

AirRAC

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1 AirRAC Documentation

1.1 Getting Started

- [Main features](#)
- [Installation](#)
- [Linking with AirRAC](#)
- [Users Guide](#)
- [Tutorials](#)
- [Copyright and License](#)
- [Make a Difference](#)
- [Make a new release](#)
- [People](#)

1.2 AirRAC at SourceForge

- [Project page](#)
- [Download AirRAC](#)
- [Open a ticket for a bug or feature](#)
- [Mailing lists](#)
- [Forums](#)
 - [Discuss about Development issues](#)
 - [Ask for Help](#)
 - [Discuss AirRAC](#)

1.3 AirRAC Development

- [Git Repository](#) (Subversion is deprecated)
- [Coding Rules](#)
- [Documentation Rules](#)
- [Test Rules](#)

1.4 External Libraries

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

1.5 Support AirRAC

1.6 About AirRAC

AirRAC is a C++ library of airline revenue accounting classes and functions, mainly targeting simulation purposes. [N](#)

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

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

AirRAC 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 AirRAC 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 AirRAC.

2 People

2.1 Project Admins (and Developers)

- Gabrielle Sabatier <gsabatier@users.sourceforge.net> (N)
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- Denis Arnaud <denis_arnaud@users.sourceforge.net> (N)

2.2 Retired Developers

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- Son Nguyen Kim <snguyenkim@users.sourceforge.net> (N)

2.3 Contributors

- Emmanuel Bastien <ebastien@users.sourceforge.net> (N)

2.4 Distribution Maintainers

- **Fedora/RedHat**: Denis Arnaud <denis_arnaud@users.sourceforge.net> (N)
- **Debian**: Emmanuel Bastien <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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of this license document, but changing it is not allowed.

[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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Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that

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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When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

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.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

4.3 TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

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data) to form executables.

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"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent

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Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

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

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)
- b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.
- c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

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14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

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4.3.2 END OF TERMS AND CONDITIONS

4.4 How to Apply These Terms to Your New Programs

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

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 AirRAC 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 AirRAC 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.
 *
 * -----
 *
 * AirRAC - C++ Simulated Revenue Accounting (RAC) System Library
 *
 * Copyright (C) 2009-2011 (\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 AirRAC is given below sorted in different categories. Many more features and functions exist and for these we refer to the reference documentation.

6.1 Yield calculation

- Calculation of yields from statistics on tickets/coupons

6.2 Yield rule engine

- Yield rules: storage, engine, management

6.3 Yield retrieval

- Retrieval of yields 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 AirRAC can do for you. Ask what you can do for AirRAC.

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

- Start using AirRAC
- Tell your friends about AirRAC 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 AirRAC discussion forums on SourceForge. If you know the answer to a question, help others to overcome their AirRAC 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 us to port AirRAC to new platforms. If you manage to compile AirRAC on a new platform, then tell us how you did it.
- Send us your code. If you have a good AirRAC compatible code, which you can release under the LGPL, and you think it should be included in AirRAC, then send it to us.
- Become an AirRAC developer. Send us an e-mail and tell what you can do for AirRAC.

8 Make a new release

8.1 Introduction

This document describes briefly the recommended procedure of releasing a new version of AirRAC 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://airrac.git.sourceforge.net/gitroot/airrac/airrac airracgit
cd airracgit
git checkout trunk
```

8.3 Branch creation

Create the branch, on your local clone, corresponding to the new release (say, 0.5.0):

```
cd ~/dev/sim/airracgit
git checkout trunk
git checkout -b 0.5.0
```

Update the version in the various build system files, replacing 99.99.99 by the correct version number:

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

Update the version and add a change-log in the ChangeLog and in the RPM specification files:

```
vi ChangeLog
vi airrac.spec
```

8.4 Commit and publish the release branch

Commit the new release:

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

8.5 Update the change-log in the trunk as well

Update the change-log in the ChangeLog and RPM specification files:

```
cd ~/dev/sim/airracgit
git checkout trunk
vi ChangeLog
vi airrac.spec
```

Commit the change-logs and publish the trunk (main development branch):

```
git commit -m "[Doc] Integrated the change-log of the release 0.5.0."
git push
```

8.6 Create distribution packages

Create the distribution packages using the following command:

```
cd ~/dev/sim/airracgit
git checkout 0.5.0
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/airrac-0.5.0 \
      -DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ..
make check && make dist
```

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

8.7 Generation the RPM packages

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

```
cd ~/dev/sim/airracgit
git checkout 0.5.0
rm -rf build && mkdir -p build
cd build
cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/airrac-0.5.0 \
      -DCMAKE_BUILD_TYPE:STRING=Debug -DINSTALL_DOC:BOOL=ON ..
make dist
```

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

```
cp airrac.spec ~/dev/packages/SPECS \  
  && cp airrac-0.5.0.tar.bz2 ~/dev/packages/SOURCES  
cd ~/dev/packages/SPECS  
rpmbuild -ba airrac.spec  
rpmlint -i ../SPECS/airrac.spec ../SRPMS/airrac-0.5.0-1.fc15.src.rpm \  
  ../RPMS/noarch/airrac-* ../RPMS/i686/airrac-*
```

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 [AirRAC'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:

```
make package
```

The output binary package will be named, for instance, `airrac-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 Upload the documentation to SourceForge

In order to update the Web site files, either:

- [synchronise them with rsync and SSH](#):

```
cd ~/dev/sim/airracgit  
git checkout 0.5.0  
rsync -aiv doc/html/ doc/latex/refman.pdf joe,airrac@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](#).

8.12 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](#).

8.13 Send an email on the announcement mailing-list

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

9 Installation

9.1 Table of Contents

- [Fedora/RedHat Linux distributions](#)
- [AirRAC Requirements](#)
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- [Compiling For Multiple Architectures](#)
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- [Specifying the System Type](#)
- [Sharing Defaults](#)
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- [‘cmake’ Invocation](#)

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 airrac-devel airrac-doc
```

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

9.3 AirRAC Requirements

AirRAC 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 AirRAC.

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 files `'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 'configure', 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:

```

cmake -DCMAKE_INSTALL_PREFIX=/home/user/dev/deliveries/airrac-0.5.0 \
-DLIB_SUFFIX=64 -DCMAKE_BUILD_TYPE:String=Debug -DINSTALL_DOC:BOOL=ON \
-DWITH_STDAIR_PREFIX=/home/user/dev/deliveries/stdair-stable ..
-- The C compiler identification is GNU
-- The CXX compiler identification is GNU
-- Check for working C compiler: /usr/lib64/ccache/gcc
-- Check for working C compiler: /usr/lib64/ccache/gcc -- works
-- Detecting C compiler ABI info
-- Detecting C compiler ABI info - done
-- Check for working CXX compiler: /usr/lib64/ccache/c++
-- Check for working CXX compiler: /usr/lib64/ccache/c++ -- works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Requires Git without specifying any version
-- Current Git revision name: fd0a80b436abd00facc362505699501b2e7acf58 trunk
-- Requires Boost-1.41
-- Boost version: 1.46.0
-- Found the following Boost libraries:
--   program_options
--   date_time
--   iostreams
--   serialization
--   filesystem
--   unit_test_framework
-- Found Boost version: 1.46.0
-- Found BoostWrapper: /usr/include (found suitable version "1.46.0", required is "1.41")
-- Requires MySQL without specifying any version
-- Using mysql-config: /usr/bin/mysql_config
-- Found MySQL: /usr/lib64/mysql/libmysqlclient.so (found version "5.5.14")
-- Found MySQL version: 5.5.14
-- Requires SOCI-3.0
-- Using soci-config: /usr/bin/soci-config
-- SOCI headers are buried
-- Found SOCI: /usr/lib64/libsoci_core.so (found suitable version "3.0.0", required is "3.0")
-- Found SOCIMySQL: /usr/lib64/libsoci_mysql.so (found suitable version "3.0.0", required is "3.0")
-- Found SOCI with MySQL back-end support version: 3.0.0
-- Requires StdAir-0.35
-- Found StdAir version: 0.36.2
-- Requires Doxygen without specifying any version
-- Found Doxygen: /usr/bin/doxygen
-- Found DoxygenWrapper: /usr/bin/doxygen (found version "1.7.4")
-- Found Doxygen version: 1.7.4
-- Had to set the linker language for 'airraclib' to CXX
-- Test 'YieldTestSuite' to be built with 'YieldTestSuite.cpp'
--
-- =====
--
-- ---      Project Information      ---
--
-- PROJECT_NAME ..... : airrac
-- PACKAGE_PRETTY_NAME ..... : AirRAC
-- PACKAGE ..... : airrac
-- PACKAGE_NAME ..... : AIRRAC
-- PACKAGE_VERSION ..... : 0.5.0
-- GENERIC_LIB_VERSION ..... : 0.5.0
-- GENERIC_LIB_SOVERSION ..... : 99.99
--
-- -----
--
-- ---      Build Configuration      ---
--
-- Modules to build ..... : airrac
-- Libraries to build ..... : airraclib

```

```

-- Binaries to build ..... : airrac
-- Modules to test ..... : airrac
-- Binaries to test ..... : YieldTestSuitetst
--
-- * Module ..... : airrac
--   + Layers to be built ..... : .;basic;bom;factory;command;service
--   + Dependencies on other layers :
--   + Libraries to be built ..... : airraclib
--   + Executables to be built .... : airrac
--   + Test to be checked ..... : YieldTestSuitetst
--
-- BUILD_SHARED_LIBS ..... : ON
-- CMAKE_BUILD_TYPE ..... : Debug
-- CMAKE_MODULE_PATH ..... : /home/user/dev/sim/airrac/airracgithub/config/
-- CMAKE_INSTALL_PREFIX ..... : /home/user/dev/deliveries/airrac-0.5.0
--
-- * Doxygen:
--   - DOXYGEN_VERSION ..... : 1.7.4
--   - DOXYGEN_EXECUTABLE ..... : /usr/bin/doxygen
--   - DOXYGEN_DOT_EXECUTABLE ..... : /usr/bin/dot
--   - DOXYGEN_DOT_PATH ..... : /usr/bin
--
-----
-- --- Installation Configuration ---
-----
-- INSTALL_LIB_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/lib64
-- INSTALL_BIN_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/bin
-- INSTALL_INCLUDE_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/include
-- INSTALL_DATA_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/share
-- INSTALL_SAMPLE_DIR ..... : /home/user/dev/deliveries/airrac-0.5.0/share/airrac/samples
-- INSTALL_DOC ..... : ON
--
-----
-- --- Packaging Configuration ---
-----
-- CPACK_PACKAGE_CONTACT ..... : Denis Arnaud <denis_arnaud - at - users dot sourceforge dot m
-- CPACK_PACKAGE_VENDOR ..... : Denis Arnaud
-- CPACK_PACKAGE_VERSION ..... : 0.5.0
-- CPACK_PACKAGE_DESCRIPTION_FILE . : /home/user/dev/sim/airrac/airracgithub/README
-- CPACK_RESOURCE_FILE_LICENSE ... : /home/user/dev/sim/airrac/airracgithub/COPYING
-- CPACK_GENERATOR ..... : TBZ2
-- CPACK_DEBIAN_PACKAGE_DEPENDS ... :
-- CPACK_SOURCE_GENERATOR ..... : TBZ2;TGZ
-- CPACK_SOURCE_PACKAGE_FILE_NAME . : airrac-0.5.0
--
-----
-- --- External libraries ---
-----
--
-- * Boost:
--   - Boost_VERSION ..... : 104600
--   - Boost_LIB_VERSION ..... : 1_46
--   - Boost_HUMAN_VERSION ..... : 1.46.0
--   - Boost_INCLUDE_DIRS ..... : /usr/include
--   - Boost required components .. : program_options;date_time;iostreams;serialization;filesystem
--   - Boost required libraries ... : optimized;/usr/lib64/libboost_iostreams-mt.so;debug;/usr/lib
--
-- * MySQL:
--   - MYSQL_VERSION ..... : 5.5.14
--   - MYSQL_INCLUDE_DIR ..... : /usr/include/mysql
--   - MYSQL_LIBRARIES ..... : /usr/lib64/mysql/libmysqlclient.so
--

```



```
-- * SOCI:
--   - SOCI_VERSION ..... : 3.0.0
--   - SOCI_INCLUDE_DIR ..... : /usr/include/soci
--   - SOCI_MYSQL_INCLUDE_DIR ..... : /usr/include/soci
--   - SOCI_LIBRARIES ..... : /usr/lib64/libsoci_core.so
--   - SOCI_MYSQL_LIBRARIES ..... : /usr/lib64/libsoci_mysql.so
--
-- * StdAir:
--   - STDAIR_VERSION ..... : 0.36.2
--   - STDAIR_BINARY_DIRS ..... : /home/user/dev/deliveries/stdair-0.36.2/bin
--   - STDAIR_EXECUTABLES ..... : stdair
--   - STDAIR_LIBRARY_DIRS ..... : /home/user/dev/deliveries/stdair-0.36.2/lib64
--   - STDAIR_LIBRARIES ..... : stdairlib;stdairuicllib
--   - STDAIR_INCLUDE_DIRS ..... : /home/user/dev/deliveries/stdair-0.36.2/include
--   - STDAIR_SAMPLE_DIR ..... : /home/user/dev/deliveries/stdair-0.36.2/share/stdair/samples
--
-- Change a value with: cmake -D<Variable>=<Value>
-- =====
--
-- Configuring done
-- Generating done
-- Build files have been written to: /home/user/dev/sim/airrac/airracgithub/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_airrac
[ 90%] Built target airraclib
[100%] Built target YieldTestSuitetst
Test project /home/user/dev/sim/airrac/airracgithub/build/test/airrac
  Start 1: YieldTestSuitetst
1/1 Test #1: YieldTestSuitetst ..... Passed    0.03 sec

100% tests passed, 0 tests failed out of 1

Total Test time (real) = 0.23 sec
[100%] Built target check_airractst
[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/airracgit
rm -rf build && mkdir build
cd build
```

to remove everything.

10 Linking with AirRAC

10.1 Table of Contents

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

10.2 Introduction

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

10.3 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 AirRAC based program 'my_prog.cpp', you should use the following command:

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

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

10.4 Using the airrac-config script

AirRAC provides a shell script called `'airrac-config'`, which is installed by default in `'$prefix/bin'` (`'/usr/local/bin'`) directory. It can be used to simplify compilation and linking of AirRAC 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++ `airrac-config --cflags` -o my_prog_opt my_prog.cpp `airrac-config --libs`
```

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

```
airrac-config --help
```

If the `'airrac-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
```

10.5 M4 macro for the GNU Autotools

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

- `'AirRAC_VERSION'` (e.g., defined to 0.23.0)
- `'AirRAC_CFLAGS'` (e.g., defined to `'-I${prefix}/include'`)
- `'AirRAC_LIBS'` (e.g., defined to `'-L${prefix}/lib -lairrac'`)

10.6 Using AirRAC with dynamic linking

When using static linking some of the library routines in AirRAC 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 AirRAC library file during your program execution. If you install the AirRAC 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=<AirRAC installation prefix>/lib:$LD_LIBRARY_PATH
```

11 Test Rules

This section describes how the functionality of the AirRAC library should be verified. In the `'test/airrac'` subdirectory, test source files are provided. All functionality should be tested using these test source files.

11.1 The Test Source Files

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

The test source 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 source file should be placed in the `'test/airrac'` subdirectory and should have a name ending with `'TestSuite.cpp'`.

11.2 The Reference File

Consider a test source file named `'YieldTestSuite.cpp'`. A reference file named `'YieldTestSuite.ref'` should accompany the test source 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 source file.

11.3 Testing AirRAC Library

One can compile and execute all test programs from the `'test/airrac'` sub-directory by typing:

```
% make check
```

after successful compilation of the AirRAC library.

12 Users Guide

12.1 Table of Contents

- [Introduction](#)
- [Get Started](#)
 - [Get the AirRAC library](#)

- Build the AirRAC project
 - Build and Run the Tests
 - Install the AirRAC Project (Binaries, Documentation)
- Exploring the Predefined BOM Tree
 - Yield Rule Engine BOM Tree
- Extending the BOM Tree

12.2 Introduction

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

12.3 Get Started

12.3.1 Get the AirRAC library

12.3.2 Build the AirRAC project

To run the configuration script the first time, go to the top directory (where the `AirRAC` package has been un-packed), and issue either of the following two commands, depending on whether the `AirRAC` project has been checked out from the Subversion repository or downloaded as a tar-ball package from the Sourceforge Web site:

- `./autogen.sh`
- `./configure`

12.3.3 Build and Run the Tests

12.3.4 Install the AirRAC Project (Binaries, Documentation)

12.4 Exploring the Predefined BOM Tree

`AirRAC` predefines a BOM (Business Object Model) tree specific to the airline IT arena.

12.4.1 Yield Rule Engine BOM Tree

- `AIRRAC::YieldRuleStruct`

12.5 Extending the BOM Tree

13 Supported Systems

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13.2 Introduction

This page is intended to provide a list of AirRAC supported systems, i.e. the systems on which configuration, installation and testing process of the AirRAC 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 AirRAC library on a system not mentioned below, please let us know, so we could update this database.

13.3 AirRAC 0.1.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
- **AirRAC release:** 0.1.0
- **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:** AirRAC 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
- **AirRAC release:** 0.1.1
- **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
```

AirRAC 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
- **AirRAC release:** 0.1.1
- **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
```

AirRAC 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
- **AirRAC release:** 0.1.0
- **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:** AirRAC configured using the following commands:

```
% export LDFLAGS="-I/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
- **AirRAC release:** 0.1.1
- **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
```

AirRAC configured with:

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

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

13.3.1.6 Red Hat Enterprise Linux with AirRAC 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)
- **AirRAC release:** 0.1.0
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from AirRAC 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
- **AirRAC release:** 0.1.0
- **External Libraries:** BLAS, LAPACK and FFTW libraries installed from OpenSuse 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:** AirRAC 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
- **AirRAC release:** 0.1.0
- **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:** AirRAC 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)
- **AirRAC release:** 0.1.1
- **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. AirRAC 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)
- **AirRAC release:** 0.1.1
- **External Libraries:** Installed from Cygwin's repository:

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

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

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

- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. AirRAC 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)
- **AirRAC release:** 0.1.2
- **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. AirRAC 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)
- **AirRAC release:** 0.1.2
- **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. AirRAC 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 AirRAC 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)
- **AirRAC release:** 0.1.5
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from AirRAC External 2.2.0 package
- **Tests Status:** All tests PASSED
- **Comments:** Only static library can be built. AirRAC 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
- **AirRAC release:** 0.1.5
- **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 AirRAC based programs compiled and run with success.
- **Comments:** Only static library can be built. AirRAC built by opening the "win32\airrac.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 AirRAC External

- **Platform:** SUNW, Sun-Blade-100 (SPARC)
- **Operating System:** SunOS 5.9 Generic_112233-10
- **Compiler(s):** g++ (GCC) 3.4.5
- **AirRAC release:** 0.1.2
- **External Libraries:** BLAS, CBLAS, LAPACK and FFTW libraries from AirRAC 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:** AirRAC 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 AirRAC Supported Systems (Previous Releases)

14.1 AirRAC 3.9.1

14.2 AirRAC 3.9.0

14.3 AirRAC 3.8.1

15 Tutorials

15.1 Table of Contents

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 - [Instantiate the BOM Root Object](#)
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 - [Build Another Airline Inventory](#)
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15.2 Introduction

This page contains some tutorial examples that will help you getting started using AirRAC. Most examples show how to construct some simple business objects, i.e., instances of the so-named Business Object Model (BOM).

15.2.1 Preparing the AirRAC Project for Development

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

15.3 Build a Predefined BOM Tree

A few steps:

- [Instantiate the BOM Root Object](#)
- [Instantiate the \(Airline\) Inventory Object](#)
- [Link the Inventory Object with the BOM Root](#)

15.3.1 Instantiate the BOM Root Object

First, a BOM root object (i.e., a root for all the classes in the project) is instantiated by the `airrac::AIRRAC_ServiceContext` context object, when the `airrac::AIRRAC_Service` is itself instantiated. The corresponding `AirRAC` type (class) is `airrac::BomRoot`.

In the following sample, that object is named `ioBomRoot`, and is given as input/output parameter of the `airrac::CmdBomManager::buildSampleBom()` method:

15.3.2 Instantiate the (Airline) Inventory Object

An airline inventory object can then be instantiated. Let us give it the "BA" airline code (corresponding to `British Airways`) as the object key. That is, an object (let us name it `lBAKey`) of type (class) `airrac::InventoryKey` has first to be instantiated.

Thanks to that key, an airline inventory object, i.e. of type (class) `airrac::Inventory`, can be instantiated. Let us name that airline inventory object `lBAInv`.

15.3.3 Link the Inventory Object with the BOM Root

Then, both objects have to be linked: the airline inventory object (`airrac::Inventory`) has to be linked with the root of the BOM tree (`airrac::BomRoot`). That operation is as simple as using the `airrac::FacBomManager::addToListAndMap()` method:

15.3.4 Build Another Airline Inventory

Another airline inventory object, corresponding to the Air France (`Air France`) company, is instantiated the same way:

See the corresponding full program (`cmd_bom_manager_cpp`) for more details.

15.3.5 Dump The BOM Tree Content

From the `BomRoot` (of type `airrac::BomRoot`) object instance, the list of airline inventories (of type `airrac::Inventory`) can then be retrieved...

... and browsed:

See the corresponding full program (bom_display_cpp) for more details.

15.3.6 Result of the Tutorial Program

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

```
[D]/home/user/dev/sim/airrac/airracgithub/airrac/batches/airrac.cpp:184: Welcome
to AirRAC
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:49
3: Parsing yield input file: /home/user/dev/deliveries/stdair-0.36.2/share/stdair
/samples/yieldstore01.csv
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 1, SIN-BKK (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 200 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 2, SIN-HND (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 200 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 3, SIN-NCE (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 1200 EUR, SQ / Y - AF / YLMN
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 4, SIN-BKK (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 300 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 5, SIN-HND (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 300 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:32
6: YieldRule: 6, SIN-NCE (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:59:0
0], Y, 1500 EUR, SQ / Y - AF / YLMN
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:54
1: Parsing of yield input file: /home/user/dev/deliveries/stdair-0.36.2/share/std
air/samples/yieldstore01.csv succeeded
[D]/home/user/dev/sim/airrac/airracgithub/airrac/batches/airrac.cpp:205: BOM tree
:
=====
BomRoot:  -- ROOT  --
=====
+++++
AirportPair: SIN, BKK
+++++
-----
DatePeriod: [2010-Jan-15/2011-Jan-01]
-----
*****
PosChannel: ALL, DC
*****
-----
TimePeriod: 00:00:00-23:59:00
-----
-----
```

```

Fare/yield-Features: OW -- Y
-----
-----
AirlineClassList: SQ Y
-----
-----
Fare/yield-Features: RT -- Y
-----
-----
AirlineClassList: SQ Y
-----
+++++
AirportPair: SIN, HND
+++++
-----
DatePeriod: [2010-Jan-15/2011-Jan-01]
-----
*****
PosChannel: ALL, DC
*****
-----
TimePeriod: 00:00:00-23:59:00
-----
-----
Fare/yield-Features: OW -- Y
-----
-----
AirlineClassList: SQ Y
-----
-----
Fare/yield-Features: RT -- Y
-----
-----
AirlineClassList: SQ Y
-----
+++++
AirportPair: SIN, NCE
+++++
-----
DatePeriod: [2010-Jan-15/2011-Jan-01]
-----
*****
PosChannel: ALL, DC
*****
-----
TimePeriod: 00:00:00-23:59:00
-----
-----
Fare/yield-Features: OW -- Y
-----
-----
AirlineClassList: SQ Y, AF YLMN
-----
-----
Fare/yield-Features: RT -- Y
-----
-----
AirlineClassList: SQ Y, AF YLMN
-----

[D]/home/user/dev/sim/airrac/airracgithub/airrac/batches/airrac.cpp:210: Travel s
olutions:

```

```
[0] [0] BA, 9, 2011-06-10, LHR, SYD, 21:45 --- Q, 900, 1 1 1 --- [0] Q:8
```

See the corresponding full program (batch_airrac_cpp) for more details.

16 Command-Line Test to Demonstrate How To Test the AirRAC 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 YieldTestSuite
#include <boost/test/unit_test.hpp>
// StdAir
#include <stdair/basic/BasLogParams.hpp>
#include <stdair/basic/BasDBParams.hpp>
#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/bom/TravelSolutionStruct.hpp>
#include <stdair/service/Logger.hpp>
// Airrac
#include <airrac/AIRRAC_Service.hpp>
#include <airrac/config/airrac-paths.hpp>

namespace boost_utf = boost::unit_test;

// (Boost) Unit Test XML Report
std::ofstream utfReportStream ("YieldTestSuite_utfresults.xml");

struct UnitTestConfig {
    UnitTestConfig() {
        boost_utf::unit_test_log.set_stream (utfReportStream);
        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 testYieldQuoterHelper (const unsigned short iTestFlag,
                           const stdair::Filename_T iYieldInputFilename,
                           const bool isBuiltin) {

    // Output log File
    std::ostringstream oStr;
    oStr << "FQTestSuite_" << 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 AirRAC service object
const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
                                       logOutputFile);

// Initialise the AirRAC service object
AIRRAC::AIRRAC_Service airracService (lLogParams);

// Build a sample list of travel solutions
stdair::TravelSolutionList_T lTravelSolutionList;
airracService.buildSampleTravelSolutions (lTravelSolutionList);

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

    // Build the default sample BOM tree (filled with yields) for AirRAC
    airracService.buildSampleBom();

} else {

    // Build the BOM tree from parsing the yield input file
    AIRRAC::YieldFilePath lYieldFilePath (iYieldInputFilename);
    airracService.parseAndLoad (lYieldFilePath);

}

// Calculate the yields for the given travel solution
airracService.calculateYields (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 (airrac_simple_yield) {

    // Input file name
    const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/yieldstore01.
        csv");

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

    // Try to yieldQuote the sample default list of travel solutions
    BOOST_CHECK_NO_THROW (testYieldQuoterHelper (0, lYieldInputFilename, isBuiltin)
        );
}

```

```

}

BOOST_AUTO_TEST_CASE (airrac_error_parsing_input_file) {

    // Input file name
    const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/yieldstoreError01.csv");

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

    // Try to yield quote the sample default list of travel solutions
    BOOST_CHECK_THROW (testYieldQuoterHelper (1, lYieldInputFilename, isBuiltin),
        AIRRAC::YieldFileParsingFailedException);
}

BOOST_AUTO_TEST_CASE (airrac_error_missing_input_file) {

    // Input file name
    const stdair::Filename_T lYieldInputFilename (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 yield quote the sample default list of travel solutions
    BOOST_CHECK_THROW (testYieldQuoterHelper (2, lYieldInputFilename, isBuiltin),
        AIRRAC::YieldInputFileNotFoundException);
}

BOOST_AUTO_TEST_CASE (airrac_simple_yield_built_in) {

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

    // Try to yield quote the sample default list of travel solutions
    BOOST_CHECK_NO_THROW (testYieldQuoterHelper (3, " ", 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:

airrac	56
basic	56
batches	56

bom	57
command	57
config	57
factory	57
service	57
test	57
airrac	56

18 Namespace Index

18.1 Namespace List

Here is a list of all namespaces with brief descriptions:

AIRRAC	58
AIRRAC::YieldParserHelper	59
stdair (Forward declarations)	61

19 Class Index

19.1 Class Hierarchy

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

AIRRAC::AIRRAC_Service	63
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_ostringstream< char >	
std::basic_ostringstream< wchar_t >	
std::basic_string< char >	
std::basic_string< wchar_t >	
std::basic_stringstream< char >	
std::basic_stringstream< wchar_t >	
CmdAbstract	67
AIRRAC::YieldFileParser	100
AIRRAC::YieldParser	104
AIRRAC::YieldRuleGenerator	105
FacServiceAbstract	71
AIRRAC::FacAirracServiceContext	69
FileNotFoundException	72
AIRRAC::YieldInputFileNotFoundException	103
grammar	74
AIRRAC::YieldParserHelper::YieldRuleParser	106
InputFilePath	74
AIRRAC::YieldFilePath	102
ObjectNotFoundException	74
AIRRAC::AirlineNotFoundException	61
AIRRAC::AirportPairNotFoundException	62
AIRRAC::FeaturesNotFoundException	71
AIRRAC::FlightDateNotFoundException	72
AIRRAC::FlightTimeNotFoundException	73
AIRRAC::PosOrChannelNotFoundException	77
AIRRAC::YieldParserHelper::ParserSemanticAction	75
AIRRAC::YieldParserHelper::doEndYield	67
AIRRAC::YieldParserHelper::storeAirlineCode	78

AIRRAC::YieldParserHelper::storeCabinCode	80
AIRRAC::YieldParserHelper::storeChannel	81
AIRRAC::YieldParserHelper::storeClass	83
AIRRAC::YieldParserHelper::storeDateRangeEnd	84
AIRRAC::YieldParserHelper::storeDateRangeStart	86
AIRRAC::YieldParserHelper::storeDestination	87
AIRRAC::YieldParserHelper::storeEndRangeTime	89
AIRRAC::YieldParserHelper::storeOrigin	90
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AIRRAC::YieldParserHelper::storeStartRangeTime	93
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21.1 File List

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22 Directory Documentation

22.1 test/airrac/ Directory Reference

Files

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

22.2 airrac/ Directory Reference

Directories

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

Files

- file [AIRRAC_Service.hpp](#)
- file [AIRRAC_Types.hpp](#)

22.3 airrac/basic/ Directory Reference

Files

- file [BasConst.cpp](#)
- file [BasConst_AIRRAC_Service.hpp](#)
- file [BasConst_General.hpp](#)

22.4 airrac/batches/ Directory Reference

Files

- file [airrac.cpp](#)

22.5 airrac/bom/ Directory Reference

Files

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

22.6 airrac/command/ Directory Reference

Files

- file [YieldManager.cpp](#)
- file [YieldManager.hpp](#)
- file [YieldParser.cpp](#)
- file [YieldParser.hpp](#)
- file [YieldParserHelper.cpp](#)
- file [YieldParserHelper.hpp](#)
- file [YieldRuleGenerator.cpp](#)
- file [YieldRuleGenerator.hpp](#)

22.7 airrac/config/ Directory Reference

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

22.8 airrac/factory/ Directory Reference

Files

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

22.9 airrac/service/ Directory Reference

Files

- file [AIRRAC_Service.cpp](#)
- file [AIRRAC_ServiceContext.cpp](#)
- file [AIRRAC_ServiceContext.hpp](#)

22.10 test/ Directory Reference

Directories

- directory [airrac](#)

23 Namespace Documentation

23.1 AIRRAC Namespace Reference

Namespaces

- namespace [YieldParserHelper](#)

Classes

- class [AIRRAC_Service](#)
Interface for the [AIRRAC](#) Services.
- class [AirportPairNotFoundException](#)
- class [PosOrChannelNotFoundException](#)
- class [FlightDateNotFoundException](#)
- class [FlightTimeNotFoundException](#)
- class [FeaturesNotFoundException](#)
- class [AirlineNotFoundException](#)
- class [YieldInputFileNotFoundException](#)
- class [YieldFileParsingFailedException](#)
- class [QuotingException](#)
- class [YieldFilePath](#)
- struct [YieldRuleStruct](#)
Utility Structure for the parsing of Flight-Date structures.
- class [YieldManager](#)
Command wrapping the travel request process.
- class [YieldParser](#)
Class wrapping the parser entry point.
- class [YieldFileParser](#)
- class [YieldRuleGenerator](#)
- class [FacAirracsServiceContext](#)
Factory for the service context.
- class [AIRRAC_ServiceContext](#)
Inner class holding the context for the [AIRRAC](#) Service object.

Typedefs

- typedef boost::shared_ptr< [AIRRAC_Service](#) > [AIRRAC_ServicePtr_T](#)
- typedef unsigned int [YieldID_T](#)

Variables

- const std::string [DEFAULT_AIRLINE_CODE](#) = "BA"

23.1.1 Typedef Documentation

23.1.1.1 `typedef boost::shared_ptr<AIRRAC_Service>
AIRRAC::AIRRAC_ServicePtr_T`

Definition at line 93 of file [AIRRAC_Types.hpp](#).

23.1.1.2 `typedef unsigned int AIRRAC::YieldID_T`

ID for the Yield Quote system.

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

23.1.2 Variable Documentation

23.1.2.1 `const std::string AIRRAC::DEFAULT_AIRLINE_CODE = "BA"`

Default airline name for the [AIRRAC_Service](#).

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

23.2 AIRRAC::YieldParserHelper Namespace Reference

Classes

- struct [YieldRuleParser](#)
- struct [ParserSemanticAction](#)
- struct [storeYieldId](#)
- struct [storeOrigin](#)
- struct [storeDestination](#)
- struct [storeTripType](#)
- struct [storeDateRangeStart](#)
- struct [storeDateRangeEnd](#)
- struct [storeStartRangeTime](#)
- struct [storeEndRangeTime](#)
- struct [storePOS](#)
- struct [storeCabinCode](#)
- struct [storeChannel](#)
- struct [storeYield](#)
- struct [storeAirlineCode](#)
- struct [storeClass](#)
- struct [doEndYield](#)

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` [AIRRAC::YieldParserHelper::int1_p](#)

Namespaces. 1-digit-integer parser

Definition at line 341 of file [YieldParserHelper.cpp](#).

23.2.1.2 `stdair::uint2_p_t` [AIRRAC::YieldParserHelper::uint2_p](#)

2-digit-integer parser

Definition at line 344 of file [YieldParserHelper.cpp](#).

23.2.1.3 `stdair::uint4_p_t` [AIRRAC::YieldParserHelper::uint4_p](#)

4-digit-integer parser

Definition at line 347 of file [YieldParserHelper.cpp](#).

23.2.1.4 `stdair::uint1_4_p_t` [AIRRAC::YieldParserHelper::uint1_4_p](#)

Up-to-4-digit-integer parser

Definition at line 350 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

23.2.1.5 `stdair::hour_p_t` [AIRRAC::YieldParserHelper::hour_p](#)

Time element parsers.

Definition at line 353 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

23.2.1.6 `stdair::minute_p_t` [AIRRAC::YieldParserHelper::minute_p](#)

Definition at line 354 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

23.2.1.7 `stdair::second_p_t` [AIRRAC::YieldParserHelper::second_p](#)

Definition at line 355 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

23.2.1.8 stdair::year_p_t AIRRAC::YieldParserHelper::year_p

Date element parsers.

Definition at line 358 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

23.2.1.9 stdair::month_p_t AIRRAC::YieldParserHelper::month_p

Definition at line 359 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

23.2.1.10 stdair::day_p_t AIRRAC::YieldParserHelper::day_p

Definition at line 360 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

23.3 stdair Namespace Reference

Forward declarations.

23.3.1 Detailed Description

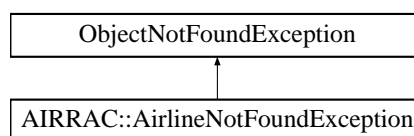
Forward declarations.

24 Class Documentation

24.1 AIRRAC::AirlineNotFoundException Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::AirlineNotFoundException:



Public Member Functions

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

24.1.1 Detailed Description

Definition at line 52 of file [AIRRAC_Types.hpp](#).

24.1.2 Constructor & Destructor Documentation

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

Constructor.

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

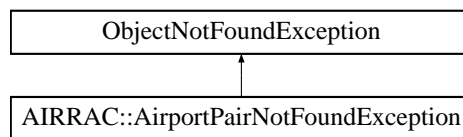
The documentation for this class was generated from the following file:

- [airrac/AIRRAC_Types.hpp](#)

24.2 AIRRAC::AirportPairNotFoundException Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::AirportPairNotFoundException:



Public Member Functions

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

24.2.1 Detailed Description

Definition at line 17 of file [AIRRAC_Types.hpp](#).

24.2.2 Constructor & Destructor Documentation

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

Constructor.

Definition at line 20 of file [AIRRAC_Types.hpp](#).

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

- [airrac/AIRRAC_Types.hpp](#)

24.3 AIRRAC::AIRRAC_Service Class Reference

Interface for the [AIRRAC](#) Services.

```
#include <airrac/AIRRAC_Service.hpp>
```

Public Member Functions

- [AIRRAC_Service](#) (const stdair::BasLogParams &)
- [AIRRAC_Service](#) (const stdair::BasLogParams &, const stdair::BasDBParams &)
- [AIRRAC_Service](#) (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr)
- void [parseAndLoad](#) (const [YieldFilePath](#) &iYieldFilename)
- [~AIRRAC_Service](#) ()
- void [calculateYields](#) (stdair::TravelSolutionList_T &)
- void [updateYields](#) ()
- void [buildSampleBom](#) ()
- void [buildSampleTravelSolutions](#) (stdair::TravelSolutionList_T &)
- std::string [csvDisplay](#) () const
- std::string [csvDisplay](#) (const stdair::TravelSolutionList_T &) const

24.3.1 Detailed Description

Interface for the [AIRRAC](#) Services.

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

24.3.2 Constructor & Destructor Documentation

24.3.2.1 AIRRAC::AIRRAC_Service::AIRRAC_Service (const stdair::BasLogParams & iLogParams)

Constructor.

The `initAirracService()` 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 34 of file [AIRRAC_Service.cpp](#).

24.3.2.2 AIRRAC::AIRRAC_Service::AIRRAC_Service (const stdair::BasLogParams & *iLogParams*, const stdair::BasDBParams & *iDBParams*)

Constructor.

The `initAirracService()` 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 54 of file [AIRRAC_Service.cpp](#).

24.3.2.3 AIRRAC::AIRRAC_Service::AIRRAC_Service (stdair::STDAIR_ServicePtr_T *ioSTDAIR_ServicePtr*)

Constructor.

The `initAirracService()` 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 [AIRRAC_Service](#) is itself being initialised by another library service such as `SIMCRS_Service`).

Parameters

<i>stdair::STDAIR_ServicePtr_T</i>	Reference on the STDAIR service.
------------------------------------	----------------------------------

Definition at line 76 of file [AIRRAC_Service.cpp](#).

24.3.2.4 AIRRAC::AIRRAC_Service::~~AIRRAC_Service ()

Destructor.

Definition at line 92 of file [AIRRAC_Service.cpp](#).

24.3.3 Member Function Documentation

24.3.3.1 void AIRRAC::AIRRAC_Service::parseAndLoad (const YieldFilePath & *iYieldFilename*)

Parse the yield input file, and load them into memory.

The CSV files, describing the airline schedule and the O&Ds for the simulator, are parsed and instantiated in memory accordingly.

Parameters

<code>const YieldFilePath</code> & Filename of the input yield file.
--

Definition at line 170 of file [AIRRAC_Service.cpp](#).

References [AIRRAC::YieldParser::generateYieldStore\(\)](#).

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

24.3.3.2 void AIRRAC::AIRRAC_Service::calculateYields ([stdair::TravelSolutionList_T](#) & *ioTravelSolutionList*)

Calculate/retrieve a yield.

Definition at line 301 of file [AIRRAC_Service.cpp](#).

24.3.3.3 void AIRRAC::AIRRAC_Service::updateYields ()

Update the yields for booking classes and O&D.

Definition at line 332 of file [AIRRAC_Service.cpp](#).

24.3.3.4 void AIRRAC::AIRRAC_Service::buildSampleBom ()

Build a sample BOM tree.

For now, no object is created: the BOM tree remains empty. In the future, it will hold a sample yield store.

Definition at line 184 of file [AIRRAC_Service.cpp](#).

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

24.3.3.5 void AIRRAC::AIRRAC_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>TravelSolutionList</i>	Sample list of travel solution structures. It should be given empty. It is altered with the returned sample.
<i>T&</i>	

Definition at line 231 of file [AIRRAC_Service.cpp](#).

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

24.3.3.6 `std::string AIRRAC::AIRRAC_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 251 of file [AIRRAC_Service.cpp](#).

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

24.3.3.7 `std::string AIRRAC::AIRRAC_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 279 of file [AIRRAC_Service.cpp](#).

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

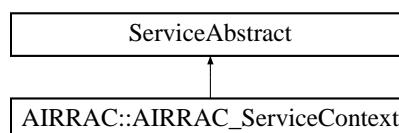
- [airrac/AIRRAC_Service.hpp](#)
- [airrac/service/AIRRAC_Service.cpp](#)

24.4 AIRRAC::AIRRAC_ServiceContext Class Reference

Inner class holding the context for the [AIRRAC](#) Service object.

```
#include <airrac/service/AIRRAC_ServiceContext.hpp>
```

Inheritance diagram for AIRRAC::AIRRAC_ServiceContext:



Friends

- class [AIRRAC_Service](#)
- class [FacAirracsServiceContext](#)

24.4.1 Detailed Description

Inner class holding the context for the [AIRRAC](#) Service object.

Definition at line 25 of file [AIRRAC_ServiceContext.hpp](#).

24.4.2 Friends And Related Function Documentation

24.4.2.1 friend class [AIRRAC_Service](#) [friend]

The [AIRRAC_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 [AIRRAC_ServiceContext.hpp](#).

24.4.2.2 friend class [FacAirracsServiceContext](#) [friend]

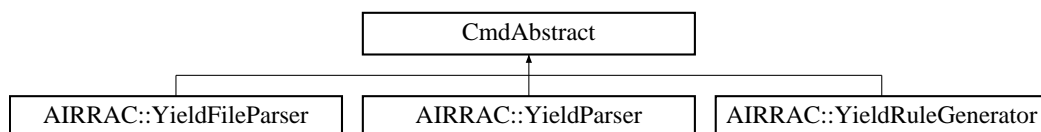
Definition at line 32 of file [AIRRAC_ServiceContext.hpp](#).

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

- [airrac/service/AIRRAC_ServiceContext.hpp](#)
- [airrac/service/AIRRAC_ServiceContext.cpp](#)

24.5 CmdAbstract Class Reference

Inheritance diagram for CmdAbstract:



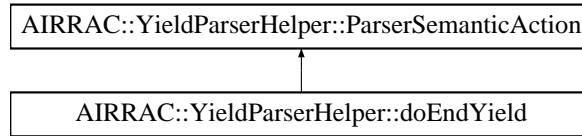
The documentation for this class was generated from the following file:

- [airrac/command/YieldParserHelper.hpp](#)

24.6 AIRRAC::YieldParserHelper::doEndYield Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::doEndYield:



Public Member Functions

- [doEndYield](#) (stdair::BomRoot &, [YieldRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused_type, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- stdair::BomRoot & [_bomRoot](#)
- [YieldRuleStruct](#) & [_yieldRule](#)

24.6.1 Detailed Description

Mark the end of the yield-rule parsing.

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

24.6.2 Constructor & Destructor Documentation

24.6.2.1 AIRRAC::YieldParserHelper::doEndYield::doEndYield (stdair::BomRoot & *ioBomRoot*, [YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 314 of file [YieldParserHelper.cpp](#).

24.6.3 Member Function Documentation

24.6.3.1 void AIRRAC::YieldParserHelper::doEndYield::operator() (boost::spirit::qi::unused_type , boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 321 of file [YieldParserHelper.cpp](#).

References [_bomRoot](#), [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), and [AIRRAC::YieldRuleStruct::describe\(\)](#).

24.6.4 Member Data Documentation

24.6.4.1 stdair::BomRoot& AIRRAC::YieldParserHelper::doEndYield::_bomRoot

Actor Specific Context.

Definition at line 186 of file [YieldParserHelper.hpp](#).

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

24.6.4.2 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

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

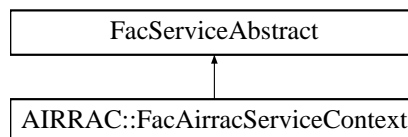
- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.7 AIRRAC::FacAirracsServiceContext Class Reference

Factory for the service context.

```
#include <airrac/factory/FacAirracsServiceContext.hpp>
```

Inheritance diagram for AIRRAC::FacAirracsServiceContext:



Public Member Functions

- [~FacAirracsServiceContext\(\)](#)
- [AIRRAC_ServiceContext & create\(\)](#)

Static Public Member Functions

- static [FacAirracsServiceContext](#) & [instance](#) ()

Protected Member Functions

- [FacAirracsServiceContext](#) ()

24.7.1 Detailed Description

Factory for the service context.

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

24.7.2 Constructor & Destructor Documentation

24.7.2.1 AIRRAC::FacAirracsServiceContext::~~FacAirracsServiceContext ()

Destructor.

The Destruction put the `_instance` to NULL in order to be clean for the next `FacSimfqt-ServiceContext::instance()`.

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

24.7.2.2 AIRRAC::FacAirracsServiceContext::FacAirracsServiceContext () [inline, protected]

Default Constructor.

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

Definition at line 56 of file [FacAirracsServiceContext.hpp](#).

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

24.7.3 Member Function Documentation

24.7.3.1 FacAirracsServiceContext & AIRRAC::FacAirracsServiceContext::instance () [static]

Provide the unique instance.

The singleton is instantiated when first used.

Returns

`FacServiceContext&`

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

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

24.7.3.2 AIRRAC_ServiceContext & AIRRAC::FacAirracServiceContext::create ()

Create a new ServiceContext object.

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

Returns

ServiceContext& The newly created object.

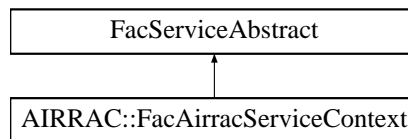
Definition at line 34 of file [FacAirracServiceContext.cpp](#).

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

- [airrac/factory/FacAirracServiceContext.hpp](#)
- [airrac/factory/FacAirracServiceContext.cpp](#)

24.8 FacServiceAbstract Class Reference

Inheritance diagram for FacServiceAbstract:



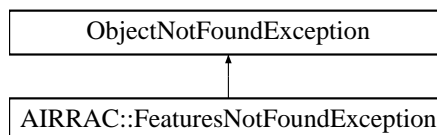
The documentation for this class was generated from the following file:

- [airrac/factory/FacAirracServiceContext.hpp](#)

24.9 AIRRAC::FeaturesNotFoundException Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::FeaturesNotFoundException:



Public Member Functions

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

24.9.1 Detailed Description

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

24.9.2 Constructor & Destructor Documentation

24.9.2.1 AIRRAC::FeaturesNotFoundException::FeaturesNotFoundException (const std::string & *iWhat*) [inline]

Constructor.

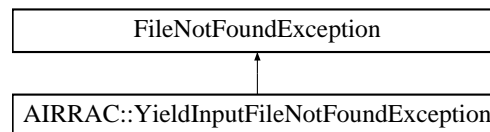
Definition at line 48 of file [AIRRAC_Types.hpp](#).

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

- [airrac/AIRRAC_Types.hpp](#)

24.10 FileNotFoundException Class Reference

Inheritance diagram for FileNotFoundException:



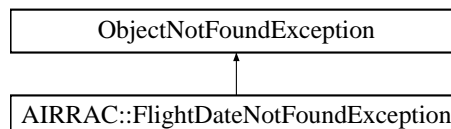
The documentation for this class was generated from the following file:

- [airrac/AIRRAC_Types.hpp](#)

24.11 AIRRAC::FlightDateNotFoundException Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::FlightDateNotFoundException:



Public Member Functions

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

24.11.1 Detailed Description

Definition at line 31 of file [AIRRAC_Types.hpp](#).

24.11.2 Constructor & Destructor Documentation

24.11.2.1 AIRRAC::FlightDateNotFoundException::FlightDateNotFoundException (const std::string & *iWhat*) `[inline]`

Constructor.

Definition at line 34 of file [AIRRAC_Types.hpp](#).

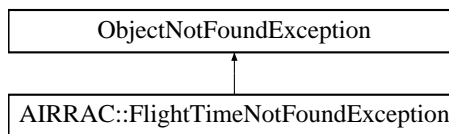
The documentation for this class was generated from the following file:

- [airrac/AIRRAC_Types.hpp](#)

24.12 AIRRAC::FlightTimeNotFoundException Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::FlightTimeNotFoundException:



Public Member Functions

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

24.12.1 Detailed Description

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

24.12.2 Constructor & Destructor Documentation

24.12.2.1 AIRRAC::FlightTimeNotFoundException::FlightTimeNotFoundException (const std::string & *iWhat*) `[inline]`

Constructor.

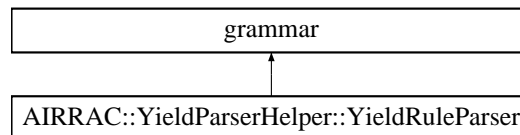
Definition at line 41 of file [AIRRAC_Types.hpp](#).

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

- [airrac/AIRAC_Types.hpp](#)

24.13 grammar Class Reference

Inheritance diagram for grammar:

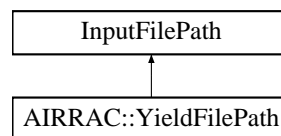


The documentation for this class was generated from the following file:

- [airrac/command/YieldParserHelper.cpp](#)

24.14 InputFilePath Class Reference

Inheritance diagram for InputFilePath:

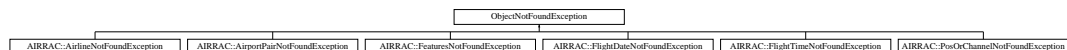


The documentation for this class was generated from the following file:

- [airrac/AIRAC_Types.hpp](#)

24.15 ObjectNotFoundException Class Reference

Inheritance diagram for ObjectNotFoundException:



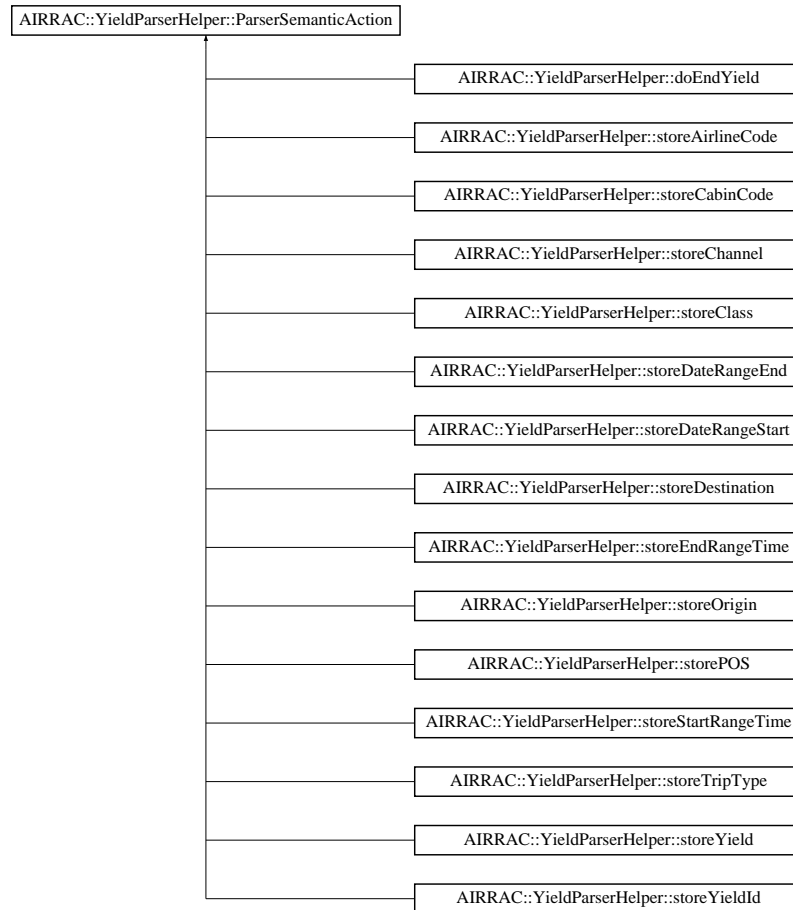
The documentation for this class was generated from the following file:

- [airrac/AIRAC_Types.hpp](#)

24.16 AIRRAC::YieldParserHelper::ParserSemanticAction Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::ParserSemanticAction:



Public Member Functions

- [ParserSemanticAction](#) ([YieldRuleStruct](#) &)

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.16.1 Detailed Description

Generic Semantic Action (Actor / Functor) for the Yield Parser.

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

24.16.2 Constructor & Destructor Documentation

24.16.2.1 AIRRAC::YieldParserHelper::ParserSemanticAction::ParserSemanticAction (YieldRuleStruct & *ioYieldRule*)

Actor Constructor.

Definition at line 28 of file [YieldParserHelper.cpp](#).

24.16.3 Member Data Documentation

24.16.3.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_ - yieldRule

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

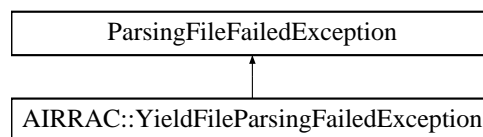
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

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

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.17 ParsingFileFailedException Class Reference

Inheritance diagram for ParsingFileFailedException:



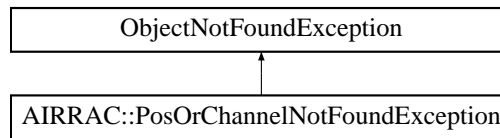
The documentation for this class was generated from the following file:

- [airrac/AIRRAC_Types.hpp](#)

24.18 AIRRAC::PosOrChannelNotFoundException Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::PosOrChannelNotFoundException:



Public Member Functions

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

24.18.1 Detailed Description

Definition at line 24 of file [AIRRAC_Types.hpp](#).

24.18.2 Constructor & Destructor Documentation

24.18.2.1 AIRRAC::PosOrChannelNotFoundException::PosOrChannelNotFoundException (const std::string & *iWhat*) [inline]

Constructor.

Definition at line 27 of file [AIRRAC_Types.hpp](#).

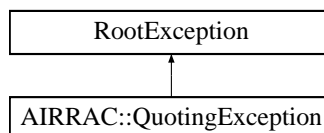
The documentation for this class was generated from the following file:

- [airrac/AIRRAC_Types.hpp](#)

24.19 AIRRAC::QuotingException Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::QuotingException:



24.19.1 Detailed Description

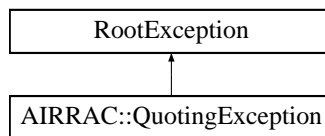
Definition at line 73 of file [AIRRAC_Types.hpp](#).

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

- [airrac/AIRRAC_Types.hpp](#)

24.20 RootException Class Reference

Inheritance diagram for RootException:

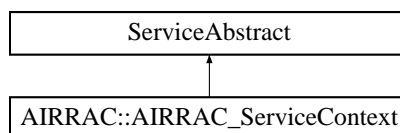


The documentation for this class was generated from the following file:

- [airrac/AIRRAC_Types.hpp](#)

24.21 ServiceAbstract Class Reference

Inheritance diagram for ServiceAbstract:



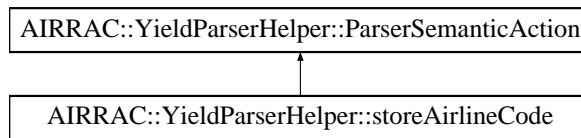
The documentation for this class was generated from the following file:

- [airrac/service/AIRRAC_ServiceContext.hpp](#)

24.22 AIRRAC::YieldParserHelper::storeAirlineCode Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeAirlineCode:



Public Member Functions

- [storeAirlineCode](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.22.1 Detailed Description

Store the parsed airline code.

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

24.22.2 Constructor & Destructor Documentation

24.22.2.1 AIRRAC::YieldParserHelper::storeAirlineCode::storeAirlineCode ([YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 270 of file [YieldParserHelper.cpp](#).

24.22.3 Member Function Documentation

24.22.3.1 void AIRRAC::YieldParserHelper::storeAirlineCode::operator() (std::vector< char > *iChar*, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 275 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), [AIRRAC::YieldRuleStruct::addAirlineCode](#) and [AIRRAC::YieldRuleStruct::setAirlineCode\(\)](#).

24.22.4 Member Data Documentation

24.22.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

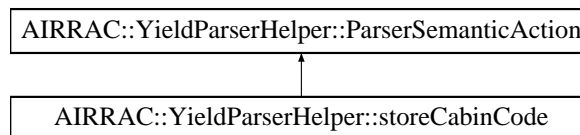
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.23 AIRRAC::YieldParserHelper::storeCabinCode Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeCabinCode:



Public Member Functions

- [storeCabinCode](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (char, [boost::spirit::qi::unused_type](#), [boost::spirit::qi::unused_type](#)) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.23.1 Detailed Description

Store the cabin code.

Definition at line 128 of file [YieldParserHelper.hpp](#).

24.23.2 Constructor & Destructor Documentation

24.23.2.1 AIRRAC::YieldParserHelper::storeCabinCode::storeCabinCode (YieldRuleStruct & ioYieldRule)

Actor Constructor.

Definition at line 212 of file [YieldParserHelper.cpp](#).

24.23.3 Member Function Documentation

24.23.3.1 void AIRRAC::YieldParserHelper::storeCabinCode::operator() (char iChar, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 217 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), and [AIRRAC::YieldRuleStruct::setCabinCode\(\)](#).

24.23.4 Member Data Documentation

24.23.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)\(\)](#), [operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

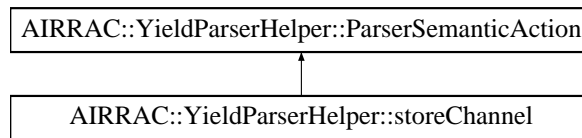
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.24 AIRRAC::YieldParserHelper::storeChannel Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeChannel:



Public Member Functions

- [storeChannel](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.24.1 Detailed Description

Store the channel distribution.

Definition at line 138 of file [YieldParserHelper.hpp](#).

24.24.2 Constructor & Destructor Documentation

24.24.2.1 AIRRAC::YieldParserHelper::storeChannel::storeChannel ([YieldRuleStruct](#) & [ioYieldRule](#))

Actor Constructor.

Definition at line 233 of file [YieldParserHelper.cpp](#).

24.24.3 Member Function Documentation

24.24.3.1 void AIRRAC::YieldParserHelper::storeChannel::operator() ([std::vector< char >](#) [iChar](#), [boost::spirit::qi::unused_type](#) , [boost::spirit::qi::unused_type](#)) const

Actor Function (functor).

Definition at line 238 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), and [AIRRAC::YieldRuleStruct::setChannel\(\)](#).

24.24.4 Member Data Documentation

24.24.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

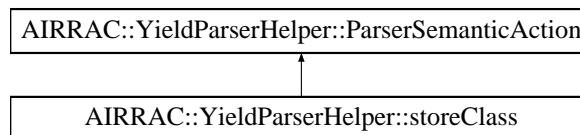
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.25 AIRRAC::YieldParserHelper::storeClass Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeClass:



Public Member Functions

- [storeClass](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.25.1 Detailed Description

Store the parsed class.

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

24.25.2 Constructor & Destructor Documentation

24.25.2.1 AIRRAC::YieldParserHelper::storeClass::storeClass (YieldRuleStruct & ioYieldRule)

Actor Constructor.

Definition at line 290 of file [YieldParserHelper.cpp](#).

24.25.3 Member Function Documentation

24.25.3.1 void AIRRAC::YieldParserHelper::storeClass::operator() (std::vector< char > iChar, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 295 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), and [AIRRAC::YieldRuleStruct::addClassCode\(\)](#).

24.25.4 Member Data Documentation

24.25.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)\(\)](#), [operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

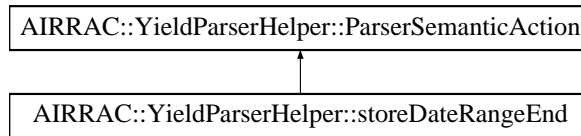
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.26 AIRRAC::YieldParserHelper::storeDateRangeEnd Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeDateRangeEnd:



Public Member Functions

- [storeDateRangeEnd](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused_type, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.26.1 Detailed Description

Store the parsed end of the date range.

Definition at line 88 of file [YieldParserHelper.hpp](#).

24.26.2 Constructor & Destructor Documentation

24.26.2.1 AIRRAC::YieldParserHelper::storeDateRangeEnd::storeDateRangeEnd ([YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 129 of file [YieldParserHelper.cpp](#).

24.26.3 Member Function Documentation

24.26.3.1 void AIRRAC::YieldParserHelper::storeDateRangeEnd::operator() (boost::spirit::qi::unused_type , boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 134 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), [AIRRAC::YieldRuleStruct::calculateDate\(\)](#), and [AIRRAC::YieldRuleStruct::setDateRangeEnd\(\)](#).

24.26.4 Member Data Documentation

24.26.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

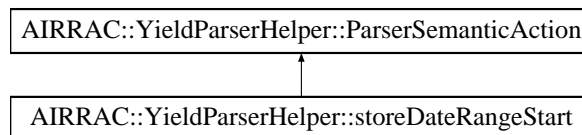
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.27 AIRRAC::YieldParserHelper::storeDateRangeStart Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeDateRangeStart:



Public Member Functions

- [storeDateRangeStart](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused_type, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.27.1 Detailed Description

Store the parsed start of the date range.

Definition at line 78 of file [YieldParserHelper.hpp](#).

24.27.2 Constructor & Destructor Documentation

24.27.2.1 AIRRAC::YieldParserHelper::storeDateRangeStart::storeDateRangeStart (YieldRuleStruct & ioYieldRule)

Actor Constructor.

Definition at line 113 of file [YieldParserHelper.cpp](#).

24.27.3 Member Function Documentation

24.27.3.1 void AIRRAC::YieldParserHelper::storeDateRangeStart::operator() (boost::spirit::qi::unused_type , boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 118 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), [AIRRAC::YieldRuleStruct::calculateDate\(\)](#), and [AIRRAC::YieldRuleStruct::setDateRangeStart\(\)](#).

24.27.4 Member Data Documentation

24.27.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

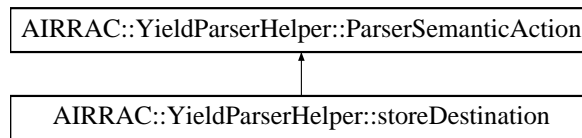
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.28 AIRRAC::YieldParserHelper::storeDestination Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeDestination:



Public Member Functions

- [storeDestination](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.28.1 Detailed Description

Store the parsed destination.

Definition at line 58 of file [YieldParserHelper.hpp](#).

24.28.2 Constructor & Destructor Documentation

24.28.2.1 AIRRAC::YieldParserHelper::storeDestination::storeDestination ([YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 75 of file [YieldParserHelper.cpp](#).

24.28.3 Member Function Documentation

24.28.3.1 void AIRRAC::YieldParserHelper::storeDestination::operator() ([std::vector< char >](#) *iChar*, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 80 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), and [AIRRAC::YieldRuleStruct::setDestination\(\)](#).

24.28.4 Member Data Documentation

24.28.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

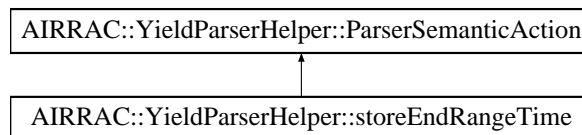
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.29 AIRRAC::YieldParserHelper::storeEndRangeTime Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeEndRangeTime:



Public Member Functions

- [storeEndRangeTime](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused_type, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.29.1 Detailed Description

Store the parsed end start range time.

Definition at line 108 of file [YieldParserHelper.hpp](#).

24.29.2 Constructor & Destructor Documentation

24.29.2.1 AIRRAC::YieldParserHelper::storeEndRangeTime::storeEndRangeTime (YieldRuleStruct & ioYieldRule)

Actor Constructor.

Definition at line 168 of file [YieldParserHelper.cpp](#).

24.29.3 Member Function Documentation

24.29.3.1 void AIRRAC::YieldParserHelper::storeEndRangeTime::operator() (boost::spirit::qi::unused_type , boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 173 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldRuleStruct::_itSeconds](#), [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), [AIRRAC::YieldRuleStruct::calculateTime\(\)](#), and [AIRRAC::YieldRuleStruct::setTimeRangeEnd\(\)](#).

24.29.4 Member Data Documentation

24.29.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

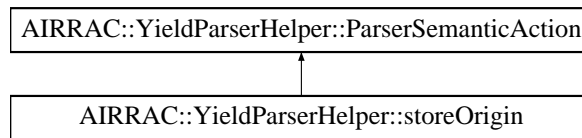
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.30 AIRRAC::YieldParserHelper::storeOrigin Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeOrigin:



Public Member Functions

- [storeOrigin](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.30.1 Detailed Description

Store the parsed origin.

Definition at line 48 of file [YieldParserHelper.hpp](#).

24.30.2 Constructor & Destructor Documentation

24.30.2.1 AIRRAC::YieldParserHelper::storeOrigin::storeOrigin ([YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 59 of file [YieldParserHelper.cpp](#).

24.30.3 Member Function Documentation

24.30.3.1 void AIRRAC::YieldParserHelper::storeOrigin::operator() ([std::vector< char >](#) *iChar*, [boost::spirit::qi::unused_type](#) , [boost::spirit::qi::unused_type](#)) const

Actor Function (functor).

Definition at line 64 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), and [AIRRAC::YieldRuleStruct::setOrigin\(\)](#).

24.30.4 Member Data Documentation

24.30.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

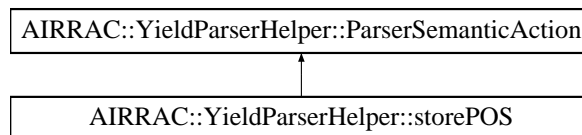
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.31 AIRRAC::YieldParserHelper::storePOS Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storePOS:



Public Member Functions

- [storePOS](#) ([YieldRuleStruct](#) &)
- [void operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.31.1 Detailed Description

Store the parsed customer point_of_sale.

Definition at line 118 of file [YieldParserHelper.hpp](#).

24.32 AIRRAC::YieldParserHelper::storeStartRangeTime Struct Reference 93

24.31.2 Constructor & Destructor Documentation

24.31.2.1 AIRRAC::YieldParserHelper::storePOS::storePOS (YieldRuleStruct & ioYieldRule)

Actor Constructor.

Definition at line 186 of file [YieldParserHelper.cpp](#).

24.31.3 Member Function Documentation

24.31.3.1 void AIRRAC::YieldParserHelper::storePOS::operator() (std::vector< char > iChar, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 191 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), [AIRRAC::YieldRuleStruct::getDestination\(\)](#), [AIRRAC::YieldRuleStruct::getOrigin\(\)](#), and [AIRRAC::YieldRuleStruct::setPOS\(\)](#).

24.31.4 Member Data Documentation

24.31.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

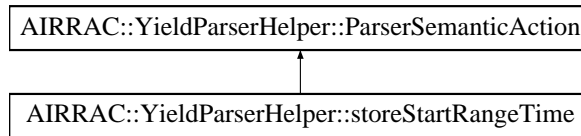
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.32 AIRRAC::YieldParserHelper::storeStartRangeTime Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeStartRangeTime:



Public Member Functions

- [storeStartRangeTime](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (boost::spirit::qi::unused_type, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.32.1 Detailed Description

Store the parsed start range time.

Definition at line 98 of file [YieldParserHelper.hpp](#).

24.32.2 Constructor & Destructor Documentation

24.32.2.1 AIRRAC::YieldParserHelper::storeStartRangeTime::storeStartRangeTime ([YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 150 of file [YieldParserHelper.cpp](#).

24.32.3 Member Function Documentation

24.32.3.1 void AIRRAC::YieldParserHelper::storeStartRangeTime::operator() (boost::spirit::qi::unused_type , boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 155 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldRuleStruct::_itSeconds](#), [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), [AIRRAC::YieldRuleStruct::calculateTime\(\)](#), and [AIRRAC::YieldRuleStruct::setTimeRangeStart\(\)](#).

24.32.4 Member Data Documentation

24.32.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

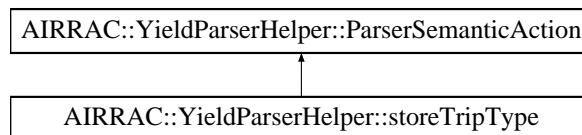
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.33 AIRRAC::YieldParserHelper::storeTripType Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeTripType:



Public Member Functions

- [storeTripType](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (std::vector< char >, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.33.1 Detailed Description

Store the parsed customer trip type.

Definition at line 68 of file [YieldParserHelper.hpp](#).

24.33.2 Constructor & Destructor Documentation

24.33.2.1 AIRRAC::YieldParserHelper::storeTripType::storeTripType (YieldRuleStruct & ioYieldRule)

Actor Constructor.

Definition at line 91 of file [YieldParserHelper.cpp](#).

24.33.3 Member Function Documentation

24.33.3.1 void AIRRAC::YieldParserHelper::storeTripType::operator() (std::vector< char > iChar, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 96 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), and [AIRRAC::YieldRuleStruct::setTripType\(\)](#).

24.33.4 Member Data Documentation

24.33.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)\(\)](#), [operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

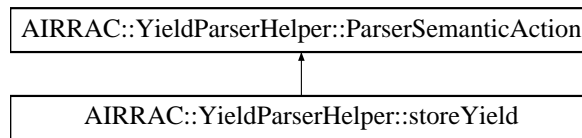
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.34 AIRRAC::YieldParserHelper::storeYield Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeYield:



Public Member Functions

- [storeYield](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (double, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.34.1 Detailed Description

Store the parsed yield value.

Definition at line 148 of file [YieldParserHelper.hpp](#).

24.34.2 Constructor & Destructor Documentation

24.34.2.1 AIRRAC::YieldParserHelper::storeYield::storeYield ([YieldRuleStruct](#) & *ioYieldRule*)

Actor Constructor.

Definition at line 254 of file [YieldParserHelper.cpp](#).

24.34.3 Member Function Documentation

24.34.3.1 void AIRRAC::YieldParserHelper::storeYield::operator() (double *iYield*, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

Definition at line 259 of file [YieldParserHelper.cpp](#).

References [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), and [AIRRAC::YieldRuleStruct::setYield\(\)](#).

24.34.4 Member Data Documentation

24.34.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#), [operator\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#).

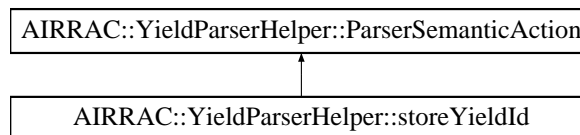
The documentation for this struct was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.35 AIRRAC::YieldParserHelper::storeYieldId Struct Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldParserHelper::storeYieldId:



Public Member Functions

- [storeYieldId](#) ([YieldRuleStruct](#) &)
- void [operator\(\)](#) (unsigned int, boost::spirit::qi::unused_type, boost::spirit::qi::unused_type) const

Public Attributes

- [YieldRuleStruct](#) & [_yieldRule](#)

24.35.1 Detailed Description

Store the parsed yield Id.

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

24.35.2 Constructor & Destructor Documentation

24.35.2.1 AIRRAC::YieldParserHelper::storeYieldId::storeYieldId (YieldRuleStruct & ioYieldRule)

Actor Constructor.

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

24.35.3 Member Function Documentation

24.35.3.1 void AIRRAC::YieldParserHelper::storeYieldId::operator() (unsigned int iYieldId, boost::spirit::qi::unused_type , boost::spirit::qi::unused_type) const

Actor Function (functor).

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

References [AIRRAC::YieldRuleStruct::_itSeconds](#), [AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule](#), [AIRRAC::YieldRuleStruct::clearAirlineCodeList\(\)](#), [AIRRAC::YieldRuleStruct::clearClassCodeList\(\)](#), [AIRRAC::YieldRuleStruct::setAirlineCode\(\)](#), [AIRRAC::YieldRuleStruct::setClassCode\(\)](#), and [AIRRAC::YieldRuleStruct::setYieldID\(\)](#).

24.35.4 Member Data Documentation

24.35.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::_yieldRule [inherited]

Actor Context.

Definition at line 34 of file [YieldParserHelper.hpp](#).

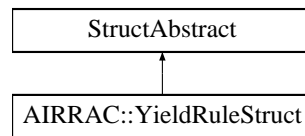
Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeClass::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeYield::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeChannel::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)\(\)](#), and [operator\(\)\(\)](#).

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

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.36 StructAbstract Class Reference

Inheritance diagram for StructAbstract:

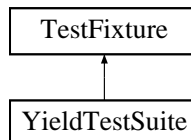


The documentation for this class was generated from the following file:

- [airrac/bom/YieldRuleStruct.hpp](#)

24.37 TestFixture Class Reference

Inheritance diagram for TestFixture:



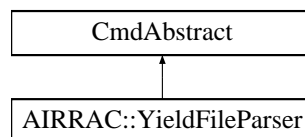
The documentation for this class was generated from the following file:

- [test/airrac/YieldTestSuite.hpp](#)

24.38 AIRRAC::YieldFileParser Class Reference

```
#include <airrac/command/YieldParserHelper.hpp>
```

Inheritance diagram for AIRRAC::YieldFileParser:



Public Member Functions

- [YieldFileParser](#) (stdair::BomRoot &, const stdair::Filename_T &iYieldInputFilename)
- void [generateYieldStore](#) ()

24.38.1 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 202 of file [YieldParserHelper.hpp](#).

24.38.2 Constructor & Destructor Documentation

24.38.2.1 AIRRAC::YieldFileParser::YieldFileParser (stdair::BomRoot & , const stdair::Filename_T & iYieldInputFilename)

Constructor.

Definition at line 507 of file [YieldParserHelper.cpp](#).

24.38.3 Member Function Documentation

24.38.3.1 void AIRRAC::YieldFileParser::generateYieldStore ()

Parse the yield store input file.

Definition at line 529 of file [YieldParserHelper.cpp](#).

Referenced by [AIRRAC::YieldParser::generateYieldStore\(\)](#).

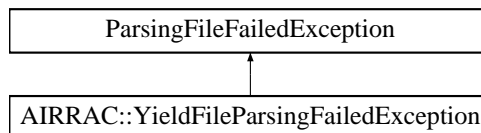
The documentation for this class was generated from the following files:

- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

24.39 AIRRAC::YieldFileParsingFailedException Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::YieldFileParsingFailedException:



Public Member Functions

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

24.39.1 Detailed Description

Definition at line 66 of file [AIRRAC_Types.hpp](#).

24.39.2 Constructor & Destructor Documentation

24.39.2.1 AIRRAC::YieldFileParsingFailedException::YieldFileParsingFailedException (const std::string & *iWhat*) [inline]

Constructor.

Definition at line 69 of file [AIRRAC_Types.hpp](#).

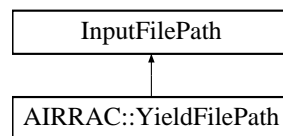
The documentation for this class was generated from the following file:

- [airrac/AIRRAC_Types.hpp](#)

24.40 AIRRAC::YieldFilePath Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::YieldFilePath:



Public Member Functions

- [YieldFilePath](#) (const stdair::Filename_T &iFilename)

24.40.1 Detailed Description

Yield input file.

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

24.40.2 Constructor & Destructor Documentation

24.40.2.1 AIRRAC::YieldFilePath::YieldFilePath (const stdair::Filename_T & *iFilename*) [inline, explicit]

Constructor.

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

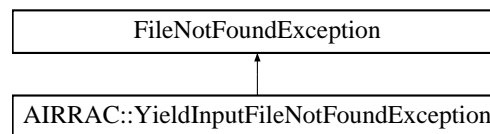
The documentation for this class was generated from the following file:

- [airrac/AIRRAC_Types.hpp](#)

24.41 AIRRAC::YieldInputFileNotFoundException Class Reference

```
#include <airrac/AIRRAC_Types.hpp>
```

Inheritance diagram for AIRRAC::YieldInputFileNotFoundException:



Public Member Functions

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

24.41.1 Detailed Description

Definition at line 59 of file [AIRRAC_Types.hpp](#).

24.41.2 Constructor & Destructor Documentation

24.41.2.1 `AIRRAC::YieldInputFileNotFoundException::YieldInputFileNotFoundException (const std::string & iWhat) [inline]`

Constructor.

Definition at line 62 of file [AIRRAC_Types.hpp](#).

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

- [airrac/AIRRAC_Types.hpp](#)

24.42 AIRRAC::YieldManager Class Reference

Command wrapping the travel request process.

```
#include <airrac/command/YieldManager.hpp>
```

Friends

- class [AIRRAC_Service](#)

24.42.1 Detailed Description

Command wrapping the travel request process.

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

24.42.2 Friends And Related Function Documentation

24.42.2.1 friend class AIRRAC_Service [friend]

Only the [AIRRAC_Service](#) may access to the methods of that class.

Definition at line 27 of file [YieldManager.hpp](#).

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

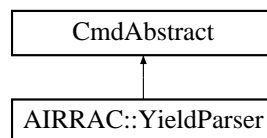
- [airrac/command/YieldManager.hpp](#)
- [airrac/command/YieldManager.cpp](#)

24.43 AIRRAC::YieldParser Class Reference

Class wrapping the parser entry point.

```
#include <airrac/command/YieldParser.hpp>
```

Inheritance diagram for AIRRAC::YieldParser:



Static Public Member Functions

- static void [generateYieldStore](#) (const [YieldFilePath](#) &, stdair::BomRoot &)

24.43.1 Detailed Description

Class wrapping the parser entry point.

Definition at line 25 of file [YieldParser.hpp](#).

24.43.2 Member Function Documentation

24.43.2.1 void AIRRAC::YieldParser::generateYieldStore (const YieldFilePath & iYieldFilename, stdair::BomRoot & ioBomRoot) [static]

Parse the CSV file describing an airline yield store, and generates the corresponding data model in memory. It can then be used, for instance in a simulator.

Parameters

const YieldFilePath&	The file-name of the CSV-formatted yield input file.
stdair::BomRoot&	Root of the BOM tree.

Definition at line 16 of file YieldParser.cpp.

References [AIRRAC::YieldFileParser::generateYieldStore\(\)](#).

Referenced by [AIRRAC::AIRRAC_Service::parseAndLoad\(\)](#).

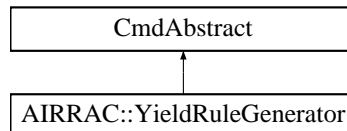
The documentation for this class was generated from the following files:

- [airrac/command/YieldParser.hpp](#)
- [airrac/command/YieldParser.cpp](#)

24.44 AIRRAC::YieldRuleGenerator Class Reference

```
#include <airrac/command/YieldRuleGenerator.hpp>
```

Inheritance diagram for AIRRAC::YieldRuleGenerator:



Friends

- class [YieldFileParser](#)
- struct [YieldParserHelper::doEndYield](#)
- class [YieldParser](#)

24.44.1 Detailed Description

Class handling the generation / instantiation of the Yield BOM.

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

24.44.2 Friends And Related Function Documentation

24.44.2.1 friend class YieldFileParser [friend]

Definition at line 36 of file [YieldRuleGenerator.hpp](#).

24.44.2.2 friend struct YieldParserHelper::doEndYield [friend]

Definition at line 37 of file [YieldRuleGenerator.hpp](#).

24.44.2.3 friend class YieldParser [friend]

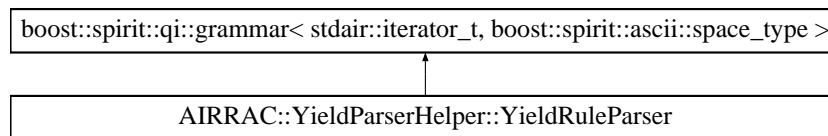
Definition at line 38 of file [YieldRuleGenerator.hpp](#).

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

- [airrac/command/YieldRuleGenerator.hpp](#)
- [airrac/command/YieldRuleGenerator.cpp](#)

24.45 AIRRAC::YieldParserHelper::YieldRuleParser Struct Reference

Inheritance diagram for AIRRAC::YieldParserHelper::YieldRuleParser:



Public Member Functions

- [YieldRuleParser](#) (stdair::BomRoot &ioBomRoot, [YieldRuleStruct](#) &ioYieldRule)

Public Attributes

- boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type > [start](#)
- boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type > [comments](#)
- boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type > [yield_rule](#)
- boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type > [yield_id](#)
- boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type > [origin](#)
- boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type > [destination](#)
- boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type > [tripType](#)
- boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type > [dateRangeStart](#)
- boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type > [dateRangeEnd](#)

- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [date](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [timeRangeStart](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [timeRangeEnd](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [time](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [point_of_sale](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [cabinCode](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [channel](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [yield](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [segment](#)
- `boost::spirit::qi::rule< stdair::iterator_t, boost::spirit::ascii::space_type >` [yield_rule_end](#)
- `stdair::BomRoot` & [_bomRoot](#)
- [YieldRuleStruct](#) & [_yieldRule](#)

24.45.1 Detailed Description

Yields: `yieldID`; `OriginCity`; `DestinationCity`; `DateRangeStart`; `DateRangeEnd`; `DepartureTimeRangeStart`; `DepartureTimeRangeEnd`; `Yield`; `AirlineCode`; `Class`

1; LHR; JFK; 2008-06-01; 2009-12-31; 00:00; 23:59; 4200.0; BA; A;

`YieldID` (Integer) `OriginCity` (3-char airport code) `DestinationCity` (3-char airport code) `DateRangeStart` (yyyy-mm-dd) `DateRangeEnd` (yyyy-mm-dd) `DepartureTimeRangeStart` (hh:mm) `DepartureTimeRangeEnd` (hh:mm) `Yield` (Double) `AirlineCodeList` (List of 2-char airline code) `ClassList` (List of 1-char class code) Grammar for the Yield-Rule parser.

Definition at line 387 of file [YieldParserHelper.cpp](#).

24.45.2 Constructor & Destructor Documentation

24.45.2.1 `AIRRAC::YieldParserHelper::YieldRuleParser (stdair::BomRoot & ioBomRoot, YieldRuleStruct & ioYieldRule)` `[inline]`

Definition at line 391 of file [YieldParserHelper.cpp](#).

References [_bomRoot](#), [AIRRAC::YieldRuleStruct::_itDay](#), [AIRRAC::YieldRuleStruct::_itHours](#), [AIRRAC::YieldRuleStruct::_itMinutes](#), [AIRRAC::YieldRuleStruct::_itMonth](#), [AIRRAC::YieldRuleStruct::_itSeconds](#), [AIRRAC::YieldRuleStruct::_itYear](#), [_yieldRule](#), [cabinCode](#), [channel](#), [comments](#), [date](#), [dateRangeEnd](#), [dateRangeStart](#), [AIRRAC::YieldParserHelper::day_p](#), [destination](#), [AIRRAC::YieldParserHelper::hour_p](#), [AIRRAC::YieldParserHelper::minute_p](#), [AIRRAC::YieldParserHelper::month_p](#), [origin](#), [point_of_sale](#), [AIRRAC::YieldParserHelper::second_p](#), [segment](#), [start](#), [time](#), [timeRangeEnd](#), [timeRangeStart](#), [tripType](#), [AIRRAC::YieldParserHelper::uint1_4_p](#), [AIRRAC::YieldParserHelper::year_p](#), [yield](#), [yield_id](#), [yield_rule](#), and [yield_rule_end](#).

24.45.3 Member Data Documentation

24.45.3.1 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`
`AIRRAC::YieldParserHelper::YieldRuleParser::start`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.2 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`
`AIRRAC::YieldParserHelper::YieldRuleParser::comments`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.3 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`
`AIRRAC::YieldParserHelper::YieldRuleParser::yield_rule`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.4 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`
`AIRRAC::YieldParserHelper::YieldRuleParser::yield_id`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.5 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`
`AIRRAC::YieldParserHelper::YieldRuleParser::origin`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.6 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`
`AIRRAC::YieldParserHelper::YieldRuleParser::destination`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.7 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`
`AIRRAC::YieldParserHelper::YieldRuleParser::tripType`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.8 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>`
`AIRRAC::YieldParserHelper::YieldRuleParser::dateRangeStart`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.9 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::dateRangeEnd`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.10 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::date`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.11 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::timeRangeStart`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.12 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::timeRangeEnd`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.13 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::time`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.14 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::point_of_sale`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.15 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::cabinCode`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.16 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::channel`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.17 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::yield`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.18 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::segment`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.19 `boost::spirit::qi::rule<stdair::iterator_t, boost::spirit::ascii::space_type>
AIRRAC::YieldParserHelper::YieldRuleParser::yield_rule_end`

Definition at line 487 of file [YieldParserHelper.cpp](#).

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

24.45.3.20 `stdair::BomRoot& AIRRAC::YieldParserHelper::YieldRuleParser::_
bomRoot`

Definition at line 493 of file [YieldParserHelper.cpp](#).

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

24.45.3.21 `YieldRuleStruct& AIRRAC::YieldParserHelper::YieldRuleParser::_
yieldRule`

Definition at line 494 of file [YieldParserHelper.cpp](#).

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

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

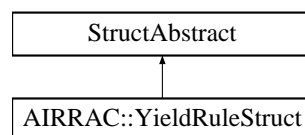
- [airrac/command/YieldParserHelper.cpp](#)

24.46 AIRRAC::YieldRuleStruct Struct Reference

Utility Structure for the parsing of Flight-Date structures.

```
#include <airrac/bom/YieldRuleStruct.hpp>
```

Inheritance diagram for AIRRAC::YieldRuleStruct:



Public Member Functions

- [YieldRuleStruct](#) ()
- [~YieldRuleStruct](#) ()
- [AIRRAC::YieldID_T getYieldID](#) () 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::YieldValue_T getYield](#) () 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 setYieldID](#) (const [AIRRAC::YieldID_T](#) iYieldID)
- [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 setYield](#) (const [stdair::YieldValue_T](#) &iYield)
- [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](#)

24.46.1 Detailed Description

Utility Structure for the parsing of Flight-Date structures.

Definition at line 24 of file [YieldRuleStruct.hpp](#).

24.46.2 Constructor & Destructor Documentation

24.46.2.1 AIRRAC::YieldRuleStruct::YieldRuleStruct ()

Constructor.

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

24.46.2.2 AIRRAC::YieldRuleStruct::~YieldRuleStruct ()

Destructor.

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

24.46.3 Member Function Documentation

24.46.3.1 AIRRAC::YieldID_T AIRRAC::YieldRuleStruct::getYieldID () const [inline]

Get the yield ID.

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

24.46.3.2 stdair::AirportCode_T AIRRAC::YieldRuleStruct::getOrigin () const [inline]

Get the origin.

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

Referenced by [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#).

24.46.3.3 stdair::AirportCode_T AIRRAC::YieldRuleStruct::getDestination () const [inline]

Get the destination.

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

Referenced by [AIRRAC::YieldParserHelper::storePOS::operator\(\)\(\)](#).

24.46.3.4 `stdair::TripType_T AIRRAC::YieldRuleStruct::getTripType () const [inline]`

Get the trip type.

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

24.46.3.5 `stdair::Date_T AIRRAC::YieldRuleStruct::getDateRangeStart () const [inline]`

Get the date range start.

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

24.46.3.6 `stdair::Date_T AIRRAC::YieldRuleStruct::getDateRangeEnd () const [inline]`

Get the date range end.

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

24.46.3.7 `stdair::Duration_T AIRRAC::YieldRuleStruct::getTimeRangeStart () const [inline]`

Get the time range start.

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

24.46.3.8 `stdair::Duration_T AIRRAC::YieldRuleStruct::getTimeRangeEnd () const [inline]`

Get the time range end.

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

24.46.3.9 `stdair::CabinCode_T AIRRAC::YieldRuleStruct::getCabinCode () const [inline]`

Get the cabin code.

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

24.46.3.10 `const stdair::CityCode_T AIRRAC::YieldRuleStruct::getPOS () const [inline]`

Get the point-of-sale.

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

24.46.3.11 `stdair::ChannelLabel_T AIRRAC::YieldRuleStruct::getChannel () const [inline]`

Get the channel.

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

24.46.3.12 `stdair::YieldValue_T AIRRAC::YieldRuleStruct::getYield () const [inline]`

Get the yield.

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

24.46.3.13 `stdair::AirlineCode_T AIRRAC::YieldRuleStruct::getAirlineCode () const`
[inline]

Get the airline code.

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

24.46.3.14 `stdair::ClassCode_T AIRRAC::YieldRuleStruct::getClassCode () const`
[inline]

Get the class code.

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

24.46.3.15 `const unsigned int AIRRAC::YieldRuleStruct::getAirlineListSize () const`
[inline]

Get the size of the airline code list.

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

24.46.3.16 `const unsigned int AIRRAC::YieldRuleStruct::getClassCodeListSize () const`
[inline]

Get the size of the class code list.

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

24.46.3.17 `stdair::AirlineCodeList_T AIRRAC::YieldRuleStruct::getAirlineList () const`
[inline]

Get the airline code list.

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

24.46.3.18 `stdair::ClassList_StringList_T AIRRAC::YieldRuleStruct::getClassCodeList () const`
[inline]

Get the class code list.

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

24.46.3.19 `stdair::Date_T AIRRAC::YieldRuleStruct::calculateDate () const`

Calculate the date from the staging details.

Definition at line 38 of file [YieldRuleStruct.cpp](#).

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

Referenced by [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#).

24.46.3.20 `stdair::Duration_T AIRRAC::YieldRuleStruct::calculateTime () const`

Calculate the time from the staging details.

Definition at line 44 of file [YieldRuleStruct.cpp](#).

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

Referenced by [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)\(\)](#).

24.46.3.21 `const std::string AIRRAC::YieldRuleStruct::describe () const`

Give a description of the structure (for display purposes).

Definition at line 52 of file [YieldRuleStruct.cpp](#).

Referenced by [AIRRAC::YieldParserHelper::doEndYield::operator\(\)\(\)](#).

24.46.3.22 `void AIRRAC::YieldRuleStruct::setYieldID (const AIRRAC::YieldID_T iYieldID)
[inline]`

Set the yield ID.

Definition at line 143 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

24.46.3.23 `void AIRRAC::YieldRuleStruct::setOrigin (const stdair::AirportCode_T & iOrigin)
[inline]`

Set the origin.

Definition at line 148 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)\(\)](#).

24.46.3.24 `void AIRRAC::YieldRuleStruct::setDestination (const stdair::AirportCode_T &
iDestination) [inline]`

Set the destination.

Definition at line 153 of file [YieldRuleStruct.hpp](#).

Referenced by [AIRRAC::YieldParserHelper::storeDestination::operator\(\)\(\)](#).

24.46.3.25 `void AIRRAC::YieldRuleStruct::setTripType (const stdair::TripType_T & iTripType)
[inline]`

Set the trip type.

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

Referenced by [AIRRAC::YieldParserHelper::storeTripType::operator\(\)\(\)](#).

24.46.3.26 `void AIRRAC::YieldRuleStruct::setDateRangeStart (const stdair::Date_T &
iDateRangeStart) [inline]`

Set the date range start.

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

Referenced by [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#).

24.46.3.27 `void AIRRAC::YieldRuleStruct::setDateRangeEnd (const stdair::Date_T & iDateRangeEnd) [inline]`

Set the date range end.

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

Referenced by [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#).

24.46.3.28 `void AIRRAC::YieldRuleStruct::setTimeRangeStart (const stdair::Duration_T & iTimeRangeStart) [inline]`

Set the time range start.

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

Referenced by [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#).

24.46.3.29 `void AIRRAC::YieldRuleStruct::setTimeRangeEnd (const stdair::Duration_T & iTimeRangeEnd) [inline]`

Set the time range end.

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

Referenced by [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#).

24.46.3.30 `void AIRRAC::YieldRuleStruct::setCabinCode (const stdair::CabinCode_T & iCabinCode) [inline]`

Set the cabin code.

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

Referenced by [AIRRAC::YieldParserHelper::storeCabinCode::operator\(\)](#).

24.46.3.31 `void AIRRAC::YieldRuleStruct::setPOS (const stdair::CityCode_T & iPOS) [inline]`

Set the point-of-sale.

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

Referenced by [AIRRAC::YieldParserHelper::storePOS::operator\(\)](#).

24.46.3.32 `void AIRRAC::YieldRuleStruct::setChannel (const stdair::ChannelLabel_T & iChannel) [inline]`

Set the channel.

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

Referenced by [AIRRAC::YieldParserHelper::storeChannel::operator\(\)](#).

24.46.3.33 void AIRRAC::YieldRuleStruct::setYield (const stdair::YieldValue_T & *iYield*)
[inline]

Set the yield.

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

Referenced by [AIRRAC::YieldParserHelper::storeYield::operator\(\)\(\)](#).

24.46.3.34 void AIRRAC::YieldRuleStruct::setAirlineCode (const stdair::AirlineCode_T & *iAirlineCode*) [inline]

Set the airline code.

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

Referenced by [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeYield](#)

24.46.3.35 void AIRRAC::YieldRuleStruct::setClassCode (const stdair::ClassCode_T & *iClassCode*) [inline]

Set the class code.

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

Referenced by [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

24.46.3.36 void AIRRAC::YieldRuleStruct::clearAirlineCodeList () [inline]

Empty the airline code list.

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

Referenced by [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

24.46.3.37 void AIRRAC::YieldRuleStruct::clearClassCodeList () [inline]

Empty the class code list.

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

Referenced by [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)\(\)](#).

24.46.3.38 void AIRRAC::YieldRuleStruct::addAirlineCode (const stdair::AirlineCode_T & *iAirlineCode*) [inline]

Add an airline code to the list.

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

Referenced by [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)\(\)](#).

24.46.3.39 void AIRRAC::YieldRuleStruct::addClassCode (const stdair::ClassCode_T & *iClassCode*) [inline]

Add a class code to the list.

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

Referenced by [AIRRAC::YieldParserHelper::storeClass::operator\(\)](#).

24.46.4 Member Data Documentation

24.46.4.1 `stdair::year_t` `AIRRAC::YieldRuleStruct::_itYear`

Staging Date.

Definition at line 235 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateDate\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

24.46.4.2 `stdair::month_t` `AIRRAC::YieldRuleStruct::_itMonth`

Definition at line 236 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateDate\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

24.46.4.3 `stdair::day_t` `AIRRAC::YieldRuleStruct::_itDay`

Definition at line 237 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateDate\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

24.46.4.4 `stdair::hour_t` `AIRRAC::YieldRuleStruct::_itHours`

Staging Time.

Definition at line 241 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateTime\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

24.46.4.5 `stdair::minute_t` `AIRRAC::YieldRuleStruct::_itMinutes`

Definition at line 242 of file [YieldRuleStruct.hpp](#).

Referenced by [calculateTime\(\)](#), and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

24.46.4.6 `stdair::second_t` `AIRRAC::YieldRuleStruct::_itSeconds`

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

Referenced by [calculateTime\(\)](#), [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeStartRangeTime::operator\(\)](#), [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#) and [AIRRAC::YieldParserHelper::YieldRuleParser::YieldRuleParser\(\)](#).

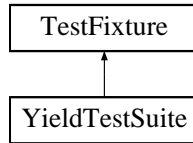
The documentation for this struct was generated from the following files:

- [airrac/bom/YieldRuleStruct.hpp](#)
- [airrac/bom/YieldRuleStruct.cpp](#)

24.47 YieldTestSuite Class Reference

```
#include <test/airrac/YieldTestSuite.hpp>
```

Inheritance diagram for YieldTestSuite:



Public Member Functions

- void [simpleYield](#) ()
- [YieldTestSuite](#) ()

Protected Attributes

- std::stringstream [_describeKey](#)

24.47.1 Detailed Description

Utility class for CPPUnit-based testing.

Definition at line 7 of file [YieldTestSuite.hpp](#).

24.47.2 Constructor & Destructor Documentation

24.47.2.1 YieldTestSuite::YieldTestSuite ()

Test some error detection functionalities. Constructor.

24.47.3 Member Function Documentation

24.47.3.1 void YieldTestSuite::simpleYield ()

Test a simple yield functionality.

24.47.4 Member Data Documentation

24.47.4.1 std::stringstream YieldTestSuite::_describeKey [protected]

Definition at line 28 of file [YieldTestSuite.hpp](#).

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

- test/airrac/[YieldTestSuite.hpp](#)

25 File Documentation

25.1 airrac/AIRRAC_Service.hpp File Reference

```
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_service_types.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>
#include <airrac/AIRRAC_Types.hpp>
```

Classes

- class [AIRRAC::AIRRAC_Service](#)
Interface for the [AIRRAC](#) Services.

Namespaces

- namespace [stdair](#)
Forward declarations.
- namespace [AIRRAC](#)

25.2 AIRRAC_Service.hpp

```
00001 #ifndef __AIRRAC_SVC_AIRRAC_SERVICE_HPP
00002 #define __AIRRAC_SVC_AIRRAC_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 // AirRAC
00012 #include <airrac/AIRRAC_Types.hpp>
00013
00014 // Forward declarations.
00015 namespace stdair {
00016     class STDAIR_Service;
00017     struct BasLogParams;
00018     struct BasDBParams;
00019 }
00020
00021 namespace AIRRAC {
00022
00024     class AIRRAC_ServiceContext;
00025
00029     class AIRRAC_Service {
00030     public:
00031         // ////////////////////////////////// Constructors and Destructors //////////////////////////////////
00032
00044         AIRRAC_Service (const stdair::BasLogParams&);
```

```
00045
00058     AIRRAC_Service (const stdair::BasLogParams&, const stdair::BasDBParams&);
00059
00075     AIRRAC_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr);
00076
00085     void parseAndLoad (const YieldFilePath& iYieldFilename);
00086
00087
00091     ~AIRRAC_Service();
00092
00093
00094 public:
00095     // //////////// Business Methods ////////////
00099     void calculateYields (stdair::TravelSolutionList_T&);
00100
00104     void updateYields();
00105
00112     void buildSampleBom();
00113
00131     void buildSampleTravelSolutions (stdair::TravelSolutionList_T&);
00132
00133
00134 public:
00135     // //////////// Display support methods ////////////
00143     std::string csvDisplay() const;
00144
00152     std::string csvDisplay (const stdair::TravelSolutionList_T&) const;
00153
00154
00155 private:
00156     // //////////// Construction and Destruction helper methods ////////////
00160     AIRRAC_Service();
00161
00165     AIRRAC_Service (const AIRRAC_Service&);
00166
00171     void initServiceContext();
00172
00182     stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&,
00183                                                    const stdair::BasDBParams&);
00184
00193     stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&);
00194
00203     void addStdAirService (stdair::STDAIR_ServicePtr_T,
00204                           const bool iOwnStdairService);
00205
00212     void initAirracService();
00213
00222     void initAirracService (const YieldFilePath& iYieldFilename);
00223
00227     void finalise();
00228
00229
00230 private:
00231     // //////////// Service Context ////////////
00235     AIRRAC_ServiceContext* _airracServiceContext;
00236 };
00237 }
00238 #endif // __AIRRAC_SVC_AIRRAC_SERVICE_HPP
```

25.3 airrac/AIRRAC_Types.hpp File Reference

```
#include <vector>
#include <string>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/stdair_file.hpp>
```

Classes

- class [AIRRAC::AirportPairNotFoundException](#)
- class [AIRRAC::PosOrChannelNotFoundException](#)
- class [AIRRAC::FlightDateNotFoundException](#)
- class [AIRRAC::FlightTimeNotFoundException](#)
- class [AIRRAC::FeaturesNotFoundException](#)
- class [AIRRAC::AirlineNotFoundException](#)
- class [AIRRAC::YieldInputFileNotFoundException](#)
- class [AIRRAC::YieldFileParsingFailedException](#)
- class [AIRRAC::QuotingException](#)
- class [AIRRAC::YieldFilePath](#)

Namespaces

- namespace [AIRRAC](#)

Typedefs

- typedef boost::shared_ptr< AIRRAC_Service > [AIRRAC::AIRRAC_ServicePtr_T](#)
- typedef unsigned int [AIRRAC::YieldID_T](#)

25.4 AIRRAC_Types.hpp

```
00001 #ifndef __AIRRAC_AIRRAC_TYPES_HPP
00002 #define __AIRRAC_AIRRAC_TYPES_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <vector>
00009 #include <string>
00010 // StdAir
00011 #include <stdair/stdair_exceptions.hpp>
00012 #include <stdair/stdair_file.hpp>
00013
00014 namespace AIRRAC {
00015
00016     // /////////// Exceptions ///////////
```

```

00017 class AirportPairNotFoundException : public stdair::ObjectNotFoundException {
00018 public:
00020     AirportPairNotFoundException (const std::string& iWhat)
00021         : stdair::ObjectNotFoundException (iWhat) {}
00022 };
00023
00024 class PosOrChannelNotFoundException : public stdair::ObjectNotFoundException {
00025 public:
00027     PosOrChannelNotFoundException (const std::string& iWhat)
00028         : stdair::ObjectNotFoundException (iWhat) {}
00029 };
00030
00031 class FlightDateNotFoundException : public stdair::ObjectNotFoundException {
00032 public:
00034     FlightDateNotFoundException (const std::string& iWhat)
00035         : stdair::ObjectNotFoundException (iWhat) {}
00036 };
00037
00038 class FlightTimeNotFoundException : public stdair::ObjectNotFoundException {
00039 public:
00041     FlightTimeNotFoundException (const std::string& iWhat)
00042         : stdair::ObjectNotFoundException (iWhat) {}
00043 };
00044
00045 class FeaturesNotFoundException : public stdair::ObjectNotFoundException {
00046 public:
00048     FeaturesNotFoundException (const std::string& iWhat)
00049         : stdair::ObjectNotFoundException (iWhat) {}
00050 };
00051
00052 class AirlineNotFoundException : public stdair::ObjectNotFoundException {
00053 public:
00055     AirlineNotFoundException (const std::string& iWhat)
00056         : stdair::ObjectNotFoundException (iWhat) {}
00057 };
00058
00059 class YieldInputFileNotFoundException : public stdair::FileNotFoundException {
00060 public:
00062     YieldInputFileNotFoundException (const std::string& iWhat)
00063         : stdair::FileNotFoundException (iWhat) {}
00064 };
00065
00066 class YieldFileParsingFailedException : public stdair::
ParsingFileFailedException {
00067 public:
00069     YieldFileParsingFailedException (const std::string& iWhat)
00070         : stdair::ParsingFileFailedException (iWhat) {}
00071 };
00072
00073 class QuotingException : public stdair::RootException {
00074 };
00075
00076 // ////////// Files //////////
00080 class YieldFilePath : public stdair::InputFilePath {
00081 public:
00085     explicit YieldFilePath (const stdair::Filename_T& iFilename)
00086         : stdair::InputFilePath (iFilename) {}
00087 };
00088
00089 // ////////// Type definitions specific to AirRAC //////////
00093 class AIRRAC_Service;
00094 typedef boost::shared_ptr<AIRRAC_Service> AIRRAC_ServicePtr_T;

```

```

00095
00096
00100     typedef unsigned int YieldID_T;
00101 }
00102 #endif // __AIRRAC_AIRRAC_TYPES_HPP
00103

```

25.5 airrac/basic/BasConst.cpp File Reference

```

#include <airrac/basic/BasConst_General.hpp>
#include <airrac/basic/BasConst_AIRRAC_Service.hpp>

```

Namespaces

- namespace [AIRRAC](#)

Variables

- const std::string [AIRRAC::DEFAULT_AIRLINE_CODE](#) = "BA"

25.6 BasConst.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 #include <airrac/basic/BasConst_General.hpp>
00005 #include <airrac/basic/BasConst_AIRRAC_Service.hpp>
00006
00007 namespace AIRRAC {
00008
00010     const std::string DEFAULT_AIRLINE_CODE = "BA";
00011
00012 }

```

25.7 airrac/basic/BasConst_AIRRAC_Service.hpp File Reference

```

#include <string>

```

Namespaces

- namespace [AIRRAC](#)

25.8 BasConst_AIRRAC_Service.hpp

```

00001 #ifndef __AIRRAC_BAS_BASCONST_AIRRAC_SERVICE_HPP
00002 #define __AIRRAC_BAS_BASCONST_AIRRAC_SERVICE_HPP
00003

```



```

00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 #include <string>
00008
00009 namespace AIRRAC {
00010
00012     extern const std::string DEFAULT_AIRLINE_CODE;
00013
00014 }
00015 #endif // __AIRRAC_BAS_BASCONST_AIRRAC_SERVICE_HPP

```

25.9 airrac/basic/BasConst_General.hpp File Reference

Namespaces

- namespace [AIRRAC](#)

25.10 BasConst_General.hpp

```

00001 #ifndef __AIRRAC_BAS_BASCONST_GENERAL_HPP
00002 #define __AIRRAC_BAS_BASCONST_GENERAL_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007
00008 namespace AIRRAC {
00009
00010 }
00011 #endif // __AIRRAC_BAS_BASCONST_GENERAL_HPP

```

25.11 airrac/batches/airrac.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/service/Logger.hpp>
#include <airrac/AIRRAC_Service.hpp>
#include <airrac/config/airrac-paths.hpp>
```

Typedefs

- typedef std::vector< std::string > [WordList_T](#)

Functions

- const std::string [K_AIRRAC_DEFAULT_LOG_FILENAME](#) ("airrac.log")
- const std::string [K_AIRRAC_DEFAULT_YIELD_INPUT_FILENAME](#) (STDAIR_SAMPLE_DIR"/yieldstore01.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 &ioYieldInputFilename, std::string &ioLogFilename)
- int [main](#) (int argc, char *argv[])

Variables

- const bool [K_AIRRAC_DEFAULT_BUILT_IN_INPUT](#) = false
- const int [K_AIRRAC_EARLY_RETURN_STATUS](#) = 99

25.11.1 Typedef Documentation

25.11.1.1 typedef std::vector<std::string> WordList_T

Definition at line 23 of file [airrac.cpp](#).

25.11.2 Function Documentation

25.11.2.1 const std::string K_AIRRAC_DEFAULT_LOG_FILENAME ("airrac.log")

Default name and location for the log file.

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

25.11.2.2 const std::string K_AIRRAC_DEFAULT_YIELD_INPUT_FILENAME (STDAIR_SAMPLE_DIR"/yieldstore01.csv")

Default name and location for the (CSV) input file.

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

25.11.2.3 `template<class T> std::ostream& operator<< (std::ostream & os, const
std::vector< T> & v)`

Definition at line 43 of file [airrac.cpp](#).

25.11.2.4 `int readConfiguration (int argc, char * argv[], bool & iolsBuiltin, stdair::Filename.T
& ioYieldInputFilename, std::string & ioLogFilename)`

Read and parse the command line options.

Definition at line 50 of file [airrac.cpp](#).

References [K_AIRRAC_DEFAULT_BUILT_IN_INPUT](#), [K_AIRRAC_DEFAULT_LOG_FILENAME\(\)](#),
[K_AIRRAC_DEFAULT_YIELD_INPUT_FILENAME\(\)](#), [K_AIRRAC_EARLY_RETURN_STATUS](#),
[PACKAGE_NAME](#), [PACKAGE_VERSION](#), and [PREFIXDIR](#).

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

25.11.2.5 `int main (int argc, char * argv[])`

Definition at line 153 of file [airrac.cpp](#).

References [AIRRAC::AIRRAC_Service::buildSampleBom\(\)](#), [AIRRAC::AIRRAC_Service::buildSampleTravelSolutions\(\)](#),
[AIRRAC::AIRRAC_Service::csvDisplay\(\)](#), [K_AIRRAC_EARLY_RETURN_STATUS](#), [AIRRAC::AIRRAC_
Service::parseAndLoad\(\)](#), and [readConfiguration\(\)](#).

25.11.3 Variable Documentation

25.11.3.1 `const bool K_AIRRAC_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 36 of file [airrac.cpp](#).

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

25.11.3.2 `const int K_AIRRAC_EARLY_RETURN_STATUS = 99`

Early return status (so that it can be differentiated from an error).

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

Referenced by [main\(\)](#), and [readConfiguration\(\)](#).

25.12 airrac.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/service/Logger.hpp>
00018 // Airrac
00019 #include <airrac/AIRAC_Service.hpp>
00020 #include <airrac/config/airrac-paths.hpp>
00021
00022 // ////////// Type definitions //////////
00023 typedef std::vector<std::string> WordList_T;
00024
00025
00026 // ////////// Constants //////////
00027 const std::string K_AIRAC_DEFAULT_LOG_FILENAME ("airrac.log");
00028
00029
00030 const std::string K_AIRAC_DEFAULT_YIELD_INPUT_FILENAME (STDAIR_SAMPLE_DIR
00031                                                         "/yieldstore01.csv");
00032
00033
00034 const bool K_AIRAC_DEFAULT_BUILT_IN_INPUT = false;
00035
00036
00037 const int K_AIRAC_EARLY_RETURN_STATUS = 99;
00038
00039 // ////////// Parsing of Options & Configuration //////////
00040 // A helper function to simplify the main part.
00041 template<class T> std::ostream& operator<< (std::ostream& os,
00042                                           const std::vector<T>& v) {
00043     std::copy (v.begin(), v.end(), std::ostream_iterator<T> (std::cout, " "));
00044     return os;
00045 }
00046
00047
00048 int readConfiguration (int argc, char* argv[], bool& ioIsBuiltin,
00049                       stdair::Filename_T& ioYieldInputFilename,
00050                       std::string& ioLogFilename) {
00051
00052     // Default for the built-in input
00053     ioIsBuiltin = K_AIRAC_DEFAULT_BUILT_IN_INPUT;
00054
00055     // Declare a group of options that will be allowed only on command line
00056     boost::program_options::options_description generic ("Generic options");
00057     generic.add_options()
00058         ("prefix", "print installation prefix")
00059         ("version,v", "print version string")
00060         ("help,h", "produce help message");
00061
00062     // Declare a group of options that will be allowed both on command
00063     // line and in config file
00064     boost::program_options::options_description config ("Configuration");
00065     config.add_options()
00066         ("builtin,b",
00067          "The sample BOM tree can be either built-in or parsed from an input file. Th
00068          at latter must then be given with the -y/--yield option")
00069         ("yield,y",
00070          boost::program_options::value< std::string >(&ioYieldInputFilename)->default
00071          _value(K_AIRAC_DEFAULT_YIELD_INPUT_FILENAME),
00072          "(CSV) input file for the yield rules")
00073         ("log,l",
00074          boost::program_options::value< std::string >(&ioLogFilename)->default_value(

```

```

        K_AIRAC_DEFAULT_LOG_FILENAME),
00075     "Filename for the logs")
00076     ;
00077
00078     // Hidden options, will be allowed both on command line and
00079     // in config file, but will not be shown to the user.
00080     boost::program_options::options_description hidden ("Hidden options");
00081     hidden.add_options()
00082         ("copyright",
00083          boost::program_options::value< std::vector<std::string> >(),
00084          "Show the copyright (license)");
00085
00086     boost::program_options::options_description cmdline_options;
00087     cmdline_options.add(generic).add(config).add(hidden);
00088
00089     boost::program_options::options_description config_file_options;
00090     config_file_options.add(config).add(hidden);
00091
00092     boost::program_options::options_description visible ("Allowed options");
00093     visible.add(generic).add(config);
00094
00095     boost::program_options::positional_options_description p;
00096     p.add ("copyright", -1);
00097
00098     boost::program_options::variables_map vm;
00099     boost::program_options::
00100         store (boost::program_options::command_line_parser (argc, argv).
00101                options (cmdline_options).positional(p).run(), vm);
00102
00103     std::ifstream ifs ("airrac.cfg");
00104     boost::program_options::store (parse_config_file (ifs, config_file_options),
00105                                    vm);
00106     boost::program_options::notify (vm); if (vm.count ("help")) {
00107         std::cout << visible << std::endl;
00108         return K_AIRAC_EARLY_RETURN_STATUS;
00109     }
00110
00111     if (vm.count ("version")) {
00112         std::cout << PACKAGE_NAME << ", version " << PACKAGE_VERSION << std::endl;
00113         return K_AIRAC_EARLY_RETURN_STATUS;
00114     }
00115
00116     if (vm.count ("prefix")) {
00117         std::cout << "Installation prefix: " << PREFIXDIR << std::endl;
00118         return K_AIRAC_EARLY_RETURN_STATUS;
00119     }
00120
00121     if (vm.count ("builtin")) {
00122         ioIsBuiltin = true;
00123     }
00124     const std::string isBuiltinStr = (ioIsBuiltin == true)? "yes": "no";
00125     std::cout << "The BOM should be built-in? " << isBuiltinStr << std::endl;
00126
00127     if (ioIsBuiltin == false) {
00128
00129         // The BOM tree should be built from parsing a yield (and O&D) file
00130         if (vm.count ("yield")) {
00131             ioYieldInputFilename = vm["yield"].as< std::string >();
00132             std::cout << "Input yield filename is: " << ioYieldInputFilename
00133                     << std::endl;
00134
00135         } else {

```

```

00136         // The built-in option is not selected. However, no yield file
00137         // is specified
00138         std::cerr << "Either one among the -b/--builtin and -y/--yield "
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 // ////////////////////////////////// M A I N //////////////////////////////////
00153 int main (int argc, char* argv[]) {
00154
00155     // State whether the BOM tree should be built-in or parsed from an input file
00156     bool isBuiltin;
00157
00158     // Yield input filename
00159     stdair::Filename_T lYieldInputFilename;
00160
00161     // Output log File
00162     stdair::Filename_T lLogFilename;
00163
00164     // Call the command-line option parser
00165     const int lOptionParserStatus =
00166         readConfiguration (argc, argv, isBuiltin, lYieldInputFilename, lLogFilename);
00167
00168     if (lOptionParserStatus == K_AIRAC_EARLY_RETURN_STATUS) {
00169         return 0;
00170     }
00171
00172     // Set the log parameters
00173     std::ofstream logOutputFile;
00174     // Open and clean the log outputfile
00175     logOutputFile.open (lLogFilename.c_str());
00176     logOutputFile.clear();
00177
00178     // Initialise the AirRAC service object
00179     const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
00180
00181     AIRRAC::AIRRAC_Service airracService (lLogParams);
00182
00183     // DEBUG
00184     STDAIR_LOG_DEBUG ("Welcome to AirRAC");
00185
00186     // Build a sample list of travel solutions
00187     stdair::TravelSolutionList_T lTravelSolutionList;
00188     airracService.buildSampleTravelSolutions (lTravelSolutionList);
00189
00190     // Check whether or not a (CSV) input file should be read
00191     if (isBuiltin == true) {
00192
00193         // Build the sample BOM tree (filled with yields) for AirRAC
00194         airracService.buildSampleBom();
00195
00196     } else {

```

```

00197
00198     // Build the BOM tree from parsing a yield file
00199     AIRRAC::YieldFilePath lYieldFilePath (lYieldInputFilename);
00200     airracService.parseAndLoad (lYieldFilePath);
00201
00202 }
00203
00204 // DEBUG: Display the whole BOM tree
00205 const std::string& lBOMCSVDump = airracService.csvDisplay();
00206 STDAIR_LOG_DEBUG ("BOM tree: " << lBOMCSVDump);
00207
00208 // DEBUG: Display the travel solutions
00209 const std::string& lTSCSVDump =
00210     airracService.csvDisplay (lTravelSolutionList);
00211 STDAIR_LOG_DEBUG (lTSCSVDump);
00212
00213 // Close the Log outputFile
00214 logOutputFile.close();
00215
00216 /*
00217  Note: as that program is not intended to be run on a server in
00218  production, it is better not to catch the exceptions. When it
00219  happens (that an exception is throwned), that way we get the
00220  call stack.
00221  */
00222
00223 return 0;
00224 }

```

25.13 airrac/bom/YieldRuleStruct.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <stdair/basic/BasConst_General.hpp>
#include <stdair/service/Logger.hpp>
#include <airrac/AIRRAC_Types.hpp>
#include <airrac/bom/YieldRuleStruct.hpp>

```

Namespaces

- namespace [AIRRAC](#)

25.14 YieldRuleStruct.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // StdAir
00008 #include <stdair/basic/BasConst_General.hpp>

```

```

00009 #include <stdair/service/Logger.hpp>
00010 // AIRRAC
00011 #include <airrac/AIRRAC_Types.hpp>
00012 #include <airrac/bom/YieldRuleStruct.hpp>
00013
00014 namespace AIRRAC {
00015
00016 // //////////////////////////////////////
00017 YieldRuleStruct::YieldRuleStruct()
00018 : _yieldId(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   _yield(0),
00026   _cabinCode(""),
00027   _pos(""),
00028   _channel(""),
00029   _airlineCode(""),
00030   _classCode("") {
00031 }
00032
00033 // //////////////////////////////////////
00034 YieldRuleStruct::~YieldRuleStruct() {
00035 }
00036
00037 // //////////////////////////////////////
00038 stdair::Date_T YieldRuleStruct::calculateDate() const {
00039     _itYear.check(); _itMonth.check(); _itDay.check();
00040     return stdair::Date_T (_itYear._value, _itMonth._value, _itDay._value);
00041 }
00042
00043 // //////////////////////////////////////
00044 stdair::Duration_T YieldRuleStruct::calculateTime() const {
00045     _itHours.check(); _itMinutes.check(); _itSeconds.check();
00046     return boost::posix_time::hours (_itHours._value)
00047         + boost::posix_time::minutes (_itMinutes._value)
00048         + boost::posix_time::seconds (_itSeconds._value);
00049 }
00050
00051 // //////////////////////////////////////
00052 const std::string YieldRuleStruct::describe() const {
00053     std::ostringstream ostr;
00054     ostr << "YieldRule: " << _yieldId << ", ";
00055
00056     ostr << _origin << "-" << _destination << " ("
00057         << _pos << "), " << _channel << ", [";
00058     ostr << _dateRangeStart << "/" << _dateRangeEnd << "]" << " - ["
00059         << boost::posix_time::to_simple_string (_timeRangeStart) << "/"
00060         << boost::posix_time::to_simple_string (_timeRangeEnd) << "], ";
00061
00062     ostr << _cabinCode << ", " << _yield << " EUR, ";
00063
00064     // Sanity check
00065     assert (_airlineCodeList.size() == _classCodeList.size());
00066
00067     // Browse the class-paths
00068     unsigned short idx = 0;
00069     stdair::ClassList_StringList_T::const_iterator itClass =
00070         _classCodeList.begin();

```



```

00071     for (stdair::AirlineCodeList_T::const_iterator itAirline =
00072           _airlineCodeList.begin();
00073           itAirline != _airlineCodeList.end(); ++itAirline, ++itClass, ++idx) {
00074         if (idx != 0) {
00075             ostr << " - ";
00076         }
00077         const stdair::AirlineCode_T lAirlineCode = *itAirline;
00078         const stdair::ClassCode_T lClassCode = *itClass;
00079         ostr << lAirlineCode << " / " << lClassCode;
00080     }
00081
00082     return ostr.str();
00083 }
00084 }

```

25.15 airrac/bom/YieldRuleStruct.hpp File Reference

```

#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/stdair_date_time_types.hpp>
#include <stdair/stdair_demand_types.hpp>
#include <stdair/stdair_inventory_types.hpp>
#include <stdair/basic/StructAbstract.hpp>
#include <stdair/basic/BasParserHelperTypes.hpp>
#include <airrac/AIRRAC_Types.hpp>

```

Classes

- struct [AIRRAC::YieldRuleStruct](#)
Utility Structure for the parsing of Flight-Date structures.

Namespaces

- namespace [AIRRAC](#)

25.16 YieldRuleStruct.hpp

```

00001 #ifndef __AIRRAC_BOM_YELDRULESTRUCT_HPP
00002 #define __AIRRAC_BOM_YELDRULESTRUCT_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // STL
00008 #include <string>
00009 // StdAir
00010 #include <stdair/stdair_basic_types.hpp>
00011 #include <stdair/stdair_date_time_types.hpp>

```

```

00012 #include <stdair/stdair_demand_types.hpp>
00013 #include <stdair/stdair_inventory_types.hpp>
00014 #include <stdair/basic/StructAbstract.hpp>
00015 #include <stdair/basic/BasParserHelperTypes.hpp>
00016 // AirRAC
00017 #include <airrac/AIRRAC_Types.hpp>
00018
00019 namespace AIRRAC {
00020
00024 struct YieldRuleStruct : public stdair::StructAbstract {
00025 public:
00026     // /////////////////////////////////// Initialisation / Destruction ///////////////////////////////////
00030     YieldRuleStruct();
00031
00035     ~YieldRuleStruct();
00036
00037 public:
00038     // /////////////////////////////////// Getters ///////////////////////////////////
00040     AIRRAC::YieldID_T getYieldID () const {
00041         return _yieldId;
00042     }
00043
00045     stdair::AirportCode_T getOrigin () const {
00046         return _origin;
00047     }
00048
00050     stdair::AirportCode_T getDestination () const {
00051         return _destination;
00052     }
00053
00055     stdair::TripType_T getTripType () const {
00056         return _tripType;
00057     }
00058
00060     stdair::Date_T getDateRangeStart () const {
00061         return _dateRangeStart;
00062     }
00063
00065     stdair::Date_T getDateRangeEnd () const {
00066         return _dateRangeEnd;
00067     }
00068
00070     stdair::Duration_T getTimeRangeStart () const {
00071         return _timeRangeStart;
00072     }
00073
00075     stdair::Duration_T getTimeRangeEnd () const {
00076         return _timeRangeEnd;
00077     }
00078
00080     stdair::CabinCode_T getCabinCode () const {
00081         return _cabinCode;
00082     }
00083
00085     const stdair::CityCode_T getPOS () const {
00086         return _pos;
00087     }
00088
00090     stdair::ChannelLabel_T getChannel () const {
00091         return _channel;
00092     }
00093

```

```

00095     stdair::YieldValue_T getYield () const {
00096         return _yield;
00097     }
00098
00100     stdair::AirlineCode_T getAirlineCode () const {
00101         return _airlineCode;
00102     }
00103
00105     stdair::ClassCode_T getClassCode () const {
00106         return _classCode;
00107     }
00108
00110     const unsigned int getAirlineListSize () const {
00111         return _airlineCodeList.size();
00112     }
00113
00115     const unsigned int getClassCodeListSize () const {
00116         return _classCodeList.size();
00117     }
00118
00120     stdair::AirlineCodeList_T getAirlineList () const {
00121         return _airlineCodeList;
00122     }
00123
00125     stdair::ClassList_StringList_T getClassCodeList () const {
00126         return _classCodeList;
00127     }
00128
00129 public:
00130     // ////////////////////////////////// Display support methods //////////////////////////////////
00132     stdair::Date_T calculateDate() const;
00133
00135     stdair::Duration_T calculateTime() const;
00136
00138     const std::string describe() const;
00139
00140 public:
00141     // ////////////////////////////////// Setters //////////////////////////////////
00143     void setYieldID (const AIRRAC::YieldID_T iYieldID) {
00144         _yieldId = iYieldID;
00145     }
00146
00148     void setOrigin (const stdair::AirportCode_T& iOrigin) {
00149         _origin = iOrigin;
00150     }
00151
00153     void setDestination (const stdair::AirportCode_T& iDestination) {
00154         _destination = iDestination;
00155     }
00156
00158     void setTripType (const stdair::TripType_T& iTripType) {
00159         _tripType = iTripType;
00160     }
00161
00163     void setDateRangeStart (const stdair::Date_T& iDateRangeStart) {
00164         _dateRangeStart = iDateRangeStart;
00165     }
00166
00168     void setDateRangeEnd (const stdair::Date_T& iDateRangeEnd) {
00169         _dateRangeEnd = iDateRangeEnd;
00170     }
00171

```

```

00173     void setTimeRangeStart (const stdair::Duration_T& iTimeRangeStart) {
00174         _timeRangeStart = iTimeRangeStart;
00175     }
00176
00177     void setTimeRangeEnd (const stdair::Duration_T& iTimeRangeEnd) {
00178         _timeRangeEnd = iTimeRangeEnd;
00179     }
00180
00181
00182     void setCabinCode (const stdair::CabinCode_T& iCabinCode) {
00183         _cabinCode = iCabinCode;
00184     }
00185
00186
00187     void setPOS (const stdair::CityCode_T& iPOS) {
00188         _pos = iPOS;
00189     }
00190
00191
00192     void setChannel (const stdair::ChannelLabel_T& iChannel) {
00193         _channel = iChannel;
00194     }
00195
00196
00197     void setYield(const stdair::YieldValue_T& iYield) {
00198         _yield = iYield;
00199     }
00200
00201
00202     void setAirlineCode (const stdair::AirlineCode_T& iAirlineCode) {
00203         _airlineCode = iAirlineCode;
00204     }
00205
00206
00207     void setClassCode (const stdair::ClassCode_T& iClassCode) {
00208         _classCode = iClassCode;
00209     }
00210
00211
00212     void clearAirlineCodeList () {
00213         _airlineCodeList.clear();
00214     }
00215
00216
00217     void clearClassCodeList () {
00218         _classCodeList.clear();
00219     }
00220
00221
00222     void addAirlineCode (const stdair::AirlineCode_T& iAirlineCode) {
00223         _airlineCodeList.push_back (iAirlineCode);
00224     }
00225
00226
00227     void addClassCode (const stdair::ClassCode_T& iClassCode) {
00228         _classCodeList.push_back (iClassCode);
00229     }
00230
00231
00232 public:
00233     // ////////////////////////////////// Attributes //////////////////////////////////
00234     stdair::year_t _itYear;
00235     stdair::month_t _itMonth;
00236     stdair::day_t _itDay;
00237
00238     //long _itHours;
00239     stdair::hour_t _itHours;
00240     stdair::minute_t _itMinutes;
00241     stdair::second_t _itSeconds;
00242
00243 private:
00244     // ////////////////////////////////// Attributes //////////////////////////////////
00245
00246

```

```

00249     YieldID_T _yieldId;
00250
00252     stdair::AirportCode_T _origin;
00253
00255     stdair::AirportCode_T _destination;
00256
00258     stdair::TripType_T _tripType;
00259
00261     stdair::Date_T _dateRangeStart;
00262
00264     stdair::Date_T _dateRangeEnd;
00265
00267     stdair::Duration_T _timeRangeStart;
00268
00270     stdair::Duration_T _timeRangeEnd;
00271
00273     stdair::YieldValue_T _yield;
00274
00276     stdair::CabinCode_T _cabinCode;
00277
00279     stdair::CityCode_T _pos;
00280
00282     stdair::ChannelLabel_T _channel;
00283
00285     stdair::AirlineCode_T _airlineCode;
00286
00288     stdair::ClassCode_T _classCode;
00289
00291     stdair::AirlineCodeList_T _airlineCodeList;
00292
00294     stdair::ClassList_StringList_T _classCodeList;
00295 };
00296
00297 }
00298 #endif // __AIRRAC_BOM_YIELDRULESTRUCT_HPP

```

25.17 airrac/command/YieldManager.cpp File Reference

```

#include <cassert>

#include <stdair/basic/BasConst_Request.hpp>

#include <stdair/bom/BomManager.hpp>

#include <stdair/bom/BomRoot.hpp>

#include <stdair/bom/Inventory.hpp>

#include <stdair/bom/FlightDate.hpp>

#include <stdair/bom/SegmentDate.hpp>

#include <stdair/bom/SegmentCabin.hpp>

#include <stdair/bom/FareFamily.hpp>

#include <stdair/bom/BookingClass.hpp>

#include <stdair/bom/TravelSolutionStruct.hpp>

#include <stdair/bom/AirportPair.hpp>

```

```

#include <stdair/bom/PosChannel.hpp>
#include <stdair/bom/DatePeriod.hpp>
#include <stdair/bom/TimePeriod.hpp>
#include <stdair/bom/YieldFeatures.hpp>
#include <stdair/bom/AirlineClassList.hpp>
#include <stdair/factory/FacBomManager.hpp>
#include <stdair/service/Logger.hpp>
#include <airrac/AIRRAC_Types.hpp>
#include <airrac/command/YieldManager.hpp>

```

Namespaces

- namespace [AIRRAC](#)

25.18 YieldManager.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/basic/BasConst_Request.hpp>
00008 #include <stdair/bom/BomManager.hpp>
00009 #include <stdair/bom/BomRoot.hpp>
00010 #include <stdair/bom/Inventory.hpp>
00011 #include <stdair/bom/FlightDate.hpp>
00012 #include <stdair/bom/SegmentDate.hpp>
00013 #include <stdair/bom/SegmentCabin.hpp>
00014 #include <stdair/bom/FareFamily.hpp>
00015 #include <stdair/bom/BookingClass.hpp>
00016 #include <stdair/bom/TravelSolutionStruct.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/YieldFeatures.hpp>
00022 #include <stdair/bom/AirlineClassList.hpp>
00023 #include <stdair/factory/FacBomManager.hpp>
00024 #include <stdair/service/Logger.hpp>
00025 // Airrac
00026 #include <airrac/AIRRAC_Types.hpp>
00027 #include <airrac/command/YieldManager.hpp>
00028
00029 namespace AIRRAC {
00030
00031 // //////////////////////////////////////
00032 YieldManager::YieldManager() {
00033     assert (false);
00034 }
00035
00036 // //////////////////////////////////////

```

```

00037 YieldManager::YieldManager (const YieldManager&) {
00038     assert (false);
00039 }
00040
00041 // //////////////////////////////////////
00042 YieldManager::~YieldManager() {
00043 }
00044
00045 // //////////////////////////////////////
00046 void YieldManager::
00047 calculateYield (stdair::TravelSolutionList_T& ioTravelSolutionList,
00048                const stdair::BomRoot& iBomRoot) {
00049
00050     // Browse the list of TravelSolution structures
00051     for (stdair::TravelSolutionList_T::iterator itTravelSolution =
00052          ioTravelSolutionList.begin();
00053          itTravelSolution != ioTravelSolutionList.end(); ++itTravelSolution) {
00054         stdair::TravelSolutionStruct& lTravelSolution = *itTravelSolution;
00055
00056         //
00057         YieldManager::calculateYield (lTravelSolution, iBomRoot);
00058     }
00059 }
00060
00061 // //////////////////////////////////////
00062 void YieldManager::
00063 calculateYield (stdair::TravelSolutionStruct& ioTravelSolution,
00064                const stdair::BomRoot& iBomRoot) {
00065
00066     // Calculate/retrieve the yield for the given travel solution
00067     //YieldStore::calculateYield (ioYield, ioTravelSolution);
00068
00069     // TODO: update the statistical attributes of the yield.
00070 }
00071
00072 // //////////////////////////////////////
00073 void YieldManager::updateYields (const stdair::BomRoot& iBomRoot) {
00074     // Browse the list of booking classes and update yield for each one.
00075     const stdair::InventoryList_T lInvList =
00076         stdair::BomManager::getList<stdair::Inventory> (iBomRoot);
00077     for (stdair::InventoryList_T::const_iterator itInv = lInvList.begin();
00078          itInv != lInvList.end(); ++itInv) {
00079         const stdair::Inventory* lInv_ptr = *itInv;
00080         assert (lInv_ptr != NULL);
00081
00082         // Retrieve the airline code.
00083         const stdair::AirlineCode_T& lAirlineCode = lInv_ptr->getAirlineCode();
00084
00085         //
00086         const stdair::FlightDateList_T& lFDList =
00087             stdair::BomManager::getList<stdair::FlightDate> (*lInv_ptr);
00088         for (stdair::FlightDateList_T::const_iterator itFD = lFDList.begin();
00089              itFD != lFDList.end(); ++itFD) {
00090             const stdair::FlightDate* lFD_ptr = *itFD;
00091             assert (lFD_ptr != NULL);
00092
00093             //
00094             const stdair::SegmentDateList_T& lSDList =
00095                 stdair::BomManager::getList<stdair::SegmentDate> (*lFD_ptr);
00096             for (stdair::SegmentDateList_T::const_iterator itSD = lSDList.begin();
00097                  itSD != lSDList.end(); ++itSD) {
00098                 const stdair::SegmentDate* lSD_ptr = *itSD;

```

```

00099         assert (lSD_ptr != NULL);
00100
00101         // Retrieve the origin and the destination
00102         const stdair::AirportCode_T& lOrigin = lSD_ptr->getBoardingPoint();
00103         const stdair::AirportCode_T& lDestination = lSD_ptr->getOffPoint();
00104
00105         // Retrieve the airport pair in the yield structure.
00106         const stdair::AirportPairKey lAirportPairKey (lOrigin, lDestination);
00107         stdair::AirportPair* lAirportPair_ptr = stdair::BomManager::
00108             getObjectPtr<stdair::AirportPair> (iBomRoot,
00109                                                 lAirportPairKey.toString());
00110         if (lAirportPair_ptr == NULL) {
00111             STDAIR_LOG_ERROR ("Cannot find yield corresponding to the airport "
00112                               << "pair: " << lAirportPairKey.toString());
00113             assert (false);
00114         }
00115
00116         // Retrieve the boarding date and time
00117         const stdair::Date_T& lDate = lSD_ptr->getBoardingDate();
00118         const stdair::Duration_T& lTime = lSD_ptr->getBoardingTime();
00119
00120         // Retrieve the corresponding date period.
00121         const stdair::DatePeriodList_T& lDatePeriodList =
00122             stdair::BomManager::getList<stdair::DatePeriod> (*lAirportPair_ptr);
00123         for (stdair::DatePeriodList_T::const_iterator itDatePeriod =
00124             lDatePeriodList.begin();
00125             itDatePeriod != lDatePeriodList.end(); ++itDatePeriod) {
00126             const stdair::DatePeriod* lDatePeriod_ptr = *itDatePeriod;
00127             assert (lDatePeriod_ptr != NULL);
00128
00129             const bool isDepartureDateValid =
00130                 lDatePeriod_ptr->isDepartureDateValid (lDate);
00131
00132             if (isDepartureDateValid == true) {
00133
00134                 // Retrieve the PoS-Channel.
00135                 const stdair::PosChannelKey lPosChannelKey (stdair::DEFAULT_POS,
00136                                                             stdair::DEFAULT_CHANNEL
00137 );
00138                 stdair::PosChannel* lPosChannel_ptr = stdair::BomManager::
00139                     getObjectPtr<stdair::PosChannel> (*lDatePeriod_ptr,
00140                                                         lPosChannelKey.toString());
00141                 if (lPosChannel_ptr == NULL) {
00142                     STDAIR_LOG_ERROR ("Cannot find yield corresponding to the PoS-"
00143                                         << "Channel: " << lPosChannelKey.toString());
00144                     assert (false);
00145                 }
00146
00147                 // Retrieve the corresponding time period.
00148                 const stdair::TimePeriodList_T& lTimePeriodList = stdair::
00149                     BomManager::getList<stdair::TimePeriod> (*lPosChannel_ptr);
00150                 for (stdair::TimePeriodList_T::const_iterator itTimePeriod =
00151                     lTimePeriodList.begin();
00152                     itTimePeriod != lTimePeriodList.end(); ++itTimePeriod) {
00153                     const stdair::TimePeriod* lTimePeriod_ptr = *itTimePeriod;
00154                     assert (lTimePeriod_ptr != NULL);
00155
00156                     const bool isDepartureTimeValid =
00157                         lTimePeriod_ptr->isDepartureTimeValid (lTime);
00158
00159                     if (isDepartureTimeValid == true) {
00160                         updateYields (*lSD_ptr, *lTimePeriod_ptr, lAirlineCode);
00161                     }
00162                 }
00163             }
00164         }
00165     }
00166 }

```



```

00160         }
00161     }
00162 }
00163 }
00164 }
00165 }
00166 }
00167 }
00168
00169 // //////////////////////////////////////
00170 void YieldManager::updateYields (const stdair::SegmentDate& iSegmentDate,
00171                                 const stdair::TimePeriod& iTimePeriod,
00172                                 const stdair::AirlineCode_T& iAirlineCode) {
00173     // Browse the segment-cabin list and retrieve the corresponding
00174     // yield features.
00175     const stdair::SegmentCabinList_T& lSegmentCabinList =
00176         stdair::BomManager::getList<stdair::SegmentCabin> (iSegmentDate);
00177     for (stdair::SegmentCabinList_T::const_iterator itSC =
00178         lSegmentCabinList.begin(); itSC != lSegmentCabinList.end(); ++itSC) {
00179         const stdair::SegmentCabin* lSegmentCabin_ptr = *itSC;
00180         assert (lSegmentCabin_ptr != NULL);
00181
00182         const stdair::CabinCode_T& lCabinCode = lSegmentCabin_ptr->getCabinCode();
00183         const stdair::TripType_T lTripType (stdair::TRIP_TYPE_ONE_WAY);
00184         const stdair::YieldFeaturesKey lYieldFeaturesKey (lTripType,
00185                                                         lCabinCode);
00186         const stdair::YieldFeatures* lYieldFeatures_ptr = stdair::BomManager::
00187             getObjectPtr<stdair::YieldFeatures> (iTimePeriod,
00188                                                 lYieldFeaturesKey.toString());
00189         if (lYieldFeatures_ptr == NULL) {
00190             STDAIR_LOG_ERROR ("Cannot find the yield features corresponding to "
00191                             << iTimePeriod.describeKey() << ", "
00192                             << lCabinCode << " and " << lTripType);
00193             assert (false);
00194         }
00195
00196         // Browse the list of booking class and update the yield for each one.
00197         const stdair::FareFamilyList_T& lFFlist = stdair::BomManager::
00198             getList<stdair::FareFamily> (*lSegmentCabin_ptr);
00199         for (stdair::FareFamilyList_T::const_iterator itFF = lFFlist.begin();
00200             itFF != lFFlist.end(); ++itFF) {
00201             const stdair::FareFamily* lFF_ptr = *itFF;
00202             assert (lFF_ptr != NULL);
00203
00204             const stdair::BookingClassList_T& lBCList = stdair::BomManager::
00205                 getList<stdair::BookingClass> (*lFF_ptr);
00206             for (stdair::BookingClassList_T::const_iterator itBC = lBCList.begin();
00207                 itBC != lBCList.end(); ++itBC) {
00208                 stdair::BookingClass* lBookingClass_ptr = *itBC;
00209                 assert (lBookingClass_ptr != NULL);
00210
00211                 const stdair::ClassCode_T& lClassCode =
00212                     lBookingClass_ptr->getClassCode();
00213                 stdair::AirlineCodeList_T lAirlineCodeList;
00214                 lAirlineCodeList.push_back (iAirlineCode);
00215                 stdair::ClassList_StringList_T lClassList;
00216                 lClassList.push_back (lClassCode);
00217                 const stdair::AirlineClassListKey lACListKey (lAirlineCodeList,
00218                                                             lClassList);
00219
00220                 const stdair::AirlineClassList* lAirlineClassList_ptr = stdair::
00221                     BomManager::getObjectPtr<stdair::AirlineClassList> (*lYieldFeatures_p

```

```

        tr, lACListKey.toString());
00222         if (lAirlineClassList_ptr != NULL) {
00223             const stdair::Yield_T& lYield = lAirlineClassList_ptr->getYield();
00224             lBookingClass_ptr->setYield (lYield);
00225
00226             //DEBUG
00227             STDAIR_LOG_DEBUG ("Update yield of " << lYield << " for "
00228                             << iAirlineCode << ", "
00229                             << iSegmentDate.describeKey() << ", "
00230                             << lBookingClass_ptr->describeKey());
00231         }
00232     }
00233 }
00234 }
00235 }
00236 }

```

25.19 airrac/command/YieldManager.hpp File Reference

```

#include <stdair/stdair_basic_types.hpp>
#include <stdair/bom/TravelSolutionTypes.hpp>

```

Classes

- class [AIRRAC::YieldManager](#)
Command wrapping the travel request process.

Namespaces

- namespace [stdair](#)
Forward declarations.
- namespace [AIRRAC](#)

25.20 YieldManager.hpp

```

00001 #ifndef __AIRRAC_CMD_YELDMANAGER_HPP
00002 #define __AIRRAC_CMD_YELDMANAGER_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     class SegmentDate;
00015     class TimePeriod;
00016 }
00017
00018 namespace AIRRAC {

```

```

00019
00023  class YieldManager {
00027      friend class AIRRAC_Service;
00028
00029  private:
00033      static void calculateYield (stdair::TravelSolutionList_T&,
00034                                  const stdair::BomRoot&);
00035
00039      static void calculateYield (stdair::TravelSolutionStruct&,
00040                                  const stdair::BomRoot&);
00041
00045      static void updateYields (const stdair::BomRoot&);
00046      static void updateYields (const stdair::SegmentDate&,
00047                                  const stdair::TimePeriod&,
00048                                  const stdair::AirlineCode_T&);
00049
00050  private:
00054      YieldManager();
00055
00059      YieldManager(const YieldManager&);
00060
00064      ~YieldManager();
00065  };
00066
00067 }
00068 #endif // __AIRRAC_CMD_YIELDMANAGER_HPP

```

25.21 airrac/command/YieldParser.cpp File Reference

```

#include <cassert>
#include <string>
#include <stdair/basic/BasFileMgr.hpp>
#include <airrac/command/YieldParserHelper.hpp>
#include <airrac/command/YieldParser.hpp>

```

Namespaces

- namespace [AIRRAC](#)

25.22 YieldParser.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <string>
00007 // StdAir
00008 #include <stdair/basic/BasFileMgr.hpp>
00009 // AirRAC
00010 #include <airrac/command/YieldParserHelper.hpp>
00011 #include <airrac/command/YieldParser.hpp>
00012

```

```

00013 namespace AIRRAC {
00014
00015     // //////////////////////////////////////
00016     void YieldParser::generateYieldStore (const YieldFilePath& iYieldFilename,
00017                                         stdair::BomRoot& ioBomRoot) {
00018
00019         const stdair::Filename_T lFilename = iYieldFilename.name();
00020
00021         // Check that the file path given as input corresponds to an actual file
00022         const bool doesExistAndIsReadable =
00023             stdair::BasFileMgr::doesExistAndIsReadable (lFilename);
00024         if (doesExistAndIsReadable == false) {
00025             STDAIR_LOG_ERROR ("The yield input file, '" << lFilename
00026                             << "', can not be retrieved on the file-system");
00027             throw YieldInputFileNotFoundException ("The yield file '" + lFilename
00028                                                  + "' does not exist or can not "
00029                                                  "be read");
00030         }
00031
00032         // Initialise the yield file parser.
00033         YieldFileParser lYieldParser (ioBomRoot, lFilename);
00034
00035         // Parse the CSV-formatted yield store input file, and generate the
00036         // corresponding Yield-related objects.
00037         lYieldParser.generateYieldStore();
00038     }
00039 }

```

25.23 airrac/command/YieldParser.hpp File Reference

```

#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/command/CmdAbstract.hpp>
#include <airrac/AIRRAC_Types.hpp>

```

Classes

- class [AIRRAC::YieldParser](#)
Class wrapping the parser entry point.

Namespaces

- namespace [stdair](#)
Forward declarations.
- namespace [AIRRAC](#)

25.24 YieldParser.hpp

```

00001 #ifndef __AIRRAC_CMD_YELDPARSER_HPP
00002 #define __AIRRAC_CMD_YELDPARSER_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 //AirRAC
00013 #include <airrac/AIRAC_Types.hpp>
00014
00016 namespace stdair {
00017     class BomRoot;
00018 }
00019
00020 namespace AIRRAC {
00021
00025     class YieldParser : public stdair::CmdAbstract {
00026     public:
00036         static void generateYieldStore (const YieldFilePath&, stdair::BomRoot&);
00037     };
00038 }
00039 #endif // __AIRRAC_CMD_YIELDPARSER_HPP

```

25.25 airrac/command/YieldParserHelper.cpp File Reference

```

#include <cassert>
#include <fstream>
#include <vector>

#include <stdair/basic/BasFileMgr.hpp>
#include <stdair/basic/BasConst_Request.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/basic/BasParserTypes.hpp>
#include <airrac/command/YieldParserHelper.hpp>
#include <airrac/command/YieldRuleGenerator.hpp>

```

Classes

- struct [AIRRAC::YieldParserHelper::YieldRuleParser](#)

Namespaces

- namespace [AIRRAC](#)
- namespace [AIRRAC::YieldParserHelper](#)

Variables

- stdair::int1_p_t AIRRAC::YieldParserHelper::int1_p
- stdair::uint2_p_t AIRRAC::YieldParserHelper::uint2_p
- stdair::uint4_p_t AIRRAC::YieldParserHelper::uint4_p
- stdair::uint1_4_p_t AIRRAC::YieldParserHelper::uint1_4_p
- stdair::hour_p_t AIRRAC::YieldParserHelper::hour_p
- stdair::minute_p_t AIRRAC::YieldParserHelper::minute_p
- stdair::second_p_t AIRRAC::YieldParserHelper::second_p
- stdair::year_p_t AIRRAC::YieldParserHelper::year_p
- stdair::month_p_t AIRRAC::YieldParserHelper::month_p
- stdair::day_p_t AIRRAC::YieldParserHelper::day_p

25.26 YieldParserHelper.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <fstream>
00007 #include <vector>
00008 // StdAir
00009 #include <stdair/basic/BasFileMgr.hpp>
00010 #include <stdair/basic/BasConst_Request.hpp>
00011 #include <stdair/bom/BomRoot.hpp>
00012 #include <stdair/service/Logger.hpp>
00013 // #define BOOST_SPIRIT_DEBUG
00014 #include <stdair/basic/BasParserTypes.hpp>
00015 // Airrac
00016 #include <airrac/command/YieldParserHelper.hpp>
00017 #include <airrac/command/YieldRuleGenerator.hpp>
00018
00019 namespace AIRRAC {
00020
00021     namespace YieldParserHelper {
00022
00023         // //////////////////////////////////////
00024         // Semantic actions
00025         // //////////////////////////////////////
00026
00027         ParserSemanticAction::
00028         ParserSemanticAction (YieldRuleStruct& ioYieldRule)
00029             : _yieldRule (ioYieldRule) {
00030         }
00031
00032         // //////////////////////////////////////
00033         storeYieldId::
00034         storeYieldId (YieldRuleStruct& ioYieldRule)
00035             : ParserSemanticAction (ioYieldRule) {
00036         }
00037
00038         // //////////////////////////////////////
00039         void storeYieldId::operator() (unsigned int iYieldId,
00040                                         boost::spirit::qi::unused_type,
00041                                         boost::spirit::qi::unused_type) const {
00042             _yieldRule.setYieldID (iYieldId);

```

```

00043
00044         // DEBUG
00045         //STDAIR_LOG_DEBUG ( "Yield Id: " << _yieldRule.getYieldID ());
00046
00047         const stdair::AirlineCode_T lEmptyAirlineCode ("");
00048         _yieldRule.setAirlineCode(lEmptyAirlineCode);
00049         _yieldRule.clearAirlineCodeList();
00050         const stdair::ClassCode_T lEmptyClassCode ("");
00051         _yieldRule.setClassCode(lEmptyClassCode);
00052         _yieldRule.clearClassCodeList();
00053         _yieldRule._itSeconds = 0;
00054
00055     }
00056
00057     // ////////////////////////////////////////
00058     storeOrigin ::
00059     storeOrigin (YieldRuleStruct& ioYieldRule)
00060         : ParserSemanticAction (ioYieldRule) {
00061     }
00062
00063     // ////////////////////////////////////////
00064     void storeOrigin::operator() (std::vector<char> iChar,
00065                                   boost::spirit::qi::unused_type,
00066                                   boost::spirit::qi::unused_type) const {
00067         const stdair::AirportCode_T lOrigin (iChar.begin(), iChar.end());
00068         _yieldRule.setOrigin (lOrigin);
00069         // DEBUG
00070         //STDAIR_LOG_DEBUG ( "Origin: " << _yieldRule.getOrigin ());
00071     }
00072
00073     // ////////////////////////////////////////
00074     storeDestination ::
00075     storeDestination (YieldRuleStruct& ioYieldRule)
00076         : ParserSemanticAction (ioYieldRule) {
00077     }
00078
00079     // ////////////////////////////////////////
00080     void storeDestination::operator() (std::vector<char> iChar,
00081                                         boost::spirit::qi::unused_type,
00082                                         boost::spirit::qi::unused_type) const {
00083         const stdair::AirportCode_T lDestination (iChar.begin(), iChar.end());
00084         _yieldRule.setDestination (lDestination);
00085         // DEBUG
00086         //STDAIR_LOG_DEBUG ( "Destination: " << _yieldRule.getDestination ());
00087     }
00088
00089     // ////////////////////////////////////////
00090     storeTripType ::
00091     storeTripType (YieldRuleStruct& ioYieldRule)
00092         : ParserSemanticAction (ioYieldRule) {
00093     }
00094
00095     // ////////////////////////////////////////
00096     void storeTripType::operator() (std::vector<char> iChar,
00097                                     boost::spirit::qi::unused_type,
00098                                     boost::spirit::qi::unused_type) const {
00099         const stdair::TripType_T lTripType (iChar.begin(), iChar.end());
00100         if (lTripType == "OW" || lTripType == "RT") {
00101             _yieldRule.setTripType (lTripType);
00102         } else {
00103             // ERROR
00104             STDAIR_LOG_ERROR ("Invalid trip type " << lTripType);

```

```

00105     }
00106     // DEBUG
00107     //STDAIR_LOG_DEBUG ("TripType: " << _yieldRule.getTripType ());
00108 }
00109
00110
00111 // //////////////////////////////////////
00112 storeDateRangeStart::
00113 storeDateRangeStart (YieldRuleStruct& ioYieldRule)
00114 : ParserSemanticAction (ioYieldRule) {
00115 }
00116
00117 // //////////////////////////////////////
00118 void storeDateRangeStart::operator() (boost::spirit::qi::unused_type,
00119                                     boost::spirit::qi::unused_type,
00120                                     boost::spirit::qi::unused_type) const {
00121
00122     const stdair::Date_T& lDateStart = _yieldRule.calculateDate ();
00123     _yieldRule.setDateRangeStart (lDateStart);
00124     // DEBUG
00125     //STDAIR_LOG_DEBUG ("Date Range Start: "<< _yieldRule.getDateRangeStart ());
00126 };
00127
00128 // //////////////////////////////////////
00129 storeDateRangeEnd::
00130 storeDateRangeEnd(YieldRuleStruct& ioYieldRule)
00131 : ParserSemanticAction (ioYieldRule) {
00132 }
00133
00134 // //////////////////////////////////////
00135 void storeDateRangeEnd::operator() (boost::spirit::qi::unused_type,
00136                                     boost::spirit::qi::unused_type,
00137                                     boost::spirit::qi::unused_type) const {
00138     const stdair::Date_T& lDateEnd = _yieldRule.calculateDate ();
00139     // As a Boost date period (DatePeriod_T) defines the last day of
00140     // the period to be end-date - one day, we have to add one day to that
00141     // end date before.
00142     const stdair::DateOffset_T oneDay (1);
00143     const stdair::Date_T lBoostDateEnd = lDateEnd + oneDay;
00144     _yieldRule.setDateRangeEnd (lBoostDateEnd);
00145     // DEBUG
00146     //STDAIR_LOG_DEBUG ("Date Range End: " << _yieldRule.getDateRangeEnd ());
00147 }
00148
00149 // //////////////////////////////////////
00150 storeStartRangeTime::
00151 storeStartRangeTime (YieldRuleStruct& ioYieldRule)
00152 : ParserSemanticAction (ioYieldRule) {
00153 }
00154
00155 // //////////////////////////////////////
00156 void storeStartRangeTime::operator() (boost::spirit::qi::unused_type,
00157                                     boost::spirit::qi::unused_type,
00158                                     boost::spirit::qi::unused_type) const {
00159
00160     const stdair::Duration_T& lTimeStart = _yieldRule.calculateTime ();
00161     _yieldRule.setTimeRangeStart (lTimeStart);
00162     // DEBUG
00163     //STDAIR_LOG_DEBUG ("Time Range Start: " << _yieldRule.getTimeRangeStart ());
00164 };
00165
00166 // Reset the number of seconds

```



```

00163     _yieldRule._itSeconds = 0;
00164 }
00165
00166 // //////////////////////////////////////
00167 storeEndRangeTime::
00168 storeEndRangeTime (YieldRuleStruct& ioYieldRule)
00169     : ParserSemanticAction (ioYieldRule) {
00170 }
00171
00172 // //////////////////////////////////////
00173 void storeEndRangeTime::operator() (boost::spirit::qi::unused_type,
00174                                     boost::spirit::qi::unused_type,
00175                                     boost::spirit::qi::unused_type) const {
00176     const stdair::Duration_T& lTimeEnd = _yieldRule.calculateTime ();
00177     _yieldRule.setTimeRangeEnd (lTimeEnd);
00178     // DEBUG
00179     //STDAIR_LOG_DEBUG ("Time Range End: " << _yieldRule.getTimeRangeEnd ());
00180     // Reset the number of seconds
00181     _yieldRule._itSeconds = 0;
00182 }
00183
00184 // //////////////////////////////////////
00185 storePOS ::
00186 storePOS (YieldRuleStruct& ioYieldRule)
00187     : ParserSemanticAction (ioYieldRule) {
00188 }
00189
00190 // //////////////////////////////////////
00191 void storePOS::operator() (std::vector<char> iChar,
00192                           boost::spirit::qi::unused_type,
00193                           boost::spirit::qi::unused_type) const {
00194     const stdair::CityCode_T lPOS (iChar.begin(), iChar.end());
00195     if (lPOS == _yieldRule.getOrigin() || lPOS == _yieldRule.getDestination() )
00196     {
00197         _yieldRule.setPOS (lPOS);
00198     } else if (lPOS == "ROW") {
00199         const stdair::CityCode_T lPOSROW ("ROW");
00200         _yieldRule.setPOS (lPOSROW);
00201     } else if (lPOS == stdair::DEFAULT_POS) {
00202         _yieldRule.setPOS (stdair::DEFAULT_POS);
00203     } else {
00204         // ERROR
00205         STDAIR_LOG_ERROR ("Invalid point of sale " << lPOS);
00206     }
00207     // DEBUG
00208     //STDAIR_LOG_DEBUG ("POS: " << _yieldRule.getPOS ());
00209 }
00210
00211 // //////////////////////////////////////
00212 storeCabinCode ::
00213 storeCabinCode (YieldRuleStruct& ioYieldRule)
00214     : ParserSemanticAction (ioYieldRule) {
00215 }
00216
00217 // //////////////////////////////////////
00218 void storeCabinCode::operator() (char iChar,
00219                                 boost::spirit::qi::unused_type,
00220                                 boost::spirit::qi::unused_type) const {
00221     std::ostringstream ostr;
00222     ostr << iChar;
00223     const std::string& cabinCodeStr = ostr.str();
00224     const stdair::CabinCode_T lCabinCode (cabinCodeStr);

```

```

00224     _yieldRule.setCabinCode (lCabinCode);
00225
00226     // DEBUG
00227     //STDAIR_LOG_DEBUG ("Cabin Code: " << _yieldRule.getCabinCode ());

00228
00229 }
00230
00231 // //////////////////////////////////////
00232 storeChannel ::
00233 storeChannel (YieldRuleStruct& ioYieldRule)
00234 : ParserSemanticAction (ioYieldRule) {
00235 }
00236
00237 // //////////////////////////////////////
00238 void storeChannel::operator() (std::vector<char> iChar,
00239                               boost::spirit::qi::unused_type,
00240                               boost::spirit::qi::unused_type) const {
00241     const stdair::ChannelLabel_T lChannel (iChar.begin(), iChar.end());
00242     if (lChannel != "IN" && lChannel != "IF" && lChannel != "DN"
00243         && lChannel != "DF" && lChannel != stdair::DEFAULT_CHANNEL) {
00244         // ERROR
00245         STDAIR_LOG_ERROR ("Invalid channel " << lChannel);
00246     }
00247     _yieldRule.setChannel (lChannel);
00248     // DEBUG
00249     //STDAIR_LOG_DEBUG ("Channel: " << _yieldRule.getChannel ());
00250 }
00251
00252 // //////////////////////////////////////
00253 storeYield::
00254 storeYield (YieldRuleStruct& ioYieldRule)
00255 : ParserSemanticAction (ioYieldRule) {
00256 }
00257
00258 // //////////////////////////////////////
00259 void storeYield::operator() (double iYield,
00260                             boost::spirit::qi::unused_type,
00261                             boost::spirit::qi::unused_type) const {
00262     const stdair::YieldValue_T lYield= iYield;
00263     _yieldRule.setYield (lYield);
00264     // DEBUG
00265     //STDAIR_LOG_DEBUG ("Yield: " << _yieldRule.getYield ());
00266 }
00267
00268 // //////////////////////////////////////
00269 storeAirlineCode ::
00270 storeAirlineCode (YieldRuleStruct& ioYieldRule)
00271 : ParserSemanticAction (ioYieldRule) {
00272 }
00273
00274 // //////////////////////////////////////
00275 void storeAirlineCode::operator() (std::vector<char> iChar,
00276                                   boost::spirit::qi::unused_type,
00277                                   boost::spirit::qi::unused_type) const {
00278
00279     const stdair::AirlineCode_T lAirlineCode (iChar.begin(), iChar.end());
00280     // Update the airline code
00281     _yieldRule.setAirlineCode (lAirlineCode);
00282     // Insertion of this airline Code list in the whole AirlineCode name
00283     _yieldRule.addAirlineCode (lAirlineCode);
00284     // DEBUG

```

```

00285     //STDAIR_LOG_DEBUG ( "Airline code: " << lAirlineCode);
00286 }
00287
00288 // //////////////////////////////////////
00289 storeClass ::
00290 storeClass (YieldRuleStruct& ioYieldRule)
00291 : ParserSemanticAction (ioYieldRule) {
00292 }
00293
00294 // //////////////////////////////////////
00295 void storeClass::operator() (std::vector<char> iChar,
00296                             boost::spirit::qi::unused_type,
00297                             boost::spirit::qi::unused_type) const {
00298     std::ostringstream ostr;
00299     for (std::vector<char>::const_iterator lItVector = iChar.begin();
00300          lItVector != iChar.end();
00301          lItVector++) {
00302         ostr << *lItVector;
00303     }
00304     const std::string& classCodeStr = ostr.str();
00305     const stdair::ClassCode_T lClassCode (classCodeStr);
00306     // Insertion of this class Code list in the whole classCode name
00307     _yieldRule.addClassCode (lClassCode);
00308     // DEBUG
00309     //STDAIR_LOG_DEBUG ("Class Code: " << classCodeStr);
00310 }
00311
00312 // //////////////////////////////////////
00313 doEndYield::
00314 doEndYield (stdair::BomRoot& ioBomRoot,
00315             YieldRuleStruct& ioYieldRule)
00316 : ParserSemanticAction (ioYieldRule),
00317   _bomRoot (ioBomRoot) {
00318 }
00319
00320 // //////////////////////////////////////
00321 void doEndYield::operator() (boost::spirit::qi::unused_type,
00322                             boost::spirit::qi::unused_type,
00323                             boost::spirit::qi::unused_type) const {
00324     // DEBUG
00325     // STDAIR_LOG_DEBUG ("Do End");
00326     // Generation of the yield rule object.
00327     YieldRuleGenerator::createAirportPair (_bomRoot, _yieldRule);
00328     STDAIR_LOG_DEBUG (_yieldRule.describe());
00329 }
00330
00331 // //////////////////////////////////////
00332 //
00333 // Utility Parsers
00334 //
00335 // //////////////////////////////////////
00336 namespace bsq = boost::spirit::qi;
00337 namespace bsa = boost::spirit::ascii;
00338
00339
00341 stdair::int1_p_t int1_p;
00342
00344 stdair::uint2_p_t uint2_p;
00345
00347 stdair::uint4_p_t uint4_p;
00348
00350 stdair::uint1_4_p_t uint1_4_p;
00351

```

```

00353     stdair::hour_p_t hour_p;
00354     stdair::minute_p_t minute_p;
00355     stdair::second_p_t second_p;
00356
00357     stdair::year_p_t year_p;
00358     stdair::month_p_t month_p;
00359     stdair::day_p_t day_p;
00360
00361     //
00362     // (Boost Spirit) Grammar Definition
00363     //
00364
00365     struct YieldRuleParser :
00366     public boost::spirit::qi::grammar<stdair::iterator_t,
00367                                     boost::spirit::ascii::space_type> {
00368
00369     YieldRuleParser (stdair::BomRoot& ioBomRoot,
00370                     YieldRuleStruct& ioYieldRule) :
00371     YieldRuleParser::base_type(start),
00372     _bomRoot(ioBomRoot), _yieldRule(ioYieldRule) {
00373
00374         start = *(comments | yield_rule);
00375
00376         comments = (bsq::lexeme[bsq::repeat(2)[bsa::char_('/')]]
00377                     >> +(bsa::char_ - bsq::eol)
00378                     >> bsq::eol
00379                     | bsq::lexeme[bsa::char_('/') >> bsa::char_('*')
00380                                     >> +(bsa::char_ - bsa::char_('*'))
00381                                     >> bsa::char_('*') >> bsa::char_('/')]);
00382
00383         yield_rule = yield_id
00384             >> ';' >> origin >> ';' >> destination
00385             >> ';' >> tripType
00386             >> ';' >> dateRangeStart >> ';' >> dateRangeEnd
00387             >> ';' >> timeRangeStart >> ';' >> timeRangeEnd
00388             >> ';' >> point_of_sale >> ';' >> cabinCode
00389             >> ';' >> channel >> ';' >> yield
00390             >> +(';' >> segment )
00391             >> yield_rule_end[doEndYield(_bomRoot, _yieldRule)];
00392     };
00393
00394     yield_id = uint1_4_p[storeYieldId(_yieldRule)];
00395
00396     origin = bsq::repeat(3)[bsa::char_("A-Z")][storeOrigin(_yieldRule)];
00397
00398     destination =
00399         bsq::repeat(3)[bsa::char_("A-Z")][storeDestination(_yieldRule)];
00400
00401     tripType =
00402         bsq::repeat(2)[bsa::char_("A-Z")][storeTripType(_yieldRule)];
00403
00404     dateRangeStart = date[storeDateRangeStart(_yieldRule)];
00405
00406     dateRangeEnd = date[storeDateRangeEnd(_yieldRule)];
00407
00408     date = bsq::lexeme
00409         [year_p[boost::phoenix::ref(_yieldRule._itYear) = bsq::labels::_1]
00410         >> '-'
00411         >> month_p[boost::phoenix::ref(_yieldRule._itMonth) = bsq::labels::_1]
00412         >> '-'
00413         >> day_p[boost::phoenix::ref(_yieldRule._itDay) = bsq::labels::_1] ];

```

```

00436
00437     timeRangeStart = time[storeStartRangeTime(_yieldRule)];
00438
00439     timeRangeEnd = time[storeEndRangeTime(_yieldRule)];
00440
00441     time = bsq::lexeme
00442     [hour_p[boost::phoenix::ref(_yieldRule._itHours) = bsq::labels::_1]
00443     >> ':'
00444     >> minute_p[boost::phoenix::ref(_yieldRule._itMinutes) = bsq::labels::_1]
00445     >> - (':' >> second_p[boost::phoenix::ref(_yieldRule._itSeconds) = bsq::labels::_1]) ];
00446
00447     point_of_sale = bsq::repeat(3)[bsa::char_("A-Z")][storePOS(_yieldRule)];
00448
00449     cabinCode = bsa::char_("A-Z")[storeCabinCode(_yieldRule)];
00450
00451     channel = bsq::repeat(2)[bsa::char_("A-Z")][storeChannel(_yieldRule)];
00452
00453     yield = bsq::double_[storeYield(_yieldRule)];
00454
00455     segment = bsq::repeat(2)[bsa::char_("A-Z")][storeAirlineCode(_yieldRule)]
00456
00457     >> ';'
00458     >> bsq::repeat(1,bsq::inf)[bsa::char_("A-Z")][storeClass(_yieldRule)];
00459
00460     yield_rule_end = bsa::char_(';');
00461
00462     // BOOST_SPIRIT_DEBUG_NODE (YieldParser);
00463     BOOST_SPIRIT_DEBUG_NODE (start);
00464     BOOST_SPIRIT_DEBUG_NODE (comments);
00465     BOOST_SPIRIT_DEBUG_NODE (yield_rule);
00466     BOOST_SPIRIT_DEBUG_NODE (yield_id);
00467     BOOST_SPIRIT_DEBUG_NODE (origin);
00468     BOOST_SPIRIT_DEBUG_NODE (destination);
00469     BOOST_SPIRIT_DEBUG_NODE (tripType);
00470     BOOST_SPIRIT_DEBUG_NODE (dateRangeStart);
00471     BOOST_SPIRIT_DEBUG_NODE (dateRangeEnd);
00472     BOOST_SPIRIT_DEBUG_NODE (date);
00473     BOOST_SPIRIT_DEBUG_NODE (timeRangeStart);
00474     BOOST_SPIRIT_DEBUG_NODE (timeRangeEnd);
00475     BOOST_SPIRIT_DEBUG_NODE (time);
00476     BOOST_SPIRIT_DEBUG_NODE (point_of_sale);
00477     BOOST_SPIRIT_DEBUG_NODE (cabinCode);
00478     BOOST_SPIRIT_DEBUG_NODE (channel);
00479     BOOST_SPIRIT_DEBUG_NODE (yield);
00480     BOOST_SPIRIT_DEBUG_NODE (segment);
00481     BOOST_SPIRIT_DEBUG_NODE (yield_rule_end);
00482 }
00483
00484 // Instantiation of rules
00485 boost::spirit::qi::rule<stdair::iterator_t,
00486                        boost::spirit::ascii::space_type>
00487 start, comments, yield_rule, yield_id, origin, destination, tripType,
00488 dateRangeStart, dateRangeEnd, date, timeRangeStart, timeRangeEnd,
00489 time, point_of_sale, cabinCode, channel, yield, segment,
00490 yield_rule_end;
00491
00492 // Parser Context
00493 stdair::BomRoot& _bomRoot;
00494 YieldRuleStruct& _yieldRule;

```

```

00495     };
00496
00497 }
00498
00499
00501 //
00502 // Entry class for the file parser
00503 //
00505
00506 // //////////////////////////////////////
00507 YieldFileParser::YieldFileParser (stdair::BomRoot& ioBomRoot,
00508                                   const std::string& iFilename)
00509     : _filename (iFilename), _bomRoot (ioBomRoot) {
00510     init();
00511 }
00512
00513 // //////////////////////////////////////
00514 void YieldFileParser::init() {
00515
00516     // Check that the file exists and is readable
00517     const bool doesExistAndIsReadable =
00518         stdair::BasFileMgr::doesExistAndIsReadable (_filename);
00519
00520     if (doesExistAndIsReadable == false) {
00521         STDAIR_LOG_ERROR ("The yield schedule file " << _filename
00522                          << " does not exist or can not be read.");
00523
00524         throw YieldInputFileNotFoundException ("The yield file " + _filename + " does not exist or can not be read");
00525     }
00526 }
00527
00528 // //////////////////////////////////////
00529 void YieldFileParser::generateYieldStore () {
00530
00531     STDAIR_LOG_DEBUG ("Parsing yield input file: " << _filename);
00532
00533     // File to be parsed
00534     std::ifstream fileToBeParsed (_filename.c_str(), std::ios_base::in);
00535
00536     // Check the filename exists and can be open
00537     if (fileToBeParsed == false) {
00538         STDAIR_LOG_ERROR ("The yield store file " << _filename
00539                          << " can not be open."
00540                          << std::endl);
00541
00542         throw YieldInputFileNotFoundException ("The file " + _filename
00543                                               + " does not exist or can not be read");
00544     }
00545
00546     // Create an input iterator
00547     stdair::base_iterator_t inputBegin (fileToBeParsed);
00548
00549     // Convert input iterator to an iterator usable by spirit parser
00550     stdair::iterator_t
00551         start (boost::spirit::make_default_multi_pass (inputBegin));
00552     stdair::iterator_t end;
00553
00554     // Initialise the parser (grammar) with the helper/staging structure.
00555     YieldParserHelper::YieldRuleParser lYParser(_bomRoot, _yieldRule);
00556

```

```

00557 // Launch the parsing of the file and, thanks to the doEndYield
00558 // call-back structure, the building of the whole BomRoot BOM
00559 const bool hasParsingBeenSuccessful =
00560     boost::spirit::qi::phrase_parse (start, end, lYParser,
00561                                     boost::spirit::ascii::space);
00562
00563 if (hasParsingBeenSuccessful == false) {
00564     // TODO: decide whether to throw an exception
00565     STDAIR_LOG_ERROR ("Parsing of yield input file: " << _filename
00566                     << " failed");
00567     throw YieldFileParsingFailedException ("Parsing of yield input file: "
00568                                           + _filename + " failed");
00569 }
00570 if (start != end) {
00571     // TODO: decide whether to throw an exception
00572     STDAIR_LOG_ERROR ("Parsing of yield input file: " << _filename
00573                     << " failed");
00574     throw YieldFileParsingFailedException ("Parsing of yield input file: "
00575                                           + _filename + " failed");
00576 }
00577 if (hasParsingBeenSuccessful == true && start == end) {
00578     STDAIR_LOG_DEBUG ("Parsing of yield input file: " << _filename
00579                     << " succeeded");
00580 }
00581 }
00582 }
00583
00584 }

```

25.27 airrac/command/YieldParserHelper.hpp File Reference

```

#include <string>

#include <boost/spirit/include/qi.hpp>

#include <stdair/command/CmdAbstract.hpp>

#include <airrac/AIRAC_Types.hpp>

#include <airrac/bom/YieldRuleStruct.hpp>

```

Classes

- struct [AIRRAC::YieldParserHelper::ParserSemanticAction](#)
- struct [AIRRAC::YieldParserHelper::storeYieldId](#)
- struct [AIRRAC::YieldParserHelper::storeOrigin](#)
- struct [AIRRAC::YieldParserHelper::storeDestination](#)
- struct [AIRRAC::YieldParserHelper::storeTripType](#)
- struct [AIRRAC::YieldParserHelper::storeDateRangeStart](#)
- struct [AIRRAC::YieldParserHelper::storeDateRangeEnd](#)
- struct [AIRRAC::YieldParserHelper::storeStartRangeTime](#)
- struct [AIRRAC::YieldParserHelper::storeEndRangeTime](#)
- struct [AIRRAC::YieldParserHelper::storePOS](#)
- struct [AIRRAC::YieldParserHelper::storeCabinCode](#)
- struct [AIRRAC::YieldParserHelper::storeChannel](#)

- struct [AIRRAC::YieldParserHelper::storeYield](#)
- struct [AIRRAC::YieldParserHelper::storeAirlineCode](#)
- struct [AIRRAC::YieldParserHelper::storeClass](#)
- struct [AIRRAC::YieldParserHelper::doEndYield](#)
- class [AIRRAC::YieldFileParser](#)

Namespaces

- namespace [stdair](#)
 Forward declarations.
- namespace [AIRRAC](#)
- namespace [AIRRAC::YieldParserHelper](#)

25.28 YieldParserHelper.hpp

```

00001 #ifndef __AIRRAC_CMD_YELDPARSERHELPER_HPP
00002 #define __AIRRAC_CMD_YELDPARSERHELPER_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 // Airrac
00014 #include <airrac/AIRRAC_Types.hpp>
00015 #include <airrac/bom/YieldRuleStruct.hpp>
00016
00017 // Forward declarations
00018 namespace stdair {
00019     class BomRoot;
00020 }
00021
00022 namespace AIRRAC {
00023
00024     namespace YieldParserHelper {
00025
00026         // //////////////////////////////////////
00027         // Semantic actions
00028         // //////////////////////////////////////
00030         struct ParserSemanticAction {
00032             ParserSemanticAction (YieldRuleStruct&);
00034             YieldRuleStruct& _yieldRule;
00035         };
00036
00038         struct storeYieldId : public ParserSemanticAction {
00040             storeYieldId (YieldRuleStruct&);
00042             void operator() (unsigned int,
00043                             boost::spirit::qi::unused_type,
00044                             boost::spirit::qi::unused_type) const;
00045         };
00046
00048         struct storeOrigin : public ParserSemanticAction {

```



```

00050     storeOrigin (YieldRuleStruct&);
00052     void operator() (std::vector<char>,
00053                     boost::spirit::qi::unused_type,
00054                     boost::spirit::qi::unused_type) const;
00055 };
00056
00058 struct storeDestination : public ParserSemanticAction {
00060     storeDestination (YieldRuleStruct&);
00062     void operator() (std::vector<char>,
00063                     boost::spirit::qi::unused_type,
00064                     boost::spirit::qi::unused_type) const;
00065 };
00066
00068 struct storeTripType : public ParserSemanticAction {
00070     storeTripType (YieldRuleStruct&);
00072     void operator() (std::vector<char>,
00073                     boost::spirit::qi::unused_type,
00074                     boost::spirit::qi::unused_type) const;
00075 };
00076
00078 struct storeDateRangeStart : public ParserSemanticAction {
00080     storeDateRangeStart (YieldRuleStruct&);
00082     void operator() (boost::spirit::qi::unused_type,
00083                     boost::spirit::qi::unused_type,
00084                     boost::spirit::qi::unused_type) const;
00085 };
00086
00088 struct storeDateRangeEnd : public ParserSemanticAction {
00090     storeDateRangeEnd (YieldRuleStruct&);
00092     void operator() (boost::spirit::qi::unused_type,
00093                     boost::spirit::qi::unused_type,
00094                     boost::spirit::qi::unused_type) const;
00095 };
00096
00098 struct storeStartRangeTime : public ParserSemanticAction {
00100     storeStartRangeTime (YieldRuleStruct&);
00102     void operator() (boost::spirit::qi::unused_type,
00103                     boost::spirit::qi::unused_type,
00104                     boost::spirit::qi::unused_type) const;
00105 };
00106
00108 struct storeEndRangeTime : public ParserSemanticAction {
00110     storeEndRangeTime (YieldRuleStruct&);
00112     void operator() (boost::spirit::qi::unused_type,
00113                     boost::spirit::qi::unused_type,
00114                     boost::spirit::qi::unused_type) const;
00115 };
00116
00118 struct storePOS : public ParserSemanticAction {
00120     storePOS (YieldRuleStruct&);
00122     void operator() (std::vector<char>,
00123                     boost::spirit::qi::unused_type,
00124                     boost::spirit::qi::unused_type) const;
00125 };
00126
00128 struct storeCabinCode : public ParserSemanticAction {
00130     storeCabinCode (YieldRuleStruct&);
00132     void operator() (char,
00133                     boost::spirit::qi::unused_type,
00134                     boost::spirit::qi::unused_type) const;
00135 };
00136

```

```

00138     struct storeChannel : public ParserSemanticAction {
00140         storeChannel (YieldRuleStruct&);
00142         void operator() (std::vector<char>,
00143                         boost::spirit::qi::unused_type,
00144                         boost::spirit::qi::unused_type) const;
00145     };
00146
00148     struct storeYield : public ParserSemanticAction {
00150         storeYield (YieldRuleStruct&);
00152         void operator() (double,
00153                         boost::spirit::qi::unused_type,
00154                         boost::spirit::qi::unused_type) const;
00155     };
00156
00158     struct storeAirlineCode : public ParserSemanticAction {
00160         storeAirlineCode (YieldRuleStruct&);
00162         void operator() (std::vector<char>,
00163                         boost::spirit::qi::unused_type,
00164                         boost::spirit::qi::unused_type) const;
00165     };
00166
00168     struct storeClass : public ParserSemanticAction {
00170         storeClass (YieldRuleStruct&);
00172         void operator() (std::vector<char>,
00173                         boost::spirit::qi::unused_type,
00174                         boost::spirit::qi::unused_type) const;
00175     };
00176
00178     struct doEndYield : public ParserSemanticAction {
00180         doEndYield (stdair::BomRoot&, YieldRuleStruct&);
00182         void operator() (boost::spirit::qi::unused_type,
00183                         boost::spirit::qi::unused_type,
00184                         boost::spirit::qi::unused_type) const;
00186         stdair::BomRoot& _bomRoot;
00187     };
00188
00189 }
00190
00192 //
00193 // Entry class for the file parser
00194 //
00196
00202 class YieldFileParser : public stdair::CmdAbstract {
00203 public:
00205     YieldFileParser (stdair::BomRoot&,
00206                     const stdair::Filename_T& iYieldInputFilename);
00207
00209     void generateYieldStore ();
00210
00211 private:
00213     void init();
00214
00215 private:
00216
00217     // Attributes
00219     stdair::Filename_T _filename;
00220
00222     stdair::BomRoot& _bomRoot;
00223
00225     YieldRuleStruct _yieldRule;
00226 };
00227

```

```
00228 }
00229 #endif // __AIRRAC_CMD_YIELD_PARSER_HELPER_HPP
```

25.29 airrac/command/YieldRuleGenerator.cpp File Reference

```
#include <cassert>
#include <stdair/bom/BomManager.hpp>
#include <stdair/bom/BomRoot.hpp>
#include <stdair/bom/AirportPair.hpp>
#include <stdair/bom/PosChannel.hpp>
#include <stdair/bom/DatePeriod.hpp>
#include <stdair/bom/TimePeriod.hpp>
#include <stdair/bom/YieldFeatures.hpp>
#include <stdair/bom/AirlineClassList.hpp>
#include <stdair/factory/FacBomManager.hpp>
#include <stdair/service/Logger.hpp>
#include <airrac/bom/YieldRuleStruct.hpp>
#include <airrac/command/YieldRuleGenerator.hpp>
```

Namespaces

- namespace [AIRRAC](#)

25.30 YieldRuleGenerator.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/bom/AirportPair.hpp>
00010 #include <stdair/bom/PosChannel.hpp>
00011 #include <stdair/bom/DatePeriod.hpp>
00012 #include <stdair/bom/TimePeriod.hpp>
00013 #include <stdair/bom/YieldFeatures.hpp>
00014 #include <stdair/bom/AirlineClassList.hpp>
00015 #include <stdair/factory/FacBomManager.hpp>
00016 #include <stdair/service/Logger.hpp>
00017 // AirRAC
00018 #include <airrac/bom/YieldRuleStruct.hpp>
00019 #include <airrac/command/YieldRuleGenerator.hpp>
00020
00021 namespace AIRRAC {
```

```

00022
00023 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
00024 void YieldRuleGenerator::
00025 createAirportPair (stdair::BomRoot& ioBomRoot,
00026                   const YieldRuleStruct& iYieldRuleStruct) {
00027
00028     // Set the airport-pair primary key.
00029     const stdair::AirportCode_T& lBoardPoint = iYieldRuleStruct.getOrigin ();
00030     const stdair::AirportCode_T& lOffPoint = iYieldRuleStruct.getDestination ();
00031     const stdair::AirportPairKey lAirportPairKey (lBoardPoint, lOffPoint);
00032
00033     // Check that the airport-pair object is not already existing. If an
00034     // airport-pair object with the same key has not already been created,
00035     // create it and link it to the ioBomRoot object.
00036     stdair::AirportPair* lAirportPair_ptr = stdair::BomManager::
00037         getObjectPtr<stdair::AirportPair> (ioBomRoot, lAirportPairKey.toString());
00038     if (lAirportPair_ptr == NULL) {
00039         lAirportPair_ptr = &stdair::FacBom<stdair::AirportPair>::
00040             instance().create (lAirportPairKey);
00041         stdair::FacBomManager::addToListAndMap (ioBomRoot, *lAirportPair_ptr);
00042         stdair::FacBomManager::linkWithParent (ioBomRoot, *lAirportPair_ptr);
00043     }
00044     // Sanity check.
00045     assert (lAirportPair_ptr != NULL);
00046
00047     stdair::AirportPair& lAirportPair = *lAirportPair_ptr;
00048     // Generate the date-period object corresponding to the given
00049     // yieldRule.
00050     createDateRange (lAirportPair, iYieldRuleStruct);
00051
00052 }
00053
00054 //////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////////
00055 void YieldRuleGenerator::
00056 createDateRange (stdair::AirportPair& iAirportPair,
00057                 const YieldRuleStruct& iYieldRuleStruct) {
00058     const YieldRuleStruct& iYieldRuleStruct) {
00059
00060     // Create the yield date-period primary key.
00061     const stdair::Date_T& lDateRangeStart =
00062         iYieldRuleStruct.getDateRangeStart ();
00063     const stdair::Date_T& lDateRangeEnd =
00064         iYieldRuleStruct.getDateRangeEnd ();
00065     const stdair::DatePeriod_T lDatePeriod (lDateRangeStart, lDateRangeEnd);
00066     const stdair::DatePeriodKey lYieldDatePeriodKey (lDatePeriod);
00067
00068     // Check that the date-period object is not already existing.
00069     // If a date-period object with the same key has not already been
00070     // created, create it and link it to the airport-pair object.
00071     stdair::DatePeriod* lYieldDatePeriod_ptr = stdair::BomManager::
00072         getObjectPtr<stdair::DatePeriod> (iAirportPair,
00073                                           lYieldDatePeriodKey.toString());
00074     if (lYieldDatePeriod_ptr == NULL) {
00075         lYieldDatePeriod_ptr = &stdair::FacBom<stdair::DatePeriod>::
00076             instance().create (lYieldDatePeriodKey);
00077         stdair::FacBomManager::
00078             addToListAndMap (iAirportPair, *lYieldDatePeriod_ptr);
00079         stdair::FacBomManager::
00080             linkWithParent (iAirportPair, *lYieldDatePeriod_ptr);
00081     }
00082     // Sanity check.
00083     assert (lYieldDatePeriod_ptr != NULL);

```

```

00084
00085     stdair::DatePeriod& lDateRange = *lYieldDatePeriod_ptr;
00086     // Generate the point_of_sale-channel object corresponding to
00087     // the given yieldRule.
00088     createPOSChannel (lDateRange, iYieldRuleStruct);
00089
00090 }
00091
00092 // //////////////////////////////////////
00093 void YieldRuleGenerator::
00094 createPOSChannel (stdair::DatePeriod& iDatePeriod,
00095                  const YieldRuleStruct& iYieldRuleStruct) {
00096
00097     // Create the point-of-sale-channel primary key.
00098     const stdair::CityCode_T& lPoS = iYieldRuleStruct.getPOS ();
00099     const stdair::ChannelLabel_T& lChannel = iYieldRuleStruct.getChannel ();
00100     const stdair::PosChannelKey lYieldPosChannelKey (lPoS, lChannel);
00101
00102     // Check that the point_of_sale-channel object is not already existing.
00103     // If a point_of_sale-channel object with the same key has not already
00104     // been created, create it and link it to the date-period object.
00105     stdair::PosChannel* lYieldPosChannel_ptr = stdair::BomManager::
00106         getObjectPtr<stdair::PosChannel> (iDatePeriod,
00107                                           lYieldPosChannelKey.toString());
00108     if (lYieldPosChannel_ptr == NULL) {
00109         lYieldPosChannel_ptr = &stdair::FacBom<stdair::PosChannel>::
00110             instance().create (lYieldPosChannelKey);
00111         stdair::FacBomManager::
00112             addToListAndMap (iDatePeriod, *lYieldPosChannel_ptr);
00113         stdair::FacBomManager::
00114             linkWithParent (iDatePeriod, *lYieldPosChannel_ptr);
00115     }
00116     // Sanity check.
00117     assert (lYieldPosChannel_ptr != NULL);
00118
00119     stdair::PosChannel& lPosChannel = *lYieldPosChannel_ptr;
00120     // Generate the time-period object corresponding to the given
00121     // yieldRule.
00122     createTimeRange (lPosChannel, iYieldRuleStruct);
00123
00124 }
00125
00126 // //////////////////////////////////////
00127 void YieldRuleGenerator::
00128 createTimeRange (stdair::PosChannel& iPosChannel,
00129                 const YieldRuleStruct& iYieldRuleStruct) {
00130
00131     // Create the yield time-period primary key.
00132     const stdair::Time_T& lTimeRangeStart
00133         = iYieldRuleStruct.getTimeRangeStart ();
00134     const stdair::Time_T& lTimeRangeEnd
00135         = iYieldRuleStruct.getTimeRangeEnd ();
00136     const stdair::TimePeriodKey lYieldTimePeriodKey (lTimeRangeStart,
00137                                                       lTimeRangeEnd);
00138
00139     // Check that the time-period object is not already existing.
00140     // If a time-period object with the same key has not already been
00141     // created, create it and link it to the point_of_sale-channel object.
00142     stdair::TimePeriod* lYieldTimePeriod_ptr = stdair::BomManager::
00143         getObjectPtr<stdair::TimePeriod> (iPosChannel,
00144                                           lYieldTimePeriodKey.toString());
00145     if (lYieldTimePeriod_ptr == NULL) {

```

```

00146         lYieldTimePeriod_ptr = &stdair::FacBom<stdair::TimePeriod>::
00147             instance().create (lYieldTimePeriodKey);
00148         stdair::FacBomManager::
00149             addToListAndMap (iPosChannel, *lYieldTimePeriod_ptr);
00150         stdair::FacBomManager::
00151             linkWithParent (iPosChannel, *lYieldTimePeriod_ptr);
00152     }
00153     // Sanity check.
00154     assert (lYieldTimePeriod_ptr != NULL);
00155
00156     stdair::TimePeriod& lTimeRange = *lYieldTimePeriod_ptr;
00157     // Generate the yield-features object corresponding to the given
00158     // yieldRule.
00159     createYieldFeatures (lTimeRange, iYieldRuleStruct);
00160
00161 }
00162
00163 // //////////////////////////////////////
00164 void YieldRuleGenerator::
00165     createYieldFeatures (stdair::TimePeriod& iTimePeriod,
00166         const YieldRuleStruct& iYieldRuleStruct) {
00167
00168     // Create the yield-features primary key.
00169     const stdair::TripType_T& lTripType = iYieldRuleStruct.getTripType ();
00170     stdair::CabinCode_T lCabinCode = iYieldRuleStruct.getCabinCode ();
00171     const stdair::YieldFeaturesKey lYieldFeaturesKey (lTripType, lCabinCode);
00172
00173     // Check that the yield features object is not already existing.
00174     // If a yield features object with the same key has not already been
00175     // created, create it and link it to the time-period object.
00176     stdair::YieldFeatures* lYieldFeatures_ptr = stdair::BomManager::
00177         getObjectPtr<stdair::YieldFeatures > (iTimePeriod,
00178             lYieldFeaturesKey.toString());
00179     if (lYieldFeatures_ptr == NULL) {
00180         lYieldFeatures_ptr = &stdair::FacBom<stdair::YieldFeatures>::
00181             instance().create (lYieldFeaturesKey);
00182         stdair::FacBomManager::
00183             addToListAndMap (iTimePeriod, *lYieldFeatures_ptr);
00184         stdair::FacBomManager::
00185             linkWithParent (iTimePeriod, *lYieldFeatures_ptr);
00186     }
00187     // Sanity check.
00188     assert (lYieldFeatures_ptr != NULL);
00189
00190     stdair::YieldFeatures& lYieldFeatures = *lYieldFeatures_ptr;
00191     // Generate the airline-class list object corresponding to the
00192     // given yieldRule
00193     createAirlineClassList (lYieldFeatures, iYieldRuleStruct);
00194
00195 }
00196
00197 // //////////////////////////////////////
00198 void YieldRuleGenerator::
00199     createAirlineClassList (stdair::YieldFeatures& iYieldFeatures,
00200         const YieldRuleStruct& iYieldRuleStruct) {
00201
00202     // Create the AirlineClassList primary key.
00203     const unsigned int lAirlineListSize =
00204         iYieldRuleStruct.getAirlineListSize();
00205     const unsigned int lClassCodeListSize =
00206         iYieldRuleStruct.getClassCodeListSize();
00207     assert (lAirlineListSize == lClassCodeListSize);

```

```

00208     const stdair::AirlineClassListKey
00209         lAirlineClassListKey (iYieldRuleStruct.getAirlineList() ,
00210                               iYieldRuleStruct.getClassCodeList());
00211     const stdair::Yield_T& lYield = iYieldRuleStruct.getYield ();
00212
00213     // Create the airline class list object and link it to the yieldures
00214     // object.
00215     stdair::AirlineClassList* lAirlineClassList_ptr =
00216         &stdair::FacBom<stdair::AirlineClassList>::instance().
00217         create(lAirlineClassListKey);
00218     lAirlineClassList_ptr->setYield (lYield);
00219     stdair::FacBomManager::addToListAndMap (iYieldFeatures,
00220                                             *lAirlineClassList_ptr);
00221     stdair::FacBomManager::linkWithParent (iYieldFeatures,
00222                                             *lAirlineClassList_ptr);
00223 }
00224
00225 }
00226

```

25.31 airrac/command/YieldRuleGenerator.hpp File Reference

```

#include <stdair/command/CmdAbstract.hpp>
#include <airrac/AIRRAC_Types.hpp>

```

Classes

- class [AIRRAC::YieldRuleGenerator](#)

Namespaces

- namespace [stdair](#)
Forward declarations.
- namespace [AIRRAC](#)
- namespace [AIRRAC::YieldParserHelper](#)

25.32 YieldRuleGenerator.hpp

```

00001 #ifndef __AIRRAC_CMD_YELDRULEGENERATOR_HPP
00002 #define __AIRRAC_CMD_YELDRULEGENERATOR_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // StdAir
00008 #include <stdair/command/CmdAbstract.hpp>
00009 // AirRAC
00010 #include <airrac/AIRRAC_Types.hpp>
00011
00012 namespace stdair {
00013     class BomRoot;
00014     class YieldRule;

```

```

00015  class AirportPair;
00016  class DatePeriod;
00017  class PosChannel;
00018  class TimePeriod;
00019  class YieldFeatures;
00020  class AirlineClassList;
00021 }
00022
00023 namespace AIRRAC {
00024
00025     // Forward declarations
00026     struct YieldRuleStruct;
00027     namespace YieldParserHelper {
00028         struct doEndYield;
00029     }
00030
00032     class YieldRuleGenerator : public stdair::CmdAbstract {
00033         // Only the following class may use methods of YieldGenerator.
00034         // Indeed, as those methods build the BOM, it is not good to expose
00035         // them public.
00036         friend class YieldFileParser;
00037         friend struct YieldParserHelper::doEndYield;
00038         friend class YieldParser;
00039
00040     private:
00041
00050         static void createAirportPair (stdair::BomRoot&,
00051                                         const YieldRuleStruct&);
00052
00061         static void createDateRange (stdair::AirportPair&,
00062                                       const YieldRuleStruct&);
00063
00072         static void createPOSChannel (stdair::DatePeriod&,
00073                                       const YieldRuleStruct&);
00074
00083         static void createTimeRange (stdair::PosChannel&,
00084                                       const YieldRuleStruct&);
00085
00094         static void createYieldFeatures (stdair::TimePeriod&,
00095                                          const YieldRuleStruct&);
00096
00105         static void createAirlineClassList (stdair::YieldFeatures&,
00106                                              const YieldRuleStruct&);
00107
00108
00109     };
00110
00111 }
00112 #endif // __AIRRAC_CMD_YIELDRULEGENERATOR_HPP

```

25.33 airrac/config/airrac-paths.hpp File Reference

Defines

- #define `PACKAGE` "airrac"
- #define `PACKAGE_NAME` "AIRRAC"
- #define `PACKAGE_VERSION` "0.2.3"
- #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/airrac-0.2.3"`
- `#define MANDIR "/usr/share/man"`
- `#define INFODIR "/usr/share/info"`
- `#define HTMLDIR "/usr/share/doc/airrac-0.2.3/html"`
- `#define PDFDIR "/usr/share/doc/airrac-0.2.3/html"`
- `#define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"`

25.33.1 Define Documentation

25.33.1.1 `#define PACKAGE "airrac"`

Definition at line 4 of file [airrac-paths.hpp](#).

25.33.1.2 `#define PACKAGE_NAME "AIRRAC"`

Definition at line 5 of file [airrac-paths.hpp](#).

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

25.33.1.3 `#define PACKAGE_VERSION "0.2.3"`

Definition at line 6 of file [airrac-paths.hpp](#).

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

25.33.1.4 `#define PREFIXDIR "/usr"`

Definition at line 7 of file [airrac-paths.hpp](#).

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

25.33.1.5 `#define EXEC_PREFIX "/usr"`

Definition at line 8 of file [airrac-paths.hpp](#).

25.33.1.6 `#define BINDIR "/usr/bin"`

Definition at line 9 of file [airrac-paths.hpp](#).

25.33.1.7 `#define LIBDIR "/usr/lib"`

Definition at line 10 of file [airrac-paths.hpp](#).

25.33.1.8 `#define LIBEXECDIR "/usr/libexec"`

Definition at line 11 of file [airrac-paths.hpp](#).

25.33.1.9 `#define SBINDIR "/usr/sbin"`

Definition at line 12 of file [airrac-paths.hpp](#).

25.33.1.10 `#define SYSCONFDIR "/usr/etc"`

Definition at line 13 of file [airrac-paths.hpp](#).

25.33.1.11 `#define INCLUDEDIR "/usr/include"`

Definition at line 14 of file [airrac-paths.hpp](#).

25.33.1.12 `#define DATAROOTDIR "/usr/share"`

Definition at line 15 of file [airrac-paths.hpp](#).

25.33.1.13 `#define DATADIR "/usr/share"`

Definition at line 16 of file [airrac-paths.hpp](#).

25.33.1.14 `#define DOCDIR "/usr/share/doc/airrac-0.2.3"`

Definition at line 17 of file [airrac-paths.hpp](#).

25.33.1.15 `#define MANDIR "/usr/share/man"`

Definition at line 18 of file [airrac-paths.hpp](#).

25.33.1.16 `#define INFODIR "/usr/share/info"`

Definition at line 19 of file [airrac-paths.hpp](#).

25.33.1.17 `#define HTMLDIR "/usr/share/doc/airrac-0.2.3/html"`

Definition at line 20 of file [airrac-paths.hpp](#).

25.33.1.18 `#define PDFDIR "/usr/share/doc/airrac-0.2.3/html"`

Definition at line 21 of file [airrac-paths.hpp](#).

25.33.1.19 `#define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"`

Definition at line 22 of file [airrac-paths.hpp](#).

25.34 airrac-paths.hpp

```
00001 #ifndef __AIRRAC_PATHS_HPP__
00002 #define __AIRRAC_PATHS_HPP__
```

```

00003
00004 #define PACKAGE "airrac"
00005 #define PACKAGE_NAME "AIRRAC"
00006 #define PACKAGE_VERSION "0.2.3"
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/airrac-0.2.3"
00018 #define MANDIR "/usr/share/man"
00019 #define INFODIR "/usr/share/info"
00020 #define HTMLDIR "/usr/share/doc/airrac-0.2.3/html"
00021 #define PDFDIR "/usr/share/doc/airrac-0.2.3/html"
00022 #define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"
00023
00024 #endif // __AIRRAC_PATHS_HPP__

```

25.35 airrac/factory/FacAirracsServiceContext.cpp File Reference

```

#include <cassert>
#include <stdair/service/FacSupervisor.hpp>
#include <airrac/factory/FacAirracsServiceContext.hpp>
#include <airrac/service/AIRRAC_ServiceContext.hpp>

```

Namespaces

- namespace [AIRRAC](#)

25.36 FacAirracsServiceContext.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 // StdAir
00007 #include <stdair/service/FacSupervisor.hpp>
00008 // AIRRAC Common
00009 #include <airrac/factory/FacAirracsServiceContext.hpp>
00010 #include <airrac/service/AIRRAC_ServiceContext.hpp>
00011
00012 namespace AIRRAC {
00013
00014     FacAirracsServiceContext* FacAirracsServiceContext::_instance = NULL;
00015
00016     // //////////////////////////////////////
00017     FacAirracsServiceContext::~FacAirracsServiceContext() {
00018         _instance = NULL;

```

```

00019     }
00020
00021     // //////////////////////////////////////
00022     FacAirracsServiceContext& FacAirracsServiceContext::instance() {
00023
00024         if (_instance == NULL) {
00025             _instance = new FacAirracsServiceContext();
00026             assert (_instance != NULL);
00027
00028             stdair::FacSupervisor::instance().registerServiceFactory (_instance);
00029         }
00030         return *_instance;
00031     }
00032
00033     // //////////////////////////////////////
00034     AIRRAC_ServiceContext& FacAirracsServiceContext::create() {
00035         AIRRAC_ServiceContext* aServiceContext_ptr = NULL;
00036
00037         aServiceContext_ptr = new AIRRAC_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 }

```

25.37 airrac/factory/FacAirracsServiceContext.hpp File Reference

```

#include <string>
#include <stdair/stdair_basic_types.hpp>
#include <stdair/service/FacServiceAbstract.hpp>

```

Classes

- class [AIRRAC::FacAirracsServiceContext](#)
Factory for the service context.

Namespaces

- namespace [AIRRAC](#)

25.38 FacAirracsServiceContext.hpp

```

00001 #ifndef __AIRRAC_FAC_FACAIRRACSERVICECONTEXT_HPP
00002 #define __AIRRAC_FAC_FACAIRRACSERVICECONTEXT_HPP
00003 // //////////////////////////////////////
00004 // Import section
00005 // //////////////////////////////////////
00006 // STL

```

```

00007 #include <string>
00008 // StdAir
00009 #include <stdair/stdair_basic_types.hpp>
00010 #include <stdair/service/FacServiceAbstract.hpp>
00011
00012 namespace AIRRAC {
00013
00015     class AIRRAC_ServiceContext;
00016
00017
00021     class FacAirracServiceContext : public stdair::FacServiceAbstract {
00022     public:
00023
00030         static FacAirracServiceContext& instance();
00031
00038         ~FacAirracServiceContext();
00039
00047         AIRRAC_ServiceContext& create();
00048
00049
00050     protected:
00056         FacAirracServiceContext() {}
00057
00058
00059     private:
00063         static FacAirracServiceContext* _instance;
00064     };
00065
00066 }
00067 #endif // __AIRRAC_FAC_FACAIRRACSERVICECONTEXT_HPP

```

25.39 airrac/service/AIRRAC_Service.cpp File Reference

```

#include <cassert>
#include <boost/make_shared.hpp>
#include <stdair/basic/BasChronometer.hpp>
#include <stdair/bom/BomDisplay.hpp>
#include <stdair/service/Logger.hpp>
#include <stdair/STDAIR_Service.hpp>
#include <airrac/basic/BasConst_AIRRAC_Service.hpp>
#include <airrac/factory/FacAirracServiceContext.hpp>
#include <airrac/command/YieldParser.hpp>
#include <airrac/command/YieldManager.hpp>
#include <airrac/service/AIRRAC_ServiceContext.hpp>
#include <airrac/AIRRAC_Service.hpp>

```

Namespaces

- namespace [AIRRAC](#)

25.40 AIRRAC_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/service/Logger.hpp>
00012 #include <stdair/STDAIR_Service.hpp>
00013 // Airrac
00014 #include <airrac/basic/BasConst_AIRRAC_Service.hpp>
00015 #include <airrac/factory/FacAirracServiceContext.hpp>
00016 #include <airrac/command/YieldParser.hpp>
00017 #include <airrac/command/YieldManager.hpp>
00018 #include <airrac/service/AIRRAC_ServiceContext.hpp>
00019 #include <airrac/AIRRAC_Service.hpp>
00020
00021 namespace AIRRAC {
00022
00023 // //////////////////////////////////////
00024 AIRRAC_Service::AIRRAC_Service() : _airracServiceContext (NULL) {
00025     assert (false);
00026 }
00027
00028 // //////////////////////////////////////
00029 AIRRAC_Service::AIRRAC_Service (const AIRRAC_Service& iService) {
00030     assert (false);
00031 }
00032
00033 // //////////////////////////////////////
00034 AIRRAC_Service::AIRRAC_Service (const stdair::BasLogParams& iLogParams)
00035 : _airracServiceContext (NULL) {
00036
00037     // Initialise the STDAIR service handler
00038     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00039         initStdAirService (iLogParams);
00040
00041     // Initialise the service context
00042     initServiceContext();
00043
00044     // Add the StdAir service context to the AIRRAC service context
00045     // \note AIRRAC owns the STDAIR service resources here.
00046     const bool ownStdairService = true;
00047     addStdAirService (lSTDAIR_Service_ptr, ownStdairService);
00048
00049     // Initialise the (remaining of the) context
00050     initAirracService();
00051 }
00052
00053 // //////////////////////////////////////
00054 AIRRAC_Service::AIRRAC_Service (const stdair::BasLogParams& iLogParams,
00055                                 const stdair::BasDBParams& iDBParams)
00056 : _airracServiceContext (NULL) {
00057
00058     // Initialise the STDAIR service handler
00059     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00060         initStdAirService (iLogParams, iDBParams);

```

```

00061
00062     // Initialise the service context
00063     initServiceContext();
00064
00065     // Add the StdAir service context to the AIRRAC service context
00066     // \note AIRRAC owns the STDAIR service resources here.
00067     const bool ownStdairService = true;
00068     addStdAirService (lSTDAIR_Service_ptr, ownStdairService);
00069
00070     // Initialise the (remaining of the) context
00071     initAirracService();
00072 }
00073
00074 // //////////////////////////////////////
00075 AIRRAC_Service::
00076 AIRRAC_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_Service_ptr)
00077     : _airracServiceContext (NULL) {
00078
00079     // Initialise the service context
00080     initServiceContext();
00081
00082     // Store the STDAIR service object within the (AIRRAC) service context
00083     // \note Airrac does not own the STDAIR service resources here.
00084     const bool doesNotOwnStdairService = false;
00085     addStdAirService (ioSTDAIR_Service_ptr, doesNotOwnStdairService);
00086
00087     // Initialise the context
00088     initAirracService();
00089 }
00090
00091 // //////////////////////////////////////
00092 AIRRAC_Service::~AIRRAC_Service() {
00093     // Delete/Clean all the objects from memory
00094     finalise();
00095 }
00096
00097 // //////////////////////////////////////
00098 void AIRRAC_Service::finalise() {
00099     assert (_airracServiceContext != NULL);
00100     // Reset the (Boost.)Smart pointer pointing on the STDAIR_Service object.
00101     _airracServiceContext->reset();
00102 }
00103
00104 // //////////////////////////////////////
00105 void AIRRAC_Service::initServiceContext() {
00106     // Initialise the service context
00107     AIRRAC_ServiceContext& lAIRRAC_ServiceContext =
00108         FacAirracServiceContext::instance().create();
00109     _airracServiceContext = &lAIRRAC_ServiceContext;
00110 }
00111
00112 // //////////////////////////////////////
00113 stdair::STDAIR_ServicePtr_T AIRRAC_Service::
00114 initStdAirService (const stdair::BasLogParams& iLogParams,
00115                   const stdair::BasDBParams& iDBParams) {
00116
00124     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00125         boost::make_shared<stdair::STDAIR_Service> (iLogParams, iDBParams);
00126
00127     return lSTDAIR_Service_ptr;
00128
00129 }

```

```

00130
00131 ///////////////////////////////////////////////////////////////////
00132 stdair::STDAIR_ServicePtr_T AIRRAC_Service::
00133 initStdAirService (const stdair::BasLogParams& iLogParams) {
00134
00142     stdair::STDAIR_ServicePtr_T lSTDAIR_Service_ptr =
00143         boost::make_shared<stdair::STDAIR_Service> (iLogParams);
00144
00145     return lSTDAIR_Service_ptr;
00146 }
00147
00148 ///////////////////////////////////////////////////////////////////
00149 void AIRRAC_Service::
00150 addStdAirService (stdair::STDAIR_ServicePtr_T ioSTDAIR_Service_ptr,
00151     const bool iOwnStdairService) {
00152
00153     // Retrieve the Airrac service context
00154     assert (_airracServiceContext != NULL);
00155     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00156
00157     // Store the STDAIR service object within the (AIRRAC) service context
00158     lAIRRAC_ServiceContext.setSTDAIR_Service (ioSTDAIR_Service_ptr,
00159         iOwnStdairService);
00160 }
00161
00162 ///////////////////////////////////////////////////////////////////
00163 void AIRRAC_Service::initAirracService() {
00164     // Do nothing at this stage. A sample BOM tree may be built by
00165     // calling the buildSampleBom() method
00166 }
00167
00168 ///////////////////////////////////////////////////////////////////
00169 void AIRRAC_Service::
00170 parseAndLoad (const YieldFilePath& iYieldFilename) {
00171
00172     // Retrieve the BOM root object.
00173     assert (_airracServiceContext != NULL);
00174     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00175     stdair::STDAIR_Service& lSTDAIR_Service =
00176         lAIRRAC_ServiceContext.getSTDAIR_Service();
00177     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00178
00179     // Initialise the airline inventories
00180     YieldParser::generateYieldStore (iYieldFilename, lBomRoot);
00181 }
00182
00183 ///////////////////////////////////////////////////////////////////
00184 void AIRRAC_Service::buildSampleBom() {
00185
00186     // Retrieve the AirRAC service context
00187     if (_airracServiceContext == NULL) {
00188         throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00189             " been initialised");
00190     }
00191     assert (_airracServiceContext != NULL);
00192
00193     // Retrieve the AirRAC service context and whether it owns the Stdair
00194     // service
00195     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00196     const bool doesOwnStdairService =
00197         lAIRRAC_ServiceContext.getOwnStdairServiceFlag();
00198

```



```

00199     // Retrieve the StdAir service object from the (AirRAC) service context
00200     stdair::STDAIR_Service& lSTDAIR_Service =
00201         lAIRRAC_ServiceContext.getSTDAIR_Service();
00202
00207     if (doesOwnStdairService == true) {
00208         //
00209         lSTDAIR_Service.buildSampleBom();
00210     }
00211
00227 }
00228
00229 // //////////////////////////////////////
00230 void AIRRAC_Service::
00231 buildSampleTravelSolutions(stdair::TravelSolutionList_T& ioTravelSolutionList){
00232
00233     // Retrieve the AIRRAC service context
00234     if (_airracServiceContext == NULL) {
00235         throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00236                                                     " been initialised");
00237     }
00238     assert (_airracServiceContext != NULL);
00239
00240     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00241
00242     // Retrieve the STDAIR service object from the (AirRAC) service context
00243     stdair::STDAIR_Service& lSTDAIR_Service =
00244         lAIRRAC_ServiceContext.getSTDAIR_Service();
00245
00246     // Delegate the BOM building to the dedicated service
00247     lSTDAIR_Service.buildSampleTravelSolutions (ioTravelSolutionList);
00248 }
00249
00250 // //////////////////////////////////////
00251 std::string AIRRAC_Service::csvDisplay() const {
00252
00253     // Retrieve the AIRRAC service context
00254     if (_airracServiceContext == NULL) {
00255         throw stdair::NonInitialisedServiceException ("The Airrac service "
00256                                                     "has not been initialised");
00257     }
00258     assert (_airracServiceContext != NULL);
00259
00260     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00261
00262     // Retrieve the STDAIR service object from the (Airrac) service context
00263     stdair::STDAIR_Service& lSTDAIR_Service =
00264         lAIRRAC_ServiceContext.getSTDAIR_Service();
00265
00266     // Get the root of the BOM tree, on which all of the other BOM objects
00267     // are attached
00268     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00269
00270     // Delegate the BOM display to the dedicated service
00271     std::ostream oCSVStr;
00272     stdair::BomDisplay::csvSimFQTAirRACDisplay (oCSVStr, lBomRoot);
00273     return oCSVStr.str();
00274 }
00275
00276 // //////////////////////////////////////
00277 std::string AIRRAC_Service::
00278
```

```

00279  csvDisplay (const stdair::TravelSolutionList_T& ioTravelSolutionList) const {
00280
00281      // Retrieve the AirRAC service context
00282      if (_airracServiceContext == NULL) {
00283          throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00284                                                         " been initialised");
00285      }
00286      assert (_airracServiceContext != NULL);
00287
00288      // Retrieve the AirRAC service context
00289      AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00290
00291      // Retrieve the STDAIR service object from the (AirRAC) service context
00292      stdair::STDAIR_Service& lSTDAIR_Service =
00293          lAIRRAC_ServiceContext.getSTDAIR_Service();
00294
00295      // Delegate the BOM building to the dedicated service
00296      return lSTDAIR_Service.csvDisplay (ioTravelSolutionList);
00297  }
00298
00299  // //////////////////////////////////////
00300  void AIRRAC_Service::
00301  calculateYields (stdair::TravelSolutionList_T& ioTravelSolutionList) {
00302
00303      // Retrieve the Airrac service context
00304      if (_airracServiceContext == NULL) {
00305          throw stdair::NonInitialisedServiceException ("The AirRAC service has not"
00306                                                         " been initialised");
00307      }
00308      assert (_airracServiceContext != NULL);
00309      AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00310
00311      // Retrieve the StdAir service context
00312      stdair::STDAIR_Service& lSTDAIR_Service =
00313          lAIRRAC_ServiceContext.getSTDAIR_Service();
00314
00315      // Get the root of the BOM tree, on which all of the other BOM objects
00316      // will be attached
00317      stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00318
00319      // Delegate the booking to the dedicated command: set the yields
00320      // for each travel solution of the given list
00321      stdair::BasChronometer lYieldChronometer;
00322      lYieldChronometer.start();
00323      YieldManager::calculateYield (ioTravelSolutionList, lBomRoot);
00324      const double lYieldMeasure = lYieldChronometer.elapsed();
00325
00326      // DEBUG
00327      STDAIR_LOG_DEBUG ("Yield calculation: " << lYieldMeasure << " - "
00328                      << lAIRRAC_ServiceContext.display());
00329  }
00330
00331  // //////////////////////////////////////
00332  void AIRRAC_Service::updateYields () {
00333      // Retrieve the AirRAC service context
00334      assert (_airracServiceContext != NULL);
00335      AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *_airracServiceContext;
00336
00337      // Retrieve the StdAir service context
00338      stdair::STDAIR_Service& lSTDAIR_Service =
00339          lAIRRAC_ServiceContext.getSTDAIR_Service();
00340

```

```

00341     // Get the root of the BOM tree, on which all of the other BOM objects
00342     // will be attached
00343     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00344
00345     // Update the default yields to the booking classes.
00346     YieldManager::updateYields (lBomRoot);
00347 }
00348 }

```

25.41 airrac/service/AIRRAC_ServiceContext.cpp File Reference

```

#include <cassert>
#include <sstream>
#include <airrac/basic/BasConst_AIRRAC_Service.hpp>
#include <airrac/service/AIRRAC_ServiceContext.hpp>

```

Namespaces

- namespace [AIRRAC](#)

25.42 AIRRAC_ServiceContext.cpp

```

00001 // //////////////////////////////////////
00002 // Import section
00003 // //////////////////////////////////////
00004 // STL
00005 #include <cassert>
00006 #include <sstream>
00007 // Airrac
00008 #include <airrac/basic/BasConst_AIRRAC_Service.hpp>
00009 #include <airrac/service/AIRRAC_ServiceContext.hpp>
00010
00011 namespace AIRRAC {
00012
00013     // //////////////////////////////////////
00014     AIRRAC_ServiceContext::AIRRAC_ServiceContext() : _ownStdairService (false) {
00015     }
00016
00017     // //////////////////////////////////////
00018     AIRRAC_ServiceContext::AIRRAC_ServiceContext (const AIRRAC_ServiceContext&)
00019         : _ownStdairService (false) {
00020         assert (false);
00021     }
00022
00023     // //////////////////////////////////////
00024     AIRRAC_ServiceContext::~AIRRAC_ServiceContext () {
00025     }
00026
00027     // //////////////////////////////////////
00028     const std::string AIRRAC_ServiceContext::shortDisplay() const {
00029         std::ostringstream oStr;
00030         oStr << "AIRRAC_ServiceContext -- Owns StdAir service: "
00031             << _ownStdairService;
00032         return oStr.str();

```

```

00033     }
00034
00035     // //////////////////////////////////////
00036     const std::string AIRRAC_ServiceContext::display() const {
00037         std::ostringstream oStr;
00038         oStr << shortDisplay();
00039         return oStr.str();
00040     }
00041     // //////////////////////////////////////
00042     const std::string AIRRAC_ServiceContext::describe() const {
00043         return shortDisplay();
00044     }
00045
00046     // //////////////////////////////////////
00047     void AIRRAC_ServiceContext::reset() {
00048         if (_ownStdairService == true) {
00049             _stdairService.reset();
00050         }
00051     }
00052
00053 }

```

25.43 airrac/service/AIRRAC_ServiceContext.hpp File Reference

```

#include <string>

#include <stdair/stdair_service_types.hpp>

#include <stdair/service/ServiceAbstract.hpp>

#include <airrac/AIRRAC_Types.hpp>

```

Classes

- class [AIRRAC::AIRRAC_ServiceContext](#)
Inner class holding the context for the [AIRRAC](#) Service object.

Namespaces

- namespace [stdair](#)
Forward declarations.
- namespace [AIRRAC](#)

25.44 AIRRAC_ServiceContext.hpp

```

00001 #ifndef __AIRRAC_SVC_AIRRACSERVICECONTEXT_HPP
00002 #define __AIRRAC_SVC_AIRRACSERVICECONTEXT_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 // Airrac
00013 #include <airrac/AIRRAC_Types.hpp>
00014
00016 namespace stdair {
00017     class STDAIR_Service;
00018 }
00019
00020 namespace AIRRAC {
00021
00025     class AIRRAC_ServiceContext : public stdair::ServiceAbstract {
00031         friend class AIRRAC_Service;
00032         friend class FacAirracServiceContext;
00033
00034     private:
00035         // ////////// Getters //////////
00039         stdair::STDAIR_ServicePtr_T getSTDAIR_ServicePtr() const {
00040             return _stdairService;
00041         }
00042
00046         stdair::STDAIR_Service& getSTDAIR_Service() const {
00047             assert (_stdairService != NULL);
00048             return *_stdairService;
00049         }
00050
00054         const bool getOwnStdairServiceFlag() const {
00055             return _ownStdairService;
00056         }
00057
00058
00059     private:
00060         // ////////////////////////////////// Setters //////////////////////////////////
00064         void setSTDAIR_Service (stdair::STDAIR_ServicePtr_T ioSTDAIR_ServicePtr,
00065                                 const bool iOwnStdairService) {
00066             _stdairService = ioSTDAIR_ServicePtr;
00067             _ownStdairService = iOwnStdairService;
00068         }
00069
00070
00071     private:
00072         // ////////// Display Methods //////////
00076         const std::string shortDisplay() const;
00077
00081         const std::string display() const;
00082
00086         const std::string describe() const;
00087
00088
00089     private:
00090         // ////////// Construction / initialisation //////////
00094         AIRRAC_ServiceContext();
00095
00099         AIRRAC_ServiceContext (const AIRRAC_ServiceContext&);
00100
00104         ~AIRRAC_ServiceContext();
00105
00109         void reset();
00110
00111
00112     private:

```

```
00113 // ////////// Attributes //////////  
00117 stdair::STDAIR_ServicePtr_T _stdairService;  
00118  
00122 bool _ownStdairService;  
00123 };  
00124  
00125 }  
00126 #endif // __AIRRAC_SVC_AIRRACSERVICECONTEXT_HPP
```

25.45 doc/local/authors.doc File Reference

25.46 doc/local/codingrules.doc File Reference

25.47 doc/local/copyright.doc File Reference

25.48 doc/local/documentation.doc File Reference

25.49 doc/local/features.doc File Reference

25.50 doc/local/help_wanted.doc File Reference

25.51 doc/local/howto_release.doc File Reference

25.52 doc/local/index.doc File Reference

25.53 doc/local/installation.doc File Reference

25.54 doc/local/linking.doc File Reference

25.55 doc/local/test.doc File Reference

25.56 doc/local/users_guide.doc File Reference

25.57 doc/local/verification.doc File Reference

25.58 doc/tutorial/tutorial.doc File Reference

25.59 test/airrac/YieldTestSuite.cpp File Reference

25.60 YieldTestSuite.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 YieldTestSuite
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/bom/TravelSolutionStruct.hpp>
00022 #include <stdair/service/Logger.hpp>
00023 // Airrac
00024 #include <airrac/AIRAC_Service.hpp>
00025 #include <airrac/config/airrac-paths.hpp>
00026
00027 namespace boost_utf = boost::unit_test;
00028
00029 // (Boost) Unit Test XML Report
00030 std::ofstream utfReportStream ("YieldTestSuite_utfresults.xml");
00031
00032 struct UnitTestConfig {
00033     UnitTestConfig() {
00034         boost_utf::unit_test_log.set_stream (utfReportStream);
00035         boost_utf::unit_test_log.set_format (boost_utf::XML);
00036         boost_utf::unit_test_log.set_threshold_level (boost_utf::log_test_units);
00037         //boost_utf::unit_test_log.set_threshold_level (boost_utf::log_successful_tes
00038     ts);
00039     }
00040
00041     ~UnitTestConfig() {
00042     }
00043 };
00044
00045 // //////////////////////////////////////
00046 void testYieldQuoterHelper (const unsigned short iTestFlag,
00047                             const stdair::Filename_T iYieldInputFilename,
00048                             const bool isBuiltin) {
00049
00050     // Output log File
00051     std::ostringstream oStr;
00052     oStr << "FQTTTestSuite_" << iTestFlag << ".log";
00053     const stdair::Filename_T lLogFilename (oStr.str());
00054
00055     // Set the log parameters
00056     std::ofstream logOutputFile;
00057     // Open and clean the log outputfile
00058     logOutputFile.open (lLogFilename.c_str());
00059     logOutputFile.clear();
00060
00061     // Initialise the AirRAC service object
00062     const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG,
00063                                             logOutputFile);
00064
00065     // Initialise the AirRAC service object
00066     AIRRAC::AIRRAC_Service airracService (lLogParams);
00067
00068     // Build a sample list of travel solutions
00069     stdair::TravelSolutionList_T lTravelSolutionList;
00070     airracService.buildSampleTravelSolutions (lTravelSolutionList);
00071
00072

```

```
00080 // Check whether or not a (CSV) input file should be read
00081 if (isBuiltin == true) {
00082
00083     // Build the default sample BOM tree (filled with yields) for AirRAC
00084     airracService.buildSampleBom();
00085 } else {
00086
00087     // Build the BOM tree from parsing the yield input file
00088     AIRRAC::YieldFilePath lYieldFilePath (iYieldInputFilename);
00089     airracService.parseAndLoad (lYieldFilePath);
00090 }
00091
00092
00093 // Calculate the yields for the given travel solution
00094 airracService.calculateYields (lTravelSolutionList);
00095
00096 // Close the log file
00097 logOutputFile.close();
00098
00099 }
00100
00101
00102 // ////////////////////////////////// Main: Unit Test Suite //////////////////////////////////
00103
00104 // Set the UTF configuration (re-direct the output to a specific file)
00105 BOOST_GLOBAL_FIXTURE (UnitTestConfig);
00106
00107 // Start the test suite
00108 BOOST_AUTO_TEST_SUITE (master_test_suite)
00109
00110
00111 BOOST_AUTO_TEST_CASE (airrac_simple_yield) {
00112
00113     // Input file name
00114     const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/yieldstore01.
00115 csv");
00116
00117     // State whether the BOM tree should be built-in or parsed from an input file
00118     const bool isBuiltin = false;
00119
00120     // Try to yieldQuote the sample default list of travel solutions
00121     BOOST_CHECK_NO_THROW (testYieldQuoterHelper (0, lYieldInputFilename, isBuiltin)
00122 );
00123 }
00124
00125 BOOST_AUTO_TEST_CASE (airrac_error_parsing_input_file) {
00126
00127     // Input file name
00128     const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/yieldstoreErr
00129 or01.csv");
00130
00131     // State whether the BOM tree should be built-in or parsed from an input file
00132     const bool isBuiltin = false;
00133
00134     // Try to yield quote the sample default list of travel solutions
00135     BOOST_CHECK_THROW (testYieldQuoterHelper (1, lYieldInputFilename, isBuiltin),
00136 AIRRAC::YieldFileParsingFailedException);
00137 }
00138
00139 BOOST_AUTO_TEST_CASE (airrac_error_missing_input_file) {
00140
00141 }
```



```

00149 // Input file name
00150 const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR "/missingFile.c
sv");
00151
00152 // State whether the BOM tree should be built-in or parsed from an input file
00153 const bool isBuiltin = false;
00154
00155 // Try to yield quote the sample default list of travel solutions
00156 BOOST_CHECK_THROW (testYieldQuoterHelper (2, lYieldInputFilename, isBuiltin),
00157 AIRRAC::YieldInputFileNotFoundException);
00158 }
00159
00163 BOOST_AUTO_TEST_CASE (airrac_simple_yield_built_in) {
00164
00165 // State whether the BOM tree should be built-in or parsed from an input file
00166 const bool isBuiltin = true;
00167
00168 // Try to yield quote the sample default list of travel solutions
00169 BOOST_CHECK_NO_THROW (testYieldQuoterHelper (3, " ", isBuiltin));
00170
00171 }
00172
00173 // End the test suite
00174 BOOST_AUTO_TEST_SUITE_END()
00175
00176

```

25.61 test/airrac/YieldTestSuite.hpp File Reference

```

#include <iosfwd>
#include <cppunit/extensions/HelperMacros.h>

```

Classes

- class [YieldTestSuite](#)

Functions

- [CPPUNIT_TEST_SUITE_REGISTRATION](#) ([YieldTestSuite](#))

25.61.1 Function Documentation

25.61.1.1 CPPUNIT_TEST_SUITE_REGISTRATION (YieldTestSuite)

25.62 YieldTestSuite.hpp

```

00001 // STL
00002 #include <iosfwd>
00003 // CPPUNIT
00004 #include <cppunit/extensions/HelperMacros.h>
00005
00007 class YieldTestSuite : public CppUnit::TestFixture {
00008     CPPUNIT_TEST_SUITE (YieldTestSuite);

```

```
00009  CPPUNIT_TEST (simpleYield);
00010  //  CPPUNIT_TEST (errorCase);
00011  CPPUNIT_TEST_SUITE_END ();
00012  public:
00013
00015  void simpleYield();
00016
00018  //  void errorCase ();
00019
00021  YieldTestSuite ();
00022
00023  private:
00025  void simpleYieldHelper();
00026
00027  protected:
00028  std::stringstream _describeKey;
00029  };
00030
00031  CPPUNIT_TEST_SUITE_REGISTRATION (YieldTestSuite);
```

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