFQT::FareParserHelper::uint2\\_p](#)
- stdair::uint4\_p\_t [SIMFQT::FareParserHelper::uint4\\_p](#)
- stdair::uint1\_4\_p\_t [SIMFQT::FareParserHelper::uint1\\_4\\_p](#)
- stdair::hour\_p\_t [SIMFQT::FareParserHelper::hour\\_p](#)
- stdair::minute\_p\_t [SIMFQT::FareParserHelper::minute\\_p](#)
- stdair::second\_p\_t [SIMFQT::FareParserHelper::second\\_p](#)
- stdair::year\_p\_t [SIMFQT::FareParserHelper::year\\_p](#)
- stdair::month\_p\_t [SIMFQT::FareParserHelper::month\\_p](#)
- stdair::day\_p\_t [SIMFQT::FareParserHelper::day\\_p](#)

## 25.32 FareParserHelper.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL

```

```

00005 #include <cassert>
00006 #include <vector>
00007 #include <fstream>
00008 // StdAir
00009 #include <stdair/basic/BasFileMgr.hpp>
00010 #include <stdair/bom/BomRoot.hpp>
00011 #include <stdair/service/Logger.hpp>
00012 // #define BOOST_SPIRIT_DEBUG
00013 #include <stdair/basic/BasParserTypes.hpp>
00014 // SIMFQT
00015 #include <simfqt/command/FareParserHelper.hpp>
00016 #include <simfqt/command/FareRuleGenerator.hpp>
00017
00018
00019
00020 namespace SIMFQT {
00021
00022     namespace FareParserHelper {
00023
00024         // //////////////////////////////////////
00025         // Semantic actions
00026         // //////////////////////////////////////
00027
00028         ParserSemanticAction::
00029         ParserSemanticAction (FareRuleStruct& ioFareRule)
00030             : _fareRule (ioFareRule) {
00031         }
00032
00033         // //////////////////////////////////////
00034         storeFareId::
00035         storeFareId (FareRuleStruct& ioFareRule)
00036             : ParserSemanticAction (ioFareRule) {
00037         }
00038
00039         // //////////////////////////////////////
00040         void storeFareId::operator() (unsigned int iFareId,
00041                                     boost::spirit::qi::unused_type,
00042                                     boost::spirit::qi::unused_type) const {
00043             _fareRule.setFareID (iFareId);
00044
00045             // DEBUG
00046             //STDAIR_LOG_DEBUG ( "Fare Id: " << _fareRule.getFareID () );
00047             const stdair::AirlineCode_T lEmptyAirlineCode ("");
00048             _fareRule.setAirlineCode (lEmptyAirlineCode);
00049             _fareRule.clearAirlineCodeList ();
00050             const stdair::ClassCode_T lEmptyClassCode ("");
00051             _fareRule.setClassCode (lEmptyClassCode);
00052             _fareRule.clearClassCodeList ();
00053             _fareRule._itSeconds = 0;
00054         }
00055
00056         // //////////////////////////////////////
00057         storeOrigin ::
00058         storeOrigin (FareRuleStruct& ioFareRule)
00059             : ParserSemanticAction (ioFareRule) {
00060         }
00061
00062         // //////////////////////////////////////
00063         void storeOrigin::operator() (std::vector<char> iChar,
00064                                     boost::spirit::qi::unused_type,
00065                                     boost::spirit::qi::unused_type) const {
00066             const stdair::AirportCode_T lOrigin (iChar.begin(), iChar.end());
00067             _fareRule.setOrigin (lOrigin);
00068             // DEBUG
00069             //STDAIR_LOG_DEBUG ( "Origin: " << _fareRule.getOrigin () );
00070         }
00071
00072         // //////////////////////////////////////
00073         storeDestination ::
00074         storeDestination (FareRuleStruct& ioFareRule)
00075             : ParserSemanticAction (ioFareRule) {
00076         }
00077
00078         // //////////////////////////////////////

```

```

00079 void storeDestination::operator() (std::vector<char> iChar,
00080                                     boost::spirit::qi::unused_type,
00081                                     boost::spirit::qi::unused_type) const {
00082     const stdair::AirportCode_T lDestination (iChar.begin(), iChar.end());
00083     _fareRule.setDestination (lDestination);
00084     // DEBUG
00085     //STDAIR_LOG_DEBUG ( "Destination: " << _fareRule.getDestination () );
00086 }
00087
00088 // //////////////////////////////////////
00089 storeTripType ::
00090 storeTripType (FareRuleStruct& ioFareRule)
00091 : ParserSemanticAction (ioFareRule) {
00092 }
00093
00094 // //////////////////////////////////////
00095 void storeTripType::operator() (std::vector<char> iChar,
00096                                 boost::spirit::qi::unused_type,
00097                                 boost::spirit::qi::unused_type) const {
00098     const stdair::TripType_T lTripType (iChar.begin(), iChar.end());
00099     if (lTripType == "OW" || lTripType == "RT") {
00100         _fareRule.setTripType (lTripType);
00101     } else {
00102         // ERROR
00103         STDAIR_LOG_ERROR ("Invalid trip type " << lTripType);
00104     }
00105     // DEBUG
00106     //STDAIR_LOG_DEBUG ("TripType: " << _fareRule.getTripType () );
00107 }
00108
00109 // //////////////////////////////////////
00110 storeDateRangeStart::
00111 storeDateRangeStart (FareRuleStruct& ioFareRule)
00112 : ParserSemanticAction (ioFareRule) {
00113 }
00114
00115 // //////////////////////////////////////
00116 void storeDateRangeStart::operator() (boost::spirit::qi::unused_type,
00117                                       boost::spirit::qi::unused_type,
00118                                       boost::spirit::qi::unused_type) const
00119 {
00120     const stdair::Date_T& lDateStart = _fareRule.calculateDate ();
00121     _fareRule.setDateRangeStart (lDateStart);
00122     // DEBUG
00123     //STDAIR_LOG_DEBUG ("Date Range Start: " << _fareRule.getDateRangeStart
00124 ()) ;
00125 }
00126
00127 // //////////////////////////////////////
00128 storeDateRangeEnd::
00129 storeDateRangeEnd(FareRuleStruct& ioFareRule)
00130 : ParserSemanticAction (ioFareRule) {
00131 }
00132
00133 // //////////////////////////////////////
00133 void storeDateRangeEnd::operator() (boost::spirit::qi::unused_type,
00134                                     boost::spirit::qi::unused_type,
00135                                     boost::spirit::qi::unused_type) const {
00136     const stdair::Date_T& lDateEnd = _fareRule.calculateDate ();
00137     // As a Boost date period (DatePeriod_T) defines the last day of
00138     // the period to be end-date - one day, we have to add one day to that
00139     // end date before.
00140     const stdair::DateOffset_T oneDay (1);
00141     const stdair::Date_T lBoostDateEnd = lDateEnd + oneDay;
00142     _fareRule.setDateRangeEnd (lBoostDateEnd);
00143     // DEBUG
00144     //STDAIR_LOG_DEBUG ("Date Range End: " << _fareRule.getDateRangeEnd () );
00145 }
00146
00147 // //////////////////////////////////////
00148 storeStartRangeTime::
00149 storeStartRangeTime (FareRuleStruct& ioFareRule)
00150 : ParserSemanticAction (ioFareRule) {

```

```

00151     }
00152
00153     // ////////////////////////////////////////
00154     void storeStartRangeTime::operator() (boost::spirit::qi::unused_type,
00155                                           boost::spirit::qi::unused_type,
00156                                           boost::spirit::qi::unused_type) const
00157     {
00158         const stdair::Duration_T& lTimeStart = _fareRule.calculateTime ();
00159         _fareRule.setTimeRangeStart (lTimeStart);
00160         // DEBUG
00161         //STDAIR_LOG_DEBUG ("Time Range Start: " << _fareRule.getTimeRangeStart
00162         ());
00163         // Reset the number of seconds
00164         _fareRule._itSeconds = 0;
00165     }
00166
00167     // ////////////////////////////////////////
00168     storeEndRangeTime::
00169     storeEndRangeTime (FareRuleStruct& ioFareRule)
00170     : ParserSemanticAction (ioFareRule) {
00171     }
00172
00173     // ////////////////////////////////////////
00174     void storeEndRangeTime::operator() (boost::spirit::qi::unused_type,
00175                                         boost::spirit::qi::unused_type,
00176                                         boost::spirit::qi::unused_type) const {
00177         const stdair::Duration_T& lTimeEnd = _fareRule.calculateTime ();
00178         _fareRule.setTimeRangeEnd (lTimeEnd);
00179         // DEBUG
00180         //STDAIR_LOG_DEBUG ("Time Range End: " << _fareRule.getTimeRangeEnd ());
00181         // Reset the number of seconds
00182         _fareRule._itSeconds = 0;
00183     }
00184
00185     // ////////////////////////////////////////
00186     storePOS ::
00187     storePOS (FareRuleStruct& ioFareRule)
00188     : ParserSemanticAction (ioFareRule) {
00189     }
00190
00191     // ////////////////////////////////////////
00192     void storePOS::operator() (std::vector<char> iChar,
00193                               boost::spirit::qi::unused_type,
00194                               boost::spirit::qi::unused_type) const {
00195         const stdair::CityCode_T lPOS (iChar.begin(), iChar.end());
00196         if (lPOS == _fareRule.getOrigin() || lPOS == _fareRule.getDestination())
00197         {
00198             _fareRule.setPOS (lPOS);
00199         } else if (lPOS == "ROW") {
00200             const stdair::CityCode_T lPOSROW ("ROW");
00201             _fareRule.setPOS (lPOSROW);
00202         } else {
00203             // ERROR
00204             STDAIR_LOG_ERROR ("Invalid point of sale " << lPOS);
00205         }
00206         // DEBUG
00207         //STDAIR_LOG_DEBUG ("POS: " << _fareRule.getPOS ());
00208     }
00209
00210     // ////////////////////////////////////////
00211     storeCabinCode ::
00212     storeCabinCode (FareRuleStruct& ioFareRule)
00213     : ParserSemanticAction (ioFareRule) {
00214     }
00215
00216     // ////////////////////////////////////////
00217     void storeCabinCode::operator() (char iChar,
00218                                     boost::spirit::qi::unused_type,
00219                                     boost::spirit::qi::unused_type) const {
00220         std::ostringstream ostr;
00221         ostr << iChar;
00222         const std::string cabinCodeStr = ostr.str();
00223         const stdair::CabinCode_T& lCabinCode (cabinCodeStr);
00224         _fareRule.setCabinCode (lCabinCode);

```

```

00222
00223     // DEBUG
00224     //STDAIR_LOG_DEBUG ("Cabin Code: " << _fareRule.getCabinCode ());

00225
00226 }
00227
00228 // //////////////////////////////////////
00229 storeChannel ::
00230 storeChannel (FareRuleStruct& ioFareRule)
00231 : ParserSemanticAction (ioFareRule) {
00232 }
00233
00234 // //////////////////////////////////////
00235 void storeChannel::operator() (std::vector<char> iChar,
00236                               boost::spirit::qi::unused_type,
00237                               boost::spirit::qi::unused_type) const {
00238     const stdair::ChannelLabel_T lChannel (iChar.begin(), iChar.end());
00239     if (lChannel != "IN" && lChannel != "IF"
00240         && lChannel != "DN" && lChannel != "DF") {
00241         // ERROR
00242         STDAIR_LOG_ERROR ("Invalid channel " << lChannel);
00243     }
00244     _fareRule.setChannel (lChannel);
00245     // DEBUG
00246     //STDAIR_LOG_DEBUG ("Channel: " << _fareRule.getChannel ());
00247 }
00248
00249 // //////////////////////////////////////
00250 storeAdvancePurchase ::
00251 storeAdvancePurchase (FareRuleStruct& ioFareRule)
00252 : ParserSemanticAction (ioFareRule) {
00253 }
00254
00255 // //////////////////////////////////////
00256 void storeAdvancePurchase::operator() (unsigned int iAdvancePurchase,
00257                                       boost::spirit::qi::unused_type,
00258                                       boost::spirit::qi::unused_type)
00259 const {
00260     const stdair::DayDuration_T& lAdvancePurchase = iAdvancePurchase;
00261     _fareRule.setAdvancePurchase (lAdvancePurchase);
00262     // DEBUG
00263     //STDAIR_LOG_DEBUG ( "Advance Purchase: " << _fareRule.getAdvancePurchase
00264     ());
00265 }
00266
00267 // //////////////////////////////////////
00268 storeSaturdayStay ::
00269 storeSaturdayStay (FareRuleStruct& ioFareRule)
00270 : ParserSemanticAction (ioFareRule) {
00271 }
00272
00273 // //////////////////////////////////////
00274 void storeSaturdayStay::operator() (char iSaturdayStay,
00275                                     boost::spirit::qi::unused_type,
00276                                     boost::spirit::qi::unused_type) const {
00277     bool lBool = false;
00278     if (iSaturdayStay == 'T') {
00279         lBool = true;
00280     } else {
00281         if (iSaturdayStay != 'F') {
00282             // DEBUG
00283             STDAIR_LOG_DEBUG ("Invalid saturdayStay char " << iSaturdayStay);
00284         }
00285     }
00286     const stdair::SaturdayStay_T lSaturdayStay (lBool);
00287     _fareRule.setSaturdayStay (lSaturdayStay);
00288     // DEBUG
00289     //STDAIR_LOG_DEBUG ("Saturday Stay: " << _fareRule.getSaturdayStay ());
00290 }
00291
00292 // //////////////////////////////////////
00293 storeChangeFees ::
00294 storeChangeFees (FareRuleStruct& ioFareRule)

```

```

00293         : ParserSemanticAction (ioFareRule) {
00294     }
00295
00296     // ////////////////////////////////////////
00297 void storeChangeFees::operator() (char iChangefees,
00298                                   boost::spirit::qi::unused_type,
00299                                   boost::spirit::qi::unused_type) const {
00300
00301         bool lBool = false;
00302         if (iChangefees == 'T') {
00303             lBool = true;
00304         } else {
00305             if (iChangefees != 'F') {
00306                 // DEBUG
00307                 STDAIR_LOG_DEBUG ("Invalid change fees char " << iChangefees);
00308             }
00309         }
00310         const stdair::ChangeFees_T lChangefees (lBool);
00311         _fareRule.setChangeFees (lChangefees);
00312         // DEBUG
00313         //STDAIR_LOG_DEBUG ("Change fees: " << _fareRule.getChangeFees ());
00314     }
00315
00316     // ////////////////////////////////////////
00317 storeNonRefundable ::
00318 storeNonRefundable (FareRuleStruct& ioFareRule)
00319     : ParserSemanticAction (ioFareRule) {
00320     }
00321
00322     // ////////////////////////////////////////
00323 void storeNonRefundable::operator() (char iNonRefundable,
00324                                     boost::spirit::qi::unused_type,
00325                                     boost::spirit::qi::unused_type) const
00326 {
00327     bool lBool = false;
00328     if (iNonRefundable == 'T') {
00329         lBool = true;
00330     } else {
00331         if (iNonRefundable != 'F') {
00332             // DEBUG
00333             STDAIR_LOG_DEBUG ("Invalid non refundable char " << iNonRefundable);
00334         }
00335     }
00336     const stdair::NonRefundable_T lNonRefundable (lBool);
00337     _fareRule.setNonRefundable (lNonRefundable);
00338     // DEBUG
00339     //STDAIR_LOG_DEBUG ("Non refundable: " << _fareRule.getNonRefundable
00340     ());
00341 }
00342
00343     // ////////////////////////////////////////
00344 storeMinimumStay ::
00345 storeMinimumStay (FareRuleStruct& ioFareRule)
00346     : ParserSemanticAction (ioFareRule) {
00347     }
00348
00349     // ////////////////////////////////////////
00350 void storeMinimumStay::operator() (unsigned int iMinStay,
00351                                   boost::spirit::qi::unused_type,
00352                                   boost::spirit::qi::unused_type) const {
00353         const stdair::DayDuration_T lMinStay = iMinStay;
00354         _fareRule.setMinimumStay (lMinStay);
00355         // DEBUG
00356         //STDAIR_LOG_DEBUG ("Minimum Stay: " << _fareRule.getMinimumStay ());
00357     }
00358
00359     // ////////////////////////////////////////
00360 storeFare ::
00361 storeFare (FareRuleStruct& ioFareRule)
00362     : ParserSemanticAction (ioFareRule) {
00363     }
00364
00365     // ////////////////////////////////////////
00366 void storeFare::operator() (double iFare,

```

```

00365                                     boost::spirit::qi::unused_type,
00366                                     boost::spirit::qi::unused_type) const {
00367     const stdair::PriceValue_T lFare = iFare;
00368     _fareRule.setFare (lFare);
00369     // DEBUG
00370     //STDAIR_LOG_DEBUG ("Fare: " << _fareRule.getFare ());
00371 }
00372
00373 // //////////////////////////////////////
00374 storeAirlineCode ::
00375 storeAirlineCode (FareRuleStruct& ioFareRule)
00376 : ParserSemanticAction (ioFareRule) {
00377 }
00378
00379 // //////////////////////////////////////
00380 void storeAirlineCode::operator() (std::vector<char> iChar,
00381                                   boost::spirit::qi::unused_type,
00382                                   boost::spirit::qi::unused_type) const {
00383
00384     const stdair::AirlineCode_T lAirlineCode (iChar.begin(), iChar.end());
00385     // Insertion of this airline Code list in the whole AirlineCode name
00386     _fareRule.addAirlineCode (lAirlineCode);
00387     // DEBUG
00388     //STDAIR_LOG_DEBUG ( "Airline code: " << lAirlineCode);
00389 }
00390
00391 // //////////////////////////////////////
00392 storeClass ::
00393 storeClass (FareRuleStruct& ioFareRule)
00394 : ParserSemanticAction (ioFareRule) {
00395 }
00396
00397 // //////////////////////////////////////
00398 void storeClass::operator() (std::vector<char> iChar,
00399                             boost::spirit::qi::unused_type,
00400                             boost::spirit::qi::unused_type) const {
00401     std::ostringstream ostr;
00402     for (std::vector<char>::const_iterator lItVector = iChar.begin();
00403          lItVector != iChar.end();
00404          lItVector++) {
00405         ostr << *lItVector;
00406     }
00407     const std::string classCodeStr = ostr.str();
00408     const stdair::ClassCode_T lClassCode (classCodeStr);
00409     // Insertion of this class Code list in the whole classCode name
00410     _fareRule.addClassCode (lClassCode);
00411     // DEBUG
00412     //STDAIR_LOG_DEBUG ("Class Code: " << lClassCode);
00413 }
00414
00415 // //////////////////////////////////////
00416 doEndFare::
00417 doEndFare (stdair::BomRoot& ioBomRoot,
00418            FareRuleStruct& ioFareRule)
00419 : ParserSemanticAction (ioFareRule),
00420   _bomRoot (ioBomRoot) {
00421 }
00422
00423 // //////////////////////////////////////
00424 void doEndFare::operator() (boost::spirit::qi::unused_type,
00425                             boost::spirit::qi::unused_type,
00426                             boost::spirit::qi::unused_type) const {
00427     // DEBUG
00428     //STDAIR_LOG_DEBUG ("Do End");
00429     // Generation of the fare rule object.
00430     FareRuleGenerator::createAirportPair (_bomRoot, _fareRule);
00431     STDAIR_LOG_DEBUG(_fareRule.describe());
00432 }
00433
00434 // //////////////////////////////////////
00435 //
00436 // Utility Parsers
00437 //
00438 // //////////////////////////////////////

```

```

00440     namespace bsq = boost::spirit::qi;
00441     namespace bsa = boost::spirit::ascii;
00442
00444     stdair::intl_p_t intl_p;
00445
00447     stdair::uint2_p_t uint2_p;
00448
00450     stdair::uint4_p_t uint4_p;
00451
00453     stdair::uint1_4_p_t uint1_4_p;
00454
00456     stdair::hour_p_t hour_p;
00457     stdair::minute_p_t minute_p;
00458     stdair::second_p_t second_p;
00459
00461     stdair::year_p_t year_p;
00462     stdair::month_p_t month_p;
00463     stdair::day_p_t day_p;
00464
00466     //
00467     // (Boost Spirit) Grammar Definition
00468     //
00470
00499     template <typename Iterator>
00500     struct FareRuleParser :
00501         public boost::spirit::qi::grammar<Iterator,
00502             boost::spirit::ascii::space_type> {
00503
00504         FareRuleParser (stdair::BomRoot& ioBomRoot,
00505             FareRuleStruct& iofareRule) :
00506
00507             FareRuleParser::base_type(start),
00508             _bomRoot(ioBomRoot), _fareRule(iofareRule) {
00509
00510
00511             start = *(comments | fare_rule);
00512
00513             comments = (bsq::lexeme[bsq::repeat(2) [bsa::char_('/')]]
00514                 >> +(bsa::char_ - bsq::eol)
00515                 >> bsq::eol)
00516                 | bsq::lexeme[bsa::char_('/')] >> bsa::char_('*')
00517                 >> +(bsa::char_ - bsa::char_('*'))
00518                 >> bsa::char_('*') >> bsa::char_('/');
00519
00520             fare_rule = fare_key
00521                 >> +(';' >> segment)
00522                 >> fare_rule_end[doEndFare(_bomRoot, _fareRule)];
00523
00524             fare_rule_end = bsa::char_(';');
00525
00526             fare_key = fare_id
00527                 >> ';' >> origin >> ';' >> destination
00528                 >> ';' >> tripType
00529                 >> ';' >> dateRangeStart >> ';' >> dateRangeEnd
00530                 >> ';' >> timeRangeStart >> ';' >> timeRangeEnd
00531                 >> ';' >> point_of_sale >> ';' >> cabinCode >> ';' >> channel
00532                 >> ';' >> advancePurchase >> ';' >> saturdayStay
00533                 >> ';' >> changeFees >> ';' >> nonRefundable
00534                 >> ';' >> minimumStay >> ';' >> fare;
00535
00536             fare_id = uint1_4_p[storeFareId(_fareRule)];
00537
00538             origin = bsq::repeat(3) [bsa::char_("A-Z")] [storeOrigin(_fareRule)];
00539
00540             destination =
00541                 bsq::repeat(3) [bsa::char_("A-Z")] [storeDestination(_fareRule)];
00542
00543             tripType =
00544                 bsq::repeat(2) [bsa::char_("A-Z")] [storeTripType(_fareRule)];
00545
00546             dateRangeStart = date[storeDateRangeStart(_fareRule)];
00547
00548             dateRangeEnd = date[storeDateRangeEnd(_fareRule)];
00549

```

```

00550     date = bsq::lexeme
00551     [year_p[boost::phoenix::ref(_fareRule._itYear) = bsq::labels::_1]
00552     >> '-']
00553     >> month_p[boost::phoenix::ref(_fareRule._itMonth) = bsq::labels::_1]
00554     >> '-']
00555     >> day_p[boost::phoenix::ref(_fareRule._itDay) = bsq::labels::_1] ];
00556
00557     timeRangeStart = time[storeStartTime(_fareRule)];
00558
00559     timeRangeEnd = time[storeEndTime(_fareRule)];
00560
00561     time = bsq::lexeme
00562     [hour_p[boost::phoenix::ref(_fareRule._itHours) = bsq::labels::_1]
00563     >> ':']
00564     >> minute_p[boost::phoenix::ref(_fareRule._itMinutes) = bsq::labels::_1
00565 ]
00566     >> - (';' >> second_p[boost::phoenix::ref(_fareRule._itSeconds) =
bsq::labels::_1] ) ];
00567
00568     point_of_sale = bsq::repeat(3) [bsa::char_("A-Z")][storePOS(_fareRule)];
00569
00570     cabinCode = bsa::char_("A-Z") [storeCabinCode(_fareRule)];
00571
00572     channel = bsq::repeat(2) [bsa::char_("A-Z")][storeChannel(_fareRule)];
00573
00574     advancePurchase = uint1_4_p[storeAdvancePurchase(_fareRule)];
00575
00576     saturdayStay = bsa::char_("A-Z") [storeSaturdayStay(_fareRule)];
00577
00578     changeFees = bsa::char_("A-Z") [storeChangeFees(_fareRule)];
00579
00580     nonRefundable = bsa::char_("A-Z") [storeNonRefundable(_fareRule)];
00581
00582     minimumStay = uint1_4_p[storeMinimumStay(_fareRule)];
00583
00584     fare = bsq::double_[storeFare(_fareRule)];
00585
00586     segment = bsq::repeat(2) [bsa::char_("A-Z")][storeAirlineCode(_fareRule)]
00587     >> ';'
00588     >> bsq::repeat(1,bsq::inf) [bsa::char_("A-Z")][storeClass(_fareRule)];
00589
00590     //BOOST_SPIRIT_DEBUG_NODE (FareRuleParser);
00591     BOOST_SPIRIT_DEBUG_NODE (start);
00592     BOOST_SPIRIT_DEBUG_NODE (comments);
00593     BOOST_SPIRIT_DEBUG_NODE (fare_rule);
00594     BOOST_SPIRIT_DEBUG_NODE (fare_rule_end);
00595     BOOST_SPIRIT_DEBUG_NODE (fare_key);
00596     BOOST_SPIRIT_DEBUG_NODE (fare_id);
00597     BOOST_SPIRIT_DEBUG_NODE (origin);
00598     BOOST_SPIRIT_DEBUG_NODE (destination);
00599     BOOST_SPIRIT_DEBUG_NODE (tripType);
00600     BOOST_SPIRIT_DEBUG_NODE (dateRangeStart);
00601     BOOST_SPIRIT_DEBUG_NODE (dateRangeEnd);
00602     BOOST_SPIRIT_DEBUG_NODE (date);
00603     BOOST_SPIRIT_DEBUG_NODE (timeRangeStart);
00604     BOOST_SPIRIT_DEBUG_NODE (time);
00605     BOOST_SPIRIT_DEBUG_NODE (point_of_sale);
00606     BOOST_SPIRIT_DEBUG_NODE (cabinCode);
00607     BOOST_SPIRIT_DEBUG_NODE (channel);
00608     BOOST_SPIRIT_DEBUG_NODE (advancePurchase);
00609     BOOST_SPIRIT_DEBUG_NODE (saturdayStay);
00610     BOOST_SPIRIT_DEBUG_NODE (changeFees);
00611     BOOST_SPIRIT_DEBUG_NODE (nonRefundable);
00612     BOOST_SPIRIT_DEBUG_NODE (minimumStay);
00613     BOOST_SPIRIT_DEBUG_NODE (fare);
00614     BOOST_SPIRIT_DEBUG_NODE (segment);
00615
00616 }
00617
00618 // Instantiation of rules
00619 boost::spirit::qi::rule<Iterator,
00620 boost::spirit::ascii::space_type>
00621 start, comments, fare_rule, fare_rule_end, fare_key, fare_id, origin,
destination, tripType, dateRangeStart, dateRangeEnd, date,

```

```

00622         timeRangeStart, timeRangeEnd, time, point_of_sale, cabinCode, channel,
00623         advancePurchase, saturdayStay, changeFees, nonRefundable, minimumStay,
00624         fare, segment;
00625
00626         // Parser Context
00627         stdair::BomRoot& _bomRoot;
00628         FareRuleStruct& _fareRule;
00629     };
00630
00631 }
00632
00633
00634 //
00635 // Entry class for the file parser
00636 //
00637 //
00638
00639 // //////////////////////////////////////
00640 FareRuleFileParser::
00641 FareRuleFileParser (stdair::BomRoot& ioBomRoot,
00642                     const stdair::Filename_T& iFilename)
00643     : _filename (iFilename), _bomRoot (ioBomRoot) {
00644     init();
00645 }
00646
00647 // //////////////////////////////////////
00648 void FareRuleFileParser::init() {
00649     // Check that the file exists and is readable
00650     const bool doesExistAndIsReadable =
00651         stdair::BasFileMgr::doesExistAndIsReadable (_filename);
00652
00653     if (doesExistAndIsReadable == false) {
00654         STDAIR_LOG_ERROR ("The fare schedule file " << _filename
00655             << " does not exist or can not be read.");
00656
00657         throw FareInputFileNotFoundException ("The fare file " + _filename
00658             + " does not exist or can not be
00659 read");
00660     }
00661 }
00662
00663 // //////////////////////////////////////
00664 void FareRuleFileParser::generateFareRules () {
00665     STDAIR_LOG_DEBUG ("Parsing fare input file: " << _filename);
00666
00667     // File to be parsed
00668     const std::string* lFileName = &_filename;
00669     const char *lChar = (*lFileName).c_str();
00670     std::ifstream fileToBeParsed(lChar, std::ios_base::in);
00671
00672     // Check if the filename exist and can be open
00673     if (fileToBeParsed == false) {
00674         STDAIR_LOG_ERROR ("The fare file " << _filename << " can not be open."
00675             << std::endl);
00676
00677         throw FareInputFileNotFoundException ("The file " + _filename
00678             + " does not exist or can not be
00679 read");
00680     }
00681
00682     // Create an input iterator
00683     stdair::base_iterator_t inputBegin (fileToBeParsed);
00684
00685     // Convert input iterator to an iterator usable by spirit parser
00686     stdair::iterator_t
00687         start (boost::spirit::make_default_multi_pass (inputBegin));
00688     stdair::iterator_t end;
00689
00690     // Initialise the parser (grammar) with the helper/staging structure.
00691     FareParserHelper::FareRuleParser<stdair::iterator_t> lFPParser(_bomRoot,
00692         _fareRule);
00693
00694     // Launch the parsing of the file and, thanks to the doEndFare
00695     // call-back structure, the building of the whole BomRoot BOM

```

```

00695     const bool hasParsingBeenSuccessful =
00696         boost::spirit::qi::phrase_parse (start, end, lFPParser,
00697                                           boost::spirit::ascii::space);
00698
00699     if (hasParsingBeenSuccessful == false) {
00700         STDAIR_LOG_ERROR ("Parsing of fare input file: " << _filename
00701                           << " failed");
00702         throw FareFileParsingFailedException ("Parsing of fare input file: "
00703                                               + _filename + " failed");
00704     }
00705
00706     if (start != end) {
00707         STDAIR_LOG_ERROR ("Parsing of fare input file: " << _filename
00708                           << " failed");
00709         throw FareFileParsingFailedException ("Parsing of fare input file: "
00710                                               + _filename + " failed");
00711     }
00712
00713     if (hasParsingBeenSuccessful == true && start == end) {
00714         STDAIR_LOG_DEBUG ("Parsing of fare input file: " << _filename
00715                           << " succeeded");
00716     }
00717 }
00718 }
00719
00720 }

```

## 25.33 simfqqt/command/FareParserHelper.hpp File Reference

```

#include <string>      #include <boost/spirit/include/qi.-
hpp> #include <stdair/command/CmdAbstract.hpp> #include
<simfqqt/SIMFQT_Types.hpp> #include <simfqqt/bom/FareRule-
Struct.hpp>

```

### Classes

- struct [SIMFQT::FareParserHelper::ParserSemanticAction](#)
- struct [SIMFQT::FareParserHelper::storeFareId](#)
- struct [SIMFQT::FareParserHelper::storeOrigin](#)
- struct [SIMFQT::FareParserHelper::storeDestination](#)
- struct [SIMFQT::FareParserHelper::storeTripType](#)
- struct [SIMFQT::FareParserHelper::storeDateRangeStart](#)
- struct [SIMFQT::FareParserHelper::storeDateRangeEnd](#)
- struct [SIMFQT::FareParserHelper::storeStartRangeTime](#)
- struct [SIMFQT::FareParserHelper::storeEndRangeTime](#)
- struct [SIMFQT::FareParserHelper::storePOS](#)
- struct [SIMFQT::FareParserHelper::storeCabinCode](#)
- struct [SIMFQT::FareParserHelper::storeChannel](#)
- struct [SIMFQT::FareParserHelper::storeAdvancePurchase](#)
- struct [SIMFQT::FareParserHelper::storeSaturdayStay](#)
- struct [SIMFQT::FareParserHelper::storeChangeFees](#)
- struct [SIMFQT::FareParserHelper::storeNonRefundable](#)
- struct [SIMFQT::FareParserHelper::storeMinimumStay](#)
- struct [SIMFQT::FareParserHelper::storeFare](#)
- struct [SIMFQT::FareParserHelper::storeAirlineCode](#)

- struct `SIMFQT::FareParserHelper::storeClass`
- struct `SIMFQT::FareParserHelper::doEndFare`
- class `SIMFQT::FareRuleFileParser`

#### Namespaces

- namespace `stdair`  
*Forward declarations.*
- namespace `SIMFQT`
- namespace `SIMFQT::FareParserHelper`

#### 25.34 FareParserHelper.hpp

```

00001 #ifndef __SIMFQT_CMD_FAREPARSERHELPER_HPP
00002 #define __SIMFQT_CMD_FAREPARSERHELPER_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // Boost
00010 #include <boost/spirit/include/qi.hpp>
00011 // StdAir
00012 #include <stdair/command/CmdAbstract.hpp>
00013 // Simfqt
00014 #include <simfqt/SIMFQT_Types.hpp>
00015 #include <simfqt/bom/FareRuleStruct.hpp>
00016
00017 // Forward declarations
00018 namespace stdair {
00019     class BomRoot;
00020 }
00021
00022 namespace SIMFQT {
00023
00024     namespace FareParserHelper {
00025
00026         // //////////////////////////////////////
00027         // Semantic actions
00028         // //////////////////////////////////////
00029
00030         struct ParserSemanticAction {
00031             ParserSemanticAction (FareRuleStruct&);
00032             FareRuleStruct& _fareRule;
00033         };
00034
00035         struct storeFareId : public ParserSemanticAction {
00036             storeFareId (FareRuleStruct&);
00037             void operator() (unsigned int,
00038                             boost::spirit::qi::unused_type,
00039                             boost::spirit::qi::unused_type) const;
00040         };
00041
00042         struct storeOrigin : public ParserSemanticAction {
00043             storeOrigin (FareRuleStruct&);
00044             void operator() (std::vector<char>,
00045                             boost::spirit::qi::unused_type,
00046                             boost::spirit::qi::unused_type) const;
00047         };
00048
00049         struct storeDestination : public ParserSemanticAction {
00050             storeDestination (FareRuleStruct&);
00051             void operator() (std::vector<char>,
00052                             boost::spirit::qi::unused_type,
00053                             boost::spirit::qi::unused_type,
00054                             boost::spirit::qi::unused_type) const;
00055         };
00056
00057         struct storeClass {
00058             storeClass (FareRuleStruct&);
00059             void operator() (std::vector<char>,
00060                             boost::spirit::qi::unused_type,
00061                             boost::spirit::qi::unused_type,
00062                             boost::spirit::qi::unused_type) const;
00063         };
00064
00065         struct doEndFare {
00066             doEndFare (FareRuleStruct&);
00067             void operator() (std::vector<char>,
00068                             boost::spirit::qi::unused_type,
00069                             boost::spirit::qi::unused_type,
00070                             boost::spirit::qi::unused_type) const;
00071         };
00072     }
00073 }

```

```

00065             boost::spirit::qi::unused_type) const;
00066     };
00067
00069     struct storeTripType : public ParserSemanticAction {
00071         storeTripType (FareRuleStruct&);
00073         void operator() (std::vector<char>,
00074             boost::spirit::qi::unused_type,
00075             boost::spirit::qi::unused_type) const;
00076     };
00077
00078
00080     struct storeDateRangeStart : public ParserSemanticAction {
00082         storeDateRangeStart (FareRuleStruct&);
00084         void operator() (boost::spirit::qi::unused_type,
00085             boost::spirit::qi::unused_type,
00086             boost::spirit::qi::unused_type) const;
00087     };
00088
00090     struct storeDateRangeEnd : public ParserSemanticAction {
00092         storeDateRangeEnd (FareRuleStruct&);
00094         void operator() (boost::spirit::qi::unused_type,
00095             boost::spirit::qi::unused_type,
00096             boost::spirit::qi::unused_type) const;
00097     };
00098
00100     struct storeStartRangeTime : public ParserSemanticAction {
00102         storeStartRangeTime (FareRuleStruct&);
00104         void operator() (boost::spirit::qi::unused_type,
00105             boost::spirit::qi::unused_type,
00106             boost::spirit::qi::unused_type) const;
00107     };
00108
00110     struct storeEndRangeTime : public ParserSemanticAction {
00112         storeEndRangeTime (FareRuleStruct&);
00114         void operator() (boost::spirit::qi::unused_type,
00115             boost::spirit::qi::unused_type,
00116             boost::spirit::qi::unused_type) const;
00117     };
00118
00120     struct storePOS : public ParserSemanticAction {
00122         storePOS (FareRuleStruct&);
00124         void operator() (std::vector<char>,
00125             boost::spirit::qi::unused_type,
00126             boost::spirit::qi::unused_type) const;
00127     };
00128
00130     struct storeCabinCode : public ParserSemanticAction {
00132         storeCabinCode (FareRuleStruct&);
00134         void operator() (char,
00135             boost::spirit::qi::unused_type,
00136             boost::spirit::qi::unused_type) const;
00137     };
00138
00140     struct storeChannel : public ParserSemanticAction {
00142         storeChannel (FareRuleStruct&);
00144         void operator() (std::vector<char>,
00145             boost::spirit::qi::unused_type,
00146             boost::spirit::qi::unused_type) const;
00147     };
00148
00150     struct storeAdvancePurchase : public ParserSemanticAction {
00152         storeAdvancePurchase (FareRuleStruct&);
00154         void operator() (unsigned int,
00155             boost::spirit::qi::unused_type,
00156             boost::spirit::qi::unused_type) const;
00157     };
00158
00160     struct storeSaturdayStay : public ParserSemanticAction {
00162         storeSaturdayStay (FareRuleStruct&);
00164         void operator() (char,
00165             boost::spirit::qi::unused_type,
00166             boost::spirit::qi::unused_type) const;
00167     };
00168

```

```

00170     struct storeChangeFees : public ParserSemanticAction {
00172         storeChangeFees (FareRuleStruct&);
00174         void operator() (char,
00175                         boost::spirit::qi::unused_type,
00176                         boost::spirit::qi::unused_type) const;
00177     };
00178
00180     struct storeNonRefundable : public ParserSemanticAction {
00182         storeNonRefundable (FareRuleStruct&);
00184         void operator() (char,
00185                         boost::spirit::qi::unused_type,
00186                         boost::spirit::qi::unused_type) const;
00187     };
00188
00190     struct storeMinimumStay : public ParserSemanticAction {
00192         storeMinimumStay (FareRuleStruct&);
00194         void operator() (unsigned int,
00195                         boost::spirit::qi::unused_type,
00196                         boost::spirit::qi::unused_type) const;
00197     };
00198
00200     struct storeFare : public ParserSemanticAction {
00202         storeFare (FareRuleStruct&);
00204         void operator() (double,
00205                         boost::spirit::qi::unused_type,
00206                         boost::spirit::qi::unused_type) const;
00207     };
00208
00210     struct storeAirlineCode : public ParserSemanticAction {
00212         storeAirlineCode (FareRuleStruct&);
00214         void operator() (std::vector<char>,
00215                         boost::spirit::qi::unused_type,
00216                         boost::spirit::qi::unused_type) const;
00217     };
00218
00220     struct storeClass : public ParserSemanticAction {
00222         storeClass (FareRuleStruct&);
00224         void operator() (std::vector<char>,
00225                         boost::spirit::qi::unused_type,
00226                         boost::spirit::qi::unused_type) const;
00227     };
00228
00230     struct doEndFare : public ParserSemanticAction {
00232         doEndFare (stdair::BomRoot&, FareRuleStruct&);
00234         void operator() (boost::spirit::qi::unused_type,
00235                         boost::spirit::qi::unused_type,
00236                         boost::spirit::qi::unused_type) const;
00238         stdair::BomRoot& _bomRoot;
00239     };
00240
00241 }
00242
00244 //
00245 // Entry class for the file parser
00246 //
00248
00254 class FareRuleFileParser : public stdair::CmdAbstract {
00255 public:
00257     FareRuleFileParser (stdair::BomRoot& ioBomRoot,
00258                         const stdair::Filename_T& iFilename);
00259
00261     void generateFareRules ();
00262
00263 private:
00265     void init();
00266
00267 private:
00268     // Attributes
00270     stdair::Filename_T _filename;
00271
00273     stdair::BomRoot& _bomRoot;
00274
00276     FareRuleStruct _fareRule;
00277 };

```

```

00278
00279 }
00280 #endif // __SIMFQT_CMD_FAREPARSERHELPER_HPP

```

## 25.35 simfqt/command/FareQuoter.cpp File Reference

```

#include <cassert> #include <sstream> #include <stdair/basic/-
BasConst_BomDisplay.hpp> #include <stdair/bom/BomKey-
Manager.hpp> #include <stdair/bom/ParsedKey.hpp> #include
<stdair/bom/BomManager.hpp> #include <stdair/bom/Bom-
Root.hpp> #include <stdair/bom/InventoryKey.hpp> #include
<stdair/bom/FlightDateKey.hpp> #include <stdair/bom/-
SegmentDateKey.hpp> #include <stdair/bom/AirlineClass-
List.hpp> #include <stdair/bom/AirportPair.hpp> #include
<stdair/bom/PosChannel.hpp> #include <stdair/bom/Date-
Period.hpp> #include <stdair/bom/TimePeriod.hpp> #include
<stdair/bom/FareFeatures.hpp> #include <stdair/bom/-
BookingRequestStruct.hpp> #include <stdair/bom/Travel-
SolutionStruct.hpp> #include <stdair/service/Logger.-
hpp> #include <stdair/bom/key_types.hpp> #include <simfqt/-
SIMFQT_Types.hpp> #include <simfqt/command/FareQuoter.-
hpp>

```

### Namespaces

- namespace [SIMFQT](#)

## 25.36 FareQuoter.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_BomDisplay.hpp>
00009 #include <stdair/bom/BomKeyManager.hpp>
00010 #include <stdair/bom/ParsedKey.hpp>
00011 #include <stdair/bom/BomManager.hpp>
00012 #include <stdair/bom/BomRoot.hpp>
00013 #include <stdair/bom/InventoryKey.hpp>
00014 #include <stdair/bom/FlightDateKey.hpp>
00015 #include <stdair/bom/SegmentDateKey.hpp>
00016 #include <stdair/bom/AirlineClassList.hpp>
00017 #include <stdair/bom/AirportPair.hpp>
00018 #include <stdair/bom/PosChannel.hpp>
00019 #include <stdair/bom/DatePeriod.hpp>
00020 #include <stdair/bom/TimePeriod.hpp>
00021 #include <stdair/bom/FareFeatures.hpp>
00022 #include <stdair/bom/BookingRequestStruct.hpp>
00023 #include <stdair/bom/TravelSolutionStruct.hpp>
00024 #include <stdair/service/Logger.hpp>
00025 #include <stdair/bom/key_types.hpp>
00026 // SimFQT
00027 #include <simfqt/SIMFQT_Types.hpp>
00028 #include <simfqt/command/FareQuoter.hpp>

```

```

00029
00030 namespace SIMFQT {
00031
00032     bool FareQuoter::_atLeastOneAvailableDateRule = false;
00033     bool FareQuoter::_atLeastOneAvailablePosChannel = false;
00034     bool FareQuoter::_atLeastOneAvailableTimeRule = false;
00035     bool FareQuoter::_atLeastOneAvailableFeaturesRule = false;
00036     bool FareQuoter::_atLeastOneAvailableAirlineClassRule = false;
00037
00038     // //////////////////////////////////////
00039     FareQuoter::FareQuoter() {
00040         assert (false);
00041     }
00042
00043     // //////////////////////////////////////
00044     FareQuoter::FareQuoter(const FareQuoter&) {
00045         assert (false);
00046     }
00047
00048     // //////////////////////////////////////
00049     FareQuoter::~FareQuoter() {
00050     }
00051
00052     // //////////////////////////////////////
00053     void FareQuoter::reset() {
00054         _atLeastOneAvailableDateRule = false;
00055         _atLeastOneAvailablePosChannel = false;
00056         _atLeastOneAvailableTimeRule = false;
00057         _atLeastOneAvailableFeaturesRule = false;
00058         _atLeastOneAvailableAirlineClassRule = false;
00059     }
00060
00061
00062     // //////////////////////////////////////
00063     void FareQuoter::
00064     priceQuote (const stdair::BookingRequestStruct& iBookingRequest,
00065                 stdair::TravelSolutionList_T& ioTravelSolutionList,
00066                 const stdair::BomRoot& iBomRoot) {
00067
00068         // Do an independent price quote for each travel solution related to the
00069         // booking request.
00070         for (stdair::TravelSolutionList_T::iterator itTravelSolution =
00071              ioTravelSolutionList.begin();
00072              itTravelSolution != ioTravelSolutionList.end(); ++itTravelSolution) {
00073             reset();
00074             // Select a travel solution.
00075             stdair::TravelSolutionStruct& lTravelSolutionStruct = *itTravelSolution;
00076             // Price quote the travel solution into question.
00077             priceQuote (iBookingRequest, lTravelSolutionStruct, iBomRoot);
00078         }
00079     }
00080
00081     // //////////////////////////////////////
00082     void FareQuoter::
00083     priceQuote (const stdair::BookingRequestStruct& iBookingRequest,
00084                 stdair::TravelSolutionStruct& ioTravelSolution,
00085                 const stdair::BomRoot& iBomRoot) {
00086
00087         // Get the origin of the first segment in order to get the origin of
00088         // the solution.
00089         const stdair::ParsedKey& lFirstSegmentKey =
00090             getFirstSPParsedKey(ioTravelSolution);
00091         const stdair::AirportCode_T& lOrigin = lFirstSegmentKey._boardingPoint;
00092
00093         // Get the destination of the last segment in order to get the
00094         // destination of the solution.
00095         const stdair::ParsedKey& lLastSegmentKey =
00096             getLastSPParsedKey(ioTravelSolution);
00097         const stdair::AirportCode_T& lDestination = lLastSegmentKey._offPoint;
00098
00099         // Construct the Airport pair stream of the segment path.
00100         const stdair::AirportPairKey lAirportPairKey (lOrigin, lDestination);
00101
00102         // Search for the fare rules having the same origin and destination

```

```

00103     airports
00104     // as the travel solution
00105     const stdair::AirportPair* lAirportPair_ptr = stdair::BomManager::
        getObjectPtr<stdair::AirportPair> (iBomRoot, lAirportPairKey.toString());

00106
00107     // If no fare rule has the same origin and destination airports, the
pricing
00108     // is not possible, throw an exception.
00109     if (lAirportPair_ptr == NULL) {
00110         STDAIR_LOG_ERROR ("No available fare rule for the "
00111             << "Origin-Destination pair: "
00112             << lAirportPairKey.toString());
00113         throw AirportPairNotFoundException ("No available fare rule for "
00114             "the Origin-Destination pair: "
00115             + lAirportPairKey.toString());
00116     }
00117     // Sanity check.
00118     assert(lAirportPair_ptr != NULL);
00119
00120     // Fare rule(s) with the same origin and destination airports exist(s), now
00121     // the date range need to be checked.
00122     const stdair::AirportPair& lAirportPair = *lAirportPair_ptr;
00123     priceQuote(iBookingRequest, ioTravelSolution, lAirportPair);
00124
00125     if (_atLeastOneAvailableAirlineClassRule == false) {
00126         displayMissingFareRuleMessage(iBookingRequest, ioTravelSolution);
00127     }
00128 }
00129
00130 // //////////////////////////////////////
00131 void FareQuoter::
00132 priceQuote (const stdair::BookingRequestStruct& iBookingRequest,
00133     stdair::TravelSolutionStruct& ioTravelSolution,
00134     const stdair::AirportPair& iAirportPair) {
00135
00136     // Get the first segment path parsed key.
00137     const stdair::ParsedKey lFirstSPParsedKey =
00138         getFirstSPParsedKey(ioTravelSolution);
00139
00140     // Get the date of the first segment date key.
00141     const stdair::FlightDateKey& lFlightDateKey =
00142         lFirstSPParsedKey.getFlightDateKey();
00143     const stdair::Date_T& lSPDate = lFlightDateKey.getDepartureDate();
00144
00145     // Get the list of the fare date ranges.
00146     const stdair::DatePeriodList_T& lFareDatePeriodList =
00147         stdair::BomManager::getList<stdair::DatePeriod> (iAirportPair);
00148
00149     // Browse the list of the fare rules date range.
00150     for (stdair::DatePeriodList_T::const_iterator itDateRange =
00151         lFareDatePeriodList.begin();
00152         itDateRange != lFareDatePeriodList.end(); ++itDateRange) {
00153
00154         const stdair::DatePeriod* lCurrentFareDatePeriod_ptr = *itDateRange ;
00155         assert (lCurrentFareDatePeriod_ptr != NULL);
00156
00157         // Select the fare rules having a corresponding date range.
00158         const bool isDepartureDateValid =
00159             lCurrentFareDatePeriod_ptr->isDepartureDateValid (lSPDate);
00160
00161         // If a fare rule has a corresponding date range, its channel and
position
00162         // need to be checked.
00163         if (isDepartureDateValid == true) {
00164             _atLeastOneAvailableDateRule = true;
00165             const stdair::DatePeriod& lCurrentFareDatePeriod =
00166                 *lCurrentFareDatePeriod_ptr;
00167             priceQuote (iBookingRequest, ioTravelSolution,
00168                 lCurrentFareDatePeriod, iAirportPair);
00169         }
00170     }
00171
00172 }

```

```

00173
00174 ///////////////////////////////////////////////////////////////////
00175 void FareQuoter::
00176 priceQuote (const stdair::BookingRequestStruct& iBookingRequest,
00177             stdair::TravelSolutionStruct& ioTravelSolution,
00178             const stdair::DatePeriod& iFareDatePeriod,
00179             const stdair::AirportPair& iAirportPair) {
00180
00181     // Get the point-of-sale of the booking request.
00182     const stdair::CityCode_T& lPointOfSale = iBookingRequest.getPOS();
00183
00184     // Get the booking request channel.
00185     const stdair::ChannelLabel_T& lChannel =
00186         iBookingRequest.getBookingChannel();
00187
00188     // Construct the corresponding POS-channel primary key.
00189     const stdair::PosChannelKey lFarePosChannelKey (lPointOfSale, lChannel);
00190
00191     // Search for the fare rules having the same point-of-sale and channel as
00192     // the travel solution.
00193     const stdair::PosChannelList_T lFarePosChannelList =
00194         stdair::BomManager::getList<stdair::PosChannel> (iFareDatePeriod);
00195
00196     // Browse the list of the fare rules pos channel.
00197     for (stdair::PosChannelList_T::const_iterator itPosChannel =
00198         lFarePosChannelList.begin();
00199         itPosChannel != lFarePosChannelList.end();
00200         ++itPosChannel) {
00201         const stdair::PosChannel* lCurrentFarePosChannel_ptr = *itPosChannel;
00202         assert (lCurrentFarePosChannel_ptr != NULL);
00203
00204         // Get the point-of-sale and channel of the current fare rule.
00205         const stdair::CityCode_T& lCurrentPointOfSale =
00206             lCurrentFarePosChannel_ptr->getPos();
00207         const stdair::ChannelLabel_T& lCurrentChannel =
00208             lCurrentFarePosChannel_ptr->getChannel();
00209
00210         // Select the fare rules having a corresponding pos channel.
00211         if (lCurrentPointOfSale == lPointOfSale &&
00212             lCurrentChannel == lChannel) {
00213             _atLeastOneAvailablePosChannel = true;
00214             // Fare rule(s) with the same point-of-sale and channel exist(s), now
00215             // the time range need to be checked.
00216             const stdair::PosChannel& lFarePosChannel= *lCurrentFarePosChannel_ptr;
00217             priceQuote (iBookingRequest, ioTravelSolution, lFarePosChannel);
00218         }
00219     }
00220 }
00221
00222 ///////////////////////////////////////////////////////////////////
00223 void FareQuoter::
00224 priceQuote (const stdair::BookingRequestStruct& iBookingRequest,
00225             stdair::TravelSolutionStruct& ioTravelSolution,
00226             const stdair::PosChannel& iFarePosChannel) {
00227
00228     // Get the first segment path parsed key.
00229     const stdair::ParsedKey lFirstSPParsedKey =
00230         getFirstSPParsedKey(ioTravelSolution);
00231
00232     // Get the segment boarding time of the segment path.
00233     const stdair::Duration_T& lSPTime = lFirstSPParsedKey.getBoardingTime();
00234
00235     // Get the list of the fare rules time period.
00236     const stdair::TimePeriodList_T& lFareTimePeriodList =
00237         stdair::BomManager::getList<stdair::TimePeriod> (iFarePosChannel);
00238
00239     // Browse the list of the fare rules time range.
00240     for (stdair::TimePeriodList_T::const_iterator itTimeRange =
00241         lFareTimePeriodList.begin();
00242         itTimeRange != lFareTimePeriodList.end();
00243         ++itTimeRange) {
00244         const stdair::TimePeriod* lCurrentFareTimePeriod_ptr = *itTimeRange ;
00245         assert (lCurrentFareTimePeriod_ptr != NULL);
00246     }

```

```

00247
00248     // Select the fare rules having a corresponding time range.
00249     const bool isDepartureTimeValid =
00250         lCurrentFareTimePeriod_ptr->isDepartureTimeValid (lSPTime);
00251
00252     // If a fare rule has a corresponding time range, its advanced purchase,
00253     // trip type and minimum stay duration need to be checked.
00254     if (isDepartureTimeValid) {
00255         _atLeastOneAvailableTimeRule = true;
00256         const stdair::TimePeriod& lCurrentFareTimePeriod =
00257             *lCurrentFareTimePeriod_ptr;
00258         priceQuote (iBookingRequest, ioTravelSolution,
00259             lCurrentFareTimePeriod, iFarePosChannel);
00260     }
00261 }
00262
00263 }
00264
00265 ///////////////////////////////////////////////////////////////////
00266 void FareQuoter::
00267 priceQuote (const stdair::BookingRequestStruct& iBookingRequest,
00268     stdair::TravelSolutionStruct& ioTravelSolution,
00269     const stdair::TimePeriod& iFareTimePeriod,
00270     const stdair::PosChannel& iFarePosChannel) {
00271
00272     // Get the stay duration of the booking request.
00273     const stdair::DayDuration_T& lStayDuration=
00274         iBookingRequest.getStayDuration();
00275
00276     // Get the booking request trip type.
00277     const stdair::TripType_T& lTripType =
00278         iBookingRequest.getTripType();
00279
00280     // Get the booking request date time.
00281     const stdair::DateTime_T& lRequestDateTime =
00282         iBookingRequest.getRequestDateTime();
00283
00284     // Get the referenced departure date of the segment path.
00285     const stdair::ParsedKey lFirstSPParsedKey =
00286         getFirstSPParsedKey(ioTravelSolution);
00287     const stdair::Date_T& lSPDate =
00288         lFirstSPParsedKey.getFlightDateKey().getDepartureDate();
00289
00290     // Get the segment boarding time of the segment path.
00291     const stdair::Duration_T& lSPTime = lFirstSPParsedKey.getBoardingTime();
00292
00293     // Construct the date-time type corresponding to the flight date
00294     const stdair::DateTime_T lSPDateTime (lSPDate, lSPTime);
00295
00296     bool isTripTypeValid = false;
00297     bool isStayDurationValid = false;
00298     bool isAdvancePurchaseValid = false;
00299
00300     // Get the list of the fare features.
00301     const stdair::FareFeaturesList_T& lFareFeaturesList =
00302         stdair::BomManager::getList<stdair::FareFeatures> (iFareTimePeriod);
00303
00304     // Browse the list of the fare rules features.
00305     for (stdair::FareFeaturesList_T::const_iterator itFareFeatures =
00306         lFareFeaturesList.begin();
00307         itFareFeatures != lFareFeaturesList.end();
00308         ++itFareFeatures) {
00309         const stdair::FareFeatures* lCurrentFareFeatures_ptr =
00310             *itFareFeatures;
00311         assert (lCurrentFareFeatures_ptr != NULL);
00312
00313         // Does the current fare features correspond to a correct trip
00314         // type?
00315         isTripTypeValid =
00316             lCurrentFareFeatures_ptr->isTripTypeValid (lTripType);
00317         // Does the current fare features correspond to a correct stay
00318         // duration?
00319         isStayDurationValid =
00320             lCurrentFareFeatures_ptr->isStayDurationValid (lStayDuration);

```

```

00321      // Does the current fare features correspond to a correct advanced
00322      // purchase?
00323      isAdvancePurchaseValid = lCurrentFareFeatures_ptr->
00324          isAdvancePurchaseValid (lRequestDateTime,
00325                                  lSPDateTime);
00326
00327      // Search for the fare rules having corresponding features.
00328      if (isStayDurationValid && isAdvancePurchaseValid && isTripTypeValid) {
00329          _atLeastOneAvailableFeaturesRule = true;
00330          // Create a fare structure for the travel solution.
00331          stdair::FareOptionStruct lFareOption;
00332          const stdair::ChangeFees_T& lChangeFees =
00333              lCurrentFareFeatures_ptr->getChangeFees();
00334          // Set the fare change fees.
00335          lFareOption.setChangeFees (lChangeFees);
00336          const stdair::NonRefundable_T& lNonRefundable =
00337              lCurrentFareFeatures_ptr->getRefundableOption();
00338          // Set the fare refundable option.
00339          lFareOption.setNonRefundable (lNonRefundable);
00340          const stdair::SaturdayStay_T& lSaturdayStay =
00341              lCurrentFareFeatures_ptr->getSaturdayStay();
00342          // Set the fare saturday night stay option.
00343          lFareOption.setSaturdayStay (lSaturdayStay);
00344          const stdair::FareFeatures& lCurrentFareFeatures =
00345              *lCurrentFareFeatures_ptr;
00346          priceQuote (iBookingRequest, ioTravelSolution,
00347                      lCurrentFareFeatures, iFarePosChannel,
00348                      lFareOption);
00349      }
00350  }
00351  }
00352  }
00353
00354
00355  // ////////////////////////////////////////
00356  void FareQuoter::
00357      priceQuote (const stdair::BookingRequestStruct& iBookingRequest,
00358                  stdair::TravelSolutionStruct& ioTravelSolution,
00359                  const stdair::FareFeatures& iFareFeatures,
00360                  const stdair::PosChannel& iFarePosChannel,
00361                  stdair::FareOptionStruct& iFareOption) {
00362
00363      // Get the first segment path parsed key.
00364      const stdair::ParsedKey lFirstSPParsedKey =
00365          getFirstSPParsedKey(ioTravelSolution);
00366
00367      // Get the segment-path of the travel solution.
00368      const stdair::SegmentPath_T& lSegmentPath =
00369          ioTravelSolution.getSegmentPath();
00370
00371      // Get the list of the fare rules.
00372      const stdair::AirlineClassListList_T& lAirlineClassListList =
00373          stdair::BomManager::getList<stdair::AirlineClassList> (iFareFeatures);
00374
00375      bool lCorrectAirlineRule = false;
00376      bool lAtLeastOneDifferentAirline = false;
00377
00378      // Browse the list of airline code list and search for the fare rules
00379      // having a corresponding airline list.
00380      for (stdair::AirlineClassListList_T::const_iterator itAirlineClassList =
00381              lAirlineClassListList.begin();
00382           itAirlineClassList != lAirlineClassListList.end();
00383           ++itAirlineClassList) {
00384          const stdair::AirlineClassList* lCurrentAirlineClassList_ptr =
00385              *itAirlineClassList;
00386          assert (lCurrentAirlineClassList_ptr != NULL);
00387
00388          lCorrectAirlineRule = true;
00389          lAtLeastOneDifferentAirline = false;
00390
00391          const stdair::ClassList_StringList_T lClassList_StringList =
00392              lCurrentAirlineClassList_ptr->getAirlineCodeList();
00393
00394          // Compare the segment path airline list with the fare rule airline list.

```

```

00395     if (lClassList_StringList.size() == lSegmentPath.size()) {
00396         // If the two sizes are equal, we need to compare the airline codes.
00397         stdair::SegmentPath_T::const_iterator itSegmentPath =
00398             lSegmentPath.begin();
00399
00400         stdair::ClassList_StringList_T::const_iterator itClassList_String =
00401             lClassList_StringList.begin();
00402         // Browse the segment path airline code list (while the segment path
00403         // airline list is equal to the fare rule airline list).
00404         while (itSegmentPath != lSegmentPath.end()
00405             && lAtLeastOneDifferentAirline == false) {
00406
00407             // Get the segment airline code.
00408             const std::string lSegmentDateKey = *itSegmentPath;
00409             const stdair::ParsedKey& lParsedKey =
00410                 stdair::BomKeyManager::extractKeys (lSegmentDateKey);
00411             const stdair::InventoryKey& lInventoryKey =
00412                 lParsedKey.getInventoryKey();
00413             const stdair::AirlineCode_T& lSegmentAirlineCode =
00414                 lInventoryKey.getAirlineCode();
00415
00416             // Get the fare rule airline code.
00417             const stdair::AirlineCode_T& lFareRuleAirlineCode =
00418                 *itClassList_String;
00419
00420             if (lSegmentAirlineCode != lFareRuleAirlineCode) {
00421                 lAtLeastOneDifferentAirline = true;
00422             }
00423             itSegmentPath++;
00424             itClassList_String++;
00425         }
00426
00427     } else {
00428         // If the two sizes are different, the fare rule does not match the
00429         // travel solution into question.
00430         lCorrectAirlineRule = false;
00431     }
00432
00433     // If one segment airline code and one fare rule airline code are
00434     // different then the fare rule does not match the travel solution.
00435     if (lAtLeastOneDifferentAirline == true) {
00436         lCorrectAirlineRule = false;
00437     }
00438
00439     // If the current fare rule is a match, add the fare option structure
00440     // to the travel solution into question.
00441     if (lCorrectAirlineRule == true) {
00442         _atLeastOneAvailableAirlineClassRule = true;
00443         // Get the booking request trip type.
00444         const stdair::TripType_T& lTripType =
00445             iBookingRequest.getTripType();
00446
00447         // Get the travel fare.
00448         stdair::Fare_T lFare =
00449             lCurrentAirlineClassList_ptr->getFare();
00450         // If the trip into question is the inbound or outbound part of a round
00451 trip,
00452         // the applicable fare is a half RT fare.
00453         if (lTripType == "RI" || lTripType == "RO") {
00454             lFare /= 2;
00455         }
00456         // Set the travel fare option.
00457         iFareOption.setFare (lFare);
00458         // Copy the class path list into the fare option.
00459         const stdair::ClassList_StringList_T& lClassCodeList =
00460             lCurrentAirlineClassList_ptr->getClassCodeList();
00461         for (stdair::ClassList_StringList_T::const_iterator itClassCodeList =
00462             lClassCodeList.begin();
00463             itClassCodeList != lClassCodeList.end(); ++itClassCodeList ) {
00464             const stdair::ClassList_String_T& lClassCodeList = *itClassCodeList;
00465             iFareOption.addClassList (lClassCodeList);
00466         }
00467         // Add the fare option to the travel solution into question.

```

```

00468         ioTravelSolution.addFareOption (iFareOption);
00469
00470         // DEBUG
00471         STDAIR_LOG_DEBUG ("Segment path: " << lFirstSPParsedKey.toString()
00472             << ". A corresponding fare option for the '"
00473             << lCurrentAirlineClassList_ptr->describeKey()
00474             << "' class is: " << iFareOption);
00475
00476         iFareOption.emptyClassList();
00477     }
00478 }
00479
00480 }
00481
00482 // //////////////////////////////////////
00483 stdair::ParsedKey FareQuoter::
00484 getFirstSPParsedKey (stdair::TravelSolutionStruct& ioTravelSolution) {
00485
00486     // Get the segment-path of the travel solution.
00487     const stdair::SegmentPath_T& lSegmentPath =
00488         ioTravelSolution.getSegmentPath();
00489
00490     // Get the number of segments of the travel solution.
00491     const stdair::NbOfSegments_T& lNbSegments = lSegmentPath.size();
00492
00493     // Sanity check: there is at least one segment in the travel solution.
00494     assert (lNbSegments >= 1);
00495
00496     // Get the first segment of the travel solution.
00497     const std::string& lFirstSegmentDateKey = lSegmentPath.front();
00498
00499     // Get the parsed key of the first segment of the travel solution.
00500     const stdair::ParsedKey& lFirstSegmentParsedKey =
00501         stdair::BomKeyManager::extractKeys (lFirstSegmentDateKey);
00502
00503     return lFirstSegmentParsedKey;
00504 }
00505
00506 // //////////////////////////////////////
00507 stdair::ParsedKey FareQuoter::
00508 getLastSPParsedKey (stdair::TravelSolutionStruct& ioTravelSolution) {
00509
00510     // Get the segment-path of the travel solution.
00511     const stdair::SegmentPath_T& lSegmentPath =
00512         ioTravelSolution.getSegmentPath();
00513
00514     // Get the number of segments of the travel solution.
00515     const stdair::NbOfSegments_T& lNbSegments = lSegmentPath.size();
00516
00517     // Sanity check: there is at least one segment in the travel solution.
00518     assert (lNbSegments >= 1);
00519
00520     // Get the last segment of the travel solution.
00521     const std::string& lLastSegmentDateKey = lSegmentPath.back();
00522
00523     // Get the parsed key of the last segment of the travel solution.
00524     const stdair::ParsedKey& lLastSegmentParsedKey =
00525         stdair::BomKeyManager::extractKeys (lLastSegmentDateKey);
00526
00527     return lLastSegmentParsedKey;
00528 }
00529
00530 }
00531
00532 // //////////////////////////////////////
00533 void FareQuoter::
00534 displayMissingFareRuleMessage (const stdair::BookingRequestStruct&
00535     iBookingRequest,
00536                             stdair::TravelSolutionStruct& ioTravelSolution
00537 ) {
00538
00539     // Get the origin of the first segment in order to get the origin of
00540     // the solution.
00541     const stdair::ParsedKey lFirstSPParsedKey =

```

```

00540     getFirstSPParsedKey(ioTravelSolution);
00541     const stdair::AirportCode_T& lOrigin = lFirstSPParsedKey._boardingPoint;
00542
00543     // Get the destination of the last segment in order to get the
00544     // destination of the solution.
00545     const stdair::ParsedKey& lLastSegmentKey =
00546         getLastSPParsedKey(ioTravelSolution);
00547     const stdair::AirportCode_T& lDestination = lLastSegmentKey._offPoint;
00548
00549     // Construct the Airport pair stream of the segment path.
00550     const stdair::AirportPairKey lAirportPairKey (lOrigin, lDestination);
00551
00552     // Get the date of the first segment date key.
00553     const stdair::FlightDateKey& lFlightDateKey =
00554         lFirstSPParsedKey.getFlightDateKey();
00555
00556     // Get the point-of-sale of the booking request.
00557     const stdair::CityCode_T& lPointOfSale = iBookingRequest.getPOS();
00558     // Get the booking request channel.
00559     const stdair::ChannelLabel_T& lChannel =
00560         iBookingRequest.getBookingChannel();
00561     // Construct the corresponding POS-channel primary key.
00562     const stdair::PosChannelKey lFarePosChannelKey (lPointOfSale, lChannel);
00563
00564     // Get the booking request date time.
00565     const stdair::DateTime_T& lRequestDateTime =
00566         iBookingRequest.getRequestDateTime();
00567
00568     // If no fare rule has a corresponding date range, the pricing is not
00569     // possible, throw an exception.
00570     if (_atLeastOneAvailableDateRule == false) {
00571         const stdair::SegmentDateKey lSegmentDateKey =
00572             lFirstSPParsedKey.getSegmentKey();
00573         STDAIR_LOG_ERROR ("No available fare rule corresponding to the "
00574             "flight date " << lFlightDateKey.toString()
00575             << " and the Origin-Destination pair: "
00576             << lSegmentDateKey.toString());
00577         throw FlightDateNotFoundException ("No available fare rule for the "
00578             "flight date "
00579             + lFlightDateKey.toString()
00580             + " and the Origin-Destination pair: "
00581             + lSegmentDateKey.toString());
00582     }
00583     // If no fare rule has a corresponding pos channel, the pricing is not
00584     // possible, throw an exception.
00585     else if (_atLeastOneAvailablePosChannel == false) {
00586         STDAIR_LOG_ERROR ("No available fare rule corresponding to the "
00587             "point of sale " << lPointOfSale
00588             << ", to the channel " << lChannel
00589             << ", to the flight date "
00590             << lFlightDateKey.toString()
00591             << " and to the Origin-Destination pair: "
00592             << lAirportPairKey.toString());
00593         throw PosOrChannelNotFoundException ("No available fare rule for the "
00594             "point of sale " + lPointOfSale
00595             + ", the channel " + lChannel
00596             + ", the flight date "
00597             + lFlightDateKey.toString()
00598             + " and the Origin-Destination pair: "
00599             + lAirportPairKey.toString());
00600     }
00601     // If no fare rule has a corresponding time range, the pricing is not
00602     // possible, throw an exception.
00603     else if (_atLeastOneAvailableTimeRule == false) {
00604         STDAIR_LOG_ERROR ("No available fare rule corresponding to "
00605             << lFirstSPParsedKey.toString() << "' (parsed key) and
00606             to "
00607             << lFarePosChannelKey.toString() << "' (POS and
00608             channel)");
00609         throw FlightTimeNotFoundException ("No available fare rule corresponding
00610             "

```

```

00608                                     "to '" + lFirstSPParsedKey.toString()
00609                                     + "' (parsed key) and to '"
00610                                     + lFarePosChannelKey.toString()
00611                                     + "' (POS and channel)");
00612     }
00613     // If no fare rule matches the advance purchase, trip type and stay
00614     // duration criterion, the pricing is not possible, throw an exception.
00615     else if (_atLeastOneAvailableFeaturesRule == false) {
00616         // Get the stay duration of the booking request.
00617         const stdair::DayDuration_T& lStayDuration=
00618             iBookingRequest.getStayDuration();
00619         std::ostream lStayDurationStream;
00620         lStayDurationStream << lStayDuration;
00621         const std::string lStayDurationString (lStayDurationStream.str());
00622
00623         // Get the booking request trip type.
00624         const stdair::TripType_T& lTripType =
00625             iBookingRequest.getTripType();
00626
00627         STDAIR_LOG_ERROR ("No available fare rule corresponding to a "
00628             "trip type " << lTripType
00629             << ", to a stay duration of " << lStayDurationString
00630             << ", to a request date time of " << lRequestDateTime
00631             << ", to '" << lFirstSPParsedKey.toString()
00632             << "' (parsed key) and to '"
00633             << lFarePosChannelKey << "' (POS and channel)");
00634         throw FeaturesNotFoundException ("No available fare rule corresponding to
a "
00635             "trip type " + lTripType
00636             + ", to a stay duration of "
00637             + lStayDurationString
00638             + ", to a request date time of "
00639             + boost::posix_time::to_simple_string(
lRequestDateTime)
00640             + ", to '" + lFirstSPParsedKey.toString(
)
00641             + "' (parsed key) and to '"
00642             + lFarePosChannelKey.toString()
00643             + "' (POS and channel)");
00644     }
00645     assert (_atLeastOneAvailableAirlineClassRule == false);
00646     // If no fare rule matches the airline class path, the pricing is not
00647     // possible, throw an exception.
00648     STDAIR_LOG_ERROR ("No available fare rule corresponding to '"
00649         << lFirstSPParsedKey .toString() << "' (parsed key), to '"
00650         << iBookingRequest.describe()
00651         << "' (booking request) and to '"
00652         << lFarePosChannelKey.toString() << "' (POS and channel)");
00653     throw AirlineNotFoundException ("No available fare rule corresponding to '"
00654         + lFirstSPParsedKey .toString()
00655         + "' (parsed key), to '"
00656         + iBookingRequest.describe()
00657         + "' (booking request) and to '"
00658         + lFarePosChannelKey.toString()
00659         + "' (POS and channel)");
00660     }
00661 }
00662

```

## 25.37 simfq/command/FareQuoter.hpp File Reference

```

#include <stdair/stdair_basic_types.hpp> #include <stdair/bom/-
TravelSolutionTypes.hpp>

```

## Classes

- class `SIMFQT::FareQuoter`  
*Command wrapping the pricing request process.*

## Namespaces

- namespace `stdair`  
*Forward declarations.*
- namespace `SIMFQT`

## 25.38 FareQuoter.hpp

```

00001 #ifndef __SIMFQT_CMD_FAREQUOTER_HPP
00002 #define __SIMFQT_CMD_FAREQUOTER_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/bom/TravelSolutionTypes.hpp>
00010
00012 namespace stdair {
00013     class BomRoot;
00014     struct BookingRequestStruct;
00015     struct TravelSolutionStruct;
00016     struct ParsedKey;
00017     class AirportPair;
00018     class PosChannel;
00019     class DatePeriod;
00020     class TimePeriod;
00021     class FareFeatures;
00022 }
00023
00024 namespace SIMFQT {
00025
00029     class FareQuoter {
00032         friend class SIMFQT_Service;
00033
00034     private:
00035         // ////////////////////////////////// Business support methods //////////////////////////////////
00045         static void priceQuote (const stdair::BookingRequestStruct&,
00046                                 stdair::TravelSolutionList_T&,
00047                                 const stdair::BomRoot&);
00048
00060         static void priceQuote (const stdair::BookingRequestStruct&,
00061                                 stdair::TravelSolutionStruct&,
00062                                 const stdair::BomRoot&);
00063
00074         static void priceQuote (const stdair::BookingRequestStruct&,
00075                                 stdair::TravelSolutionStruct&,
00076                                 const stdair::AirportPair&);
00077
00092         static void priceQuote (const stdair::BookingRequestStruct&,
00093                                 stdair::TravelSolutionStruct&,
00094                                 const stdair::DatePeriod&,
00095                                 const stdair::AirportPair&);
00096
00108         static void priceQuote (const stdair::BookingRequestStruct&,
00109                                 stdair::TravelSolutionStruct&,
00110                                 const stdair::PosChannel&);
00111
00126         static void priceQuote (const stdair::BookingRequestStruct&,
00127                                 stdair::TravelSolutionStruct&,

```

```

00128             const stdair::TimePeriod&,
00129             const stdair::PosChannel&);
00130
00148     static void priceQuote (const stdair::BookingRequestStruct&,
00149                             stdair::TravelSolutionStruct&,
00150                             const stdair::FareFeatures&,
00151                             const stdair::PosChannel&,
00152                             stdair::FareOptionStruct&);
00153
00157     static void reset ();
00158
00168     static void displayMissingFareRuleMessage (const
00169 stdair::BookingRequestStruct&,
00170                                             stdair::TravelSolutionStruct&);
00171
00178     static stdair::ParsedKey getFirstSPParsedKey (stdair::TravelSolutionStruct&
00179 );
00180
00187     static stdair::ParsedKey getLastSPParsedKey (stdair::TravelSolutionStruct&
00188 );
00189
00190
00191 private:
00192     // ////////////////////////////////// Construction and destruction //////////////////////////////////
00193     FareQuoter();
00194
00201     FareQuoter(const FareQuoter&);
00202
00206     ~FareQuoter();
00207
00208 private:
00209
00212     static bool _atLeastOneAvailableDateRule;
00213
00216     static bool _atLeastOneAvailablePosChannel;
00217
00221     static bool _atLeastOneAvailableTimeRule;
00222
00226     static bool _atLeastOneAvailableFeaturesRule;
00227
00231     static bool _atLeastOneAvailableAirlineClassRule;
00232
00233 };
00234
00235 }
00236 #endif // __SIMFQT_CMD_FAREQUOTER_HPP
00237

```

## 25.39 simfqt/command/FareRuleGenerator.cpp File Reference

```

#include <cassert>    #include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomRoot.hpp> #include <stdair/factory/-
FacBomManager.hpp>    #include <stdair/service/Logger.hpp>
#include <stdair/bom/AirportPair.hpp> #include <stdair/bom/-
PosChannel.hpp>    #include <stdair/bom/DatePeriod.hpp>
#include <stdair/bom/TimePeriod.hpp> #include <stdair/bom/-
FareFeatures.hpp> #include <stdair/bom/AirlineClassList.-
hpp>    #include <simfqt/bom/FareRuleStruct.hpp>    #include
<simfqt/command/FareRuleGenerator.hpp>

```

### Namespaces

- namespace [SIMFQT](#)

## 25.40 FareRuleGenerator.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/bom/BomManager.hpp>
00008 #include <stdair/bom/BomRoot.hpp>
00009 #include <stdair/factory/FacBomManager.hpp>
00010 #include <stdair/service/Logger.hpp>
00011 #include <stdair/bom/AirportPair.hpp>
00012 #include <stdair/bom/PosChannel.hpp>
00013 #include <stdair/bom/DatePeriod.hpp>
00014 #include <stdair/bom/TimePeriod.hpp>
00015 #include <stdair/bom/FareFeatures.hpp>
00016 #include <stdair/bom/AirlineClassList.hpp>
00017 // SimFQT
00018 #include <simfqt/bom/FareRuleStruct.hpp>
00019 #include <simfqt/command/FareRuleGenerator.hpp>
00020
00021 namespace SIMFQT {
00022
00023 // //////////////////////////////////////
00024 void FareRuleGenerator::
00025     createAirportPair (stdair::BomRoot& ioBomRoot,
00026                       const FareRuleStruct& iFareRuleStruct) {
00027
00028     // Create the airport-pair primary key.
00029     const stdair::AirportCode_T& lBoardPoint = iFareRuleStruct.getOrigin ();
00030     const stdair::AirportCode_T& lOffPoint =
00031         iFareRuleStruct.getDestination ();
00032     const stdair::AirportPairKey lAirportPairKey (lBoardPoint, lOffPoint);
00033
00034     // Check that the airport-pair object is not already existing. If an
00035     // airport-pair object with the same key has not already been created,
00036     // create it and link it to the ioBomRoot object.
00037     stdair::AirportPair* lAirportPair_ptr = stdair::BomManager::
00038         getObjectPtr<stdair::AirportPair> (ioBomRoot, lAirportPairKey.toString());
00039
00040     if (lAirportPair_ptr == NULL) {
00041         lAirportPair_ptr =
00042             &stdair::FacBom<stdair::AirportPair>::instance().
00043             create (lAirportPairKey);
00044         stdair::FacBomManager::addToListAndMap (ioBomRoot, *lAirportPair_ptr);
00045         stdair::FacBomManager::linkWithParent (ioBomRoot, *lAirportPair_ptr);
00046     }
00047     // Sanity check.
00048     assert (lAirportPair_ptr != NULL);
00049
00050     stdair::AirportPair& lAirportPair = *lAirportPair_ptr;
00051     // Generate the date-period object corresponding to the given
00052     // fareRule.
00053     createDateRange (lAirportPair, iFareRuleStruct);
00054 }
00055
00056 // //////////////////////////////////////
00057 void FareRuleGenerator::
00058     createDateRange (stdair::AirportPair& iAirportPair,
00059                     const FareRuleStruct& iFareRuleStruct) {
00060
00061     // Create the fare date-period primary key.
00062     const stdair::Date_T& lDateRangeStart =
00063         iFareRuleStruct.getDateRangeStart ();
00064     const stdair::Date_T& lDateRangeEnd =
00065         iFareRuleStruct.getDateRangeEnd ();
00066     const stdair::DatePeriod_T lDatePeriod (lDateRangeStart, lDateRangeEnd);
00067     const stdair::DatePeriodKey lFareDatePeriodKey (lDatePeriod);
00068
00069     // Check that the date-period object is not already existing.
00070     // If a date-period object with the same key has not already been

```

```

00071 // created, create it and link it to the airport-pair object.
00072 stdair::DatePeriod* lFareDatePeriod_ptr = stdair::BomManager::
00073     getObjectPtr<stdair::DatePeriod> (iAirportPair,
00074         lFareDatePeriodKey.toString());
00075 if (lFareDatePeriod_ptr == NULL) {
00076     lFareDatePeriod_ptr = &stdair::FacBom<stdair::DatePeriod>::instance().
00077         create (lFareDatePeriodKey);
00078     stdair::FacBomManager::addToListAndMap (iAirportPair,
00079         *lFareDatePeriod_ptr);
00080     stdair::FacBomManager::linkWithParent (iAirportPair,
00081         *lFareDatePeriod_ptr);
00082 }
00083 // Sanity check.
00084 assert (lFareDatePeriod_ptr != NULL);
00085
00086 stdair::DatePeriod& lDateRange = *lFareDatePeriod_ptr;
00087 // Generate the point_of_sale-channel object corresponding to
00088 // the given fareRule.
00089 createPOSChannel (lDateRange, iFareRuleStruct);
00090
00091 }
00092
00093 // //////////////////////////////////////
00094 void FareRuleGenerator::
00095 createPOSChannel (stdair::DatePeriod& iDatePeriod,
00096     const FareRuleStruct& iFareRuleStruct) {
00097
00098     // Create the point-of-sale-channel primary key.
00099     const stdair::CityCode_T& lPosition = iFareRuleStruct.getPOS ();
00100     const stdair::ChannelLabel_T& lChannel =
00101         iFareRuleStruct.getChannel ();
00102     const stdair::PosChannelKey lFarePosChannelKey (lPosition, lChannel);
00103
00104     // Check that the point_of_sale-channel object is not already existing.
00105     // If a point_of_sale-channel object with the same key has not already
00106     // been created, create it and link it to the date-period object.
00107     stdair::PosChannel* lFarePosChannel_ptr = stdair::BomManager::
00108         getObjectPtr<stdair::PosChannel> (iDatePeriod,
00109             lFarePosChannelKey.toString());
00110     if (lFarePosChannel_ptr == NULL) {
00111         lFarePosChannel_ptr = &stdair::FacBom<stdair::PosChannel>::instance().
00112             create (lFarePosChannelKey);
00113         stdair::FacBomManager::addToListAndMap (iDatePeriod,
00114             *lFarePosChannel_ptr);
00115         stdair::FacBomManager::linkWithParent (iDatePeriod,
00116             *lFarePosChannel_ptr);
00117     }
00118     // Sanity check.
00119     assert (lFarePosChannel_ptr != NULL);
00120
00121     stdair::PosChannel& lPosChannel = *lFarePosChannel_ptr;
00122     // Generate the time-period object corresponding to the given
00123     // fareRule.
00124     createTimeRange (lPosChannel, iFareRuleStruct);
00125
00126 }
00127
00128 // //////////////////////////////////////
00129 void FareRuleGenerator::
00130 createTimeRange (stdair::PosChannel& iPosChannel,
00131     const FareRuleStruct& iFareRuleStruct) {
00132
00133     // Create the fare time-period primary key.
00134     const stdair::Time_T& lTimeRangeStart =
00135         iFareRuleStruct.getTimeRangeStart ();
00136     const stdair::Time_T& lTimeRangeEnd =
00137         iFareRuleStruct.getTimeRangeEnd ();
00138     const stdair::TimePeriodKey lFareTimePeriodKey (lTimeRangeStart,
00139         lTimeRangeEnd);
00140
00141     // Check that the time-period object is not already existing.
00142     // If a time-period object with the same key has not already been
00143     // created, create it and link it to the point_of_sale-channel object.

```

```

00145     stdair::TimePeriod* lFareTimePeriod_ptr = stdair::BomManager::
00146         getObjectPtr<stdair::TimePeriod> (iPosChannel,
00147             lFareTimePeriodKey.toString());
00148     if (lFareTimePeriod_ptr == NULL) {
00149         lFareTimePeriod_ptr = &stdair::FacBom<stdair::TimePeriod>::instance().
00150             create (lFareTimePeriodKey);
00151         stdair::FacBomManager::addToListAndMap (iPosChannel,
00152             *lFareTimePeriod_ptr);
00153         stdair::FacBomManager::linkWithParent (iPosChannel,
00154             *lFareTimePeriod_ptr);
00155     }
00156     // Sanity check.
00157     assert (lFareTimePeriod_ptr != NULL);
00158
00159     stdair::TimePeriod& lTimeRange = *lFareTimePeriod_ptr;
00160     // Generate the fare-features object corresponding to the given
00161     // fareRule.
00162     createFareFeatures (lTimeRange, iFareRuleStruct);
00163
00164 }
00165
00166 // //////////////////////////////////////
00167 void FareRuleGenerator::
00168     createFareFeatures (stdair::TimePeriod& iTimePeriod,
00169         const FareRuleStruct& iFareRuleStruct) {
00170
00171     // Create the fare-features primary key.
00172     const stdair::TripType_T& lTripType =
00173         iFareRuleStruct.getTripType ();
00174     const stdair::DayDuration_T& lAdvancePurchase =
00175         iFareRuleStruct.getAdvancePurchase ();
00176     const stdair::SaturdayStay_T& lSaturdayStay =
00177         iFareRuleStruct.getSaturdayStay ();
00178     const stdair::ChangeFees_T& lChangeFees =
00179         iFareRuleStruct.getChangeFees ();
00180     const stdair::NonRefundable_T& lNonRefundable =
00181         iFareRuleStruct.getNonRefundable ();
00182     const stdair::DayDuration_T& lMinimumStay =
00183         iFareRuleStruct.getMinimumStay ();
00184     const stdair::FareFeaturesKey
00185         lFareFeaturesKey (lTripType, lAdvancePurchase, lSaturdayStay,
00186             lChangeFees, lNonRefundable, lMinimumStay);
00187
00188     // Check that the fare features object is not already existing.
00189     // If a fare features object with the same key has not already been
00190     // created, create it and link it to the time-period object.
00191     stdair::FareFeatures* lFareFeatures_ptr = stdair::BomManager::
00192         getObjectPtr<stdair::FareFeatures> (iTimePeriod,
00193             lFareFeaturesKey.toString());
00194     if (lFareFeatures_ptr == NULL) {
00195         lFareFeatures_ptr = &stdair::FacBom<stdair::FareFeatures>::instance().
00196             create (lFareFeaturesKey);
00197         assert(lFareFeatures_ptr != NULL);
00198         stdair::FacBomManager::addToListAndMap (iTimePeriod,
00199             *lFareFeatures_ptr);
00200         stdair::FacBomManager::linkWithParent (iTimePeriod,
00201             *lFareFeatures_ptr);
00202     }
00203     // Sanity check.
00204     assert(lFareFeatures_ptr != NULL);
00205
00206     stdair::FareFeatures& lFareFeatures = *lFareFeatures_ptr;
00207     // Generate the airline-class list object corresponding to the
00208     // given fareRule
00209     createAirlineClassList (lFareFeatures, iFareRuleStruct);
00210
00211 }
00212
00213 // //////////////////////////////////////
00214 void FareRuleGenerator::
00215     createAirlineClassList (stdair::FareFeatures& iFareFeatures,
00216         const FareRuleStruct& iFareRuleStruct) {
00217

```

```

00218     // Create the AirlineClassList primary key.
00219     const unsigned int lAirlineListSize =
00220         iFareRuleStruct.getAirlineListSize();
00221     const unsigned int lClassCodeListSize =
00222         iFareRuleStruct.getClassCodeListSize();
00223     assert (lAirlineListSize == lClassCodeListSize);
00224     const stdair::AirlineClassListKey
00225         lAirlineClassListKey (iFareRuleStruct.getAirlineList(),
00226                               iFareRuleStruct.getClassCodeList());
00227     const stdair::Fare_T& lFare = iFareRuleStruct.getFare ();
00228
00229     // Create the airline class list object and link it to the fare features
00230     // object.
00231     stdair::AirlineClassList* lAirlineClassList_ptr =
00232         &stdair::FacBom<stdair::AirlineClassList>::instance().
00233         create (lAirlineClassListKey);
00234     lAirlineClassList_ptr->setFare(lFare);
00235     stdair::FacBomManager::addToListAndMap (iFareFeatures,
00236                                             *lAirlineClassList_ptr);
00237     stdair::FacBomManager::linkWithParent (iFareFeatures,
00238                                             *lAirlineClassList_ptr);
00239 }
00240
00241 }
00242

```

## 25.41 simfqt/command/FareRuleGenerator.hpp File Reference

```

#include <stdair/command/CmdAbstract.hpp> #include <simfqt/-
SIMFQT_Types.hpp>

```

### Classes

- class [SIMFQT::FareRuleGenerator](#)

### Namespaces

- namespace [stdair](#)  
*Forward declarations.*
- namespace [SIMFQT](#)
- namespace [SIMFQT::FareParserHelper](#)

## 25.42 FareRuleGenerator.hpp

```

00001 #ifndef __SIMFQT_CMD_FARERULEGENERATOR_HPP
00002 #define __SIMFQT_CMD_FARERULEGENERATOR_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // StdAir
00008 #include <stdair/command/CmdAbstract.hpp>
00009 // Simfqt
00010 #include <simfqt/SIMFQT_Types.hpp>
00011
00012 // Forward declarations
00013 namespace stdair {
00014     class BomRoot;
00015     class FareRule;

```

```

00016  class AirportPair;
00017  class DatePeriod;
00018  class PosChannel;
00019  class TimePeriod;
00020  class FareFeatures;
00021  class AirlineClassList;
00022 }
00023
00024 namespace SIMFQT {
00025
00026     // Forward declarations
00027     struct FareRuleStruct;
00028     namespace FareParserHelper {
00029         struct doEndFare;
00030     }
00031
00032     class FareRuleGenerator : public stdair::CmdAbstract {
00033
00034         // Only the following class may use methods of FareGenerator.
00035         // Indeed, as those methods build the BOM, it is not good to expose
00036         // them public.
00037         friend class FareFileParser;
00038         friend struct FareParserHelper::doEndFare;
00039         friend class FareParser;
00040
00041     private:
00042
00043         static void createAirportPair (stdair::BomRoot&,
00044                                         const FareRuleStruct&);
00045
00046         static void createDateRange (stdair::AirportPair&,
00047                                       const FareRuleStruct&);
00048
00049         static void createPOSChannel (stdair::DatePeriod&,
00050                                       const FareRuleStruct&);
00051
00052         static void createTimeRange (stdair::PosChannel&,
00053                                      const FareRuleStruct&);
00054
00055         static void createFareFeatures (stdair::TimePeriod&,
00056                                         const FareRuleStruct&);
00057
00058         static void createAirlineClassList (stdair::FareFeatures&,
00059                                              const FareRuleStruct&);
00060
00061     };
00062 }
00063 #endif // __SIMFQT_CMD_FARERULEGENERATOR_HPP

```

## 25.43 simfqt/config/simfqt-paths.hpp File Reference

### Defines

- #define [PACKAGE](#) "simfqt"
- #define [PACKAGE\\_NAME](#) "SIMFQT"
- #define [PACKAGE\\_VERSION](#) "0.1.3"
- #define [PREFIXDIR](#) "/usr"
- #define [EXEC\\_PREFIX](#) "/usr"
- #define [BINDIR](#) "/usr/bin"
- #define [LIBDIR](#) "/usr/lib"
- #define [LIBEXECDIR](#) "/usr/libexec"
- #define [SBINDIR](#) "/usr/sbin"

- #define [SYSCONFDIR](#) `"/usr/etc"`
- #define [INCLUDEDIR](#) `"/usr/include"`
- #define [DATAROOTDIR](#) `"/usr/share"`
- #define [DATADIR](#) `"/usr/share"`
- #define [DOCDIR](#) `"/usr/share/doc/simfqt-0.1.3"`
- #define [MANDIR](#) `"/usr/share/man"`
- #define [INFODIR](#) `"/usr/share/info"`
- #define [HTMLDIR](#) `"/usr/share/doc/simfqt-0.1.3/html"`
- #define [PDFDIR](#) `"/usr/share/doc/simfqt-0.1.3/html"`
- #define [STDAIR\\_SAMPLE\\_DIR](#) `"/usr/share/stdair/samples"`

#### 25.43.1 Define Documentation

##### 25.43.1.1 #define [PACKAGE](#) `"simfqt"`

Definition at line 4 of file [simfqt-paths.hpp](#).

##### 25.43.1.2 #define [PACKAGE\\_NAME](#) `"SIMFQT"`

Definition at line 5 of file [simfqt-paths.hpp](#).

Referenced by [readConfiguration\(\)](#).

##### 25.43.1.3 #define [PACKAGE\\_VERSION](#) `"0.1.3"`

Definition at line 6 of file [simfqt-paths.hpp](#).

Referenced by [readConfiguration\(\)](#).

##### 25.43.1.4 #define [PREFIXDIR](#) `"/usr"`

Definition at line 7 of file [simfqt-paths.hpp](#).

Referenced by [readConfiguration\(\)](#).

##### 25.43.1.5 #define [EXEC\\_PREFIX](#) `"/usr"`

Definition at line 8 of file [simfqt-paths.hpp](#).

##### 25.43.1.6 #define [BINDIR](#) `"/usr/bin"`

Definition at line 9 of file [simfqt-paths.hpp](#).

##### 25.43.1.7 #define [LIBDIR](#) `"/usr/lib"`

Definition at line 10 of file [simfqt-paths.hpp](#).

##### 25.43.1.8 #define [LIBEXECDIR](#) `"/usr/libexec"`

Definition at line 11 of file [simfqt-paths.hpp](#).

25.43.1.9 `#define SBINDIR "/usr/sbin"`

Definition at line 12 of file [simfqt-paths.hpp](#).

25.43.1.10 `#define SYSCONFDIR "/usr/etc"`

Definition at line 13 of file [simfqt-paths.hpp](#).

25.43.1.11 `#define INCLUDEDIR "/usr/include"`

Definition at line 14 of file [simfqt-paths.hpp](#).

25.43.1.12 `#define DATAROOTDIR "/usr/share"`

Definition at line 15 of file [simfqt-paths.hpp](#).

25.43.1.13 `#define DATADIR "/usr/share"`

Definition at line 16 of file [simfqt-paths.hpp](#).

25.43.1.14 `#define DOCDIR "/usr/share/doc/simfqt-0.1.3"`

Definition at line 17 of file [simfqt-paths.hpp](#).

25.43.1.15 `#define MANDIR "/usr/share/man"`

Definition at line 18 of file [simfqt-paths.hpp](#).

25.43.1.16 `#define INFODIR "/usr/share/info"`

Definition at line 19 of file [simfqt-paths.hpp](#).

25.43.1.17 `#define HTMLDIR "/usr/share/doc/simfqt-0.1.3/html"`

Definition at line 20 of file [simfqt-paths.hpp](#).

25.43.1.18 `#define PDFDIR "/usr/share/doc/simfqt-0.1.3/html"`

Definition at line 21 of file [simfqt-paths.hpp](#).

25.43.1.19 `#define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"`

Definition at line 22 of file [simfqt-paths.hpp](#).

## 25.44 simfqt-paths.hpp

```
00001 #ifndef __SIMFQT_PATHS_HPP__
00002 #define __SIMFQT_PATHS_HPP__
00003
00004 #define PACKAGE "simfqt"
00005 #define PACKAGE_NAME "SIMFQT"
00006 #define PACKAGE_VERSION "0.1.3"
00007 #define PREFIXDIR "/usr"
00008 #define EXEC_PREFIX "/usr"
```

```

00009 #define BINDIR "/usr/bin"
00010 #define LIBDIR "/usr/lib"
00011 #define LIBEXECDIR "/usr/libexec"
00012 #define SBINDIR "/usr/sbin"
00013 #define SYSCONFDIR "/usr/etc"
00014 #define INCLUDEDIR "/usr/include"
00015 #define DATAROOTDIR "/usr/share"
00016 #define DATADIR "/usr/share"
00017 #define DOCDIR "/usr/share/doc/simfqt-0.1.3"
00018 #define MANDIR "/usr/share/man"
00019 #define INFODIR "/usr/share/info"
00020 #define HTMLDIR "/usr/share/doc/simfqt-0.1.3/html"
00021 #define PDFDIR "/usr/share/doc/simfqt-0.1.3/html"
00022 #define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"
00023
00024 #endif // __SIMFQT_PATHS_HPP__

```

## 25.45 simfqt/factory/FacSimfqtServiceContext.cpp File Reference

```

#include <cassert> #include <stdair/service/FacSupervisor.-
hpp>    #include <simfqt/factory/FacSimfqtServiceContext.-
hpp>    #include <simfqt/service/SIMFQT_ServiceContext.-
hpp>

```

### Namespaces

- namespace [SIMFQT](#)

## 25.46 FacSimfqtServiceContext.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/service/FacSupervisor.hpp>
00008 // SimFQT
00009 #include <simfqt/factory/FacSimfqtServiceContext.hpp>
00010 #include <simfqt/service/SIMFQT_ServiceContext.hpp>
00011
00012 namespace SIMFQT {
00013
00014     FacSimfqtServiceContext* FacSimfqtServiceContext::_instance = NULL;
00015
00016     // //////////////////////////////////////
00017     FacSimfqtServiceContext::~FacSimfqtServiceContext() {
00018         _instance = NULL;
00019     }
00020
00021     // //////////////////////////////////////
00022     FacSimfqtServiceContext& FacSimfqtServiceContext::instance() {
00023
00024         if (_instance == NULL) {
00025             _instance = new FacSimfqtServiceContext();
00026             assert (_instance != NULL);
00027
00028             stdair::FacSupervisor::instance().registerServiceFactory (_instance);
00029         }
00030         return *_instance;
00031     }
00032
00033 // //////////////////////////////////////

```

```

00034 SIMFQT_ServiceContext& FacSimfqtServiceContext::create() {
00035     SIMFQT_ServiceContext* aServiceContext_ptr = NULL;
00036
00037     aServiceContext_ptr = new SIMFQT_ServiceContext();
00038     assert (aServiceContext_ptr != NULL);
00039
00040     // The new object is added to the Bom pool
00041     _pool.push_back (aServiceContext_ptr);
00042
00043     return *aServiceContext_ptr;
00044 }
00045
00046 }

```

## 25.47 simfqt/factory/FacSimfqtServiceContext.hpp File Reference

```

#include <string>    #include <stdair/stdair_basic_types.-
hpp> #include <stdair/service/FacServiceAbstract.hpp>

```

### Classes

- class [SIMFQT::FacSimfqtServiceContext](#)  
*Factory for the service context.*

### Namespaces

- namespace [SIMFQT](#)

## 25.48 FacSimfqtServiceContext.hpp

```

00001 #ifndef __SIMFQT_FAC_FACSIMFQTSERVICECONTEXT_HPP
00002 #define __SIMFQT_FAC_FACSIMFQTSERVICECONTEXT_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/service/FacServiceAbstract.hpp>
00012
00013 namespace SIMFQT {
00014
00015     class SIMFQT_ServiceContext;
00016
00017
00018
00022     class FacSimfqtServiceContext : public stdair::FacServiceAbstract {
00023     public:
00024
00031         static FacSimfqtServiceContext& instance();
00032
00039         ~FacSimfqtServiceContext();
00040
00048         SIMFQT_ServiceContext& create();
00049
00050
00051     protected:
00057         FacSimfqtServiceContext() {}
00058

```

```

00059
00060     private:
00064         static FacSimfqtServiceContext* _instance;
00065     };
00066
00067 }
00068 #endif // __SIMFQT_FAC_FACSIMFQTSERVICECONTEXT_HPP

```

## 25.49 simfqt/service/SIMFQT\_Service.cpp File Reference

```

#include <cassert>          #include <boost/make_shared.hpp> ×
#include <stdair/basic/BasChronometer.hpp> #include <stdair/bom/-
BomDisplay.hpp> #include <stdair/bom/TravelSolutionStruct.-
hpp>          #include <stdair/bom/BookingRequestStruct.hpp> ×
#include <stdair/service/Logger.hpp>      #include <stdair/-
STDAIR_Service.hpp>      #include <simfqt/basic/BasConst_S-
IMFQT_Service.hpp>      #include <simfqt/factory/FacSimfqt-
ServiceContext.hpp> #include <simfqt/command/FareParser.-
hpp>      #include <simfqt/command/FareQuoter.hpp>      #include
<simfqt/service/SIMFQT_ServiceContext.hpp> #include <simfqt/-
SIMFQT_Service.hpp>

```

### Namespaces

- namespace [SIMFQT](#)

## 25.50 SIMFQT\_Service.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // Boost
00007 #include <boost/make_shared.hpp>
00008 // StdAir
00009 #include <stdair/basic/BasChronometer.hpp>
00010 #include <stdair/bom/BomDisplay.hpp>
00011 #include <stdair/bom/TravelSolutionStruct.hpp>
00012 #include <stdair/bom/BookingRequestStruct.hpp>
00013 #include <stdair/service/Logger.hpp>
00014 #include <stdair/STDAIR_Service.hpp>
00015 // Simfqt
00016 #include <simfqt/basic/BasConst_SIMFQT_Service.hpp>
00017 #include <simfqt/factory/FacSimfqtServiceContext.hpp>
00018 #include <simfqt/command/FareParser.hpp>
00019 #include <simfqt/command/FareQuoter.hpp>
00020 #include <simfqt/service/SIMFQT_ServiceContext.hpp>
00021 #include <simfqt/SIMFQT_Service.hpp>
00022
00023 namespace SIMFQT {
00024
00025     // //////////////////////////////////////
00026     SIMFQT_Service::SIMFQT_Service() : _simfqtServiceContext (NULL) {
00027         assert (false);
00028     }
00029
00030     // //////////////////////////////////////
00031     SIMFQT_Service::SIMFQT_Service (const SIMFQT_Service& iService) {
00032         assert (false);

```

```

00033 }
00034
00035 // //////////////////////////////////////
00036 SIMFQT_Service::SIMFQT_Service (const stdair::BasLogParams& iLogParams)
00037 : _simfqtServiceContext (NULL) {
00038
00039     // Initialise the STDAIR service handler
00040     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00041         initStdAirService (iLogParams);
00042
00043     // Initialise the service context
00044     initServiceContext();
00045
00046     // Add the StdAir service context to the SIMFQT service context
00047     // \note SIMFQT owns the STDAIR service resources here.
00048     const bool ownStdairService = true;
00049     addStdAirService (lSTDAIR_Service_ptr, ownStdairService);
00050
00051     // Initialise the (remaining of the) context
00052     initSimfqtService();
00053 }
00054
00055 // //////////////////////////////////////
00056 SIMFQT_Service::SIMFQT_Service (const stdair::BasLogParams& iLogParams,
00057                                 const stdair::BasDBParams& iDBParams)
00058 : _simfqtServiceContext (NULL) {
00059
00060     // Initialise the STDAIR service handler
00061     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00062         initStdAirService (iLogParams, iDBParams);
00063
00064     // Initialise the service context
00065     initServiceContext();
00066
00067     // Add the StdAir service context to the SIMFQT service context
00068     // \note SIMFQT owns the STDAIR service resources here.
00069     const bool ownStdairService = true;
00070     addStdAirService (lSTDAIR_Service_ptr, ownStdairService);
00071
00072     // Initialise the (remaining of the) context
00073     initSimfqtService();
00074 }
00075
00076 // //////////////////////////////////////
00077 SIMFQT_Service::
00078 SIMFQT_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_Service_ptr)
00079 : _simfqtServiceContext (NULL) {
00080
00081     // Initialise the service context
00082     initServiceContext();
00083
00084     // Store the STDAIR service object within the (SIMFQT) service context
00085     // \note Simfqt does not own the STDAIR service resources here.
00086     const bool doesNotOwnStdairService = false;
00087     addStdAirService (ioSTDAIR_Service_ptr, doesNotOwnStdairService);
00088
00089     // Initialise the context
00090     initSimfqtService();
00091 }
00092
00093 // //////////////////////////////////////
00094 SIMFQT_Service::~SIMFQT_Service() {
00095     // Delete/Clean all the objects from memory
00096     finalise();
00097 }
00098
00099 // //////////////////////////////////////
00100 void SIMFQT_Service::finalise() {
00101     assert (_simfqtServiceContext != NULL);
00102     // Reset the (Boost.)Smart pointer pointing on the STDAIR_Service object.
00103     _simfqtServiceContext->reset();
00104 }
00105
00106 // //////////////////////////////////////

```

```

00107 void SIMFQT_Service::initServiceContext() {
00108     // Initialise the service context
00109     SIMFQT_ServiceContext& lSIMFQT_ServiceContext =
00110         FacSimfqtServiceContext::instance().create();
00111     _simfqtServiceContext = &lSIMFQT_ServiceContext;
00112 }
00113
00114 // //////////////////////////////////////
00115 void SIMFQT_Service::
00116 addStdAirService (stdair::STDAIR_ServicePtr_T ioSTDAIR_Service_ptr,
00117                  const bool iOwnStdairService) {
00118
00119     // Retrieve the SimFQT service context
00120     assert (_simfqtServiceContext != NULL);
00121     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00122
00123     // Store the STDAIR service object within the (SimFQT) service context
00124     lSIMFQT_ServiceContext.setSTDAIR_Service (ioSTDAIR_Service_ptr,
00125                                              iOwnStdairService);
00126 }
00127
00128 // //////////////////////////////////////
00129 stdair::STDAIR_ServicePtr_T SIMFQT_Service::
00130 initStdAirService (const stdair::BasLogParams& iLogParams,
00131                   const stdair::BasDBParams& iDBParams) {
00132
00133     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00134         boost::make_shared<stdair::STDAIR_Service> (iLogParams, iDBParams);
00140     assert (lSTDAIR_Service_ptr != NULL);
00141
00142     return lSTDAIR_Service_ptr;
00143 }
00144
00145 // //////////////////////////////////////
00146 stdair::STDAIR_ServicePtr_T SIMFQT_Service::
00147 initStdAirService (const stdair::BasLogParams& iLogParams) {
00148
00149     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00150         boost::make_shared<stdair::STDAIR_Service> (iLogParams);
00151     assert (lSTDAIR_Service_ptr != NULL);
00152
00153     return lSTDAIR_Service_ptr;
00154 }
00155
00156 // //////////////////////////////////////
00157 void SIMFQT_Service::initSimfqtService() {
00158     // Do nothing at this stage. A sample BOM tree may be built by
00159     // calling the buildSampleBom() method
00160 }
00161
00162 // //////////////////////////////////////
00163 void SIMFQT_Service::
00164 parseAndLoad (const FareFilePath& iFareFilename) {
00165
00166     // Retrieve the BOM root object.
00167     assert (_simfqtServiceContext != NULL);
00168     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00169     stdair::STDAIR_Service& lSTDAIR_Service =
00170         lSIMFQT_ServiceContext.getSTDAIR_Service();
00171     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00172
00173     // Initialise the airline inventories
00174     FareParser::fareRuleGeneration (iFareFilename, lBomRoot);
00175 }
00176
00177 // //////////////////////////////////////
00178 void SIMFQT_Service::buildSampleBom() {
00179
00180     // Retrieve the SimFQT service context
00181     if (_simfqtServiceContext == NULL) {
00182         throw stdair::NonInitialisedServiceException ("The SimFQT service "
00183                                                       "has not been initialised");
00184     }
00185 }

```

```

00192     assert (_simfqtServiceContext != NULL);
00193
00194     // Retrieve the SimFQT service context and whether it owns the Stdair
00195     // service
00196     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00197     const bool doesOwnStdairService =
00198         lSIMFQT_ServiceContext.getOwnStdairServiceFlag();
00199
00200     // Retrieve the StdAIR service object from the (SimFQT) service context
00201     stdair::STDAIR_Service& lSTDAIR_Service =
00202         lSIMFQT_ServiceContext.getSTDAIR_Service();
00203
00208     if (doesOwnStdairService == true) {
00209         //
00210         lSTDAIR_Service.buildSampleBom();
00211     }
00212
00228 }
00229
00230 // ////////////////////////////////////////
00231 stdair::BookingRequestStruct SIMFQT_Service::buildBookingRequest(const bool
isForCRS) {
00232
00233     // Retrieve the SIMFQT service context
00234     if (_simfqtServiceContext == NULL) {
00235         throw stdair::NonInitialisedServiceException ("The Simfqt service has not
"
00236                                                     "been initialised");
00237     }
00238     assert (_simfqtServiceContext != NULL);
00239
00240     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00241
00242     // Retrieve the STDAIR service object from the (Simfqt) service context
00243     stdair::STDAIR_Service& lSTDAIR_Service =
00244         lSIMFQT_ServiceContext.getSTDAIR_Service();
00245
00246     // Delegate the BOM building to the dedicated service
00247     stdair::BookingRequestStruct oBookingRequest =
00248         lSTDAIR_Service.buildSampleBookingRequest (isForCRS);
00249
00250     return oBookingRequest;
00251 }
00252
00253 // ////////////////////////////////////////
00254 void SIMFQT_Service::
00255 buildSampleTravelSolutions(stdair::TravelSolutionList_T& ioTravelSolutionList
){
00256
00257     // Retrieve the SIMFQT service context
00258     if (_simfqtServiceContext == NULL) {
00259         throw stdair::NonInitialisedServiceException ("The Simfqt service has not
"
00260                                                     "been initialised");
00261     }
00262     assert (_simfqtServiceContext != NULL);
00263
00264     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00265
00266     // Retrieve the STDAIR service object from the (Simfqt) service context
00267     stdair::STDAIR_Service& lSTDAIR_Service =
00268         lSIMFQT_ServiceContext.getSTDAIR_Service();
00269
00270     // Delegate the BOM building to the dedicated service
00271     lSTDAIR_Service.buildSampleTravelSolutionForPricing (ioTravelSolutionList);
00272 }
00273
00274
00275 // ////////////////////////////////////////
00276 std::string SIMFQT_Service::csvDisplay() const {
00277
00278     // Retrieve the SIMFQT service context
00279     if (_simfqtServiceContext == NULL) {
00280         throw stdair::NonInitialisedServiceException ("The SimFQT service "

```

```

00281                                     "has not been initialised")
00282     ;
00283     }
00284     assert (_simfqtServiceContext != NULL);
00285     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00286
00287     // Retrieve the STDAIR service object from the (SimFQT) service context
00288     stdair::STDAIR_Service& lSTDAIR_Service =
00289         lSIMFQT_ServiceContext.getSTDAIR_Service();
00290
00291     // Get the root of the BOM tree, on which all of the other BOM objects
00292     // are attached
00293     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00294
00295     // Delegate the BOM display to the dedicated service
00296     std::ostream oCSVStr;
00297     stdair::BomDisplay::csvSimFQTairRACDisplay (oCSVStr, lBomRoot);
00298     return oCSVStr.str();
00299 }
00300
00301 // //////////////////////////////////////
00302 std::string SIMFQT_Service::
00303 csvDisplay (const stdair::TravelSolutionList_T& ioTravelSolutionList) const {
00304
00305     // Retrieve the Simfqt service context
00306     if (_simfqtServiceContext == NULL) {
00307         throw stdair::NonInitialisedServiceException ("The Simfqt service has not
00308
00309                                     "been initialised");
00310     }
00311     assert (_simfqtServiceContext != NULL);
00312
00313     // Retrieve the Simfqt service context
00314     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00315
00316     // Retrieve the STDAIR service object from the (Simfqt) service context
00317     stdair::STDAIR_Service& lSTDAIR_Service =
00318         lSIMFQT_ServiceContext.getSTDAIR_Service();
00319
00320     // Delegate the BOM building to the dedicated service
00321     return lSTDAIR_Service.csvDisplay (ioTravelSolutionList);
00322 }
00323 // //////////////////////////////////////
00324 std::string SIMFQT_Service::
00325 csvDisplay (const stdair::AirportCode_T& iOrigin,
00326             const stdair::AirportCode_T& iDestination,
00327             const stdair::Date_T& iDepartureDate) const {
00328
00329     // Retrieve the SIMFQT service context
00330     if (_simfqtServiceContext == NULL) {
00331         throw stdair::NonInitialisedServiceException ("The Simfqt service "
00332
00333                                     "has not been initialised")
00334     ;
00335     }
00336     assert (_simfqtServiceContext != NULL);
00337
00338     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00339
00340     // Retrieve the STDAIR service object from the (SIMFQT) service context
00341     stdair::STDAIR_Service& lSTDAIR_Service =
00342         lSIMFQT_ServiceContext.getSTDAIR_Service();
00343
00344     // Delegate the BOM display to the dedicated service
00345     return lSTDAIR_Service.csvDisplay (iOrigin, iDestination,
00346                                         iDepartureDate);
00347 }
00348 // //////////////////////////////////////
00349 std::string SIMFQT_Service::list() const {
00350
00351     // Retrieve the SIMFQT service context
00352     if (_simfqtServiceContext == NULL) {

```

```

00352         throw stdair::NonInitialisedServiceException ("The Simfqt service "
00353                                                         "has not been initialised")
00354     ;
00355     }
00356     assert (_simfqtServiceContext != NULL);
00357     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00358
00359     // Retrieve the STDAIR service object from the (SIMFQT) service context
00360     stdair::STDAIR_Service& lSTDAIR_Service =
00361         lSIMFQT_ServiceContext.getSTDAIR_Service();
00362
00363     // Delegate the BOM display to the dedicated service
00364     return lSTDAIR_Service.listAirportPairDateRange ();
00365 }
00366
00367 // //////////////////////////////////////
00368 bool SIMFQT_Service::
00369 check (const stdair::AirportCode_T& iOrigin,
00370        const stdair::AirportCode_T& iDestination,
00371        const stdair::Date_T& iDepartureDate) const {
00372     std::ostringstream oFlightListStr;
00373
00374     if (_simfqtServiceContext == NULL) {
00375         throw stdair::NonInitialisedServiceException ("The Simfqt service "
00376                                                         "has not been initialised")
00377     ;
00378     }
00379     assert (_simfqtServiceContext != NULL);
00380     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00381
00382     // Retrieve the STDAIR service object from the (SIMFQT) service context
00383     stdair::STDAIR_Service& lSTDAIR_Service =
00384         lSIMFQT_ServiceContext.getSTDAIR_Service();
00385
00386     // Delegate the BOM display to the dedicated service
00387     return lSTDAIR_Service.check (iOrigin, iDestination, iDepartureDate);
00388 }
00389 // //////////////////////////////////////
00390 void SIMFQT_Service::
00391 quotePrices (const stdair::BookingRequestStruct& iBookingRequest,
00392             stdair::TravelSolutionList_T& ioTravelSolutionList) {
00393
00394     // Retrieve the Simfqt service context
00395     if (_simfqtServiceContext == NULL) {
00396         throw stdair::NonInitialisedServiceException ("The SimFQT service "
00397                                                         "has not been initialised")
00398     ;
00399     }
00400     assert (_simfqtServiceContext != NULL);
00401     SIMFQT_ServiceContext& lSIMFQT_ServiceContext = *_simfqtServiceContext;
00402
00403     // Retrieve the StdAir service context
00404     stdair::STDAIR_Service& lSTDAIR_Service =
00405         lSIMFQT_ServiceContext.getSTDAIR_Service();
00406
00407     // Get the root of the BOM tree, on which all of the other BOM objects
00408     // will be attached
00409     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00410
00411     // Delegate the action to the dedicated command
00412     stdair::BasChronometer lFareQuoteRetrievalChronometer;
00413     lFareQuoteRetrievalChronometer.start();
00414     FareQuoter::priceQuote (iBookingRequest, ioTravelSolutionList, lBomRoot);
00415
00416     // DEBUG
00417     const double lFareQuoteRetrievalMeasure =
00418         lFareQuoteRetrievalChronometer.elapsed();
00419     STDAIR_LOG_DEBUG ("Fare Quote retrieving: " << lFareQuoteRetrievalMeasure
00420                      << " - " << lSIMFQT_ServiceContext.display());
00421 }
00422

```

```
00423 }
```

## 25.51 simfqt/service/SIMFQT\_ServiceContext.cpp File Reference

```
#include <cassert> #include <sstream> #include <simfqt/basic/-  
BasConst_SIMFQT_Service.hpp> #include <simfqt/service/SI-  
MFQT_ServiceContext.hpp>
```

### Namespaces

- namespace [SIMFQT](#)

## 25.52 SIMFQT\_ServiceContext.cpp

```
00001 // ////////////////////////////////////////  
00002 // Import section  
00003 // ////////////////////////////////////////  
00004 // STL  
00005 #include <cassert>  
00006 #include <sstream>  
00007 // SimFQT  
00008 #include <simfqt/basic/BasConst_SIMFQT_Service.hpp>  
00009 #include <simfqt/service/SIMFQT_ServiceContext.hpp>  
00010  
00011 namespace SIMFQT {  
00012  
00013 // ////////////////////////////////////////  
00014 SIMFQT_ServiceContext::SIMFQT_ServiceContext() : _ownStdairService (false) {  
00015 }  
00016  
00017 // ////////////////////////////////////////  
00018 SIMFQT_ServiceContext::SIMFQT_ServiceContext (const SIMFQT_ServiceContext&) {  
00019     assert (false);  
00020 }  
00021  
00022 // ////////////////////////////////////////  
00023 SIMFQT_ServiceContext::~SIMFQT_ServiceContext () {  
00024 }  
00025  
00026 // ////////////////////////////////////////  
00027 stdair::STDAIR_Service& SIMFQT_ServiceContext::getSTDAIR_Service() const {  
00028     assert (_stdairService != NULL);  
00029     return *_stdairService;  
00030 }  
00031  
00032 // ////////////////////////////////////////  
00033 const std::string SIMFQT_ServiceContext::shortDisplay() const {  
00034     std::ostringstream ostr;  
00035     ostr << "SIMFQT_ServiceContext -- Owns StdAir service: "  
00036         << _ownStdairService;  
00037     return ostr.str();  
00038 }  
00039  
00040 // ////////////////////////////////////////  
00041 const std::string SIMFQT_ServiceContext::display() const {  
00042     std::ostringstream ostr;  
00043     ostr << shortDisplay();  
00044     return ostr.str();  
00045 }  
00046  
00047 // ////////////////////////////////////////  
00048 const std::string SIMFQT_ServiceContext::describe() const {  
00049     return shortDisplay();  
00050 }
```

```

00051
00052 // //////////////////////////////////////
00053 void SIMFQT_ServiceContext::reset() {
00054     if (_ownStdairService == true) {
00055         _stdairService.reset();
00056     }
00057 }
00058
00059 }

```

## 25.53 simfqt/service/SIMFQT\_ServiceContext.hpp File Reference

```

#include <string> #include <stdair/stdair_service_types.-
hpp> #include <stdair/service/ServiceAbstract.hpp> #include
<simfqt/SIMFQT_Types.hpp>

```

### Classes

- class [SIMFQT::SIMFQT\\_ServiceContext](#)  
Class holding the context of the SimFQT services.

### Namespaces

- namespace [stdair](#)  
Forward declarations.
- namespace [SIMFQT](#)

## 25.54 SIMFQT\_ServiceContext.hpp

```

00001 #ifndef __SIMFQT_SVC_SIMFQTSERVICECONTEXT_HPP
00002 #define __SIMFQT_SVC_SIMFQTSERVICECONTEXT_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_service_types.hpp>
00011 #include <stdair/service/ServiceAbstract.hpp>
00012 // SimFQT
00013 #include <simfqt/SIMFQT_Types.hpp>
00014
00015 namespace stdair {
00016     class STDAIR_Service;
00017 }
00018
00019 namespace SIMFQT {
00020
00021     class SIMFQT_ServiceContext : public stdair::ServiceAbstract {
00022     friend class SIMFQT_Service;
00023     friend class FacSimfqtServiceContext;
00024
00025     private:
00026     // ////////// Getters //////////
00027     stdair::STDAIR_ServicePtr_T getSTDAIR_ServicePtr() const {
00028         return _stdairService;
00029     }
00030 }

```

```

00042
00046     stdair::STDAIR_Service& getSTDAIR_Service() const;
00047
00051     const bool getOwnStdairServiceFlag() const {
00052         return _ownStdairService;
00053     }
00054
00055
00056 private:
00057     // ////////// Setters //////////
00061     void setSTDAIR_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr,
00062                             const bool iOwnStdairService) {
00063         _stdairService = ioSTDAIR_ServicePtr;
00064         _ownStdairService = iOwnStdairService;
00065     }
00066
00070     void reset();
00071
00072
00073 private:
00074     // ////////// Display Methods //////////
00078     const std::string shortDisplay() const;
00079
00083     const std::string display() const;
00084
00088     const std::string describe() const;
00089
00090
00091 private:
00092     // ////////// Construction / initialisation //////////
00096     SIMFQT_ServiceContext (const FareQuoteID_T&);
00097
00101     SIMFQT_ServiceContext();
00102
00106     SIMFQT_ServiceContext (const SIMFQT_ServiceContext&);
00107
00111     ~SIMFQT_ServiceContext();
00112
00113
00114 private:
00115     // ////////// Children //////////
00119     stdair::STDAIR_ServicePtr_T _stdairService;
00120
00124     bool _ownStdairService;
00125 };
00126
00127 }
00128 #endif // __SIMFQT_SVC_SIMFQTSERVICECONTEXT_HPP

```

## 25.55 simfqt/SIMFQT\_Service.hpp File Reference

```

#include <stdair/stdair_basic_types.hpp> #include <stdair/stdair-
_service_types.hpp> #include <stdair/bom/TravelSolution-
Types.hpp> #include <simfqt/SIMFQT_Types.hpp>

```

### Classes

- class [SIMFQT::SIMFQT\\_Service](#)  
Interface for the [SIMFQT](#) Services.

### Namespaces

- namespace [stdair](#)

*Forward declarations.*

- namespace **SIMFQT**

## 25.56 SIMFQT\_Service.hpp

```

00001 #ifndef __SIMFQT_SVC_SIMFQT_SERVICE_HPP
00002 #define __SIMFQT_SVC_SIMFQT_SERVICE_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // StdAir
00008 #include <stdair/stdair_basic_types.hpp>
00009 #include <stdair/stdair_service_types.hpp>
00010 #include <stdair/bom/TravelSolutionTypes.hpp>
00011 // SimFQT
00012 #include <simfqt/SIMFQT_Types.hpp>
00013
00015 namespace stdair {
00016     class STDAIR_Service;
00017     struct BookingRequestStruct;
00018     struct BasLogParams;
00019     struct BasDBParams;
00020 }
00021
00022 namespace SIMFQT {
00023
00025     class SIMFQT_ServiceContext;
00026
00027
00031     class SIMFQT_Service {
00032     public:
00033
00034         // ////////////////////////////////// Constructors and Destructors //////////////////////////////////
00046         SIMFQT_Service (const stdair::BasLogParams&);
00047
00060         SIMFQT_Service (const stdair::BasLogParams&, const stdair::BasDBParams&);
00061
00077         SIMFQT_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr);
00078
00087         void parseAndLoad (const FareFilePath& iFareFilename);
00088
00092         ~SIMFQT_Service();
00093
00094
00095     public:
00096         // ////////////////////////////////// Business Methods //////////////////////////////////
00108         void buildSampleBom();
00109
00116         stdair::BookingRequestStruct buildBookingRequest(const bool isForCRS =
false);
00117
00135         void buildSampleTravelSolutions (stdair::TravelSolutionList_T&);
00136
00146         void quotePrices (const stdair::BookingRequestStruct&,
stdair::TravelSolutionList_T&);
00147
00148
00149
00150     public:
00151         // ////////////////////////////////// Display support methods //////////////////////////////////
00159         std::string csvDisplay() const;
00160
00168         std::string csvDisplay (const stdair::TravelSolutionList_T&) const;
00169
00182         std::string csvDisplay (const stdair::AirportCode_T& ioOrigin,
const stdair::AirportCode_T& ioDestination,
const stdair::Date_T& ioDepartureDate) const;
00183
00184
00185
00194         std::string list() const;
00195
00208         bool check (const stdair::AirportCode_T& ioOrigin,

```

```

00209             const stdair::AirportCode_T& ioDestination,
00210             const stdair::Date_T& ioDepartureDate) const;
00211
00212     private:
00213         // ////////// Construction and Destruction helper methods //////////
00214         SIMFQT_Service();
00215
00216         SIMFQT_Service (const SIMFQT_Service&);
00217
00218         stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&,
00219                                                         const stdair::BasDBParams&);
00220
00221         stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&)
00222     ;
00223
00224     void addStdAirService (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr,
00225                           const bool iOwnStdairService);
00226
00227     void initServiceContext();
00228
00229     void initSimfqtService();
00230
00231     void initSimfqtService (const FareFilePath& iFareFilename);
00232
00233     void finalise();
00234
00235     private:
00236         // ////////// Service Context //////////
00237         SIMFQT_ServiceContext* _simfqtServiceContext;
00238     };
00239 }
00240 #endif // __SIMFQT_SVC_SIMFQT_SERVICE_HPP

```

## 25.57 simfqt/SIMFQT\_Types.hpp File Reference

```

#include <vector> #include <string> #include <boost/shared-
_ptr.hpp> #include <stdair/stdair_exceptions.hpp> #include
<stdair/stdair_file.hpp>

```

### Classes

- class [SIMFQT::FareFileParsingFailedException](#)
- class [SIMFQT::AirportPairNotFoundException](#)
- class [SIMFQT::PosOrChannelNotFoundException](#)
- class [SIMFQT::FlightDateNotFoundException](#)
- class [SIMFQT::FlightTimeNotFoundException](#)
- class [SIMFQT::FeaturesNotFoundException](#)
- class [SIMFQT::AirlineNotFoundException](#)
- class [SIMFQT::FareInputFileNotFoundException](#)
- class [SIMFQT::QuotingException](#)
- class [SIMFQT::FareFilePath](#)

### Namespaces

- namespace [SIMFQT](#)

## Typedefs

- typedef unsigned int [SIMFQT::FareQuotelD\\_T](#)
- typedef boost::shared\_ptr < SIMFQT\_Service > [SIMFQT::SIMFQT\\_ServicePtr\\_T](#)

## 25.58 SIMFQT\_Types.hpp

```

00001 #ifndef __SIMFQT_SIMFQT_TYPES_HPP
00002 #define __SIMFQT_SIMFQT_TYPES_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <vector>
00009 #include <string>
00010 // Boost
00011 #include <boost/shared_ptr.hpp>
00012 // StdAir
00013 #include <stdair/stdair_exceptions.hpp>
00014 #include <stdair/stdair_file.hpp>
00015
00016 namespace SIMFQT {
00017
00018     // Forward declarations
00019     class SIMFQT_Service;
00020
00021
00022     // ////////// Exceptions //////////
00026     class FareFileParsingFailedException
00027     : public stdair::ParsingFileFailedException {
00028     public:
00032         FareFileParsingFailedException (const std::string& iWhat)
00033         : stdair::ParsingFileFailedException (iWhat) {}
00034     };
00035
00039     class AirportPairNotFoundExcepion : public stdair::ObjectNotFoundExcepion {
00040     public:
00044         AirportPairNotFoundExcepion (const std::string& iWhat)
00045         : stdair::ObjectNotFoundExcepion (iWhat) {}
00046     };
00047
00051     class PosOrChannelNotFoundExcepion : public stdair::ObjectNotFoundExcepion
00052     {
00053     public:
00056         PosOrChannelNotFoundExcepion (const std::string& iWhat)
00057         : stdair::ObjectNotFoundExcepion (iWhat) {}
00058     };
00059
00063     class FlightDateNotFoundExcepion : public stdair::ObjectNotFoundExcepion {
00064     public:
00068         FlightDateNotFoundExcepion (const std::string& iWhat)
00069         : stdair::ObjectNotFoundExcepion (iWhat) {}
00070     };
00071
00075     class FlightTimeNotFoundExcepion : public stdair::ObjectNotFoundExcepion {
00076     public:
00080         FlightTimeNotFoundExcepion (const std::string& iWhat)
00081         : stdair::ObjectNotFoundExcepion (iWhat) {}
00082     };
00083
00087     class FeaturesNotFoundExcepion : public stdair::ObjectNotFoundExcepion {
00088     public:
00092         FeaturesNotFoundExcepion (const std::string& iWhat)
00093         : stdair::ObjectNotFoundExcepion (iWhat) {}
00094     };
00095
00099     class AirlineNotFoundExcepion : public stdair::ObjectNotFoundExcepion {

```

```

00100     public:
00104         AirlineNotFoundException (const std::string& iWhat)
00105             : stdair::ObjectNotFoundException (iWhat) {}
00106     };
00107
00111     class FareInputFileNotFoundException : public stdair::FileNotFoundException {
00112     public:
00116         FareInputFileNotFoundException (const std::string& iWhat)
00117             : stdair::FileNotFoundException (iWhat) {}
00118     };
00119
00123     class QuotingException : public stdair::RootException {
00124     };
00125
00126     // ////////// Files //////////
00130     class FareFilePath : public stdair::InputFilePath {
00131     public:
00135         explicit FareFilePath (const stdair::Filename_T& iFilename)
00136             : stdair::InputFilePath (iFilename) {}
00137     };
00138
00139     // ////////// Type definitions specific to SimFQT //////////
00143     typedef unsigned int FareQuoteID_T;
00144
00148     typedef boost::shared_ptr<SIMFQT_Service> SIMFQT_ServicePtr_T;
00149 }
00150 #endif // __SIMFQT_SIMFQT_TYPES_HPP

```

## 25.59 simfqt/ui/cmdline/simfqt.cpp File Reference

### 25.60 simfqt.cpp

```

00001
00005 // STL
00006 #include <cassert>
00007 #include <iostream>
00008 #include <sstream>
00009 #include <fstream>
00010 #include <string>
00011 // Boost (Extended STL)
00012 #include <boost/program_options.hpp>
00013 #include <boost/tokenizer.hpp>
00014 #include <boost/regex.hpp>
00015 // StdAir
00016 #include <stdair/basic/BasLogParams.hpp>
00017 #include <stdair/basic/BasConst_BomDisplay.hpp>
00018 #include <stdair/basic/BasDBParams.hpp>
00019 #include <stdair/basic/BasConst_DefaultObject.hpp>
00020 #include <stdair/basic/BasConst_Inventory.hpp>
00021 #include <stdair/basic/BasConst_Request.hpp>
00022 #include <stdair/service/Logger.hpp>
00023 #include <stdair/stdair_exceptions.hpp>
00024 #include <stdair/stdair_basic_types.hpp>
00025 #include <stdair/stdair_date_time_types.hpp>
00026 #include <stdair/bom/TravelSolutionStruct.hpp>
00027 #include <stdair/bom/BookingRequestStruct.hpp>
00028 #include <stdair/bom/ParsedKey.hpp>
00029 #include <stdair/bom/BomKeyManager.hpp>
00030 #include <stdair/command/CmdBomManager.hpp>
00031 // Stdair GNU Readline Wrapper
00032 #include <stdair/ui/cmdline/SReadline.hpp>
00033 // Simfqt
00034 #include <simfqt/SIMFQT_Service.hpp>
00035 #include <simfqt/config/simfqt-paths.hpp>
00036
00037
00038 // ////////// Constants //////////
00042 const std::string K_SIMFQT_DEFAULT_LOG_FILENAME ("simfqt.log");
00043
00047 const std::string K_SIMFQT_DEFAULT_FARE_INPUT_FILENAME (STDAIR_SAMPLE_DIR

```

```

00048                                     "/fare01.csv");
00049
00054 const bool K_SIMFQT_DEFAULT_BUILT_IN_INPUT = false;
00055
00059 const int K_SIMFQT_EARLY_RETURN_STATUS = 99;
00060
00065 typedef std::vector<std::string> TokenList_T;
00066
00070 struct Command_T {
00071     typedef enum {
00072         NOP = 0,
00073         QUIT,
00074         HELP,
00075         LIST,
00076         DISPLAY,
00077         PRICE,
00078         LAST_VALUE
00079     } Type_T;
00080 };
00081
00082 // ////////// Parsing of Options & Configuration //////////
00083 // A helper function to simplify the main part.
00084 template<class T> std::ostream& operator<< (std::ostream& os,
00085                                           const std::vector<T>& v) {
00086     std::copy (v.begin(), v.end(), std::ostream_iterator<T> (std::cout, " "));
00087     return os;
00088 }
00089
00093 int readConfiguration (int argc, char* argv[], bool& ioIsBuiltin,
00094                       stdair::Filename_T& ioFareInputFilename,
00095                       std::string& ioLogFilename) {
00096
00097     // Default for the built-in input
00098     ioIsBuiltin = K_SIMFQT_DEFAULT_BUILT_IN_INPUT;
00099
00100     // Declare a group of options that will be allowed only on command line
00101     boost::program_options::options_description generic ("Generic options");
00102     generic.add_options()
00103         ("prefix", "print installation prefix")
00104         ("version,v", "print version string")
00105         ("help,h", "produce help message");
00106
00107     // Declare a group of options that will be allowed both on command
00108     // line and in config file
00109     boost::program_options::options_description config ("Configuration");
00110     config.add_options()
00111         ("builtin,b",
00112          "The sample BOM tree can be either built-in or parsed from an input file.
00113          That latter must then be given with the -f/--fare option")
00114         ("fare,f",
00115          boost::program_options::value< std::string >(&ioFareInputFilename)->
00116          default_value(K_SIMFQT_DEFAULT_FARE_INPUT_FILENAME),
00117          "(CSV) input file for the fare rules")
00118         ("log,l",
00119          boost::program_options::value< std::string >(&ioLogFilename)->
00120          default_value(K_SIMFQT_DEFAULT_LOG_FILENAME),
00121          "Filename for the logs")
00122         ;
00123
00124     // Hidden options, will be allowed both on command line and
00125     // in config file, but will not be shown to the user.
00126     boost::program_options::options_description hidden ("Hidden options");
00127     hidden.add_options()
00128         ("copyright",
00129          boost::program_options::value< std::vector<std::string> >(),
00130          "Show the copyright (license)");
00131
00132     boost::program_options::options_description cmdline_options;
00133     cmdline_options.add(generic).add(config).add(hidden);
00134
00135     boost::program_options::options_description config_file_options;
00136     config_file_options.add(config).add(hidden);
00137
00138     boost::program_options::options_description visible ("Allowed options");

```

```

00136 visible.add(generic).add(config);
00137
00138 boost::program_options::positional_options_description p;
00139 p.add ("copyright", -1);
00140
00141 boost::program_options::variables_map vm;
00142 boost::program_options::
00143     store (boost::program_options::command_line_parser (argc, argv).
00144         options (cmdline_options).positional(p).run(), vm);
00145
00146 std::ifstream ifs ("simfqt.cfg");
00147 boost::program_options::store (parse_config_file (ifs, config_file_options),
00148     vm);
00149 boost::program_options::notify (vm); if (vm.count ("help")) {
00150     std::cout << visible << std::endl;
00151     return K_SIMFQT_EARLY_RETURN_STATUS;
00152 }
00153
00154 if (vm.count ("version")) {
00155     std::cout << PACKAGE_NAME << ", version " << PACKAGE_VERSION << std::endl;
00156     return K_SIMFQT_EARLY_RETURN_STATUS;
00157 }
00158
00159 if (vm.count ("prefix")) {
00160     std::cout << "Installation prefix: " << PREFIXDIR << std::endl;
00161     return K_SIMFQT_EARLY_RETURN_STATUS;
00162 }
00163
00164 if (vm.count ("builtin")) {
00165     ioIsBuiltin = true;
00166 }
00167 const std::string isBuiltinStr = (ioIsBuiltin == true)? "yes": "no";
00168 std::cout << "The BOM should be built-in? " << isBuiltinStr << std::endl;
00169
00170 if (ioIsBuiltin == false) {
00171
00172     // The BOM tree should be built from parsing a fare (and O&D) file
00173     if (vm.count ("fare")) {
00174         ioFareInputFilename = vm["fare"].as< std::string >();
00175         std::cout << "Input fare filename is: " << ioFareInputFilename
00176             << std::endl;
00177     }
00178     else {
00179         // The built-in option is not selected. However, no fare file
00180         // is specified
00181         std::cerr << "Either one among the -b/--builtin and -f/--fare "
00182             << "options must be specified" << std::endl;
00183     }
00184 }
00185
00186 if (vm.count ("log")) {
00187     ioLogFilename = vm["log"].as< std::string >();
00188     std::cout << "Log filename is: " << ioLogFilename << std::endl;
00189 }
00190
00191 return 0;
00192 }
00193
00194 // //////////////////////////////////////
00195 void initReadline (swift::SReadline& ioInputReader) {
00196
00197     // Prepare the list of my own completers
00198     std::vector<std::string> Completers;
00199
00200     // The following is supported:
00201     // - "identifiers"
00202     // - special identifier %file - means to perform a file name completion
00203     Completers.push_back ("help");
00204     Completers.push_back ("list");
00205     Completers.push_back ("display %airport_code %airport_code %departure_date");
00206     Completers.push_back ("price %airline_code %flight_number %departure_date
00207         %airport_code %airport_code %departure_time %booking_date %booking_time %POS
00208         %channel% %trip_type %stay_duration");

```

```

00208 Completers.push_back ("quit");
00209
00210 // Now register the completers.
00211 // Actually it is possible to re-register another set at any time
00212 ioInputReader.RegisterCompletions (Completers);
00213 }
00214
00215 // //////////////////////////////////////
00216 Command_T::Type_T extractCommand (TokenList_T& ioTokenList) {
00217     Command_T::Type_T oCommandType = Command_T::LAST_VALUE;
00218
00219     // Interpret the user input
00220     if (ioTokenList.empty() == false) {
00221         TokenList_T::iterator itTok = ioTokenList.begin();
00222         std::string& lCommand (*itTok);
00223         boost::algorithm::to_lower (lCommand);
00224
00225         if (lCommand == "help") {
00226             oCommandType = Command_T::HELP;
00227         } else if (lCommand == "list") {
00228             oCommandType = Command_T::LIST;
00229         } else if (lCommand == "display") {
00230             oCommandType = Command_T::DISPLAY;
00231         } else if (lCommand == "price") {
00232             oCommandType = Command_T::PRICE;
00233         } else if (lCommand == "quit") {
00234             oCommandType = Command_T::QUIT;
00235         }
00236     }
00237
00238     // Remove the first token (the command), as the corresponding information
00239     // has been extracted in the form of the returned command type enumeration
00240     ioTokenList.erase (itTok);
00241
00242     } else {
00243         oCommandType = Command_T::NOP;
00244     }
00245
00246     return oCommandType;
00247 }
00248
00249 // //////////////////////////////////////
00250 // Re-compose a date using three strings: the year, the month and the
00251 // day. Return true if a correct date has been computed, false if not.
00252 bool retrieveDate (std::string iYearString,
00253                  std::string iMonthString,
00254                  std::string iDayString,
00255                  std::string iDate) {
00256     const std::string kMonthStr[12] = {"Jan", "Feb", "Mar", "Apr", "May", "Jun",
00257                                       "Jul", "Aug", "Sep", "Oct", "Nov", "Dec"};
00258
00259     // Check the year.
00260     unsigned short lDateYear;
00261     try {
00262         lDateYear = boost::lexical_cast<unsigned short> (iYearString);
00263         if (lDateYear < 100) {
00264             lDateYear += 2000;
00265         }
00266     } catch (boost::bad_lexical_cast& eCast) {
00267         std::cerr << "The year ('" << iYearString
00268                 << "') cannot be understood." << std::endl;
00269         return false;
00270     }
00271
00272     // Check the month.
00273     std::string lDateMonthStr;
00274     try {

```

```

00282
00283     const boost::regex lMonthRegex ("^(\\d{1,2})$");
00284     const bool isMonthANumber = regex_match (iMonthString, lMonthRegex);
00285
00286     if (isMonthANumber == true) {
00287         const unsigned short lMonth =
00288             boost::lexical_cast<unsigned short> (iMonthString);
00289         if (lMonth > 12) {
00290             throw boost::bad_lexical_cast();
00291         }
00292         if (lMonth != 0) {
00293             lDateMonthStr = kMonthStr[lMonth-1];
00294         } else {
00295             std::cerr << "The month ('" << iMonthString
00296                 << "') cannot be understood." << std::endl;
00297             return false;
00298         }
00299     } else {
00300         if (iMonthString.size() < 3) {
00301             throw boost::bad_lexical_cast();
00302         }
00303         std::string lMonthStr1 (iMonthString.substr (0, 1));
00304         boost::algorithm::to_upper (lMonthStr1);
00305         std::string lMonthStr23 (iMonthString.substr (1, 2));
00306         boost::algorithm::to_lower (lMonthStr23);
00307         lDateMonthStr = lMonthStr1 + lMonthStr23;
00308     }
00309 }
00310
00311 } catch (boost::bad_lexical_cast& eCast) {
00312     std::cerr << "The month ('" << iMonthString
00313         << "') cannot be understood." << std::endl;
00314     return false;
00315 }
00316
00317 // Check the day.
00318 unsigned short lDateDay;
00319 try {
00320
00321     lDateDay = boost::lexical_cast<unsigned short> (iDayString);
00322
00323 } catch (boost::bad_lexical_cast& eCast) {
00324     std::cerr << "The day ('" << iDayString
00325         << "') cannot be understood." << std::endl;
00326     return false;
00327 }
00328
00329 // Re-compose the date.
00330 std::ostringstream lDateStr;
00331 lDateStr << lDateYear << "-" << lDateMonthStr
00332     << "-" << lDateDay;
00333 try {
00334
00335     ioDate =
00336         boost::gregorian::from_simple_string (lDateStr.str());
00337
00338 } catch (boost::gregorian::bad_month& eCast) {
00339     std::cerr << "The month of the date ('" << lDateStr.str()
00340         << "') cannot be understood." << std::endl;
00341     return false;
00342 } catch (boost::gregorian::bad_day_of_month& eCast) {
00343     std::cerr << "The date ('" << lDateStr.str()
00344         << "') is not correct: the day of month does not exist."
00345         << std::endl;
00346     return false;
00347 } catch (boost::gregorian::bad_year& eCast) {
00348     std::cerr << "The year ('" << lDateStr.str()
00349         << "') is not correct."
00350         << std::endl;
00351     return false;
00352 }
00353
00354 return true;
00355 }

```

```

00356
00357 // //////////////////////////////////////
00358 // Re-compose a time using two strings: the hour and the minute.
00359 // Return true if a correct time has been computed, false if not.
00360 bool retrieveTime (std::string iHourString,
00361                  std::string iMinuteString,
00362                  stdair::Duration_T& oTime) {
00363
00364     // Check the hour
00365     unsigned short lTimeHour;
00366     try {
00367         lTimeHour = boost::lexical_cast<unsigned short> (iHourString);
00368     } catch (boost::bad_lexical_cast& eCast) {
00369         std::cerr << "The hour of the time ('" << iHourString
00370                 << "') cannot be understood." << std::endl;
00371         return false;
00372     }
00373
00374     // Check the minutes
00375     unsigned short lTimeMinute;
00376     try {
00377         lTimeMinute = boost::lexical_cast<unsigned short> (iMinuteString);
00378     } catch (boost::bad_lexical_cast& eCast) {
00379         std::cerr << "The minute of the time ('" << iMinuteString
00380                 << "') cannot be understood." << std::endl;
00381         return false;
00382     }
00383
00384     // Re-compose the time
00385     std::ostringstream lTimeStr;
00386     lTimeStr << lTimeHour << ":" << lTimeMinute;
00387     oTime =
00388         boost::posix_time::duration_from_string (lTimeStr.str());
00389     return true;
00390 }
00391
00392 // //////////////////////////////////////
00393 // Analyze the tokens of the 'price' command in order to construct
00394 // a travel solution list and a booking request.
00395 const stdair::BookingRequestStruct parseTravelSolutionAndBookingRequestKey
00396 (const TokenList_T& iTokenList,
00397  stdair::TravelSolutionList_T& ioInteractiveTravelSolutionList,
00398  const stdair::BookingRequestStruct& ioBookingRequestStruct) {
00399
00400     TokenList_T::const_iterator iTok = iTokenList.begin();
00401
00402     if (iTok->empty() == true) {
00403         std::cerr << "Wrong list of parameters. "
00404                 << "The default booking request and travel solution list are
00405                 kept."
00406                 << std::endl;
00407         return ioBookingRequestStruct;
00408     } else {
00409         // Parameters corresponding to the tokens.
00410         // Each parameter corresponds to one token except the dates
00411         // (three tokens) and the times (two tokens).
00412         stdair::AirlineCode_T lAirlineCode;
00413         stdair::FlightNumber_T lflightNumber;
00414         stdair::Date_T lDepartureDate;
00415         stdair::Duration_T lDepartureTime;
00416         stdair::AirportCode_T lOriginAirport;
00417         stdair::AirportCode_T lDestinationAirport;
00418         stdair::Date_T lRequestDate;
00419         stdair::Duration_T lRequestTime;
00420         stdair::CityCode_T lPOS;

```

```

00429     stdair::ChannelLabel_T lChannel;
00430     stdair::TripType_T lTripType;
00431     unsigned short lStayDuration;
00432
00433     // Read the airline code.
00434     lAirlineCode = *itTok;
00435     boost::algorithm::to_upper (lAirlineCode);
00436
00437     // Read the flight-number .
00438     ++itTok;
00439     if (itTok->empty() == false) {
00440         try {
00441
00442             lflightNumber = boost::lexical_cast<stdair::FlightNumber_T> (*itTok);
00443
00444         } catch (boost::bad_lexical_cast& eCast) {
00445             std::cerr << "The flight number ('" << *itTok
00446                 << "') cannot be understood."
00447                 << std::endl;
00448             return ioBookingRequestStruct;
00449         }
00450     }
00451
00452     // Read the departure date.
00453     ++itTok;
00454     if (itTok->empty() == true) {
00455         return ioBookingRequestStruct;
00456     }
00457     const std::string lDepartureYearString = *itTok;
00458     ++itTok;
00459     if (itTok->empty() == true) {
00460         return ioBookingRequestStruct;
00461     }
00462     const std::string lDepartureMonthString = *itTok;
00463     ++itTok;
00464     if (itTok->empty() == true) {
00465         return ioBookingRequestStruct;
00466     }
00467     const std::string lDepartureDayString = *itTok;
00468     const bool IsDepartureDateReadable =
00469         retrieveDate (lDepartureYearString, lDepartureMonthString,
00470             lDepartureDayString, lDepartureDate);
00471
00472     if (IsDepartureDateReadable == false) {
00473         std::cerr << "The default booking request and travel solution list are
00474             kept."
00475             << std::endl;
00476         return ioBookingRequestStruct;
00477     }
00478
00479     // Read the origin.
00480     ++itTok;
00481     if (itTok->empty() == false) {
00482         lOriginAirport = *itTok;
00483         boost::algorithm::to_upper (lOriginAirport);
00484     }
00485
00486     // Read the destination.
00487     ++itTok;
00488     if (itTok->empty() == false) {
00489         lDestinationAirport = *itTok;
00490         boost::algorithm::to_upper (lDestinationAirport);
00491     }
00492
00493     // Read the departure time.
00494     ++itTok;
00495     if (itTok->empty() == true) {
00496         return ioBookingRequestStruct;
00497     }
00498     const std::string lDepartureHourString = *itTok;
00499     ++itTok;
00500     if (itTok->empty() == true) {
00501         return ioBookingRequestStruct;
00502     }

```

```

00502     const std::string lDepartureMinuteString = *itTok;
00503     const bool IsDepartureTimeReadable =
00504         retrieveTime (lDepartureHourString, lDepartureMinuteString,
00505                     lDepartureTime);
00506
00507     if (IsDepartureTimeReadable == false) {
00508         std::cerr << "The default booking request and travel solution list are
kept."
00509             << std::endl;
00510         return ioBookingRequestStruct;
00511     }
00512
00513     // Read the request date.
00514     ++itTok;
00515     if (itTok->empty() == true) {
00516         return ioBookingRequestStruct;
00517     }
00518     const std::string lRequestYearString = *itTok;
00519     ++itTok;
00520     if (itTok->empty() == true) {
00521         return ioBookingRequestStruct;
00522     }
00523     const std::string lRequestMonthString = *itTok;
00524     ++itTok;
00525     if (itTok->empty() == true) {
00526         return ioBookingRequestStruct;
00527     }
00528     const std::string lRequestDayString = *itTok;
00529     const bool IsRequestDateReadable =
00530         retrieveDate (lRequestYearString, lRequestMonthString,
00531                     lRequestDayString, lRequestDate);
00532
00533     if (IsRequestDateReadable == false) {
00534         std::cerr << "The default booking request and travel solution list are
kept."
00535             << std::endl;
00536         return ioBookingRequestStruct;
00537     }
00538
00539     // Read the request time.
00540     ++itTok;
00541     if (itTok->empty() == true) {
00542         return ioBookingRequestStruct;
00543     }
00544     const std::string lRequestHourString = *itTok;
00545     ++itTok;
00546     if (itTok->empty() == true) {
00547         return ioBookingRequestStruct;
00548     }
00549     const std::string lRequestMinuteString = *itTok;
00550     const bool IsRequestTimeReadable =
00551         retrieveTime (lRequestHourString, lRequestMinuteString,
00552                     lRequestTime);
00553
00554     if (IsRequestTimeReadable == false) {
00555         std::cerr << "The default booking request and travel solution list are
kept."
00556             << std::endl;
00557         return ioBookingRequestStruct;
00558     }
00559
00560     // Read the POS.
00561     ++itTok;
00562     if (itTok->empty() == false) {
00563         lPOS = *itTok;
00564         boost::algorithm::to_upper (lPOS);
00565     }
00566
00567     // Read the channel.
00568     ++itTok;
00569     if (itTok->empty() == false) {
00570         lChannel = *itTok;
00571         boost::algorithm::to_upper (lChannel);
00572     }

```

```

00573
00574 // Read the trip type.
00575 ++itTok;
00576 if (itTok->empty() == false) {
00577     lTripType = *itTok;
00578     boost::algorithm::to_upper (lTripType);
00579 }
00580
00581 // Read the stay duration.
00582 ++itTok;
00583 if (itTok->empty() == false) {
00584     try {
00585
00586         lStayDuration = boost::lexical_cast<unsigned short> (*itTok);
00587
00588     } catch (boost::bad_lexical_cast& eCast) {
00589         std::cerr << "The stay duration ('" << *itTok
00590             << "') cannot be understood." << std::endl;
00591         return ioBookingRequestStruct;
00592     }
00593 }
00594
00595 // At this step we know that all the parameters designed to construct
00596 // the travel solution and the booking request are correct.
00597
00598 // Empty the travel solution list to store a new travel solution.
00599 ioInteractiveTravelSolutionList.pop_front();
00600 // Construct the new travel solution.
00601 stdair::TravelSolutionStruct lTravelSolution;
00602 std::ostringstream oStr;
00603 oStr << lAirlineCode
00604     << stdair::DEFAULT_KEY_FLD_DELIMITER
00605     << lflightNumber
00606     << stdair::DEFAULT_KEY_SUB_FLD_DELIMITER
00607     << lDepartureDate
00608     << stdair::DEFAULT_KEY_FLD_DELIMITER
00609     << lOriginAirport
00610     << stdair::DEFAULT_KEY_SUB_FLD_DELIMITER
00611     << lDestinationAirport
00612     << stdair::DEFAULT_KEY_FLD_DELIMITER
00613     << lDepartureTime;
00614 lTravelSolution.addSegment (oStr.str());
00615 ioInteractiveTravelSolutionList.push_front(lTravelSolution);
00616
00617 // Construct the new booking request.
00618 stdair::DateTime_T lRequestDateTime (lRequestDate, lRequestTime);
00619 const stdair::BookingRequestStruct &lBookingRequestStruct =
00620     stdair::BookingRequestStruct (lOriginAirport,
00621         lDestinationAirport,
00622         lPOS,
00623         lDepartureDate,
00624         lRequestDateTime,
00625         stdair::CABIN_ECO,
00626         stdair::DEFAULT_PARTY_SIZE,
00627         lChannel,
00628         lTripType,
00629         lStayDuration,
00630         stdair::FREQUENT_FLYER_MEMBER,
00631         lDepartureTime,
00632         stdair::DEFAULT_WTP,
00633         stdair::DEFAULT_VALUE_OF_TIME);
00634
00635     return lBookingRequestStruct;
00636 }
00637 }
00638
00639 // //////////////////////////////////////
00640 // Analyze the tokens of the 'display' command in order to retrieve
00641 // an airport pair and a departure date.
00642 void parseFlightDateKey (const TokenList_T& iTokenList,
00643     stdair::AirportCode_T& ioOrigin,
00644     stdair::AirportCode_T& ioDestination,
00645     stdair::Date_T& ioDepartureDate) {
00646

```

```

00647 TokenList_T::const_iterator itTok = iTokenList.begin();
00648
00649 // Interpret the user input.
00650 if (itTok->empty() == true) {
00651
00652     std::cerr << "Wrong parameters specified. Default paramaters '"
00653                 << ioOrigin << "-" << ioDestination
00654                 << "/" << ioDepartureDate
00655                 << "' are kept."
00656                 << std::endl;
00657
00658 } else {
00659
00660     // Read the origin.
00661     ioOrigin = *itTok;
00662     boost::algorithm::to_upper (ioOrigin);
00663
00664     // Read the destination.
00665     ++itTok;
00666     if (itTok->empty() == false) {
00667         ioDestination = *itTok;
00668         boost::algorithm::to_upper (ioDestination);
00669     }
00670
00671     // Read the departure date.
00672     ++itTok;
00673     if (itTok->empty() == true) {
00674         return;
00675     }
00676     std::string lYearString = *itTok;
00677     ++itTok;
00678     if (itTok->empty() == true) {
00679         return;
00680     }
00681     std::string lMonthString = *itTok;
00682     ++itTok;
00683     if (itTok->empty() == true) {
00684         return;
00685     }
00686     std::string lDayString = *itTok;
00687     const bool IsDepartureDateReadable =
00688         retrieveDate (lYearString, lMonthString, lDayString,
00689                     ioDepartureDate);
00690     if (IsDepartureDateReadable == false) {
00691         std::cerr << "Default paramaters '"
00692                 << ioOrigin << "-" << ioDestination
00693                 << "/" << ioDepartureDate
00694                 << "' are kept."
00695                 << std::endl;
00696         return;
00697     }
00698 }
00699 }
00700
00701 // //////////////////////////////////////
00702 std::string toString (const TokenList_T& iTokenList) {
00703     std::ostringstream oStr;
00704
00705     // Re-create the string with all the tokens, trimmed by read-line
00706     unsigned short idx = 0;
00707     for (TokenList_T::const_iterator itTok = iTokenList.begin();
00708         itTok != iTokenList.end(); ++itTok, ++idx) {
00709         if (idx != 0) {
00710             oStr << " ";
00711         }
00712         oStr << *itTok;
00713     }
00714     return oStr.str();
00715 }
00716
00717 // //////////////////////////////////////
00718 TokenList_T extractTokenList (const TokenList_T& iTokenList,
00719                               const std::string& iRegularExpression) {
00720

```

```

00721 TokenList_T oTokenList;
00722
00723 // Re-create the string with all the tokens (which had been trimmed
00724 // by read-line)
00725 const std::string lFullLine = toString (iTokenList);
00726
00727 // See the caller for the regular expression
00728 boost::regex expression (iRegularExpression);
00729
00730 std::string::const_iterator start = lFullLine.begin();
00731 std::string::const_iterator end = lFullLine.end();
00732
00733 boost::match_results<std::string::const_iterator> what;
00734 boost::match_flag_type flags = boost::match_default | boost::format_sed;
00735 regex_search (start, end, what, expression, flags);
00736
00737 // Put the matched strings in the list of tokens to be returned back
00738 // to the caller
00739 const unsigned short lMatchSetSize = what.size();
00740 for (unsigned short matchIdx = 1; matchIdx != lMatchSetSize; ++matchIdx) {
00741     const std::string lMatchedString (std::string (what[matchIdx].first,
00742                                                    what[matchIdx].second));
00743     //if (lMatchedString.empty() == false) {
00744     oTokenList.push_back (lMatchedString);
00745     //}
00746 }
00747
00748 // DEBUG
00749 // std::cout << "After (token list): " << oTokenList << std::endl;
00750
00751 return oTokenList;
00752 }
00753
00754 // //////////////////////////////////////
00755 // Parse the token list of the 'price' command.
00756 TokenList_T extractTokenListForTSAndBR (const TokenList_T& iTokenList) {
00757     const std::string lRegex("^[[:alpha:]]{2,3}"
00758                               "[[:space:]]+([[:digit:]]{1,4})"
00759                               "[ / ]*"
00760                               "[[:space:]]+([[:digit:]]{2,4})[/-]?"
00761                               "[[:space:]]*([[:alpha:]]{3}|[[:digit:]]{1,2})[/-]?"
00762                               "[[:space:]]*([[:digit:]]{1,2})[[:space:]]*"
00763                               "[[:space:]]+([[:alpha:]]{3})"
00764                               "[[:space:]]+([[:alpha:]]{3})"
00765                               " "
00766                               "[[:space:]]+([[:digit:]]{1,2})[:]?([[:digit:]]{1,2})"
00767                               "[[:space:]]+([[:digit:]]{2,4})[/-]?"
00768                               "[[:space:]]*([[:alpha:]]{3}|[[:digit:]]{1,2})[/-]?"
00769                               "[[:space:]]*([[:digit:]]{1,2})"
00770                               " "
00771                               "[[:space:]]+([[:digit:]]{1,2})[:]?([[:digit:]]{1,2})"
00772                               "[[:space:]]+([[:alpha:]]{3})"
00773                               "[[:space:]]+([[:alpha:]]{2})"
00774                               "[[:space:]]+([[:alpha:]]{2})"
00775                               "[[:space:]]+([[:digit:]]{1})$");
00776
00777     //
00778     const TokenList_T& oTokenList = extractTokenList (iTokenList, lRegex);
00779     return oTokenList;
00780 }
00800
00801 // //////////////////////////////////////
00802 // Parse the token list of the 'display' command.
00803 TokenList_T extractTokenListForOriDestDate (const TokenList_T& iTokenList) {
00804     const std::string lRegex("^[[:alpha:]]{3}"
00805                               "[[:space:]]*[ /-]?"
00806                               "[[:space:]]*([[:alpha:]]{3})"
00807                               "[[:space:]]*[ /-]?"
00808                               "[[:space:]]*([[:digit:]]{2,4})"
00809                               "[[:space:]]*[ /-]?"
00810                               "[[:space:]]*([[:alpha:]]{3}|[[:digit:]]{1,2})"
00811                               "[[:space:]]*[ /-]?"
00812                               "[[:space:]]*([[:digit:]]{1,2})$");
00822

```

```

00823 //
00824 const TokenList_T& oTokenList = extractTokenList (iTokenList, lRegEx);
00825 return oTokenList;
00826 }
00827
00828 // ////////// M A I N //////////
00829 int main (int argc, char* argv[]) {
00830
00831 // State whether the BOM tree should be built-in or parsed from an
00832 // input file
00833 bool isBuiltin;
00834
00835 // Fare input file name
00836 stdair::Filename_T lFareInputFilename;
00837
00838 // Readline history
00839 const unsigned int lHistorySize (100);
00840 const std::string lHistoryFilename ("simfqt.hist");
00841 const std::string lHistoryBackupFilename ("simfqt.hist.bak");
00842
00843 // Default parameters for the interactive session
00844 stdair::AirportCode_T lInteractiveOrigin;
00845 stdair::AirportCode_T lInteractiveDestination;
00846 stdair::Date_T lInteractiveDepartureDate;
00847
00848 // Output log File
00849 stdair::Filename_T lLogFilename;
00850
00851 // Call the command-line option parser
00852 const int lOptionParserStatus =
00853     readConfiguration (argc, argv, isBuiltin, lFareInputFilename, lLogFilename)
00854 ;
00855 if (lOptionParserStatus == K_SIMFQT_EARLY_RETURN_STATUS) {
00856     return 0;
00857 }
00858
00859 // Set the log parameters
00860 std::ofstream logOutputFile;
00861 // Open and clean the log outputfile
00862 logOutputFile.open (lLogFilename.c_str());
00863 logOutputFile.clear();
00864
00865 // Initialise the fareQuote service
00866 const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
00867 SIMFQT::SIMFQT_Service simfqtService (lLogParams);
00868
00869 // DEBUG
00870 STDAIR_LOG_DEBUG ("Welcome to SimFQT display");
00871
00872 // Check wether or not a (CSV) input file should be read
00873 if (isBuiltin == true) {
00874     // Build the sample BOM tree (filled with fares) for Simfqt
00875     simfqtService.buildSampleBom();
00876 } else {
00877     // Build the BOM tree from parsing a fare file
00878     SIMFQT::FareFilePath lFareFilePath (lFareInputFilename);
00879     simfqtService.parseAndLoad (lFareFilePath);
00880 }
00881
00882 // DEBUG: Display the whole BOM tree
00883 const std::string& lCSVDump = simfqtService.csvDisplay();
00884 STDAIR_LOG_DEBUG (lCSVDump);
00885
00886 // DEBUG
00887 STDAIR_LOG_DEBUG ("=====");
00888 STDAIR_LOG_DEBUG ("=          Beginning of the interactive session          =");
00889 STDAIR_LOG_DEBUG ("=====");
00890
00891 // Initialise the GNU readline wrapper
00892 swift::SReadline lReader (lHistoryFilename, lHistorySize);
00893 initReadline (lReader);
00894
00895 // Now we can ask user for a line

```

```

00896 std::string lUserInput;
00897 bool EndOfInput (false);
00898 Command_T::Type_T lCommandType (Command_T::NOP);
00899
00900 while (lCommandType != Command_T::QUIT && EndOfInput == false) {
00901
00902     stdair::TravelSolutionList_T lInteractiveTravelSolutionList;
00903     stdair::TravelSolutionStruct lInteractiveTravelSolution;
00904
00905     // Update the default booking request.
00906     // If there is an input file, we want the CRS booking request (defined in
stdair).
00907     // If not, we want the default booking request.
00908     const bool isCRSBookingRequest = !isBuiltin;
00909     const stdair::BookingRequestStruct& lInteractiveBookingRequest =
00910         simfqtService.buildBookingRequest (isCRSBookingRequest);
00911
00912     // Update the default parameters for the following interactive session.
00913     if (isBuiltin == true) {
00914         lInteractiveOrigin = "LHR";
00915         lInteractiveDestination = "SYD";
00916         lInteractiveDepartureDate = stdair::Date_T(2011,06,10);
00917         simfqtService.buildSampleTravelSolutions (lInteractiveTravelSolutionList)
;
00918     } else {
00919         lInteractiveOrigin = "SIN";
00920         lInteractiveDestination = "BKK";
00921         lInteractiveDepartureDate = stdair::Date_T(2010,01,30);
00922         //
00923         const std::string lBA9_SegmentDateKey ("SQ, 970, 2010-01-30, SIN, BKK,
07:10");
00924
00925         // Add the segment date key to the travel solution.
00926         lInteractiveTravelSolution.addSegment (lBA9_SegmentDateKey);
00927
00928         // Add the travel solution to the list
00929         lInteractiveTravelSolutionList.push_back (lInteractiveTravelSolution);
00930     }
00931
00932     // Prompt.
00933     std::ostringstream oPromptStr;
00934     oPromptStr << "simfqt "
00935         << "> ";
00936     // The last parameter could be omitted.
00937     TokenList_T lTokenListByReadline;
00938     lUserInput = lReader.GetLine (oPromptStr.str(), lTokenListByReadline,
EndOfInput);
00940
00941     // The history could be saved to an arbitrary file at any time.
00942     lReader.SaveHistory (lHistoryBackupFilename);
00943
00944     if (EndOfInput) {
00945         std::cout << std::endl;
00946         break;
00947     }
00948
00949     // Interpret the user input.
00950     lCommandType = extractCommand (lTokenListByReadline);
00951
00952     switch (lCommandType) {
00953
00954         // ////////////////////////////////// Help //////////////////////////////////
00955         case Command_T::HELP: {
00956             // Search for information to display default parameters lists.
00957             // Get the first travel solution.
00958             stdair::TravelSolutionStruct& lTravelSolutionStruct =
00959                 lInteractiveTravelSolutionList.front();
00960             // Get the segment-path of the first travel solution.
00961             const stdair::SegmentPath_T& lSegmentPath =
00962                 lTravelSolutionStruct.getSegmentPath();
00963             // Get the first segment of the first travel solution.
00964             const std::string& lSegmentDateKey = lSegmentPath.front();
00965             // Get the parsed key of the first segment of the first travel solution.
00966             const stdair::ParsedKey& lParsedKey =

```

```

00967         stdair::BomKeyManager::extractKeys (lSegmentDateKey);
00968         // Get the request date time
00969         const stdair::DateTime_T& lRequestDateTime =
00970             lInteractiveBookingRequest.getRequestDateTime();
00971         const stdair::Time_T lRequestTime =
00972             lRequestDateTime.time_of_day();
00973         std::cout << std::endl;
00974         // Display help.
00975         std::cout << "Commands: " << std::endl;
00976         std::cout << " help" << "\t\t" << "Display this help" << std::endl;
00977         std::cout << " quit" << "\t\t" << "Quit the application" << std::endl;
00978         std::cout << " list" << "\t\t"
00979             << "List all the fare rule O&Ds and the corresponding date
ranges" << std::endl;
00980         std::cout << " display" << "\t\t"
00981             << "Display all fare rules for an O&D and a departure date. \n"
<< "\t\t"
00982             << "If no parameters specified or wrong list of parameters,
default values are used: \n" << "\t\t"
00983             << " display " << lInteractiveOrigin << " "
00984             << lInteractiveDestination << " "
00985             << lInteractiveDepartureDate << std::endl;
00986         std::cout << " price" << "\t\t"
00987             << "Price the travel solution corresponding to a booking
request. \n" << "\t\t"
00988             << "If no parameters specified or wrong list of parameters,
default value are used: \n" << "\t\t"
00989             << " price "
00990             << lParsedKey._airlineCode << " "
00991             << lParsedKey._flightNumber << " "
00992             << lParsedKey._departureDate << " "
00993             << lParsedKey._boardingPoint << " "
00994             << lParsedKey._offPoint << " "
00995             << lParsedKey._boardingTime << " "
00996             << lRequestDateTime.date() << " "
00997             << lRequestTime.hours() << ":" << lRequestTime.minutes() << " "

00998             << lInteractiveBookingRequest.getPOS() << " "
00999             << lInteractiveBookingRequest.getBookingChannel() << " "
01000             << lInteractiveBookingRequest.getTripType() << " "
01001             << lInteractiveBookingRequest.getStayDuration() << std::endl;
01002         std::cout << std::endl;
01003         break;
01004     }
01005
01006     // ////////////////////////////////////// Quit //////////////////////////////////////
01007     case Command_T::QUIT: {
01008         break;
01009     }
01010
01011     // ////////////////////////////////////// List //////////////////////////////////////
01012     case Command_T::LIST: {
01013
01014         // Get the list of all airport pairs and date ranges for which
01015         // there are fares available.
01016         const std::string& lAirportPairDateListStr =
01017             simfqtService.list ();
01018
01019         if (lAirportPairDateListStr.empty() == false) {
01020             std::cout << lAirportPairDateListStr << std::endl;
01021             STDAIR_LOG_DEBUG (lAirportPairDateListStr);
01022         } else {
01023             std::cerr << "There is no result for airport pairs and date ranges."
01024                 << "Make sure your input file is not empty."
01025                 << std::endl;
01026         }
01027     }
01028     break;
01029 }
01030
01031 // ////////////////////////////////////// Display //////////////////////////////////////
01032 case Command_T::DISPLAY: {
01033
01034

```

```

01035         // If no parameters are entered by the user, keep default ones.
01036         if (lTokenListByReadline.empty() == true) {
01037
01038             std::cout << "No parameters specified. Default paramaters '"
01039                 << lInteractiveOrigin << "-" << lInteractiveDestination
01040                 << "/" << lInteractiveDepartureDate
01041                 << "' are kept."
01042                 << std::endl;
01043
01044         } else {
01045
01046             // Find the best match corresponding to the given parameters.
01047             TokenList_T lTokenList =
01048                 extractTokenListForOriDestDate (lTokenListByReadline);
01049
01050             // Parse the best match, and give default values in case the
01051             // user does not specify all the parameters or does not
01052             // specify some of them correctly.
01053             parseFlightDateKey (lTokenList, lInteractiveOrigin,
01054                 lInteractiveDestination, lInteractiveDepartureDate)
01055         };
01056     }
01057
01058     // Check whether the selected airportpair-date is valid:
01059     // i.e. if there are corresponding fare rules.
01060     const bool isAirportPairDateValid =
01061         simfqtService.check (lInteractiveOrigin, lInteractiveDestination,
01062             lInteractiveDepartureDate);
01063
01064     if (isAirportPairDateValid == false) {
01065         std::ostringstream oFDKStr;
01066         oFDKStr << "The airport pair/departure date: "
01067             << lInteractiveOrigin << "-" << lInteractiveDestination
01068             << "/" << lInteractiveDepartureDate
01069             << " does not correpond to any fare rule.\n"
01070             << "Make sure it exists with the 'list' command.";
01071         std::cout << oFDKStr.str() << std::endl;
01072         STDAIR_LOG_ERROR (oFDKStr.str());
01073
01074         break;
01075     }
01076
01077     // Display the list of corresponding fare rules.
01078     std::cout << "List of fare rules for "
01079         << lInteractiveOrigin << "-"
01080         << lInteractiveDestination << "/"
01081         << lInteractiveDepartureDate
01082         << std::endl;
01083
01084     const std::string& lFareRuleListStr =
01085         simfqtService.csvDisplay (lInteractiveOrigin,
01086             lInteractiveDestination,
01087             lInteractiveDepartureDate);
01088
01089     assert (lFareRuleListStr.empty() == false);
01090     std::cout << lFareRuleListStr << std::endl;
01091     STDAIR_LOG_DEBUG (lFareRuleListStr);
01092
01093     break;
01094 }
01095
01096 // ////////////////////////////////// Price //////////////////////////////////
01097 case Command_T::PRICE: {
01098
01099     // If no parameters are entered by the user, keep default ones.
01100     if (lTokenListByReadline.empty() == true) {
01101
01102         lInteractiveTravelSolution = lInteractiveTravelSolutionList.front();
01103
01104         std::cout << "No parameters specified. Default booking request and
default travel solution list are kept.\n"
01105             << "Booking request: << "
01106             << lInteractiveBookingRequest.display() << " >>"

```

```

01107         << "\nTravel Solution: << "
01108         << lInteractiveTravelSolution.display() << " >>"
01109         << "\n***** \n"
01110         << "Fare quote"
01111         << "\n*****"
01112         << std::endl;
01113
01114         // Try to fareQuote the sample list of travel solutions.
01115         try {
01116             simfqtService.quotePrices (lInteractiveBookingRequest,
01117                                     lInteractiveTravelSolutionList);
01118         } catch (stdair::ObjectNotFoundException& E) {
01119             std::cerr << "The given travel solution corresponding to the given
booking request can not be priced.\n"
01120                     << E.what()
01121                     << std::endl;
01122             break;
01123         }
01124     } else {
01125
01126         // Find the best match corresponding to the given parameters.
01127         TokenList_T lTokenList =
01128             extractTokenListForTSAndBR (lTokenListByReadline);
01129
01130         // Parse the best match, and give default values in case the
01131         // user does not specify all the parameters or does not
01132         // specify some of them correctly.
01133         stdair::BookingRequestStruct lFinalBookingRequest
01134             = parseTravelSolutionAndBookingRequestKey (lTokenList,
01135
01136 lInteractiveTravelSolutionList,
01137                                     lInteractiveBookingRequest
01138 );
01139
01140         assert (lInteractiveTravelSolutionList.size() >= 1);
01141         lInteractiveTravelSolution = lInteractiveTravelSolutionList.front();
01142
01143         // Display the booking request and the first travel solution
01144         // before pricing.
01145         std::cout << "Booking request: << "
01146                 << lFinalBookingRequest.display() << " >>"
01147                 << "\nTravel Solution: << "
01148                 << lInteractiveTravelSolution.display() << " >>"
01149                 << "\n***** \n"
01150                 << "Fare quote"
01151                 << "\n*****"
01152                 << std::endl;
01153
01154         // Try to fareQuote the sample list of travel solutions.
01155         try {
01156             simfqtService.quotePrices (lFinalBookingRequest,
01157                                     lInteractiveTravelSolutionList);
01158         } catch (stdair::ObjectNotFoundException& E) {
01159             std::cerr << "The given travel solution corresponding to the given
booking request can not be priced.\n"
01160                     << E.what()
01161                     << std::endl;
01162             break;
01163         }
01164
01165         // Display the first travel solution after pricing:
01166         // one or more fare option have been added.
01167         lInteractiveTravelSolution = lInteractiveTravelSolutionList.front();
01168         std::cout << "Travel Solution: << "
01169                 << lInteractiveTravelSolution.display() << " >>\n"
01170                 << std::endl;
01171
01172         break;
01173     }
01174
01175     // ////////////////////////////////// Default / No value //////////////////////////////////
01176     case Command_T::NOP: {

```

```

01177         break;
01178     }
01179     case Command_T::LAST_VALUE:
01180     default: {
01181         // DEBUG
01182         std::ostringstream oStr;
01183         oStr << "The '" << lUserInput << "' command is not yet understood.\n"
01184             << "Type help to have more information." << std::endl;
01185
01186         STDAIR_LOG_DEBUG (oStr.str());
01187         std::cout << oStr.str() << std::endl;
01188     }
01189 }
01190 }
01191
01192 // DEBUG
01193 STDAIR_LOG_DEBUG ("End of the session. Exiting.");
01194 std::cout << "End of the session. Exiting." << std::endl;
01195
01196 // Close the Log outputFile
01197 logOutputFile.close();
01198
01199 /*
01200 Note: as that program is not intended to be run on a server in
01201 production, it is better not to catch the exceptions. When it
01202 happens (that an exception is throwned), that way we get the
01203 call stack.
01204 */
01205
01206 return 0;
01207 }

```

## 25.61 test/simfqt/FQTTestSuite.cpp File Reference

### 25.62 FQTTestSuite.cpp

```

00001
00005 // //////////////////////////////////////
00006 // Import section
00007 // //////////////////////////////////////
00008 // STL
00009 #include <sstream>
00010 #include <fstream>
00011 #include <string>
00012 // Boost Unit Test Framework (UTF)
00013 #define BOOST_TEST_DYN_LINK
00014 #define BOOST_TEST_MAIN
00015 #define BOOST_TEST_MODULE FQTTestSuite
00016 #include <boost/test/unit_test.hpp>
00017 // StdAir
00018 #include <stdair/basic/BasLogParams.hpp>
00019 #include <stdair/basic/BasDBParams.hpp>
00020 #include <stdair/basic/BasFileMgr.hpp>
00021 #include <stdair/service/Logger.hpp>
00022 #include <stdair/bom/TravelSolutionStruct.hpp>
00023 #include <stdair/bom/BookingRequestStruct.hpp>
00024 // SimFQT
00025 #include <simfqt/SIMFQT_Service.hpp>
00026 #include <simfqt/config/simfqt-paths.hpp>
00027
00028 namespace boost_utf = boost::unit_test;
00029
00033 struct UnitTestConfig {
00035     UnitTestConfig() {
00036         static std::ofstream _test_log ("FQTTestSuite_utfresults.xml");
00037         boost_utf::unit_test_log.set_stream (_test_log);
00038         boost_utf::unit_test_log.set_format (boost_utf::XML);
00039         boost_utf::unit_test_log.set_threshold_level (boost_utf::log_test_units);
00040         //boost_utf::unit_test_log.set_threshold_level
00041         (boost_utf::log_successful_tests);

```

```

00041     }
00042
00044     ~UnitTestConfig() {
00045     }
00046 };
00047
00048 // //////////////////////////////////////
00052 void testFareQuoterHelper (const unsigned short iTestFlag,
00053                          const stdair::Filename_T iFareInputFilename,
00054                          const bool isBuiltin) {
00055
00056     // Output log File
00057     std::ostringstream oStr;
00058     oStr << "FQTTTestSuite_" << iTestFlag << ".log";
00059     const stdair::Filename_T lLogFilename (oStr.str());
00060
00061     // Set the log parameters
00062     std::ofstream logOutputFile;
00063     // Open and clean the log outputfile
00064     logOutputFile.open (lLogFilename.c_str());
00065     logOutputFile.clear();
00066
00067     // Initialise the SimFQT service object
00068     const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
00069                                           logOutputFile);
00070
00071     // Initialise the Simfqt service object
00072     SIMFQT::SIMFQT_Service simfqtService (lLogParams);
00073
00074     // Check wether or not a (CSV) input file should be read
00075     if (isBuiltin == true) {
00076
00077         // Build the default sample BOM tree (filled with fares) for Simfqt
00078         simfqtService.buildSampleBom();
00079
00080     } else {
00081
00082         // Build the BOM tree from parsing the fare input file
00083         SIMFQT::FareFilePath lFareFilePath (iFareInputFilename);
00084         simfqtService.parseAndLoad (lFareFilePath);
00085     }
00086
00087     // Build a sample list of travel solutions and a booking request.
00088     stdair::TravelSolutionList_T lTravelSolutionList;
00089     simfqtService.buildSampleTravelSolutions (lTravelSolutionList);
00090     stdair::BookingRequestStruct lBookingRequest =
00091         simfqtService.buildBookingRequest();
00092
00093     // Try to fareQuote the sample list of travel solutions
00094     simfqtService.quotePrices (lBookingRequest, lTravelSolutionList);
00095
00096     // Close the log file
00097     logOutputFile.close();
00098
00099 }
00100
00101 // ////////////////////////////////// Main: Unit Test Suite //////////////////////////////////
00102
00103 // Set the UTF configuration (re-direct the output to a specific file)
00104 BOOST_GLOBAL_FIXTURE (UnitTestConfig);
00105
00106 // Start the test suite
00107 BOOST_AUTO_TEST_SUITE (master_test_suite)
00108
00109
00112 BOOST_AUTO_TEST_CASE (simfqt_simple_pricing_test) {
00113
00114     // Input file name
00115     const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "/fare01.csv")
00116     ;
00117
00118     // State whether the BOM tree should be built-in or parsed from an input file
00119     const bool isBuiltin = false;

```

```
00120 // Try to fareQuote the sample default list of travel solutions
00121 BOOST_CHECK_NO_THROW (testFareQuoterHelper (0, lFareInputFilename, isBuiltin)
);
00122 }
00123 }
00124
00129 BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_01) {
00130
00131 // Input file name
00132 const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError01.csv");
00133
00134 // State whether the BOM tree should be built-in or parsed from an input file
00135 const bool isBuiltin = false;
00136
00137 // Try to fareQuote the sample default list of travel solutions
00138 BOOST_CHECK_THROW (testFareQuoterHelper (1, lFareInputFilename, isBuiltin),
SIMFQT::AirportPairNotFoundException);
00139 }
00140
00141
00146 BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_02) {
00147
00148 // Input file name
00149 const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError02.csv");
00150
00151 // State whether the BOM tree should be built-in or parsed from an input file
00152 const bool isBuiltin = false;
00153
00154 // Try to fareQuote the sample default list of travel solutions
00155 BOOST_CHECK_THROW (testFareQuoterHelper (2, lFareInputFilename, isBuiltin),
SIMFQT::PosOrChannelNotFoundException);
00156 }
00157
00158
00163 BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_03) {
00164
00165 // Input file name
00166 const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError03.csv");
00167
00168 // State whether the BOM tree should be built-in or parsed from an input file
00169 const bool isBuiltin = false;
00170
00171 // Try to fareQuote the sample default list of travel solutions
00172 BOOST_CHECK_THROW (testFareQuoterHelper (3, lFareInputFilename, isBuiltin),
SIMFQT::FlightDateNotFoundException);
00173 }
00174
00175
00180 BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_04) {
00181
00182 // Input file name
00183 const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError04.csv");
00184
00185 // State whether the BOM tree should be built-in or parsed from an input file
00186 const bool isBuiltin = false;
00187
00188 // Try to fareQuote the sample default list of travel solutions
00189 BOOST_CHECK_THROW (testFareQuoterHelper (4, lFareInputFilename, isBuiltin),
SIMFQT::FlightTimeNotFoundException);
00190 }
00191
00192
00197 BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_05) {
00198
00199 // Input file name
00200 const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError05.csv");
00201
00202 // State whether the BOM tree should be built-in or parsed from an input file
00203 const bool isBuiltin = false;
00204
00205 // Try to fareQuote the sample default list of travel solutions
00206 BOOST_CHECK_THROW (testFareQuoterHelper (5, lFareInputFilename, isBuiltin),
SIMFQT::FeaturesNotFoundException);
00207 }
```

```
00208 }
00209
00214 BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_06) {
00215
00216     // Input file name
00217     const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError06.csv");
00218
00219     // State whether the BOM tree should be built-in or parsed from an input file
00220     const bool isBuiltin = false;
00221
00222     // Try to fareQuote the sample default list of travel solutions
00223     BOOST_CHECK_THROW (testFareQuoterHelper (6, lFareInputFilename, isBuiltin),
00224         SIMFQT::AirlineNotFoundException);
00225 }
00226
00231 BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_07) {
00232
00233     // Input file name
00234     const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/fareError07.csv");
00235
00236     // State whether the BOM tree should be built-in or parsed from an input file
00237     const bool isBuiltin = false;
00238
00239     // Try to fareQuote the sample default list of travel solutions
00240     BOOST_CHECK_THROW (testFareQuoterHelper (7, lFareInputFilename, isBuiltin),
00241         SIMFQT::FareFileParsingFailedException);
00242 }
00243
00248 BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_08) {
00249
00250     // Input file name
00251     const stdair::Filename_T lFareInputFilename (STDAIR_SAMPLE_DIR "
/missingFile.csv");
00252
00253     // State whether the BOM tree should be built-in or parsed from an input file
00254     const bool isBuiltin = false;
00255
00256     // Try to fareQuote the sample default list of travel solutions
00257     BOOST_CHECK_THROW (testFareQuoterHelper (8, lFareInputFilename, isBuiltin),
00258         SIMFQT::FareInputFileNotFoundedException);
00259 }
00260
00265 BOOST_AUTO_TEST_CASE (simfqt_error_pricing_test_09) {
00266
00267     // Input file name
00268     const stdair::Filename_T lEmptyInputFilename (STDAIR_SAMPLE_DIR "/" );
00269
00270     // State whether the BOM tree should be built-in or parsed from an input file
00271     const bool isBuiltin = true;
00272
00273     // Try to fareQuote the sample default list of travel solutions
00274     BOOST_CHECK_NO_THROW (testFareQuoterHelper (9, lEmptyInputFilename, isBuiltin)
    );
00275 }
00276
00277
00278 // End the test suite
00279 BOOST_AUTO_TEST_SUITE_END()
00280
00281
```

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