

Trimble

# eCognition® 8.64.0 Data Management

User Guide

## **Trimble Documentation:**

### **eCognition Data Management**

#### **User Guide**

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Document Version 8.64.0

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# 1 Overview

eCognition Data Management offers an open, enterprise-ready and cost-effective solution for the management of the wealth of data generated by today's production image analysis projects.

This extension of eCognition 8.64.0 covers the management of data and information and supports the needs of the enterprise image intelligence knowledge chain.

eCognition Data Management provides a comprehensive set of Data Management capabilities that are applicable across all industries and solution domains. In addition to these generic capabilities eCognition Data Management also includes specific Data Management Connectors to third party information management systems.

The following table summarizes the generic capabilities and the industry or domain specific solutions supported by eCognition Data Management.

<b>Solution</b>	eCognition Data Management with relational database
<b>Data Import</b>	Import tabular, image, and vector data using standard connectors and importers
<b>Workspace Management</b>	Workspaces maintain a master index of data stored in the relational database. Data is secured by workspace level access control and user authentication
<b>Query</b>	Search for workspaces, ruleware, projects and numerical results from the relational database
<b>Ruleware Management</b>	Store, query and manage ruleware versions in the relational database
<b>Results</b>	Store and manage versions of tabular numerical results in the relational database management. Images and vectors are stored on the file system

## 1.1 Key Features

- Storage and management of all analysis results and statistics
- Powerful searching with user-defined queries that can also be stored

- Ruleware version management and traceability (from source images, to analysis ruleware, to results)
- Support for leading relational databases (such as Oracle 10g), providing enterprise scalability and proven manageability
- Integration through eCognition Data Management Connectors to leading third party data management solutions
- Support for multiple repositories, such as might be used for development, testing and production
- Open access to data from third party informatics tools, such as TIBCO Spotfire and SciTegic Pipeline Pilot, via the relational database connectivity.
- Compatibility with other eCognition 8.64.0 products.

## 1.2 Key Benefits

- Significantly increased knowledge worker productivity.
- Simplified regulatory compliance (where appropriate)
- Secure management of valuable enterprise knowledge in an enterprise class solution
- Compliments existing investments in technologies and informatics workflows
- Simple and affordable upgrade path from the standard eCognition 8.64.0
- Connectivity of eCognition analysis data to other enterprise data to support better decision making.

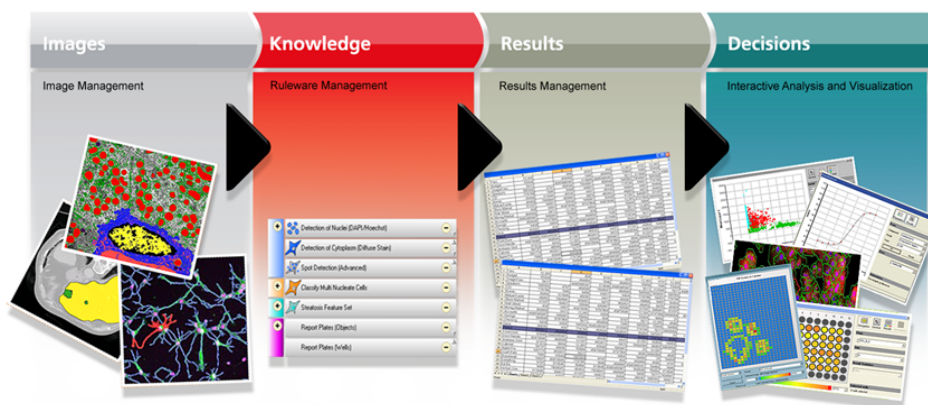


Figure 1.1. eCognition 8.64.0 Data Management knowledge chain.

## 1.3 Using eCognition Data Management Capabilities

Use the generic eCognition Data Management capabilities with a relational database, to manage data generated using the eCognition 8.64.0.

## 1.4 How to Get eCognition Data Management

eCognition Data Management is available as a separately licensed extension to the eCognition 8.64.0.

## 1.5 About This User Guide

### 1.5.1 Scope

This eCognition Data Management User Guide provides instructions for the most common tasks and identifies the specific functionalities included with Data Management.

Many instructions in this eCognition Data Management User Guide can be applied by several eCognition clients, including Developer 8.64.0 and Architect 8.64.0. Some of the included instructions only can be applied by selected clients.

### 1.5.2 Access

To open while using a eCognition 8.64.0 Client, do one of the following:

- Open this User Guide from the Start Menu. Click Start > All Programs > eCognition current client (for example Developer 8.64.0, Architect 8.64.0, or other) > User Documents > Data Management User Guide.
- Choose Help > Data Management User Guide on the main menu bar.





## 2 Quick Reference

This chapter provides very brief instructions and cross references about available commands.

### 2.1 File Menu

The following File menu options are available only for users of eCognition Data Management.

File Menu Command	Usage
Connect to Data Store	Connect to a data store
Disconnect from Data Store	Disconnect from a data store
Data Store	Import and export data stores. The following submenus are available
▷ Import Rule Set to Data Store	Import a rule set from a file to a data store
▷ Export Rule Set from Data Store	Export a rule set from a data store to a file
▷ Import Workspace into Data Store	Import a workspace into a data store
Manage Geodatabase Connections	Create an ArcSDE connection

### 2.2 Process Menu

The following Process menu options are available only for users of eCognition Data Management.

<b>File Menu Command</b>	<b>Usage</b>
Load and Replace	Replace a rule set in the Process Tree window with a rule set from a file not in a data store
Rule Set Storage Management	Manage rules sets in a data store. The following submenus are available
▷ Store Rule Set Version to Storage	Store the rule set version in the Process Tree window in a data store. Use this option to either initialize a rule set in a Data Store or store a new version of a rule set that is already in a data store.
▷ Fetch Rule Set Version from Storage	Fetch a rule set from a data store into the Process Tree window
▷ Import Rule Set	Import a rule set from a file into a data store
▷ Delete Rule Set from Storage	Delete all versions of a rule set from a Data Store
Show Rule Set Version History	Open the View Rule Set History window for the rule set in the Process Tree window
Import Rule Set Version	Replace the rule set version in the Process Tree window with a rule set from a file. This creates a new version of the rule set that was in the Process Tree window

## 3 Managing eCognition Data

eCognition Data Management maintains a master index of all information used for a particular analysis activity. The system automatically adds metadata such as user name, date and time of creation and version number to items stored in a Data Store. You can also add optional metadata such as descriptions, annotations and keywords.

Your organization can maintain multiple repositories or Data Stores and each user can be enabled to access any or all of them. You can search a Data Store using the Query View to locate the following categories:

- Workspaces
- Projects and project versions
- Rule sets and rule set versions
- Analysis results

In addition, you can manage results and export metadata to the clipboard or to a data file. Some typical use cases for Data Management are described below.

### 3.1 Use Case: Organize eCognition Data by Managing Workspaces

Because all of your data is connected in a Data Store, multiple users can use eCognition Data Management to maintain an audit trail of all operations. All eCognition data is always related to the source images and to the ruleware used. Operations that change data create new versions automatically.

Workspaces can either be imported into a Data Store or created and then saved in a Data Store.

### 3.2 Use Case: Locate and Share Data

Queries can be used by multiple users to locate projects, results and object statistics.

You can search for workspaces using your own customized queries, that can include any descriptions, annotations or keywords that have been added inside the Data Store, as well as data such as name, creator, date, version number and status. You can then open workspaces directly from the query view, or examine and edit the properties.

### 3.3 Use Case: Reuse and Version Rule Sets

eCognition Data Management facilitates rule set development by enabling users to easily locate, reuse and modify rule sets. Modification dates are added automatically to rule set versions and developers have the option of adding modification reasons. Each rule set can be augmented with searchable descriptions and keywords and can be tagged with a status of Draft, Release or Review.

Users can start with a ruleware that is either already stored in a Data Store, or that exists in an outside file system and is imported into a Data Store. They can add to or rewrite it and add searchable annotations and descriptions.

Each change can be stored as a version that can be located and re-used or even exported out of the Data Store and stored in a file system.

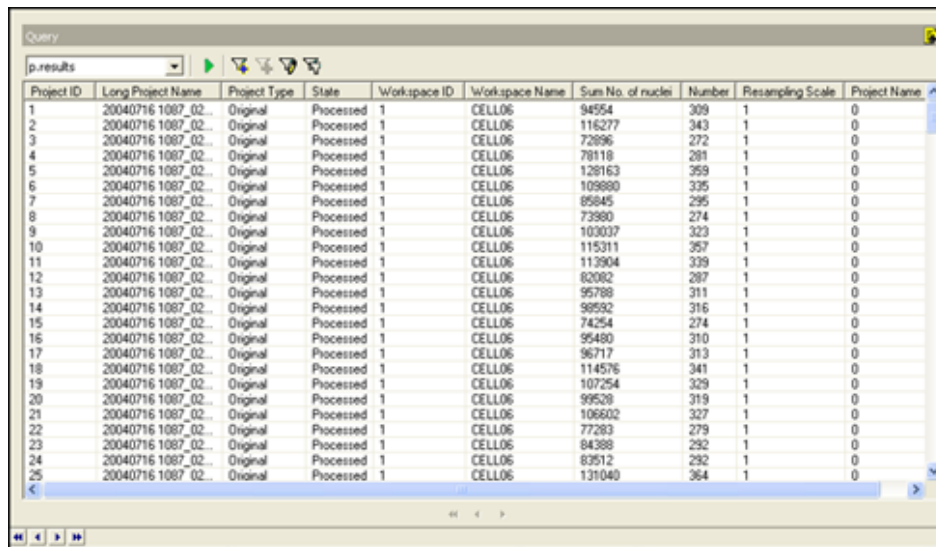
A full audit trail can be maintained for each rule set, showing when each change was made, by whom, and the reason for the change.

### 3.4 Organize your eCognition Data in a Data Store

Use a Data Store to save, organize, and reuse workspaces, rule sets, results, and projects, as well as versions of projects and rule sets.

A Data Store is a database (such as Oracle 10g) that users can connect to from inside a eCognition 8.64.0 Client.

Your view into the Data Store will typically be through the Query View. After constructing one or more data filters, or selecting one of the three filters that are preconfigured, you can execute a search against a Data Store to fetch exactly the items you are interested in from storage. Once you have located a Data Store item you are interested in, you can modify it and save another version or export data from a Data Store.



The screenshot shows a 'Query' window with a 'p.results' dropdown. Below it is a table with the following columns: Project ID, Long Project Name, Project Type, State, Workspace ID, Workspace Name, Sum No. of nuclei, Number, Resampling Scale, and Project Name. The table contains 25 rows of data, all with 'Original' Project Type and 'Processed' State. The 'Workspace Name' for all entries is 'CELL06'.

Project ID	Long Project Name	Project Type	State	Workspace ID	Workspace Name	Sum No. of nuclei	Number	Resampling Scale	Project Name
1	20040716 1087_02...	Original	Processed	1	CELL06	94954	309	1	0
2	20040716 1087_02...	Original	Processed	1	CELL06	116277	343	1	0
3	20040716 1087_02...	Original	Processed	1	CELL06	72896	272	1	0
4	20040716 1087_02...	Original	Processed	1	CELL06	78118	281	1	0
5	20040716 1087_02...	Original	Processed	1	CELL06	128163	359	1	0
6	20040716 1087_02...	Original	Processed	1	CELL06	109880	325	1	0
7	20040716 1087_02...	Original	Processed	1	CELL06	85845	295	1	0
8	20040716 1087_02...	Original	Processed	1	CELL06	73980	274	1	0
9	20040716 1087_02...	Original	Processed	1	CELL06	103037	323	1	0
10	20040716 1087_02...	Original	Processed	1	CELL06	115311	357	1	0
11	20040716 1087_02...	Original	Processed	1	CELL06	113904	339	1	0
12	20040716 1087_02...	Original	Processed	1	CELL06	82082	287	1	0
13	20040716 1087_02...	Original	Processed	1	CELL06	95788	311	1	0
14	20040716 1087_02...	Original	Processed	1	CELL06	98592	316	1	0
15	20040716 1087_02...	Original	Processed	1	CELL06	74254	274	1	0
16	20040716 1087_02...	Original	Processed	1	CELL06	95480	310	1	0
17	20040716 1087_02...	Original	Processed	1	CELL06	96717	313	1	0
18	20040716 1087_02...	Original	Processed	1	CELL06	114576	341	1	0
19	20040716 1087_02...	Original	Processed	1	CELL06	107254	329	1	0
20	20040716 1087_02...	Original	Processed	1	CELL06	99528	319	1	0
21	20040716 1087_02...	Original	Processed	1	CELL06	106602	327	1	0
22	20040716 1087_02...	Original	Processed	1	CELL06	77283	279	1	0
23	20040716 1087_02...	Original	Processed	1	CELL06	84388	292	1	0
24	20040716 1087_02...	Original	Processed	1	CELL06	83512	292	1	0
25	20040716 1087_02...	Original	Processed	1	CELL06	131049	364	1	0

Figure 3.1. Query View with project results query

### 3.4.1 Workflow

This topic presents an overview of the typical workflow for eCognition Data Management.

1. **Connect to a Data Store:** Use the File menu to connect to any Data Store for which you have permission. The permissions for each user are set up by the eCognition system administrator.
2. **Create Filters for Data in a Data Store:** You will need to use filters to locate data in an organized manner. Using the options in the Query View, you can create filters for projects and project versions, rule set and rule set versions, and workspaces. You can save your filters so that they are available when you connect to a Data Store again. In addition, three preconfigured filters are available for your use:
  - My Recent Workspaces locates workspaces sorted by last date modified (latest first).
  - My Recent Rule Sets locates rule sets sorted by last date modified (latest first).
  - My Approved Rule Sets locates all rule sets that are in Released status.
3. Query a Data Store – use your filters to run a query against the data in a Data Store and locate the data you want to view and use.
4. Explore and Use Items in a Data Store.

The next step in the workflow depends on your needs. The following are two common examples.

- **Fetch and adapt rule sets.** You may need to re-use or adapt a rule set. You can either fetch a rule set or a rule set version and use it for analysis or modify it and create a version before using it for analysis.
- **Review statistics.** Another typical use might be to review analysis statistics and export them.

### 3.4.2 Connect to a Data Store

Connect to a Data Store to locate your workspaces, projects, ruleware, and results by using metadata that keeps each part of every analysis connected.

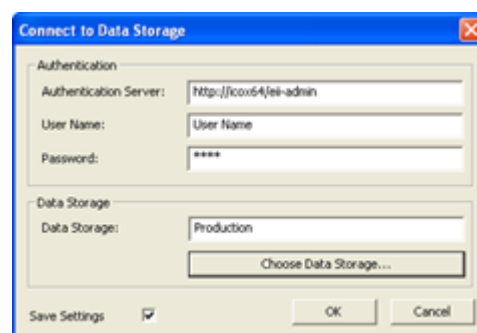


Figure 3.2. Connect to Data Storage dialog box with example connection

1. To connect to a Data Store go to File > Connect to Data Store in the main menu bar to open the dialog box (figure 3.2)

2. Enter the required information to connect:
  - Authentication Server
  - User Name
  - PasswordIf you are not sure about these entries, ask the administrator of your eCognition system.
3. Click the Choose Data Storage button to select a Data Store. If you do not have the required information, you will need to obtain it from the eCognition Data Management system administrator
4. In the drop-down box in the data storage area, select Database Server if you want to connect to an external server or Desktop DM File to use a local SQLite database (for more details on database setup, see the installation guide)
5. Select the Save Settings checkbox to preserve your entries. Click OK to connect.
  - When you are connected, the Query View displays automatically.
  - You can also open the Query View in any of several window layouts.
  - While you are connected, a message displays in the Status Bar at the bottom of the main window, indicating that you are connected and the title bar displays the name of the Data Store.
  - In addition, the Disconnect from Data Storage option in the File menu becomes available.
6. When you want to disconnect and/or connect to a different Data Store, select File > Disconnect from Data Store in the main menu bar.

### 3.4.3 Filter Data Store Searches

Filter your Data Store searches to not only limit the rows of results but to target exactly what you need to locate. A minimal filter consisting of at least the type of data you want to locate is a prerequisite to a Data Store search.

Filter your searches of a Data Store in the Query View by:

- Adding filters and editing saved filters. A filter is required in order to search a Data Store. You can tailor your searches by selecting specific fields to search for and then setting filters for each selected field. Once you create a filter for projects, you can use it to create a filter for project results and statistics.
- Managing filters, which gives you an overview of all your filters. You can also access the tools for adding and editing filters, and delete unneeded filters.

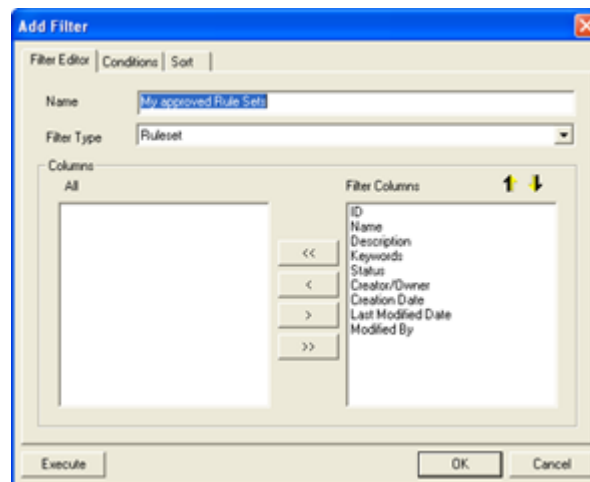
Filters created by each user are saved with the respective user in a Data Store.

#### Add or Edit a Data Store Filter

Add a filter to your searches of the Data Store in the Query View. Some preconfigured filters are provided. You can make your filters precise by adding conditions and also sort the results in the order that is the most helpful. Your search results display in the Query View, along with the map view.

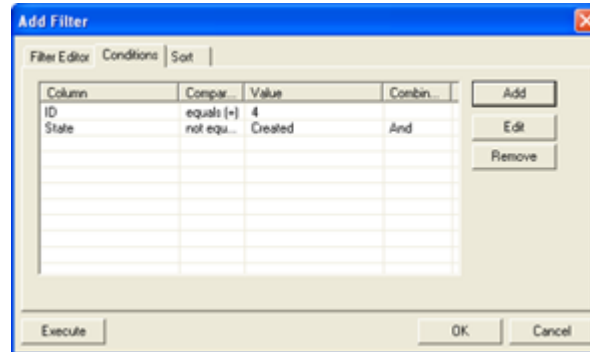
A basic filter will usually need to be refined through the addition of conditions. You can also set your filters to sort data within the Query View.

1. To add or edit a Data Store filter, first click the Query View tab in the main window to expose the search options.
  - To add a new filter, click the Add a Filter button to open the Add Filter dialog box.
  - To create a filter that displays project statistics, first create a project filter, run it, and then click the Add a Project Result Filter
  - To create a filter for analysis results, first create a project filter, run it, and then click the Add a Series Result Filter button. This will output single statistical values per project.
  - To create a filter for analysis results, first create a project filter, run it, and then click the Add Object Result Filter button. This will output single statistical values per object
  - To edit a filter, first select the filter in the drop-down list, then click the Modify current filter button to open the Edit Filter dialog box.
  - To create, edit and manage filters, select the Manage Filters buttonThe dialog boxes for adding and editing filters as well as for adding a result filter all have the same fields and controls ([figure 3.4](#))
2. On the Filter Editor tab, enter a Name if you want to save the filter and click the drop-down arrow to select a Filter Type
3. In the left-hand pane under All, click any or all of the listed items to use as column headers in your results to use for sorting. The types of data available vary according to the type of filter selected
4. Use the right and left arrow buttons to move your selections to the right side of the dialog box
5. In the right side of the dialog box, select a column and move it up or down with the up and down arrows to change order in which the columns will display in the Query View
6. If you want to set conditions or sorting options, use the Condition tab and the Sort tab in the Add Filter dialog box. Otherwise, you can click OK to save or Execute to run the filter as a query of the Data Store without saving it.



**Figure 3.3.** Add Filter dialog box – Filter Editor tab

**Use Filter Conditions to Narrow Data Store Searches** Set the conditions for Data Store filters. After creating a basic filter, you will probably want to narrow and refine it to tailor your searches of a Data Store. You can do this by adding conditions in the same Add Filter dialog box (figure 3.4) where the filter was created.



**Figure 3.4. Add Filter dialog box – Conditions tab**

1. To set conditions for Data Store filters, click the Conditions tab and then click the Add button to open the Edit Filter Condition Properties dialog box (figure 3.5) and add conditions for any of the column types. Your query results will be filtered accordingly.
2. Use the Column drop-down list to select a column to filter. You can select any of the following Comparison operators by using the drop-down list:
  - **equals (=)**: The selection in the Column field equals the value in the Value field. Can be used for numerical or text values
  - **not equals (<>)**: The selection in the Column field does not equal the Value field. Can be used for numerical or text values
  - **greater or equals (>=)**: The selection in the Column field is greater than or equal to the Value field. Only for numerical conditions
  - **lesser or equals (<=)**: The selection in the Column field is less than or equal to the Value field. Only for numerical conditions
  - **matches (~)**: The selection in the Column field matches the Value field. Not available for numerical conditions. You can use also append an asterisk (\*) to a partial search term to find all matches that begin with the partial term
  - **greater (>)**: The selection in the Column field is greater than the Value field. Only for numerical conditions
  - **lesser (<)**: The selection in the Column field is less than the Value field. Only for numerical conditions
  - **not exists**: The selection in the Column field does not exist
  - **exists**: The selection in the Column field exists
3. Enter a value in the Value field
4. Use the Combination drop-down list to connect conditions. Select And to require the previous condition in addition to the current one. Select Or to require the current condition or the previous condition. Click OK to save the condition and return to the Add Filters dialog box
5. If you want to set sorting options, use the Sort tab. Otherwise, click OK to save your filter or Execute to run a query without saving the filter.



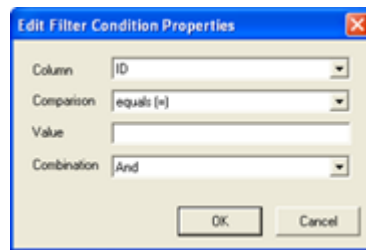


Figure 3.5. Edit Filter Conditions Properties dialog box

**About Column Values for Data Store Filters** The filter columns available for the respective filter types, when creating filters for Data Store searches in the Query View, are shown in [table 3.1](#) on this page, *Available filter columns for Data Store searches in Query View*. You can choose to display any or all of the columns for a given filter type. When you construct your filters, the columns you select will serve as filters and will display as column headers in the Query View. A ✓ in the table indicates that a given filter type has available the column in that row.

**Table 3.1.** Available filter columns for Data Store searches in Query View

	Project	Project Version	Rule Set	Rule Set Version	Work space	Results
<b>Annotation:</b> User notes.		✓			✓	
<b>Created by:</b> User ID/name		✓				
<b>Creation Date</b>			✓		✓	
<b>Creation Date/Time</b>		✓				
<b>Creator/Owner</b>			✓		✓	
<b>Description:</b> Entered by user	✓		✓		✓	
<b>ID:</b> Automatically generated	✓		✓		✓	
<b>Keywords:</b> Entered by user			✓		✓	
<b>Last Modified Date</b>			✓		✓	
<b>Long Name:</b> Long project name	✓					
<b>Long Project Name</b>		✓				✓

Continues...

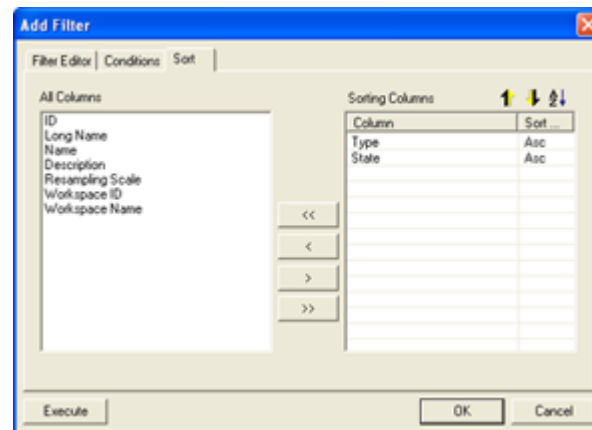
	Project	Project Version	Rule Set	Rule Set Version	Work space	Results
<b>Modification Date/Time</b>					✓	
<b>Modification Reason:</b> Entered by user				✓		
<b>Modified by:</b> User ID			✓	✓	✓	
<b>Name:</b> Name of the project, rule set or workspace	✓		✓		✓	
<b>Operation:</b> Action that creates a version		✓		✓		
<b>Output Root:</b> Location of results					✓	
<b>Project ID:</b> Automatically assigned		✓				✓
<b>Project Name:</b> Can be modified						✓
<b>Remarks:</b> Messages generated by the system		✓				
<b>Resampling Scale:</b> Scaling factor	✓					✓
<b>Rule Set Hash</b>		✓				
<b>Rule Set ID:</b> Automatically assigned		✓		✓		
<b>Rule Set Name:</b> Can be entered by user		✓		✓		
<b>Rule Set Version:</b> Automatically assigned		✓	✓			
<b>State:</b> Processing state	✓	✓				✓
<b>Status: Draft, Review, Release:</b> Set by the user			✓			

Continues...

	Project	Project Version	Rule Set	Rule Set Version	Work space	Results
<b>Type: Original, Resampled, Subset, Tiled:</b> Project type	✓					
<b>Version:</b> Automatically assigned		✓	✓	✓		
<b>Version Number:</b> Same as version					✓	
<b>Version Status:</b> Same as Status				✓	✓	
<b>Workspace ID:</b> Automatically assigned	✓	✓				✓
<b>Workspace Name:</b> Can be modified by user	✓	✓				✓

**Set Data Sorting Within Data Store Filters** Use your Data Store Filters to set sorting options for data parameters in the Query View.

You can sort over multiple columns; for example, you could sort projects by Rule Set ID, then by State, then by Created By.



**Figure 3.6. Add Filter dialog box – Sort tab**

1. To include sorting options as part of a filter click the Sort tab to select the sorting order for the values displayed in the columns ([figure 3.6](#))
2. Use the right and left arrows to move columns into the Sorting Columns pane.
3. Select a column and use the up and down arrows to sort the columns. The list of columns establishes a sorting hierarchy; the data in the first column will be sorted, then the data in the second and so on. This may be more useful than sorting the data

directly in the Query View, because there all data in the view is sorted according to whichever column is sorted.

4. To change the sorting of values, select a column and click the ascend descend button
5. Click OK to save your filter or click Execute if you only need to apply it once without saving it. The filter name will display in the drop-down list in the Query View. The columns you selected will not display in the Query View until you use the filter to perform a search.

### Manage Data Store Filters

View and add, edit or remove all your Data Store filters from one dialog box.



**Figure 3.7. Manage Filters dialog box**

1. To manage Data Store filters, open the Query View and click the Manage filters button to open the Manage Filters dialog box (figure 3.7)
2. To add a filter, click the Add button to open the Add Filter dialog box
3. To edit a filter, select it in the dialog box and click the Edit button to open the Edit Filter dialog box
4. To remove a filter, select it in the dialog box and click the Remove button to open a prompt dialog. Click Yes to remove the filter

### Query a Data Store

Use the Query View<sup>1</sup> to locate any of the following data objects in a Data Store.

- Projects and project versions
- Project statistics
- Rule sets and rule set versions
- Workspaces

**NOTE:** When you are connected to the Data Store, you can open rule sets and projects that are stored in other locations, but you cannot locate them in the Query View.

1. The Query View displays only if you are using eCognition Data Management.

Before you can perform a query, you must locate or create an appropriate Data Store filter. Once you create and save filters, they are available each time that you connect to a Data Store. You can also create filters and execute them without saving them.

1. To execute a search in the Query View (figure 3.8), select a filter one of the following ways:
  - Click the drop-down arrow at the top of the view to select an existing filter.
  - Add a new filter and save it or execute it without saving it.
2. Click the Execute Query button to run a query. The results display in the Query View window.
3. To view the Query View and the Scene at the same time, split the scene and then select Query View in one pane and Scene in the other.
4. Use the arrow buttons at the bottom of the window to page through the search results.

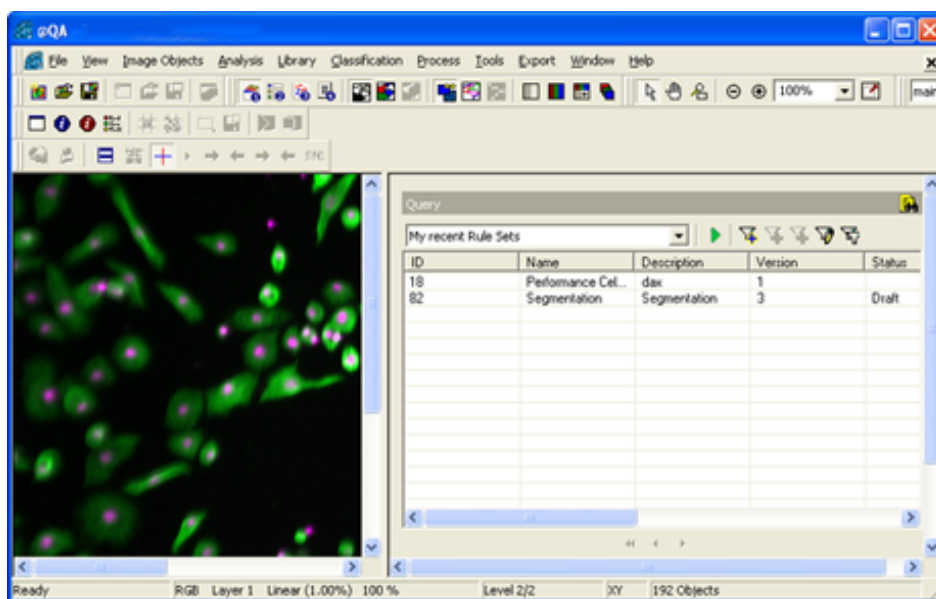


Figure 3.8. Query View with split screen. (Image data courtesy of Cenix BioScience GmbH.)

### 3.4.4 Use Annotations in a Data Store

Add annotations to project versions and workspaces in a Data Store. This enables you to search and locate items based on your own annotations. This field is designed to enable you to augment a Data Store with information such as observations.

#### Annotate a Workspace

You can annotate a workspace when you create it.

- To add later annotations do one of the following:
  - Open a workspace and go to File > Workspace Properties to open the Workspace Properties dialog box

- Right-click a workspace in the Query View and select Annotation to open the Annotation dialog box (figure 3.9)
- Make an entry in the Annotation field and click OK. When a Data Store is queried for workspaces with annotations, your annotation will display in the Query View.



**Figure 3.9. Annotation dialog box**

#### Annotate a Project Version

- To annotate a project version, do one of the following:
  - Right-click on a project or a project version in the Query View and select Annotation to open the Annotation dialog box.
  - Right-click on a project version in the Query View and select Properties to open the Project Properties dialog box.
  - Right-click on a project or a project version in the Query View to open the Annotations dialog box.
- Enter an Annotation and click OK to save it. When a Data Store is queried for project versions with annotations, your annotation will display in the Query View.

### 3.4.5 Export Data from a Data Store

Use the Query View to export data from a Data Store. The following formats are available:

- Comma separated list files (.csv)
- Ascii text files (.txt)
- Comma separated list files (transposed) (.tcsv)

To export data:

1. Create an appropriate filter, if necessary.
2. Run your query.
3. Right click in the Query View and select Export All to CSV file to open the Save contents dialog box.
4. Use the drop-down list box to select a file type, browse to a location, enter a name and click Save.

## 3.5 Manage Analysis Results in a Data Store

Use a Data Store to store, locate and fetch the results of your analyses. This enables you to easily group results based on parameters such as project, workspace and processing state.

To locate results in the Query View, you first run a query on projects and then create a filter based on the project data fetched from a Data Store by your query.

After you run the results filter, the results are listed by project in Query View. You can export the results using the context menu or copy them to the clipboard.

### 3.5.1 Manage Image Object Results in a Data Store

Query the data store for image object results from your projects.

1. To run a query for image object results, first query a data store for projects.
2. Click the Add an Object Result Filter button to open the Add Object Result Filter dialog box (figure 3.10) and create a filter for image object statistics. Once you name the filter and save it you can use it again without first running a query for projects.
3. Use the available filters to narrow your search. The filters include the features in the projects that were located by the query.
4. Run the query to display the values for the filters selected in the Query View.

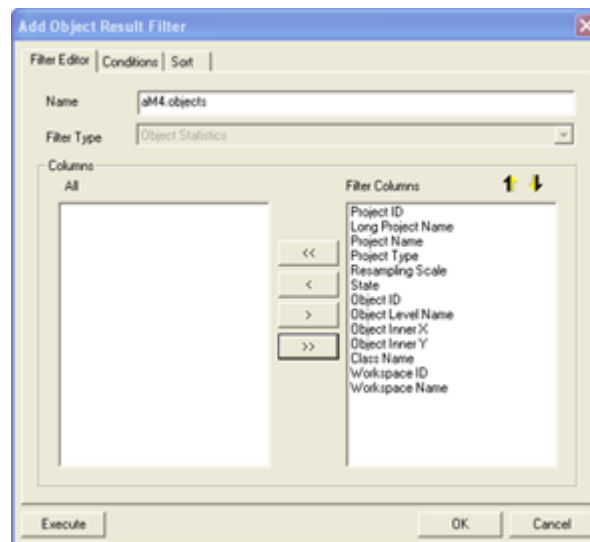


Figure 3.10. Add Object Result Filter dialog box

#### About Column Values for Image Object Result Filters

The following default filters are available for image object result filters.

Filter Type	Description
<b>Class Name</b>	Class to which the image object belongs
<b>Long Project Name</b>	The project folder path followed by the name of the project image file
<b>Object ID</b>	Automatically assigned number
<b>Object Level Name</b>	The level where the image object is located
<b>Project ID</b>	Automatically assigned
<b>Project Name</b>	Name of the project image file
<b>Project Type</b>	Original, Resampled, Subset, Tiled: Project type
<b>Resampling Scale</b>	Scaling factor
<b>State</b>	Processing state
<b>Workspace ID</b>	Automatically assigned
<b>Workspace Name</b>	Can be modified by user

## 3.6 Manage Rule Sets in a Data Store

Use a Data Store to organize rule sets in a way that you can search for rule sets according to selected criteria. This enables you to prepare rule sets for reuse in ruleware development.

You can use a Data Store to:

- Create versions of rule sets.
- Add details to a Data Store for the rule set.
- Review the rule set version history and use rule set versions.
- Select ruleware from a Data Store when you start an analysis job.
- Load a rule set version to the Process Tree window from a Data Store.
- Import and export rule sets in a Data Store.

### 3.6.1 Create the First Version of a Rule Set in a Data Store

Create the initial version of a rule set in a Data Store.

Use this to store rule sets that are created for the first time in a Data Store. You can also import rule sets from a local file system (such as your hard drive) into a Data Store.

1. To create the initial version of a new rule set in a Data Store, create the rule set in the Process Tree window.
2. Open the Initialize Rule Set dialog box one of the following ways:
  - Right-click in the Process Tree window and choose Store Version in the context menu.
  - In the Process menu, navigate to Rule Set Storage Management > Store Rule Set Version to Storage. The Initialize Rule Set dialog box opens ([figure 3.11](#))
3. Add the Name, Keywords and Description of your choice and click OK to save the rule set to the database.



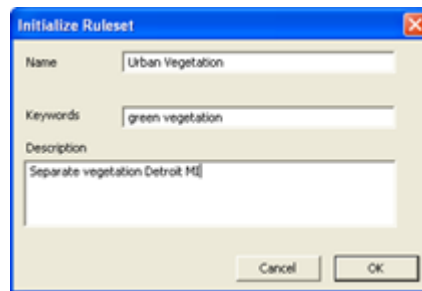


Figure 3.11. Initialize Rule Set dialog box

### 3.6.2 Create Versions of a Rule Set

Create versions of a rule set that you can store in a Data Store and later review and reuse.

1. To create a version of a Data Store rule set, first load it to the Process Tree window
2. Add or delete one or more processes
3. Open the Rule Set – New Version window one of the following ways:
  - Right-click in the Process Tree window and select Store Version
  - Navigate to Process > Rule Set Storage Management > Store Rule Set Version to Storage in the main menu bar.The Rule Set – New Version dialog box opens (figure 3.12)
4. Enter any necessary information in the Modification Reasons field and click OK to save the version
5. If you query a Data Store for the rule set, the versions will display with consecutive version numbers.

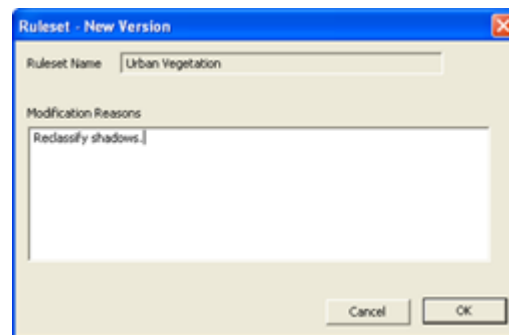


Figure 3.12. Ruleset – New Version dialog box

#### Create a Rule Set Version From a File

Create a new version of a rule set by importing a rule set from a local file.

1. To create a version of a rule set by importing a local rule set, first load a rule set to the Process Tree window.
2. Go to Process > Import Rule Set Version in the main menu bar to open the Load Process dialog box where you can browse for the rule set you want.

3. Click Open to open the Rule Set – New Version dialog box where you can add a Modification Reason.
4. Click OK to load the new rule set version to the Process Tree window.

### 3.6.3 Edit Rule Set Details

Edit rule set details in a Data Store. You can add details to a rule set and then save it again. The new details will apply to all versions of the rule set.

**Figure 3.13. Rule Set – View/Edit Details dialog box**

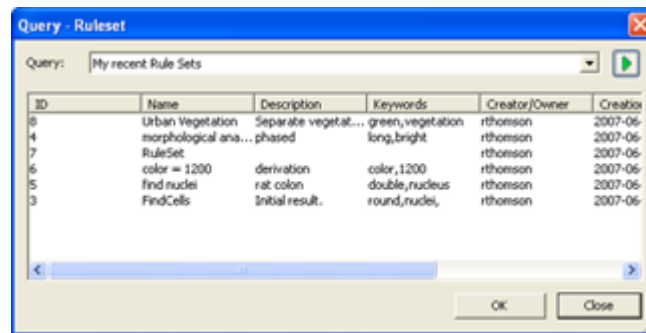
1. To edit rule set details, locate the rule set using the Query View search options.
2. Open the Rule Set – View/Edit Details dialog box (figure 3.13) by selecting the rule set, right-clicking and selecting Properties from the context menu.
3. Edit the Name, Description and Keywords in the corresponding fields. The other metadata fields cannot be edited in this dialog box. The Version Status is set in the Rule Set – History View Details dialog box.
4. Click OK to save your changes. Your changes will apply to all versions of the rule set.

### 3.6.4 Store and Fetch Rule Sets in a Data Store

Fetch and store rule sets from the Process Tree window and the Process menu. You can also use the Query View to locate rule sets in a Data Store and fetch them.

#### Fetch a Rule Set From a Data Store

1. To fetch a rule set without searching in the Query View, open the Query – Rule Set dialog box (figure 3.14) one of the following ways:



**Figure 3.14. Query – Rule Set dialog box**

- Right-click in the Process Tree window and select Fetch Rule Set from Storage.
  - Navigate to Process > Rule Set Storage Management > Fetch Rule Set from Storage in the main menu bar.
2. Use the Query dropdown list to select a stored filter, if any have been created. Select the rule set you want to fetch and click OK.  
The latest version of the rule set is opened in the Process Tree window.
  3. To open a rule set after you have run a query for rule sets, select the rule set you want and then do one of the following:
    - Right-click and select Open from the context menu.
    - Double-click the rule set.
  4. The latest version of the rule set is opened in the Process Tree window.

**Store a Rule Set in a Data Store** If you want to store a rule set that exists on your local system, import it into a Data Store. If you have created the rule set in the Process Tree window, initialize it to save the first version in a Data Store.

### 3.6.5 Review Rule Set History

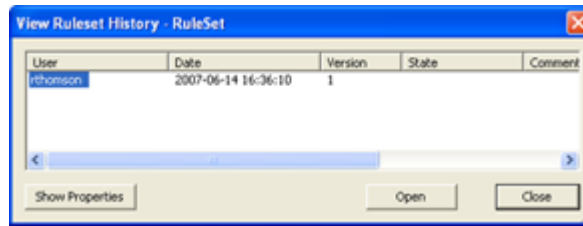
Locate rule set versions stored in a Data Store. You can There are two ways to locate rule set versions:

- Run a query to locate the rule set and inspect its history to locate the version you want.
- Run a query for rule set versions and fetch the version directly from the Query View.

#### Fetch a Rule Set Version from a Rule Set Query

Locate a rule set version from a query for rule sets and fetch the version from a Data Store.

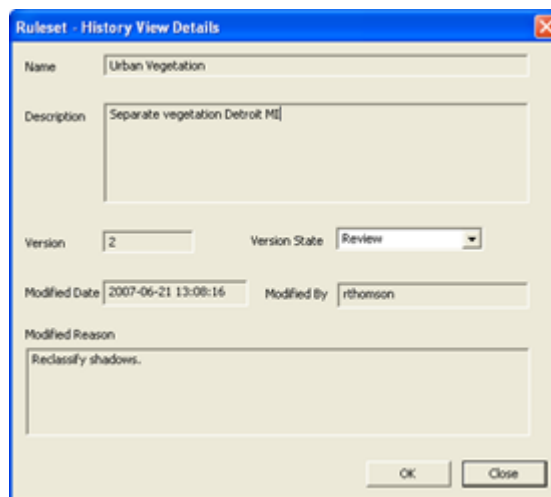
1. To locate and fetch a rule set version from a listing of rule sets in the Query View, find the rule set in the Query View and select it.



**Figure 3.15. View Rule Set History dialog box**

2. Right-click and select History in the context menu to open the View Rule Set History – Rule Set dialog box ([figure 3.15](#))  
The dialog box includes adjustable columns listing the User, Date Version, State and Comment for each version of the rule set.
3. To fetch a version from the View Rule Set History – Rule Set dialog box to the Process Tree window, select it and either:
  - Click the Open button or
  - Right-click it and select Open from the context menu.
4. To see more detail about a version, select it in the View Rule Set History – Rule Set dialog box and do one of the following:
  - Click the Show Properties button.
  - Right-click the version and select Show Properties in the context menu.
5. The Rule Set – History View Details dialog box opens, displaying the following:
  - The Name and Description apply to the entire rule set.
  - The version information includes the automatic Version number, Modified Date, Modified by, and Modified Reason.
6. You can change the Version Status by selecting a value from the drop-down list. Click OK to save the version status.

#### Fetch a Rule Set Version from a Rule Set Version Query



**Figure 3.16. Rule Set – History View Details dialog box**

Locate a rule set version from a query for rule set versions and fetch the version from a Data Store.

1. To locate and fetch a rule set version from a listing of rule set versions in the Query View, find the rule set version in the Query View and select it.
2. Right-click and select Open to fetch the version from a Data Store.
3. Right-click and select Properties to open the Rule Set – History View Details dialog box (figure 3.16) where you can review the version details and change the Version Status.

### 3.6.6 Load a Rule Set from a File

Load a rule set from a local file to the Process Tree window while you are connected to a Data Store. To load a rule set from a local file while connected to a Data Store, do one of the following:

- Go to Process > Load and Replace in the main menu bar to open the Load Process dialog box where you can select a rule set from a local file. This will replace any processes already in the Process Tree window.
- Right-click in the Process Tree window and select Load Rule Set to browse to the rule set you want. Your selection will be appended to whatever processes are already in the window.

### 3.6.7 Select a Data Store Rule Set for an Analysis Job

Select a rule set from a Data Store when you start an analysis job.

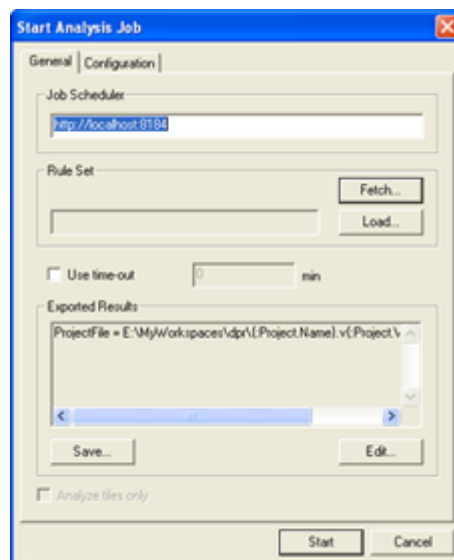


Figure 3.17. Start Analysis Job dialog box for eCognition Data Management

1. Right click in the left pane of the Workspace window and select Analyze to open the Start Analysis Job dialog box (figure 3.17)

2. Click the Fetch button to open the Query – Rule Set dialog box and select a rule set.
3. Click OK to fetch the latest version of the selected rule set from a Data Store and use it to analyze the workspace.

### 3.6.8 Import and Export Rule Sets in a Data Store

Use a Data Store to locate and import rule sets from your local file system to a Data Store and export rule sets from a Data Store.

#### Import a Rule Set into a Data Store

1. To import a rule set, connect to a Data Store and do one of the following:
  - Locate the rule set in the View Rule Set History window, right-click it and select Import from File from the context menu.
  - Navigate to File > Data Store > Import Rule Set to Data Store.
  - In the Process menu, navigate to Rule Set Storage Management > Import Rule Set. The Load Process or Load Rule Set dialog box opens.
2. Browse to the rule set, and click Open to open the Initialize Rule Set dialog box and create the initial version of the rule set in a Data Store.

#### Export a Rule Set From a Data Store

1. To export a rule set from the data store, do one of the following:
  - Locate the rule set in the View Rule Set History window, right-click it and select Export to File from the context menu. The Save Process window opens.
  - Navigate to File > Data Store > Export Rule Set from a Data Store in the main menu bar. The Query – Rule Set dialog box opens. Select the rule set and click OK to open the Save Process window.
2. Browse to the location you want outside a Data Store, enter a name for the rule set, and click OK.
3. The rule set is saved as a copy (with the .dcp file extension) outside a Data Store.

### 3.6.9 Delete a Rule Set from a Data Store

Delete all versions of a rule set from a Data Store.

To delete all versions of rule set from a Data Store, do one of the following:

- Select the rule set in the query view, right-click it and select Delete.
- In the main menu bar, go to Process > Rule Set Storage Management > Delete Rule Set from Storage to open the Query – Rule Set dialog box.

Then select a rule set and click OK.

## 3.7 Manage Projects in a Data Store

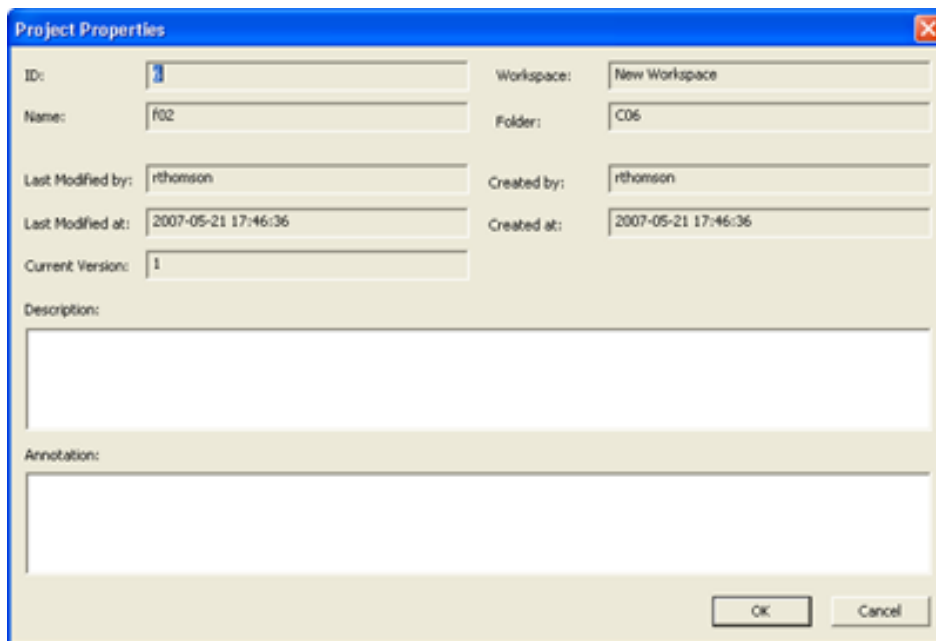
Locate projects in a Data Store and open them for review or modification.

From the Query View you can also:

- Delete projects using the context menu
- Add annotations using the context menu
- Review project properties and add a description
- Review, open, and rollback the project versions
- Use the context menu to copy the metadata of all projects displayed in the Query View
- Export the metadata of all projects displayed in the Query View
- Use the context menu to count the number of rows of projects displayed in the Query View.

### 3.7.1 Inspect Project Properties in a Data Store

Use a Data Store to review the properties of your projects and add your own descriptions and annotations.



**Figure 3.18. Project Properties dialog box**

1. To inspect project properties, run a query for projects.
2. Right-click a project in the Query View and select Properties to open the Project Properties dialog box ([figure 3.18](#))  
You can view a variety of information about the project and add a Description to the project and an Annotation to the current version. The other fields cannot be edited in this dialog box.
3. Click OK to save your changes.

### 3.7.2 Inspect the History of a Project

Inspect detailed information for each version of a project. Inspecting older versions helps with testing and optimizing solutions. This is especially helpful when performing a complex analysis, where the user may need to locate and roll back to an earlier version.

1. To inspect the history of older project versions, go to the right pane of the Workspace window that lists projects. Right-click a project and choose History from the context menu. The Project History dialog box opens (figure 3.19)
2. All project versions (Ver.) are listed with related Time, User, Operations, State, and Remarks
3. Click OK to close the dialog box.

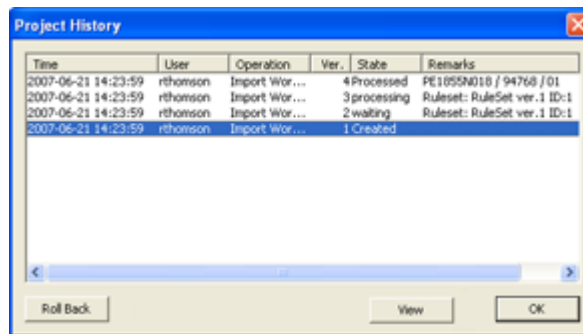


Figure 3.19. Project History dialog box

#### Options

- Click a column header to change sorting by column.
- To open a project version in the map view, do one of the following:
  - Select a project version and click View.
  - Double-click a project version.

#### Rollback a Single Project

To restore an older version, choose the version you want to bring back and click the Rollback button of the Project History dialog box. The restored project version does not replace the current version but adds it to the project version list. The intermediate versions are not lost.

### 3.7.3 Work With Project Versions in a Data Store

Use a Data Store to locate, open, and annotate versions of your projects. First locate versions of projects in a Data Store by running a query. You can then:

- Open a specific version using the context menu.
- View a project version's properties and annotate the version in the Project Properties window.



- Annotate the version using the Annotate window.
- Copy the contents of the Query View to the clipboard from the context menu.
- Export the contents of the Query View.
- Display the number of data rows in the Query View using the context menu.

**TIP:** To rollback a project version, use the Project History window.

## 3.8 Manage Workspaces in the Data Store

Store workspaces in a Data Store and then locate them in the Query View based on metadata. This enables you to locate workspaces based on annotations added by users as well as by description, version status and various other types of metadata that are generated automatically.

When you create workspaces in a Data Store, you have the option of adding descriptions, annotations and keywords, as well as selecting a status.

When you run a query for workspaces, the latest version of each workspace matching your filter displays. In the Query View, you can:

- Open the latest version of the workspace from the context menu.
- Edit workspace properties.
- Copy the workspace metadata from the Query View to the clipboard using the context menu.
- Export metadata from the Query View.
- Count the number of rows of data displayed in the Query View using the context menu.

### 3.8.1 Import Workspaces Into a Data Store

Import workspaces from your local hard drive or other file system into a Data Store.

1. To import workspaces into a Data Store, in the main menu bar, navigate to File > Data Store > Import Workspace into Data Store to open the Import Workspace dialog box.
2. Locate the workspace you want to import and click OK to open the Workspace Properties dialog box.
3. Browse to the location you want outside a Data Store for the output root, enter a name for the workspace, and click OK. The workspace is saved as a copy (with the extension .dpj) inside a Data Store.

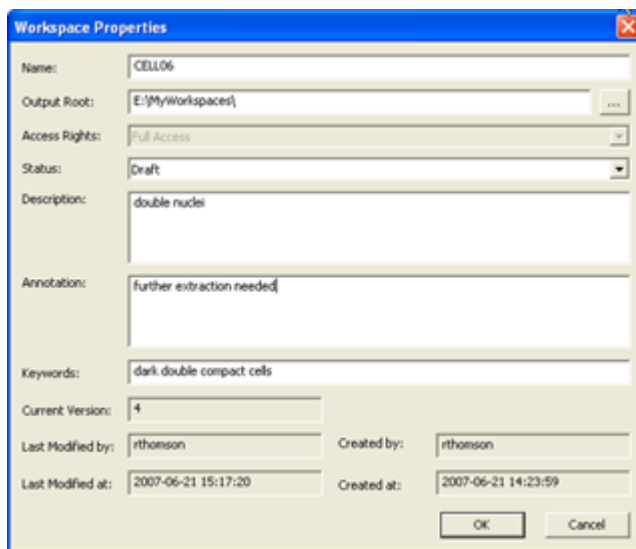
### 3.8.2 Create a Workspace in the Data Store

Create a new workspace in a Data Store that contains your own descriptions, keywords and annotations.

Later you can edit these fields and use them to help you organize and locate data.

1. To create a workspace in a Data Store, go to File > New Workspace in the main menu bar to open the Workspace Properties dialog box.
2. Enter a name of your choice.
3. Click the ellipsis button to select an Output Root as the location where results will be exported.
4. The Description and Annotation fields are optional.
5. Click OK to save the new workspace.

### 3.8.3 Edit Workspace Properties in a Data Store



**Figure 3.20. Workspace Properties dialog box (Data Store)**

Add details to workspaces and save them to a Data Store. User-added details can facilitate searching and help organize workspaces.

1. To view and edit workspace properties for workspaces stored in a Data Store, open the Workspace Properties dialog box (figure 3.20) one of the following ways:
  - Run a workspace query in the Query View. The latest version of each workspace matching the filter used displays Select a workspace and right-click to select Properties
  - In the main menu bar, select File > Workspace Properties
2. The Name is entered automatically but can be edited if desired
3. Access Rights depend on your system configuration
4. You can also change the Status and the Output Root if desired
5. Use the entry fields to add a Descriptions, Annotation and Keywords to the workspace
6. Click OK to save your changes.

## 4 Further Information

### 4.1 Installation and Administration Guide

eCognition Data Management is an extension to eCognition clients such as Developer and Architect. See the Installation and Administration Guide for more information about installation and license handling.

Before the installation, you can access the InstallationGuide.pdf file in the downloaded and unpacked directory containing the installation files. After installation, you can choose among the following:

- Open the Installation Guide from the Start Menu. Click Start > All Programs > eCognition client or product name > User Documents > Installation Guide.
- Consult the InstallationGuide.pdf in the installation directory. The default path is C:\Program Files\eCognition client or product name, version number\UserGuides\InstallationGuide.pdf.

#### 4.1.1 Support

Feel free to contact us via [www.ecognition.com/support](http://www.ecognition.com/support).



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