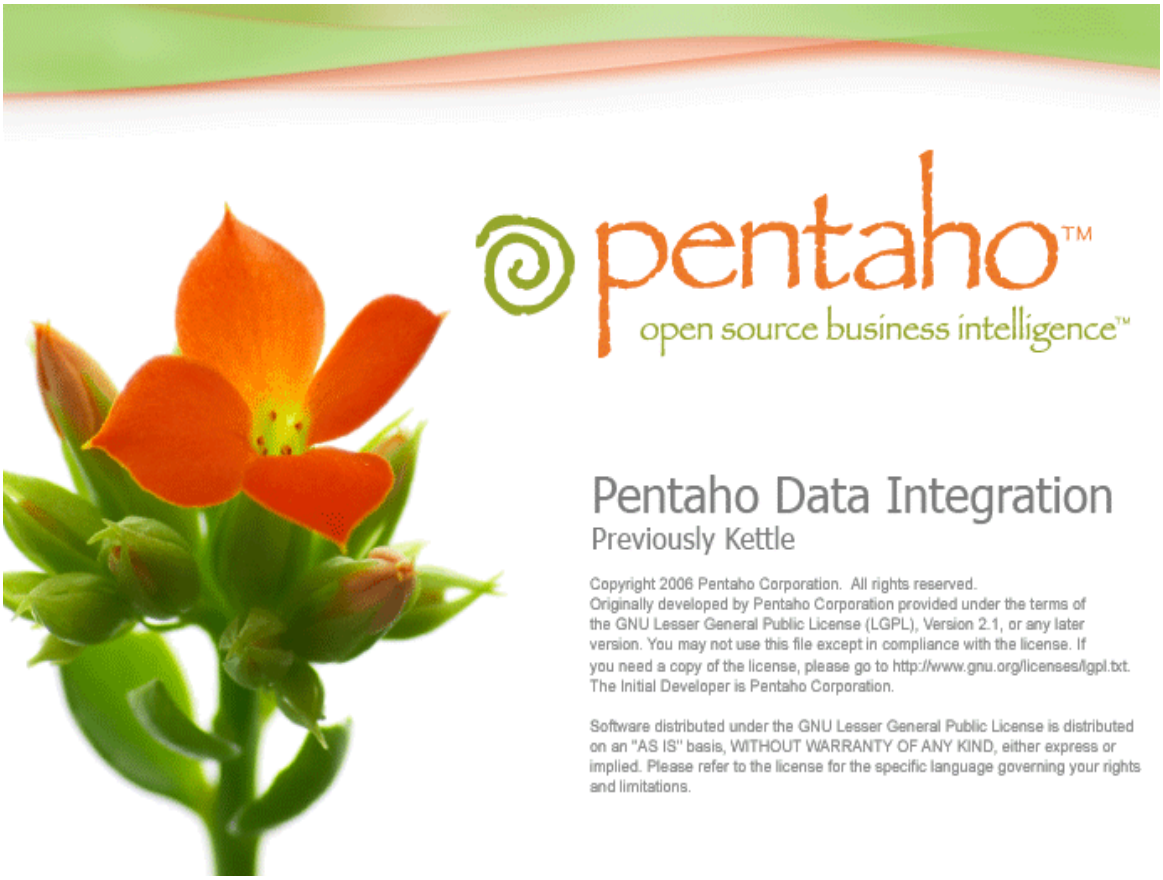


Chef version 2.3.0

http://www.pentaho.org

Table of contents

1. CHEF

1.1. What is Chef?

Kettle is an acronym for “Kettle E.T.T.L. Environment”. This means it has been designed to help you with your ETTL needs: the Extraction, Transformation, Transportation and Loading of data.

Chef is a graphical user interface for that allows you to design jobs that can be executed with the Kettle tool Kitchen. Kitchen is a job execution engine that is capable of performing a multitude of functions such as: execute transformations, execute jobs, verify file existence, get files using FTP, SFTP, HTTP, ...

NOTE: *For a complete description of Kitchen, please check out the Kitchen documentation.*

Jobs can describe themselves using an XML file or can be put in a Kettle database repository. This information can then be read by Kitchen to execute the described job entries in the job.

In short: ***Kettle makes data warehouses easier to build, update and maintain!***

1.2. Installation

The first step is the installation of Sun Microsystems Java Runtime Environment version 1.4 or higher. You can download a JRE for free at http://www.javasoft.com/.

After this, you can simply unzip the zip-file: Kettle-2.2.2.zip in a directory of your choice.
In the Kettle directory where you unzipped the file, you will find a number of files.
Under Unix-like environments (Solaris, Linux, MacOS, …) you will need to make the shell scripts executable. Execute these commands to make all shell scripts in the Kettle directory executable:

```
cd Kettle
chmod +x *.sh
```

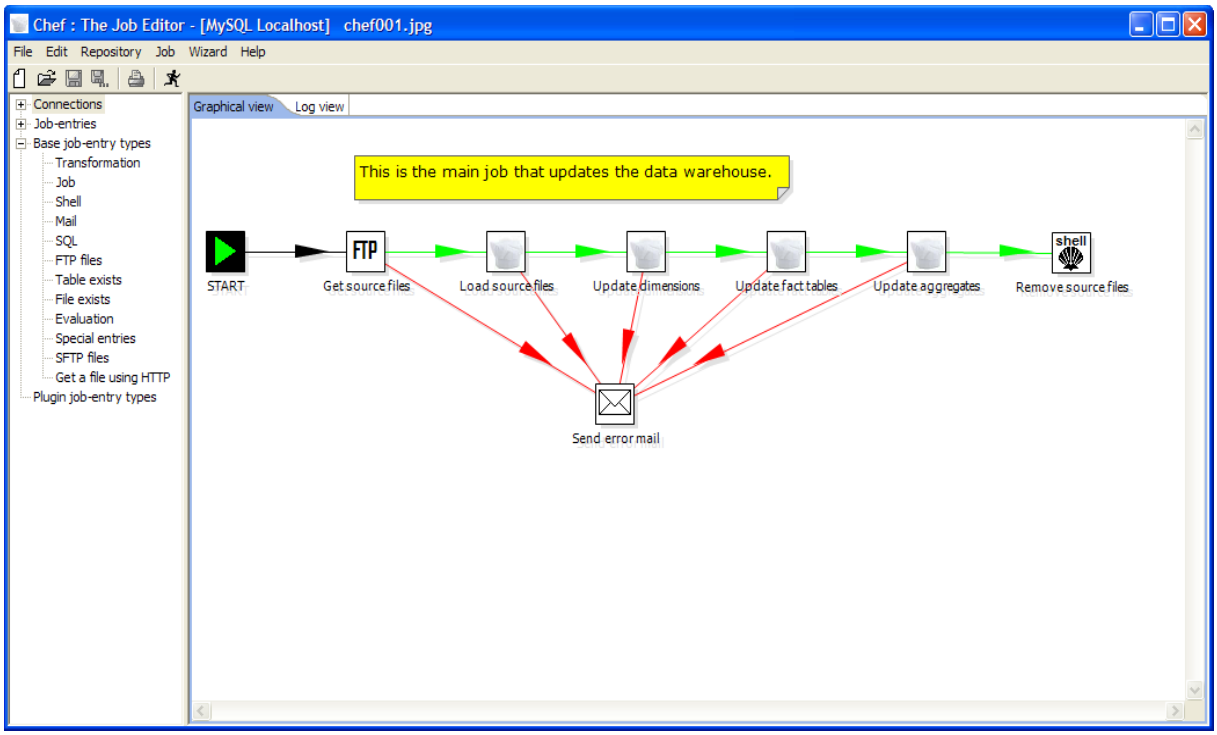
1.3. Launching Chef

To launch Chef on the different platforms these are the scripts that are provided:

- ✓ Chef.bat: launch Chef on the Windows platform.
- ✓ chef.sh: launch Chef on a Unix-like platform: Linux, Solaris, AIX, HP-UX, MacOS X

If you want to make a shortcut under the Windows platform an Icon is provided: “chef.ico” to set the correct icon. Simply point the shortcut to the Chef.bat file.

1.4. Screen shot



The following items are visible in Chef: Connections, Job-entries, job-entry types, Graphical View and the Log View.
These items are described in detailed in the chapters below: Connections in §2, Job entries in §7, the Graphical View in §8 and the Log View in §9.

1.5. Command line options

IMPORTANT NOTES:

- *On Windows system, the use of the minus ("-") in the options causes problems as well as the equal sign ("="). Because of this, from version 2.2.2 on, you can also use this format or any combination of /,- and :,=*
- *Fields in italic represent the values that the options use.*
- *It's important that if spaces are present in the option values, you use quotes or double quotes to keep them together. Take a look at the examples below for more info.*

These are the command line options that you can use.

```
-file=filename
```

This option runs the transformation defined in the XML file. (.kjb : Kettle Job)

```
-log=Logging Filename
```

Specifies the log file. The default is the standard output.

```
-rep=Repository name
```

Connect to the repository with name "*Repository name*".
You also need to specify the options –user, –pass and –trans.
The repository details are loaded from the file repositories.xml in the local directory or in the Kettle directory: <homedirectory>/.kettle/
You can also specify this option in the form of environment variable KETTLE_REPOSITORY. This will allow auto-login to the repository of your choice.

```
-user=Username
```

This is the username with which you want to connect to the repository.
You can also specify this option in the form of environment variable KETTLE_USER. This will allow auto-login to the repository of your choice.

```
-pass=Password
```

The password to use to connect to the repository
You can also specify this option in the form of environment variable KETTLE_PASSWORD. This will allow auto-login to the repository of your choice.

```
-trans=Transformation Name
```

Use this option to select the transformation to run from the repository

NOTE: *It's important that if spaces are present in the option values, you use quotes or double quotes to keep them together. This behavior is OS and Shell dependent.*

1.6. Repository

A Kettle repository can contain among other things transformations. This means that in order to load a transformation from a database repository, you need to connect to this repository.
To do this, you need to define a database connection to this repository. You can do this using the repositories dialog you are presented with when you start up Chef.

The information concerning repositories in stored in file called “repositories.xml”. This file resides in the hidden directory “.kettle” in your default home directory.

HINT: *The complete path and filename of this file is displayed on the Chef console.*

IMPORTANT: *The default password for the admin user is also admin. You should change this default password right after the creation of the repository. You can change the password using “Edit current user” or with the Repository Explorer (see §11)*

1.7. License

Starting with version 2.2.0 Kettle is released into the public domain under the LGPL license. Please refer to Appendix A for the full text of this license.

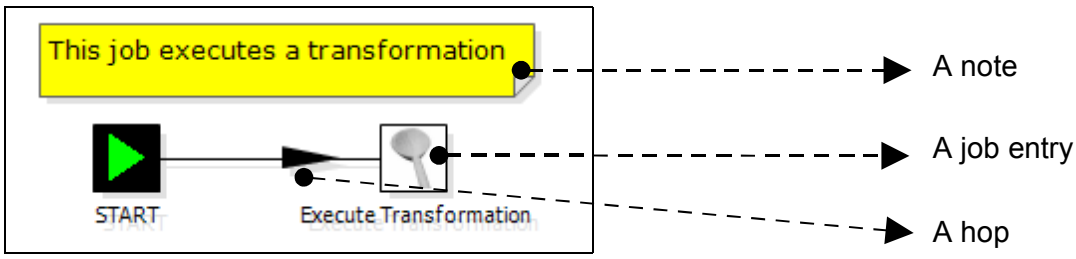
```
Copyright (C) 2005  Matt Casters i-Bridge bvba

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

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

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

1.8. Notes

You can put notes on the graphical view everywhere simply by clicking right on the canvas and selecting “Add note”.
Later these notes can be edited by double clicking on them and dragged around the screen by dragging on them with the mouse using the left button.
Removing a note can be done by a right click on the note and by selecting “Delete note”.

1.9. Definitions

- ✓ Job Entry: A job entry is one part of a job and performs a certain
- ✓ Hop: a hop is a graphical representation of one or more data streams between 2 steps. A hop always represents the link between two job entries and can be set (depending on the type of originating job entry) to execute the next job entry unconditionally, after successful execution or failed execution.
- ✓ Note: a note is a piece of information that can be added to a job



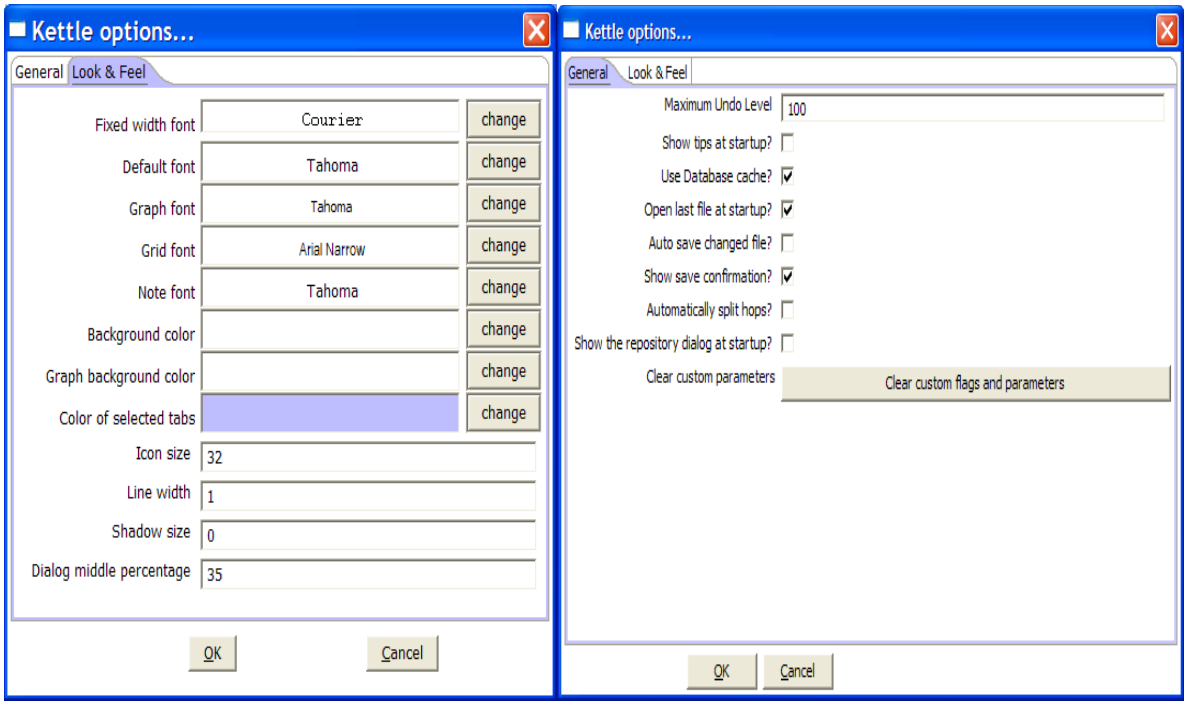
1.10. Toolbar

The icons on the toolbar of the main screen are from left to right:

Icon	*Meaning*
	New job
	Open job from file if you're not connected to a repository or from the repository if you are connected to one.
	Save the job to a file or to the repository.
	Save the job under a different name or filename.
	Print: you will be presented with a print-dialog asking you to specify the number of pages, margins etc.
	Run the job: runs the current job from XML file or repository.

1.11. Options

There are a number of options that you can change to enhance the graphical user interface, such as the fonts and the colors of the screens.
To change these options, please check out the Edit menu option “Options”.
These are screen shots of the options:



1.11.1. General tab

1.11.1.1. Maximum Undo Level

This parameter sets the maximum number of steps that can be undone (or redone) by Chef.

1.11.1.2. Show tips at startup

This option sets the display of tips at startup.

1.11.1.3. Use database cache

Chef caches information that is stored on source and target databases. In some cases this can lead to incorrect results when you’re in the process of changing those very databases. In those cases it is possible to disable the cache altogether in stead of clearing the caches every time.
NOTE: Chef automatically clears the database cache when you launch DDL (Data Definition Language) statements towards a database connection. However, when using 3rd party tools, clearing the database cache manually may be necessary.

1.11.1.4. Open last file at startup

Enable this option to automatically (try to) load the last transformation you used (opened or saved) from XML or repository.

1.11.1.5. auto save changed file

This option automatically saves a changed transformation before running.

1.11.1.6. show save confirmation

This flag allows you to turn off the confirmation dialogs you receive when a transformation has been changed.

1.11.1.7. automatically split hops

This option turns off the confirmation dialogs you get when you want to split a hop. (see also §5.4)

1.11.1.8. show the repositories dialog at startup

This option controls whether or not the repositories dialog shows up at startup.

1.11.1.9. Clear custom flags and parameters

This option clears all parameters and flags that where set in the plugin or step dialogs.

1.11.2. Look & Feel tab

1.11.2.1. Default font

This is the font that's used in the dialog boxes, trees, input fields, etc.

1.11.2.2. Graph font

This is the font that's used on the graphical view.

1.11.2.3. Grid font

This font is used in all the grids that are used in Chef.

1.11.2.4. Note font

This font is used in the notes that are displayed in the Graphical View.

1.11.2.5. Background color

Sets the background color in Chef. It affects all dialogs too.

1.11.2.6. Graph background color

Sets the background color in the Graphical View of Chef.

1.11.2.7. Color of selected tabs

This is the color that's being used to indicate tabs that are active/selected.

1.11.2.8. Icon size

This affects the size of the icons in the graph window. The original size of an icon is 32x32 pixels. The best results (graphically) are probably at sizes 16,24,32,48,64 and other multiples of 32.

1.11.2.9. Line width

This affects the line width of the hops on the Graphical View and the border around the steps.

1.11.2.10. Shadow size

If this size is larger then 0, a shadow of the steps, hops and notes is drawn on the canvas, making it look like the transformation floats above the canvas.

1.11.2.11. Dialog middle percentage

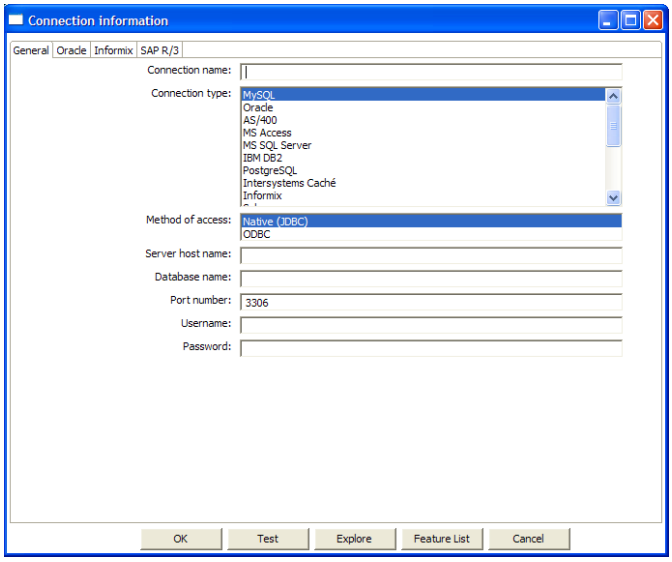
By default, a parameter is drawn at 35% of the width of the dialog, counted from the left. You can change this with this parameter. Perhaps this can be useful in cases where you use unusually large fonts.

2. DATABASE CONNECTIONS

2.1. Description

A connection describes the method by which Kettle can connect to a database. The top entries in the tree on the left describe the available connections.

2.2. Screen shot



2.3. Options

- ✓ **Connection name**: a connection name uniquely name defines a connection across transformations.
- ✓ **Connection type**: the type of database you're connecting to.
- ✓ **Method of access**: This can be either Native (JDBC), ODBC, or OCI.
- ✓ **Server host name**: specify the host name of the server on which the database resides. You can also specify it's IP-address.
- ✓ **Database name**: identifies the database name you want to connect to. In case of ODBC specify the DSN name here. (see also §2.4)
- ✓ **Port number**: sets the TCP/IP port number on which the database listens.
- ✓ **Username/password**: optionally specifies the user name and password to connect to the database.

EXTRA:

- For Oracle you can specify the default tablespaces in which Kettle will places objects generating SQL for tables and indexes.
- For Informix, you need to specify the Informix Server name in the Informix tab in order for a connection to be usable.
- For SAP R/3 connections, extra parameters Language, System Number and SAP Client can be specified in the SAP R/3 tab.
- Feature list: exposes the jdbc URL, class and various database settings for the connection such as the list of reserved words.

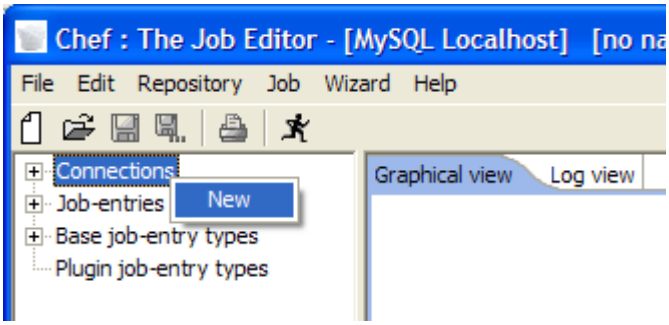
2.4. Database Usage Grid

Database	Access Method	Server name or address	Database name	Port nr (default)	Username & password
Oracle	Native	Required	Oracle database SID	Required (1521)	Required
	ODBC		ODBC DSN name		Required
	OCI		Database TNS name		Required
MySQL	Native	Required	MySQL database name	Required (3306)	Required
	ODBC		ODBC DSN name		Required
AS/400	Native	Required	AS/400 Library name	Optional	Required
	ODBC		ODBC DSN name		Required
MS Access	ODBC		ODBC DSN name		Optional
MS SQL Server	Native	Required	Database name	Required (1433)	Required
	ODBC		ODBC DSN name		Required
IBM DB2	Native	Required	Database name	Required (50000)	Required
	ODBC		ODBC DSN name		Required
PostgreSQL	Native	Required	Database name	Required (5432)	Required
	ODBC		ODBC DSN name		Required
Intersystems Caché	Native	Required	Database name	Required (1972)	Required
	ODBC		ODBC DSN name		Required
Informix	Native	Required	Database name	Required (1526)	Required
	ODBC		ODBC DSN name		Required
Sybase	Native	Required	Database name	Required (5001)	Required
	ODBC		ODBC DSN name		Required
Gupta SQL Base	Native	Required	Database name	Required (2155)	Required
	ODBC		ODBC DSN name		Required
Dbase III, IV or 5.0	ODBC		ODBC DSN name		Optional
Firebird SQL	Native	Required	Database name	Required (3050)	Required
	ODBC		ODBC DSN name		Required
Hypersonic	Native	Required	Database name	Required (9001)	Required
MaxDB (SAP DB)	Native	Required	Database name		Required
	ODBC		ODBC DSN name		Required
CA Ingres	Native	Required	Database name		Required
	ODBC		ODBC DSN name		Required
Generic	ODBC		ODBC DSN name		Optional

2.5. Usage

2.5.1. Create a new connection

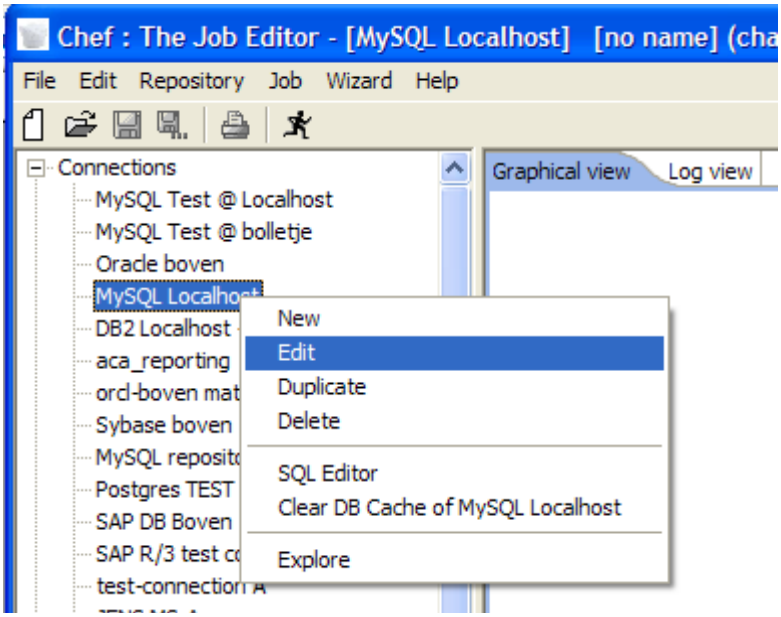
You can create a new connection by clicking right on the "Connections" tree entry and selecting "new".



Or double click on the Connections tree entry.
Or press F3 to start the “new connection” wizard.

2.5.2. Edit a connection

Double click on the connection name in the left tree. Or right click on the name and select "Edit connection".



2.5.3. Duplicate a connection

Right click on the connection name and select "Duplicate ".

2.5.4. Delete a connection

Right click on the connection name and select "Delete".

2.5.5. SQL Editor

Executes SQL commands on a connection. Right click on the connection name and select "SQL Editor". See also §3 for more information.

2.5.6. Clear DB Cache option

To speed up connections Chef uses a database cache. Use this option when the information in the cache no longer represents the layout of the database. This is the case when databases tables have been changed, created or deleted.

2.5.7. Explore

This option will start the database explorer for the selected database connection.
Please see §4 for more information.

2.6. Unsupported databases

If you want to access a database type that is not yet supported, let us know and we will try to find a solution. A few database types are not supported in this release because of the lack of sample database and/or software.
Please note that it is usually still possible to read from these databases by using the Generic database driver through an ODBC connection.

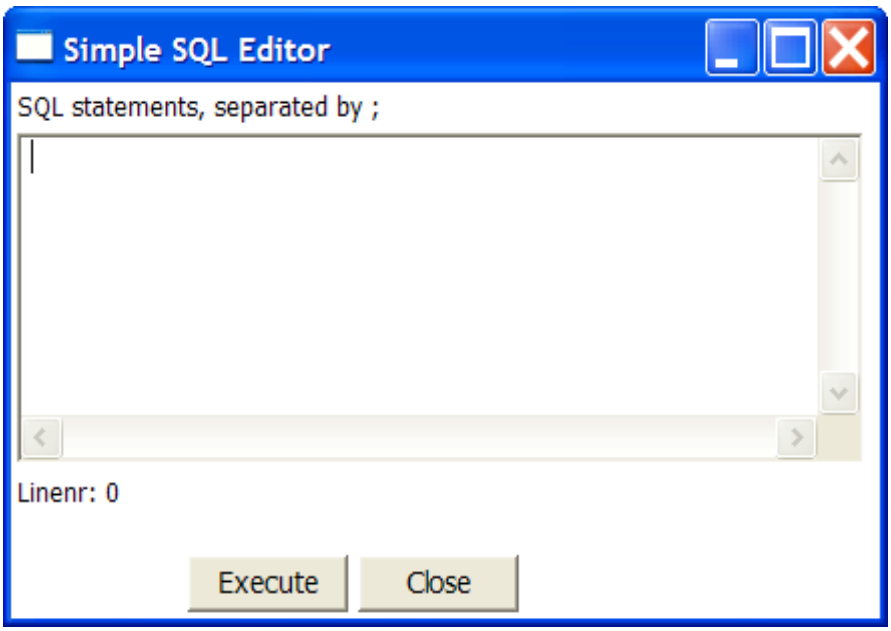
3. SQL EDITOR

3.1. Description

Sometimes a simple SQL Editor can be nice to have. Especially when you're creating tables, dropping indexes and modifying fields. The simple SQL editor supplied in Chef, allows you to do this. In fact, most of the DDL (Data Definition Language) such as “create/alter table”, “create index” and “create sequence” SQL commands are created automatically for you via the SQL Editor window.

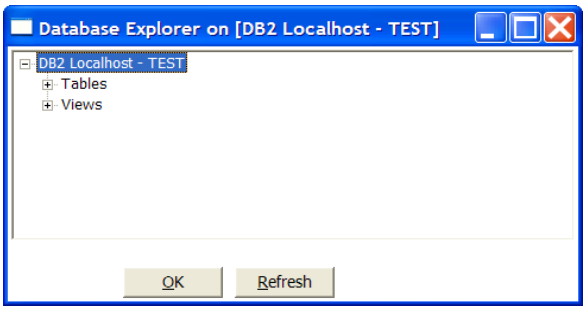
NOTE: *Multiple SQL Statements have to be separated by semi-colons (;).*
NOTE: *Before these SQL Statements are sent to the database to be executed, Chef removes returns, line-feeds and the separating semi-colons.*
NOTE: *Kettle clears the database cache for the database connection on which you launch DDL statements.*

3.2. Screen shot



4. DATABASE EXPLORER

4.1. Screenshot



4.2. Description

The database explorer allows you to explore the database to which the database connection points. At the moment, it only shows available tables and the catalog and/or schema to which the table belongs.
It is possible to click right on a shown table or view (lowest level in the tree) and select one of the following options:

- ✓ Display the first 100 rows of the table (also available through double-click on table name)
- ✓ Display the first … lines of the table
- ✓ Show the size (in rows) of the table.
- ✓ Show layout of the table
- ✓ Generate the DDL statement (create table ...) for this table.
- ✓ Generate the DDL statement (create table ...) for this table on another database connection
- ✓ Show the SQL statement to read from this table. (in SQL Editor)

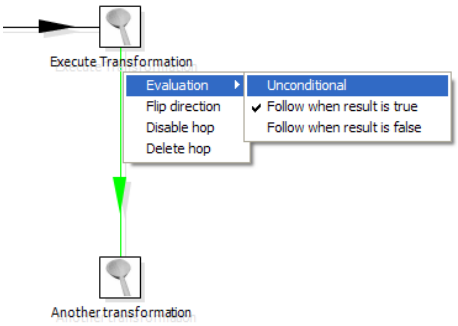
5. JOB HOPS

5.1. Description

A job hop connects one job entry with another. The execution order is indicated with an arrow on the graphical view pane. A job hop can be enabled or disabled. (For testing purposes for example). Besides the execution order, it also specifies the condition on which the next job entry will be executed. You can specify the evaluation mode by right clicking on the job hop:

- "Unconditional" specifies that the next job entry will be executed regardless of the result of the originating job entry.
- "Follow when result is true" specifies that the next job entry will **only** be executed when the result of the originating job entry was true, meaning successful execution, file found, table found, without error, evaluation was false, ...
- "Follow when result is false" specifies that the next job entry will **only** be executed when the result of the originating job entry was false, meaning unsuccessful execution, file not found, table not found, error(s) occurred, evaluation was false, ...

5.2. Screenshot



5.3. Creating A Hop

You can easily create a new hop between 2 job entries by one of the following options:

- ✓ Dragging on the Graphical View between 2 job entries while using the middle mouse button.
- ✓ Dragging on the Graphical View between 2 job entries while pressing the SHIFT key and using the left mouse button.
- ✓ Selecting 2 job entries in the graphical view (CTRL + left mouse click), clicking right on a job entry and selecting "new hop"

5.4. Splitting A Hop

You can easily insert a new job entry into a hop between 2 job entries by dragging the job entry (in the Graphical View) over a hop until the hop becomes drawn in bold. Release the left button and you will be asked if you want to split the hop. This works only with job entries that have not yet been connected other job entries.

5.5. Loops

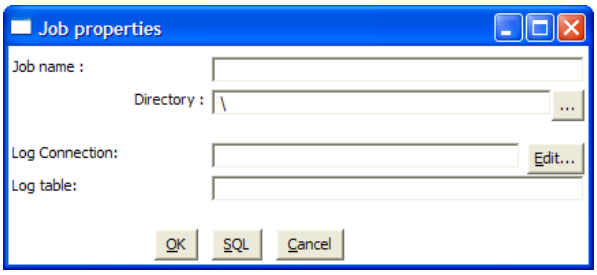
Loops **are** allowed in jobs because Chef executes job entries sequentially. Just make sure you don't build endless loops. Please check out Evaluation job entry in §. This job entry can help you exit closed loops based on the number of times a job entry was executed.

6. JOB SETTINGS

6.1. Description

There are a few options that control how a job is behaving and how it is logging what it is doing.

6.2. Screenshot



6.3. Options

Option	*Description*
job name	the name of the job. This is required information if you want to save to a repository.
Directory	the directory in the repository in which you want to save the job.
Log connection	Use this connection to write to a log table
Log table	specifies the name of the log table (for example L_ETL)

6.4. Extra

✓ SQL button: generates the SQL needed to create the logging table and allows you to execute this SQL statement.

7. JOB ENTRIES

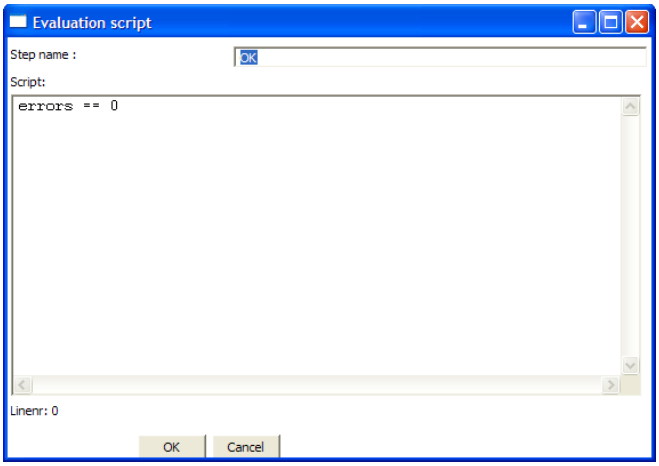
7.1. Description

A job entry is one part of a job. Job entries can provide you with a wide range of functionality ranging from executing transformations to getting files from a web server.
Please see below for a complete list of all available job entry types.

7.2. Job Entry Types

7.2.1. Special Job Entries

7.2.1.1. Screenshot



7.2.1.2. Icons

7.2.1.3. General description

7.2.1.3.1. Start

Start is where the job starts to execute and is required before the job can be executed.
Only unconditional job hops are available from a Start job entry.

7.2.1.3.2. Dummy

Use the Dummy job entry to do nothing in a job. This can be useful to make job drawings clearer or for looping. Dummy performs no evaluation.

7.2.1.3.3. OK

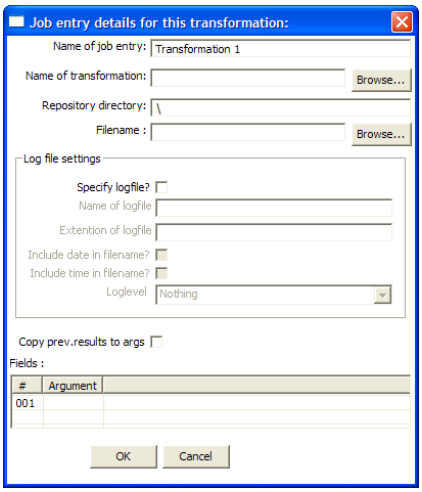
Checks if the number of errors from a previous job entry was 0 and results to true if this is the case. See also the “Evaluation” job entry.

7.2.1.3.4. ERROR

Checks if the number of errors from a previous job entry was different from 0 and results to true if this is the case. See also the “Evaluation” job entry.

7.2.2. Transformation

7.2.2.1. Screenshot



7.2.2.2. Icon

7.2.2.3. General description

You can use the *Transformation* job entry to execute a previously defined transformation.

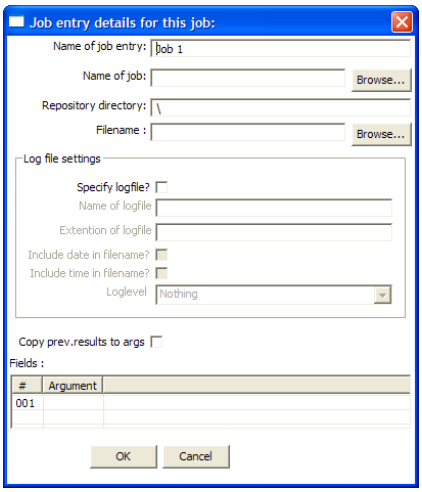
7.2.2.4. Options

Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Name of transformation	The name of the transformation to start.
Repository directory	The directory in the repository where the transformation is located.
Filename	If you're not working with a repository, specify the XML filename of the transformation to start.
Specify log file	Check this if you want to specify a separate logging file for the execution of this transformation.
Name of log file	The directory and base name of the log file (for example C:\logs)
Extension of the log file	The filename extension (for example: log or txt)
Include date in filename	Adds the system date to the filename. (_20051231)
Include time in filename	Adds the system time to the filename. (_235959)
Logging level	Specifies the logging level for the execution of the transformation. See also the logging window in §9.4.4
Copy previous results to arguments	The results from a previous transformation can be sent to this one using the “Copy rows to result” step.

Option	*Description*
Arguments	Specify the strings to use as arguments for the transformation.

7.2.3. Job

7.2.3.1. Screenshot



7.2.3.2. Icon

7.2.3.3. General description

You can use the *Job* job entry to execute a previously defined job.

WARNING! *Although it is possible to create a recursive, never ending job that points to itself, you should be aware. This job will probably eventually fail with an out of memory or stack error.*

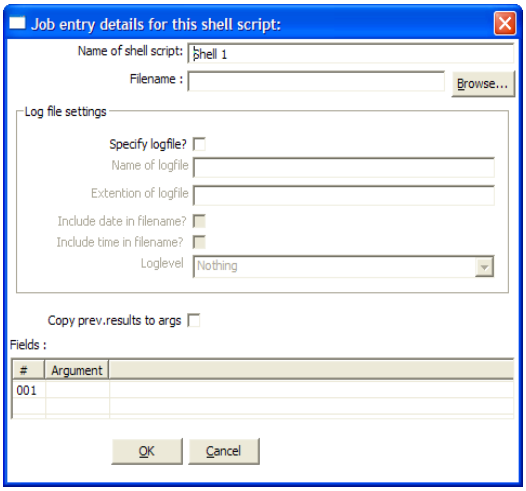
7.2.3.4. Options

Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Name of transformation	The name of the job to start.
Repository directory	The directory in the repository where the job is located.
Filename	If you're not working with a repository, specify the XML filename of the job to start.
Specify log file	Check this if you want to specify a separate logging file for the execution of this job.
Name of log file	The directory and base name of the log file (for example C:\logs)
Extension of the log file	The filename extension (for example: log or txt)
Include date in filename	Adds the system date to the filename. (_20051231)
Include time in filename	Adds the system time to the filename. (_235959)
Logging level	Specifies the logging level for the execution of the job. See also the logging window in §9.4.4

Option	*Description*
Copy previous results to arguments	The results from a previous transformation can be sent to this job using the “Copy rows to result” step in a transformation.
Arguments	Specify the strings to use as arguments for the job.

7.2.4. Shell

7.2.4.1. Screenshot



7.2.4.2. Icon

7.2.4.3. General description

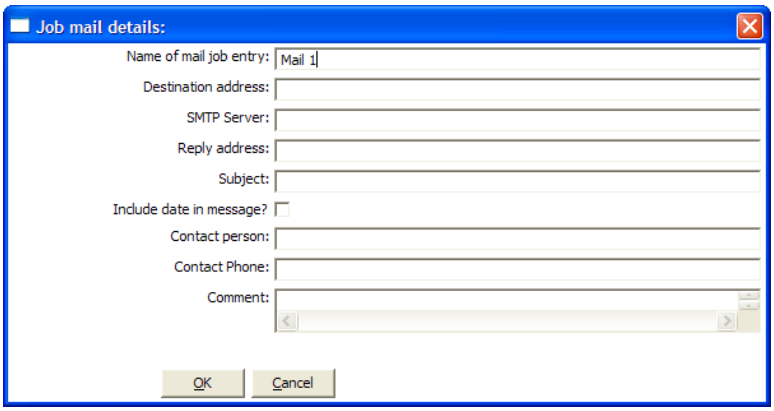
You can use the *Shell* job entry to execute a shell script on the host where the job is running.
NOTE: *On windows, batch files (.bat) can not under any condition output text to the console window because of certain shell execution issues on that platform. Otherwise, the batch files will stall.*

7.2.4.4. Options

Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Filename	The filename of the shell script to start.
Specify log file	Check this if you want to specify a separate logging file for the execution of this shell script.
Name of log file	The directory and base name of the log file (for example C:\logs)
Extension of the log file	The filename extension (for example: log or txt)
Include date in filename	Adds the system date to the filename. (_20051231)
Include time in filename	Adds the system time to the filename. (_235959)
Logging level	Specifies the logging level for the execution of the shell. See also the logging window in §9.4.4
Copy previous results to arguments	The results from a previous transformation can be sent to the shell script using the “Copy rows to result” step. (as arguments)
Arguments	Specify the strings to use as arguments for the shell script.

7.2.5. Mail

7.2.5.1. Screenshot



7.2.5.2. Icon

7.2.5.3. General description

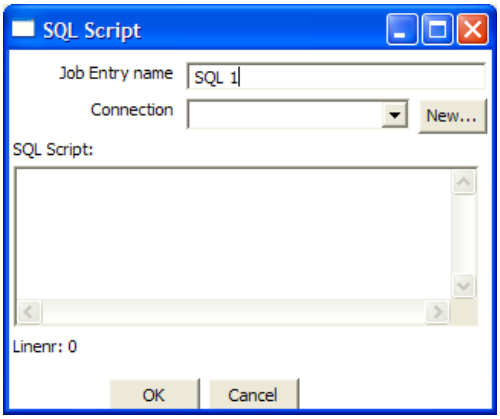
You can use the *Mail* job entry to send an e-Mail.

7.2.5.4. Options

Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Destination address	The destination for the e-Mail
SMTP server	The mail server to which the mail has to be sent.
Reply address	The reply address for this e-Mail
Subject	The subject of the e-Mail
Include date in message	Check this if you want to include the date in the e-Mail
Contact person	The name of the contact person to be placed in the e-Mail
Contact phone	The contact telephone number to be placed in the e-Mail
Comment	Additional comment to be placed in the e-Mail

7.2.6. SQL

7.2.6.1. Screenshot



7.2.6.2. Icon

7.2.6.3. General description

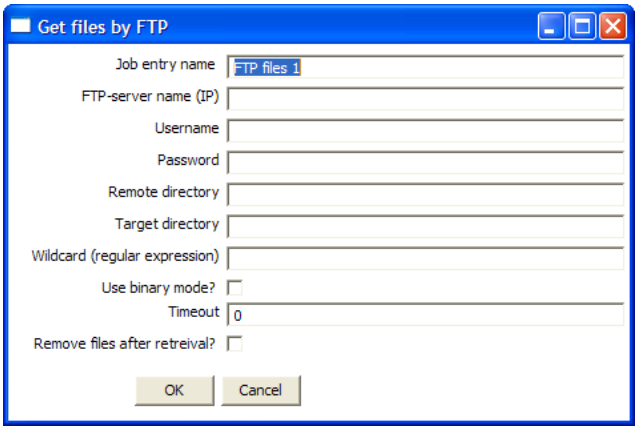
You can use the *SQL* job entry to execute an SQL script.
This means a number of SQL statements separated by ;

7.2.6.4. Options

Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Connection	The database connection to use
SQL script	The SQL script to execute

7.2.7. FTP

7.2.7.1. Screenshot



7.2.7.2. Icon

7.2.7.3. General description

You can use the *FTP* job entry to get one or more files from an FTP server

7.2.7.4. Options

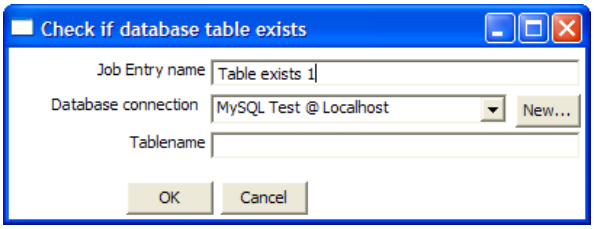
Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
FTP server name	The name of the server or the IP address
User name	The user name to log into the FTP server
Password	The password to log into the FTP server
Remote directory	The remote directory on the FTP server from which we get the files
Target directory	The directory on the machine on which Kettle runs in which you want to place the transferred files

Wildcard	Specify a regular expression here if you want to select multiple files. For example:
	`.*txt$ : get all text files`
	`A.*[0-9]\.txt : files tarting with A ending with a number and .txt`

Use binary mode?	Check this if the files need to be transferred in binary mode.
Timeout	The FTP server timeout in seconds
Remove files after retrieval?	Remove the files on the FTP server, but only after all selected files have been successfully transferred.

7.2.8. Table Exists

7.2.8.1. Screenshot



7.2.8.2. Icon

7.2.8.3. General description

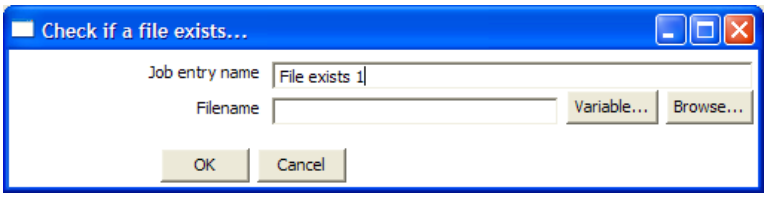
You can use the *Table Exists* job entry to verify if a certain table exists on a database.

7.2.8.4. Options

Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Database connection	The database connection to use
Table name	The name of the database table to check

7.2.9. File Exists

7.2.9.1. Screenshot



7.2.9.2. Icon

7.2.9.3. General description

You can use the File *Exists* job entry to verify if a certain file exists on the server on which Kettle runs.

7.2.9.4. Options

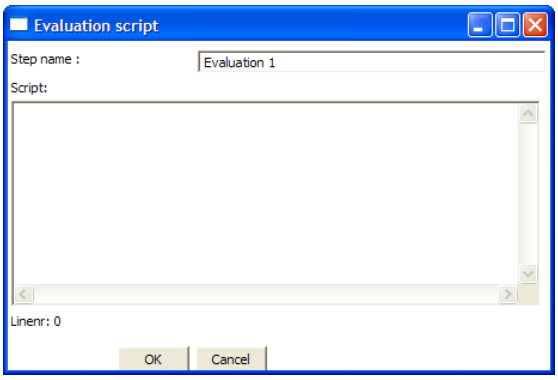
Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Filename	The name and path of the file to check for

7.2.9.5. Extra

- Variable: select the variable to use as filename
- Browse: look for the file on the file system

7.2.10. Evaluation

7.2.10.1. Screenshot



7.2.10.2. Icon

7.2.10.3. General description

You can use the *Evaluation* job entry to calculate a boolean variable. This variable can then be used to determine which next step will be executed.
The following variables are available to the user:

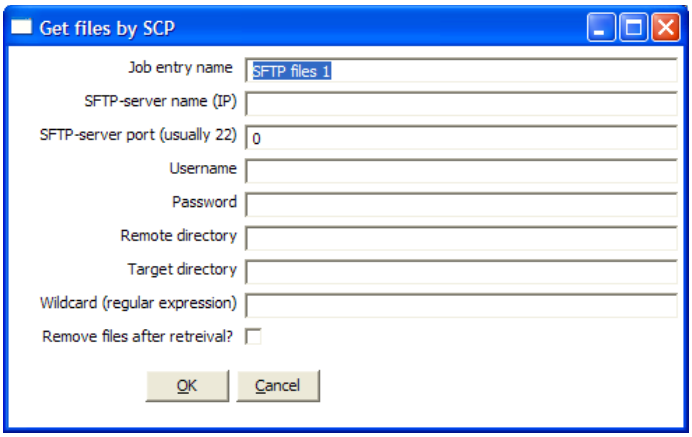
- errors : number of errors in the previous job entry (long)
- lines_input : number of rows read from database or file (long)
- lines_output : number of rows written to database or file (long)
- lines_updated : number of rows updated in a database table (long)
- lines_read : number of rows read from a previous transformation step (long)
- lines_written : number of rows written to a next transformation step (long)
- files_retrieved : number of files retrieved from an FTP server (long)
- exit_status : the exit status of a shell script (integer)
- nr : the job entry number. Increments at every next job entry. (integer)
- is_windows : true if Kettle runs on MS Windows (boolean)

7.2.10.4. Options

Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Script	The Javascript that needs to be run to evaluate. The last statement in the script needs to result in a boolean

7.2.11. SFTP

7.2.11.1. Screenshot



7.2.11.2. Icon

7.2.11.3. General description

You can use the *SFTP* job entry to get one or more files from an FTP server using the Secure FTP protocol.

7.2.11.4. Options

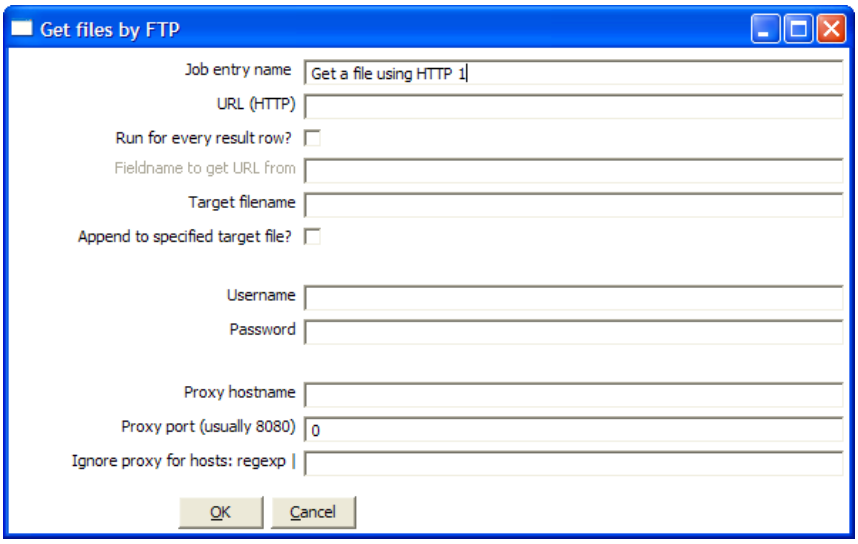
Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
SFTP-server name (IP)	The name of the SFTP server or the IP address
SFTP port	The TCP port to use. This is usually 22
User name	The user name to log into the SFTP server
Password	The password to log into the SFTP server
Remote directory	The remote directory on the SFTP server from which we get the files
Target directory	The directory on the machine on which Kettle runs in which you want to place the transferred files

Wildcard	Specify a regular expression here if you want to select multiple files. For example:
	`.*txt$ : get all text files`
	`A.*[0-9]\.txt : files tarting with A ending with a number and .txt`

Remove files after retrieval?	Remove the files on the SFTP server, but only after all selected files have been successfully transferred.

7.2.12. HTTP

7.2.12.1. Screenshot



7.2.12.2. Icon

7.2.12.3. General description

You can use the *HTTP* job entry to get a file from a web server using the HTTP protocol.

7.2.12.4. Options

Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
URL (HTTP)	The URL to use (for example: http://www.kettle.be/index.html)
Run for every result row	Check this if you want to run this job entry for every row that was generated by a previous transformation. Use the “Copy rows to result”
Fieldname to get URL from	The fieldname in the result rows to get the URL from
Target filename	The target filename
Append to target file	Append to the target file if it already exists
Username	The username to authenticate with. For Windows Domains, put the Domain in from of the user like this DOMAIN\Username
Password	The password to authenticate with.
Proxy server	The HTTP proxy server name or IP address
Proxy port	The HTTP proxy port to use (usually 8080)
Ignore proxy for hosts	Specify a regular expression matching the hosts you want to ignore, |

Option	*Description*
	separated. For example 127\.0\..*

8. GRAPHICAL VIEW

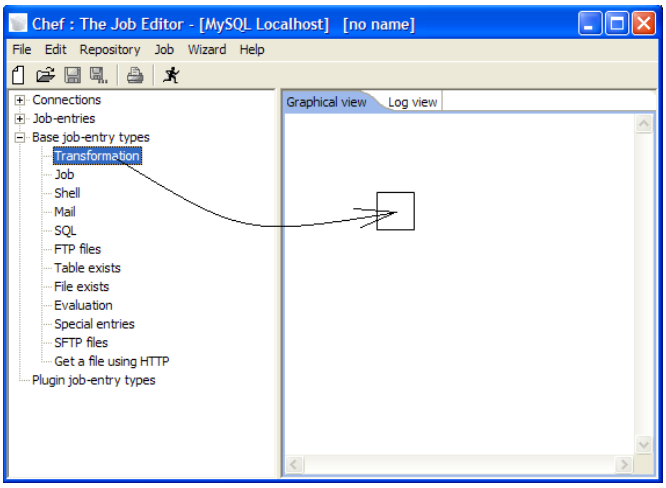
8.1. Description

The Graphical View is the canvas on which jobs are drawn.
It shows an easy to understand representation of the work that needs to be done and the flow of the data.

8.2. Adding job entries

8.2.1. Dragging

Adding steps to a transformation on the canvas is easy: simply select a step type from the tree on the left and drag in onto the canvas:



At the location of the mouse you will see a square that represents the location of the job entries when you let go of the button.
When you let go of the mouse button the selected job entry (Transformation) will become part of the job.

8.3. Hiding and deleting a job entry

A single job entry can be placed multiple times on the canvas.
A job entry can be removed from the job (hidden), but can only be deleted when all copies have been hidden. Click right on a job entry on the canvas to hide it.

8.4. Job entry options (right click popup menu)

8.4.1. Launch Spoon/Chef

This opens a Spoon or Chef window displaying the selected transformation or job.

8.4.2. Edit job entry

This opens the dialog for the job entry allow you to change the settings

8.4.3. Edit job entry description

This opens a dialog that allows you to enter a textual description of the job entry.

8.4.4. Duplicate job entry

This option will create a copy, positioned a bit lower to the right of the original job entry.

8.4.5. Delete step

This will permanently remove the step from the transformation.

8.4.6. Copy selected entries to clipboard (CTRL-C)

Copies the XML describing the selected job entries to the clipboard.

8.4.7. align / distribute

This option allows you to keep the graph clean by aligning job entries with each other.

8.5. Adding hops

On the graphical view the quickest way to create a new hop is by dragging with the mouse from one job entry to another using the middle button.
You can also drag the left button and press the SHIFT key at the same time.

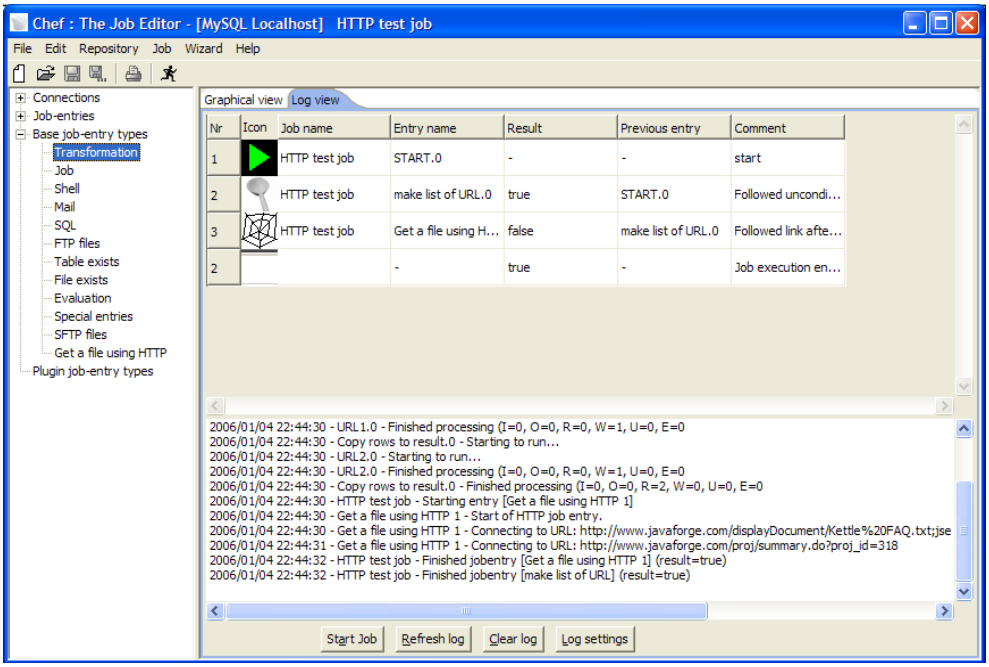
For a more complete explanation regarding hops, please check out §5 (Job Hops)

9. LOG VIEW

9.1. Description

The Log View shows what's happening when a job is running.
First of all it shows all the details of the completed job entries. Secondly, it shows the log as it would be shown if the job would be launched by Kitchen.

9.2. Screenshot



9.3. Log Grid

The log grid shows the following columns:

- ✓ The icon of the job entry that has been completed
- ✓ The name of the running job
- ✓ The name of the job entry that has finished
- ✓ The result (true/false) of the job entry
- ✓ The name of the previous job entry
- ✓ A description explaining why the job entry was executed

9.4. Buttons

9.4.1. Start job

This button starts the job you're designing. Please note that Chef tries to launch this as Kitchen would: from XML-file or repository. It is therefore necessary that the job is saved. The output of the execution is displayed in the Log Text part of the Log View.

9.4.2. Refresh log

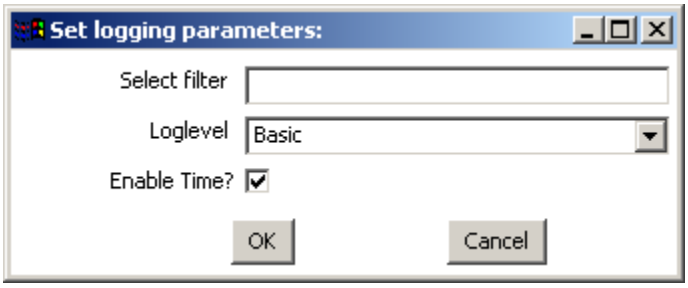
Refreshes the log window.

9.4.3. Clear log

This clears the text in the Log Text Window.

9.4.4. Log Settings

This is the “Log Settings” dialog:



If you put a text in the filter field, only the lines that contain this text will be shown in the Log Text window.
The “Log level” setting allows you to select the logging level. You can choose one of these:

- ✓ Error: Only show errors
- ✓ Nothing: Don’t show any output
- ✓ Minimal: Only use minimal logging
- ✓ Basic: This is the default basic logging level
- ✓ Detailed: Give detailed logging output
- ✓ Debug: For debugging purposes, very detailed output.
- ✓ Row level: Logging at a row level, this can generate a lot of data.

If the “Enable time” option is enabled, all lines in the logging will be preceded by the time of day.

10. GRIDS

10.1. Description

Grids are used everywhere in Chef & Kettle. They are used to enter or display information.

10.2. Functions

Most of the functions available in a grid (that is not read-only) are available by right clicking with the mouse on a grid:

- ✓ Insert before this row: inserts an empty row before the row you clicked on
- ✓ Insert after this row: inserts an empty row after the row you clicked on
- ✓ Move the row up: move the row you clicked on up. The keyboard shortcut for this is CTRL-UP
- ✓ Move the row down: move the row you clicked on down. The keyboard shortcut for this is CTRL-DOWN
- ✓ Optimal column size including header: resize all columns so that it displays all values completely, including the header. The keyboard shortcut for this function is function key F3.
- ✓ Optimal column size excluding header: resize all columns so that it displays all values completely. The keyboard shortcut for this function is function key F4.
- ✓ Clear all: clears all information in the grid. You will be asked to confirm this operation.
- ✓ Select all rows: selects all rows in the grid. The keyboard shortcut for this function is CTRL-A
- ✓ Clear selection: clears the selection of rows in the grid. The keyboard shortcut for this function is ESC
- ✓ Copy selected lines to clipboard: Copies the selected lines to the clipboard in a textual representation. These lines can then be exchanged with other programs such as spreadsheets or even other Chef & Kettle dialogs. The keyboard shortcut for this function is CTRL-C
- ✓ Paste clipboard to table: Insert the lines that are on the clipboard to the grid, right after the line on which you clicked. The keyboard shortcut for this function is CTRL-V
- ✓ Cut selected lines: Copies the selected lines to the clipboard in a textual representation. After that, the lines are deleted from the grid. The keyboard shortcut for this function is CTRL-X
- ✓ Delete selected lines: deletes all selected lines from the grid. The keyboard shortcut for this function is DEL
- ✓ Keep only selected lines: if there are more lines to delete then there are to keep, simply select the lines you want to keep and use this function. They keyboard shortcut for this function is CTRL-K
- ✓ Copy field values to all rows: if all rows in the grid need to have the same value for a certain column, you can use this function to do this.
- ✓ Undo: undo the previous grid operation. The keyboard shortcut for this function is CTRL-Z
- ✓ Redo: redo the next grid operation. The keyboard shortcut for this function is CTRL-Y

10.3. Navigating

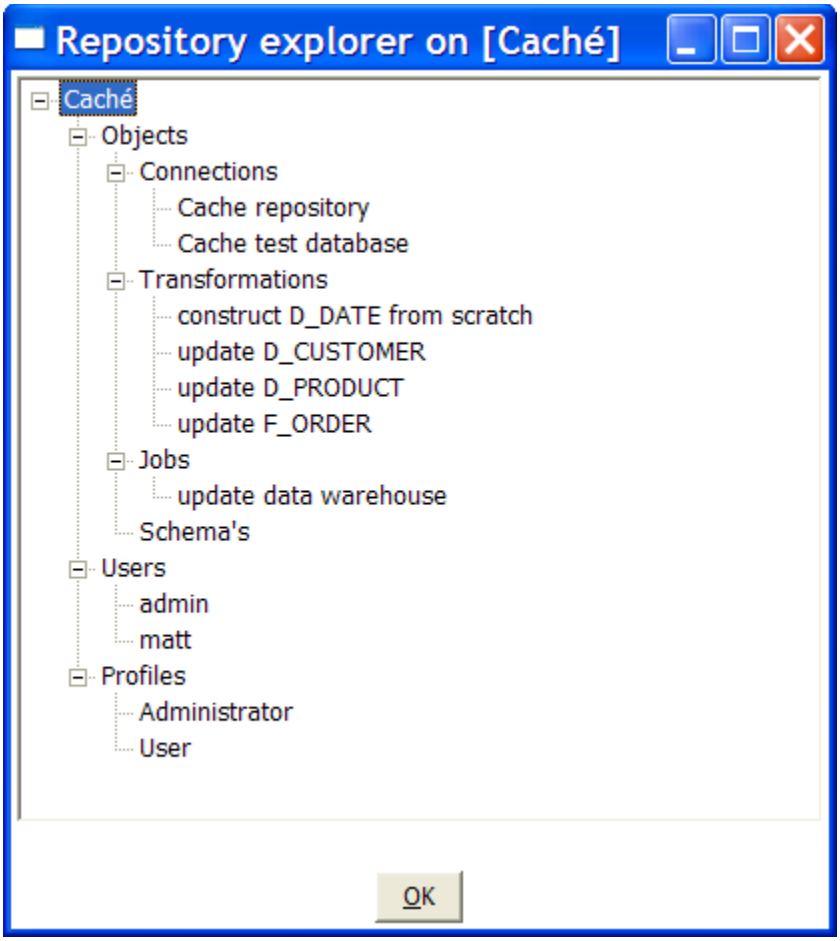
If you click on a cell in a grid, you can edit this field.
After pressing enter, you can navigate the grid by using the cursor keys.
Pressing enter again allows you to edit a field.

11. REPOSITORY EXPLORER

11.1. Description

The repository Explorer shows you a tree view on the database repository to which you are connected. It allows you to examine and modify the content.

11.2. Screenshot

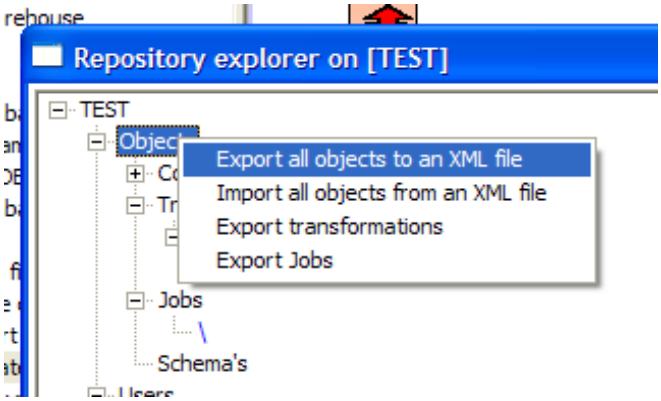


11.3. Functions

Check out the different functions when right clicking in the tree. It's fairly straightforward.

11.4. Backup / Recovery

It is possible to export the complete repository in XML: click right on “Objects” in the repository and select one of these options.



NOTE: *you can restore the objects from a backed up repository anywhere in the target repository directory tree.*

12. APENDIX A

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Version 2.1, February 1999

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