

# SemFS

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**<http://semanticweb.org/wiki/SemFS>**  
(**<http://semanticweb.org/wiki/SemFS>**)

Status: beta

Last release: 1.0.3-SNAPSHOT (March 24 2009)

License: BSD licenses

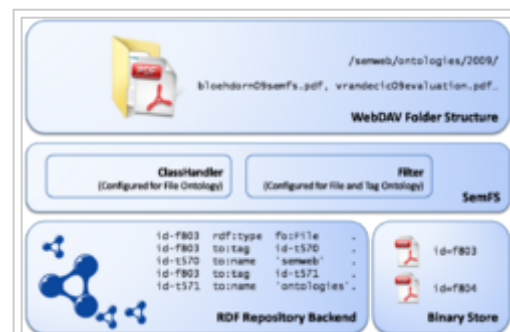
Affiliation: FZI, AIFB

## Summary

**SemFS** is a semantic file system which exposes itself to the operating system as a WebDAV drive. SemFS re-interprets the concept of *file system resources* and their *locations* as *resources* and *resource annotations* in RDF knowledge bases. By accessing structured knowledge, e.g. bibliographical information or contact information via files, this approach offers a possibility for seamlessly integrating the content of the knowledge bases with the user's desktop systems.

Specifically, SemFS provides a network resource repository where resources are stored and accessed through the standard hierarchical file system paradigm applied on some resource metadata attribute instead of on the file's directory pathname. The actual logic of the file system knowledge filter is implemented in two components: the *ClassHandler component*, which is responsible for rendering resources in the knowledge base as files and the *Filter component* which is responsible for selecting the appropriate set of files to be shown in a given directory. This distinction is powerful, as it allows designing and operating ClassHandlers and Filters independent of each other.

The out-of-the box functionality of SemFS is provided by a Filter/ClassHandler pair that allows to tag arbitrary binary file content.



**Sample Scenario 1 for SemFS - File Tagging Scenario.** The triples in the RDF repository backend describe tag metadata of actual PDF files which are kept in the binary store. The folder structure produced by SemFS mirrors combinations of these tag annotations and contains the respective PDF files.

## Members

- Stephan Bloehdorn (AIFB)
- Max Völkel (AIFB,FZI)
- Andreas Kreidler (AIFB,FZI)
- Frank Dengler (AIFB)



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## Feedback

- Binary Releases: Releases (<http://code.google.com/p/semfs/downloads/list>) (hosted at Google Code)
- Source code: SVN (<http://code.google.com/p/semfs/source/browse/>) (hosted at Google Code)
- Issue Tracker: Submit a bug or feature request (<http://issues.semweb4j.org/browse/SFS>)
- Release History

## General Documentation

- ACTIVE Deliverable 3.1.1 ([http://www.active-project.eu/fileadmin/public\\_documents/2009-03-06-d-3-1-1-project-approved.pdf](http://www.active-project.eu/fileadmin/public_documents/2009-03-06-d-3-1-1-project-approved.pdf)) - explains most of the relevant information about SemFS
- Semant.css - describes the Semant.css of file system operations in SemFS
- Illustrative Example (Animation) - illustrate the behaviour of SemFS in a real world example, namely the tagging of files

## User Documentation

- User Guide - Download and Installation

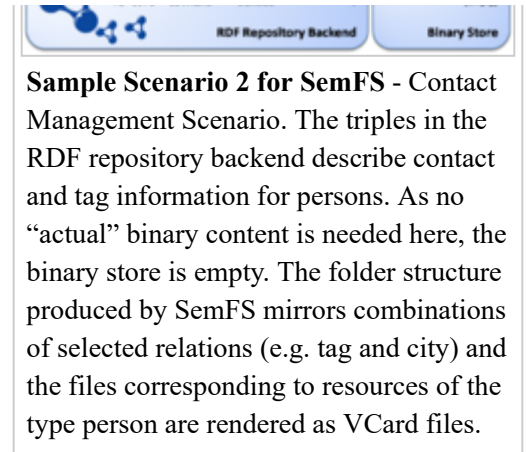
## Developer Documentation, Reports and Feedback

- Developer Guide - describes advanced issues
- JavaD.css (<http://semweb4j.org/site/semfs/apid.css/index.html>) (hosted at Maven-generated Documentation Site)
- Project reports (<http://mavenrepo.fzi.de/semweb4j.org/site/semfs/project-reports.html>) (hosted at Maven-generated documentation site)
- Issue Tracker: Submit a bug or feature request (<http://issues.semweb4j.org/browse/SFS>)

## Related Work and Publications

### Related Work

- an earlier and alternative (<http://www.uni-koblenz.de/FB4/Institutes/IFI/AGStaab/Research/SemFS>) version of a semantic file system based on similar ideas by Simon Schenk and Olaf Görlitz (University of Koblenz-Landau, Germany); based on Fuse/Linux.
- X-COSIM (<http://isweb.uni-koblenz.de/Research/x-cosim>) - a second semantic file system project from University of Koblenz-Landau, Germany, based on Gnome.



- SemDAV Project (<http://www.semdav.org/>) - several publications. Review: WebDAV extended, new user interfaces, tagging semant.css plus key-value pairs.
- Semantic File Retrieval in File Systems using Virtual Directories (<http://www.hipc.org/hipc2006/posters/semfs.pdf>) by Prashanth Mohan, Raghuraman, Venkateswaran S and Dr. Arul Siromoney. project page (<http://code.google.com/p/semfs/>)
- Towards Semantic File Management Interfaces (ISWC 2008) - paper-poster and more info

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- see also list on wikipedia ([http://en.wikipedia.org/wiki/Semantic\\_File\\_System#External\\_links](http://en.wikipedia.org/wiki/Semantic_File_System#External_links))
- A paper on exposing a file system as RDF ([http://triplify.org/files/challenge\\_2009/tripfs.pdf](http://triplify.org/files/challenge_2009/tripfs.pdf)).
- PERSPECTIVE (<http://www.pdl.cmu.edu/HomeStorage/>): A Home Storage Solution

## Publications

- Stephan Bloehdorn, Olaf Goerlitz, Simon Schenk, Max Voelkel: TagFS - Tag Semant.css for Hierarchical File Systems ([http://www.aifb.uni-karlsruhe.de/Publikationen/showPublikation\\_english?publ\\_id=1140](http://www.aifb.uni-karlsruhe.de/Publikationen/showPublikation_english?publ_id=1140)) In: Proceedings of the 6th International Conference on Knowledge Management (I-KNOW 06), Graz, Austria, September 6-8, 2006. September 2006.

## WebDAV Clients

### Windows

- Windows XP and Windows Vista have built-in WebDAV capabilities in the Windows Explorer. However, some other tools are even nicer to use.
- DriveOnWeb Client (<http://www.driveonweb.de/de/driveonweb-client/was-ist-der-driveonweb-client>), Private: €39,95 , multilingual (28.06.10)
- ... list other tools here

### MacOS

- MacOS has a pretty good built-in WebDAV support

### Linux

- Linux, too

## Acknowledgements

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Category: Tool

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