

Cache Tools

Version 1.27

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<http://www.minimdb.com/tools/cachetools.html>

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Chapter 1

Installation

1.1 Requirements and Installers

Cache Tools is a set of two applications:

1. Cache Routine Editor
2. Cache Global Editor

In depending of the target operating system this tools can be united by Cache Tools Launcher.

Cache Tools are ported to the following operating systems:

1. Windows 32 bit
2. Linux i386
3. Linux x64
4. MacOSX

Windows version can be run under Windows x64 version too.

Server side of Cache Tools is an InterSystems Cache server, and tools are working over TCP/IP network, so are independent of the server's operating system and processor architecture.

Cache Tools does not tested and does not support (fully or partially) the following:

1. Classes editing
2. CSP editing

3. Projects editing and emport or export of projects
4. Unicode Cache instances and unicode data in globals
5. Cache versions prior than 3.

To download Cache Tools installers open the following page:

<http://www.minimdb.com/tools/cachetools.html>

and select installer for your operating system.

Cache Tools is a licensed software and to work without any nag-screens requires purchasing of license key. Anyway, Cache Tools can work without entering license key – this mode was made for testing and evaluating software.

Cache Tools are ports of MiniM Client Tools to work with InterSystems Cache instead of MiniM Database Server, and, because Cache does not support FreeBSD or Linux on ARM, Cache Tools does not ported to FreeBSD and to Linux ARM. Unlike, this can be done by separate requests to MiniM support:

<mailto:support@minimdb.com>

Installation of Cache Tools consists of two steps:

1. Installing executables
2. Installing server-side routine in Cache

Installation of executables depends of the operating system, and routine installation not.

Installers make the following subdirectory tree inside of installation directory:

`bin` – Cache Tools executables
`doc` – Cache Tools Documentation
`rou` – Cache routines for Cache Tools

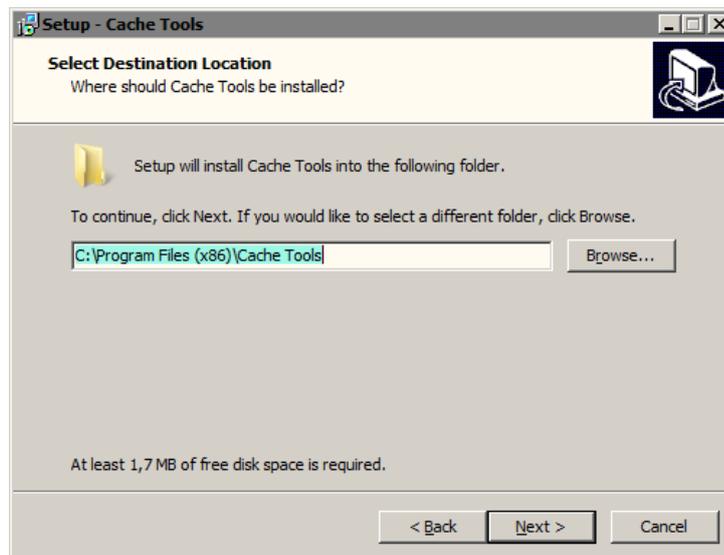


Figure 1.1: Cache Tools Installer for Windows

1.2 Installing on Windows

Cache Tools Installer for Windows is windowed application and self-extracted executable. Installer have file name like the following:

```
setup-cachetools-1.25-win32.exe
```

This file name can vary from version to version.

After running installer asks directory to place Cache Tools executable, server routine and documentation.

After installing see Programs menu and expand the Cache Tools item. This menu item can looks different in depending of the Windows version.

1.3 Installing on Linux

Cache Tools installer for Linux is a self-extracting executable and must be run in Linux terminal. Installer requires sudo command, so current user must be in the sudoers group. Cache Tools for Linux have two installers in depending of architecture – i386 or x64. Installer file have a filename like the following:

```
setup-cachetools_1.25_linux-i386  
setup-cachetools_1.25_linux-x64
```

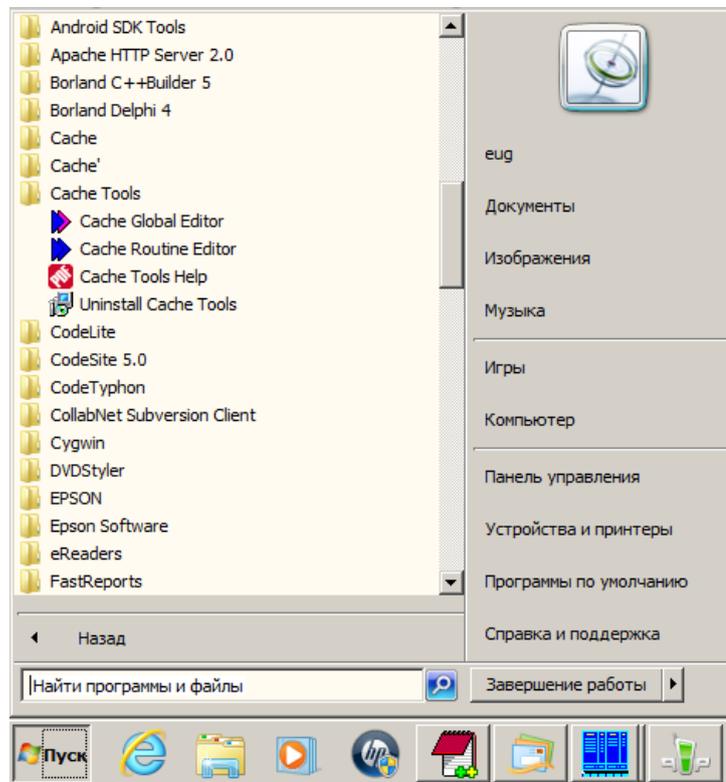


Figure 1.2: Cache Tools in Windows Menu

After downloading installer it is an ordinal file so before executing this file must get executable rights. Run the chmod command:

```
chmod +x setup-cachetools_1.25_linux-x64
```

or

```
chmod +x setup-cachetools_1.25_linux-i386
```

Execute installer under the sudo:

```
sudo ./setup-cachetools_1.25_linux-i386
```

Installer shows common information and asks the directory where executables must be placed:

```
Cache Tools 1.25 Installer.  
Copyright (C) Eugene Karataev
```

```

http://www.minimdb.com
Switched to install mode.
Enter installation directory or press Enter
to use default /var/usr/cachetools :
Processing binary files...
Processing desktop files...
Installation of Cache Tools 1.25 complete.
To uninstall run installer with option -u.

```

After installer ends, see menu of the Linux.

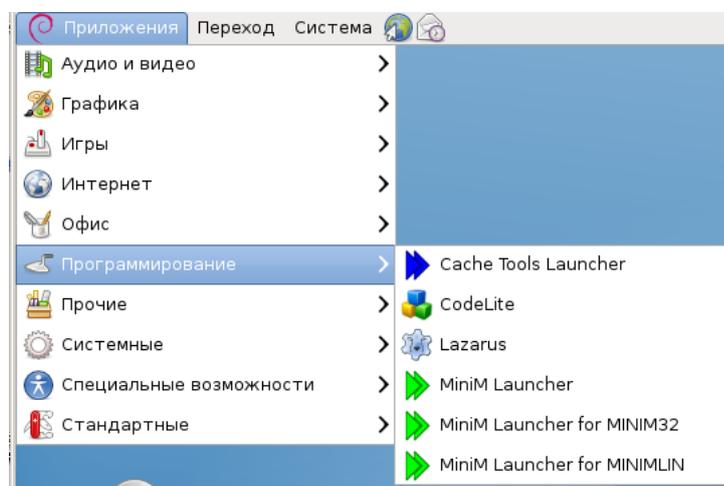


Figure 1.3: Cache Tools for Linux in the Development menu

This common menu contains Cache Tools Launcher, small window from where can be run Cache Routine Editor, Cache Global Editor and Cache Tools documentation.

1.4 Installing on MacOSX

Cache Tools Installer for MacOSX is a self-extracted executable installer and have a filename like the following:

```
setup-cachetools_1.25_darwin-i386
```

After download it is ordinal file and before executing change executing rights in terminal:

```
chmod +x setup-cachetools_1.25_darwin-i386
```



Figure 1.4: Cache Tools Launcher for Linux

And next this installer can be executed in terminal under the `sudo` command:

```
sudo ./setup-cachetools_1.25_darwin-i386
```

```
Cache Tools 1.25 Installer
Copyright (C) Eugene Karataev
http://www.minimdb.com
Switched to install mode.
Enter installation directory or press Enter
to use default /var/usr/cachetools :
Processing binary files...
Installation of Cache Tools 1.25 complete.
To uninstall run installer with option -u.
```

After installer ends click the Applications folder:

After there must appear folder with installed applications:

This is an icon to run special Cache Tools Launcher to run Cache Routine Editor, Cache Global Editor and Cache Tools documentation.

Cache Tools Launcher for MacOSX looks like the following:

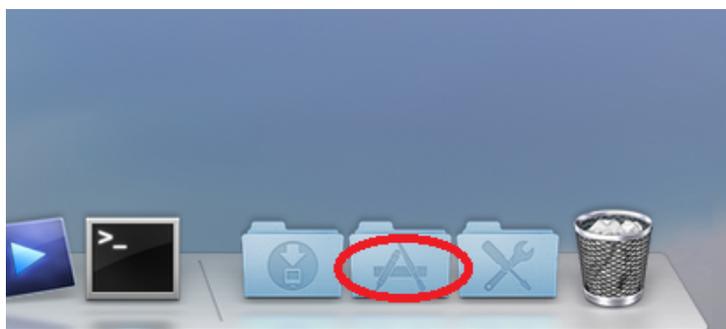


Figure 1.5: Cache Tools for MacOSX placement

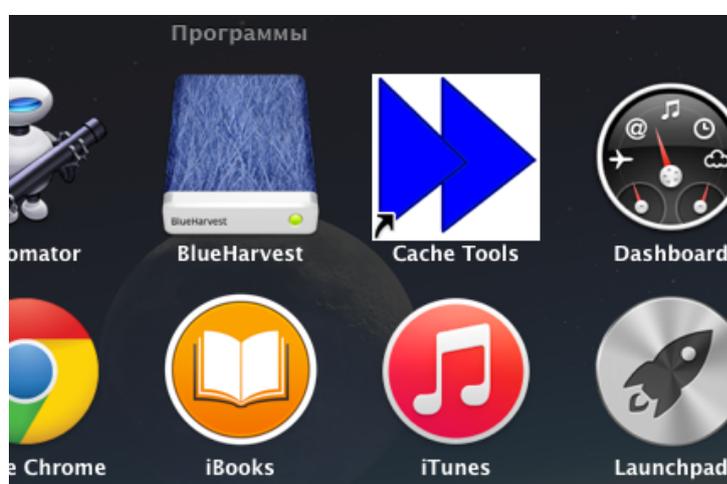


Figure 1.6: Cache Tools Launcher for MacOSX placement

1.5 Server Part

Server-side part of Cache Tools is a TCP/IP daemon. It is a special background job which waits for incoming TCP/IP connections and runs child processes for each instance of Cache Routine Editor or Cache Global Editor. This part was written in MUMPS and is contained in the %srv routine.

Cache Tools Installer saves routines in both RSA and XML formats in the /rou subdirectory where Cache Tools was installed.

To import this routine, go to the Cache portal, select the %SYS database and import the srv.rsa file. Or run the Cache Studio and import this routine in XML format from the %srv.xml file. These files contain the same routine and differ only by format.

Routine can be loaded using Cache Portal, Cache Studio, or from terminal

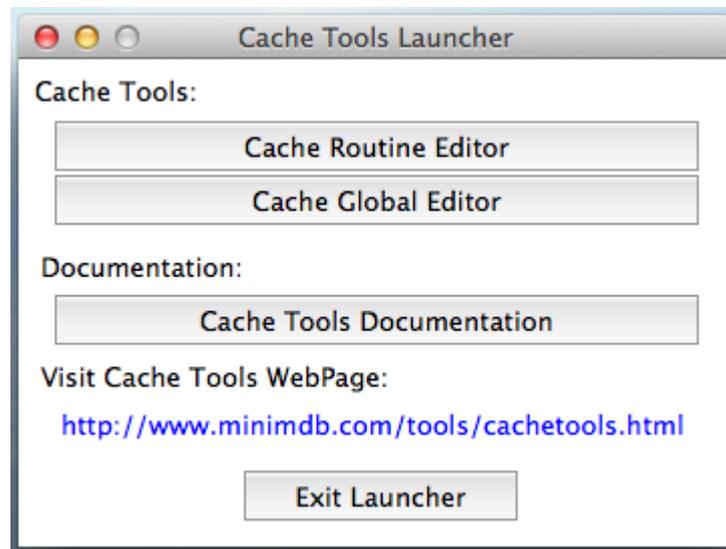


Figure 1.7: Cache Tools Launcher for MacOSX

```
USER>zn "%sys"
%SYS>d $System.OBJ.Load("path/to/%srv.xml", "C")
```

This commands will import routine with compilation.
Or use the %RI utility in the %SYS namespace:

```
USER>zn "%sys"
```

```
%SYS>d ^%RI
```

```
Input routines from Sequential
Device: path/to/srv.rsa
Parameters? "RS" =>
File written by OLD %RO on 04 Dec 2015
  4:20 PM with description:
Cache for Windows NT^^Export 1 routines
from database USER^~Format=Cache.S~
```

```
( All Select Enter List Quit )
```

```
Routine Input Option: all Routines
```

If a selected routine has the same name as
one already on file,

```
shall it replace the one on file? No => Yes
Recompile? Yes => Yes
Display Syntax Errors? Yes => Yes
```

```
^ indicates routines which will replace those
  now on file.
@ indicates routines which have been [re]compiled.
- indicates routines which have not been filed.
```

```
%srv.INT^@
```

```
1 routine processed.
```

In all places where %RI asks what to do, enter first letter of your answer and press Enter, utility completes answer.

After this routine is ready to work. To run daemon open terminal or telnet and execute in any database code to run daemon:

```
USER>d ^%srv
Cache TCP server ^%srv.
Cache TCP server ^%srv has been run.
```

By default, daemon waits incoming TCP/IP connection on the port 5001. To change this value, enter the port number (for example, 5055) into settings global:

```
USER>s ^%SRV("port")=5055
```

This value is used on the daemon starting. So stop the daemon by running:

```
USER>d stop^%srv
```

And run again:

```
USER>d ^%srv
Cache TCP server ^%srv.
Cache TCP server ^%srv has been run.
```

If this %srv daemon active, Cache Tools can be run and connected to this InterSystems Cache instance.

To run Cache Tools daemon automatically on Cache start, edit special %ZSTART routine. Label SYSTEM in this routine Cache Execute each time when starts. So, add after this label code to run Cache Tools daemon like the following:

```
SYSTEM ;  
    ; Cache starting  
    d ^%srv  
    ...
```

To see more information about %ZSTART routine, see InterSystems Cache documentation.

While daemon works, he writes diagnostic messages to builtin Cache log file cconsole.log.

After client executables installed and server-side routine imported, Cache Tools are ready to run and define connection definitions.

Chapter 2

Tools

2.1 Define Connections

Cache Routine Editor and Cache Global Editor uses connection definition. It is set of data – TCP/IP address or TCP/IP host name of the InterSystems Cache server, TCP/IP port used by Cache Tools daemon, Cache namespace where must be run server-side job for this connection and, optional, character encoding on the server.

Cache Tools offer to select or edit or define new connection definition. Versions for different operating systems can vary.

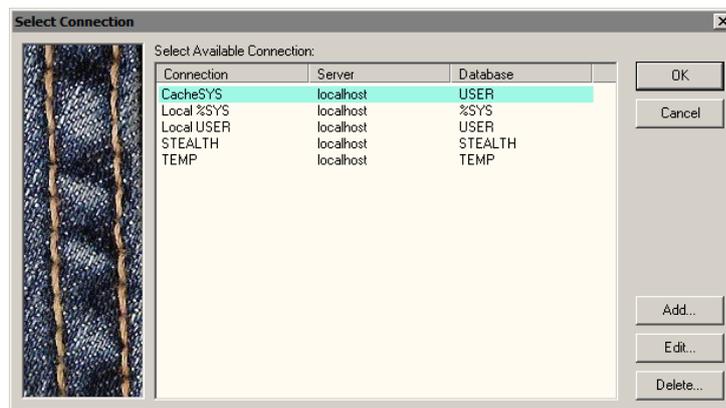


Figure 2.1: Cache Tools Connections for Windows

One connection must have name, unique inside of all defined connections. Consult with system administrator what TCP/IP address or TCP/IP host name is used by need Cache server to connect to.

Most important data what need to be know there is default value of

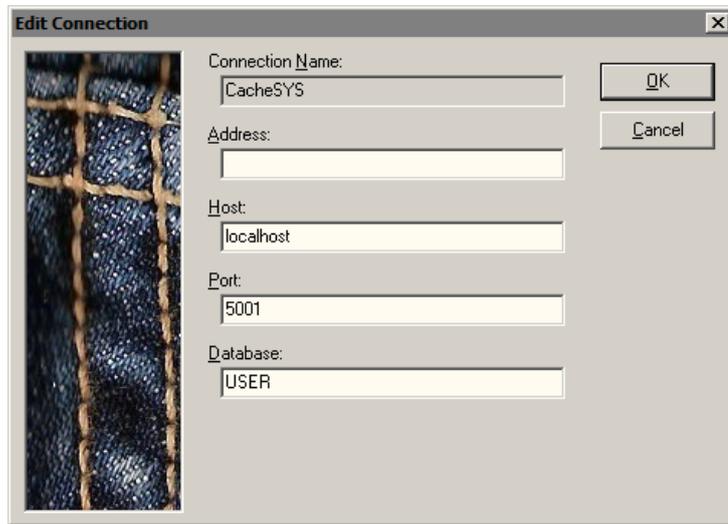


Figure 2.2: Edit Connection for Windows

TCP/IP port used by Cache Tools daemon. It is number 5001. This value can be changed on the server and you must know real value.



Figure 2.3: Cache Tools Connections for Linux

Be careful with definition of character encoding. This is main rule how Cache Routine Editor or Cache Global Editor must decode and encode data sent from Cache and to Cache. Some global records, lines in routines or localised strings in compiler or error messages are required this rule to show characters correctly.

If you use character encoding other than used on the server, you will see it. Reconnect running Cache Tools and edit connection definition again, choose right character encoding.

All defined connection definitions are stored in Windows Registry or in

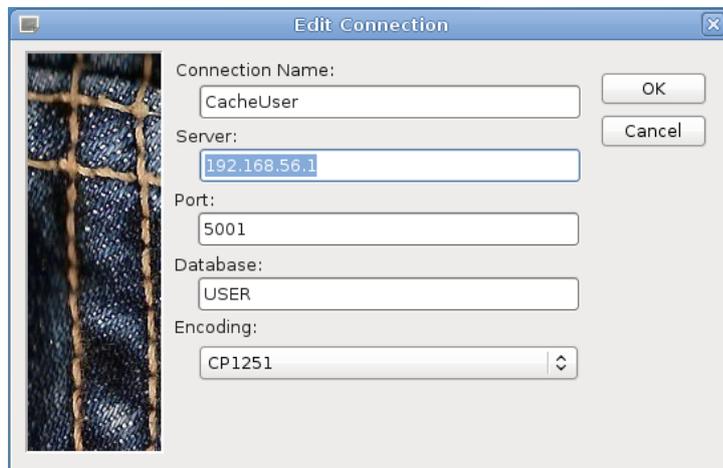


Figure 2.4: Edit Connection for Linux

social subdirectories in depending of rules of client operating system. Both applications of Cache Tools are used the same list of connection definitions.

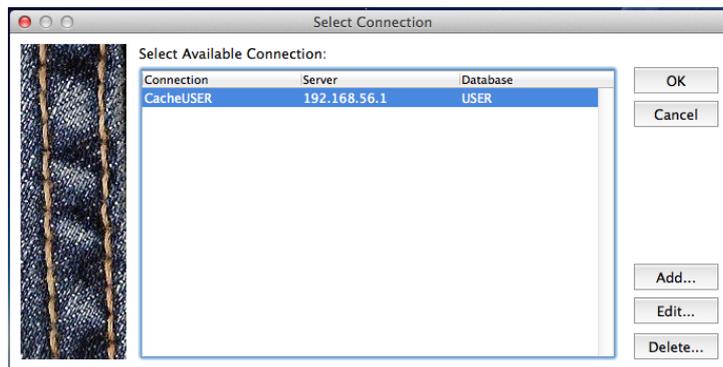


Figure 2.5: Cache Tools Connections for MacOSX

2.2 Cache Login

Cache Tools applications automatically detect what authorization algorithm is used by selected InterSystems Cache instance and offer to enter user login and password if this need.

This window can vary in depending of used operating system.

In most cases default InterSystems Cache installations use default user with login `_SYSTEM` and password `SYS`. Anyway, you must use really

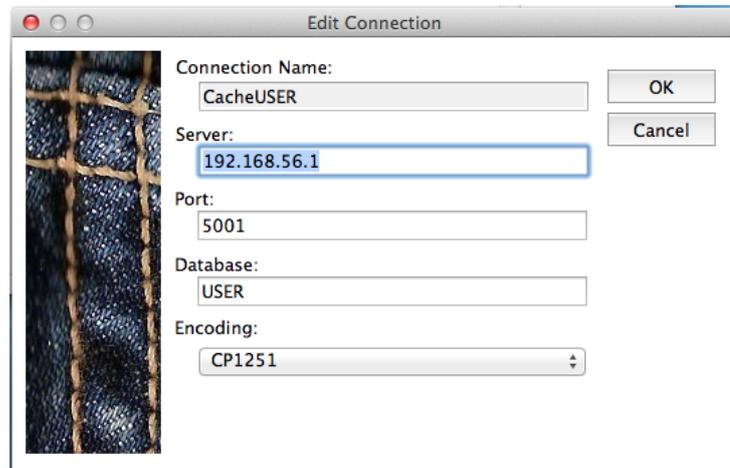


Figure 2.6: Edit Connection for MacOSX

defined user account. See InterSystems Cache documentation how to define user account and how to assign rights to this account.

2.3 Global Editor

Cache Global Editor shows global tree as a tree. Select in top of the window available global name and namespace name. Or enter name of global (optional indices are possible) and press Enter.

Select need global node and editor in the bottom of window show the value of this global record if this record exists.

Data of global record can be viewed and edited as simple string in MUMPS notation or as a list with \$listbuild structure.

At the right of data editor are two buttons – to write new value of this global record to database and to kill this global record.

2.4 Global Editor Settings

Some global records Cache Global Editor show as thee dots (...) or in short form. See current Global Editor settings to change this values.

This settings are used by Cache Global Editor to prevent big time to fetch millions unneed record names.

Limitation for string length is used to prevent showing large unneed extra characters in tree. Data editor, of course, shows full global record as is.

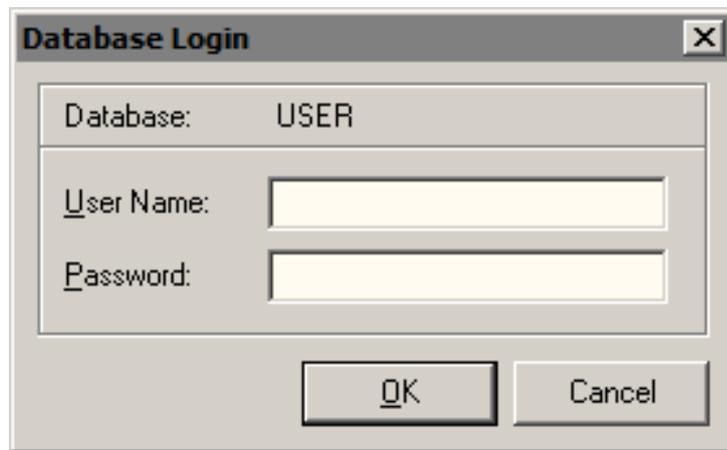


Figure 2.7: Login for Windows

To show data of global records correctly, combine character encoding and font.

Cache Global Editor can edit global records in MUMPS notation including operators and builtin or user-defined functions and system variables. For example, if you enter as global value string as

```
$H
```

and write this data, global record will get the value of currently evaluated \$H. If you need enter symbols \$H, write

```
"$H"
```

Of course, you can edit embedded \$list structures too.

2.5 Routine Editor

Cache Routine Editor can load for editing, edit, save and compile routines on the InterSystems Cache server.

Cache Routine Editor can look different in depending of version and operating system.

Cache Routine Editor can search text in currently opened routine as such as in routines in the database. Search can use simple text and regular expressions. Regular expressions are very usable to find, for example text with any character inside, text only after beginning of line, etc.

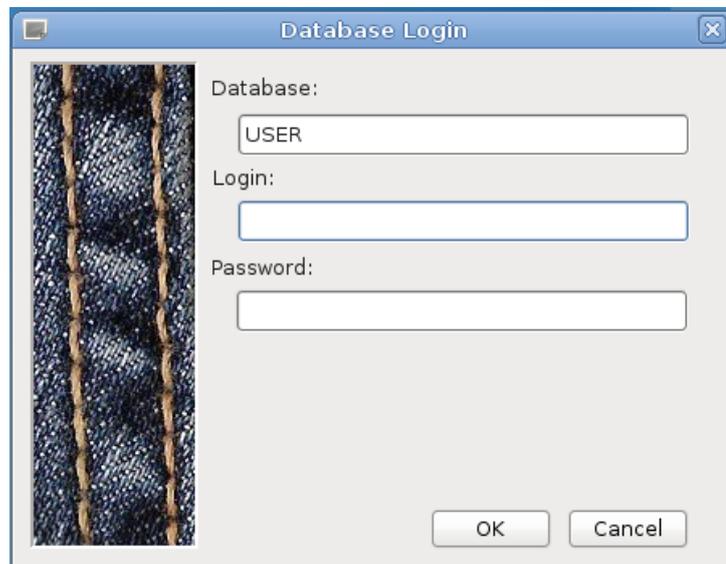


Figure 2.8: Login for Linux

Cache Routine Editor can import and export from currently connected InterSystems Cache namespace globals and routines. Both export and import use local filesystem, not a server. Routines and globals are transferred to and from the server by small parts, so import and export of big number of data can be long.

In most cases export and import of several routines are not so long.

Be careful while define export and import – Cache Routine Editor support several formats, use really needed.

2.6 Routine Editor Settings

Cache Routine Editor uses colored syntax highlighting and detects the type of routine edited – intermediate code (INT routines) or macro code (MAC or INC routines).

Syntax highlighting was developed using one of last InterSystems Cache version, but it can be not least. From time to time InterSystems adds some builtin system functions or system variables, so syntax highlighting must be corrected to be right for new Cache version. Write to support of Cache Routine Editor at

support@minimdb.com

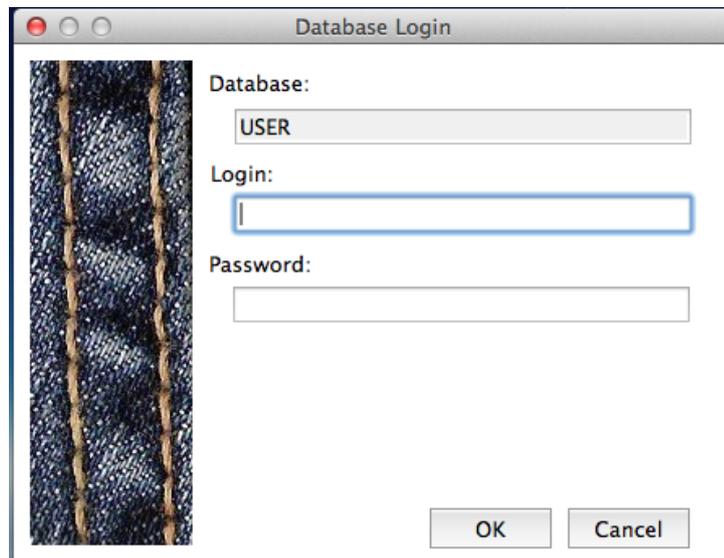


Figure 2.9: Login for MacOSX

and describe your needs and point to Intersystems Cache documentation of new language elements.

Bottom of Cache Routine Editor window contains lists with results of translation of routines and with search results. If you see incorrect characters, you need to combine character encoding (setting of connection) and font.

All settings of Cache Routine Editor are stored in depending of operating system – in Windows Registry or in special settings files in home user directory.

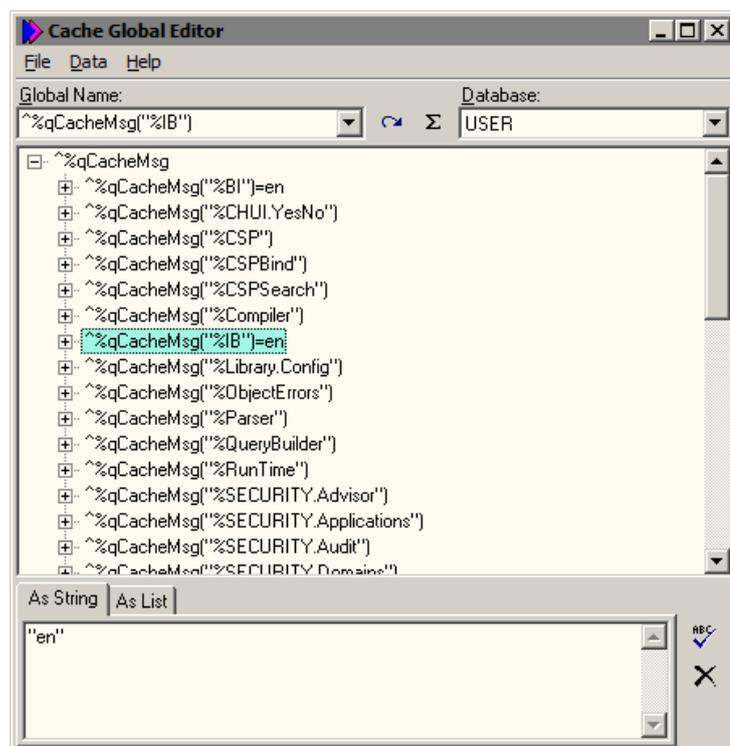


Figure 2.10: Cache Global Editor for Windows

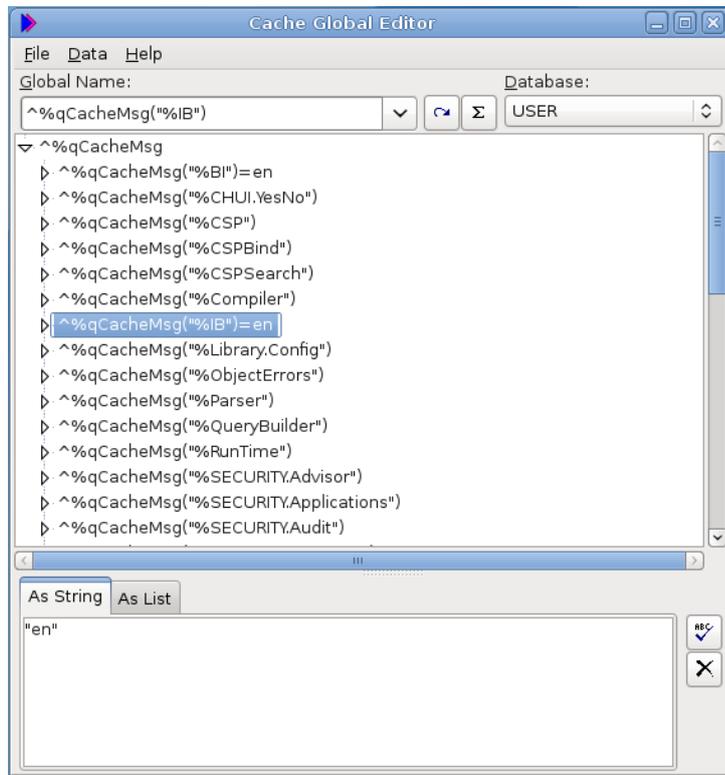


Figure 2.11: Cache Global Editor for Linux

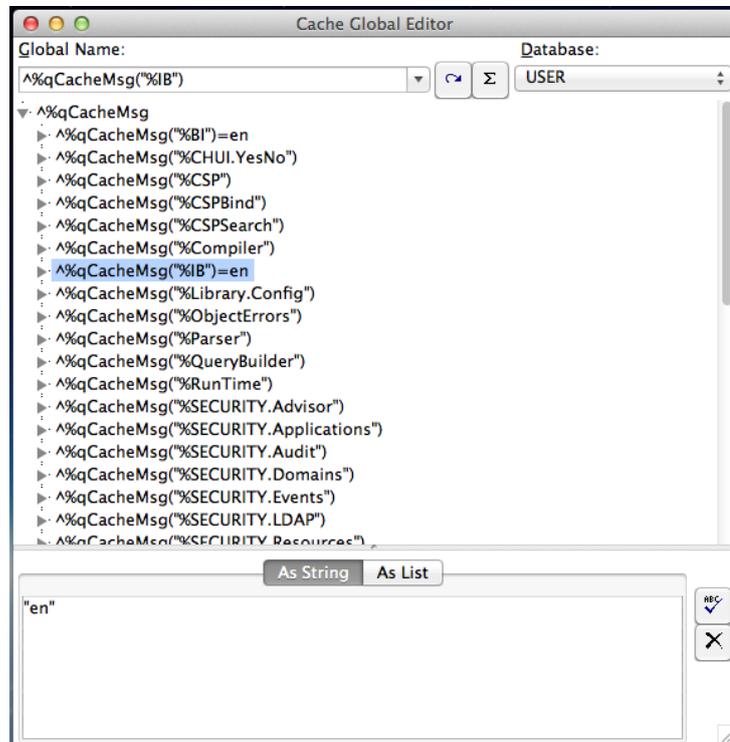


Figure 2.12: Cache Global Editor for MacOSX

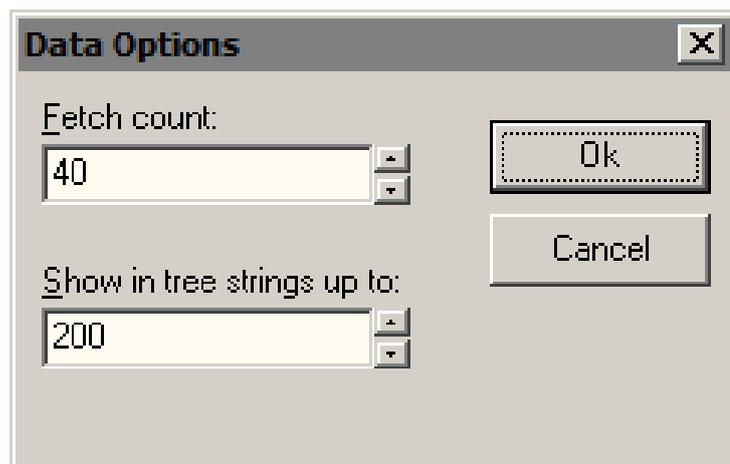


Figure 2.13: Cache Global Editor Options for Windows

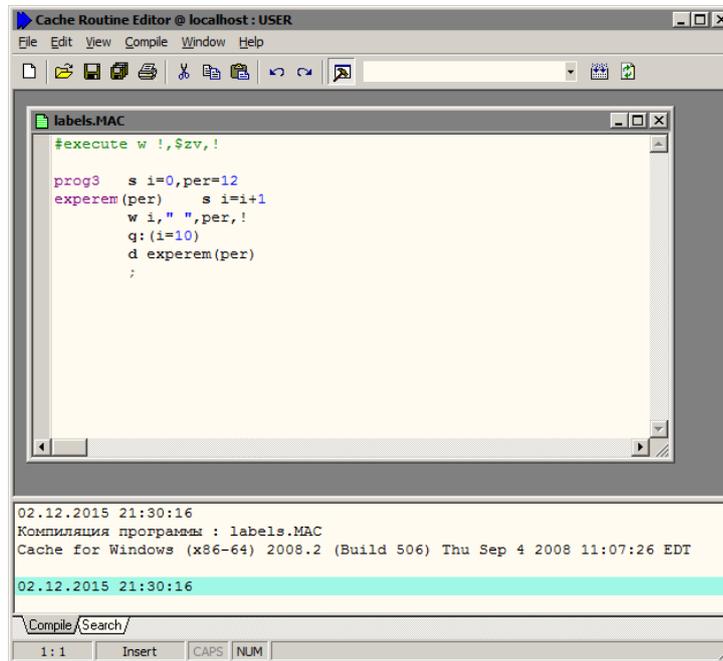


Figure 2.14: Cache Routine Editor for Windows

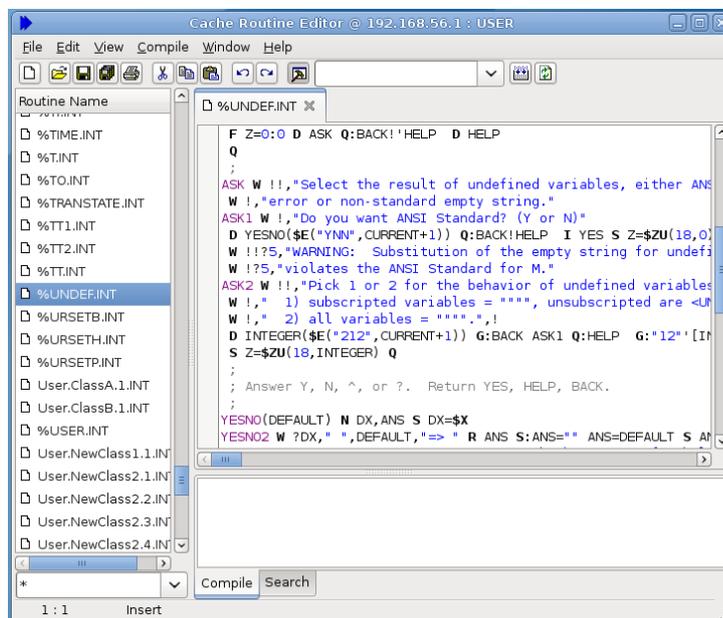


Figure 2.15: Cache Routine Editor for Linux

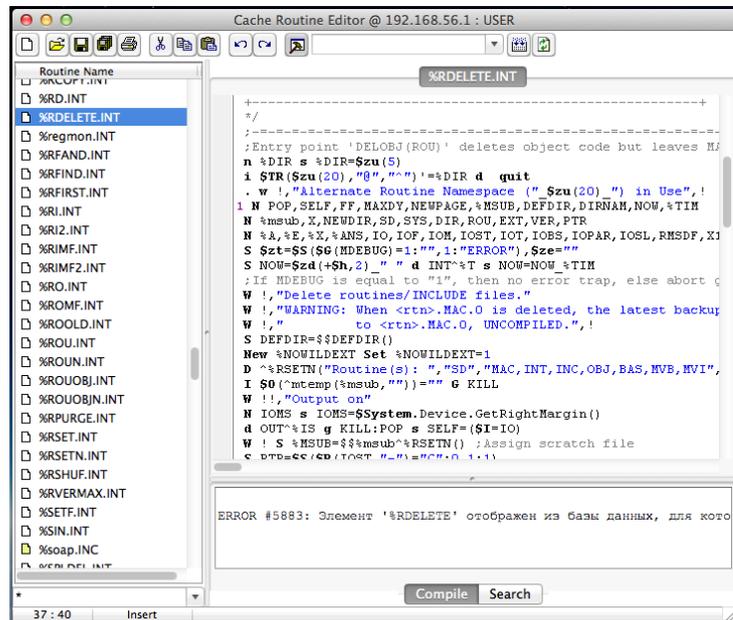


Figure 2.16: Cache Routine Editor for MacOSX

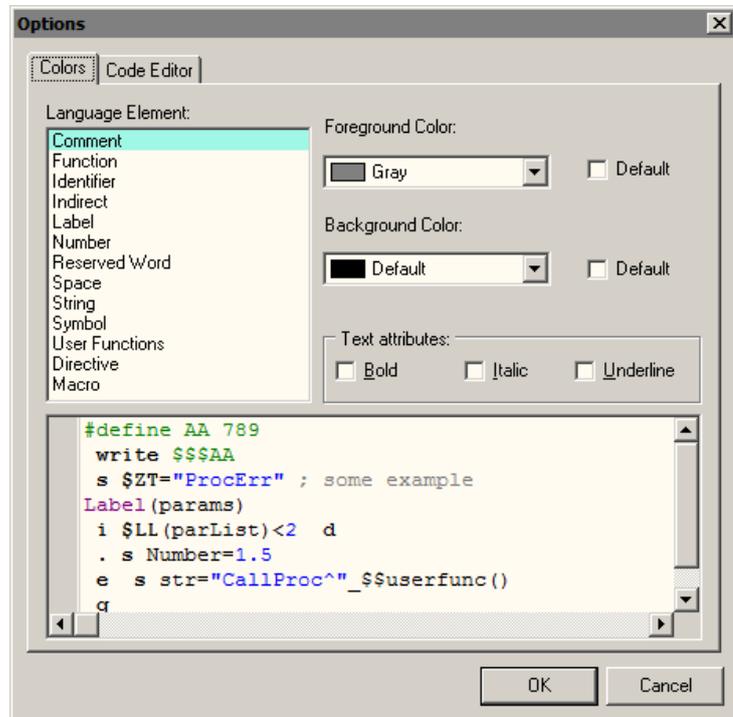


Figure 2.17: Cache Routine Editor Options for Windows

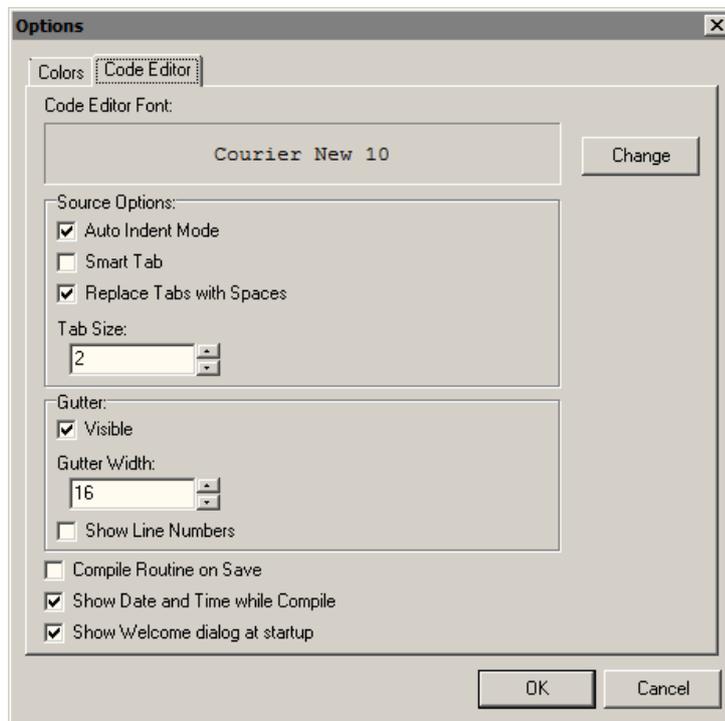


Figure 2.18: Cache Routine Editor Options for Windows

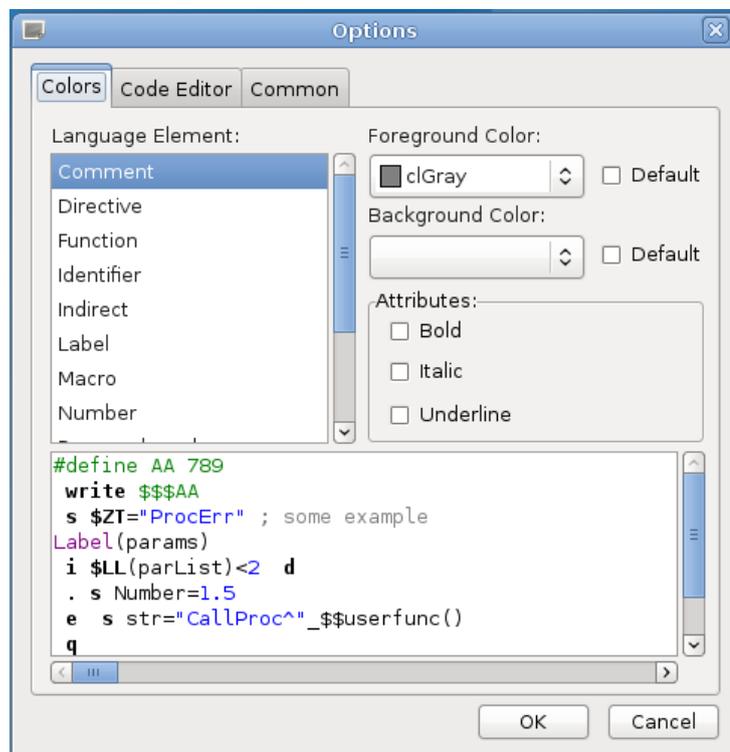


Figure 2.19: Cache Routine Editor Options for Linux

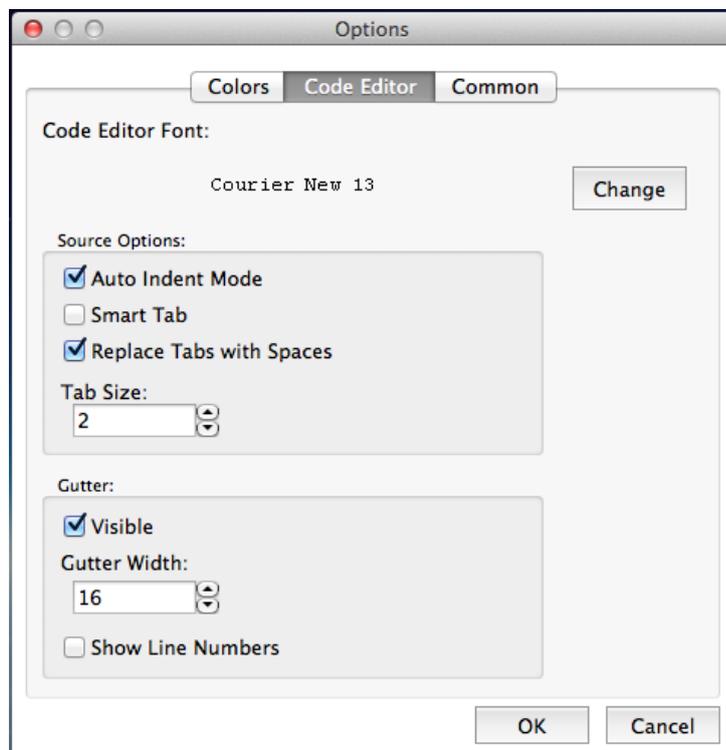


Figure 2.20: Cache Routine Editor Options for MacOSX

Chapter 3

Uninstallation

3.1 Uninstalling on Windows

To uninstall Cache Tools on the Windows, run Control Panel application and select installed applications to remove. Find in list of installed applications Cache Tools and run Uninstaller. Before uninstalling Cache Tools Uninstaller confirms removing.

Shortcut to Cache Tools Uninstaller also present in main Programs menu of Windows in Cache Tools menu group.

Uninstaller removes selected instance of Cache Tools from the computer, but does not remove any routines imported into used InterSystems Cache instances. This routines you must remove manually.

3.2 Uninstalling on Linux

To uninstall Cache Tools on Linux, run installer with the -u option:

```
sudo ./setup-cachetools_1.25_linux-i386 -u
```

Uninstaller confirm removing and asks directory from where Cache Tools must be removed.

```
Cache Tools 1.25 Installer.  
Copyright (C) Eugene Karataev  
http://www.minimdb.com  
Switched to uninstall mode.  
Enter installation directory or press Enter  
to use default /var/usr/cachetools :
```

```
Processing binary files...
Processing desktop files...
Uninstallation of Cache Tools 1.25 complete.
```

Uninstaller removes selected instance of Cache Tools from the computer, but does not remove any routines imported into used InterSystems Cache instances. This routines you must remove manually.

3.3 Uninstalling on MacOSX

To uninstall Cache Tools on MacOSX, run installer with the -u option:

```
sudo ./setup-cachetools_1.25_darwin-i386 -u
```

Uninstaller confirm removing and asks directory from where Cache Tools must be removed.

```
Cache Tools 1.25 Installer.
Copyright (C) Eugene Karataev
http://www.minimdb.com
Switched to uninstall mode.
Enter installation directory or press Enter
to use default /var/usr/cachetools :
Processing binary files...
Uninstallation of Cache Tools 1.25 complete.
```

Uninstaller removes selected instance of Cache Tools from the computer, but does not remove any routines imported into used InterSystems Cache instances. This routines you must remove manually.

3.4 Disable Server Part

To disable server-side daemon of Cache Tools, stop it by running

```
USER>d stop^%srv
```

Note that routine %srv serves connections from different computers, so before removing you must know what client computers still use Cache Tools TCP/IP daemon.

If running of daemon was inserted into the %ZSTART routine, remove this code.

After this routine %srv can be removed from InterSystems Cache including OBJ code.