

AirRAC

1.00.0

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## 1 AirRAC Documentation

### 1.1 Getting Started

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- [Users Guide](#)
- [Tutorials](#)
- [Copyright and License](#)
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- [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

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### 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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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.

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

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(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.)

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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.

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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.)

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#### 4.3.2 END OF TERMS AND CONDITIONS

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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](mailto:airrac-announce@lists.sourceforge.net) (see <https://lists.sourceforge.net/lists/listinfo/airrac-announce> for the archives)

# 9 Installation

## 9.1 Table of Contents

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## 9.2 Fedora/RedHat Linux distributions

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

```
yum -y install 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``)
- [SOXI](#) - 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 net>
-- 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;unit_test_f
--   - Boost required libraries ... : optimized;/usr/lib64/libboost_iostreams-mt.so;debug;/usr/lib64/libboost_
--
-- * 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;stdairuiclib
--   - 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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- [AirRAC 0.1.x](#)
  - [Linux Systems](#)
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- [AirRAC 3.9.1](#)
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- [AirRAC 3.8.1](#)

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

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

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

- **Platform:** Intel Pentium M Centrino
- **Operating System:** Gentoo Linux 2006.0 (x86)
- **Compiler:** g++ (GCC) 3.4.5
- **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/Program Files/AMD/acml3.1.0/gnu32/lib"
% export CPPFLAGS="-I/c/Program Files/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

- [Introduction](#)
  - [Preparing the AirRAC Project for Development](#)
- [Build a Predefined BOM Tree](#)
  - [Instantiate the BOM Root Object](#)
  - [Instantiate the \(Airline\) Inventory Object](#)
  - [Link the Inventory Object with the BOM Root](#)
  - [Build Another Airline Inventory](#)
  - [Dump The BOM Tree Content](#)
  - [Result of the Tutorial Program](#)

## 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:
493: 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:
326: YieldRule: 1, SIN-BKK (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:
59:00], Y, 200 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:
326: YieldRule: 2, SIN-HND (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:
59:00], Y, 200 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:
326: YieldRule: 3, SIN-NCE (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:
59:00], Y, 1200 EUR, SQ / Y - AF / YLMN
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:
326: YieldRule: 4, SIN-BKK (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:
59:00], Y, 300 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:
326: YieldRule: 5, SIN-HND (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:
59:00], Y, 300 EUR, SQ / Y
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:
326: YieldRule: 6, SIN-NCE (ALL), DC, [2010-Jan-15/2011-Jan-01] - [00:00:00/23:
59:00], Y, 1500 EUR, SQ / Y - AF / YLMN
[D]/home/user/dev/sim/airrac/airracgithub/airrac/command/YieldParserHelper.cpp:
541: Parsing of yield input file: /home/user/dev/deliveries/stdair-0.36.2/share/
stdair/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
solutions:
[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/AIRAC_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::ostream oStr;
    oStr << "FQTTestSuite_" << iTestFlag << ".log";
    const stdair::Filename_T lLogFilename (oStr.str());

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

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

    // Initialise the AirRAC service object
    AIRRAC::AIRAC_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::YieldInputFileNotFoundExpection
    );

}

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 Namespace Index

### 17.1 Namespace List

Here is a list of all namespaces with brief descriptions:

<b>AIRRAC</b>	<b>44</b>
<b>AIRRAC::YieldParserHelper</b>	<b>45</b>
<b>stdair</b>	
<b>Forward declarations</b>	<b>47</b>

## 18 Class Index

## 18.1 Class Hierarchy

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

<b>AIRAC::AIRAC_Service</b>	<b>48</b>
std::basic_fstream< char >	
std::basic_fstream< wchar_t >	
std::basic_ifstream< char >	
std::basic_ifstream< wchar_t >	
std::basic_ios< char >	
std::basic_ios< wchar_t >	
std::basic_iostream< char >	
std::basic_iostream< wchar_t >	
std::basic_istream< char >	
std::basic_istream< wchar_t >	
std::basic_istreamstream< char >	
std::basic_istreamstream< wchar_t >	
std::basic_ofstream< char >	
std::basic_ofstream< wchar_t >	
std::basic_ostream< char >	
std::basic_ostream< wchar_t >	
std::basic_ostreamstream< char >	
std::basic_ostreamstream< wchar_t >	
std::basic_string< char >	
std::basic_string< wchar_t >	
std::basic_stringstream< char >	
std::basic_stringstream< wchar_t >	
<b>CmdAbstract</b>	<b>52</b>
<b>AIRAC::YieldFileParser</b>	<b>79</b>
<b>AIRAC::YieldParser</b>	<b>83</b>
<b>AIRAC::YieldRuleGenerator</b>	<b>84</b>
<b>FacServiceAbstract</b>	<b>55</b>
<b>AIRAC::FacAirracServiceContext</b>	<b>54</b>
<b>FileNotFoundException</b>	<b>56</b>
<b>AIRAC::YieldInputFileNotFoundException</b>	<b>82</b>
<b>grammar</b>	<b>58</b>
<b>AIRAC::YieldParserHelper::YieldRuleParser</b>	<b>84</b>
<b>InputFilePath</b>	<b>58</b>
<b>AIRAC::YieldFilePath</b>	<b>81</b>
<b>ObjectNotFoundException</b>	<b>58</b>
<b>AIRAC::AirlineNotFoundException</b>	<b>47</b>
<b>AIRAC::AirportPairNotFoundException</b>	<b>48</b>
<b>AIRAC::FeaturesNotFoundException</b>	<b>56</b>
<b>AIRAC::FlightDateNotFoundException</b>	<b>57</b>

<b>AIRRAC::FlightTimeNotFoundException</b>	<b>57</b>
<b>AIRRAC::PosOrChannelNotFoundException</b>	<b>60</b>
<b>AIRRAC::YieldParserHelper::ParserSemanticAction</b>	<b>59</b>
<b>AIRRAC::YieldParserHelper::doEndYield</b>	<b>53</b>
<b>AIRRAC::YieldParserHelper::storeAirlineCode</b>	<b>62</b>
<b>AIRRAC::YieldParserHelper::storeCabinCode</b>	<b>63</b>
<b>AIRRAC::YieldParserHelper::storeChannel</b>	<b>64</b>
<b>AIRRAC::YieldParserHelper::storeClass</b>	<b>65</b>
<b>AIRRAC::YieldParserHelper::storeDateRangeEnd</b>	<b>67</b>
<b>AIRRAC::YieldParserHelper::storeDateRangeStart</b>	<b>68</b>
<b>AIRRAC::YieldParserHelper::storeDestination</b>	<b>69</b>
<b>AIRRAC::YieldParserHelper::storeEndRangeTime</b>	<b>70</b>
<b>AIRRAC::YieldParserHelper::storeOrigin</b>	<b>72</b>
<b>AIRRAC::YieldParserHelper::storePOS</b>	<b>73</b>
<b>AIRRAC::YieldParserHelper::storeStartRangeTime</b>	<b>74</b>
<b>AIRRAC::YieldParserHelper::storeTripType</b>	<b>75</b>
<b>AIRRAC::YieldParserHelper::storeYield</b>	<b>76</b>
<b>AIRRAC::YieldParserHelper::storeYieldId</b>	<b>78</b>
<b>ParsingFileFailedException</b>	<b>60</b>
<b>AIRRAC::YieldFileParsingFailedException</b>	<b>80</b>
<b>RootException</b>	<b>61</b>
<b>AIRRAC::QuotingException</b>	<b>61</b>
<b>ServiceAbstract</b>	<b>61</b>
<b>AIRRAC::AIRRAC_ServiceContext</b>	<b>52</b>
<b>StructAbstract</b>	<b>79</b>
<b>AIRRAC::YieldRuleStruct</b>	<b>89</b>
<b>TestFixture</b>	<b>79</b>
<b>YieldTestSuite</b>	<b>95</b>
<b>AIRRAC::YieldManager</b>	<b>82</b>

## 19 Class Index

## 19.1 Class List

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

<a href="#">AIRRAC::AirlineNotFoundException</a>	47
<a href="#">AIRRAC::AirportPairNotFoundException</a>	48
<a href="#">AIRRAC::AIRRAC_Service</a> Interface for the <a href="#">AIRRAC</a> Services	48
<a href="#">AIRRAC::AIRRAC_ServiceContext</a> Inner class holding the context for the <a href="#">AIRRAC</a> Service object	52
<a href="#">CmdAbstract</a>	52
<a href="#">AIRRAC::YieldParserHelper::doEndYield</a>	53
<a href="#">AIRRAC::FacAirracServiceContext</a> Factory for the service context	54
<a href="#">FacServiceAbstract</a>	55
<a href="#">AIRRAC::FeaturesNotFoundException</a>	56
<a href="#">FileNotFoundException</a>	56
<a href="#">AIRRAC::FlightDateNotFoundException</a>	57
<a href="#">AIRRAC::FlightTimeNotFoundException</a>	57
<a href="#">grammar</a>	58
<a href="#">InputFilePath</a>	58
<a href="#">ObjectNotFoundException</a>	58
<a href="#">AIRRAC::YieldParserHelper::ParserSemanticAction</a>	59
<a href="#">ParsingFileFailedException</a>	60
<a href="#">AIRRAC::PosOrChannelNotFoundException</a>	60
<a href="#">AIRRAC::QuotingException</a>	61
<a href="#">RootException</a>	61
<a href="#">ServiceAbstract</a>	61
<a href="#">AIRRAC::YieldParserHelper::storeAirlineCode</a>	62
<a href="#">AIRRAC::YieldParserHelper::storeCabinCode</a>	63
<a href="#">AIRRAC::YieldParserHelper::storeChannel</a>	64
<a href="#">AIRRAC::YieldParserHelper::storeClass</a>	65
<a href="#">AIRRAC::YieldParserHelper::storeDateRangeEnd</a>	67
<a href="#">AIRRAC::YieldParserHelper::storeDateRangeStart</a>	68
<a href="#">AIRRAC::YieldParserHelper::storeDestination</a>	69

<a href="#">AIRRAC::YieldParserHelper::storeEndRangeTime</a>	70
<a href="#">AIRRAC::YieldParserHelper::storeOrigin</a>	72
<a href="#">AIRRAC::YieldParserHelper::storePOS</a>	73
<a href="#">AIRRAC::YieldParserHelper::storeStartRangeTime</a>	74
<a href="#">AIRRAC::YieldParserHelper::storeTripType</a>	75
<a href="#">AIRRAC::YieldParserHelper::storeYield</a>	76
<a href="#">AIRRAC::YieldParserHelper::storeYieldId</a>	78
<a href="#">StructAbstract</a>	79
<a href="#">TestFixture</a>	79
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<a href="#">AIRRAC::YieldFileParsingFailedException</a>	80
<a href="#">AIRRAC::YieldFilePath</a>	81
<a href="#">AIRRAC::YieldInputFileNotFoundException</a>	82
<a href="#">AIRRAC::YieldManager</a>	
Command wrapping the travel request process	82
<a href="#">AIRRAC::YieldParser</a>	
Class wrapping the parser entry point	83
<a href="#">AIRRAC::YieldRuleGenerator</a>	84
<a href="#">AIRRAC::YieldParserHelper::YieldRuleParser</a>	84
<a href="#">AIRRAC::YieldRuleStruct</a>	
Utility Structure for the parsing of Flight-Date structures	89
<a href="#">YieldTestSuite</a>	95

## 20 File Index

### 20.1 File List

Here is a list of all files with brief descriptions:

<a href="#">airrac/AIRRAC_Service.hpp</a>	96
<a href="#">airrac/AIRRAC_Types.hpp</a>	98
<a href="#">airrac/basic/BasConst.cpp</a>	100
<a href="#">airrac/basic/BasConst_AIRRAC_Service.hpp</a>	100
<a href="#">airrac/basic/BasConst_General.hpp</a>	100
<a href="#">airrac/batches/airrac.cpp</a>	102
<a href="#">airrac/bom/YieldRuleStruct.cpp</a>	105

<a href="#">airrac/bom/YieldRuleStruct.hpp</a>	107
<a href="#">airrac/command/YieldManager.cpp</a>	110
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<a href="#">airrac/command/YieldRuleGenerator.hpp</a>	130
<a href="#">airrac/config/airrac-paths.hpp</a>	132
<a href="#">airrac/factory/FacAirracsServiceContext.cpp</a>	133
<a href="#">airrac/factory/FacAirracsServiceContext.hpp</a>	134
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<a href="#">airrac/service/AIRRAC_ServiceContext.cpp</a>	140
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<a href="#">test/airrac/YieldTestSuite.hpp</a>	145

## 21 Namespace Documentation

### 21.1 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"

#### 21.1.1 Typedef Documentation

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

Definition at line 95 of file [AIRRAC\\_Types.hpp](#).

##### 21.1.1.2 typedef unsigned int [AIRRAC::YieldID\\_T](#)

ID for the Yield Quote system.

Definition at line 102 of file [AIRRAC\\_Types.hpp](#).

#### 21.1.2 Variable Documentation

##### 21.1.2.1 const std::string [AIRRAC::DEFAULT\\_AIRLINE\\_CODE](#) = "BA"

Default airline name for the [AIRRAC\\_Service](#).

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

## 21.2 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](#)

#### 21.2.1 Variable Documentation

##### 21.2.1.1 [stdair::int1\\_p\\_t](#) [AIRRAC::YieldParserHelper::int1\\_p](#)

Namespaces. 1-digit-integer parser

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

##### 21.2.1.2 [stdair::uint2\\_p\\_t](#) [AIRRAC::YieldParserHelper::uint2\\_p](#)

2-digit-integer parser

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

##### 21.2.1.3 [stdair::uint4\\_p\\_t](#) [AIRRAC::YieldParserHelper::uint4\\_p](#)

4-digit-integer parser

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

##### 21.2.1.4 [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\(\)](#).

##### 21.2.1.5 [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\(\)](#).



## 21.2.1.6 stdair::minute\_p\_t AIRRAC::YieldParserHelper::minute\_p

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

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

## 21.2.1.7 stdair::second\_p\_t AIRRAC::YieldParserHelper::second\_p

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

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

## 21.2.1.8 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\(\)](#).

## 21.2.1.9 stdair::month\_p\_t AIRRAC::YieldParserHelper::month\_p

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

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

## 21.2.1.10 stdair::day\_p\_t AIRRAC::YieldParserHelper::day\_p

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

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

## 21.3 stdair Namespace Reference

Forward declarations.

## 21.3.1 Detailed Description

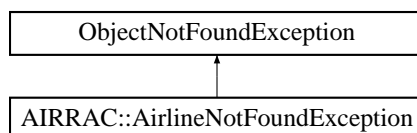
Forward declarations.

## 22 Class Documentation

## 22.1 AIRRAC::AirlineNotFoundException Class Reference

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

Inheritance diagram for AIRRAC::AirlineNotFoundException:



## Public Member Functions

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

### 22.1.1 Detailed Description

Definition at line 54 of file [AIRRAC\\_Types.hpp](#).

### 22.1.2 Constructor & Destructor Documentation

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

Constructor.

Definition at line 57 of file [AIRRAC\\_Types.hpp](#).

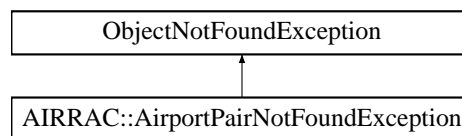
The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.2 AIRRAC::AirportPairNotFoundException Class Reference

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

Inheritance diagram for AIRRAC::AirportPairNotFoundException:



### Public Member Functions

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

### 22.2.1 Detailed Description

Definition at line 19 of file [AIRRAC\\_Types.hpp](#).

### 22.2.2 Constructor & Destructor Documentation

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

Constructor.

Definition at line 22 of file [AIRRAC\\_Types.hpp](#).

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

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.3 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](#) (stdair::BomRoot &)
- void [buildSampleBom](#) ()
- void [clonePersistentBom](#) ()
- void [buildComplementaryLinks](#) (stdair::BomRoot &)
- void [buildSampleTravelSolutions](#) (stdair::TravelSolutionList\_T &)
- std::string [csvDisplay](#) () const
- std::string [csvDisplay](#) (const stdair::TravelSolutionList\_T &) const

## 22.3.1 Detailed Description

Interface for the [AIRRAC](#) Services.

Definition at line 30 of file [AIRRAC\\_Service.hpp](#).

## 22.3.2 Constructor &amp; Destructor Documentation

## 22.3.2.1 AIRRAC::AIRRAC\_Service::AIRRAC\_Service ( const stdair::BasLogParams &amp; 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](#).

## 22.3.2.2 AIRRAC::AIRRAC\_Service::AIRRAC\_Service ( const stdair::BasLogParams &amp; iLogParams, const stdair::BasDBParams &amp; 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](#).

## 22.3.2.3 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](#).

#### 22.3.2.4 AIRRAC::AIRRAC\_Service::~~AIRRAC\_Service ( )

Destructor.

Definition at line 92 of file [AIRRAC\\_Service.cpp](#).

### 22.3.3 Member Function Documentation

#### 22.3.3.1 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

<i>const</i>	<a href="#">YieldFilePath</a> & Filename of the input yield file.
--------------	---

Definition at line 170 of file [AIRRAC\\_Service.cpp](#).

References [buildComplementaryLinks\(\)](#), [clonePersistentBom\(\)](#), and [AIRRAC::YieldParser::generateYieldStore\(\)](#).

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

#### 22.3.3.2 void AIRRAC::AIRRAC\_Service::calculateYields ( stdair::TravelSolutionList\_T & ioTravelSolutionList )

Calculate/retrieve a yield.

Definition at line 402 of file [AIRRAC\\_Service.cpp](#).

#### 22.3.3.3 void AIRRAC::AIRRAC\_Service::updateYields ( stdair::BomRoot & ioBomRoot )

Update the yields for booking classes and O&D.

Definition at line 433 of file [AIRRAC\\_Service.cpp](#).

#### 22.3.3.4 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 223 of file [AIRRAC\\_Service.cpp](#).

References [buildComplementaryLinks\(\)](#), and [clonePersistentBom\(\)](#).

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

#### 22.3.3.5 void AIRRAC::AIRRAC\_Service::clonePersistentBom ( )

Clone the persistent sample BOM tree.

Definition at line 280 of file [AIRRAC\\_Service.cpp](#).

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

Referenced by [buildSampleBom\(\)](#), and [parseAndLoad\(\)](#).

**22.3.3.6** void AIRRAC::AIRRAC\_Service::buildComplementaryLinks ( stdair::BomRoot & ioBomRoot )

Build all the complementary links in the given bom root object.

#### Note

Do nothing for now.

Definition at line 326 of file [AIRRAC\\_Service.cpp](#).

Referenced by [buildSampleBom\(\)](#), [clonePersistentBom\(\)](#), and [parseAndLoad\(\)](#).

**22.3.3.7** 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>TravelSolution-List_T&amp;</i>	Sample list of travel solution structures. It should be given empty. It is altered with the returned sample.
-----------------------------------	--

Definition at line 332 of file [AIRRAC\\_Service.cpp](#).

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

**22.3.3.8** 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 352 of file [AIRRAC\\_Service.cpp](#).

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

**22.3.3.9** 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 380 of file [AIRRAC\\_Service.cpp](#).

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

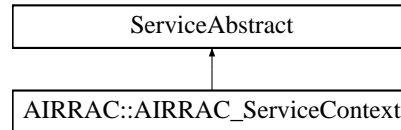
- [airrac/AIRRAC\\_Service.hpp](#)
- [airrac/service/AIRRAC\\_Service.cpp](#)

## 22.4 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 [FacAircacServiceContext](#)

### 22.4.1 Detailed Description

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

Definition at line 25 of file [AIRRAC\\_ServiceContext.hpp](#).

### 22.4.2 Friends And Related Function Documentation

#### 22.4.2.1 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](#).

#### 22.4.2.2 friend class FacAircacServiceContext [friend]

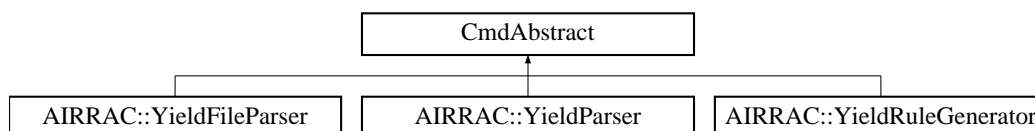
Definition at line 32 of file [AIRRAC\\_ServiceContext.hpp](#).

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

- [airrac/service/AIRRAC\\_ServiceContext.hpp](#)
- [airrac/service/AIRRAC\\_ServiceContext.cpp](#)

## 22.5 CmdAbstract Class Reference

Inheritance diagram for CmdAbstract:



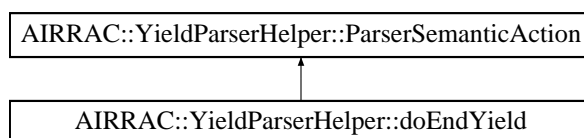
The documentation for this class was generated from the following file:

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

## 22.6 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](#)

#### 22.6.1 Detailed Description

Mark the end of the yield-rule parsing.

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

#### 22.6.2 Constructor & Destructor Documentation

22.6.2.1 AIRRAC::YieldParserHelper::doEndYield::doEndYield ( stdair::BomRoot & *ioBomRoot*, YieldRuleStruct & *ioYieldRule* )

Actor Constructor.

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

#### 22.6.3 Member Function Documentation

22.6.3.1 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\(\)](#).

## 22.6.4 Member Data Documentation

## 22.6.4.1 stdair::BomRoot&amp; AIRRAC::YieldParserHelper::doEndYield::\_bomRoot

Actor Specific Context.

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

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

## 22.6.4.2 YieldRuleStruct&amp; AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

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

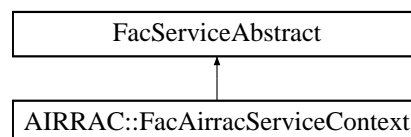
- [airrac/command/YieldParserHelper.hpp](#)
- [airrac/command/YieldParserHelper.cpp](#)

## 22.7 AIRRAC::FacAircracServiceContext Class Reference

Factory for the service context.

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

Inheritance diagram for AIRRAC::FacAircracServiceContext:



## Public Member Functions

- [~FacAircracServiceContext \(\)](#)
- [AIRRAC\\_ServiceContext & create \(\)](#)

## Static Public Member Functions

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

## Protected Member Functions

- [FacAircracServiceContext \(\)](#)



### 22.7.1 Detailed Description

Factory for the service context.

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

### 22.7.2 Constructor & Destructor Documentation

#### 22.7.2.1 AIRRAC::FacAirracsServiceContext::~~FacAirracsServiceContext ( )

Destructor.

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

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

#### 22.7.2.2 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\(\)](#).

### 22.7.3 Member Function Documentation

#### 22.7.3.1 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\(\)](#).

#### 22.7.3.2 AIRRAC\_ServiceContext & AIRRAC::FacAirracsServiceContext::create ( )

Create a new ServiceContext object.

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

#### Returns

ServiceContext& The newly created object.

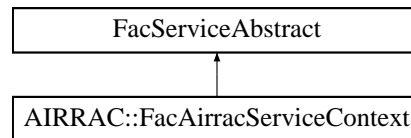
Definition at line 34 of file [FacAirracsServiceContext.cpp](#).

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

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

## 22.8 FacServiceAbstract Class Reference

Inheritance diagram for FacServiceAbstract:



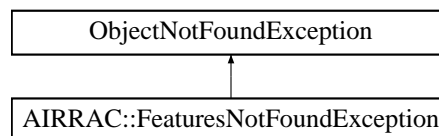
The documentation for this class was generated from the following file:

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

## 22.9 AIRRAC::FeaturesNotFoundException Class Reference

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

Inheritance diagram for `AIRRAC::FeaturesNotFoundException`:



### Public Member Functions

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

#### 22.9.1 Detailed Description

Definition at line 47 of file [AIRRAC\\_Types.hpp](#).

#### 22.9.2 Constructor & Destructor Documentation

22.9.2.1 `AIRRAC::FeaturesNotFoundException::FeaturesNotFoundException ( const std::string & iWhat ) [inline]`

Constructor.

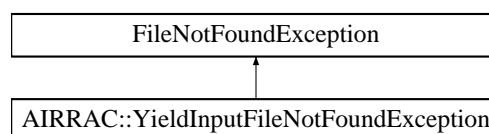
Definition at line 50 of file [AIRRAC\\_Types.hpp](#).

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

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.10 FileNotFoundException Class Reference

Inheritance diagram for `FileNotFoundException`:



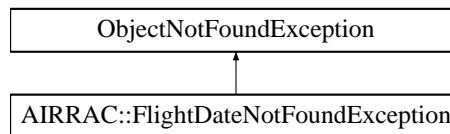
The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.11 AIRRAC::FlightDateNotFoundException Class Reference

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

Inheritance diagram for AIRRAC::FlightDateNotFoundException:



### Public Member Functions

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

#### 22.11.1 Detailed Description

Definition at line 33 of file [AIRRAC\\_Types.hpp](#).

#### 22.11.2 Constructor & Destructor Documentation

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

Constructor.

Definition at line 36 of file [AIRRAC\\_Types.hpp](#).

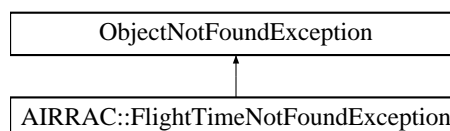
The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.12 AIRRAC::FlightTimeNotFoundException Class Reference

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

Inheritance diagram for AIRRAC::FlightTimeNotFoundException:



### Public Member Functions

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

#### 22.12.1 Detailed Description

Definition at line 40 of file [AIRRAC\\_Types.hpp](#).

## 22.12.2 Constructor &amp; Destructor Documentation

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

Constructor.

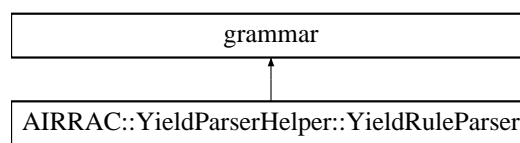
Definition at line 43 of file [AIRRAC\\_Types.hpp](#).

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

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.13 grammar Class Reference

Inheritance diagram for grammar:

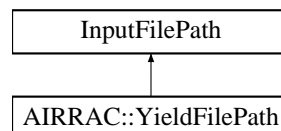


The documentation for this class was generated from the following file:

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

## 22.14 InputFilePath Class Reference

Inheritance diagram for InputFilePath:



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

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.15 ObjectNotFoundException Class Reference

Inheritance diagram for ObjectNotFoundException:



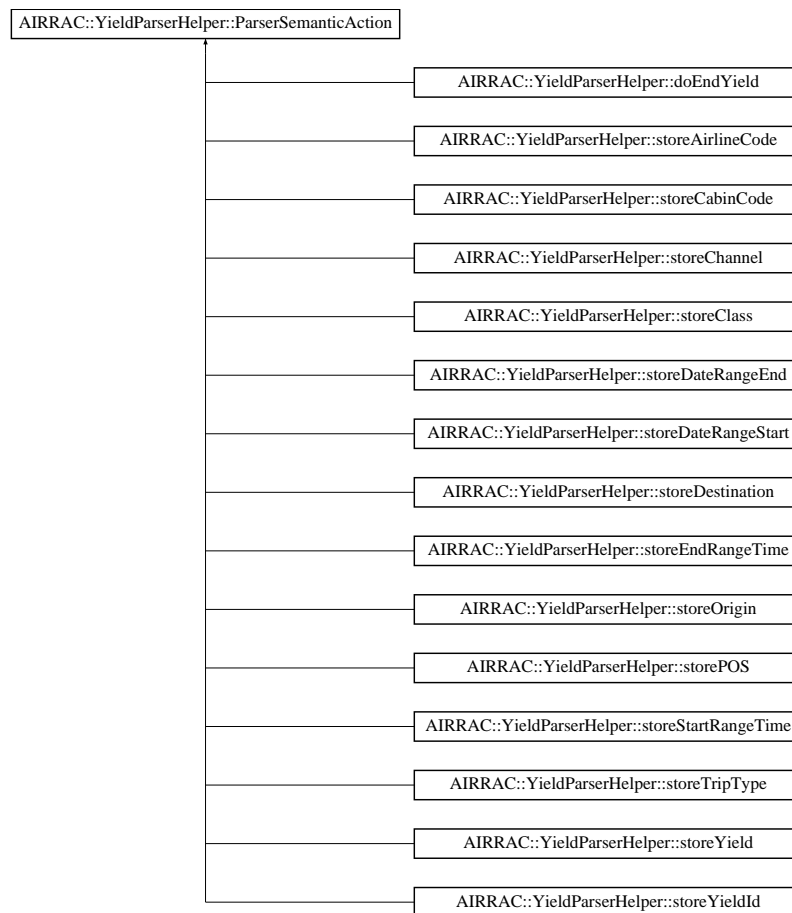
The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.16 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](#)

#### 22.16.1 Detailed Description

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

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

#### 22.16.2 Constructor & Destructor Documentation

##### 22.16.2.1 AIRRAC::YieldParserHelper::ParserSemanticAction::ParserSemanticAction ( [YieldRuleStruct](#) & *ioYieldRule* )

Actor Constructor.

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

## 22.16.3 Member Data Documentation

## 22.16.3.1 YieldRuleStruct&amp; AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule

Actor Context.

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

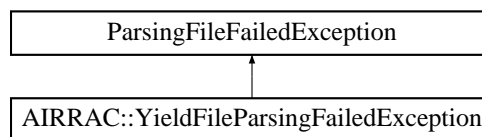
Referenced by [AIRRAC::YieldParserHelper::storeYieldId::operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#),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

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

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

## 22.17 ParsingFileFailedException Class Reference

Inheritance diagram for ParsingFileFailedException:



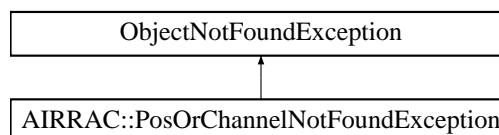
The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.18 AIRRAC::PosOrChannelNotFoundException Class Reference

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

Inheritance diagram for AIRRAC::PosOrChannelNotFoundException:



## Public Member Functions

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

## 22.18.1 Detailed Description

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

## 22.18.2 Constructor & Destructor Documentation

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

Constructor.

Definition at line 29 of file [AIRRAC\\_Types.hpp](#).

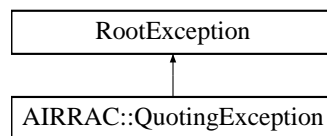
The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.19 AIRRAC::QuotingException Class Reference

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

Inheritance diagram for AIRRAC::QuotingException:



### 22.19.1 Detailed Description

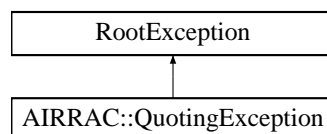
Definition at line 75 of file [AIRRAC\\_Types.hpp](#).

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

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.20 RootException Class Reference

Inheritance diagram for RootException:

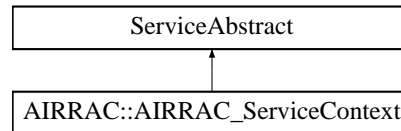


The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.21 ServiceAbstract Class Reference

Inheritance diagram for ServiceAbstract:



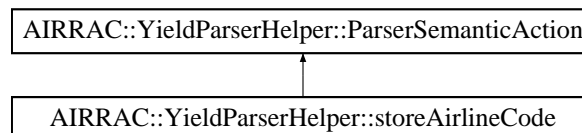
The documentation for this class was generated from the following file:

- [airrac/service/AIRRAC\\_ServiceContext.hpp](#)

## 22.22 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](#)

### 22.22.1 Detailed Description

Store the parsed airline code.

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

### 22.22.2 Constructor & Destructor Documentation

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

Actor Constructor.

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

### 22.22.3 Member Function Documentation

#### 22.22.3.1 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\(\)](#).

#### 22.22.4 Member Data Documentation

##### 22.22.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

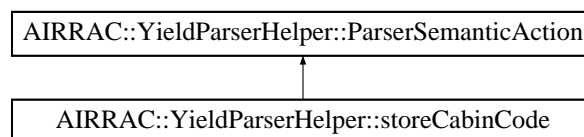
The documentation for this struct was generated from the following files:

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

## 22.23 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](#)

#### 22.23.1 Detailed Description

Store the cabin code.

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

#### 22.23.2 Constructor & Destructor Documentation

## 22.23.2.1 AIRRAC::YieldParserHelper::storeCabinCode::storeCabinCode ( YieldRuleStruct &amp; ioYieldRule )

Actor Constructor.

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

## 22.23.3 Member Function Documentation

## 22.23.3.1 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\(\)](#).

## 22.23.4 Member Data Documentation

## 22.23.4.1 YieldRuleStruct&amp; AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

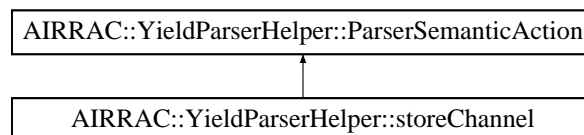
The documentation for this struct was generated from the following files:

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

## 22.24 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](#)

## 22.24.1 Detailed Description

Store the channel distribution.

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

## 22.24.2 Constructor &amp; Destructor Documentation

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

Actor Constructor.

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

## 22.24.3 Member Function Documentation

22.24.3.1 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\(\)](#).

## 22.24.4 Member Data Documentation

22.24.4.1 [YieldRuleStruct](#)& [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#) [inherited]

Actor Context.

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

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

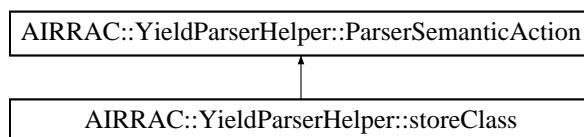
The documentation for this struct was generated from the following files:

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

## 22.25 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](#)

### 22.25.1 Detailed Description

Store the parsed class.

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

### 22.25.2 Constructor & Destructor Documentation

#### 22.25.2.1 AIRRAC::YieldParserHelper::storeClass::storeClass ( [YieldRuleStruct](#) & *ioYieldRule* )

Actor Constructor.

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

### 22.25.3 Member Function Documentation

#### 22.25.3.1 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\(\)](#).

### 22.25.4 Member Data Documentation

#### 22.25.4.1 [YieldRuleStruct](#)& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

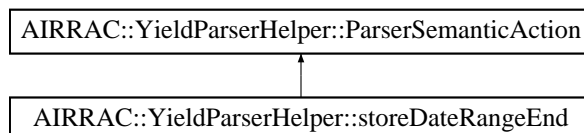
The documentation for this struct was generated from the following files:

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

## 22.26 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](#)

#### 22.26.1 Detailed Description

Store the parsed end of the date range.

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

#### 22.26.2 Constructor & Destructor Documentation

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

Actor Constructor.

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

#### 22.26.3 Member Function Documentation

##### 22.26.3.1 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\(\)](#).

## 22.26.4 Member Data Documentation

## 22.26.4.1 YieldRuleStruct&amp; AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

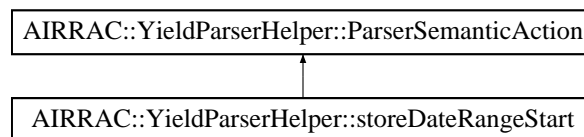
The documentation for this struct was generated from the following files:

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

## 22.27 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](#)

## 22.27.1 Detailed Description

Store the parsed start of the date range.

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

## 22.27.2 Constructor &amp; Destructor Documentation

22.27.2.1 AIRRAC::YieldParserHelper::storeDateRangeStart::storeDateRangeStart ( [YieldRuleStruct](#) & *ioYieldRule* )

Actor Constructor.

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

## 22.27.3 Member Function Documentation

22.27.3.1 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\(\)](#).

## 22.27.4 Member Data Documentation

22.27.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

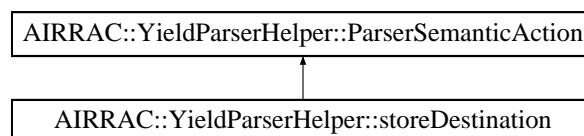
The documentation for this struct was generated from the following files:

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

## 22.28 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](#)

## 22.28.1 Detailed Description

Store the parsed destination.

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

## 22.28.2 Constructor &amp; Destructor Documentation

## 22.28.2.1 AIRRAC::YieldParserHelper::storeDestination::storeDestination ( YieldRuleStruct &amp; ioYieldRule )

Actor Constructor.

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

## 22.28.3 Member Function Documentation

## 22.28.3.1 void AIRRAC::YieldParserHelper::storeDestination::operator() ( std::vector&lt; char &gt; 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\(\)](#).

## 22.28.4 Member Data Documentation

## 22.28.4.1 YieldRuleStruct&amp; AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

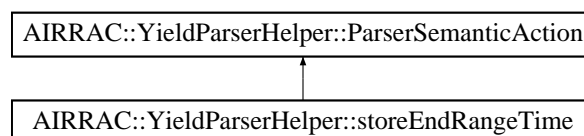
The documentation for this struct was generated from the following files:

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

## 22.29 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](#)

## 22.29.1 Detailed Description

Store the parsed end start range time.

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

## 22.29.2 Constructor &amp; Destructor Documentation

22.29.2.1 AIRRAC::YieldParserHelper::storeEndRangeTime::storeEndRangeTime ( [YieldRuleStruct](#) & *ioYieldRule* )

Actor Constructor.

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

## 22.29.3 Member Function Documentation

22.29.3.1 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\(\)](#).

## 22.29.4 Member Data Documentation

22.29.4.1 [YieldRuleStruct](#)& [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#) [inherited]

Actor Context.

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

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

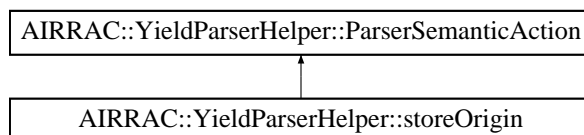
The documentation for this struct was generated from the following files:

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

## 22.30 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](#)

#### 22.30.1 Detailed Description

Store the parsed origin.

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

#### 22.30.2 Constructor & Destructor Documentation

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

Actor Constructor.

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

#### 22.30.3 Member Function Documentation

##### 22.30.3.1 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::set-Origin\(\)](#).

#### 22.30.4 Member Data Documentation

##### 22.30.4.1 [YieldRuleStruct](#)& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

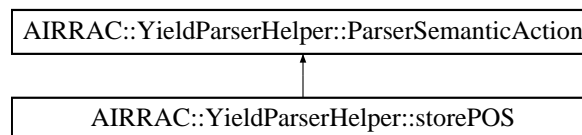
The documentation for this struct was generated from the following files:

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

## 22.31 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](#)

#### 22.31.1 Detailed Description

Store the parsed customer point\_of\_sale.

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

#### 22.31.2 Constructor & Destructor Documentation

##### 22.31.2.1 AIRRAC::YieldParserHelper::storePOS::storePOS ( [YieldRuleStruct](#) & *ioYieldRule* )

Actor Constructor.

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

#### 22.31.3 Member Function Documentation

##### 22.31.3.1 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\(\)](#).

#### 22.31.4 Member Data Documentation

##### 22.31.4.1 YieldRuleStruct& AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

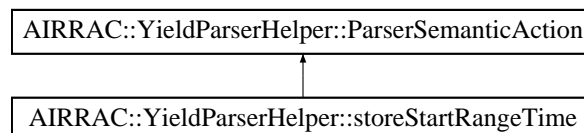
The documentation for this struct was generated from the following files:

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

## 22.32 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](#)

#### 22.32.1 Detailed Description

Store the parsed start range time.

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

## 22.32.2 Constructor &amp; Destructor Documentation

## 22.32.2.1 AIRRAC::YieldParserHelper::storeStartRangeTime::storeStartRangeTime ( YieldRuleStruct &amp; ioYieldRule )

Actor Constructor.

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

## 22.32.3 Member Function Documentation

## 22.32.3.1 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\(\)](#).

## 22.32.4 Member Data Documentation

## 22.32.4.1 YieldRuleStruct&amp; AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

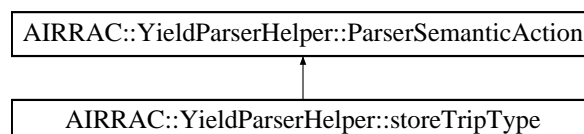
The documentation for this struct was generated from the following files:

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

## 22.33 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](#)

## 22.33.1 Detailed Description

Store the parsed customer trip type.

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

## 22.33.2 Constructor &amp; Destructor Documentation

## 22.33.2.1 AIRRAC::YieldParserHelper::storeTripType::storeTripType ( YieldRuleStruct &amp; ioYieldRule )

Actor Constructor.

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

## 22.33.3 Member Function Documentation

## 22.33.3.1 void AIRRAC::YieldParserHelper::storeTripType::operator() ( std::vector&lt; char &gt; 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::set-TripType\(\)](#).

## 22.33.4 Member Data Documentation

## 22.33.4.1 YieldRuleStruct&amp; AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

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

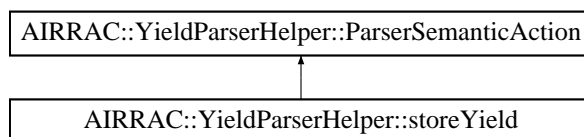
The documentation for this struct was generated from the following files:

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

## 22.34 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](#)

#### 22.34.1 Detailed Description

Store the parsed yield value.

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

#### 22.34.2 Constructor & Destructor Documentation

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

Actor Constructor.

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

#### 22.34.3 Member Function Documentation

##### 22.34.3.1 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\(\)](#).

#### 22.34.4 Member Data Documentation

##### 22.34.4.1 [YieldRuleStruct](#)& [AIRRAC::YieldParserHelper::ParserSemanticAction::\\_yieldRule](#) [inherited]

Actor Context.

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

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

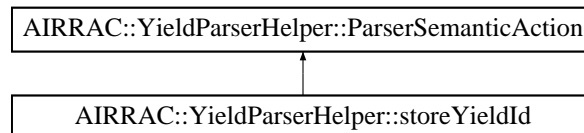
The documentation for this struct was generated from the following files:

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

## 22.35 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](#)

#### 22.35.1 Detailed Description

Store the parsed yield Id.

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

#### 22.35.2 Constructor & Destructor Documentation

##### 22.35.2.1 AIRRAC::YieldParserHelper::storeYieldId::storeYieldId ( [YieldRuleStruct](#) & *ioYieldRule* )

Actor Constructor.

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

#### 22.35.3 Member Function Documentation

##### 22.35.3.1 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\(\)](#).



## 22.35.4 Member Data Documentation

## 22.35.4.1 YieldRuleStruct&amp; AIRRAC::YieldParserHelper::ParserSemanticAction::\_yieldRule [inherited]

Actor Context.

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

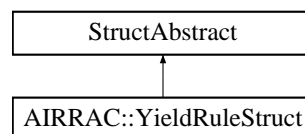
Referenced by [operator\(\)](#), [AIRRAC::YieldParserHelper::storeOrigin::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDestination::operator\(\)](#), [AIRRAC::YieldParserHelper::storeTripType::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeStart::operator\(\)](#), [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)](#),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

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

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

## 22.36 StructAbstract Class Reference

Inheritance diagram for StructAbstract:

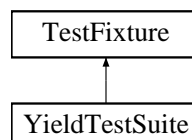


The documentation for this class was generated from the following file:

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

## 22.37 TestFixture Class Reference

Inheritance diagram for TestFixture:



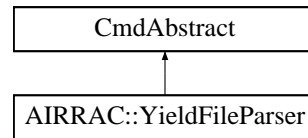
The documentation for this class was generated from the following file:

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

## 22.38 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](#) ()

### 22.38.1 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](#).

### 22.38.2 Constructor & Destructor Documentation

#### 22.38.2.1 AIRRAC::YieldFileParser::YieldFileParser ( stdair::BomRoot & , const stdair::Filename\_T & iYieldInputFilename )

Constructor.

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

### 22.38.3 Member Function Documentation

#### 22.38.3.1 void AIRRAC::YieldFileParser::generateYieldStore ( )

Parse the yield store input file.

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

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

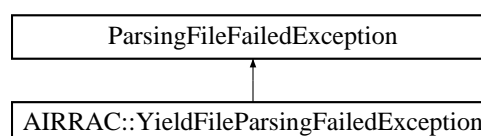
The documentation for this class was generated from the following files:

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

## 22.39 AIRRAC::YieldFileParsingFailedException Class Reference

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

Inheritance diagram for AIRRAC::YieldFileParsingFailedException:



## Public Member Functions

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

## 22.39.1 Detailed Description

Definition at line 68 of file [AIRRAC\\_Types.hpp](#).

## 22.39.2 Constructor &amp; Destructor Documentation

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

Constructor.

Definition at line 71 of file [AIRRAC\\_Types.hpp](#).

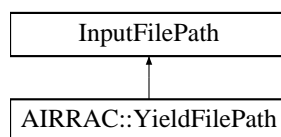
The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.40 AIRRAC::YieldFilePath Class Reference

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

Inheritance diagram for AIRRAC::YieldFilePath:



## Public Member Functions

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

## 22.40.1 Detailed Description

Yield input file.

Definition at line 82 of file [AIRRAC\\_Types.hpp](#).

## 22.40.2 Constructor &amp; Destructor Documentation

22.40.2.1 AIRRAC::YieldFilePath::YieldFilePath ( const stdair::Filename\_T & *iFilename* ) [inline], [explicit]

Constructor.

Definition at line 87 of file [AIRRAC\\_Types.hpp](#).

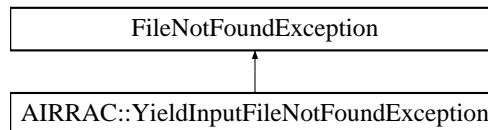
The documentation for this class was generated from the following file:

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.41 AIRRAC::YieldInputFileNotFoundException Class Reference

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

Inheritance diagram for AIRRAC::YieldInputFileNotFoundException:



### Public Member Functions

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

#### 22.41.1 Detailed Description

Definition at line 61 of file [AIRRAC\\_Types.hpp](#).

#### 22.41.2 Constructor & Destructor Documentation

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

Constructor.

Definition at line 64 of file [AIRRAC\\_Types.hpp](#).

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

- [airrac/AIRRAC\\_Types.hpp](#)

## 22.42 AIRRAC::YieldManager Class Reference

Command wrapping the travel request process.

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

### Friends

- class [AIRRAC\\_Service](#)

#### 22.42.1 Detailed Description

Command wrapping the travel request process.

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

#### 22.42.2 Friends And Related Function Documentation

22.42.2.1 `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:

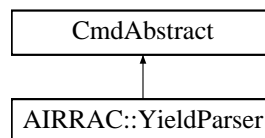
- [airrac/command/YieldManager.hpp](#)
- [airrac/command/YieldManager.cpp](#)

## 22.43 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](#) &)

#### 22.43.1 Detailed Description

Class wrapping the parser entry point.

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

#### 22.43.2 Member Function Documentation

**22.43.2.1** 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

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

Definition at line 16 of file [YieldParser.cpp](#).

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

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

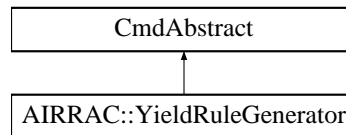
The documentation for this class was generated from the following files:

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

## 22.44 AIRRAC::YieldRuleGenerator Class Reference

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

Inheritance diagram for AIRRAC::YieldRuleGenerator:



### Friends

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

### 22.44.1 Detailed Description

Class handling the generation / instantiation of the Yield BOM.

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

### 22.44.2 Friends And Related Function Documentation

#### 22.44.2.1 friend class YieldFileParser [friend]

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

#### 22.44.2.2 friend struct YieldParserHelper::doEndYield [friend]

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

#### 22.44.2.3 friend class YieldParser [friend]

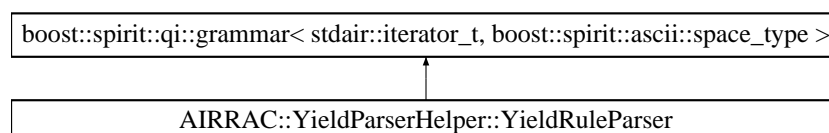
Definition at line 38 of file [YieldRuleGenerator.hpp](#).

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

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

## 22.45 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](#)

### 22.45.1 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](#).

### 22.45.2 Constructor & Destructor Documentation

22.45.2.1 `AIRRAC::YieldParserHelper::YieldRuleParser::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](#).

### 22.45.3 Member Data Documentation

22.45.3.1 `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\(\)](#).

22.45.3.2 `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\(\)](#).

22.45.3.3 `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\(\)](#).



22.45.3.4 `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\(\)](#).

22.45.3.5 `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\(\)](#).

22.45.3.6 `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\(\)](#).

22.45.3.7 `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\(\)](#).

22.45.3.8 `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\(\)](#).

22.45.3.9 `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\(\)](#).

22.45.3.10 `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\(\)](#).

22.45.3.11 `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\(\)](#).

22.45.3.12 `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\(\)](#).

22.45.3.13 `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\(\)](#).

22.45.3.14 `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\(\)](#).

22.45.3.15 `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\(\)](#).

22.45.3.16 `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\(\)](#).

22.45.3.17 `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\(\)](#).

22.45.3.18 `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\(\)](#).

22.45.3.19 `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\(\)](#).

22.45.3.20 `stdair::BomRoot& AIRRAC::YieldParserHelper::YieldRuleParser::_bomRoot`

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

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

22.45.3.21 `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:

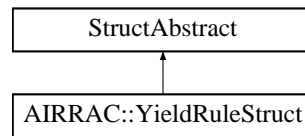
- [airrac/command/YieldParserHelper.cpp](#)

## 22.46 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`

## 22.46.1 Detailed Description

Utility Structure for the parsing of Flight-Date structures.

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

## 22.46.2 Constructor &amp; Destructor Documentation

## 22.46.2.1 AIRRAC::YieldRuleStruct::YieldRuleStruct ( )

Constructor.

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

## 22.46.2.2 AIRRAC::YieldRuleStruct::~YieldRuleStruct ( )

Destructor.

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

## 22.46.3 Member Function Documentation

## 22.46.3.1 AIRRAC::YieldID\_T AIRRAC::YieldRuleStruct::getYieldID ( ) const [inline]

Get the yield ID.

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

## 22.46.3.2 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\(\)\(\)](#).

## 22.46.3.3 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\(\)\(\)](#).

## 22.46.3.4 stdair::TripType\_T AIRRAC::YieldRuleStruct::getTripType ( ) const [inline]

Get the trip type.

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

## 22.46.3.5 stdair::Date\_T AIRRAC::YieldRuleStruct::getDateRangeStart ( ) const [inline]

Get the date range start.

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

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

Get the date range end.

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

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

Get the time range start.

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

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

Get the time range end.

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

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

Get the cabin code.

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

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

Get the point-of-sale.

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

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

Get the channel.

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

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

Get the yield.

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

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

Get the airline code.

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

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

Get the class code.

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

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

Get the size of the airline code list.

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

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

Get the size of the class code list.

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

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

Get the airline code list.

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

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

Get the class code list.

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

22.46.3.19 `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::storeDateRangeStart::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeDateRangeEnd::operator\(\)\(\)](#).

22.46.3.20 `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::storeStartRangeTime::operator\(\)\(\)](#), and [AIRRAC::YieldParserHelper::storeEndRangeTime::operator\(\)\(\)](#).

22.46.3.21 `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\(\)\(\)](#).

22.46.3.22 `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\(\)\(\)](#).

22.46.3.23 `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\(\)\(\)](#).

22.46.3.24 `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\(\)\(\)](#).

22.46.3.25 `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\(\)](#).

22.46.3.26 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\(\)](#).

22.46.3.27 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\(\)](#).

22.46.3.28 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\(\)](#).

22.46.3.29 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\(\)](#).

22.46.3.30 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\(\)](#).

22.46.3.31 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\(\)](#).

22.46.3.32 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\(\)](#).

22.46.3.33 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\(\)](#).

**22.46.3.34** 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::storeYieldId::operator\(\)](#), and [AIRRAC::YieldParserHelper::storeAirlineCode::operator\(\)](#).

**22.46.3.35** 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\(\)](#).

**22.46.3.36** void AIRRAC::YieldRuleStruct::clearAirlineCodeList ( ) [inline]

Empty the airline code list.

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

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

**22.46.3.37** void AIRRAC::YieldRuleStruct::clearClassCodeList ( ) [inline]

Empty the class code list.

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

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

**22.46.3.38** 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\(\)](#).

**22.46.3.39** 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\(\)](#).

## 22.46.4 Member Data Documentation

**22.46.4.1** stdair::year\_t AIRRAC::YieldRuleStruct::\_itYear

Staging Date.

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

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

**22.46.4.2** stdair::month\_t AIRRAC::YieldRuleStruct::\_itMonth

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

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

**22.46.4.3** stdair::day\_t AIRRAC::YieldRuleStruct::\_itDay

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



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

#### 22.46.4.4 `stdair::hour_t` [AIRRAC::YieldRuleStruct::\\_itHours](#)

Staging Time.

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

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

#### 22.46.4.5 `stdair::minute_t` [AIRRAC::YieldRuleStruct::\\_itMinutes](#)

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

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

#### 22.46.4.6 `stdair::second_t` [AIRRAC::YieldRuleStruct::\\_itSeconds](#)

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

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

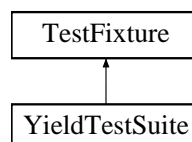
The documentation for this struct was generated from the following files:

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

## 22.47 YieldTestSuite Class Reference

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

Inheritance diagram for YieldTestSuite:



### Public Member Functions

- void [simpleYield](#) ()
- [YieldTestSuite](#) ()

### Protected Attributes

- `std::stringstream` [\\_describeKey](#)

#### 22.47.1 Detailed Description

Utility class for CPPUnit-based testing.

Definition at line 7 of file [YieldTestSuite.hpp](#).

## 22.47.2 Constructor & Destructor Documentation

### 22.47.2.1 YieldTestSuite::YieldTestSuite ( )

Test some error detection functionalities. Constructor.

## 22.47.3 Member Function Documentation

### 22.47.3.1 void YieldTestSuite::simpleYield ( )

Test a simple yield functionality.

## 22.47.4 Member Data Documentation

### 22.47.4.1 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](#)

# 23 File Documentation

## 23.1 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](#)

## 23.2 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     class BomRoot;
00018     struct BasLogParams;
00019     struct BasDBParams;
00020 }
00021
00022 namespace AIRRAC {
00023
00024     class AIRRAC_ServiceContext;
00025
00026     class AIRRAC_Service {
00027     public:
00028         // ////////////////////////////////// Constructors and Destructors //////////////////////////////////
00029
00030         AIRRAC_Service (const stdair::BasLogParams&);
00031
00032         AIRRAC_Service (const stdair::BasLogParams&, const
stdair::BasDBParams&);
00033
00034         AIRRAC_Service (stdair::STDAIR_ServicePtr_T
ioSTDAIR_ServicePtr);
00035
00036         void parseAndLoad (const YieldFilePath&
iYieldFilename);
00037
00038         ~AIRRAC_Service();
00039
00040     public:
00041         // ////////////////////////////////// Business Methods //////////////////////////////////
00042         void calculateYields (stdair::TravelSolutionList_T&);
00043
00044         void updateYields (stdair::BomRoot&);
00045
00046         void buildSampleBom();
00047
00048         void clonePersistentBom();
00049
00050         void buildComplementaryLinks (stdair::BomRoot&);
00051
00052         void buildSampleTravelSolutions (
stdair::TravelSolutionList_T&);
00053
00054     public:
00055         // ////////////////////////////////// Display support methods //////////////////////////////////
00056         std::string csvDisplay() const;
00057
00058         std::string csvDisplay (const stdair::TravelSolutionList_T&
const);
00059
00060     private:
00061         // ////////////////////////////////// Construction and Destruction helper methods //////////////////////////////////
00062         AIRRAC_Service();
00063
00064         AIRRAC_Service (const AIRRAC_Service&);
00065
00066         void initServiceContext();
00067
00068         stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&,
const stdair::BasDBParams&);
00069
00070         stdair::STDAIR_ServicePtr_T initStdAirService (const stdair::BasLogParams&)
;
00071
00072         void addStdAirService (stdair::STDAIR_ServicePtr_T,
const bool iOwnStdairService);
00073
00074         void initAirracService();
00075
00076         void initAirracService (const YieldFilePath& iYieldFilename);
00077
00078         void finalise();
00079
00080     private:
00081         // ////////////////////////////////// Service Context //////////////////////////////////
00082         AIRRAC_ServiceContext* _airracServiceContext;
00083     };
00084 }
00085 #endif // __AIRRAC_SVC_AIRRAC_SERVICE_HPP

```

## 23.3 airrac/AIRRAC\_Types.hpp File Reference

```
#include <vector>
#include <string>
#include <boost/shared_ptr.hpp>
#include <stdair/stdair_exceptions.hpp>
#include <stdair/stdair_file.hpp>
```

### Classes

- class [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](#)

## 23.4 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 // Boost
00011 #include <boost/shared_ptr.hpp>
00012 // StdAir
00013 #include <stdair/stdair_exceptions.hpp>
00014 #include <stdair/stdair_file.hpp>
00015
00016 namespace AIRRAC {
00017
00018     // ////////////////////////////////// Exceptions //////////////////////////////////
00019     class AirportPairNotFoundException : public
stdair::ObjectNotFoundException {
00020     public:
00022         AirportPairNotFoundException (const std::string
& iWhat)
00023             : stdair::ObjectNotFoundException (iWhat) {}
00024     };
00025
00026     class PosOrChannelNotFoundException : public
stdair::ObjectNotFoundException {
00027     public:
00029         PosOrChannelNotFoundException (const
std::string& iWhat)
```

```

00030         : stdair::ObjectNotFoundException (iWhat) {}
00031     };
00032
00033     class FlightDateNotFoundException : public
stdair::ObjectNotFoundException {
00034     public:
00036         FlightDateNotFoundException (const std::string&
iWhat)
00037         : stdair::ObjectNotFoundException (iWhat) {}
00038     };
00039
00040     class FlightTimeNotFoundException : public
stdair::ObjectNotFoundException {
00041     public:
00043         FlightTimeNotFoundException (const std::string&
iWhat)
00044         : stdair::ObjectNotFoundException (iWhat) {}
00045     };
00046
00047     class FeaturesNotFoundException : public
stdair::ObjectNotFoundException {
00048     public:
00050         FeaturesNotFoundException (const std::string&
iWhat)
00051         : stdair::ObjectNotFoundException (iWhat) {}
00052     };
00053
00054     class AirlineNotFoundException : public
stdair::ObjectNotFoundException {
00055     public:
00057         AirlineNotFoundException (const std::string& iWhat)
00058         : stdair::ObjectNotFoundException (iWhat) {}
00059     };
00060
00061     class YieldInputFileNotFoundException : public
stdair::FileNotFoundException {
00062     public:
00064         YieldInputFileNotFoundException (const
std::string& iWhat)
00065         : stdair::FileNotFoundException (iWhat) {}
00066     };
00067
00068     class YieldFileParsingFailedException : public
stdair::ParsingFileFailedException {
00069     public:
00071         YieldFileParsingFailedException (const
std::string& iWhat)
00072         : stdair::ParsingFileFailedException (iWhat) {}
00073     };
00074
00075     class QuotingException : public stdair::RootException {
00076     };
00077
00078     // ////////// Files //////////
00082     class YieldFilePath : public stdair::InputFilePath {
00083     public:
00087         explicit YieldFilePath (const stdair::Filename_T& iFilename)
00088         : stdair::InputFilePath (iFilename) {}
00089     };
00090
00091     // ////////// Type definitions specific to AirRAC //////////
00095     class AIRRAC_Service;
00096     typedef boost::shared_ptr<AIRRAC_Service> AIRRAC_ServicePtr_T
;
00097
00098
00102     typedef unsigned int YieldID_T;
00103 }
00104 #endif // __AIRRAC_AIRRAC_TYPES_HPP
00105

```

## 23.5 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"`

## 23.6 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 }
```

## 23.7 airrac/basic/BasConst\_AIRRAC\_Service.hpp File Reference

```
#include <string>
```

## Namespaces

- namespace `AIRRAC`

## 23.8 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
```

## 23.9 airrac/basic/BasConst\_General.hpp File Reference

## Namespaces

- namespace `AIRRAC`

## 23.10 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
```

## 23.11 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

#### 23.11.1 Typedef Documentation

##### 23.11.1.1 typedef std::vector<std::string> WordList\_T

Definition at line 23 of file [airrac.cpp](#).

#### 23.11.2 Function Documentation

##### 23.11.2.1 const std::string K\_AIRRAC\_DEFAULT\_LOG\_FILENAME ( "airrac.log" )

Default name and location for the log file.

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

23.11.2.2 `const std::string K_AIRAC_DEFAULT_YIELD_INPUT_FILENAME ( STDAIR_SAMPLE_DIR"/yieldstore01.csv" )`

Default name and location for the (CSV) input file.

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

23.11.2.3 `template<class T> std::ostream& operator<< ( std::ostream & os, const std::vector< T> & v )`

Definition at line 43 of file [airrac.cpp](#).

23.11.2.4 `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\\_AIRAC\\_DEFAULT\\_BUILT\\_IN\\_INPUT](#), [K\\_AIRAC\\_DEFAULT\\_LOG\\_FILENAME\(\)](#), [K\\_AIRAC\\_DEFAULT\\_YIELD\\_INPUT\\_FILENAME\(\)](#), [K\\_AIRAC\\_EARLY\\_RETURN\\_STATUS](#), [PACKAGE\\_NAME](#), [PACKAGE\\_VERSION](#), and [PREFIXDIR](#).

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

23.11.2.5 `int main ( int argc, char * argv[] )`

Definition at line 153 of file [airrac.cpp](#).

References [AIRAC::AIRAC\\_Service::buildSampleBom\(\)](#), [AIRAC::AIRAC\\_Service::buildSampleTravelSolutions\(\)](#), [AIRAC::AIRAC\\_Service::csvDisplay\(\)](#), [K\\_AIRAC\\_EARLY\\_RETURN\\_STATUS](#), [AIRAC::AIRAC\\_Service::parseAndLoad\(\)](#), and [readConfiguration\(\)](#).

### 23.11.3 Variable Documentation

23.11.3.1 `const bool K_AIRAC_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\(\)](#).

23.11.3.2 `const int K_AIRAC_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\(\)](#).

## 23.12 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/AIRRAC_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 //////////
00028 const std::string K_AIRAC_DEFAULT_LOG_FILENAME ("
    airrac.log");
00029
00031 const std::string K_AIRAC_DEFAULT_YIELD_INPUT_FILENAME
    (STDAIR_SAMPLE_DIR
00032                                     "/yieldstore01.csv");
00033
00036 const bool K_AIRAC_DEFAULT_BUILT_IN_INPUT =
    false;
00037
00039 const int K_AIRAC_EARLY_RETURN_STATUS = 99;
00040
00041 // ////////// Parsing of Options & Configuration //////////
00042 // A helper function to simplify the main part.
00043 template<class T> std::ostream& operator<< (std::ostream& os,
00044                                     const std::vector<T>& v) {
00045     std::copy (v.begin(), v.end(), std::ostream_iterator<T> (std::cout, " "));
00046     return os;
00047 }
00048
00050 int readConfiguration (int argc, char* argv[], bool&
    ioIsBuiltin,
00051                     stdair::Filename_T& ioYieldInputFilename,
00052                     std::string& ioLogFilename) {
00053
00054     // Default for the built-in input
00055     ioIsBuiltin = K_AIRAC_DEFAULT_BUILT_IN_INPUT;
00056
00057     // Declare a group of options that will be allowed only on command line
00058     boost::program_options::options_description generic ("Generic options");
00059     generic.add_options()
00060         ("prefix", "print installation prefix")
00061         ("version,v", "print version string")
00062         ("help,h", "produce help message");
00063
00064     // Declare a group of options that will be allowed both on command
00065     // line and in config file
00066     boost::program_options::options_description config ("Configuration");
00067     config.add_options()
00068         ("builtin,b",
00069          "The sample BOM tree can be either built-in or parsed from an input file.
00069          That latter must then be given with the -y/--yield option")
00070         ("yield,y",
00071          boost::program_options::value< std::string >(&ioYieldInputFilename)->
00072          default_value(K_AIRAC_DEFAULT_YIELD_INPUT_FILENAME
00073          ),
00074          "(CSV) input file for the yield rules")
00075         ("log,l",
00076          boost::program_options::value< std::string >(&ioLogFilename)->
00077          default_value(K_AIRAC_DEFAULT_LOG_FILENAME),
00078          "Filename for the logs")
00079         ;
00080
00081     // Hidden options, will be allowed both on command line and
00082     // in config file, but will not be shown to the user.
00083     boost::program_options::options_description hidden ("Hidden options");
00084     hidden.add_options()
00085         ("copyright",
00086          boost::program_options::value< std::vector<std::string> >(),
00087          "Show the copyright (license)");
00088
00089     boost::program_options::options_description cmdline_options;
00090     cmdline_options.add(generic).add(config).add(hidden);
00091
00092     boost::program_options::options_description config_file_options;
00093     config_file_options.add(config).add(hidden);
00094
00095     boost::program_options::options_description visible ("Allowed options");
00096     visible.add(generic).add(config);
00097
00098     boost::program_options::positional_options_description p;
00099     p.add ("copyright", -1);
00100
00101     boost::program_options::variables_map vm;
00102     boost::program_options::
00103         store (boost::program_options::command_line_parser (argc, argv).
00104             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
00113         << std::endl;
00114         return K_AIRAC_EARLY_RETURN_STATUS;
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,
00167                             lYieldInputFilename, lLogFilename);
00168
00169     if (lOptionParserStatus == K_AIRAC_EARLY_RETURN_STATUS
00170 ) {
00171         return 0;
00172     }
00173
00174     // Set the log parameters
00175     std::ofstream logOutputFile;
00176     // Open and clean the log outputfile
00177     logOutputFile.open (lLogFilename.c_str());
00178     logOutputFile.clear();
00179
00180     // Initialise the AirRAC service object
00181     const stdair::BasLogParams lLogParams (stdair::LOG::DEBUG, logOutputFile);
00182
00183     AIRRAC::AIRRAC_Service airracService (lLogParams);
00184
00185     // DEBUG
00186     STDAIR_LOG_DEBUG ("Welcome to AirRAC");
00187
00188

```

```

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 }

```

## 23.13 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](#)

## 23.14 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()
00039 const {
00040     _itYear.check(); _itMonth.check(); _itDay.check();
00041     return stdair::Date_T (_itYear._value, _itMonth._value,
00042         _itDay._value);
00043 }
00044 // //////////////////////////////////////
00045 stdair::Duration_T YieldRuleStruct::calculateTime
00046 () const {
00047     _itHours.check(); _itMinutes.check(); _itSeconds
00048     .check();
00049     return boost::posix_time::hours (_itHours._value)
00050         + boost::posix_time::minutes (_itMinutes._value)
00051         + boost::posix_time::seconds (_itSeconds._value);
00052 }
00053 // //////////////////////////////////////
00054 const std::string YieldRuleStruct::describe() const
00055 {
00056     std::ostringstream ostr;
00057     ostr << "YieldRule: " << _yieldId << ", ";
00058
00059     ostr << _origin << "- " << _destination << " ("
00060         << _pos << "), " << _channel << ", [";
00061     ostr << _dateRangeStart << "/" << _dateRangeEnd << "]" << " - ["
00062         << boost::posix_time::to_simple_string (_timeRangeStart) << "/"
00063         << boost::posix_time::to_simple_string (_timeRangeEnd) << "]", ";";
00064
00065     ostr << _cabinCode << ", " << _yield << " EUR, ";
00066
00067     // Sanity check
00068     assert (_airlineCodeList.size() == _classCodeList.size());
00069
00070     // Browse the class-paths
00071     unsigned short idx = 0;
00072     stdair::ClassList_StringList_T::const_iterator itClass =
00073         _classCodeList.begin();
00074     for (stdair::AirlineCodeList_T::const_iterator itAirline =
00075         _airlineCodeList.begin();
00076         itAirline != _airlineCodeList.end(); ++itAirline, ++itClass, ++idx) {
00077         if (idx != 0) {
00078             ostr << " - ";
00079         }
00080         const stdair::AirlineCode_T lAirlineCode = *itAirline;
00081         const stdair::ClassCode_T lClassCode = *itClass;
00082         ostr << lAirlineCode << " / " << lClassCode;
00083     }
00084     return ostr.str();
00085 }

```

## 23.15 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](#)

## 23.16 YieldRuleStruct.hpp

```
00001 #ifndef __AIRRAC_BOM_YIELDRULESTRUCT_HPP
00002 #define __AIRRAC_BOM_YIELDRULESTRUCT_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
00144 iYieldID) {
00145         _yieldId = iYieldID;
00146     }
00148     void setOrigin (const stdair::AirportCode_T& iOrigin) {
00149         _origin = iOrigin;
00150     }
00151
00153     void setDestination (const stdair::AirportCode_T&
00154 iDestination) {
00155         _destination = iDestination;
00156     }
00158     void setTripType (const stdair::TripType_T& iTripType) {
00159         _tripType = iTripType;
00160     }
00161
00163     void setDateRangeStart (const stdair::Date_T&
00164 iDateRangeStart) {
00165         _dateRangeStart = iDateRangeStart;
00166     }
00168     void setDateRangeEnd (const stdair::Date_T& iDateRangeEnd) {
00169         _dateRangeEnd = iDateRangeEnd;
00170     }
00171
00173     void setTimeRangeStart (const stdair::Duration_T&
00174 iTimeRangeStart) {
00175         _timeRangeStart = iTimeRangeStart;

```

```

00175     }
00176
00178     void setTimeRangeEnd (const stdair::Duration_T&
00179 iTimeRangeEnd) {
00179         _timeRangeEnd = iTimeRangeEnd;
00180     }
00181
00183     void setCabinCode (const stdair::CabinCode_T& iCabinCode) {
00184         _cabinCode = iCabinCode;
00185     }
00186
00188     void setPOS (const stdair::CityCode_T& iPOS) {
00189         _pos = iPOS;
00190     }
00191
00193     void setChannel (const stdair::ChannelLabel_T& iChannel) {
00194         _channel = iChannel;
00195     }
00196
00198     void setYield(const stdair::YieldValue_T& iYield) {
00199         _yield = iYield;
00200     }
00201
00203     void setAirlineCode (const stdair::AirlineCode_T&
00204 iAirlineCode) {
00204         _airlineCode = iAirlineCode;
00205     }
00206
00208     void setClassCode (const stdair::ClassCode_T& iClassCode) {
00209         _classCode = iClassCode;
00210     }
00211
00213     void clearAirlineCodeList () {
00214         _airlineCodeList.clear();
00215     }
00216
00218     void clearClassCodeList () {
00219         _classCodeList.clear();
00220     }
00221
00223     void addAirlineCode (const stdair::AirlineCode_T&
00224 iAirlineCode) {
00224         _airlineCodeList.push_back (iAirlineCode);
00225     }
00226
00228     void addClassCode (const stdair::ClassCode_T& iClassCode) {
00229         _classCodeList.push_back (iClassCode);
00230     }
00231
00232 public:
00233     // ////////////////////////////////// Attributes //////////////////////////////////
00235     stdair::year_t _itYear;
00236     stdair::month_t _itMonth;
00237     stdair::day_t _itDay;
00238
00240     //long _itHours;
00241     stdair::hour_t _itHours;
00242     stdair::minute_t _itMinutes;
00243     stdair::second_t _itSeconds;
00244
00245 private:
00246     // ////////////////////////////////// Attributes //////////////////////////////////
00247
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

```

## 23.17 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](#)

## 23.18 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/AIRAC_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 ;
00124     for (stdair::DatePeriodList_T::const_iterator itDatePeriod =
00125         lDatePeriodList.begin();
00126         itDatePeriod != lDatePeriodList.end(); ++itDatePeriod) {
00127         const stdair::DatePeriod* lDatePeriod_ptr = *itDatePeriod;
00128         assert (lDatePeriod_ptr != NULL);
00129
00130         const bool isDepartureDateValid =
00131             lDatePeriod_ptr->isDepartureDateValid (lDate);
00132
00133         if (isDepartureDateValid == true) {
00134             // Retrieve the PoS-Channel.
00135             const stdair::PosChannelKey lPosChannelKey (stdair::DEFAULT_POS,
00136                 stdair::DEFAULT_CHANNEL);
00137             stdair::PosChannel* lPosChannel_ptr = stdair::BomManager::
00138                 getObjectPtr<stdair::PosChannel> (*lDatePeriod_ptr,
00139                     lPosChannelKey.toString());
00140             if (lPosChannel_ptr == NULL) {
00141                 STDAIR_LOG_ERROR ("Cannot find yield corresponding to the PoS-"
00142                     << "Channel: " << lPosChannelKey.toString());
00143                 assert (false);
00144             }
00145
00146             // Retrieve the corresponding time period.
00147             const stdair::TimePeriodList_T& lTimePeriodList = stdair::
00148                 BomManager::getList<stdair::TimePeriod> (*lPosChannel_ptr);
00149             for (stdair::TimePeriodList_T::const_iterator itTimePeriod =
00150                 lTimePeriodList.begin();
00151                 itTimePeriod != lTimePeriodList.end(); ++itTimePeriod) {
00152                 const stdair::TimePeriod* lTimePeriod_ptr = *itTimePeriod;
00153                 assert (lTimePeriod_ptr != NULL);
00154
00155                 const bool isDepartureTimeValid =
00156                     lTimePeriod_ptr->isDepartureTimeValid (lTime);
00157
00158                 if (isDepartureTimeValid == true) {
00159                     updateYields (*lSD_ptr, *lTimePeriod_ptr, lAirlineCode);
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 {
00180     const stdair::SegmentCabin* lSegmentCabin_ptr = *itSC;
00181     assert (lSegmentCabin_ptr != NULL);
00182
00183     const stdair::CabinCode_T& lCabinCode = lSegmentCabin_ptr->getCabinCode()
00184 ;
00185     const stdair::TripType_T lTripType (stdair::TRIP_TYPE_ONE_WAY);
00186     const stdair::YieldFeaturesKey lYieldFeaturesKey (lTripType,
00187         lCabinCode);
00188     const stdair::YieldFeatures* lYieldFeatures_ptr = stdair::BomManager::
00189         getObjectPtr<stdair::YieldFeatures> (iTimePeriod,
00190             lYieldFeaturesKey.toString());
00191     if (lYieldFeatures_ptr == NULL) {
00192         STDAIR_LOG_ERROR ("Cannot find the yield features corresponding to "
00193             << iTimePeriod.describeKey() << ", "
00194             << lCabinCode << " and " << lTripType);
00195         assert (false);
00196     }
00197 }

```

```

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> (*
00222 lYieldFeatures_ptr, lAClistKey.toString());
00223         if (lAirlineClassList_ptr != NULL) {
00224             const stdair::Yield_T& lYield = lAirlineClassList_ptr->getYield();
00225             lBookingClass_ptr->setYield (lYield);
00226
00227             //DEBUG
00228             STDAIR_LOG_DEBUG ("Update yield of " << lYield << " for "
00229                               << iAirlineCode << ", "
00230                               << iSegmentDate.describeKey() << ", "
00231                               << lBookingClass_ptr->describeKey());
00232         }
00233     }
00234 }
00235 }
00236 }

```

## 23.19 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](#)

## 23.20 YieldManager.hpp

```

00001 #ifndef __AIRRAC_CMD_YIELDMANAGER_HPP
00002 #define __AIRRAC_CMD_YIELDMANAGER_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

```

## 23.21 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](#)

## 23.22 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 >
00012 #include <airrac/command/YieldParser.hpp>
00013 namespace AIRRAC {
00014
00015     // //////////////////////////////////////
00016     void YieldParser::generateYieldStore (const
00017         YieldFilePath& iYieldFilename,
00018                                         stdair::BomRoot& ioBomRoot) {
00019
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 }

```

## 23.23 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](#)

## 23.24 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/AIRRAC_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_YELDPARSER_HPP

```

## 23.25 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](#)

## 23.26 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 >
00017 #include <airrac/command/YieldRuleGenerator.hpp>
00018 >
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&
00114 ioYieldRule)
00115 : ParserSemanticAction (ioYieldRule) {
00116 }
00117 // //////////////////////////////////////
00118 void storeDateRangeStart::operator() (
00119 boost::spirit::qi::unused_type,
00120 boost::spirit::qi::unused_type,
00121 boost::spirit::qi::unused_type) const
00122 {
00123     const stdair::Date_T& lDateStart = _yieldRule.calculateDate
00124 ();
00125     _yieldRule.setDateRangeStart (lDateStart);
00126     // DEBUG
00127     //STDAIR_LOG_DEBUG ("Date Range Start: " << _yieldRule.getDateRangeStart
00128 ());
00129 }
00130 // //////////////////////////////////////
00131 storeDateRangeEnd::
00132 storeDateRangeEnd (YieldRuleStruct&
00133 ioYieldRule)
00134 : ParserSemanticAction (ioYieldRule) {
00135 }
00136 // //////////////////////////////////////
00137 void storeDateRangeEnd::operator() (
00138 boost::spirit::qi::unused_type,
00139 boost::spirit::qi::unused_type,
00140 boost::spirit::qi::unused_type) const {
00141     const stdair::Date_T& lDateEnd = _yieldRule.calculateDate
00142 ();
00143     // As a Boost date period (DatePeriod_T) defines the last day of
00144     // the period to be end-date - one day, we have to add one day to that
00145     // end date before.
00146     const stdair::DateOffset_T oneDay (1);
00147     const stdair::Date_T lBoostDateEnd = lDateEnd + oneDay;
00148     _yieldRule.setDateRangeEnd (lBoostDateEnd);
00149     // DEBUG
00150     //STDAIR_LOG_DEBUG ("Date Range End: " << _yieldRule.getDateRangeEnd
00151 ());
00152 }
00153 // //////////////////////////////////////
00154 storeStartRangeTime::
00155 storeStartRangeTime (YieldRuleStruct&
00156 ioYieldRule)
00157 : ParserSemanticAction (ioYieldRule) {
00158 }
00159 // //////////////////////////////////////
00160 void storeStartRangeTime::operator() (
00161 boost::spirit::qi::unused_type,
00162 boost::spirit::qi::unused_type,
00163 boost::spirit::qi::unused_type) const
00164 {
00165     const stdair::Duration_T& lTimeStart = _yieldRule.calculateTime
00166 ();
00167     _yieldRule.setTimeRangeStart (lTimeStart);
00168     // DEBUG
00169     //STDAIR_LOG_DEBUG ("Time Range Start: " << _yieldRule.getTimeRangeStart
00170 ());
00171     // Reset the number of seconds
00172     _yieldRule._itSeconds = 0;
00173 }
00174 // //////////////////////////////////////
00175 storeEndRangeTime::
00176 storeEndRangeTime (YieldRuleStruct&
00177 ioYieldRule)
00178 : ParserSemanticAction (ioYieldRule) {
00179 }
00180 // //////////////////////////////////////
00181 void storeEndRangeTime::operator() (
00182 boost::spirit::qi::unused_type,
00183 boost::spirit::qi::unused_type,
00184 boost::spirit::qi::unused_type) const

```



```

00175                                     boost::spirit::qi::unused_type) const {
00176     const stdair::Duration_T& lTimeEnd = _yieldRule.calculateTime
00177 ();
00178     _yieldRule.setTimeRangeEnd (lTimeEnd);
00179     // DEBUG
00180     //STDAIR_LOG_DEBUG ("Time Range End: " << _yieldRule.getTimeRangeEnd ());
00181     // Reset the number of seconds
00182     _yieldRule._itSeconds = 0;
00183 }
00184 // //////////////////////////////////////
00185 storePOS ::
00186 storePOS (YieldRuleStruct& ioYieldRule)
00187 : ParserSemanticAction (ioYieldRule) {
00188 }
00189 // //////////////////////////////////////
00190 void storePOS::operator() (std::vector<char> iChar,
00191                             boost::spirit::qi::unused_type,
00192                             boost::spirit::qi::unused_type) const {
00193     const stdair::CityCode_T lPOS (iChar.begin(), iChar.end());
00194     if (lPOS == _yieldRule.getOrigin() || lPOS ==
00195         _yieldRule.getDestination() ) {
00196         _yieldRule.setPOS (lPOS);
00197     } else if (lPOS == "ROW") {
00198         const stdair::CityCode_T lPOSROW ("ROW");
00199         _yieldRule.setPOS (lPOSROW);
00200     } else if (lPOS == stdair::DEFAULT_POS) {
00201         _yieldRule.setPOS (stdair::DEFAULT_POS);
00202     } else {
00203         // ERROR
00204         STDAIR_LOG_ERROR ("Invalid point of sale " << lPOS);
00205     }
00206     // DEBUG
00207     //STDAIR_LOG_DEBUG ("POS: " << _yieldRule.getPOS ());
00208 }
00209 // //////////////////////////////////////
00210 storeCabinCode ::
00211 storeCabinCode (YieldRuleStruct&
00212 ioYieldRule)
00213 : ParserSemanticAction (ioYieldRule) {
00214 }
00215 // //////////////////////////////////////
00216 void storeCabinCode::operator() (char iChar,
00217                                 boost::spirit::qi::unused_type,
00218                                 boost::spirit::qi::unused_type) const {
00219     std::ostringstream ostr;
00220     ostr << iChar;
00221     const std::string& cabinCodeStr = ostr.str();
00222     const stdair::CabinCode_T lCabinCode (cabinCodeStr);
00223     _yieldRule.setCabinCode (lCabinCode);
00224     // DEBUG
00225     //STDAIR_LOG_DEBUG ("Cabin Code: " << _yieldRule.getCabinCode ());
00226 }
00227 // //////////////////////////////////////
00228 storeChannel ::
00229 storeChannel (YieldRuleStruct& ioYieldRule)
00230 : ParserSemanticAction (ioYieldRule) {
00231 }
00232 // //////////////////////////////////////
00233 void storeChannel::operator() (std::vector<char>
00234 iChar,
00235                                 boost::spirit::qi::unused_type,
00236                                 boost::spirit::qi::unused_type) const {
00237     const stdair::ChannelLabel_T lChannel (iChar.begin(), iChar.end());
00238     if (lChannel != "IN" && lChannel != "IF" && lChannel != "DN"
00239         && lChannel != "DF" && lChannel != stdair::DEFAULT_CHANNEL) {
00240         // ERROR
00241         STDAIR_LOG_ERROR ("Invalid channel " << lChannel);
00242     }
00243     _yieldRule.setChannel (lChannel);
00244     // DEBUG
00245     //STDAIR_LOG_DEBUG ("Channel: " << _yieldRule.getChannel ());
00246 }
00247 // //////////////////////////////////////
00248 storeYield::
00249 storeYield (YieldRuleStruct& ioYieldRule)
00250 : ParserSemanticAction (ioYieldRule) {
00251 }
00252 }

```

```

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,
YieldRuleStruct& ioYieldRule)
00315 : ParserSemanticAction (ioYieldRule),
_bomRoot (ioBomRoot) {
00316 }
00317
00318 ///////////////////////////////////////////////////////////////////
00320 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 ///////////////////////////////////////////////////////////////////
00337 namespace bsq = boost::spirit::qi;
00338 namespace bsa = boost::spirit::ascii;
00339

```

```

00341     stdair::intl_p_t intl_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
00358     stdair::year_p_t year_p;
00359     stdair::month_p_t month_p;
00360     stdair::day_p_t day_p;
00361
00363     //
00364     // (Boost Spirit) Grammar Definition
00365     //
00367
00387     struct YieldRuleParser :
00388     public boost::spirit::qi::grammar<stdair::iterator_t,
00389                                     boost::spirit::ascii::space_type> {
00390
00391     YieldRuleParser (stdair::BomRoot& ioBomRoot,
00392                     YieldRuleStruct& ioYieldRule) :
00393     YieldRuleParser::base_type(start),
00394     _bomRoot(ioBomRoot), _yieldRule(ioYieldRule) {
00395
00396         start = *(comments | yield_rule);
00397
00398         comments = (bsq::lexeme[bsq::repeat(2) [bsa::char_('/')]
00399                                >> +(bsa::char_ - bsq::eol)
00400                                >> bsq::eol]
00401                    | bsq::lexeme[bsa::char_('/') >>bsa::char_('*')
00402                                >> +(bsa::char_ - bsa::char_('*'))
00403                                >> bsa::char_('*') >> bsa::char_('/')]);
00404
00405         yield_rule = yield_id
00406             >> ';' >> origin >> ';' >> destination
00407             >> ';' >> tripType
00408             >> ';' >> dateRangeStart >> ';' >> dateRangeEnd
00409             >> ';' >> timeRangeStart >> ';' >> timeRangeEnd
00410             >> ';' >> point_of_sale >> ';' >> cabinCode
00411             >> ';' >> channel >> ';' >> yield
00412             >> +( ';' >> segment )
00413             >> yield_rule_end[doEndYield(_bomRoot
00414 , _yieldRule)];
00415
00416         yield_id = uint1_4_p[storeYieldId(
00417 _yieldRule)];
00418         origin = bsq::repeat(3) [bsa::char_("A-Z")] [storeOrigin
00419 (_yieldRule)];
00420         destination =
00421             bsq::repeat(3) [bsa::char_("A-Z")] [storeDestination(
00422 _yieldRule)];
00423         tripType =
00424             bsq::repeat(2) [bsa::char_("A-Z")] [storeTripType(
00425 _yieldRule)];
00426         dateRangeStart = date[storeDateRangeStart
00427 (_yieldRule)];
00428         dateRangeEnd = date[storeDateRangeEnd(
00429 _yieldRule)];
00430         date = bsq::lexeme
00431             [year_p[boost::phoenix::ref(_yieldRule._itYear
00432 ) = bsq::labels::_1]
00433             >> '-'
00434             >> month_p[boost::phoenix::ref(_yieldRule._itMonth
00435 ) = bsq::labels::_1]
00436             >> '-'
00437             >> day_p[boost::phoenix::ref(_yieldRule._itDay)
00438 = bsq::labels::_1] ];
00439         timeRangeStart = time[storeStartRangeTime
00440 (_yieldRule)];
00441         timeRangeEnd = time[storeEndRangeTime(
00442 _yieldRule)];
00443         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         >> bsq::repeat(1,bsq::inf) [bsa::char_("A-Z")] [storeClass (
_yieldRule)];
00458
00459         yield_rule_end = bsa::char_(';');
00460
00461         // BOOST_SPIRIT_DEBUG_NODE (YieldParser);
00462         BOOST_SPIRIT_DEBUG_NODE (start);
00463         BOOST_SPIRIT_DEBUG_NODE (comments);
00464         BOOST_SPIRIT_DEBUG_NODE (yield_rule);
00465         BOOST_SPIRIT_DEBUG_NODE (yield_id);
00466         BOOST_SPIRIT_DEBUG_NODE (origin);
00467         BOOST_SPIRIT_DEBUG_NODE (destination);
00468         BOOST_SPIRIT_DEBUG_NODE (tripType);
00469         BOOST_SPIRIT_DEBUG_NODE (dateRangeStart);
00470         BOOST_SPIRIT_DEBUG_NODE (dateRangeEnd);
00471         BOOST_SPIRIT_DEBUG_NODE (date);
00472         BOOST_SPIRIT_DEBUG_NODE (timeRangeStart);
00473         BOOST_SPIRIT_DEBUG_NODE (timeRangeEnd);
00474         BOOST_SPIRIT_DEBUG_NODE (time);
00475         BOOST_SPIRIT_DEBUG_NODE (point_of_sale);
00476         BOOST_SPIRIT_DEBUG_NODE (cabinCode);
00477         BOOST_SPIRIT_DEBUG_NODE (channel);
00478         BOOST_SPIRIT_DEBUG_NODE (yield);
00479         BOOST_SPIRIT_DEBUG_NODE (segment);
00480         BOOST_SPIRIT_DEBUG_NODE (yield_rule_end);
00481
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,
00488     origin, destination, tripType,
00489     dateRangeStart, dateRangeEnd, date,
00490     timeRangeStart, timeRangeEnd,
00491     time, point_of_sale, cabinCode, channel
00492     , yield, segment,
00493     yield_rule_end;
00494
00495     // Parser Context
00496     stdair::BomRoot& _bomRoot;
00497     YieldRuleStruct& _yieldRule;
00498 };
00499
00500 //
00501 // Entry class for the file parser
00502 //
00503 //
00504 //
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.is_open() == 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 }

```

## 23.27 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

## 23.28 YieldParserHelper.hpp

```

00001 #ifndef __AIRRAC_CMD_YIELDPARSERHELPER_HPP
00002 #define __AIRRAC_CMD_YIELDPARSERHELPER_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&
00033 );
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
00049 {
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
00059 {
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
00069 {
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
00079 {
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
00089 {
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
00099 {
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
00109 {
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
00129 {
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
00139 {
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
00149 {

```

```

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
00159 {
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
00169 {
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
00179 {
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_YIELDPARSERHELPER_HPP

```

## 23.29 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](#)

## 23.30 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
00032     const stdair::AirportPairKey lAirportPairKey (lBoardPoint, lOffPoint);
00033
00034     // Check that the airport-pair object is not already existing. If an
00035     // airport-pair object with the same key has not already been created,
00036     // create it and link it to the ioBomRoot object.
00037     stdair::AirportPair* lAirportPair_ptr = stdair::BomManager::
00038         getObjectPtr<stdair::AirportPair> (ioBomRoot, lAirportPairKey.toString());
00039
00040     if (lAirportPair_ptr == NULL) {
00041         lAirportPair_ptr = &stdair::FacBom<stdair::AirportPair>::
00042             instance().create (lAirportPairKey);
00043         stdair::FacBomManager::addToListAndMap (ioBomRoot, *lAirportPair_ptr);
00044         stdair::FacBomManager::linkWithParent (ioBomRoot, *lAirportPair_ptr);
00045     }
00046     // Sanity check.
00047     assert (lAirportPair_ptr != NULL);
00048
00049     stdair::AirportPair& lAirportPair = *lAirportPair_ptr;
00050     // Generate the date-period object corresponding to the given
00051     // yieldRule.
00052     createDateRange (lAirportPair, iYieldRuleStruct);
00053 }
00054
00055 // //////////////////////////////////////
00056 void YieldRuleGenerator::
00057 createDateRange (stdair::AirportPair& iAirportPair,
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
00143     stdair::TimePeriod* lYieldTimePeriod_ptr = stdair::BomManager::
00144         getObjectPtr<stdair::TimePeriod> (iPosChannel,
00145                                           lYieldTimePeriodKey.toString());
00146     if (lYieldTimePeriod_ptr == NULL) {
00147         lYieldTimePeriod_ptr = &stdair::FacBom<stdair::TimePeriod>::
00148             instance().create (lYieldTimePeriodKey);
00149         stdair::FacBomManager::
00150             addToListAndMap (iPosChannel, *lYieldTimePeriod_ptr);
00151         stdair::FacBomManager::
00152             linkWithParent (iPosChannel, *lYieldTimePeriod_ptr);
00153     }
00154     // Sanity check.
00155     assert (lYieldTimePeriod_ptr != NULL);
00156
00157     stdair::TimePeriod& lTimeRange = *lYieldTimePeriod_ptr;
00158     // Generate the yield-features object corresponding to the given
00159     // yieldRule.
00160     createYieldFeatures (lTimeRange, iYieldRuleStruct);

```

```

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

```

## 23.31 airrac/command/YieldRuleGenerator.hpp File Reference

```

#include <stdair/command/CmdAbstract.hpp>
#include <airrac/AIRAC_Types.hpp>

```

### Classes

- class [AIRAC::YieldRuleGenerator](#)

## Namespaces

- namespace `stdair`  
    *Forward declarations.*
- namespace `AIRAC`
- namespace `AIRAC::YieldParserHelper`

## 23.32 YieldRuleGenerator.hpp

```

00001 #ifndef __AIRAC_CMD_YELDRULEGENERATOR_HPP
00002 #define __AIRAC_CMD_YELDRULEGENERATOR_HPP
00003
00004 // //////////////////////////////////////
00005 // Import section
00006 // //////////////////////////////////////
00007 // StdAir
00008 #include <stdair/command/CmdAbstract.hpp>
00009 // AirRAC
00010 #include <airrac/AIRAC_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 AIRAC {
00024
00025     // Forward declarations
00026     struct YieldRuleStruct;
00027     namespace YieldParserHelper {
00028         struct doEndYield;
00029     }
00030
00031     class YieldRuleGenerator : public stdair::CmdAbstract {
00032     // Only the following class may use methods of YieldGenerator.
00033     // Indeed, as those methods build the BOM, it is not good to expose
00034     // them public.
00035     friend class YieldFileParser;
00036     friend struct YieldParserHelper::doEndYield;
00037     friend class YieldParser;
00038
00039     private:
00040
00041         static void createAirportPair (stdair::BomRoot&,
00042                                         const YieldRuleStruct&);
00043
00044         static void createDateRange (stdair::AirportPair&,
00045                                       const YieldRuleStruct&);
00046
00047         static void createPOSChannel (stdair::DatePeriod&,
00048                                       const YieldRuleStruct&);
00049
00050         static void createTimeRange (stdair::PosChannel&,
00051                                       const YieldRuleStruct&);
00052
00053         static void createYieldFeatures (stdair::TimePeriod&,
00054                                           const YieldRuleStruct&);
00055
00056         static void createAirlineClassList (stdair::YieldFeatures&,
00057                                              const YieldRuleStruct&);
00058
00059     };
00060
00061 }
00062 #endif // __AIRAC_CMD_YELDRULEGENERATOR_HPP

```

## 23.33 airrac/config/airrac-paths.hpp File Reference

## Macros

- #define `PACKAGE` "airrac"

- `#define PACKAGE_NAME "AIRRAC"`
- `#define PACKAGE_VERSION "1.00.0"`
- `#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-1.00.0"`
- `#define MANDIR "/usr/share/man"`
- `#define INFODIR "/usr/share/info"`
- `#define HTMLDIR "/usr/share/doc/airrac-1.00.0/html"`
- `#define PDFDIR "/usr/share/doc/airrac-1.00.0/html"`
- `#define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"`

### 23.33.1 Macro Definition Documentation

#### 23.33.1.1 `#define PACKAGE "airrac"`

Definition at line 4 of file [airrac-paths.hpp](#).

#### 23.33.1.2 `#define PACKAGE_NAME "AIRRAC"`

Definition at line 5 of file [airrac-paths.hpp](#).

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

#### 23.33.1.3 `#define PACKAGE_VERSION "1.00.0"`

Definition at line 6 of file [airrac-paths.hpp](#).

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

#### 23.33.1.4 `#define PREFIXDIR "/usr"`

Definition at line 7 of file [airrac-paths.hpp](#).

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

#### 23.33.1.5 `#define EXEC_PREFIX "/usr"`

Definition at line 8 of file [airrac-paths.hpp](#).

#### 23.33.1.6 `#define BINDIR "/usr/bin"`

Definition at line 9 of file [airrac-paths.hpp](#).

#### 23.33.1.7 `#define LIBDIR "/usr/lib"`

Definition at line 10 of file [airrac-paths.hpp](#).

#### 23.33.1.8 `#define LIBEXECDIR "/usr/libexec"`

Definition at line 11 of file [airrac-paths.hpp](#).

23.33.1.9 `#define SBINDIR "/usr/sbin"`

Definition at line 12 of file [airrac-paths.hpp](#).

23.33.1.10 `#define SYSCONFDIR "/usr/etc"`

Definition at line 13 of file [airrac-paths.hpp](#).

23.33.1.11 `#define INCLUDEDIR "/usr/include"`

Definition at line 14 of file [airrac-paths.hpp](#).

23.33.1.12 `#define DATAROOTDIR "/usr/share"`

Definition at line 15 of file [airrac-paths.hpp](#).

23.33.1.13 `#define DATADIR "/usr/share"`

Definition at line 16 of file [airrac-paths.hpp](#).

23.33.1.14 `#define DOCDIR "/usr/share/doc/airrac-1.00.0"`

Definition at line 17 of file [airrac-paths.hpp](#).

23.33.1.15 `#define MANDIR "/usr/share/man"`

Definition at line 18 of file [airrac-paths.hpp](#).

23.33.1.16 `#define INFODIR "/usr/share/info"`

Definition at line 19 of file [airrac-paths.hpp](#).

23.33.1.17 `#define HTMLDIR "/usr/share/doc/airrac-1.00.0/html"`

Definition at line 20 of file [airrac-paths.hpp](#).

23.33.1.18 `#define PDFDIR "/usr/share/doc/airrac-1.00.0/html"`

Definition at line 21 of file [airrac-paths.hpp](#).

23.33.1.19 `#define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"`

Definition at line 22 of file [airrac-paths.hpp](#).

## 23.34 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 "1.00.0"
00007 #define PREFIXDIR "/usr"
00008 #define EXEC_PREFIX "/usr"
00009 #define BINDIR "/usr/bin"
00010 #define LIBDIR "/usr/lib"
00011 #define LIBEXEC_DIR "/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-1.00.0"
00018 #define MANDIR "/usr/share/man"
00019 #define INFODIR "/usr/share/info"
00020 #define HTMLDIR "/usr/share/doc/airrac-1.00.0/html"
00021 #define PDFDIR "/usr/share/doc/airrac-1.00.0/html"
```

```

00022 #define STDAIR_SAMPLE_DIR "/usr/share/stdair/samples"
00023
00024 #endif // __AIRRAC_PATHS_HPP__

```

## 23.35 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](#)

## 23.36 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     () {
00019         _instance = NULL;
00020     }
00021
00022     // //////////////////////////////////////
00023     FacAirracsServiceContext& FacAirracsServiceContext::instance() {
00024         if (_instance == NULL) {
00025             _instance = new FacAirracsServiceContext();
00026             assert (_instance != NULL);
00027
00028             stdair::FacSupervisor::instance().
00029             registerServiceFactory (_instance);
00030             return *_instance;
00031         }
00032
00033         // //////////////////////////////////////
00034         AIRRAC_ServiceContext& FacAirracsServiceContext::create
00035         () {
00036             AIRRAC_ServiceContext* aServiceContext_ptr = NULL;
00037
00038             aServiceContext_ptr = new AIRRAC_ServiceContext();
00039             assert (aServiceContext_ptr != NULL);
00040
00041             // The new object is added to the Bom pool
00042             _pool.push_back (aServiceContext_ptr);
00043             return *aServiceContext_ptr;
00044         }
00045     }
00046 }

```

## 23.37 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](#)

## 23.38 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 FacAirracsServiceContext : public
stdair::FacServiceAbstract {
00022     public:
00023
00030         static FacAirracsServiceContext& instance();
00031
00038         ~FacAirracsServiceContext();
00039
00047         AIRRAC_ServiceContext& create();
00048
00049
00050     protected:
00056         FacAirracsServiceContext() {}
00057
00058
00059     private:
00063         static FacAirracsServiceContext* _instance;
00064     };
00065
00066 }
00067 #endif // __AIRRAC_FAC_FACAIRRACSERVICECONTEXT_HPP
```



**23.39 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](#)

**23.40 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().
00109         create();
00110     _airracServiceContext = &lAIRRAC_ServiceContext;
00111 }
00112
00113 // //////////////////////////////////////
00114 stdair::STDAIR_ServicePtr_T AIRRAC_Service::
00115 initStdAirService (const stdair::BasLogParams& iLogParams,
00116                   const stdair::BasDBParams& iDBParams) {
00117
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 stdair::STDAIR_ServicePtr_T AIRRAC_Service::
00132 initStdAirService (const stdair::BasLogParams& iLogParams) {
00133
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 AirRAC service context
00173         if (_airracServiceContext == NULL) {
00174             throw stdair::NonInitialisedServiceException ("The AirRAC service has not
00175
00176                                     " been initialised");
00177         }
00178         assert (_airracServiceContext != NULL);
00179
00180         // Retrieve the AirRAC service context and whether it owns the Stdair
00181         // service
00182         AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *
00183         _airracServiceContext;
00184         const bool doesOwnStdairService =
00185         lAIRRAC_ServiceContext.getOwnStdairServiceFlag();
00186
00187         // Retrieve the StdAir service object from the (AirRAC) service context
00188         stdair::STDAIR_Service& lSTDAIR_Service =
00189         lAIRRAC_ServiceContext.getSTDAIR_Service();
00190
00191         // Retrieve the BOM root object.
00192         stdair::BomRoot& lPersistentBomRoot =
00193         lSTDAIR_Service.getPersistentBomRoot();
00194
00195         YieldParser::generateYieldStore (
00196         iYieldFilename, lPersistentBomRoot);
00197
00198         buildComplementaryLinks (lPersistentBomRoot);
00199
00200         if (doesOwnStdairService == true) {
00201             //
00202             clonePersistentBom ();
00203         }
00204     }
00205
00206     // //////////////////////////////////////
00207     void AIRRAC_Service::buildSampleBom() {
00208
00209         // Retrieve the AirRAC service context
00210         if (_airracServiceContext == NULL) {
00211             throw stdair::NonInitialisedServiceException ("The AirRAC service has not
00212
00213                                     " been initialised");
00214         }
00215         assert (_airracServiceContext != NULL);
00216
00217         // Retrieve the AirRAC service context and whether it owns the Stdair
00218         // service
00219         AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *
00220         _airracServiceContext;
00221         const bool doesOwnStdairService =
00222         lAIRRAC_ServiceContext.getOwnStdairServiceFlag();
00223
00224         // Retrieve the StdAir service object from the (AirRAC) service context
00225         stdair::STDAIR_Service& lSTDAIR_Service =
00226         lAIRRAC_ServiceContext.getSTDAIR_Service();
00227
00228         // Retrieve the persistent BOM root object.
00229         stdair::BomRoot& lPersistentBomRoot =
00230         lSTDAIR_Service.getPersistentBomRoot();
00231
00232         if (doesOwnStdairService == true) {
00233             //
00234             lSTDAIR_Service.buildSampleBom();
00235         }
00236     }

```

```

00254
00267     buildComplementaryLinks (lPersistentBomRoot);
00268
00273     if (doesOwnStdairService == true) {
00274         //
00275         clonePersistentBom ();
00276     }
00277 }
00278
00279 // //////////////////////////////////////
00280 void AIRRAC_Service::clonePersistentBom ()
00281 {
00282     // Retrieve the AirRAC service context
00283     if (_airracServiceContext == NULL) {
00284         throw stdair::NonInitialisedServiceException ("The AirRAC service has not
00285 "
00286 " been initialised");
00287     }
00288     assert (_airracServiceContext != NULL);
00289     // Retrieve the AirRAC service context and whether it owns the Stdair
00290     // service
00291     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *
00292 _airracServiceContext;
00293     const bool doesOwnStdairService =
00294     lAIRRAC_ServiceContext.getOwnStdairServiceFlag();
00295
00296     // Retrieve the StdAir service object from the (AirRAC) service context
00297     stdair::STDAIR_Service& lSTDAIR_Service =
00298     lAIRRAC_ServiceContext.getSTDAIR_Service();
00299
00300     if (doesOwnStdairService == true) {
00301         //
00302         lSTDAIR_Service.clonePersistentBom ();
00303     }
00304
00305     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00306     buildComplementaryLinks (lBomRoot);
00307 }
00308
00309 // //////////////////////////////////////
00310 void AIRRAC_Service::buildComplementaryLinks
00311 (stdair::BomRoot& ioBomRoot) {
00312     // Currently, no more things to do by AirRAC at that stage.
00313 }
00314
00315 // //////////////////////////////////////
00316 void AIRRAC_Service::
00317 buildSampleTravelSolutions(
00318 stdair::TravelSolutionList_T& ioTravelSolutionList){
00319
00320     // Retrieve the AIRRAC service context
00321     if (_airracServiceContext == NULL) {
00322         throw stdair::NonInitialisedServiceException ("The AirRAC service has not
00323 "
00324 " been initialised");
00325     }
00326     assert (_airracServiceContext != NULL);
00327     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *
00328 _airracServiceContext;
00329
00330     // Retrieve the STDAIR service object from the (AirRAC) service context
00331     stdair::STDAIR_Service& lSTDAIR_Service =
00332     lAIRRAC_ServiceContext.getSTDAIR_Service();
00333
00334     // Delegate the BOM building to the dedicated service
00335     lSTDAIR_Service.buildSampleTravelSolutions (ioTravelSolutionList);
00336 }
00337
00338 // //////////////////////////////////////
00339 std::string AIRRAC_Service::csvDisplay() const {
00340
00341     // Retrieve the AIRRAC service context
00342     if (_airracServiceContext == NULL) {
00343         throw stdair::NonInitialisedServiceException ("The Airrac service "
00344 "has not been initialised")
00345 ;
00346     }
00347     assert (_airracServiceContext != NULL);
00348     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *
00349 _airracServiceContext;
00350
00351     // Retrieve the STDAIR service object from the (Airrac) service context

```

```

00364     stdair::STDAIR_Service& lSTDAIR_Service =
00365         lAIRRAC_ServiceContext.getSTDAIR_Service();
00366
00367     // Get the root of the BOM tree, on which all of the other BOM objects
00368     // are attached
00369     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00370
00371     // Delegate the BOM display to the dedicated service
00372     std::ostream oCSVStr;
00373     stdair::BomDisplay::csvSimFQTAirRACDisplay (oCSVStr, lBomRoot);
00374     return oCSVStr.str();
00375 }
00376
00377 // //////////////////////////////////////
00378 std::string AIRRAC_Service::
00379 csvDisplay (const stdair::TravelSolutionList_T&
00380 ioTravelSolutionList) const {
00381
00382     // Retrieve the AirRAC service context
00383     if (_airracServiceContext == NULL) {
00384         throw stdair::NonInitialisedServiceException ("The AirRAC service has not
00385
00386
00387         " been initialised");
00388     }
00389     assert (_airracServiceContext != NULL);
00390
00391     // Retrieve the AirRAC service context
00392     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *
00393         _airracServiceContext;
00394
00395     // Retrieve the STDAIR service object from the (AirRAC) service context
00396     stdair::STDAIR_Service& lSTDAIR_Service =
00397         lAIRRAC_ServiceContext.getSTDAIR_Service();
00398
00399     // Delegate the BOM building to the dedicated service
00400     return lSTDAIR_Service.csvDisplay (ioTravelSolutionList);
00401 }
00402
00403 // //////////////////////////////////////
00404 void AIRRAC_Service::
00405 calculateYields (stdair::TravelSolutionList_T&
00406 ioTravelSolutionList) {
00407
00408     // Retrieve the Airrac service context
00409     if (_airracServiceContext == NULL) {
00410         throw stdair::NonInitialisedServiceException ("The AirRAC service has not
00411
00412
00413         " been initialised");
00414     }
00415     assert (_airracServiceContext != NULL);
00416
00417     // Retrieve the Airrac service context
00418     AIRRAC_ServiceContext& lAIRRAC_ServiceContext = *
00419         _airracServiceContext;
00420
00421     // Retrieve the StdAir service context
00422     stdair::STDAIR_Service& lSTDAIR_Service =
00423         lAIRRAC_ServiceContext.getSTDAIR_Service();
00424
00425     // Get the root of the BOM tree, on which all of the other BOM objects
00426     // will be attached
00427     stdair::BomRoot& lBomRoot = lSTDAIR_Service.getBomRoot();
00428
00429     // Delegate the booking to the dedicated command: set the yields
00430     // for each travel solution of the given list
00431     stdair::BasChronometer lYieldChronometer;
00432     lYieldChronometer.start();
00433     YieldManager::calculateYield (ioTravelSolutionList, lBomRoot);
00434     const double lYieldMeasure = lYieldChronometer.elapsed();
00435
00436     // DEBUG
00437     STDAIR_LOG_DEBUG ("Yield calculation: " << lYieldMeasure << " - "
00438         << lAIRRAC_ServiceContext.display());
00439 }
00440
00441 // //////////////////////////////////////
00442 void AIRRAC_Service::updateYields (
00443     stdair::BomRoot& ioBomRoot) {
00444     // Retrieve the AirRAC service context
00445     assert (_airracServiceContext != NULL);
00446
00447     // Update the default yields to the booking classes.
00448     YieldManager::updateYields (ioBomRoot);
00449 }
00450 }

```

## 23.41 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](#)

## 23.42 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 // //////////////////////////////////////
00043 const std::string AIRRAC_ServiceContext::describe() const {
00044     return shortDisplay();
00045 }
00046
00047 // //////////////////////////////////////
00048 void AIRRAC_ServiceContext::reset() {
00049     // The shared_ptr<>::reset() method drops the refcount by one.
00050     // If the count result is dropping to zero, the resource pointed to
00051     // by the shared_ptr<> will be freed.
00052
00053     // Reset the stdair shared pointer
00054     _stdairService.reset();
00055 }
00056
00057 }
```

## 23.43 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](#)

## 23.44 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     private:
00059         // ////////// 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     private:
00071         // ////////// Display Methods //////////
00072
```

```

00076     const std::string shortDisplay() const;
00077
00081     const std::string display() const;
00082
00086     const std::string describe() const;
00087
00088
00088 private:
00089     // ////////// 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

```

## 23.45 doc/local/authors.doc File Reference

## 23.46 doc/local/codingrules.doc File Reference

## 23.47 doc/local/copyright.doc File Reference

## 23.48 doc/local/documentation.doc File Reference

## 23.49 doc/local/features.doc File Reference

## 23.50 doc/local/help\_wanted.doc File Reference

## 23.51 doc/local/howto\_release.doc File Reference

## 23.52 doc/local/index.doc File Reference

## 23.53 doc/local/installation.doc File Reference

## 23.54 doc/local/linking.doc File Reference

## 23.55 doc/local/test.doc File Reference

## 23.56 doc/local/users\_guide.doc File Reference

## 23.57 doc/local/verification.doc File Reference

## 23.58 doc/tutorial/tutorial.doc File Reference

## 23.59 test/airrac/YieldTestSuite.cpp File Reference

## 23.60 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
00038         (boost_utf::log_successful_tests);
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 << "FQTestSuite_" << 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::AIRAC_Service airracService (lLogParams);
00067
00068     // Build a sample list of travel solutions
00069     stdair::TravelSolutionList_T lTravelSolutionList;
00070     airracService.buildSampleTravelSolutions (lTravelSolutionList);
00071
00072     // Check whether or not a (CSV) input file should be read
00073     if (isBuiltin == true) {
00074
00075         // Build the default sample BOM tree (filled with yields) for AirRAC
00076         airracService.buildSampleBom();
00077
00078     } else {
00079
00080         // Build the BOM tree from parsing the yield input file
00081         AIRRAC::YieldFilePath lYieldFilePath (
00082             iYieldInputFilename);
00083         airracService.parseAndLoad (lYieldFilePath);
00084     }
00085
00086     // Calculate the yields for the given travel solution
00087     airracService.calculateYields (lTravelSolutionList);
00088
00089     // Close the log file
00090     logOutputFile.close();
00091 }
00092
00093
00094
00095
00096
00097
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 (UnitTestFixture);
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
00115         "/yieldstore01.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,
00122         isBuiltin));
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
00129         "/yieldstoreError01.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
00140 BOOST_AUTO_TEST_CASE (airrac_error_missing_input_file) {
00141
00142     // Input file name
00143     const stdair::Filename_T lYieldInputFilename (STDAIR_SAMPLE_DIR
00144         "/missingFile.csv");
00145
00146     // State whether the BOM tree should be built-in or parsed from an input file
00147     const bool isBuiltin = false;
00148
00149     // Try to yield quote the sample default list of travel solutions
00150     BOOST_CHECK_THROW (testYieldQuoterHelper (2, lYieldInputFilename, isBuiltin),
00151         AIRRAC::YieldInputFileNotFoundException
00152     );
00153 }
00154
00155 BOOST_AUTO_TEST_CASE (airrac_simple_yield_built_in) {
00156
00157     // State whether the BOM tree should be built-in or parsed from an input file
00158     const bool isBuiltin = true;
00159
00160     // Try to yield quote the sample default list of travel solutions
00161     BOOST_CHECK_NO_THROW (testYieldQuoterHelper (3, " ", isBuiltin));
00162 }
00163
00164 // End the test suite
00165 BOOST_AUTO_TEST_SUITE_END()
00166
00167
00168

```

## 23.61 test/airrac/YieldTestSuite.hpp File Reference

```

#include <iosfwd>
#include <cppunit/extensions/HelperMacros.h>

```

### Classes

- class [YieldTestSuite](#)

## Functions

- [CPPUNIT\\_TEST\\_SUITE\\_REGISTRATION \(YieldTestSuite\)](#)

### 23.61.1 Function Documentation

#### 23.61.1.1 CPPUNIT\_TEST\_SUITE\_REGISTRATION ( YieldTestSuite )

## 23.62 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
    );
```