retain
Resource Planning System

Retain Wallchart Technical Implementation Guide

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1.1   Introduction

Retain Wallchart Technical Implementation Guide

Corporate Edition

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1.2   About Retain

Retain Wallchart is a flexible planning tool for viewing and managing staff and job allocations through a user friendly graphical interface. It has been designed to resemble the manual 'wallchart' booking system but it is much more versatile than any manual booking system:
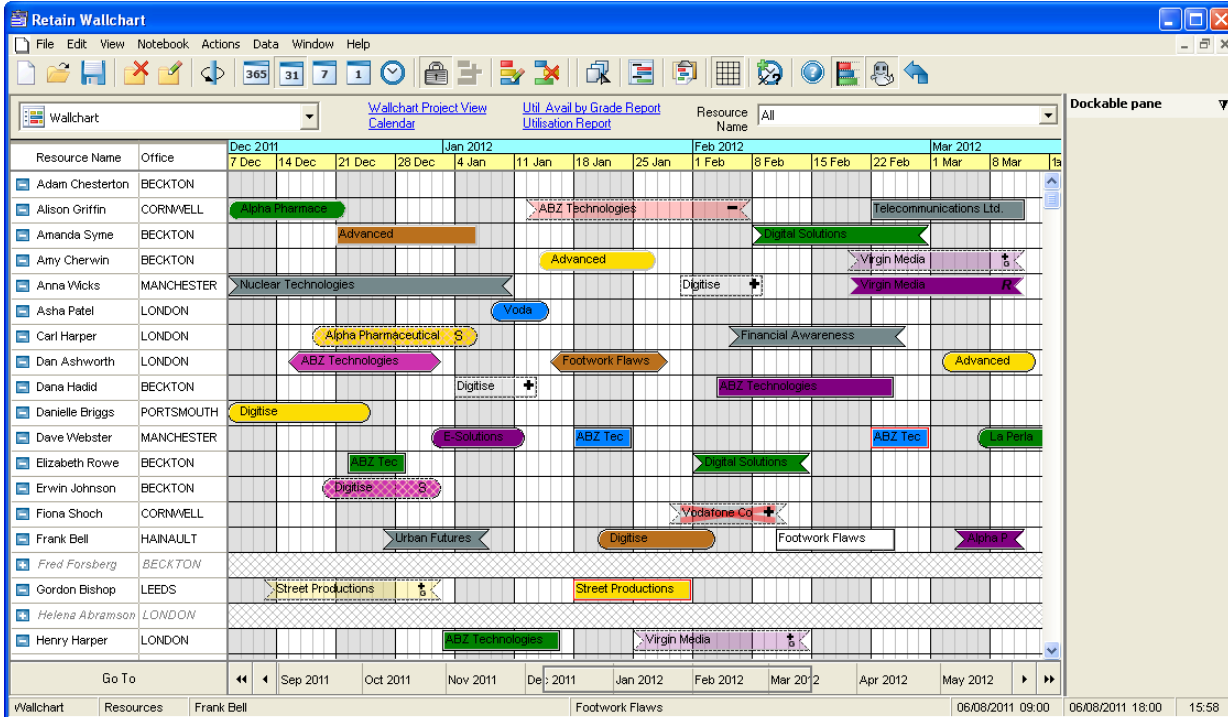
Retain Wallchart provides a wide range of functionality relating to resource planning. See Retain Wallchart User Guide for more information.

In a typical client/server setup, the database software runs on the server computer and a program that can access the database runs on client computers. Retain Wallchart uses an extra server component, specifically written for Retain, called Retain Server. All the client applications talk to Retain Server which in turn interacts with the database software. This architecture allows the client software to be fully independent from the database and requires minimal setup on the client computer.

The client program, called the front-end (Retain Wallchart), allows users to access information stored within the database through an easy to use Windows-style interface. The database server, called the back-end, handles the database side of the application. Retain Server is located between these two, acting as interpreter and adding additional functionality to the database system. The front-end program requests services of the back-end by querying Retain Server. These queries are then passed to the back-end in the form of SQL statements. The back-end processes SQL statements and returns the results to the front-end program, again via Retain Server. The use of a client/server back-end enables larger scale databases plus access over a wide area network or dial-up.

Retain Wallchart looks similar and operates similarly to other editions of Retain. However, there are additional client programs that provide further functionality (such as Booking Requests and Enterprise Reports) that can be setup on selected client machines after Retain Server is installed.

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1.3 About this guide

This document is a technical guide to assist people who are implementing Retain in their organisation. The guidelines provided here should be followed together with your organisation's specific user guides for installing, configuring and distributing the software.

The guide assumes that your organisation has the necessary technical resources to support your database platform, therefore it only addresses those areas of each platform that are relevant to setting up Retain Wallchart and Retain Server.

The term Retain refers to the whole Retain Resource Planning System which includes the client applications (Retain Wallchart, Retain Security) and the server application (Retain Server).

Note that this implementation guide is not intended for the end-users of Retain Wallchart. For information on how to use the software please refer to Retain Wallchart User Guide.

1.4 Where to get support

If you have any issues with Retain which you are unable to resolve using this user guide or through your local support contacts, please contact your Support Service Provider.

2   Installing Retain

2.1   Installation overview

Before installing Retain, you should ensure that your system has sufficient processor speed, disk space and RAM to run this application.

Detailed system requirements for the database platform, server machine and client machines are outlined in the following sections:

Database platform requirements

Server machine requirements

Client machine requirements

If your client operating system is an earlier version than Windows 2000 (e.g. Windows 95), you need to ensure that the TCP/IP network drivers are set up. Your network administrator should be able to do this.

Retain installation can be divided into the following stages:

- Install Retain software by running the *RetainCorporate5Setup.exe* which is available from your vendor. from the 'Wallchart' folder. Follow the on-screen instructions to complete the installation.

  If installing Retain for the first time, select the 'Server and Client Setup' option as the installation type. To set up the client application on each additional machine, select the 'Client only Setup'.

- Create an empty database or convert an existing one. Populate it with one of the provided scripts (Oracle or SQL) to create the required tables.

Note that if you are using an Oracle database, the Oracle client files will have to be installed on the machine hosting Retain Server.

- Configure Retain Server to ensure it can connect to the database. Configure the *SvrCnfg.ini* file, found in the 'Server' sub-folder.

- Run Retain Server by going to 'Start-> Programs-> RetainEnterprise_v5-> Retain Server'.

- Run Retain Wallchart by going to 'Start-> Programs-> RetainEnterprise_v5-> Retain'.

- Once you have established a connection between your test client and your database, use the Retain Security Manager application to configure your security settings such as access roles, colour schemes, charge rates and so on. See the Initial set-up after installation section as well as Retain Security Manager User Guide for more information.

- Distribute the client application to all client machines.

For a list of all Retain components that come with your installation see the Retain components section.

The installation process will set up:

- Retain database on your database platform,

- Retain Server on your chosen server machine, and

- client software on client machines

Related Topics:

Setting up a database for Retain
Installing Retain Client software

2.2 Installation files

Whether you have downloaded Retain installation files from Retain's website or have been provided with an installation CD, you will find *RetainCorporate5Setup.exe* and other setup executables in the install.

You may also find a licence file (licence.ein) in the install. Alternatively, it will be provided separately if you already have a trial or demo version of Retain.

Before installing Retain, you should put the licence file in the same folder as *RetainCorporate5Setup.exe*, so that the setup can detect which components to install.

Note that if it is a trial or demo version you are installing, you would not need a separate licence file.

To install Retain you need to copy *RetainCorporate5Setup.exe*, the setup executables of appropriate component(s) and possibly the licence file to a local temporary location. Once you have done that, run the *RetainCorporate5Setup.exe* which will start the installation on your destination machine.

2.3 Setting up a database for Retain

Database overview

All Retain data is stored in a database. All Retain applications connect to the database via Retain Server. The supported database platforms are Oracle 8i, 9i and 10g; Microsoft SQL Server 2005 with full text indexing. See the Database platform requirements section for more information.

To set up a Retain database, an empty database needs to be created, after which it must be populated by running the scripts provided in the installation to create the default Retain tables.

The procedure of creating the database for Oracle is different from that for Microsoft SQL Server but the table structure is the same for both. To tailor the table structure to suit your organisation's needs, see the Database customisation chapter to find out what modifications you can perform on Retain database tables.

Database platform requirements

Retain supports various database platforms. The installation varies depending on which database platform you use.

Supported database platforms:

- Microsoft SQL Server 2005

- Oracle 8i, 9i, 10g

Hardware/Software platforms supported by the above database platforms:

Microsoft SQL Server supports Windows Server 2003 and Windows Server 2008.

Oracle supports most of the known platforms including Windows-based platforms, Linux Intel, Sun Solaris and so on.

The hardware specification for the database will vary depending on the expected number of users and the level of concurrency.

The notes below provide some approximate guidance but you should consult Retain for the most appropriate hardware specification for your organisation.

Database disk space:

Allow for 500 MB per 1,000 staff being planned.

Typical Intel specification for a database server machine for supporting 1,000 staff:

> 2 GB free disk space
> 2 GB RAM
> 2.4GHz Xeon processor

Typical Intel specification for a database server machine for supporting 10,000 staff:

> 10 GB free disk space
> 4 GB RAM
> Quad 2.4GHz Xeon processors

Microsoft SQL Server 2005 setup

To create a database in Microsoft SQL Server the following steps are required:

1. Microsoft SQL Server and SQL Server FullText Search should be installed and running as a service.

2. Run Microsoft SQL Server Management Studio and connect to the SQL Server machine which will be hosting the Retain database.

3. Right-click on Databases and select 'New Database...' from the context menu. In the 'New database' dialog, we recommend entering 'Retain' as the database name (if it is the first Retain database setup). Ensure you tick the 'Use full-text indexing' checkbox and click on 'OK' to create the database.

4. Set up access rights for the Retain Server.

   The Retain Server will normally be run under a user account which requires access to the Retain database. You can either choose to use SQL Server security which requires a separate user name and password (the SQL Server instance needs to be configured with mixed mode security), or integrated security where the relevant Windows user account is given access to the database.

   - Expand 'Security' (below 'Databases'), right-click on 'Logins' and select 'New Login...' to add a new user. In the 'New Login' dialog you can either choose to use *Windows integrated security* (so that you will log into SQL Server using your Windows login) or *SQL Server Authentication* (which allows you to set up a separate username and password for your database).

     - When using integrated security, tick the 'Windows authentication' checkbox and find the relevant user by clicking on the 'Search' button.

     - When using SQL Server Authentication, tick the 'SQL Server authentication' checkbox and enter the appropriate log in name in the 'Login name' box. Enter your chosen password in the 'Password' box.

     Note: The password you enter here is the same one you should use for the connection string described in the *SvrCnfg.ini* section. However, the password will appear to be longer due to encryption. Some versions of Microsoft Windows do not support security mechanisms such as password expiry, therefore if you get an error message about this, uncheck the 'Enforce password policy' checkbox.

   - Set the created Retain database as the 'Default database' for this login, and select '<default>' as

the 'Default language'.

- No entries are required in the 'Server Roles' section.

- In the 'User Mapping' section, select the Retain database and tick 'db_owner' checkbox to set the user as the Database Owner.

5. Run Command Prompt (cmd) and navigate to the 'DatabaseScripts-> SQLServer' folder. Run the SetupSQL.bat with the following syntax:

   SetupSQL <Sql server name> <database name> <Login id> <Password>

   For example: SetupSQL MyServer Retain sa mypassword

   Alternatively, each script can be run in the SQL Server query window against the Retain database in the following order:

   1. RWPBaseModelSQL.SQL
   2. RWPAdditionalFunctionsSQL.SQL
   3. RWPAddsSQL.SQL
   4. SoundexFNSQL.SQL
   5. PopRSESQL.SQL
   6. PrepErrsSQL.SQL
   7. PopErrsSQL.SQL
   8. InstallFTSSQL.SQL

   Note: In the SetupLog.txt file you may see a warning message related to the 'AVB' table. This is a default SQL Server warning message and can be ignored. Check the 'Log' folder for errors.

   6. Configure the Retain Server to connect to the database. After successfully running the Retain Server, you will need to stop the Retain Server and run UpdateSQL.bat from the Command Prompt:

   UpdateSQL <Sql server name> <database name> <Login id> <Password>

   For example: UpdateSQL MyServer Retain sa mypassword

   Alternatively, you can run the RecurringSQL.sql script against the Retain database from the 'DatabaseScripts-> SQLServer-> RecurringScripts' folder. Either the UpdateSQL.bat or RecurringSQL.sql script should be configured to run on a nightly basis. This script populates tables to improve reporting performance.

You can customise the database tables, if necessary. See the Database customisation chapter for more information.

Oracle setup

To create a database in Oracle you will need at least 500 MB of disk space. Because the interfaces of the Oracle platform vary among organisations, only basic instructions for creating a new Oracle database for Retain are provided below:

1. In Oracle Enterprise Manager Console create a new Oracle user for Retain to connect to.

2. Run the following database script (found in the 'DatabaseScripts-> Oracle' folder) against the empty database schema to create the Retain table structures:

   SetupORA.sql

   Alternatively, you can run the scripts from the 'DatabaseScripts-> Oracle-> Setup' folder in the following order:

   1. RWPBaseModelORA.SQL
   2. RWPAdditionalFunctionsORA.SQL

3. RWPAddsORA.SQL
4. SoundexFNORA.SQL
5. PopRSEORA.SQL
6. PrepErrsORA.SQL
7. PopErrsORA.SQL

Check the 'Log' folder for any errors.

3. Configure the Retain Server to connect to the schema. After successfully running the Retain Server, you will need to stop the Retain Server and run UpdateORA.sql script against the schema from the 'DatabaseScripts-> Oracle' folder. The UpdateORA.sql script should be configured to run on a nightly basis. This script populates tables to improve reporting performance.

Case Insensitive Sort Order for Oracle

By default Oracle uses case sensitive sorts which does not result in intuitive results. This can be changed by using a French or German sort order. In addition, a trigger can be used to ensure that all users are operating with this sort order.

An example procedure for this purpose would be:

```
create or replace trigger CaseInsensitiveSort
after logon on Retain.schema
declare
begin
execute immediate
'alter session set NLS_SORT = French ';
end;
```

Database customisation

Database customisation overview

The Retain database is flexible for storing customised data and easy to maintain.

The following section describes how to customise a database for your data. Tailor the existing scripts to customise the database before you run them. Alternatively, create new scripts to add tables or fields and run it after creating the Retain database. See the Tailoring the scripts section for more information.

Once a Retain database is set up, changes to the database tables are performed using the platform specific tools such as Microsoft SQL Server Management Studio.

See the Customising an SQL Server database and Customising an Oracle database sections for more information.

Tailoring the scripts

The batch files that need to be run for setting up the SQL Server database are:

1. SetupSQL.bat
2. UpdateSQL.bat

Note: In the SetupLog.txt file you may see a warning message related to the 'AVB' table. This is a default SQL Server warning message and can be ignored.

The scripts that need to be run to set up the Oracle database are:

1. SetupORA.sql
2. UpdateORA.sql

Note: The batch files should be run in the order specified above, with the setup one being first and update the second.

The SetupSQL.bat and SetupORA.sql will generate the main tables (such as RES, JOB and BKG) that store the end-user data as well as additional tables that store the operational data.

The UpdateSQL.bat and UpdateORA.sql will update indexes to improve the reporting performance.

Changes to the Main Tables

The main tables are:

RES (Resources)
JOB (Jobs)
BKG (Bookings)

With regards to changes in the main tables, you need to ensure that the fields are long enough to accommodate the data that your organisation wishes to store in Retain.

Any changes made to the fields in the BKG table also need to be duplicated in the BKG_LOG and BKG_CFET tables.

See the Supported data types section for information on supported data types.

If you have more than one database connecting to your Retain Server, you need to edit the name of the server ('cde_value') in the last insert statement ('Insert into CDE'). This defines the alias name of the database(s) used for caching, which should be a unique name. This is necessary to avoid any issues that may be caused by multiple databases using one cache folder.

Any other changes made to the default tables, such as field name aliases, should be performed using Retain Security Manager, rather than directly editing the scripts.

See Appendix A for examples on how to customise SQL and Oracle databases.

Note: The scripts should not be modified in any way other than those described above unless you have specific requirements. In that case, you should consult with your Support Service Provider.

Supported data types

Microsoft SQL Server data types:

Supported: bit, char, varchar, datetime, small, datetime, int, smallint, float

Unsupported: binary, nvarchar, bigint

Oracle data types:

Supported: number, char, varchar2, date

Unsupported: nchar, nvarchar2, clob, nclob, long, binary datatypes

2.4 Installing Retain Server software

Retain Server Installation overview

Retain Server will run on a Windows NT, 2000 Server or Server 2003 machine with a static IP address or a static DNS name. The client machines do not need to access any of the files on the server machine. Retain Server can be installed on the same machine as the database server for fast communication. However, it is a trade-off between the condition of the server machine and the speed of the network connection.

In very high load environments the database and Retain Server may be run on separate machines; in such case they should be placed in close proximity to each other to ensure a high bandwidth connection between Retain Server and database server. Ideally, they should be sitting on a local area network running at least 100 Mb/sec. Each Retain client application will connect to the server as the application starts up and will perform all of its interactions with the database via Retain Server.

Note that Retain Server is a Windows executable which normally runs as a service. You may set up Windows service(s) that can automatically stop and restart Retain Server(s) on a nightly basis.

To install Retain Server you will need to:

- Check the server machine specifications. See the Server machine requirements section for more information.

- In order to install Retain Server you will only need the following files: *RetainCorporate5Setup.exe* and licence.ein (licence file). However, it is recommended that you also install all the client software on the server machine at the same time, in order to test the connection.

- Run *RetainCorporate5Setup.exe* and follow the on-screen instructions to install Retain software. See the Essential Retain Server files section for more information.

- Configure *SvrCnfg.ini*.

- Start Retain Server manually or using the service to test its connection to the database. See the Server configuration tools section for more information.

- If the database server is automatically restarted (because the database backup procedure shutdown and restarted the database, for example), then Retain Server will need to be restarted as well. See the Synchronisation with the database section for more information.

Server machine requirements

If Retain Server is running on the same machine as the database, the hardware specifications listed in the Database platform requirements section will be applicable.

The software itself takes up a small amount of disk space (allow for up to 100 MB), stores no data itself, has a relatively small memory footprint (allow for 2MB plus 200K per concurrent client connection) and uses processor time similar to the database.

If the Server software is being run on a separate machine than the database, a suitable specification for most scenarios would be the following:

- Intel Xeon or Pentium Class processor 2.4 GHz

- Microsoft Windows Server 2003

- At least 2 GB of RAM

- 100 MB Disk space

- TCP/IP network protocol

- Static IP address (or a static DNS name)

For larger environments where a large number of staff are being supported (e.g. 5,000), it is advisable to consider multi-processor hardware and more than one Retain Server machine to spread the load and to provide some safety if one of the machines fails.

Configuring Retain Server
Retain Server configuration tools

ServerCnfg.exe

You may find this tool as Server Configuration Manager (ServerCnfg.exe) under Utilities from Retain Enterprise group in Start Menu. It provides you with an interface to specify the settings discussed in the *SvrCnfg.ini* file.

Expand the 'Database' section and you will be able to change the Database Driver and Name:
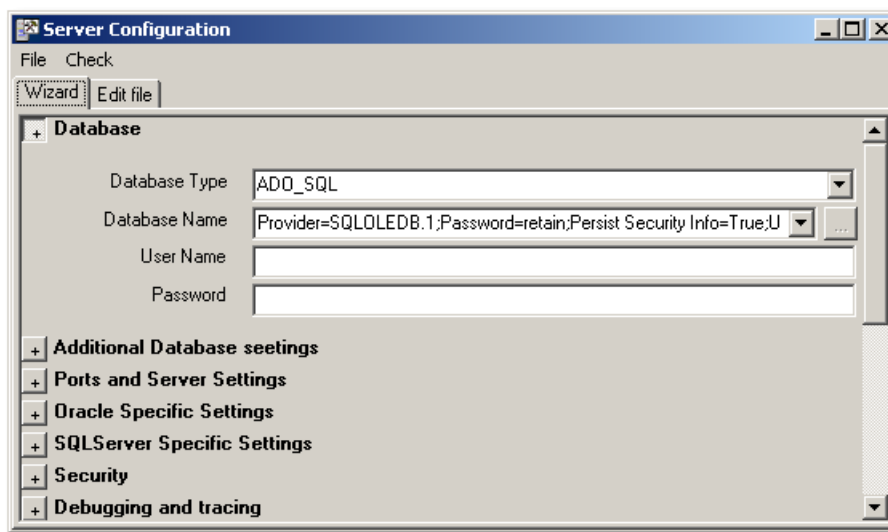
Note that you always need to select a Database Type to activate the Database Name look up button.

SQL Server Connection

To set up a database connection for an SQL Server database follow the instructions below.

1. Click on the look up button for the Database Name field. The 'Data Link Properties' dialog will open, allowing you to generate a connection string:
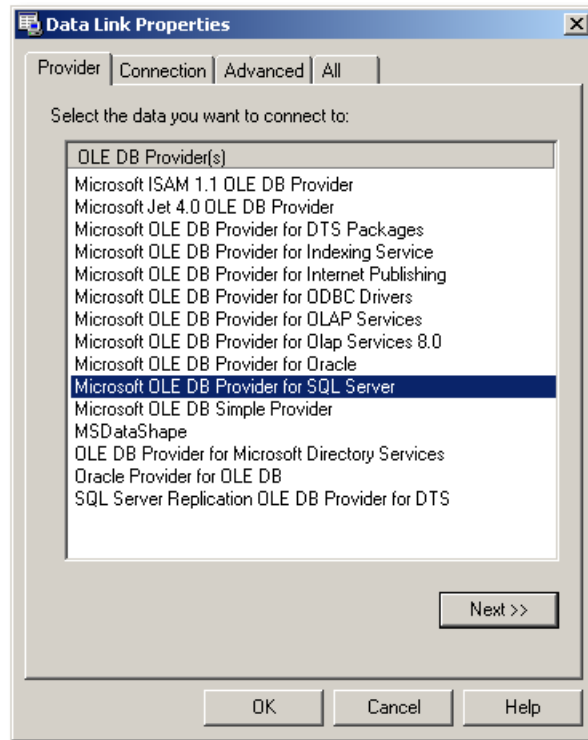
2. Select a database type (for a SQL database, select 'Microsoft OLE DB Provider for SQL Server') and click on the 'Next >>' button.

3. In the 'Connection' tab specify the database server machine, the type of security and select the database created in earlier steps from the drop down list:
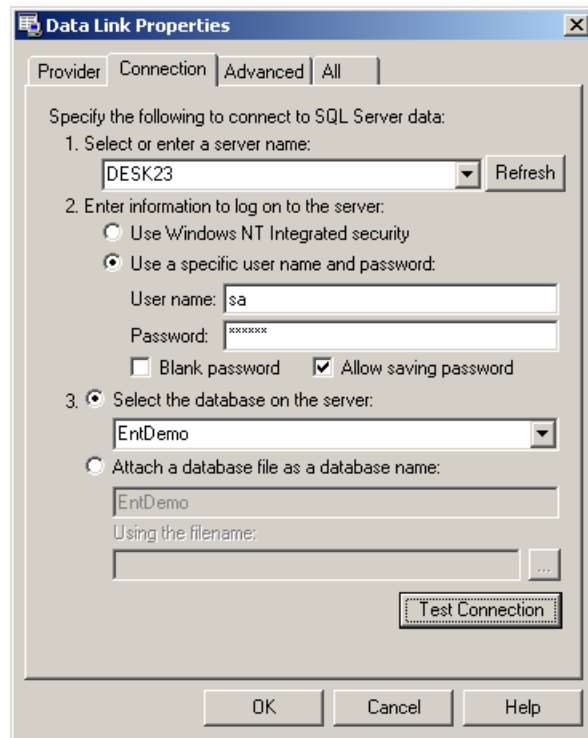
4. Test the connection by clicking on the 'Test Connection' button.

Note: The type of security depends on what you have chosen to use when you set up your database security in Microsoft SQL Server setup. If you used SQL Server security ensure that the 'Allow saving password' checkbox is ticked, as shown above.

5. Click on 'OK' and you should see the connection string displayed in the Database Name field (in the 'Server Configuration' dialog).

6. The User Name and Password fields should be blank.

7. Click on the 'Edit file' tab and set UseDBCalcFields = 1.

Oracle Connection

To set up a connection to the Retain schema in Oracle, run ServerCnfg.exe and enter the connection settings as follows:
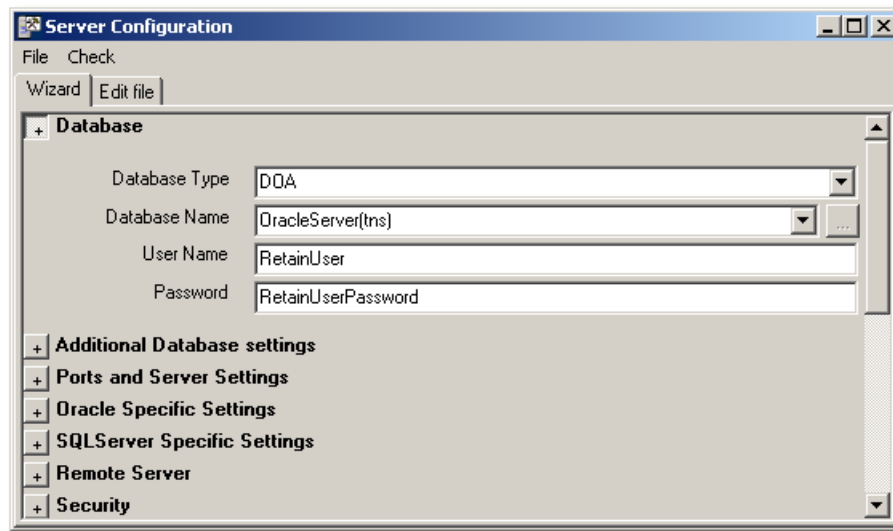
Database Type: DOA
Database Name: TNS Name
User Name: Oracle User
Password: User Password

Test database connection
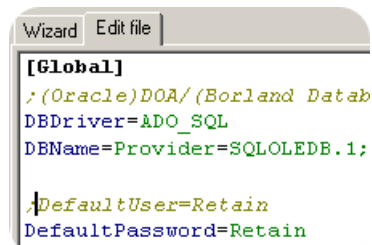
Select 'Check-> Check Database connection' from the menu. If the connection is successful, you should get the following message: 'DB Opened successfully'.
Alternatively, if you will get a failed login error message, check that your connection string is correctly set up.

To further test that your Retain Server can connect to your database, you need to save the changes in the ServerCnfg.exe and run Retain Server manually. You should see the port number in the title bar of the Retain Server window. If you can not then there is a problem in the connection. In this case you need to check the port settings in the *SvrCnfg.ini* file.

If your Retain Server connects to the database, i.e. the port number was shown, you should try to open a client application such as Retain Security Manager, to see if it can open (assuming you already installed one when running Setup.exe). If the client application runs, the connection has been established successfully. Alternatively, check your connection string again.

The 'Edit file' tab in the 'Server Configuration' dialog simply shows you the contents of the *SvrCnfg.ini* file. You can manually modify the settings using this tab. For example, if you are connecting to a Microsoft SQL Server and you want to comment out the Default Username and Default Password fields for setting up the connection, you can do it using this tab:

SvrCnfg.ini

Basic settings

For the first installation of Retain server you will only need to adjust the [Global] settings in *SvrCnfg.ini*. The following example shows an Oracle database setting:

[Global]

DBDriver=DOA
DBName=Retain.World
DefaultUser=Retain
DefaultPassword=Retain

DBDriver
This will be the driver used for your database system. The Microsoft SQL Server driver is ADO_SQL and the Oracle driver is DOA.

DBName
This will be one of the following:

- If you are using Oracle, this can be the name set up in the TNSNAMES.ORA file, e.g. Retain.World.

- If you are using SQL Server, this can be the name of the server machine. It can be the string produced by server configuration tools which eliminate the need to specify the user and database (you can then comment out the *DefaultUser* and *DefaultPassword* settings). Otherwise, the *DefaultUser* and *DefaultPassword* are used.

DefaultUser
The user name assigned to database, e.g. Retain. If you are using SQL Server and ADOConnectionString.exe/ServerCnfg.exe does not include the connection information, then this user must have the Retain database set up as its default database.

DefaultPassword
The password assigned to the database, e.g. Retain.

Note: The *DefaultUser* and *DefaultPassword* entries *must* be commented out if you have used integrated security in setting up your login to the database.

You should now be able to run Retain server and to test the connection to the database.

Further settings

- LogClientConnection=1
This setting records the user connections in the ULG table when set to 1.

- MaxStackTraceLength=0

Represents the stack trace level in the log table: 0 = No stack trace; 10 = 10 Lines; -1 = Unlimited.

- UpdateDiarySum

It is false by default. If false, does not populate the table and instead the user would probably want to run the Update scripts. If true, the DGD_SUM table is populated by the Retain Server whenever a diary changes, and also on start up. In larger deployments with multiple servers, it is recommended that this setting is applied to a server that is used by administrators who could potentially change the diaries.

- UpdateDiaryDetail

It is false by default. If true, populates the DGD table when Retain Server is first started.

- MaxUsers

The maximum number of users allowed on to the database through Retain server at any one time.

- MaxClientSendAccepted=5000000

The limit (in bytes) that the server will accept in any single communication from a client application. The above is the default value.

- ThreadPoolCount

Maximum number of threads that Retain server will use to process concurrent requests. The default is 32 which will almost certainly be more than enough.

- ServerPort

The port number of the database server. The server will only run on the designated port and will not automatically try the next port. It will fail to run if there is a server already running on the port. **Note** this information should be available from your database administrator and should not require alteration after the initial set-up.

- BypassClientCalcPresence=1

By default, Retain performs a check for certain calculated fields before start up (the value is 0). You can bypass this check by setting the value to 1, although it is recommended to leave it unchanged.

- ShowErrorMessages=0

The default vale is 0 and it means that errors will only be written to the log file. If set to '1', they will also appear in a dialog.

- USEPWHTABLE=1

This setting encrypts passwords (which are then stored in the PWH table).

- FFASTRING=1=1

If set to 1=1, this setting grants full functional access to the users (within licencing restrictions), regardless the set up in Security Manager. If set to 1=0, the users will be limited to the settings defined in Security Manager. You can also specify certain IP addresses that will be allowed full functional access. For example: FFASTRING=IPADDRESS='127.0.0.1'.

- AcceptDifferentCP

If set to 1, Retain does not perform a check whether Retain Wallchart has a different codepage to Retain Server. The default value is 1.

[Compression]

Compression allows large amounts of data to be compacted before being sent across a network connection, therefore reducing latency times.

- Threshold=10000

Sets the minimum threshold in bytes above which data packets are compressed. Compression does involve extra server processing so there is a trade off between performance and bandwidth usage

- Level=1

To alter the compression level, change the number to the desired setting (1 being the minimum amount of compression and 9 being the maximum). This setting can vastly affect the speed of Retain and should be left

on its default of 1.

[BookingRequest]

- AppendNoteWhenRejecting

If set to 1, allows users to add comments to the existing booking request note when rejecting that booking request.

Additional settings

[DBConnect]

- MaxTries=5

This setting specifies the number of times Retain server will try to connect to the database (for Oracle only). Five is the default value.

- RetryAfter=3000

This setting determines the time delay in minutes between the connections. The default is 3000.

[DATABASE]

- ForceRetrieveAll=1

This setting is for SQL Server database connections only. It reduces the SQL Server lock conflicts.

Note that Retain server can also be run with command line parameters which will override any settings in the *ini* file.

- PORT

Specify the port that Retain server will run on.

- CONFIG

The full path of the configuration file (default is *SvrCnfg.ini).*

- ORACLEHOME

Oracle home directory, only required for multiple Oracle installations.

- OCIDLL

Oracle OCI dll. It defines the interface dll and should not be required in normal circumstances.

[Views]

- ShowAll=0

ShowAll will accept all views as tables. The default value is 0 (i.e. the setting is off). If ShowAll=0 then you need to list all views you want the server to treat as tables. For example, RES=View

[Security]

- AcceptUserLogon=0

Determines whether you can accept a user name different to the network logon or not. The default is 0 (can not accept). You would normally only enable this (by setting to 1) where passwords are implemented.

[Locale]

- SizeToNumCharsDivider=4

Defines how many bytes a character can represent for Retain Server. In this case, it will be four bytes.

Advanced settings

The settings below should not be changed without consulting with your Retain support provider.

Each Retain server reserves IDs for each table in blocks of 500 (by default) and uses them sequentially.You can change this default (to 50 for example) but also override this default for specific tables, e.g. BKG:

[TableReserveBatch]

Default=50
BKG=100

Note that Retain *does not* recommend setting the default to 1.

[ScenarioClrSchMappings]

- Default=DefaultScenario
This setting changes the currently selected colour scheme but only if it corresponds to the name in the mapping (e.g. 'Default'). If another colour scheme is selected, the setting will not be used. On the left hand-side of the equation is the colour scheme used when scenario bookings are hidden and on the right-hand side is the scheme that is used when scenario bookings are visible.

[ORACLE_SESSION]

- NLS_SORT=BINARY_CI
This setting is not enabled by default. If used, allows 'Alter session' commands to be sent to Oracle on initialisation.

Running Retain Server as a service

Retain Server service overview

Retain Server can be run either manually or as a Windows service using RetainServersService.exe.

A service can be set up for one or more servers. Each Retain service monitors all the Retain Servers it is responsible for. If a Retain Server crashes or is no longer responding, the service will start a new Retain Server to ensure a minimal down time in the event of a failure.

Retain service will ensure that Retain Server is running, either as a desktop application or in the background (as long as the server machine is on).

Related Topics:

Configuring the service
Installing the service
Starting the service
Stopping the service
Uninstalling the service
Synchronisation with the database

Configuring the service

RetainServersService.exe is configured using *RetainServersService.ini* which is found in the 'Server' sub-folder. This ini file contains three sections: [Settings], [Programs] and [Dependencies]. For example:

```
[Settings]
DisplayName=RetainServersService

[Programs]
p1=c:\Program Files\Retain Enterprise\Server\RetainServer.exe Port=11372
p2=c:\Program Files\Retain Enterprise\Server\RetainServer.exe Port=11374

[Dependencies]
d1=OracleServiceORCL
```

The [Settings] section defines the display name of the Retain service. The default name is RetainServersService. If you rename the default name you will need to update the StartService.bat and StopService.bat to reflect this change.

The [Programs] section lists all the Retain Servers that you may want to run. When migrating or upgrading Retain Server, you will have to change the path to point to the new Retain Server. You will only need to specify the port number if the service is running on more than one server.

The [Dependencies] section defines any dependent services. If Retain Server is running on the same machine as the database server then it can be setup to be dependent on the database service, such that when the database service is stopped and started, the Retain Server(s) is/are stopped and started at the same time.
See the Synchronisation with the database section for more information.

A single instance of Retain service can manage a number of Retain Servers. This will reduce administrative hassle.
However, Retain service can be renamed. This allows for a number of Retain services on one machine with each of them independently managing a different Retain Server. This is recommended if servers are operating against different environments, for example one of them is a test system where changes are being experimented with. It gives flexibility where starting/stopping individual servers is required. To have multiple services on one machine you will need separate directories containing the RetainServersService.exe and RetainServersService.ini because each service will have different configuration.

Notes:

- Any changes to the *RetainServersService.ini* file require the service to be either stopped and restarted or the computer to be restarted.

- The suggested port numbers are of the form 11xxx where 11xxx is an even number. For example, Retain Server might use port number 11372. By choosing an even number, the notification port will be an odd number as it defaults to 1+ Port Number.

- By default, Retain Server runs under the Local System account but if run under Integrated Security you need to choose the alternative.

Installing the service

Once you have configured Retain service, it can be installed by running InstallService.bat from the 'Server' sub-folder.

For Windows Vista and Windows Server 2008, you need to run the batch through the Command Prompt as the Administrator:
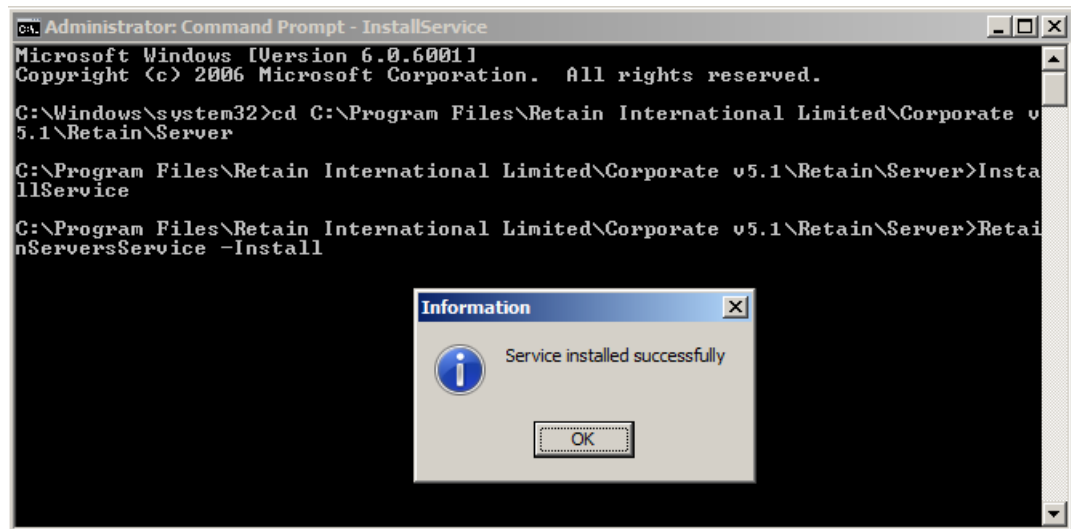
By default, when the service is installed, it is set to automatically start when the computer starts up. This is the best setting if you are restarting the computer frequently.

Starting the service

To start Retain service:

1. Go to Control Panel-> Administrative Tools-> Services. Right-click on RetainServersService-> Start.

2. Run StartService.bat from the 'Server' sub-folder. It contains the following command: net start RetainServersService

Note: If the display name of Retain service changes, you will need to update this command as well.

The default is for the service not to interact with the desktop so that the service will be stopped by a user logging out. You can change the setting by going to Control Panel-> Administrative Tools-> Services, right-clicking on RetainServersService and selecting Properties-> Log On. Tick the 'Allow service to interact with desktop' checkbox. However, you will need to manually stop the Retain Server when the interaction is on.

Notes:

- If you access the machine that runs Retain Server through an application such as PCAnywhere and you have set it to interact with the desktop, closing the PCAnywhere session will stop Retain Server.

- RetainServersService monitors all the Retain Servers it is responsible for. If a Retain Server dies or is no longer responding, the service will restart a new Retain Server to ensure a minimal down-time in the event of a failure.

Stopping the service

To stop Retain service:

1. Go to Control Panel-> Administrative Tools-> Services. Right-click on RetainServersService-> Stop.

2. Run StopService.bat from the 'Server' sub-folder. It contains the following command: net stop RetainServersService.

Note: If the display name of Retain service changes, you will need to update this command as well.

Uninstalling the service

After you have stopped the service, run UninstallService.bat from the 'Server' sub-folder to uninstall the service.

Click on 'OK' to confirm that you wish to uninstall the service.

Synchronisation with the database

Retain Server software should be started after the database server and stopped before the database software is stopped.

Servers on one machine

If Retain Server is on the same machine as the database server, you can link the two services together using *RetainServersService.ini* file, as described in the Configuring the service section. After setting up dependencies between the services, you can:

- Stop both services using the following command: net stop RetainServersService /y

- Start both services using the following command: net start RetainServersService

Servers on separate machines

You can use the Windows scheduler to stop Retain Server before the database server is shut down and start it after the database server has been restarted.

A typical scenario would be to restart Retain Server after the nightly database backup. Here is an example of using command lines to stop and restart Retain service using the Windows scheduler at 1am and 6am, respectively:

at 1:00 /every:M,T,W,Th,F,S,Su c:\Program Files\Retain Enterprise v5\Server\StopService.bat
at 6:00 /every:M,T,W,Th,F,S,Su c:\Program Files\Retain Enterprise v5\Server\StartService.bat

Log and tid files

.log files

When Retain Server is run, it automatically creates two additional files. These are named according to the database, port and IP address, to ensure uniqueness if multiple servers are running on the same machine.

For example, the files may appear as:

> LogID131083427_11372_10-20-30-23.log

> LogID131083427_11372_10-20-30-23.tid

The log file contains details of when the server is stopped and started as well as details of any errors that occur while the server is running. It can be deleted safely.

.tid files

The .tid file is an ID control file. It stores the range of IDs that the server has reserved against various tables and will use when creating new rows. It ensures that when Retain Server is stopped and started, it will use the IDs sequentially.

Note: If you rebuild the database or import data without updating the IDC table, the .tid file should be deleted before restarting Retain Server.

2.5   Installing Retain Client software

Retain Client installation overview

Once Retain Server has been installed and you have confirmed that it can connect to the database, you can start installing the client software. It is advisable to set up all the necessary client software on the server machine or a test machine before distributing to users.

If you have not already installed the client software while installing the Server, run *RetainCorporate5Setup.exe* and follow the on-screen instructions.

After installing the client software on the test machine, you should:

1. Configure *Servers.ini* and *ClntCnfg.ini*. See the Configuring Retain Client section for more information.

2. Run RetainSecurity.exe to set up user names and access rights. See the Initial set-up after installation section as well as Retain Security Manager User Guide for more information.

3. Run Retain Wallchart and confirm that you can connect to Retain Server. Create a new Retain Notebook that displays the data from the database. See Retain Wallchart User Guide for more information.

4. Distribute the client software to other client machines. See the Distributing to users chapter for more information.

Client machine requirements

We recommend the following specification for your client machines:

- Intel Pentium III-Class processor, 450 MHz or better

- Microsoft Windows 2000, XP Professional, Vista

- At least 256 MB of RAM

- 50 MB free hard disk space

- XGA (1,024 x 768) or higher resolution monitor

- Mouse or other Windows pointing device

- TCP/IP network protocol (Bequeath should not be used)

For Windows 95 machines it may be necessary to run 50comupd.exe which is a Microsoft update for the common controls. It resolves bugs relating to the date time picking control and those that can cause application errors.

Retain Wallchart has been developed to provide good performance in a high latency environment. Although latencies of less than 50 milliseconds (ms) is desirable, latencies of less than 400 ms would not impact on performance so as to make the client applications unusable. You would however see a slowdown when processing a large amount of data. In a high latency environment, we would suggest changing the threshold at which packets are compressed.

Network bandwidth usage is low. Typical rates for a database with 100 resources, 500 jobs and 16000 bookings:

- User connection to Retain Server (and database) peaks at 12KB

- Navigating the Wallchart 2KB

- Updating all resource records 4KB

- Running a booking level report 16KB

To update personal calendars using Retain Calendar Link or send e-mails (with schedules attached) using Retain Notifier, users would require Microsoft Outlook or Lotus Notes.

Note: If Lotus Notes is being used as the email software, the application folder which contains 'nnotes.dll' must be in the path. Otherwise, Booking Requests and the email notification applications will not run (you would get an error indicating that 'vim32.dll' or 'nnotes.dll' cannot be loaded).

Configuring Retain Client

Retain Client configuration overview

All client software will normally be installed into the same application directory. All applications share common configuration files which also sit in the application directory.

The configuration files for the client applications are:

Servers.ini	Defines the location of Retain Servers.
ClntCnfg.ini	Defines general client settings.
Retaine.ini	Defines application specific settings.
bkgDialog.ini	Defines the 'Booking' dialog settings.

FieldMapping.ini   Configuration file used for upgrading. Should not be changed without consulting your Retain service provider.
RetainSecurity.tdf   Retain Security Manager configuration file.
VCLTranslations.sil Retain Wallchart data file. Should not be changed without consulting your Retain service provider.

These will normally be configured on a test machine initially and then subsequently distributed to all client machines as part of the standard configuration.

Retain notebooks and report files may also be distributed as part of the standard installation. Alternatively, they can be stored in a shared directory on the file server.

Servers.ini

This configuration file resides on the client machines. It contains information required by the Retain client to connect to one or more Retain Servers. The syntax for this file is as follows:

[SERVER_ALIAS]
London=Server
Paris=Server

This section contains the list of servers that will be visible in the drop down list when users connect to the database through any Retain client application.

For each server listed above, the connection information is provided. Each entry can have several servers linked to it:

[London_1]
 ;Main server
 Server1 = 10.20.30.8:8880

[London_2]
 ;Backup server
 Server1 = 10.44.236.184:8760

[Paris_1]
 ;Multiple servers selected at random to spread the load
 Server1 = 54.263.156.98:8880
 Server2 = 10.144.36.14:8960
 Server3 = 246.23.164.87:8900

Each group requires a minimum of one server and one port number. There are two different ways of defining multiple alternative servers for a particular site.

In the example above, the London site has a main server and a backup server that should be used in the order displayed. The order is defined by numbering the groups using the above syntax. In other words, 10.20.30.8:8880 will always be tried first but if it fails, the client will try 10.44.236.184:8760 next.

If more than one server is specified on a given number for a given site, Retain will randomly select one of the servers to connect to and if unsuccessful, try the subsequent ones. This random selection balances the load if there are multiple Windows NT servers pointing to the same database.

CIntCnfg.ini

This configuration file resides on the client machines.

[CACHE]

- **TABLENAME=CACHE SIZE (number of records)**

The cache settings are normally not used (the cache is unlimited), although might be set for the BKG table only.

[CONNECT]

- **ProgressBar**

When set to 1, Retain shows a progress bar while it is connecting.

[SECURITY]

- **CONFIRMCHANGES**

If set to 1, the user will be asked if he/she wants to save the changes made using Retain Security. If set to 0, the changes will be saved automatically. The default value is 0.

[log]

- **writelog**

If set to 2, provides useful debugging information when Retain is not working or is running particularly slowly.

[ScenarioManager]

- **AlwaysShowFilterArrow**

When set to 1, the filter arrow next to column names in the Scenario Manager is always shown. When set to 0, the filter arrow is shown only when you move the cursor over the column name.

- **ShowBkgFiltering**

When set to 1, the filtering for scenario bookings in the Scenario Manager is enabled.

- **BookingsViewSyncMode**

When set to 1, the same filtering and settings are shown for all of the scenario bookings within the Scenario Manager. When set to 0, each set of scenario bookings has a separate filtering and settings.

- **UnselectAllAtStart**

When set to 1, all the scenarios in the Scenario Manager are deselected by default.

- **ShowCustomFiltering**

When set to 1, shows the custom filters in the Scenario Manager. The default value is 1.

[DropDown]

- **VisibleCompareMechanisms**

This setting defines which linked field operators are enabled. The default value is 'Like,LikeCaseSensitive'.

To enable multiple operators, separate them by a comma. The possible values are:

- Like

- LikeCaseSensitive

- Equals

- NotEquals

- GreaterThan

- LessThan

- GreaterEquals

- LessEquals

[Wallchart]

- **DisableDefaultNotebook**
When set to 1, disables the Default notebook feature within Wallchart. The default value is 0, that is the 'Save As Default Notebook' option is enabled.

[SUPPORT]

- **EMAIL=alternativesupportemail@domain.com**
This setting allows you to specify an e-mail address that will be used by Retain Error Submitter to send the error logs.

Retaine.ini

Retaine.ini file defines the various settings for Retain applications.

If it does not exist, gets created automatically within the same folder as your Retain executables.

[Attributes]

- Main=Achieved
The value of this setting should match the name of the attribute level used within the deployment (see the ATB table). The default value is 'Achieved' which corresponds to 'Achieved/Wanted' attribute levels. You can also use the 'User' value which corresponds to 'User/Goal' levels.

The following Retain Wallchart settings require manual set-up

- [Overallocation]
  DoTest=1
  Threshold=100
This setting enables the over-allocation test. A warning will be displayed when moving or resizing a booking in such a way that the total loading increases above the specified threshold. In this example, a warning will be displayed if loading equals to more than 100%. **Note** that when making a new booking, this threshold will not be applied.

[Language]

- Codepage=1
If set to 1, the font scripts are used according to your regional settings.

[Security_Maintables]

This section allows you to define the tables which will be grouped as 'Main' within Retain Security Manager.

The syntax is: [table name]=1. For example:

RES=1
JOB=1
BKG=1
CMP=1
JAS=1

To display these tables in the 'Main' group in Security Manager, right-click on the Tables node and select 'Group by-> Common Tables'.

[SecurityOutline]

This section of the file defines settings for Retain Security.

[Wallchart]

This section defines general Wallchart settings.

- OldStyleHistoryControl
If set to 1, this setting allows the user to see all the history values when not in edit mode. When set to 0, presents the user with only the current value when not in edit mode.

- BypassDialogConCheck
If set to 1, bypasses the connection check done by the 'Edit/View Record' dialog when the user clicks on 'OK'.

Wallchart report settings

You can use the special features of fields to control how numeric fields are totalled in Retain Wallchart reporting.

By default, Retain will sum all numeric fields:

- [RETAIN TABLENAME (e.g. Booking, Resource, Job, Assignment or Client)]
  FIELDNAME_Special=Value

The possible values are:

256 - Do not total
512 - Average total

For example:

To not total booking IDs:
[Booking]
BKG_ID_Special=256

To show average IQ values:
[Resource]
RES_IQ_Special=512

View selections

You can enter view selections which will restrict the view of the data seen by the user. Care should be taken when setting up these selections. They also affect the booking request interface, and will restrict the booking requests displayed in the admin queue to those containing resources in the view selection.

The booking request interface can have its own specific views set up which override the default view

selections.

For example:

Booking Request view selection overrides the main view selection, if present:
[Resource]
ViewSelection=RES_OFFICE='Local'
BRViewSelection=RES_SECURITY='A'
DDViewSelection=RES_SECURITY='A' or RES_SECURITY='B'

Limits view to jobs table:
[Job]
ViewSelection=JOB_COUNTRY='UK'
BRViewSelection=JOB_SECURITY='A'

[Booking]
ViewSelection=BKG_BTY_ID=1

ViewSelection relates to the selection used by Retain and Booking Requests.

This can be overwritten by 2 additional items:

BRViewSelection relates to the items available in Booking Requests.

DDViewSelection relates to the drop down lists in Retain Wallchart. This is particularly relevant to the 'Booking' dialog, where you may want to book against a job which has yet to appear elsewhere in Retain. You may need to set the condition to 1=1 if you want the drop downs to list all items, where the ViewSelection is set to be more restrictive.

- [BookingRequests]
  resDDCalc=DGAvalTme
  resDDCalcTitle=Avail Selection

This setting allows you to add additional Booking Request search fields. In this case, an additional column which allows you to search by availability when adding resources to a job based request will be added.

Note that the additional column only appears when a date range is defined.

Table Alias

Under the section for the relevant table, e.g [Resource], put

- tablename=individual

This will alias the RES table to be displayed as 'individual' (rather than the default 'resource') within Retain Wallchart.

bkgDialog.ini

Using the *bkgDialog.ini* you can configure the 'Booking' dialog. You can:

- add/remove tabs;

- reorganise and add/remove fields;

- define controls for fields (e.g. checkboxes, drop down lists, etc.);

- rename field aliases and much more.

bkgDialog.ini can be found in the same folder as your Retain Wallchart executable. This file has to be present in order to see and use the 'Booking' dialog (a warning message will appear if a *bkgDialog.ini* is missing on start-up).

[General]

- DefaultWidth=440
  DefaultHeight=400

These settings define the default size of the 'Booking' dialog when it is opened for the first time. The width and height is defined in pixels. If these settings are not applied, the dimensions of the dialog will be 800x600 pixels.

- NTABS=2

This setting determines the number of tabs in the 'Booking' dialog. In this case, two tabs will be present.

- SwitchWidth=400

This setting reorganises the layout of the 'Booking' dialog when the dialog is reduced to to a certain width (in this case 400 pixels). If the user reduces the width below this threshold, the labels will appear above their respective components rather than to their left. This is especially useful when the dialog is 'docked'.

- MinWidth=700

This setting defines the minimal width of the 'Booking' dialog. In this case, the minimum width of the dialog will be restricted to 700 pixels. However, if you 'dock' the 'Booking' dialog and then remove it from the dockable pane, you will be able to resize the dialog beyond this threshold.

- MinHeight=500

This setting defines the minimal height of the 'Booking' dialog. In this case, the minimum height of the dialog will be restricted to 500 pixels. However, if you 'dock' the 'Booking' dialog and then remove it from the dockable pane, you will be able to resize the dialog beyond this threshold.

- UseColorScheme=1

If set to 1, this setting will colour the background of each value in the relative drop down list depending on the currently selected colour scheme. For example, if the current colour scheme is based on booking type and you have a 'Booking Type' field in the 'Booking' dialog, the backgrounds for the values of that field will be coloured accordingly. The default value is 1 (the setting is applied).

- AskRefreshRepository=0

This setting defines whether a confirmation dialog appears or not when you edit a booking graphically. If set to 0 or the setting does not exist in the *bkgDialog.ini*, the dialog is not shown. If the value is set to 1, the confirmation dialog will be displayed.

- UseOldBkgDialog=1

If set to 1, allows you to revert to the old style 'Booking' dialog.

- AlwaysOpenUndocked=0

If set to 1, the 'Booking' dialog will always be opened undocked, regardless of whether it was docked or not before closing.

- UseSeparateCloseBtn=0

If set to 1, adds an additional 'Close' button to the 'Booking' dialog.

- FeedbackMinHeight=120

This setting defines the minimal size of the feedback window in the 'Booking' dialog.

[Tab1]

You can have a number of tabs within the 'Booking' dialog (see the *NTABS* setting above). The settings for each tab should be defined within the appropriate sections: the settings for the first tab should be within [Tab1] section, the second under [Tab2] section and so on.

- Name=Main

This setting defines the name of the tab as it will be displayed within the 'Booking' dialog. In this case, the tab will be called 'Main'.

- HelpId=301

This setting points to the relevant section within the user help file and should not be changed.

- NFields=6

This setting defines the number of fields within the tab (in this case six).

- NCols=1

This setting defines the number of columns within the tab (in this case one).

- NRows=7

This setting defines the number of rows within the tab (in this case seven).

- Row1Resizable=1

If set to 1, this setting makes that row (in this case row 1) resizable, allowing you to expand and contract it. Normally, this functionality will be disabled (value set to 0) for most rows.

- Column1Resizable=1

If set to 1, this setting makes that column (in this case column 1) resizable, allowing you to expand and contract it. Normally, this functionality will be disabled (value set to 0) for most columns.

- MarginSize=5

This setting defines the size of the margin between the rows and columns within the tab. In this case, it will be 5 pixels.

- CaptionColHeight=30

This setting defines the height of the caption for the field label. In this case, it will be 30 pixels.

- CaptionColSize=80

This setting defines the width of the caption for the field label. In this case, it will be 80 pixels.

- Row1SizeType=ssPercent
  Row1SizeValue=15

These two settings define the size of the row when the dialog is resized. You need to define both the size type and value.
If the row size type is set to 'ssPercent', the size of the row will be calculated as a percentage. In this example, the size of the row will remain 15% when the 'Booking' dialog is resized. You can also set the row size type to 'ssAbsolute' if you wish the size of the row to be calculated in pixels and remain of fixed size when the dialog is resized.

Note that the first row within the tab is called 'Row1', the second 'Row2' and so on.

Field Properties

For each field within the tab (Field1, Field2, etc.), define the following settings:

- Field1=BKG_RES_ID

This setting defines the field which the control will represent and allow to change. In this case, the first field within the tab will be based on the BKG_RES_ID.

Note: If the user does not have appropriate security rights to view a certain field (E.g. BKG_JAS_ID), that field will not be visible to them in the 'Booking' dialog, regardless of this setting.

- Field1NRows=1

The number of rows within the cell you are working in. In this case, the first field will have one row.

- Field1NCols=1

The number of columns within the cell you are working in. In this case, the first field will have one column.

- Field1Row1SizeType=ssPercent
  Field1Row1SizeValue=100

These two settings define the width of the field with regards to the size of a row. You need to define both the size type and value.

If the row size type is set to 'ssPercent', the width of the field will be calculated as a percentage. In this case, the first field will take up 100% of the first row's width. You can also set the row size type to 'ssAbsolute' if you wish the width of the field to be calculated in pixels instead.

- Field1Col1SizeType=ssPercent
  Field1Col1SizeValue=100

These two settings define the height of the field with regards to the size of a column. You need to define both the size type and value.

If the column size type is set to 'ssPercent', the height of the field will be calculated as a percentage. In this case, the first field will take up 100% of the first row's height. You can also set the column size type to 'ssAbsolute' if you wish the height of the field to be calculated in pixels instead.

- Field1LabelLayout=tlTop

This setting defines the position of the field label. The possible values are: 'tlCenter' (places the label at the center of the field); 'tlTop' (the top of the field); 'tlBottom' (the bottom of the field). **Note:** This setting can only have one value.

- Field1HideLabel=0

This setting defines the visibility of the field label within the 'Booking' dialog. If set to 0, the label is shown and if set to 1, the label is hidden.

- Field1Border=Left,Right,Top,Bottom

This setting allows you to add a border to the field. You can define the position of the border with these four values: 'Left', 'Right', 'Top' and 'Bottom'. Use all four values to visually frame the field.

- Field1MinSize=100,20

This setting allows you to define the minimum size of each field. The first value is the width and the second is the height in pixels.

Field Control Types

- Field1Control1=

This setting defines which type of control will be displayed to the user for that field.

The possible values are:

- Checkbox
Adds a checkbox for the field.

- CustomRates
Adds the Revenue and Cost charge rates and ability to edit them.

- DateTime
Adds the following booking date and time controls: 'Start', 'End', 'Loading' and 'Time'.

- DropDownControl
Lists the database values for the field in a drop-down list. This control is used with linked fields.

- GridControl
Lists all the values for that field in a list display.

- TEXT
Adds an editable text box for the field.

- Blank
Adds a blank space instead of a control. Should normally be used with the *Field1NControls* setting only.

- FILELINK

Adds a control that allows storing a file path to the database (but not the file itself). The file can be opened if the file path is valid and you click on the ⸱⸱⸱ button. **Note:** You will need to set the field's 'Link Type' to 'File' within Retain Security Manager.

- STANDARDDROPDOWN

Lists the default values for the field in a drop-down list. The default values need to be specified in Retain Security Manager.

- DATECONTROL

Adds a date picker control for the field.

- Field1Control1ListAll=1

This setting is applied to fields with the *DropDownControl* only. If set to 1, it displays all the values for the field when the drop-down list is open. The setting should only be applied to fields with less than 5,000 values. The default value is 0, i.e. the setting is not applied.

- Field1Control1AddButton=1

If set to 1, the 'Add' ± button which allows you to add a new entity (e.g. resource, job, component - depending on the *Field1* value) is added for the field. In this case, the first field will have an add button which will allow you to create a new resource and then select it when making a booking. If you do not wish to have the 'Add' button for the field, set the value to 0.

- Field1NControls=2

This setting allows you to define the number of controls for a field. You would normally only use this setting with one of the controls having the *Blank* value:
Field1Control1=Blank (and the other control being of any other type). If you define two controls but only specify one of them, the *TEXT* value will be used for the undefined control.

Field Control Properties

- Field1Control1Properties=

This setting defines the properties of the controls for the field. A number of possible values can be assigned to this setting.
For example, Field1Control1Properties=MultiLines,HorizontalScrollBar,VerticalScrollBar will allow multiple lines as well as horizontal and vertical scroll bars for the second field. You can apply such values for a 'Notes' field, for instance.

Note: When using several values for the same field control you need to separate them with commas (',').

The possible values are:

- MultiLines

If present, allows the field to span multiple text lines.

- HorizontalScrollBar

If present, adds a horizontal scroll bar for the field.

- VerticalScrollBar

If present, adds a vertical scroll bar for the field.

-ShowAmPm

If present, adds the 'Book Partial Day' menu but only if the *ShowTimeActionMenu* value is also present. **Note:** This menu appears only when the selected booking starts and ends on the same day.

- ShowSeparateDateTimeControls

If present, adds two different controls for date and time. If not present, only one control is used.

-ShowAlwaysTime

This value should be used only when the *ShowSeparateDateTimeControls* is not present.

Allows the time to always be be displayed in the 'Start' and 'End' date controls. If this value is not used, the time will be shown and editable only when the
'Book partial day' checkbox is ticked.

- ShowNonWork
If present, adds the 'Include non-working days' checkbox.

- ShowNonDiary
If present, adds the 'Book partial day' checkbox.

- ShowTimeActionMenu
If present, adds the 'Move and Change' menu.

For the *DateTime* field controls you can define the alias for the fields using the following syntax:
Alias|BKG_FIELD_NAME|NEW_ALIAS. For example:
Field1Control1Properties=ShowNonWork,Alias|BKG_NON_WORK|Include~non-working~days. **Note:** Use ~ to display a space between words within the alias.

- applyWallchartSelection
If present, reflects the selection currently applied to Wallchart to resources and jobs. Only applicable to *DropDownControl* and *GridControl* types of control for the BKG_RES_ID and BKG_JOB_ID fields.

- IncSearchColor
When using *GridControl* field controls, the matching text is highlighted as you type it in. This setting defines the background colour of the highlighted text through the following syntax:
IncSearchColor|#Red#|#Green#|#Blue# where #Red#, #Green# and #Blue# are replaced by the required values. For example, to set the background colour to yellow, use Red=255, Green=255, Blue=0:
Field1Control1Properties=IncSearchColor|255|255|0.

- WordWrap
If present, enables word wrapping for the *TEXT* field controls. **Note:** the horizontal scroll bar is not shown when this value is used.

Attachments tab

To enable attachments functionality within the 'Booking' dialog, follow these steps:

> 1. Increase the tab number by one:
> [General]
> NTABS
>
> For example, if you have two tabs in the 'Booking' dialog, change NTABS=2 to NTABS=3.
>
> 2. Change the [TabN] setting by replacing 'N' with the appropriate number, depending on the setting above.
>
> For example, if you have two tabs, change [TabN] to [Tab3].
>
> 3. Save the changes. If you have Wallchart running, you do not need to restart it, simply right-click within the 'Booking' dialog and choose 'Reset Dimensions'.

Initial set-up after installation

After installing the client software you can configure the initial settings using Retain Security Manager.

One of the most important uses of Retain Security Manager is to set up roles allowing various levels of access to Retain functionalities and assign these roles to users so that they can access various Retain modules such as Booking Requests, Enterprise Reports, etc.

1. Set up user security.

   If you are opening Retain Security Manager for the first time, you should find a Default User under the 'Users' section. The Default User allows you to access Retain Security Manager and Retain Wallchart with limited rights (such as Read Only or Edit Own Line) when there are no other users set up. Once you have assigned a security role to a particular user (i.e. given them access rights for Retain Security Manager), you should un-assign the security role assigned to the Default User. This ensures a minimum user access to the Security Manager module.

   However, if you accidentally delete the user who has the access to Retain Security Manager, you can always run it on the same machine as Retain Server.

   Note: Although there is an option for passwords in User Details, it is not recommended that it be used since network names are already used for security purposes.

2. Configure Retain database settings:

- Manage field properties

- Define colour and shape schemes

- Set up initial charge rates and charge periods

- Define standard working diaries

- Define standard grades

- List various database servers that Retain Sever might be connecting to

Note: You can amend these settings later if needed but it is strongly recommended that these are set up before making any bookings. See the Retain Security Manager User Guide for more information.

Distributing to users

Distribution overview

There are two approaches to distributing Retain software:

- You can copy Retain Enterprise installation files to your local machine then configure the setup files prior to installing into the desired network location and client machines.

- Alternatively, you can setup a client on a test machine, perform the initial setup and confirm it operates as expected then copy the required client software to client machines on the network. See the Distributing tested installation section for more information

Distributing tested installation

All client machines should have TCP/IP enabled and should be able to 'Ping' the server machine, i.e. test the network connection to the server machine.

For example, in the command prompt on a client machine type in 'ping *server IP address* <enter>' to test the connection. Once it is confirmed that all the client machines can connect to Retain Server and client applications can run successfully on the test machine, you are ready to distribute the installation to users.

Since Retain Client software does not use any specific system dlls or registry settings, the directory structure of a successful installation can simply be copied to other machines. The possible approaches to do this are described below.

Distribution by manual copying

1. Create a destination folder called Retain Enterprise on the client machine.

2. Selectively copy the required client files from the main installation directory on the server or test machine to the destination folder on the client machines.

For example, for general users you should copy the following files:

> RetainWallchart.exe
> RetainCLS.exe
> rrpErr.exe
> rigc.dll
> rrpExcel.dll
> s2email.dll
> Servers.ini
> ClntCnfg.ini
> Retaine.ini
> bkgDialog.ini
> rtlog.ini
> VCLTranslations.sil
> Retain.chm
> Support.chm

3. Copy the 'data' sub-folder that contains Retain Notebook (.RetainNotebook) files that you have created to the destination folder on the client machines. For Retain Enterprise Reports users you also need to copy the 'ReportTemplates' folder.

Distribution by mini-install scripts

You could distribute the client files by creating a mini-install script as a batch file that users can run in order to copy the relevant files to their local machines and modify the relevant server path.

3 Reference

3.1 Technical specification

Retain product:

Product name & version number:
Retain Wallchart Version 5.

What is its business function?
To schedule resources against jobs using a graphical interface resembling to a manual Wallchart which can be used in conjunction with other modules, such as a Booking Requests module, to complete the various processes involved in requesting, approving, modifying and comparing changes to the resource plan as well as reporting.

What language is it written in?
Borland C++, Delphi

What database format and version number does it support?
Oracle 8i, 9i and 10g as well as SQL Server 2005.

What engine?
Native drivers are used on the server, depending on the database platform you require. Either the Oracle client or a current version of ADO (2.8) for SQL Server.

ODBC drivers required?
Retain Enterprise does not require any drivers on the client machines.

Does it make direct calls to the Network operating system and hence use any specific protocols?
TCP/IP needs to be enabled to allow Retain Enterprise client software to communicate with Retain Server software.

What network operating systems and versions will it run on?
We primarily support Windows 2000 and XP as the client platform, although the software will operate with earlier versions. The Retain Server platform has to be Windows 2000 Server or Server 2003. The database server software can be run on any platform supported by the database software.

Files:

See the Retain components section for a list of installation setup files and the Files and folders section for a typical file structure created after the installation.

Installation:

What minimum system specification is required for the product?
See the Installation overview section for details.

What bandwidth is required?
On average, we would expect an active user to use bandwidth of about 1,600 bits/sec but a user would require a peak rate of 6,400 bits/sec to get reasonable performance when first opening a screen on a large view. Users who have Retain open but are not actively using the system do not use up any bandwidth.

The activity of users, the size of the database and the density of bookings will all affect the bandwidth requirements.

How can bandwidth be minimised?
Users
- Enter Retain once during the day and leave open
- Avoid running reports involving utilisation and availability calculations more than necessary
- Use notebooks with pre-defined selections (both on resources and jobs)

- Use refresh sparingly
- Keep defaults lists for fields to a reasonable level

Database server
- Unnecessary fields - hide through views or remove altogether

What user accounts are required?

Although it is possible to setup many users against the database, for ease of implementation we typically set up one Retain user against each database with access rights to insert, delete and update all of the Retain tables. In more complex cases we set up a few users with access rights to different views of the database.

What is the installation procedure?

See the Installation overview section for details.

In event of product failure, how is the product reinstalled?

Perform the installation again.

Are the product install files held on all servers?

The install files can be held on any number of file servers.

Is it possible to 'Uninstall' the product using Add/Remove programs within the Control Panel?

Yes.

Functionality:

How is the product launched?

By double clicking on the Retain Wallchart icon and opening a new Retain notebook file or from 'Start' menu.

Does the product auto-backup user files? Does it create temporary files?

No. The main data is held on the database server.

Installer information:

Is the vendor's technical support willing to be on site for half a day to review installer requirements?

Yes.

Has the vendor used an industry recognised installer such as Install Shield or has their own?

InstallAware is used.

How many annual updates are expected?

1-2 maintenance releases are made available throughout the year, major releases occur less frequently.

Is client or other data shared on the same location or nationally and internationally?

The data is stored in an Oracle/SQL Server database the location of which is determined by your organisation.

Do users expect to access their data from remote or other locations?

Data should be accessible across Wide Area Networks. The performance down dial up lines will depend on the size of the database.

Documentation:

What other documents are provided to users?

Retain Wallchart User Guide and Retain Security Manager User Guide.

Support:

What Service Level Agreements are in place?

A minimum of one year telephone support and software maintenance.

3.2 Appendix A

Customising the SQL Server database

After you have consulted with your Support Service Provider, you may follow the step-by-step instructions below to customise a table in SQL Server:

1. Microsoft SQL Server should be installed and running as a service.

2. Run SQL Server Management Studio and locate the server where the database is running.

3. Expand 'Databases' to show all existing databases and expand the Retain database that you wish to edit.

4. Click on 'Tables' to show a list of all tables that make up your database.

5. Right-click the table you wish to edit and select 'Modify'.

6. Make the required changes to the table by either adding new fields or amending existing fields. E.g. by changing the column names, length or precision and then close the table.

7. Make the exact same changes to the corresponding _Log table, if there is one.

If you need to make changes by running a script (which may be provided by your Support Service Provider after a consultation) you may do the following:

1. In SQL Server Management Studio, select the required database from the list.

2. Click on 'New Query'.

3. Copy and paste the script from the .sql file provided into the query window and run the script by clicking on the 'Execute' button in the tool bar.

4. Check that changes have been made by expanding 'Tables' section for that database.

Customising the Oracle database

The Oracle platform has a similar user interface to SQL Server Management Studio. However, some database administrators may prefer to use the command line to connect to the database. The example below is for using the Oracle user interface:

1. Run the Oracle Enterprise Manager Console.

2. Expand 'Databases' and click on the database server that your database resides.

3. You will be asked to provide Username and Password - normally the name of a database schema on the server.

4. Once connected, expand 'Schema' to see the list of all the databases on the server connected.

5. Click on the database schema you want to edit and you should be able to see all the database objects such as tables, views, index, triggers and functions on the right hand side.

6. Right-click on an object in the list and select 'View-> Edit Details...' to change the design, or 'View-> Edit Contents...' to change the contents of an object.

If you need to make changes by running a script which could be provided by your [Support Service Provider](#) after a consultation, you may do the following:

1. Repeat the above steps from 1 to 5.

2. From 'Tools' menu select 'Database Applications' and 'SQL*Plus Worksheet'.

3. Switch to 'SQL*Plus Worksheet' and make sure the selected database schema is connected.

4. Copy and paste the script from the .sql file provided and run the script by clicking on the green arrow button in the tool bar.

5. Switch back to Oracle Enterprise Manager Console and check that the changes have been made.

Updating bookings with the changed time/rate information

Because some data is pre-calculated and stored in the BKG (Booking) table in order to speed up reports and the software in general, sometimes changes to the diary (e.g. the number of working days in a week) and/or charge rates (e.g. values for a resource charge rate) need to be manually 'pushed through' to existing bookings that will be affected.

To ensure that all the existing bookings are updated with the changes made using Retain Security, the *UpdateBkg.sql* script is run automatically overnight.

The script is found in the 'Server'-> 'Scripts' sub folder (if the sub-folder does not exist, you can create it and put *UpdateBkg.sql* there).

You can also run the update script manually by using one of the following:

- Retain Security (Scripts section) or

- ScriptRunner.exe, found in the 'Server' folder. This executable uses the following command line: *ScriptRunner.exe Param.IdBasedScriptTable=BKG Script=UpdateBkg.sql*

Note: It is recommended to backup your database before running this script.

Field mapping for old notebooks

When upgrading to Version 5, in order to open notebooks (.rtn) from Version 4 or earlier you need to map the old fields to the fields in the new database structure.

The key tables are:

Old name	New name
RESBOOK	BKG
RESRES	RES
RESTASK	JOB
RESCOMP	CMP

In *SvrCnfg.ini*, define the field mapping under [FieldMap] section using the following format:

[OldTableName].[OldFieldName] = [TableName].[FieldName]

The default mappings specified in *SvrCnfg.ini* are:

[FieldMap]
RESTASK.MANAGER=JOB.JOB_MANAGER

RESTASK.ID=JOB.JOB_ID
RESTASK.NAME=JOB.JOB_DESCR
RESTASK.PRIORITY=JOB.JOB_BKG_BTY_ID
RESTASK.ANALYSIS=JOB.JOB_CRD_ID
RESTASK.RECOVERY=JOB.JOB_RECOVERY
RESTASK.STARTDATE=JOB.JOB_START
RESTASK.ENDDATE=JOB.JOB_END
RESTASK.UPDATED_ON=JOB.JOB_CHANGE_DATE
RESTASK.UPDATED_BY=JOB.JOB_UPDATED_BY
RESTASK.RESTASK_CLOSED=JOB.JOB_RESTASK_CLOSED
RESTASK.COMP_LIST=JOB.JOB_COMP_LIST
RESTASK.GROUPNAME=JOB.JOB_GROUPNAME
RESTASK.JOBCODE=JOB.JOB_CODE
RESTASK.SUPERVISOR=JOB.JOB_SUPERVISOR
RESTASK.RECURRING_BIT=JOB.JOB_RECURRING_BIT
RESTASK.SECURITY=JOB.JOB_SECURITY
RESTASK.TEXT1=JOB.JOB_TEXT1
RESTASK.TEXT2=JOB.JOB_TEXT2
RESTASK.TEXT3=JOB.JOB_TEXT3
RESTASK.TEXT4=JOB.JOB_TEXT4
RESTASK.TEXT5=JOB.JOB_TEXT5
RESTASK.TEXT6=JOB.JOB_TEXT6
RESTASK.TEXT7=JOB.JOB_TEXT7
RESTASK.TEXT8=JOB.JOB_TEXT8
RESTASK.TEXT9=JOB.JOB_TEXT9
RESTASK.TEXT10=JOB.JOB_TEXT10
RESTASK.NUMBER1=JOB.JOB_NUMBER1
RESTASK.NUMBER2=JOB.JOB_NUMBER2
RESTASK.NUMBER3=JOB.JOB_NUMBER3
RESTASK.INTEGER1=JOB.JOB_INTEGER1
RESTASK.INTEGER2=JOB.JOB_INTEGER2
RESTASK.INTEGER3=JOB.JOB_INTEGER3
RESTASK.DATE1=JOB.JOB_DATE1
RESTASK.DATE2=JOB.JOB_DATE2
RESTASK.DATE3=JOB.JOB_DATE3
RESTASK.LOGIC1_BIT=JOB.JOB_LOGIC1_BIT
RESTASK.LOGIC2_BIT=JOB.JOB_LOGIC2_BIT
RESTASK.LOGIC3_BIT=JOB.JOB_LOGIC3_BIT
RESTASK.TASK_TYPE=JOB.JOB_TASK_TYPE
RESTASK.LOCATION=JOB.JOB_LOCATION
RESTASK.FOCUSES=JOB.JOB_FOCUSES
RESTASK.SKILLS=JOB.JOB_SKILLS
RESTASK.PARTNER=JOB.JOB_PARTNER
RESTASK.CONTACT=JOB.JOB_CONTACT
RESTASK.CATEGORY=JOB.JOB_CATEGORY
RESTASK.FEE=JOB.JOB_FEE
RESTASK.BUDGETCOST=JOB.JOB_BUDGETCOST
RESTASK.BUDGETTIME=JOB.JOB_BUDGETTIME
RESTASK.CLIENTGROUP=JOB.JOB_CLIENTGROUP
RESTASK.PHONE=JOB.JOB_PHONE
RESTASK.YEAREND=JOB.JOB_YEAREND
RESTASK.TASKTYPE=JOB.JOB_TASKTYPE
RESTASK.calcTaskPriority=JOB.JOB_BKG_BTY_ID
calculated.adjustedRevenue=JOB.AdJobRevDolrs
calculated.jobTime=JOB.BookTme
calculated.jobDays=JOB.BookTmeDays
calculated.jobBookingCount=JOB.jobBookingCount
calculated.jobRevenue=JOB.RevDolrs

RESRES.ID=RES.RES_ID
RESRES.GRADE=RES.CurrCRDDESCR
RESRES.NAME=RES.RES_DESCR
RESRES.STARTDATE=RES.ResStartDate
RESRES.ENDDATE=RES.ResEndDate

```
RESRES.UPDATED_BY=RES.RES_UPDATED_BY
RESRES.UPDATED_ON=RES.RES_CHANGE_DATE
RESRES.EMAIL=RES.RES_EMAIL
RESRES.GROUPNAME=RES.RES_GROUPNAME
RESRES.OFFICE=RES.RES_OFFICE
RESRES.STAFFNO=RES.RES_STAFFNO
RESRES.GRADEDESCR=RES.RES_GRADEDESCR
RESRES.GRADEORDER=RES.RES_GRADEORDER
RESRES.SECURITY=RES.RES_SECURITY
RESRES.TEXT1=RES.RES_TEXT1
RESRES.TEXT2=RES.RES_TEXT2
RESRES.TEXT3=RES.RES_TEXT3
RESRES.TEXT4=RES.RES_TEXT4
RESRES.TEXT5=RES.RES_TEXT5
RESRES.NUMBER1=RES.RES_NUMBER1
RESRES.NUMBER2=RES.RES_NUMBER2
RESRES.NUMBER3=RES.RES_NUMBER3
RESRES.DATE1=RES.RES_DATE1
RESRES.DATE2=RES.RES_DATE2
RESRES.DATE3=RES.RES_DATE3
RESRES.LOGIC1_BIT=RES.RES_LOGIC1_BIT
RESRES.LOGIC2_BIT=RES.RES_LOGIC2_BIT
RESRES.LOGIC3_BIT=RES.RES_LOGIC3_BIT
RESRES.INTEGER1=RES.RES_INTEGER1
RESRES.INTEGER2=RES.RES_INTEGER2
RESRES.INTEGER3=RES.RES_INTEGER3
RESRES.NOTESID=RES.RES_NOTESID
RESRES.WORKINGHOURS=RES.RES_WORKINGHOURS
RESRES.SKILLS=RES.RES_SKILLS
RESRES.FOCUSES=RES.RES_FOCUSES
RESRES.LOCATION=RES.RES_LOCATION
RESRES.MOBILITY=RES.RES_MOBILITY
RESRES.PARTNER=RES.RES_PARTNER
RESRES.MANAGER=RES.RES_MANAGER
calculated.utilisation=RES.JobCUtil
calculated.availability=RES.DGAvail
calculated.utilised=RES.JobCUtilTm
calculated.available=RES.DGAvalTme
calculated.utilisableTime=RES.JobCUtilDenominator
calculated.resourceDays=RES.BookDays
calculated.resourceTime=RES.BookTme
calculated.maxBooked=RES.maxBooked
calculated.standardTime=RES.DGDryTme
calculated.utilisedDays=RES.utilisedDays
calculated.availableDays=RES.availableDays
calculated.standardDays=RES.DiaryDays
calculated.resourceBookingCount=RES.resBookingCount

RESBOOK.ID=BKG.BKG_ID
RESBOOK.RES_ID=BKG.BKG_RES_ID
RESBOOK.TASK_ID=BKG.BKG_JOB_ID
RESBOOK.STARTDATE=BKG.BKG_START
RESBOOK.STARTTIME=BKG.BKG_START
RESBOOK.ENDDATE=BKG.BKG_END
RESBOOK.ENDTIME=BKG.BKG_END
RESBOOK.TIME1=BKG.BKG_TIME
RESBOOK.PRIORITY=BKG.BKG_PRIORITY
RESBOOK.CHARGERATE=BKG.BKG_RATE1
RESBOOK.NOTES=BKG.BKG_NOTES
RESBOOK.ACTUALTIME=BKG.BKG_NUMBER2
RESBOOK.PLANNEDTME=BKG.BKG_TIME
RESBOOK.RESGRADE=BKG.BKG_GRADE
RESBOOK.CHARGETYPE=BKG.BKG_CODE
RESBOOK.UPDATED_BY=BKG.BKG_UPDATED_BY
```

RESBOOK.UPDATED_ON=BKG.BKG_CHANGE_DATE
RESBOOK.LOADING=BKG.BKG_LOADING
RESBOOK.FIXED_TIME=BKG.BKG_FIXEDTIME
RESBOOK.CUSTOMRATE=BKG.BKG_CUSTOM_RATE
RESBOOK.TEXT1=BKG.BKG_TEXT1
RESBOOK.TEXT2=BKG.BKG_TEXT2
RESBOOK.NUMBER1=BKG.BKG_NUMBER1
RESBOOK.DATE1=BKG.BKG_DATE1
RESBOOK.REQUESTED_BY=BKG.REQUESTED_BY
RESBOOK.REQUESTED_ON=BKG.REQUESTED_ON
RESBOOK.REQUESTED_USR_ID=BKG.REQUESTED_USR_ID
RESBOOK.LOGIC1_BIT=BKG.BKG_LOGIC1_BIT
RESBOOK.TASKCOMP=BKG.BKG_CMP_ID
RESBOOK.CATEGORY=BKG.BKG_CATEGORY
RESBOOK.calcStartDateTime=BKG.BKG_START
RESBOOK.calcEndDateTime=BKG.BKG_END
RESBOOK.calcStartDateTime=BKG.BKG_START
RESBOOK.calcEndDateTime=BKG.BKG_END
RESBOOK.calcBookingDays=BKG.BkgTimeDays
RESBOOK.calcFixCharge=BKG.BKG_CUSTOM_RATE
RESBOOK.calcFixTime=BKG.BKG_FIXEDTIME
RESBOOK.calcBookingLoading=BKG.BKGTrueLoading
RESBOOK.calcBookingTime=BKG.BKGTimeHours
RESBOOK.calcPriorityAlias=BKG.BKG_PRIORITY
calculated.priority=BKG.BKG_BTY_ID
calculated.bookingbookingCount= BKG.BKG_NUMBER3
calculated.bookingCost= BKG.BkgRevDbCurrency
RESBOOK.calcCost=BKG.BKG_COST1
RESBOOK.SCENARIOS= BKG.ScenarioName
calculated.bookingDays=BKG.BKGTimeDays
calculated.bookingTime=BKG.BKGTimeHours
calculated.maxBookingConflict=BKG.IntConflictNSs

3.3   Appendix B

Retain components

The main and additional components of Retain are listed below:

Main components of Retain

Retain Server
The application that connects your database with Retain client applications.

Retain Wallchart
The main resource scheduling application.

Retain Security Manager
Allows you to set up roles and user security access rights.

Additional components of Retain

Booking Requests
Provides a systematic approach to the various processes involved in requesting, approving, modifying and comparing changes to the resource plan.

Enterprise Reports
A flexible reporting tool that builds on the report writer concepts in Retain Wallchart interface and provides the capability to both, run predefined reports and create as well as design reports. It is designed for the central resource administrators and managers who require vital management information.

Retain Notify
A utility that can be run periodically to send information about booking request changes both to the resources involved and to the requester. The notifications are generated from the audit trail of all booking requests and booking amendments.

Retain Calendar Link
Update Outlook or Lotus Notes calendars with bookings made in Retain Wallchart.

Retain Importer
Transfers or updates data from an external source into a Retain Enterprise database. This allows Retain to be kept up-to-date from other systems without re-keying. The source data can be a Dbase format file or a BDE alias which allows for data to be extracted directly from an Oracle or SQL Server database.

Retain Time
Designed to integrate with Retain Wallchart for sharing its database of jobs and resources and using bookings to plan time sheets.

Retain Skills
Designed to integrate with Retain Wallchart to allow detailed selection and maintenance of resources' skills.

3.4   Appendix C

Details of installed files

Essential Retain Client files

All client software will normally be installed into the main installation directory and share common configuration files. For details of a typical install see the Files and folders section.

The essential files required by Retain clients are:

Main application files:

- RetainWallchart.exe - Retain Enterprise executable.
- RetainCLS.exe - The splash screen for Retain Wallchart.
- rrpErr.exe - Retain Error Submitter, is be run automatically in the unlikely event of Retain crashing.
- rigc.dll - Memory management module for Retain software.
- rrpExcel.dll - Functions for exporting reports to Microsoft Excel.
- s2email.dll - Functions for sending e-mails with errors.
- VCLTranslations.sil - Language specific file for menus and dialogs.
- Retain.chm - Retain Wallchart user guide.
- Support.chm - Support information.

Retain Security Manager files:

- RetainSecurity.exe - Retain Security Manager executable.
- RetainSecurity.tdf - Retain Security Manager layout settings.

Configuration files:

- Servers.ini - Contains Retain Server connection information.
- ClntCnfg.ini - Contains main client configurations.
- Retaine.ini - Contains module specific settings.
- bkgDialog.ini - Contains booking dialog properties.
- rtlog.ini - Contains Delphi configurations.

If Retain Booking Requests, Enterprise Reports, Importer or Notifier is installed, you need to use Retain Security Manager to edit the functional access for the users who will use these modules. See the Initial set-up after installation section for more information.

After the initial set-up, these modules can be distributed to the users who need them. See the Distributing installation to users section for more information.

Essential Retain Server files

The installation creates a 'Server' sub-folder under the main installation directory.

These are the essential files required by Retain Server:

The main application files:

- RetainServer.exe - Retain Server Manager application.
- RetainServersService.exe - This application may be run as a service and will manage one or more Retain Servers.
- RetainServersService.ini - Retain Service configuration file.
- RSManager.exe - Retain Server remote managing tool.
- RSServices.ini - Remote server configuration file.
- LicenceManager.exe - Licence administration tool.
- LicenceManager.chm - Licence Manager user guide.
- rigc.dll - Memory management module for Retain applications.

Configuration tools and files:

- ServerCnfg.exe - Configure Retain Server using this tool.
- SvrCnfg.ini - Retain Server database connection configuration file.
- Servers.ini - Defines location of Retain Servers.

Additional files:

- CalcFieldFiles (folder) - Contains definitions for the calculated fields.

For a list of all the installed sub-folders and files see the Files and folders section.

Files and folders

A typical file structure created after the first setup on a test machine should look like the one below. This shows a basic install which includes the most essential components.

Root folder	Sub folder	Folder or file	Description
[RetainCorporate V5]			
	[Data]		Contains notebook files (.RetainNotebook) and Retain reports (.rvs) created by the users
	[Documentation]		Contains the relevant help documents in the PDF format
	[Server]		Files and folders related to Retain Server
		RetainServer.exe	Retain Server executable
		ServerCnfg.exe	Retain Server configuration tool
		LicenceManager.exe	Licence managing tool
		RSManager.exe	Retain Server remote managing tool

		RetainServersService.exe	Retain service configuration tool
		rigc.dll	Memory management module for Retain
		LicenceManager.chm	LicenceManager help file
		Retaine.ini	Application specific configuration file
		RetainServersService.ini	Retain service configuration file
		SvrCnfg.ini	Information required by Retain client to connect to Retain Server(s)
		[Licence]	Retain licensing information
		[DatabaseScripts]	Oracle and SQL Server database scripts
		ADOConnectionString.exe	Tool for producing connection string to Microsoft SQL Server database
		[CalcFieldFiles]	Contains calculated fields used by Retain
		InstallService.bat	Install Retain Server service
		StartService.bat	Start Retain Server service
		StopService.bat	Stop Retain Server service
		UninstallService.bat	Uninstall Retain Server service
	RetainCLS.exe		The splash screen for Retain Wallchart
	RetainWallchart.exe		Retain Wallchart executable
	rrpErr.exe		Retain Error Submitter. It is run automatically in the unlikely event of Retain crashing
	Retaine.ini		Application specific configuration file
	Install.ini		Installation configuration file (generated during installation)
	Servers.ini		Retain Server connection configuration file
	ClntCnfg.ini		Main client application configuration file
	bkgDialog.ini		Settings for the 'Booking' dialog within Wallchart
	RetainSecurity.exe		Retain Security Manager executable
	RetainSecurity.tdf		Retain Security Manager settings
	VCLTranslations.sil		Translations of strings used in the 'Booking' and 'Scenario Manager' dialogs
	WhoAmI.exe		Displays Retain user information
	retain.chm		Retain Wallchart help file
	Support.chm		Support service provider information
	RetainSecurity.chm		Retain Security Manager help file

Calculated Fields Reference

Introduction

Retain uses calculated fields to pre-calculate values that are used in different areas of the application. Calculated fields provide additional derived information to the user and are used by the software internally to determine certain values. Another advantage of using calculated fields is speeding up calculations thus enhancing performance.

When Retain Server is fired up, it registers, calculates and stores a number of calculated fields that are used multiple times in Retain Web processes. This allows the server to calculate the fields once and reuse them afterwards, avoiding redundancy.

Calculated fields are specified in the text files with a *.cff* (calculated field file) extension. By default, all the calculated field files are in the 'CalcField' folder in the root folder of Retain installation (this might vary depending on the installation). Retain Servers are configured from *SvrConfg.ini* initialisation file to use specific set of calculated field files. You can use the relative or absolute path to point to calculated field files folder.

You can customise existing/create new calculated fields according to your requirements with Retain International's supervision and consent only. Furthermore, the standard set of calculated fields should be enough to work with and adding or changing the standard set of files should be avoided.

A calculated field file can contain:

- Calculated/Function field
- Calculated Table
- Calculated View
- Macros

Calculated tables and views act like database tables and views although they are created dynamically and destroyed when Retain Server is shutdown.

Customisation

You can customise certain areas of Retain using calculated fields but only with Retain International's supervision and consent.

For example, you can add custom fields to appear in reports if you are using Retain Enterprise Reports. Another area is configuring security, for instance how the values will appear in the drop-down lists for a specific user. Possible areas which you might consider customising are:

- Company Constants
- Security

Rules for Designing Calculated Fields

General Instructions

This sections is intended for users who want to create calculated fields. You should have a basic knowledge of SQL and general principles of programming. A good knowledge of underlying database structure can be very useful and helps in writing and understanding calculated fields.

Comments

A comment is the text that will be ignored while processing calculations in calculated field files. You can use comments when writing calculated fields. Writing comments is always recommended as they are helpful for future reference. You can use the following comment styles:
- Bracketed Comments: Introduced by /* and ended with */ bracketed comments can span over multiple lines.
- Curly Brackets: Introduced by { and ended with } these comments can also span over multiple lines.
- Semi Colon: Comments that are introduced by semi colon and can only appear at the beginning of the line. They are used for commenting on a single line.
- Double Forward Slash: Comments that are introduced by // and can only appear at the beginning of the line. They are also used for commenting on a single line.

Naming Conventions

The following rules should be followed when naming is constructed (Function fields, Functions, Macros, etc.):
- Field names should be self explanatory and should reflect the intention of the field.
- Do not use special characters.
- Do not use spaces.
- Name the fields using the first letter of a word in upper case.

Available Structures/Objects

The following structures/objects can be specified when creating calculated fields:

- Tables
- Function Fields

- Views
- Macros

Structure of the File

There are no strict rules for the structure of a calculated field file. Ideally, it should be similar to the following:

- General information about the file
- List of USE Statements
- List of Macros
- List of tables and its Function fields

Tables and Function Fields

Function fields will be based on database tables. To write function fields for a database table, follow this syntax:

```
Table = <Table name>
{
FunctionField
  {
        FieldName =              <Field name>
        FieldDescription =       <Field description>
        Calc =                   <Calculation formula>
        From =                   <From clause to pull values from a table>
        BaseField =              <Base field>
        Link =                   <Link>
        Condition =              <One or more conditions to filter the data>
        NullValue =              <Value if result is Null>
        FieldType =              <Type of the field>
        Category =               <Category the field belongs to>
  }
}
```

- **Table Name:** The name of the table that the calculated field will be based on.
- **Field Name:** The calculated field name.
- **Field Description:** The description of the field. This should provide a clear indication of the purpose of the calculated field and its usage.
- **Calc:** The calculation formula that will be used to calculate the result.
- **From:** This is similar to the SQL *From* clause and specifies the names of tables that the field should pull the data from. We can also use this to alias the table names.
- **BaseField:** The value that a calculated field will be based on.
- **Link:** Link specifies the potential link between two fields.
- **NullValue:** The value in case the result is null.
- **FieldType:** The field type of the result, e.g.: integer, string, etc.
- **Category:** The name of the category that the field belongs to. You can categorise calculated fields as necessary by entering any value, e.g.: 'Main calculated fields'. The categories will be displayed in an alphabetical order in the table tree for interactive reports, allowing you to show the most used calculated fields first, for example.

You can specify as many fields as you like for a table. Fields should be nested inside the body of a table, i.e. within the curly brackets.

Views

Views defined in calculated fields are similar to views in the database. They are used to represent data from multiple tables.

Macros

Macros are essentially SQL statements that are grouped together to compute specific data. This is similar to functions in some programming languages. Macros can be called multiple times and you can also pass arguments to macros.

Conditional Logic

Calculated fields support specification of conditional logic statements. Specify Boolean conditions using the following syntax:

> **? <condition(1)>**
> > **action if condition true**
>
> **|? <condition(2)>**
> > **action if condition true**
>
> **|? <condition(n)>**
> > **action if condition true**
>
> **/?**

Available Functions

The predefined functions, which can be used while creating calculated fields, are:

- REPL: Replace the string with specified value.
- DB_CODE: Sspecify the target database.

Adding Calculated Fields

It is possible to add calculated fields but this is not advisable or supported. Moreover, no utilities exist that would aid the creation of fields. However, if you have decided to make changes, the following guidelines should be observed:

1. Back up the existing files before making any changes.
2. Create new calculated fields wherever possible and do not delete/amend the existing ones.
3. Add fields to the end of the file. A table can exist in more than one group, thus there is no need to squeeze the calculated field at the top of the file.
4. Clearly mark the changes you have made, so that if the altered file is supplied by Retain, your changes could be easily fitted into the modified file.
5. Read through the existing set of calculated fields.
6. Calculated fields can refer to other fields or calculated fields against a table and currently no mechanism exists for referring to fields from another table.
7. Do not make calculated fields that may directly or indirectly refer back to themselves.
8. Work on a file using a test server.

Constants

Constants defined in Retain yield the same value throughout the Retain Web process.

Constants that need to be configured when Retain is installed for the first time are the following:

- Company Name
- Skill attributes
- Any Company Constants

CalcFields.cff

CalcFields.cff specifies the files included in the calculation. By default, a number of files are provided for Retain server to be able to run. Calculated files can be included using the r pb keyword.

If you want to included a file, apply the r pb keyword followed by the equal sign and the file name. For example, if you want to include a file called ABC.cff, type in:

r pbZ^_` Ḱ̂ÑÑ̃

Note that the file should be in the same folder and that the specification of absolute or relative paths is not supported.

DefineCompany.cff

To customise Retain according to a specific installation, some of the constants that will be used throughout Retain have to be defined.

DefineCompany.cff file specifies the name of the company for which Retain is implemented. This name will be used in other calculated field files.

By default, the define company file looks like this:

REPL(COMPANY) = NOCOMPANY

Replace NOCOMPANY with the name of your company and save the file. After changing your company name you need to rename the NOCOMPANYConsts.cff file to the company name you have specified in the DefineCompany.cff file. For example, if the name of your company is ABC, set the following values:

DefineCompany.cff

REPL(COMPANY) = ABC

NOCOMPANYConsts.cff

Rename the file to **ABCConsts.cff**

Note that only the 'NOCOMPANY' string is changed and Consts.cff remains the same.

CompanyConsts.cff

Company constants are defined in the CompanyConts.cff file. By default, the file looks like this:

CompanyConsts.cff

REPL(RESUMEID) = 1
REPL(SKILLSDOCID) = 1003
REPL(BOOKINGHISTORYDOCID) = 1000
REPL(RESOURCEDATADOCID) = 1001
REPL(RESPREFDOCID) = 1002
REPL(RESUMENAME) = CV
REPL(SKILLDOCNAME) = SKILLSDOC

REPL function is used to specify values for the following constants: Resume, Skills, Booking History, Resource Data, Resource Preference Documents as well as Resume Name and Skills Document Name. These constants represent the unique IDs of attributes in the ATR table.

If you want to add another skill attribute, you need to add it to Retain database as well as the CompanyConts.

cff file. For example, if you want to add skill attribute Qualification Matrix with ID 108 to the database, you need to type in:

REPL(QUALIFICATIONMATRIXID) = 108

Built-in Calculated Fields

The following calculated field files are installed by default together with Retain:
CalcFields.cff
- CalcFieldsDGD.cff
- ConflictsAllScenarios.cff
- ConflictsNoScenarios.cff
- ConflictsSA.cff
- DBInd.cff
- Debug.cff
- DefineCompany.cff
- Dependencies.cff
- FastTime.cff
- Forecast.cff
- ModelSecurity.cff
- NOCOMPANYConsts.cff
- OldRevenueCost.cff
- OriginalTime.cff
- Phonetics.cff
- Precalc.cff
- RequestEconomics.cff
- RevenueCost.cff
- ScenarioFilter.cff
- scenarios.cff
- Security.cff
- Team.cff
- Triggers.cff
- Variance.cff
- Wallchart.cff

Calculated Fields Files

This file defines the files that Retain will use in calculations. The files are included by using the key word 'USE'.

For example, if you want to include a new file called NewCalcFldFile.cff, add the following to the CalcFields. cff:

USE=NewCalcFldFile.cff.

Calculated Fields for Diaries

This file contains the fields that are used in diaries.

Conflicts

The following files contain the fields that are involved in booking conflicts:

- ConflictsAllScenarios.cff
- ConflictsNoScenarios.cff
- ConflictsSA.cff

Define Company

This file contains the company name. It should be replaced by a specific company name.

Database Independence

This file contains the function mapping that is available for a different database.

Fast Time

These are the basic calculation fields that are used when scheduling.

Company Constants

By default, NOCOMPANYconsts.cff file contains company constants.

This file should be renamed according to a specific company. Also, the constants defined for skills should be modified according to the database settings.

Phonetics

This file contains functional fields/tables used by Retain Wallchart's phonetic algorithm for indexing names by sound.

Pre-calculated Fields

Pre-calculated fields speed up calculations. They are mostly used for reports.

Request Economics

This file contains fields that are used for the booking requests calculations.

Scenarios

This file is used by Retain Wallchart for the functionality of scenarios. Scenarios are mechanisms used for grouping bookings together.

Security

These macros are mostly used to represent security and business rules, such as the drop down values that will be visible to a specific user. You might consider customising these fields in the Security.cff file.

Triggers

This file contains database triggers that are run upon specific events. A database trigger is a code that is automatically executed in response to certain events on a particular table in the database. By default, there are two files for triggers: Triggers and SQL Triggers.

Team

These calculated fields are related to the team functionality.

This file is to be edited before deployment in order to reflect the company's decisions on how the manager and administrator roles are determined and how to affect the team work flow.

Variance

These calculated fields define the variance calculated fields which compare budgeted time, revenue and cost to the planned schedule.

Wallchart

These calculated fields are used by Retain Wallchart.

Calculated fields and replacement strings

Below is a list of the calculated fields for the three main tables in Retain: RES (Resource), JOB (Job) and BKG (Booking).

Note that depending on your deployment, not all of these fields may be available to you.

Table	Calculated Field	Alias	Description
RES			
	GhostBookTme	All booked time	Total booked time within the reporting period, including time coming from ghost bookings
	DGAvail	Availability	The resource's availability percentage in the reporting period
	DGAvalTme	Available Time	The resource's available time (in minutes) within the reporting period with no negative values allowed
	BookDays	Booked Days	Total amount of time (in days) the resource has been booked on within the reporting period
	BookTme	Booked Time	Total amount of time (in minutes) the resource has been booked on within the reporting period
	CurrCRDDESCR	Current Charge Band	The current value of the resource's 'Charge band' history field
	CurrentDiary	Current Diary	Resource's diary
	DGDefaultDryTme	Default Diary Time	Total diary time for the default diary (in minutes) within the reporting period
	ResEndDate	End Date	End date of the Blank diary
	DGDryTme	Diary Time	Total diary time for the resource (in minutes) within the reporting period
	GhostJobCUtil	Ghost Utilisation	Utilisation percentage for the reporting period based on the charge band of the jobs and including ghost bookings
	GhostNonUDryTme	Ghost true diary time	Utilisation percentage for the reporting period, computed using the diary time excluding holidays (including those generated by ghost bookings)
	DGGhostAvail	Ghosted availability	Availability percentage for the resource including time generated by ghost bookings in the computation
	HolBkgTme	Holiday Booking time	Total time (in minutes) the resource is booked on holidays in the reporting period
	IsInSubmittedBRQ	Is in submitted booking request	Returns 'Y' if the resource has a submitted request; 'N' otherwise

	LastBkgChange	Last Booking Change Date	Returns the last change date of a live booking made against the resource
	Cost1DBCurrency	Revenue	Revenue
	ResStartDate	Start Date	Start date of the Default diary
	JobCUtil	Utilisation	Utilisation percentage for the resource within the reporting period based on the charge rate of the jobs the resource is assigned to
	JobCUtilTm	Utilised Time	Total utilised time (in minutes) for the resource within the reporting period
	maxBooked	Maximum Loading %	Maximum percentage booked in a day within the period
	utilisedDays	Utilised Days	Utilised days within the period by resource
	availableDays	Available Days	Available days within the period for a resource
	resBookingCount	Booking Count	Number of bookings within the period for a given resource
	DiaryDays	Diary Days	Total amount of diary time (in days) for the resource
	ResourceWarning	Diary Warning	Calculated field used to determine whether a resource has bookings after the termination date
	IsCoachFor	Is Coach for this resource	Returns 'Y' if the resource is coached by the currently logged on user; 'N' otherwise
	ScnDGAvalTme	Scenario Available Time	The resource available time (in minutes) within the currently displayed date range including active scenario bookings
	ScnDGAvail	Scenario Availability	The resource's availability percentage within the currently displayed date range including active scenario bookings
	ScnJobCUtil	Scenario Utilisation	Utilisation percentage for the resource within the displayed date range based on the charge rate of the jobs the resource is assigned to, including scenario bookings
	ScnBookTme	Scenario Booked Time	Total booked time against the resource in the currently displayed date range including scenario bookings
	ScnJobCUtilTm	Scenario Utilised Time	Total utilised time (in hours) for the resource within the currently displayed date range including scenario bookings
	AttachmentCount	Attachments Count	The number of attachments associated with the resource
JOB			
	BookDays	Booked Days	Total amount of time (in days) booked against the job within the reporting period
	BookTme	Booked Time (Hours)	Total amount of time (in hours) booked against the job within the reporting period
	Cost1DBCurrency	Revenue	Job revenue
	RevVariance	Revenue Variance	Job revenue variance
	TimeVariance	Time Variance	Time variance (in hours) between the job budgeted time and the total booked time against it
	TotBookTmeHrs	Total Booked Time (Hours)	Total hours booked against a job regardless of the reporting period
	jobBookingCount	Booking Count	Number of bookings within the period for a given job
	AttachmentCount	Attachments Count	The number of attachments associated with the job
BKG			
	BrqSubmitDate	BRQ Submit Date	Returns the earliest request submission date
	BKGClass	Booking Class	Displays the booking class: line of a booking request, actual or ghost
	BkgConflict	Booking Conflict	Total loading for the reporting period
	BRQNotes	Booking Request Notes	Returns the notes stored against booking requests
	FastBKGTimeHours	Fast Time (Hours)	Time (in hours) against a booking for the reporting period
	IsActiveScenarioBKG	Is Active Scenario Booking	Returns 'Y' if the booking is in an active scenario; 'N' otherwise
	IsLiveOrSubmittedBrq	Is Live Booking or Submitted BRQ	Returns 'Y' if the booking is a live or submitted request; 'N' otherwise
	IsSubmittedBrqLine	Is Submitted BRQ line	Returns 'Y' for submitted requests; 'N' otherwise
	IsBrqAdminLine	Is a Administered Booking Request Line	Returns 'Y' if the request is in the currently logged on user's administered queue; 'N' otherwise
	IsManagedJobConflict	Is in conlict on managed job?	Returns 1 if there is a conflict on a job managed by the currently logged on user; 0 otherwise
	IsManagedResConflict	Is in conflict on managed resource?	Returns 1 if there is a conflict on a resource managed by currently logged on user; 0 otherwise
	RESDGDryTme	Resource Diary Time	The amount of diary hours against the booked user during the date range of the booking
	RESDGDryTmeEmg	Resource Emergency Diary Time	The resource emergency time (in hours) during the date range of the booking
	ScenarioId	Scenario ID of booking	The Scenario ID which the booking belongs to
	ScenarioName	Scenario Name	Name of the scenario which the live booking belongs to
	ScenarioStatusCode	Scenario Status Code	Returns the status code of the scenario booking
	BKGTimeDays	Time (Days)	Total time of the booking in days
	BKGTimeHours	Time (Hours)	The time of the booking in hours
	BKGTrueLoading	True Loading	True loading for fixed time bookings
	BKGTrueTime	True Time	The time of the booking in hours used to fix up fixed loading Bookings
	BkgRecordTmeHrs	Booking Record Time (Hours)	Total booking hours irrespective of the currently displayed date range
	BkgRecordTmeDys	Booking Record Time (Days)	Total booking days irrespective of the currently displayed date range
	MaxBooked	Maximum Loading %	Maximum percentage booked in a day within the period
	AttachmentCount	Attachments Count	The number of attachments associated with the booking

4   Support Services

Support for Retain is available worldwide. This topic is linked to your support provider's information: Support Service Provider.

retaininternational

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