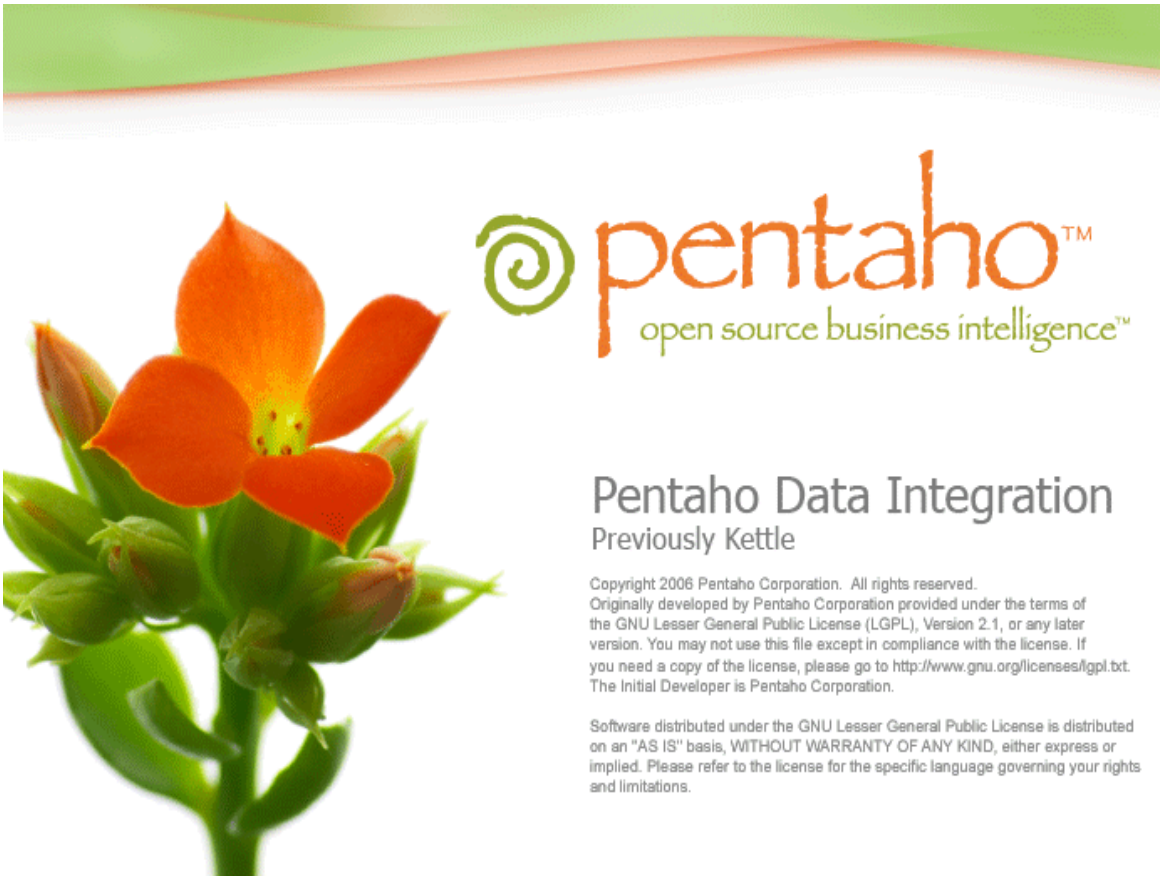


Chef version 2.3.0

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: Pentaho Data Integration ***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-2.3.0.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
```

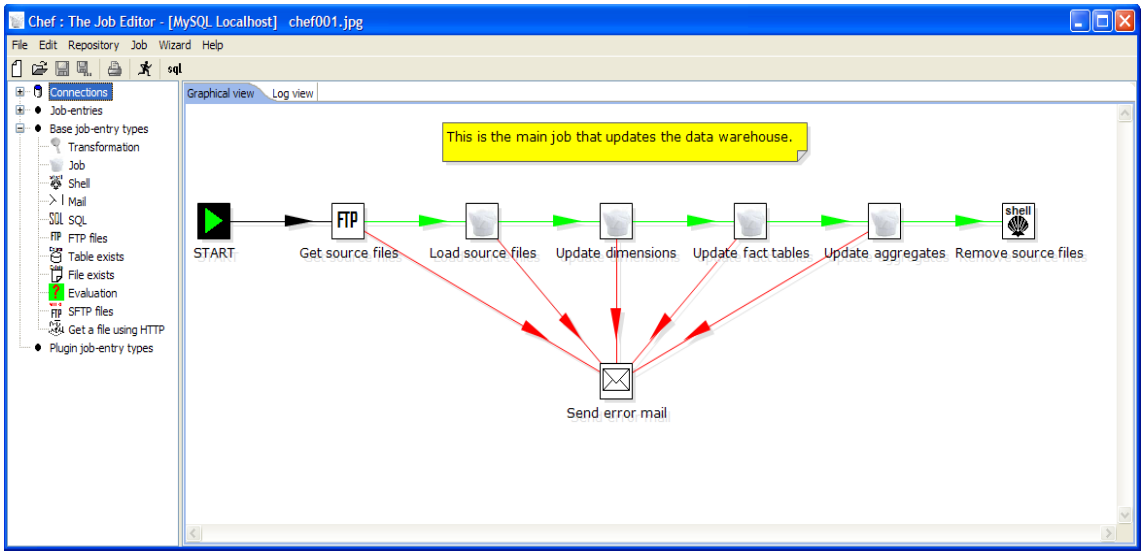
1.3. Launching Chef

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, OS 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: 2. Database Connections, 7. Job Entries, 8. Graphical View and 9. Log View.

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 :,= for example /option:value*
- *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 job 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.

```
-job=Job Name
```

Use this option to select the job 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 and jobs. This means that in order to load a job 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. Repository Explorer)*

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.

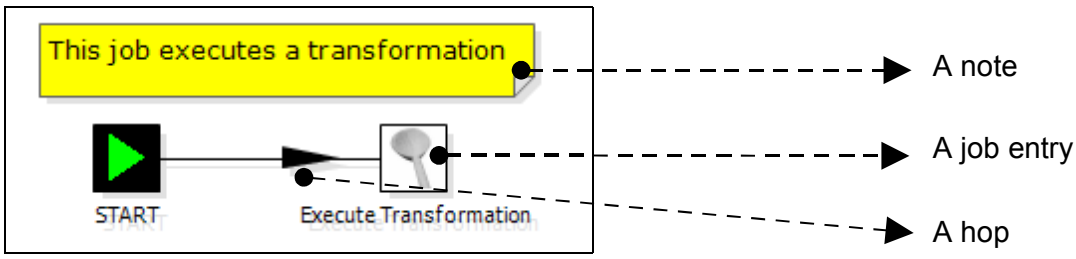
```
Copyright (C) 2006 Pentaho Corporation

    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

Please see the options described in Spoon-2.3 - 2.14 Options

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.

For a complete description on how to use database connection, please see Spoon-2.3.pdf, chapter 3. Database Connections

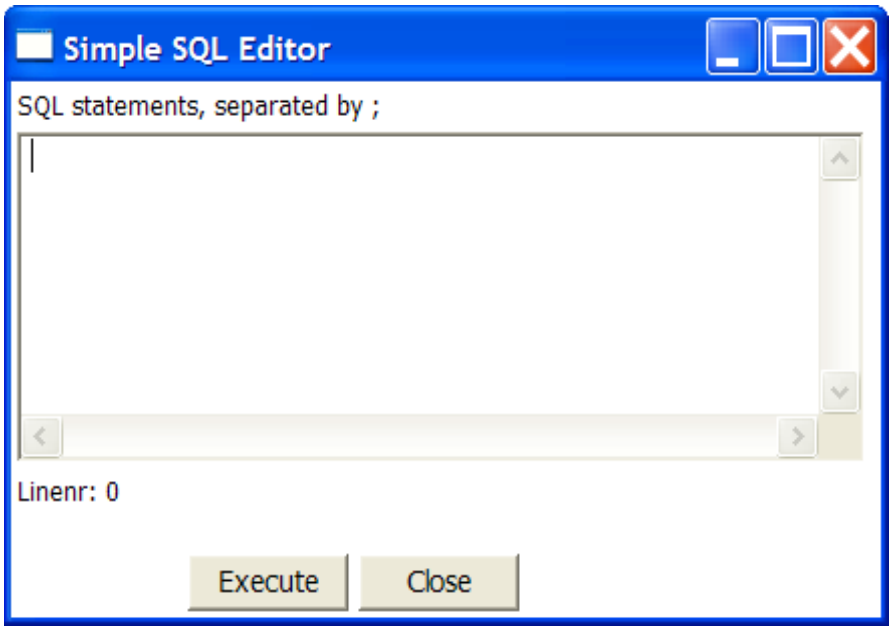
3. SQL EDITOR

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.

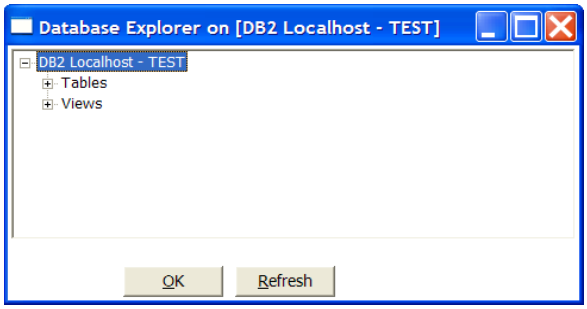
NOTE: *Multiple SQL Statements have to be separated by semi-colons (;).*
NOTE: *Before these SQL Statements are sent to the database to be executed, Chef removes returns, line-feeds and the separating semi-colons.*
NOTE: *Kettle clears the database cache for the database connection on which you launch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

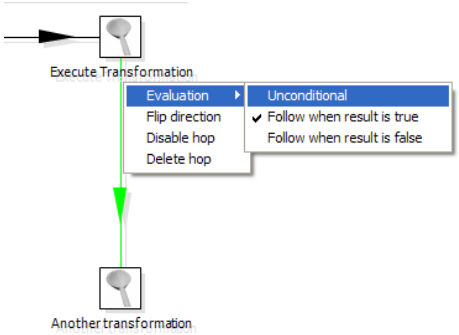
5. JOB HOPS

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

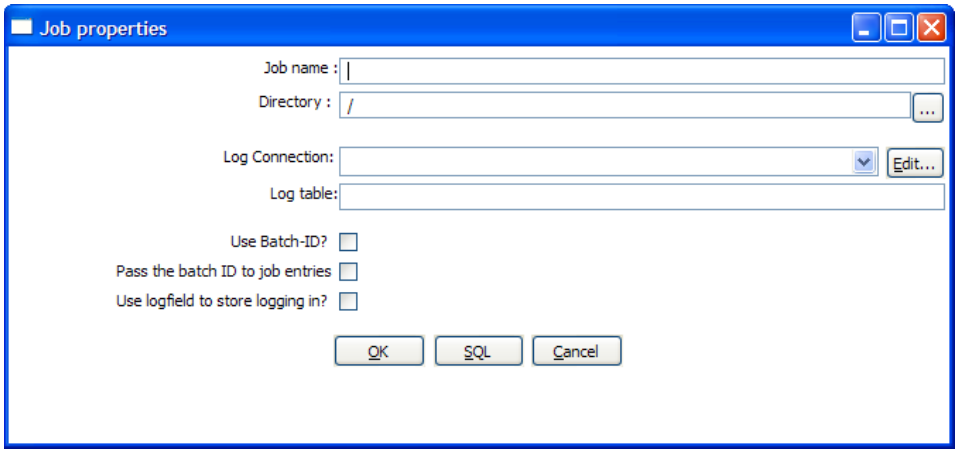
Loops **are** allowed in jobs because Chef executes job entries sequentially. Just make sure you don't build endless loops. Please check out Evaluation job entry (7.2.10. Evaluation). This job entry can help you exit closed loops based on the number of times a job entry was executed.

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)
Use batch-ID	Use a batch ID in the logging table
Pass the batch-ID to job entries?	Check this if you want to pass the generated unique batch ID to (transformation) job entries in this job.
Use logfield to store logging in?	Check this if you want to store the logging of this job in the logging table in a long text field. (CLOB)

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

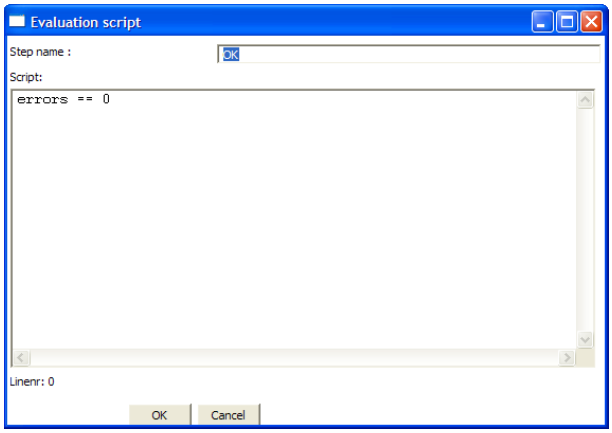
7.1. Description

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

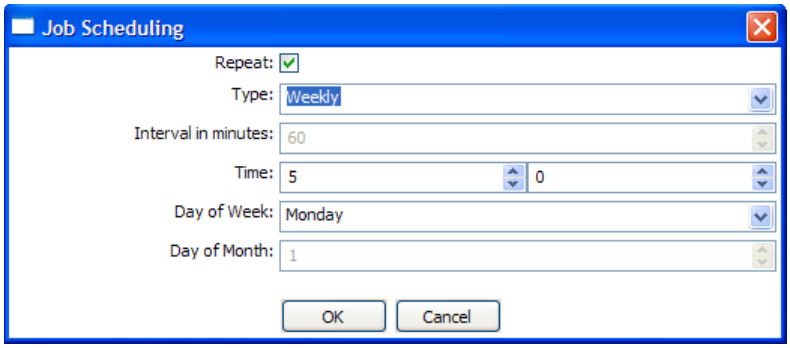


7.2.1.2. Icons

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.
The start icon also contains basic scheduling functionality. If you edit this job entry you'll get this screen:



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

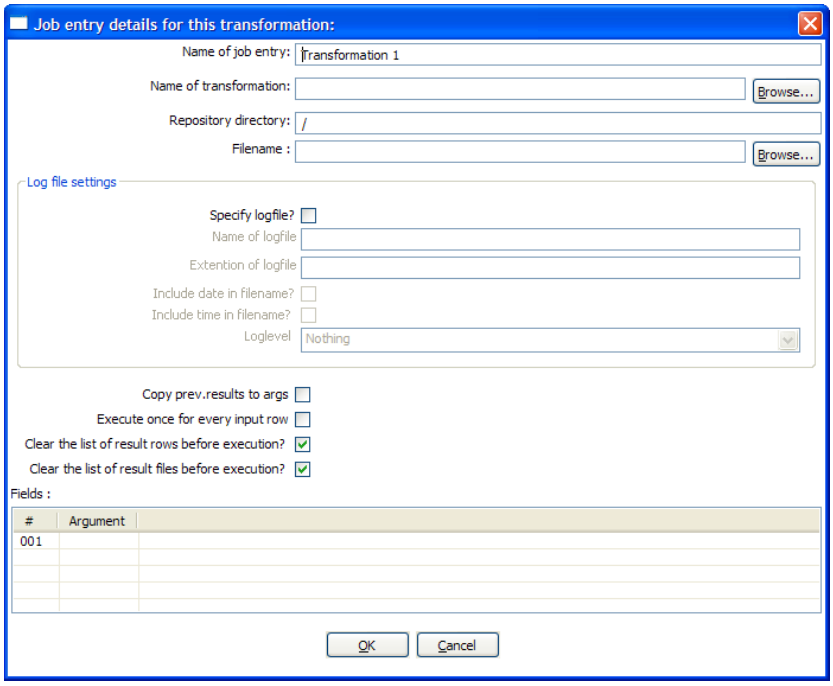
Checks if the number of errors from a previous job entry was 0 and results to true if this is the case.
See also the “Evaluation” job entry.

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

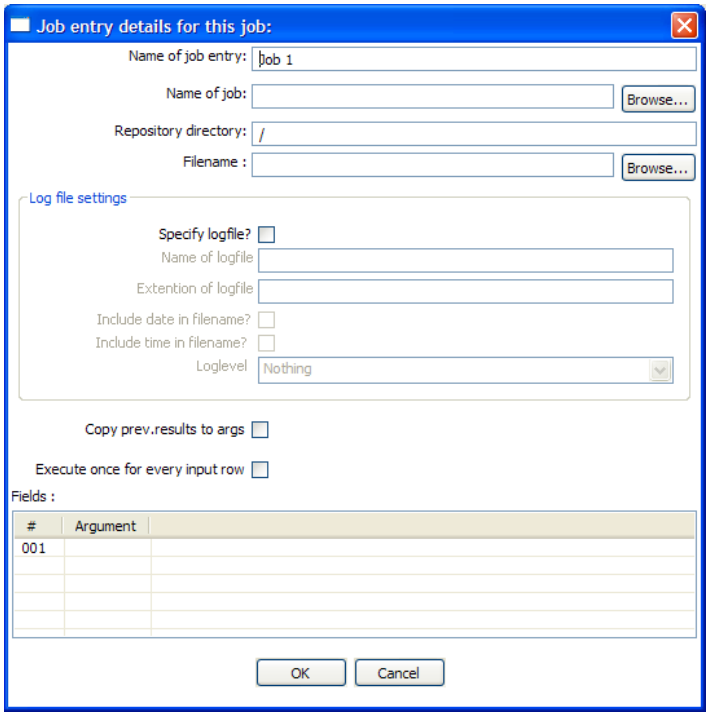
Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Name of transformation	The name of the transformation to start.
Repository directory	The 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)

Option	***Description***
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. Log Settings
Copy previous results to arguments	The results from a previous transformation can be sent to this one using the “Copy rows to result” step.
Arguments	Specify the strings to use as arguments for the transformation.
Execute once for every input row	Support for “looping” has been added by allowing a transformation to be executed once for every input row.
Clear the list or result rows before execution	Checking this makes sure that the list or result rows is cleared before the transformation is started.
Clear the list of result files before execution	Checking this makes sure that the list or result files is cleared before the transformation is started.

***NOTE**: you can use variables ${path} in the filename and transformation name fields to specify the transformation to be executed.*

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

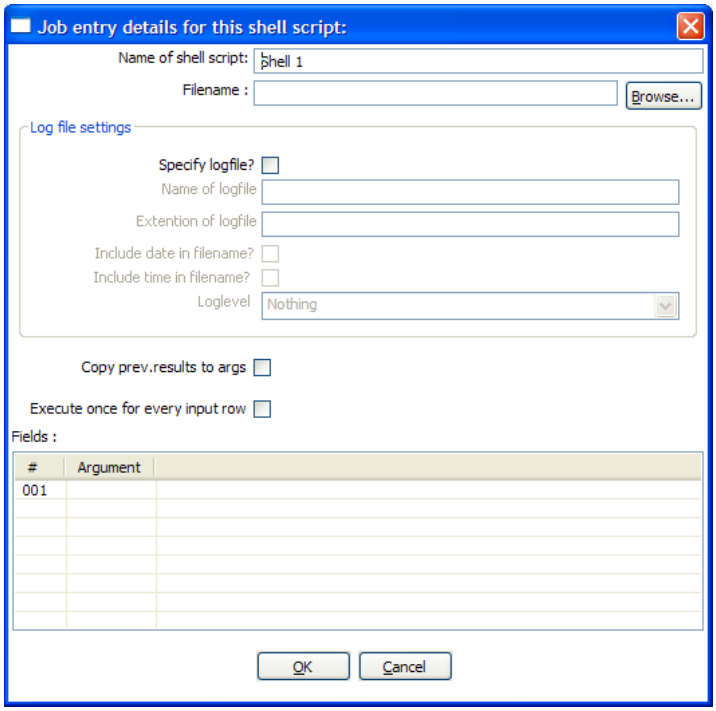
Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Name of transformation	The name of the job to start.
Repository directory	The directory in 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)

Option	*Description*
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. Log Settings
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.
Execute once for every input row	This implements looping. If the previous job entry returns a set of result rows, you can have this job executed once for every row found. One row is passed to this job at every execution. For example you can execute a job for each file found in a directory using this option.

***NOTE**: you can use variables ${path} in the filename and job name fields to specify the job to be executed.*

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: *Shell scripts can (since release 2.3.0) output text to the console window. This output will be transferred to the Kettle logging system. Doing this* ***no longer blocks*** *the shell script.*

NOTE*: On Windows, scripts are now preceded by "CMD.EXE /C" (NT/XP/2000) or "COMMAND.COM /C" (95,98).*

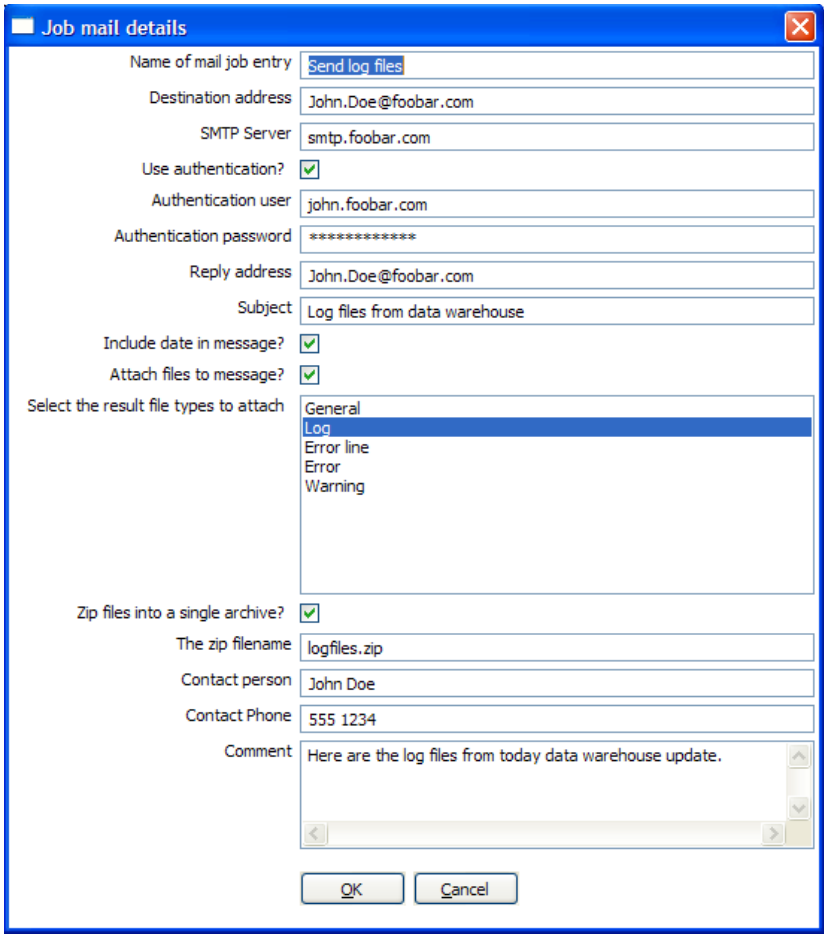
7.2.4.4. Options

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)

Option	*Description*
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. Log Settings
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.
Execute once for every input row	This implements looping. If the previous job entry returns a set of result rows, you can have this shell script executed once for every row found. One row is passed to this script at every execution in combination with the copy previous result to arguments. The values of the corresponding result row can then be found on command line argument $1, $2, ... (%1, %2, %3, ... on Windows)

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

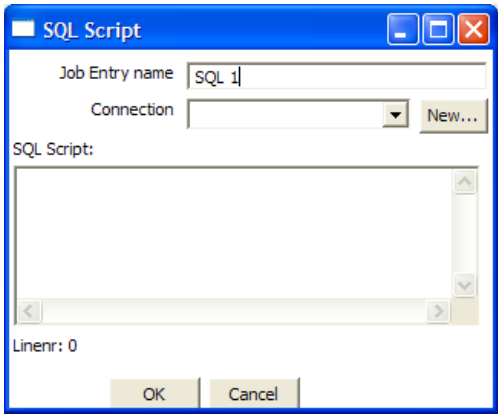
Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Destination address	The destination for the e-Mail
Use authentication	Check this if your SMTP server requires you to authenticate yourself. Please note that secure authentication **is not yet supported** in version 2.3.0.
Authentication user	The user name to authenticate with

Option	***Description***
Authentication password	The password to authenticate with.
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
Attach files to message	Check this if you want to attach files to this message.
Select the result files types to attach.	When a transformation (or job) processes files (text, excel, dbf, etc) an entry is being added to the list of files in the result of that transformation or job. Specify the types of result files you want to add.
Zip files into a single archive	Check this if you want to zip all selected files into a single archive (recommended!)
The zip filename	Specify the name of the zip file that will be placed into the e-mail.

NOTE: A*ll text fields can be specified using (environment and Kettle) variables, possibly set in a previous transformation using the Set Variable step.*

7.2.6. SQL

7.2.6.1. Screenshot



7.2.6.2. Icon

7.2.6.3. General description

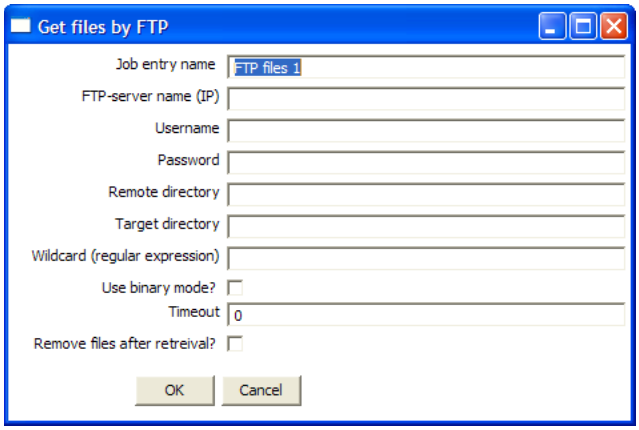
You can use the *SQL* job entry to execute an SQL script.
This means a number of SQL statements separated by ;

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

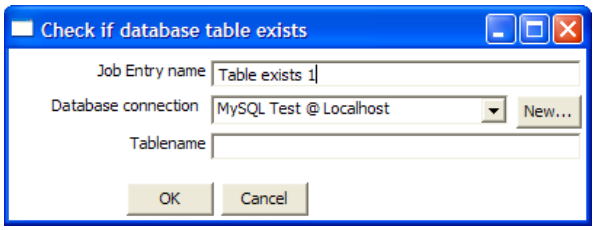
Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
FTP server name	The name of the server or the IP address
User name	The user name to log into 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

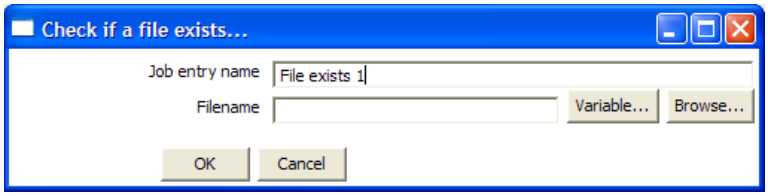
You can use the *Table Exists* job entry to verify if a certain table exists on a database.

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

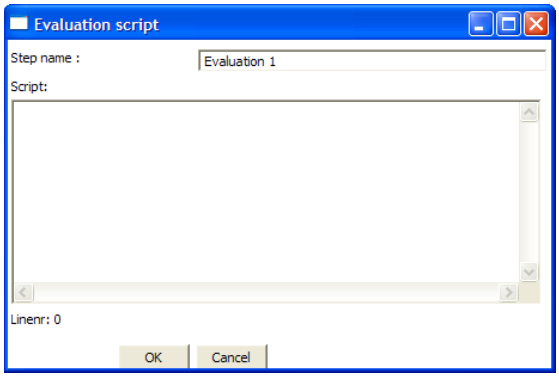
Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
Filename	The name and path of the file to check for

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:

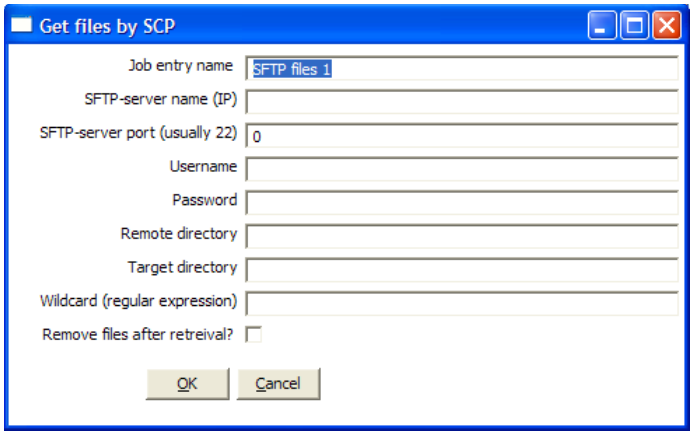
- errors : number of errors in the previous job entry (long)
- lines_input : number of rows read from database or file (long)
- lines_output : number of rows written to database or file (long)
- lines_updated : number of rows updated in a database table (long)
- lines_read : number of rows read from 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 (integer) : the job entry number. Increments at every next job entry.
- 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

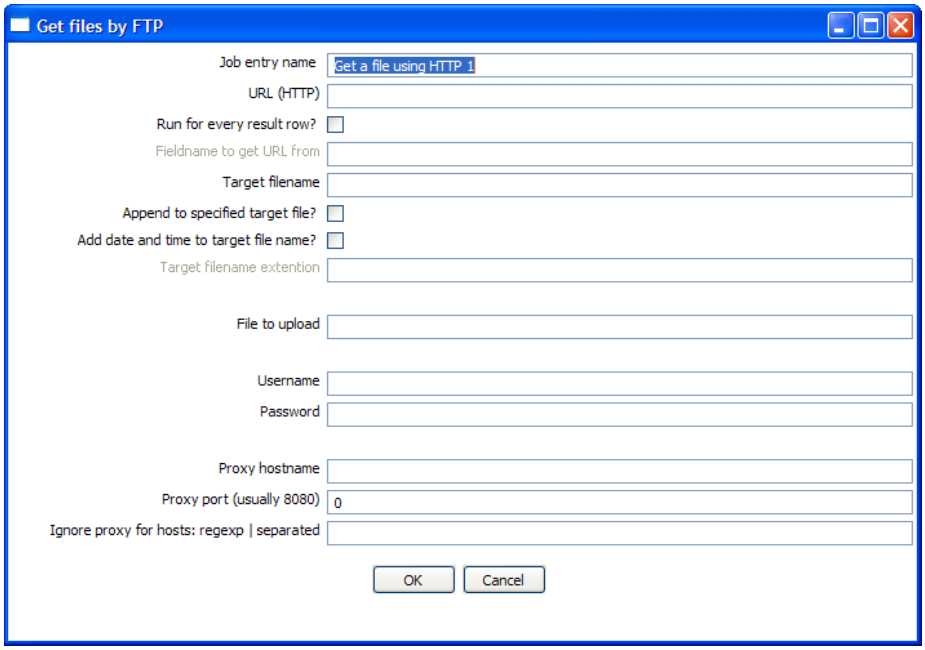
Option	***Description***
Name of the job entry	The name of the job entry. This name has to be unique in a single job. A job entry can be placed several times on the canvas, however it will be the same job entry.
SFTP-server name (IP)	The name of the SFTP server or the IP address
SFTP port	The TCP port 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
Add date and time to target filename	Check this if you want to add date and time yyyMMdd_HHmmss to the target filename.
Target filename extention	Specify the target filename extension in case you're adding a date and time to the filename

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

8. GRAPHICAL VIEW

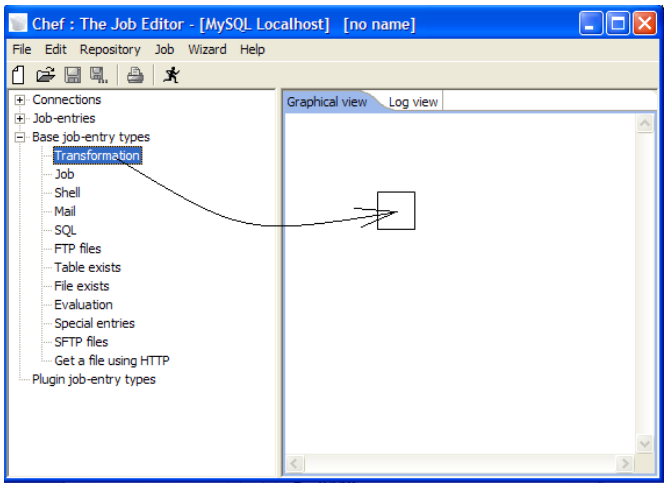
8.1. Description

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.

8.4.8. Detach entry

Unlinks this job entry from the hops that connect it to other steps.

8.4.9. Delete all copies of this entry.

Delete all copies of this job entry, not just this one!

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.

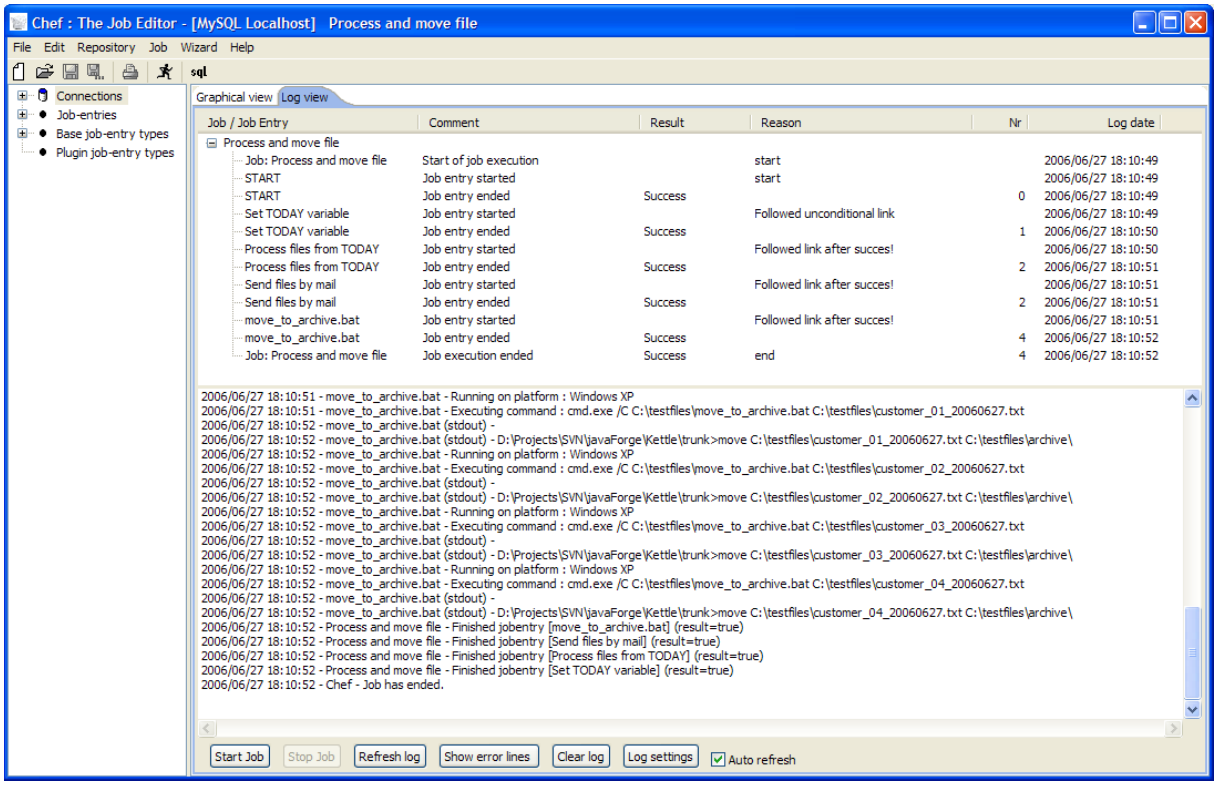
For a more complete explanation regarding hops, please check out 5. Job Hops

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 is actually a tree that offers a hierarchical view on the execution of a job. The following items are shown:

- ✓ The name of the job / job entry
- ✓ A comment on the state of the entry execution
- ✓ The result (success or failure) of the job entry
- ✓ Reason: why was this job entry started?
- ✓ The value of the nr variable in the result object (available in evaluation Javascript)
- ✓ Log date: logging date, corresponds with the start or end of the job entry.

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. Stop job

This button stops a running job.

9.4.3. Refresh log

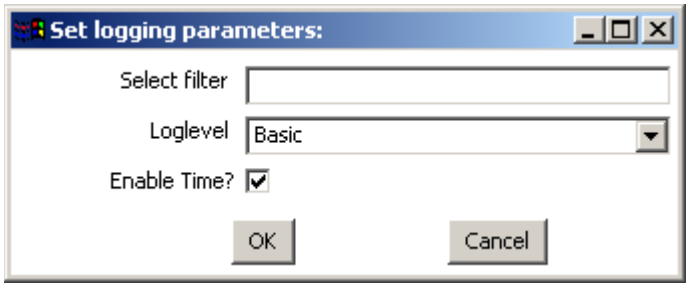
Refreshes the log window.

9.4.4. Clear log

This clears the text in the Log Text Window.

9.4.5. 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.

9.4.6. Auto-refresh

If you rather not have the logging window updating all the time you can disable this option. You might want to do this when you're using a remote desktop (VNC, X11) over a slow network connection.

10. GRIDS

10.1. Description

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

For a more complete description of grids, please see Spoon-2.3.pdf

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.

For a more complete description of the repository explorer, please see Spoon-2.3.pdf

12. APENDIX A

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Version 2.1, February 1999

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    a purpose that is entirely well-defined independent of the
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    application-supplied function or table used by this function must
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Whether this is true is especially significant if the work can be
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  If such an object file uses only numerical parameters, data
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functions (ten lines or less in length), then the use of the object
file is unrestricted, regardless of whether it is legally a derivative
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    Library will not necessarily be able to recompile the application
    to use the modified definitions.)

    b) Use a suitable shared library mechanism for linking with the
    Library. A suitable mechanism is one that (1) uses at run time a
    copy of the library already present on the user's computer system,
    rather than copying library functions into the executable, and (2)
    will operate properly with a modified version of the library, if
    the user installs one, as long as the modified version is
    interface-compatible with the version that the work was made with.

    c) Accompany the work with a written offer, valid for at
    least three years, to give the same user the materials
    specified in Subsection 6a, above, for a charge no more
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    from a designated place, offer equivalent access to copy the above
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