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# **lawwenda - Plugin API Documentation**

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Lawwenda has a plugin interface which allows to add functionality to the core from outside.

TODO not yet available



## API REFERENCE

### 1.1 lawwenda package

#### 1.1.1 Subpackages

lawwenda.fs package

Submodules

lawwenda.fs.decorators module

Filesystem decorators.

Used for filtering nodes from existing filesystems, influence access control or other things.

**class** lawwenda.fs.decorators.**AbstractFilesystemDecorator** (*inner*)  
Bases: *lawwenda.fs.Filesystem*

**Parameters** **inner** (*lawwenda.fs.Filesystem*) –  
**\_eval\_predicate** (*pred, node*)

**class** lawwenda.fs.decorators.**ExcludeNodesFilesystemDecorator** (*inner, pred*)  
Bases: *lawwenda.fs.decorators.AbstractFilesystemDecorator*

Decorator for filesystems that forcefully excludes some nodes.

**Parameters**

- **inner** (*lawwenda.fs.Filesystem*) –
- **pred** (*Callable[[Filesystem.Node], bool]*) –

**child\_nodes** (*handle*)

Return all child nodes for a node (in a handle).

**Parameters** **handle** – The read handle to a node.

**get\_readhandle** (*node*)

Return a read handle for a node.

Such handles are needed for executing read actions on that node. See also *Filesystem.ReadHandle*.

**Parameters** **node** – The node to read from later.

**get\_writehandle** (*node*)

Return a write handle for a node.

Such handles are needed for executing write actions on that node. See also `Filesystem.WriteHandle`.

**Parameters** **node** – The node to write from later.

**class** `lawwenda.fs.decorators.HideNodesFilesystemDecorator` (*inner, pred*)

Bases: `lawwenda.fs.decorators.AbstractFilesystemDecorator`

Decorator for filesystems that marks some nodes.

**Parameters**

- **inner** (`lawwenda.fs.Filesystem`) –
- **pred** (`Callable[[Filesystem.Node], bool]`) –

**is\_hidden** (*handle*)

Return whether a node (in a handle) is hidden.

**Parameters** **handle** – The read handle to a node.

**class** `lawwenda.fs.decorators.ReadOnlyFilesystemDecorator` (*inner*)

Bases: `lawwenda.fs.decorators.AbstractFilesystemDecorator`

Decorator for filesystems that blocks all write accesses.

**Parameters** **inner** (`lawwenda.fs.Filesystem`) –

**get\_writehandle** (*node*)

Return a write handle for a node.

Such handles are needed for executing write actions on that node. See also `Filesystem.WriteHandle`.

**Parameters** **node** – The node to write from later.

## lawwenda.fs.local module

Local filesystem implementation.

**class** `lawwenda.fs.local.LocalFilesystem` (*rootpath*)

Bases: `lawwenda.fs.Filesystem`

A `Filesystem` implementation that resembles a particular subtree of your real local filesystem.

**Parameters** **rootpath** (*str*) –

**\_\_path\_to\_fullpath** (*path*)

**Parameters** **path** (*str*) –

**Return type** `str`

**add\_tag** (*handle, tag*)

Add a tag to a node (in a handle).

**Parameters**

- **handle** – The write handle to a node.
- **tag** – The tag to add.



**child\_nodes** (*handle*)

Return all child nodes for a node (in a handle).

**Parameters** **handle** – The read handle to a node.

**comment** (*handle*)

Return the comment assigned to a node (in a handle).

**Parameters** **handle** – The read handle to a node.

**copy\_to** (*srchandle*, *desthandle*)

**delete** (*handle*)

Delete a node (in a handle).

**Parameters** **handle** – The write handle to a node.

**exists** (*handle*)

Return whether a node (in a handle) points to something that actually exists.

This can e.g. be *False* for nodes coming from `node_by_path()`.

**Parameters** **handle** – The read handle to a node.

**geo** (*handle*)

Return the geographic location associated to a node (in a handle).

**Parameters** **handle** – The read handle to a node.

**get\_readhandle** (*node*)

Return a read handle for a node.

Such handles are needed for executing read actions on that node. See also `Filesystem.ReadHandle`.

**Parameters** **node** – The node to read from later.

**get\_writehandle** (*node*)

Return a write handle for a node.

Such handles are needed for executing write actions on that node. See also `Filesystem.WriteHandle`.

**Parameters** **node** – The node to write from later.

**has\_preview** (*handle*)

Return whether there could be a html preview snippet available for a node (in a handle).

See also `preview_html()`.

There might be cases when it returns *True* but the preview generation will fail.

**Parameters** **handle** – The read handle to a node.

**has\_thumbnail** (*handle*)

Return whether there could be a thumbnail available for a node (in a handle).

See also `thumbnail()`.

There might be cases when it returns *True* but the thumbnail generation will fail.

**Parameters** **handle** – The read handle to a node.

**is\_dir** (*handle*)

Return whether a node (in a handle) is a directory.

This is also *True* for link nodes (see `is_link()`) that point to a directory!

**Parameters** **handle** – The read handle to a node.

**is\_file** (*handle*)

Return whether a node (in a handle) is a regular file.

This is also *True* for link nodes (see *is\_link()*) that point to a file!

**Parameters** **handle** – The read handle to a node.

**is\_hidden** (*handle*)

Return whether a node (in a handle) is hidden.

**Parameters** **handle** – The read handle to a node.

**is\_link** (*handle*)

Return whether a node (in a handle) is a link. If this is a resolvable link, some of the other *is\_* flags are *True* as well.

Resolving links is always done internally by the filesystem implementation. It is usually not required to know the link target in order to use the node.

**Parameters** **handle** – The read handle to a node.

**known\_tags** ()

**mimetype** (*handle*)

Return the mimetype of a node (in a handle).

**Parameters** **handle** – The read handle to a node.

**mkdir** (*handle*)

Make a node (in a handle) an existing directory.

**Parameters** **handle** – The write handle to a node.

**move\_to** (*srchandle*, *desthandle*)

**mtime** (*handle*)

Return the ‘last modified’ time of a node (in a handle).

**Parameters** **handle** – The read handle to a node.

**preview\_html** (*handle*)

Return an html snippet that shows a preview of a node (in a handle).

This is larger and richer in terms of flexibility than thumbnails, and is typically used by the file details panel.

See also *has\_preview()*.

**Parameters** **handle** – The read handle to a node.

**rating** (*handle*)

Return the rating assigned to a node (in a handle).

**Parameters** **handle** – The read handle to a node.

**read\_file** (*handle*)

Return a file-like object for reading content of a node (in a handle).

The caller must ensure that it gets closed after usage, usually by means of the Python *with* keyword.

**Parameters** **handle** – The read handle to a node.

**remove\_tag** (*handle*, *tag*)

Remove a tag from a node (in a handle).

**Parameters**

- **handle** – The write handle to a node.
- **tag** – The tag to remove.

**set\_comment** (*handle*, *comment*)

Set the comment for a node (in a handle).

**Parameters**

- **handle** – The write handle to a node.
- **comment** – The new comment.

**set\_geo** (*handle*, *geo*)

Set the geographic location for a node (in a handle).

**Parameters**

- **handle** – The write handle to a node.
- **geo** – The new geographic location (as encoded string).

**set\_rating** (*handle*, *rating*)

Set the rating for a node (in a handle).

**Parameters**

- **handle** – The write handle to a node.
- **rating** – The new rating.

**size** (*handle*)

Return the size of a node (in a handle) in bytes.

**Parameters** **handle** – The read handle to a node.

**tags** (*handle*)

Return the tags that are assigned to a node (in a handle).

**Parameters** **handle** – The read handle to a node.

**thumbnail** (*handle*)

Return a thumbnail for a node (in a handle) in PNG format.

See also [`has\_thumbnail\(\)`](#).

**Parameters** **handle** – The read handle to a node.

**try\_get\_fullpath** (*handle*, \*, *writable*)

**write\_file** (*handle*, *content*)

Write content to a node (in a handle).

This will overwrite its original content.

**Parameters**

- **handle** – The write handle to a node.
- **content** – The binary content to write to the node.

## Module contents

Lawwenda abstract filesystem.

Lawwenda usually shows a subtree of the local filesystem, but could also work with something completely different. This module implements the basic infrastructure for that.

**exception** `lawwenda.fs.CircularTraversalError`

Bases: `OSError`

Raised when traversing a tree that has a circle (i.e. that is not really a tree), usually by an ‘unfortunate’ link.

**class** `lawwenda.fs.Filesystem`

Bases: `object`

Base class for a filesystem source implementation.

Subclasses implement different kinds of filesystems, e.g. `lawwenda.fs.local.LocalFilesystem`.

You should not use this interface directly for much more than getting its `rootnode`. It provides a friendlier and equally powerful interface.

*This class is not intended to be instantiated directly. You will get instances by some other api methods.*

**class** `Node` (*path*, \*, *filesystem*)

Bases: `object`

### Parameters

- `path` (*str*) –
- `filesystem` (`Filesystem`) –

**property** `_filesystem`

Return type `Filesystem`

Return type `Filesystem`

Return type `Filesystem`

Return type `Filesystem`

**add\_tag** (*tag*)

Add a tag to this node.

**Parameters** `tag` (*str*) – The tag to add.

**Return type** `None`

**property** `basics_as_dict`

**child\_by\_name** (*name*)

Return a child node by name.

This will not fail for names that do not exist yet, but return a node that could be used for creating it.

**Parameters** `name` (*str*) – The file name of the child.

**Return type** `lawwenda.fs.Filesystem.Node`

**property** `child_nodes`

The list of child nodes, i.e. nodes for all files and sub-directories inside this node.

This only makes sense on directory nodes and will be empty otherwise.

**Return type** `t.List[“Filesystem.Node”]`

**Return type** `t.List[“Filesystem.Node”]`

**Return type** `t.List[“Filesystem.Node”]`

**Return type** `t.List[“Filesystem.Node”]`

**property** `comment`

The node comment text.

**Return type** str

**Return type** str

**Return type** str

**Return type** str

**copy\_to** (*newpath*)

**Parameters** *newpath* (*str*) –

**Return type** None

**delete** ()

Delete this node.

**Return type** None

**property dirpath**

The directory path of the node.

This is all but the last segment of *path*. Same as *path* of *parent\_node*.

**Return type** str

**Return type** str

**Return type** str

**Return type** str

**property exists**

Whether a node points to something that actually exists.

This can e.g. be *False* for nodes coming from *child\_by\_name* ().

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**property full\_as\_dict**

**property geo**

The geographic location associated to this node, encoded in a string.

**Return type** str

**Return type** str

**Return type** str

**Return type** str

**property geo\_obj**

The geographic location associated to this node.

**Return type** pimetadatainterpreter.GeoLocation

**Return type** pimetadatainterpreter.GeoLocation

**Return type** pimetadatainterpreter.GeoLocation

**Return type** pimetadatainterpreter.GeoLocation

**property has\_preview**

Whether there could be a html preview snippet available for this node.

See also *preview\_html*.

There might be cases when it returns *True* but the preview generation will fail.

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**property has\_thumbnail**

Whether there could be a thumbnail available for this node.

See also `thumbnail()`.

There might be cases when it returns *True* but the thumbnail generation will fail.

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**property icon\_name**

The recommended icon name for this node.

**Return type** t.Optional[str]

**Return type** t.Optional[str]

**Return type** t.Optional[str]

**Return type** t.Optional[str]

**property is\_dir**

Whether the node is a directory.

This is also *True* for link nodes (see `is_link()`) that point to a directory!

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**property is\_file**

Whether the node is a regular file.

This is also *True* for link nodes (see `is_link()`) that point to a directory!

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**property is\_hidden**

Whether the node is hidden.

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**property is\_link**

Whether the node is a link. If this is a resolvable link, some of the other *is\_* flags are *True* as well.

Resolving links is always done internally by the filesystem implementation. It is usually not required to know the link target in order to use the node.

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**property is\_writable**

Whether the node is writable.

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**property mimetype**

The mimetype of this node.

**Return type** str**Return type** str**Return type** str**Return type** str**mkdir()**

Make this node an existing directory.

**Return type** None**move\_to(newpath)****Parameters** **newpath** (*str*) –**Return type** None**property mtime**

The ‘last modified’ time of this node.

**Return type** datetime.datetime**Return type** datetime.datetime**Return type** datetime.datetime**Return type** datetime.datetime**property mtime\_ts**Same as *mtime*, but as Unix timestamp.**Return type** float**Return type** float**Return type** float**Return type** float**property name**

The file name of the node.

This is the last segment of *path*.**Return type** str**Return type** str**Return type** str**Return type** str**property parent\_node**

The parent node.

**Return type** *Filesystem.Node***Return type** *Filesystem.Node***Return type** *Filesystem.Node***Return type** *Filesystem.Node***property path**

The path of this node.

This is similar to a Unix filesystem path, i.e. path segments are separated by “/”.

This path will always be considered as relative to the root node of the *\_filesystem* it is part of. It is not relative to ‘/’ of your real filesystem (unless you have actually set up a *Filesystem* that resembles your entire real filesystem).

**Return type** str**Return type** str**Return type** str**Return type** str**property preview\_html**

An html snippet that shows a preview of this node.

This is larger and richer in terms of flexibility than thumbnails, and is typically used by the file details panel.

See also `has_preview`.

**Return type** str

**Return type** str

**Return type** str

**Return type** str

#### **property rating**

The node rating.

**Return type** int

**Return type** int

**Return type** int

**Return type** int

#### **read\_file()**

Return a file-like object for reading content of this node.

The caller must ensure that it gets closed after usage, usually by means of the Python *with* keyword.

**Return type** BinaryIO

#### **remove\_tag(tag)**

Remove a tag from this node.

**Parameters** **tag** (str) – The tag to remove.

**Return type** None

#### **set\_comment(comment)**

Set the comment for this node.

**Parameters** **comment** (str) – The new comment.

**Return type** None

#### **set\_geo(geo)**

Set the geographic location for this node.

**Parameters** **geo** (str) – The new geographic location (as encoded string).

**Return type** None

#### **set\_rating(rating)**

Set the rating for this node.

**Parameters** **rating** (int) – The new rating.

**Return type** None

#### **property size**

The size of this node in bytes.

**Return type** int

**Return type** int

**Return type** int

**Return type** int

#### **property tags**

The tags assigned to this node.

**Return type** t.List[str]

**Return type** t.List[str]

**Return type** t.List[str]

**Return type** t.List[str]

#### **property tagstring**

The tags assigned to this node, encoded in one string.

**Return type** str



**Return type** str  
**Return type** str  
**Return type** str

**thumbnail**()

The thumbnail for this node in PNG format.

See also [has\\_thumbnail](#).

**Return type** bytes

**traverse\_dir**(\**, raise\_on\_circle, param\_path=""*)

**Parameters**

- **raise\_on\_circle** (*bool*) –
- **param\_path** (*str*) –

**Return type** Iterable[Tuple[[lawwenda.fs.Filesystem.Node](#), str]]

**try\_get\_fullpath**(\**, writable*)

**Parameters** **writable** (*bool*) –

**Return type** Optional[str]

**write\_file**(*content*)

Write content to this node.

This will overwrite its original content.

**Parameters** **content** (*Union[bytes, BinaryIO]*) – The binary content to write to the node.

**Return type** None

**class ReadHandle** (*node*)

Bases: object

Read and write handles are just a stupid container that hold one [Filesystem.Node](#).

This looks stupid at first, because you could just use this node directly instead. The added value of handles are a central mechanism for access control, which would be a bit less obvious and more scattered in code without this indirection.

Of course it cannot avoid a way around it in code. An attacker that can change the code has won anyway. It just simplifies writing correct code that hopefully does not provide ways around it for the client.

See [Filesystem.get\\_readhandle\(\)](#) and [Filesystem.get\\_writehandle\(\)](#).

**Parameters** **node** ([Filesystem.Node](#)) –

**class WriteHandle** (*node*)

Bases: [lawwenda.fs.Filesystem.ReadHandle](#)

See [Filesystem.ReadHandle](#).

**Parameters** **node** ([Filesystem.Node](#)) –

**add\_tag** (*handle, tag*)

Add a tag to a node (in a handle).

**Parameters**

- **handle** ([lawwenda.fs.Filesystem.WriteHandle](#)) – The write handle to a node.
- **tag** (*str*) – The tag to add.

**Return type** None

**child\_nodes** (*handle*)

Return all child nodes for a node (in a handle).

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `List[lawwenda.fs.Filesystem.Node]`

**comment** (*handle*)

Return the comment assigned to a node (in a handle).

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `str`

**copy\_to** (*srchandle*, *desthandle*)

**Parameters**

- **srchandle** (`lawwenda.fs.Filesystem.ReadHandle`) –
- **desthandle** (`lawwenda.fs.Filesystem.WriteHandle`) –

**Return type** `None`

**delete** (*handle*)

Delete a node (in a handle).

**Parameters** **handle** (`lawwenda.fs.Filesystem.WriteHandle`) – The write handle to a node.

**Return type** `None`

**exists** (*handle*)

Return whether a node (in a handle) points to something that actually exists.

This can e.g. be *False* for nodes coming from `node_by_path()`.

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `bool`

**geo** (*handle*)

Return the geographic location associated to a node (in a handle).

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `lawwenda._aux.PiMetadataInterpreter.pimetadainterpreter.GeoLocation`

**get\_readhandle** (*node*)

Return a read handle for a node.

Such handles are needed for executing read actions on that node. See also [Filesystem.ReadHandle](#).

**Parameters** **node** (`lawwenda.fs.Filesystem.Node`) – The node to read from later.

**Return type** `lawwenda.fs.Filesystem.ReadHandle`

**get\_writehandle** (*node*)

Return a write handle for a node.

Such handles are needed for executing write actions on that node. See also [Filesystem.WriteHandle](#).

**Parameters** `node` (`lawwenda.fs.Filesystem.Node`) – The node to write from later.

**Return type** `lawwenda.fs.Filesystem.WriteHandle`

**has\_preview** (`handle`)

Return whether there could be a html preview snippet available for a node (in a handle).

See also `preview_html()`.

There might be cases when it returns *True* but the preview generation will fail.

**Parameters** `handle` (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `bool`

**has\_thumbnail** (`handle`)

Return whether there could be a thumbnail available for a node (in a handle).

See also `thumbnail()`.

There might be cases when it returns *True* but the thumbnail generation will fail.

**Parameters** `handle` (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `bool`

**is\_dir** (`handle`)

Return whether a node (in a handle) is a directory.

This is also *True* for link nodes (see `is_link()`) that point to a directory!

**Parameters** `handle` (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `bool`

**is\_file** (`handle`)

Return whether a node (in a handle) is a regular file.

This is also *True* for link nodes (see `is_link()`) that point to a file!

**Parameters** `handle` (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `bool`

**is\_hidden** (`handle`)

Return whether a node (in a handle) is hidden.

**Parameters** `handle` (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `bool`

**is\_link** (`handle`)

Return whether a node (in a handle) is a link. If this is a resolvable link, some of the other *is\_* flags are *True* as well.

Resolving links is always done internally by the filesystem implementation. It is usually not required to know the link target in order to use the node.

**Parameters** `handle` (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** `bool`

**known\_tags** ()

**Return type** List[str]

**mimetype** (*handle*)

Return the mimetype of a node (in a handle).

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** str

**mkdir** (*handle*)

Make a node (in a handle) an existing directory.

**Parameters** **handle** (`lawwenda.fs.Filesystem.WriteHandle`) – The write handle to a node.

**Return type** None

**move\_to** (*srchandle*, *desthandle*)

**Parameters**

- **srchandle** (`lawwenda.fs.Filesystem.WriteHandle`) –
- **desthandle** (`lawwenda.fs.Filesystem.WriteHandle`) –

**Return type** None

**mtime** (*handle*)

Return the ‘last modified’ time of a node (in a handle).

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** datetime.datetime

**node\_by\_path** (*path*)

Return a node by a given path.

It will not fail, even if there is no such file or access would be denied.

**Parameters** **path** (*str*) – The path of the node to return, relative to the filesystem’s root node.

**Return type** `lawwenda.fs.Filesystem.Node`

**preview\_html** (*handle*)

Return an html snippet that shows a preview of a node (in a handle).

This is larger and richer in terms of flexibility than thumbnails, and is typically used by the file details panel.

See also `has_preview()`.

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** str

**rating** (*handle*)

Return the rating assigned to a node (in a handle).

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** int

**read\_file** (*handle*)

Return a file-like object for reading content of a node (in a handle).

The caller must ensure that it gets closed after usage, usually by means of the Python *with* keyword.

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.

**Return type** BinaryIO

**remove\_tag** (*handle*, *tag*)

Remove a tag from a node (in a handle).

**Parameters**

- **handle** (`lawwenda.fs.Filesystem.WriteHandle`) – The write handle to a node.
- **tag** (*str*) – The tag to remove.

**Return type** None

**property rootnode**

The root node of this filesystem.

**Return type** `Filesystem.Node`

**Return type** `Filesystem.Node`

**Return type** `Filesystem.Node`

**Return type** `Filesystem.Node`

**static sanitize\_abspath** (*path*)

Sanitize slashes in a path and returns a path in the form */foo/bar*.

Precisely:

- with a slash in the beginning
- without a slash at the end (exception: root path)
- without double slashes
- with `..` and `.` resolved
- root path: `/`

**Parameters** **path** (*str*) – The input path.

**Return type** `str`

**set\_comment** (*handle*, *comment*)

Set the comment for a node (in a handle).

**Parameters**

- **handle** (`lawwenda.fs.Filesystem.WriteHandle`) – The write handle to a node.
- **comment** (*str*) – The new comment.

**Return type** None

**set\_geo** (*handle*, *geo*)

Set the geographic location for a node (in a handle).

**Parameters**

- **handle** (`lawwenda.fs.Filesystem.WriteHandle`) – The write handle to a node.
- **geo** (`str`) – The new geographic location (as encoded string).

**Return type** None**set\_rating** (`handle, rating`)

Set the rating for a node (in a handle).

**Parameters**

- **handle** (`lawwenda.fs.Filesystem.WriteHandle`) – The write handle to a node.
- **rating** (`int`) – The new rating.

**Return type** None**size** (`handle`)

Return the size of a node (in a handle) in bytes.

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.**Return type** int**tags** (`handle`)

Return the tags that are assigned to a node (in a handle).

**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.**Return type** List[str]**thumbnail** (`handle`)

Return a thumbnail for a node (in a handle) in PNG format.

See also `has_thumbnail()`.**Parameters** **handle** (`lawwenda.fs.Filesystem.ReadHandle`) – The read handle to a node.**Return type** bytes**try\_get\_fullpath** (`handle, *, writable`)**Parameters**

- **handle** (`Union[Filesystem.ReadHandle, Filesystem.WriteHandle]`) –
- **writable** (`bool`) –

**Return type** Optional[str]**write\_file** (`handle, content`)

Write content to a node (in a handle).

This will overwrite its original content.

**Parameters**

- **handle** (`lawwenda.fs.Filesystem.WriteHandle`) – The write handle to a node.

- **content** (*Union[bytes, BinaryIO]*) – The binary content to write to the node.

**Return type** None

**class** lawwenda.fs.\_PredicateFactory

Bases: object

Used by `create_filesystem()` for translating its arguments into filter predicates.

**static** `excludehidden (node)`

Return *True* for a hidden node.

**static** `false (node)`

Return *False* for each node.

**static** `p_descending (pred)`

Return a predicate that returns *True* iff the input predicate returns *True* for the input node and/or some nodes in its subtree (if it is a directory).

**Parameters** `pred` – The input predicate.

**static** `p_not (pred)`

Return a predicate that inverts the input predicate.

**Parameters** `pred` – The input predicate.

**static** `p_or (*preds)`

Return a predicate that returns *True* iff at least one of the input predicates return *True*.

**Parameters** `preds` – The input predicates.

**static** `p_regexp (restr)`

Return a predicate that returns *True* for input nodes whose `Filesystem.Node.path` matches the given regular expression.

**Parameters** `restr` – The regular expression string.

**static** `p_tag (tag)`

Return a predicate that returns *True* for input nodes whose `Filesystem.Node.tags` contain the given tag.

**Parameters** `tag` – The tag to look for.

`lawwenda.fs.create_filesystem (rootpath, *, readonly, hide_by_patterns=(), hide_by_tags=(), include_by_patterns=None, include_by_tags=None, exclude_by_patterns=(), exclude_by_tags=(), exclude_hidden=False)`

Create a `Filesystem` resembling a particular subtree of your real local filesystem, with some configuration for access control and more.

**Parameters**

- **rootpath** (*str*) – The path from your real local filesystem to consider as the root directory.
- **readonly** (*bool*) – Whether it should block write accesses.
- **hide\_by\_patterns** (*Iterable[str]*) – TODO.
- **hide\_by\_tags** (*Iterable[str]*) – TODO.
- **include\_by\_patterns** (*Optional[Iterable[str]]*) – TODO.
- **include\_by\_tags** (*Optional[Iterable[str]]*) – TODO.
- **exclude\_by\_patterns** (*Iterable[str]*) – TODO.

- **exclude\_by\_tags** (*Iterable[str]*) – TODO.
- **exclude\_hidden** (*bool*) – TODO.

Return type *lawwenda.fs.Filesystem*

## lawwenda.preview package

### Submodules

#### lawwenda.preview.commonimages module

Preview functionality for common image formats.

**class** `lawwenda.preview.commonimages.CommonImagesPreviewer`

Bases: *lawwenda.preview.Previewer*

Preview functionality for common image formats.

**\_abc\_impl** = *<\_abc\_data object>*

**is\_previewable** (*iar*)

Return if this previewer is able to generate an html preview snippet for a file.

Note that this decision has to be made with very few information, e.g. without knowing the file content, for performance reasons.

See also *preview\_html()*.

**Parameters** *iar* – An object that describes the file.

**is\_thumbnailable** (*iar*)

Return if this previewer is able to generate a thumbnail for a file.

Note that this decision has to be made with very few information, e.g. without knowing the file content, for performance reasons.

See also *thumbnail()*.

**Parameters** *iar* – An object that describes the file.

**preview\_html** (*node*)

Return an html snippet that shows a preview of a file.

This is larger and richer in terms of flexibility than thumbnails, and is typically used by the file details panel.

See also *is\_previewable()*.

**Parameters** *node* – The file to preview.

**thumbnail** (*node*)

Return a thumbnail for a file in PNG format.

See also *is\_thumbnailable()*.

**Parameters** *node* – The file to generate a thumbnail for.



## lawwenda.preview.commonvideos module

Preview functionality for common video formats.

**class** lawwenda.preview.commonvideos.CommonVideosPreviewer

Bases: [lawwenda.preview.Previewer](#)

Preview functionality for common video formats.

**\_\_ffmpeg\_thumb** (*stdin=- 3*)

**Parameters**

- **inputpath** (*str*) –
- **stdin** (*Any*) –

**Return type** bytes

**\_abc\_impl** = <**\_abc\_data object**>

**is\_previewable** (*iar*)

Return if this previewer is able to generate an html preview snippet for a file.

Note that this decision has to be made with very few information, e.g. without knowing the file content, for performance reasons.

See also [preview\\_html\(\)](#).

**Parameters** **iar** – An object that describes the file.

**is\_thumbnailable** (*iar*)

Return if this previewer is able to generate a thumbnail for a file.

Note that this decision has to be made with very few information, e.g. without knowing the file content, for performance reasons.

See also [thumbnail\(\)](#).

**Parameters** **iar** – An object that describes the file.

**preview\_html** (*node*)

Return an html snippet that shows a preview of a file.

This is larger and richer in terms of flexibility than thumbnails, and is typically used by the file details panel.

See also [is\\_previewable\(\)](#).

**Parameters** **node** – The file to preview.

**thumbnail** (*node*)

Return a thumbnail for a file in PNG format.

See also [is\\_thumbnailable\(\)](#).

**Parameters** **node** – The file to generate a thumbnail for.

## Module contents

Preview functionality.

Used by different parts of the Lawwenda user interface.

**class** lawwenda.previewers.IsAbleRequest (*name, mimetype*)

Bases: object

Information about a particular file, used for asking a *Previewer* if it can provide some functionality for that file.

Instances of this class are used as an argument to some *Previewer* methods.

The available infos are not very rich for performance reasons.

### Parameters

- **name** (*str*) –
- **mimetype** (*str*) –

**Return type** None

**mimetype:** *str*

**name:** *str*

**class** lawwenda.previewers.Previewer

Bases: abc.ABC

Base class for previewers.

Subclasses implement thumbnail and preview functionality for particular file formats.

**\_abc\_impl** = <\_abc\_data object>

**\_image\_scale\_to\_thumbnail\_size** (*imgdata*)

**Parameters** *imgdata* (*BinaryIO*) –

**Return type** *\_io.BytesIO*

**abstract is\_previewable** (*iar*)

Return if this previewer is able to generate an html preview snippet for a file.

Note that this decision has to be made with very few information, e.g. without knowing the file content, for performance reasons.

See also *preview\_html()*.

**Parameters** *iar* (*lawwenda.previewers.IsAbleRequest*) – An object that describes the file.

**Return type** bool

**abstract is\_thumbnailable** (*iar*)

Return if this previewer is able to generate a thumbnail for a file.

Note that this decision has to be made with very few information, e.g. without knowing the file content, for performance reasons.

See also *thumbnail()*.

**Parameters** *iar* (*lawwenda.previewers.IsAbleRequest*) – An object that describes the file.

**Return type** bool

**abstract preview\_html** (*node*)

Return an html snippet that shows a preview of a file.

This is larger and richer in terms of flexibility than thumbnails, and is typically used by the file details panel.

See also *is\_previewable()*.

**Parameters** *node* (*lawwenda.fs.Filesystem.Node*) – The file to preview.

**Return type** *str*

**thumbheight** = 300

**abstract thumbnail** (*node*)

Return a thumbnail for a file in PNG format.

See also *is\_thumbnailable()*.

**Parameters** *node* (*lawwenda.fs.Filesystem.Node*) – The file to generate a thumbnail for.

**Return type** *bytes*

**thumbsize** = (300, 300)

**thumbwidth** = 300

## lawwenda.search package

### Module contents

File search functionality.

Used by the Lawwenda user interface's 'Search' feature.

**class** *lawwenda.search.ByGeoSearch* (*position*, *radius*)

Bases: *lawwenda.search.Search*

Searches for files that are associated with a particular geographic region.

See also *lawwenda.fs.Filesystem.Node.geo*.

**Parameters**

- **position** (*str*) –
- **radius** (*str*) –

**\_\_decide** (*node*)

**Parameters** *node* (*FilesystemNode*) –

**Return type** *bool*

**query** (*node*)

Return a list of nodes that match the criteria of this search, starting from a given root node.

**Parameters** *node* – The root node. Query result nodes are usually inside that subtree.

**class** *lawwenda.search.ByNameSearch* (*term*)

Bases: *lawwenda.search.Search*

Searches for search terms in file names.

See also *lawwenda.fs.Filesystem.Node.name*.

**Parameters** `term` (*str*) –

`__decide` (*node*)

**Parameters** `node` (*FileSystemNode*) –

**Return type** `bool`

**query** (*node*)

Return a list of nodes that match the criteria of this search, starting from a given root node.

**Parameters** `node` – The root node. Query result nodes are usually inside that subtree.

**class** `lawwenda.search.ByTagSearch` (*term*)

Bases: `lawwenda.search.Search`

Searches for files that have particular tags.

See also `lawwenda.fs.FileSystem.Node.tags`.

**Parameters** `term` (*str*) –

`__decide` (*node*)

**Parameters** `node` (*FileSystemNode*) –

**Return type** `bool`

**query** (*node*)

Return a list of nodes that match the criteria of this search, starting from a given root node.

**Parameters** `node` – The root node. Query result nodes are usually inside that subtree.

**class** `lawwenda.search.DeeplySearch` (*term*)

Bases: `lawwenda.search.Search`

Deep searches look for search terms in some places, like file names or comments, but also in fulltext indexes or - as a fallback - directly in the content of each file.

This is a rather versatile search behavior, but is not precisely defined, and can be impractically slow if not fulltext index is available.

**Parameters** `term` (*str*) –

`__decide_unindexed` (*node*)

**Parameters** `node` (*FileSystemNode*) –

**Return type** `bool`

`__decide_unindexed_by_content` (*node*)

**Parameters** `node` (*FileSystemNode*) –

**Return type** `bool`

`__decide_unindexed_by_metadata` (*node*)

**Parameters** `node` (*FileSystemNode*) –

**Return type** `bool`

`__query_indexed` (*idxdata*)

**Parameters**

- `node` (*FileSystemNode*) –
- `idxdata` (*object*) –

**Return type** FilesystemNodes

**\_\_query\_unindexed()**

**Parameters** *node* (*FilesystemNode*) –

**Return type** FilesystemNodes

**\_\_try\_get\_index(*node*)**

**Parameters** *node* (*FilesystemNode*) –

**Return type** object

**query(*node*)**

Return a list of nodes that match the criteria of this search, starting from a given root node.

**Parameters** *node* – The root node. Query result nodes are usually inside that subtree.

**class** lawwenda.search.**Search**

Bases: object

Base class for different search behaviors.

**query(*node*)**

Return a list of nodes that match the criteria of this search, starting from a given root node.

**Parameters** *node* (*FilesystemNode*) – The root node. Query result nodes are usually inside that subtree.

**Return type** FilesystemNodes

lawwenda.search.**\_\_query\_by\_tree\_traversal(*node*, *decidefct*)**

**Parameters**

- *node* (*FilesystemNode*) –
- *decidefct* (*Callable*[[*FilesystemNode*], *bool*]) –

**Return type** FilesystemNodes

lawwenda.search.**\_\_termstring\_to\_termlist(*term*)**

**Parameters** *term* (*str*) –

**Return type** List[str]

lawwenda.search.**create\_search(*mode*, *\*\*kwargs*)**

Return a Search object with a particular configuration.

**Parameters**

- *mode* (*str*) – The search mode string.
- *kwargs* – Additional search arguments, specific to the chosen *mode*.

**Return type** [\*lawwenda.search.Search\*](#)

## lawwenda.sharehttpapp package

### Submodules

#### lawwenda.sharehttpapp.davprop module

**class** lawwenda.sharehttpapp.davprop.**CommentDavProp**

Bases: *lawwenda.sharehttpapp.davprop.DavProp*

Custom WebDAV property {DAV:xattr}xdg.comment that mirrors *lawwenda.fs.Filesystem.Node.comment*.

**get\_for\_node** (*fsnode*)

Return the property value for a node.

**Parameters** *fsnode* – The node to inquire.

**class** lawwenda.sharehttpapp.davprop.**DavProp** (*davname*, \*, *is\_writable*)

Bases: object

Base class for WebDAV properties.

Each subclass implements one particular property as used in e.g. *PROPFIND* requests.

**Parameters**

- **davname** (*str*) –
- **is\_writable** (*bool*) –

**property davname**

The name of this property.

**Return type** str

**Return type** str

**Return type** str

**Return type** str

**get\_for\_node** (*fsnode*)

Return the property value for a node.

**Parameters** *fsnode* (*lawwenda.fs.Filesystem.Node*) – The node to inquire.

**Return type** Optional[str]

**property is\_writable**

Whether this property can also be modified (in contrast to read-only properties like the file size).

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**class** lawwenda.sharehttpapp.davprop.**GeoDavProp**

Bases: *lawwenda.sharehttpapp.davprop.DavProp*

Custom WebDAV property {DAV:xattr}pino.geo that mirrors *lawwenda.fs.Filesystem.Node.geo*.

**get\_for\_node** (*fsnode*)

Return the property value for a node.

**Parameters** *fsnode* – The node to inquire.

**class** `lawwenda.sharehttpapp.davprop.MtimeDavProp`

Bases: `lawwenda.sharehttpapp.davprop.DavProp`

The WebDAV *getlastmodified* property.

**get\_for\_node** (*fsnode*)

Return the property value for a node.

**Parameters** *fsnode* – The node to inquire.

**class** `lawwenda.sharehttpapp.davprop.RatingDavProp`

Bases: `lawwenda.sharehttpapp.davprop.DavProp`

Custom WebDAV property *{DAV:xattr}baloo.rating* that mirrors `lawwenda.fs.Filesystem.Node.rating`.

**get\_for\_node** (*fsnode*)

Return the property value for a node.

**Parameters** *fsnode* – The node to inquire.

**class** `lawwenda.sharehttpapp.davprop.ResourceTypeDavProp`

Bases: `lawwenda.sharehttpapp.davprop.DavProp`

The WebDAV *resourcetype* property.

**get\_for\_node** (*fsnode*)

Return the property value for a node.

**Parameters** *fsnode* – The node to inquire.

**class** `lawwenda.sharehttpapp.davprop.SizeDavProp`

Bases: `lawwenda.sharehttpapp.davprop.DavProp`

The WebDAV *getcontentlength* property.

**get\_for\_node** (*fsnode*)

Return the property value for a node.

**Parameters** *fsnode* – The node to inquire.

**class** `lawwenda.sharehttpapp.davprop.TagsDavProp`

Bases: `lawwenda.sharehttpapp.davprop.DavProp`

Custom WebDAV property *{DAV:xattr}xdg.tags* that mirrors `lawwenda.fs.Filesystem.Node.tagstring`.

**get\_for\_node** (*fsnode*)

Return the property value for a node.

**Parameters** *fsnode* – The node to inquire.

`lawwenda.sharehttpapp.davprop.get_prop_by_davname` (*davname*)

**Parameters** *davname* (*str*) –

**Return type** Optional[`lawwenda.sharehttpapp.davprop.DavProp`]

`lawwenda.sharehttpapp.davprop.register_prop` (*prop*)

**Parameters** *prop* (*Type* [`DavProp`]) –

**Return type** *Type*[`lawwenda.sharehttpapp.davprop.DavProp`]

## Module contents

A wsgi application that provides an http interface to a filesystem.

See [\*ShareHttpApp\*](#).

**class** `lawwenda.sharehttpapp.ShareHttpApp` (*filesystem*)

Bases: `object`

A wsgi application that provides an http interface to a filesystem.

It provides bare http access, and also WebDAV extensions for a more complete interface. It does not provide an own user interface.

**Parameters** `filesystem` (`lawwenda.fs.Filesystem`) –

**property** `__allowed_methods`

**Return type** `t.List[str]`

**Return type** `t.List[str]`

**Return type** `t.List[str]`

**Return type** `t.List[str]`

**\_\_method\_copy** (*request*, *fsnode*, \*, *xfermethod*='copy\_to')

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –
- **xfermethod** (*str*) –

**\_\_method\_delete** (*request*, *fsnode*)

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –

**\_\_method\_get** (*request*, *fsnode*, *is\_head\_request*=*False*)

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –
- **is\_head\_request** (*bool*) –

**\_\_method\_head** (*request*, *fsnode*)

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –

**\_\_method\_mkcol** (*request*, *fsnode*)

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –



`_method_move` (*request*, *fsnode*)

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –

`_method_options` (*request*, *fsnode*)

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –

`_method_propfind` (*request*, *fsnode*)

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –

`_method_proppatch` (*request*, *fsnode*)

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –

`_method_put` (*request*, *fsnode*)

**Parameters**

- **request** (`lawwenda.comm.Request`) –
- **fsnode** (`lawwenda.fs.Filesystem.Node`) –

## 1.1.2 Submodules

### 1.1.3 lawwenda.comm module

Internal communication helpers.

**class** `lawwenda.comm.JsonedResponse` (*data*, *\*\*kwargs*)

Bases: `werkzeug.wrappers.response.Response`

A werkzeug response that serializes response data to json.

**Parameters** **data** (*Optional[Any]*) – Response data. Can be anything that *json* is able to serialize.

**class** `lawwenda.comm.Request` (*environ*, *populate\_request=True*, *shallow=False*)

Bases: `werkzeug.wrappers.request.Request`, `werkzeug.wrappers.json.JSONMixin`

A werkzeug request that is able to interpret json data in the response body.

### 1.1.4 lawwenda.datafiles module

`lawwenda.datafiles.find_data_file(fname, searchdirs=None)`

Return the absolute path of a Lawwenda data file.

Can return *None* if no such file exists.

**Parameters**

- **fname** (*str*) – The name of the file to find.
- **searchdirs** (*Optional[Iterable[str]]*) – List of directories to look into. If not specified (as it usually should be), it looks at some usual places.

**Return type** *Optional[str]*

### 1.1.5 lawwenda.devserver module

**class** `lawwenda.devserver._DevServerInfo(svr, svrthread)`

Bases: `object`

**shutdown** ()

**Return type** *None*

**property url**

**Return type** *str*

**Return type** *str*

**Return type** *str*

**Return type** *str*

**wait\_stopped** ()

**Return type** *None*

**class** `lawwenda.devserver._DevServerThread(svr)`

Bases: `threading.Thread`

This constructor should always be called with keyword arguments. Arguments are:

*group* should be *None*; reserved for future extension when a `ThreadGroup` class is implemented.

*target* is the callable object to be invoked by the `run()` method. Defaults to *None*, meaning nothing is called.

*name* is the thread name. By default, a unique name is constructed of the form “Thread-N” where N is a small decimal number.

*args* is the argument tuple for the target invocation. Defaults to `()`.

*kwargs* is a dictionary of keyword arguments for the target invocation. Defaults to `{}`.

If a subclass overrides the constructor, it must make sure to invoke the base class constructor (`Thread.__init__()`) before doing anything else to the thread.

**run** ()

Method representing the thread’s activity.

You may override this method in a subclass. The standard `run()` method invokes the callable object passed to the object’s constructor as the target argument, if any, with sequential and keyword arguments taken from the *args* and *kwargs* arguments, respectively.

```
lawwenda.devserver.get_running_dev_servers()
```

Return the servers started by `run_dev_server()` that are currently running.

**Return type** `Iterable[lawwenda.devserver.DevServerInfo]`

```
lawwenda.devserver.run_dev_server(cfg)
```

Start a tiny local server for a given configuration.

Such a server can be used for trying, development, testing, and so on, but is not recommended for real usage.

It will automatically find a free port and will return a control object that contains the full url, and more.

**Parameters** `cfg` (`lawwenda.Configuration`) – The configuration.

**Return type** `lawwenda.devserver.DevServerInfo`

## 1.1.6 lawwenda.fmapp module

A wsgi application that provides a browser based user interface, similar to a desktop file manager.

See `FmApp`.

```
class lawwenda.fmapp.FmApp(share)
```

Bases: `object`

A wsgi application that provides a browser based user interface, similar to a desktop file manager.

**Parameters** `share` (`lawwenda.Share`) – The share to provide by this application.

```
URL_INTERNALS_NAME = '~__lawwenda__int~'
```

```
__auth(username, password)
```

**Parameters**

- `username` (`str`) –
- `password` (`str`) –

**Return type** `bool`

```
__dispatch_request(request)
```

```
__dispatch_request_internals(request)
```

```
__dispatch_request_normal(request)
```

```
__ensure_authed(request)
```

```
__on_api_copymove(request, action)
```

```
__render_template(template, *, html_head_inner="", path="", headonly=False,
                  url_internals_name='~__lawwenda__int~', **kwargs)
```

**Parameters**

- `template` (`str`) –
- `html_head_inner` (`str`) –
- `path` (`str`) –
- `headonly` (`bool`) –
- `url_internals_name` (`str`) –

**Return type** `werkzeug.wrappers.response.Response`

`__render_template_text (template, *, csrftoken, html_head_inner, **kwargs)`

**Parameters**

- `template (str)` –
- `csrftoken (str)` –
- `html_head_inner (str)` –

**Return type** `str`

`__render_template_text_raw (template, **kwargs)`

**Parameters** `template (str)` –

**Return type** `str`

`_on_api_copy (request)`

`_on_api_delete (request)`

`_on_api_details (request)`

`_on_api_dir (request)`

`_on_api_known_tags ( )`

`_on_api_mkdir (request)`

`_on_api_move (request)`

`_on_api_rename (request)`

`_on_api_set_comment (request)`

`_on_api_set_geo (request)`

`_on_api_set_rating (request)`

`_on_api_tag_entries (request)`

`_on_api_thumbnail (request)`

`_on_api_untag_entries (request)`

`_on_api_upload (request)`

`_on_api_zip (request)`

`_on_api_zip_download (request, zipid)`

`_on_help ( )`

`_on_static ( , filepath)`

**class** `lawwenda.fmapp._RenderTemplateValue (s)`

Bases: `object`

**property** `unescaped`

**class** `lawwenda.fmapp._TempZips`

Bases: `object`

Handler for temporary zip files.

Allows to create zip files containing some nodes and automatically cleans them up after some time.

This is a static class, potentially used by many applications in parallel.

```

class _TempZip(nodes)
    Bases: object

    Parameters nodes (List[lawwenda.fs.Filesystem.Node]) –

    static _TempZip__is_executable(node)
        Parameters node (lawwenda.fs.Filesystem.Node) –
        Return type bool

    _TempZip__putnode(node, zipf)
        Parameters
            • node (lawwenda.fs.Filesystem.Node) –
            • zipf (zipfile.ZipFile) –
        Return type None

    property bytes

    classmethod _TempZips__cleanup_loop()

    _cleanup_thread = None

    _lock = <unlocked _thread.lock object>

    _zips = {}

    classmethod create_tempzip(owner, nodes)
        Create a temporary zip archive from some nodes in memory and return an identifier.

        See also get\_tempzip\(\).

        Parameters

            • owner (object) – Request owner. Can be an arbitrary object (but must be equal for all
              calls that belong together).

            • nodes (List[lawwenda.fs.Filesystem.Node]) – The nodes to include in the
              zip archive.

        Return type str

    classmethod get_tempzip(owner, zipid)
        Return the binary content of a zip archive that was created before by create\_tempzip\(\).

        Parameters

            • owner (object) – Request owner. Can be an arbitrary object (but must be equal for all
              calls that belong together).

            • zipid (str) – The identifier returned by create\_tempzip.

        Return type Optional[bytes]

```

### 1.1.7 lawwenda.lawwenda\_cli module

The Lawwenda command line interface.

This tool is used by the end user for creating and managing shares and more. It can be called with some command line arguments for a particular action, or without parameters (which will open an interactive Python prompt for further actions).

Do not use this module in code. See [lawwenda.Configuration](#) instead.

```
lawwenda.lawwenda_cli._fmt_cmd(txt)
```

Parameters **txt** (str) –

**Return type** str

`lawwenda.lawwenda_cli._quickstart(cfgpath)`

**Parameters** `cfgpath` (str) –

**Return type** str

`lawwenda.lawwenda_cli.add_share(*, cfg, name, path, title, active_until, hide_by_pattern, hide_by_tag, include_by_pattern, include_by_tag, exclude_by_pattern, exclude_by_tag, exclude_hidden, readonly)`

Add a share.

Only used internally by the cli. See `lawwenda.Configuration.add_share()`.

**Parameters**

- `cfg` (`lawwenda.Configuration`) –
- `name` (str) –
- `path` (str) –
- `title` (str) –
- `active_until` (str) –
- `hide_by_pattern` (List[str]) –
- `hide_by_tag` (List[str]) –
- `include_by_pattern` (List[str]) –
- `include_by_tag` (List[str]) –
- `exclude_by_pattern` (List[str]) –
- `exclude_by_tag` (List[str]) –
- `exclude_hidden` (bool) –
- `readonly` (bool) –

**Return type** None

`lawwenda.lawwenda_cli.console(*, cfg)`

Open an interactive Python console.

The user will get a small help text and is then able to configure Lawwenda by typing Python code.

**Parameters** `cfg` (`lawwenda.Configuration`) – The initial value for the `cfg` variable inside the console.

**Return type** None

`lawwenda.lawwenda_cli.describe_share(*, cfg, name)`

Return a textual share description (i.e. how it is configured) for a share.

Only used internally by the cli. See `lawwenda.Configuration`.

**Parameters**

- `cfg` (`lawwenda.Configuration`) –
- `name` (str) –

**Return type** str

`lawwenda.lawwenda_cli.generate_wsgi(*, cfg)`

Generates a wsgi script for hosting Lawwenda in a web server.

Only used internally by the cli. See `lawwenda.Configuration.generate_wsgi()`.

**Parameters** `cfg` (`lawwenda.Configuration`) –

**Return type** `str`

`lawwenda.lawwenda_cli.list_shares(*, cfg)`

Return a list of share names as string, one line for each share.

Only used internally by the cli. See `lawwenda.Configuration`.

**Parameters** `cfg` (`lawwenda.Configuration`) –

**Return type** `str`

`lawwenda.lawwenda_cli.main()`

Parse command line arguments and call the right function with its arguments.

`lawwenda.lawwenda_cli.remove_share(*, cfg, name)`

Remove a share.

Only used internally by the cli. See `lawwenda.Configuration.remove_share()`.

**Parameters**

- `cfg` (`lawwenda.Configuration`) –
- `name` (`str`) –

**Return type** `None`

`lawwenda.lawwenda_cli.run_dev_server(*, cfg)`

Start a tiny local server for this configuration.

Such a server can be used for trying, development, testing, and so on, but is not recommended for real usage.

It will automatically find a free port, will print its url, and blocks.

Only used internally by the cli. See `lawwenda.Configuration`.

**Parameters** `cfg` (`lawwenda.Configuration`) –

**Return type** `None`

## 1.1.8 lawwenda.server module

**class** `lawwenda.server.Server(*, cfgpath=None)`

Bases: `object`

**Parameters** `cfgpath` (`Optional[str]`) –

**class** `_ShareAppInst(share)`

Bases: `object`

**Parameters** `share` (`lawwenda.Share`) –

**property** `app`

**Return type** `lawwenda.fmapp.FmApp`

**Return type** `lawwenda.fmapp.FmApp`

**Return type** `lawwenda.fmapp.FmApp`

**Return type** `lawwenda.fmapp.FmApp`

**property** `is_active`

**Return type** bool  
**Return type** bool  
**Return type** bool  
**Return type** bool

`__get_app_for_share` (*sharename*)

**Parameters** *sharename* (*str*) –

### 1.1.9 Module contents

User side API for reading and modifying Lawwenda configurations, creating shares, and more.

For most cases, instantiate `Configuration` and use some of its methods.

**class** `lawwenda.Configuration` (*cfgpath=None*)

Bases: `object`

**Parameters** *cfgpath* (*Optional[str]*) – The path of the configuration directory. Will be created on demand if it does not exist. Defaults to a location that is usual for your operating system.

`__verify_valid_name` ()

**Parameters** *name* (*str*) –

**Return type** `None`

`add_share` (*path*, *\**, *name*, *password*, *title=None*, *readonly=True*, *hide\_by\_patterns=()*, *hide\_by\_tags=()*, *include\_by\_patterns=None*, *include\_by\_tags=None*, *exclude\_by\_patterns=()*, *exclude\_by\_tags=()*, *exclude\_hidden=False*, *active\_until=None*)

Add a new share.

**Parameters**

- **path** (*str*) – The directory to share. See `Share.path`.
- **name** (*str*) – The unique name of the new share. See `Share.name`.
- **password** (*Optional[str]*) – The password to protect the share with.
- **title** (*Optional[str]*) – The share title. See `Share.title`.
- **readonly** (*bool*) – If to share in a read-only way. See `Share.readonly`.
- **hide\_by\_patterns** (*Iterable[str]*) – See `Share.hide_by_patterns`.
- **hide\_by\_tags** (*Iterable[str]*) – See `Share.hide_by_tags`.
- **include\_by\_patterns** (*Optional[Iterable[str]]*) – See `Share.include_by_patterns`.
- **include\_by\_tags** (*Optional[Iterable[str]]*) – See `Share.include_by_tags`.
- **exclude\_by\_patterns** (*Iterable[str]*) – See `Share.exclude_by_patterns`.
- **exclude\_by\_tags** (*Iterable[str]*) – See `Share.exclude_by_tags`.
- **exclude\_hidden** (*bool*) – See `Share.exclude_hidden`.
- **active\_until** (*Optional[datetime.datetime]*) – The optional expiration time of the share. See `Share.active_until`.



**Return type** *lawwenda.Share*

**generate\_wsgi** ()

Generates a wsgi script for hosting Lawwenda in a web server.

Read the ‘Installation’ section of the documentation for more details about what to do with it.

**Return type** str

**get\_share\_by\_name** (*name*)

Return the share by a name (or *None* if it does not exist).

**Parameters** *name* (*str*) –

**Return type** Optional[*lawwenda.Share*]

**get\_shares** ()

Return all shares that are currently part of this configuration.

**Return type** List[*lawwenda.Share*]

**property path**

The path of the configuration directory.

**Return type** str

**Return type** str

**Return type** str

**Return type** str

**peek\_share\_cache\_tag** (*name*)

**Parameters** *name* (*str*) –

**Return type** Optional[object]

**remove\_share** (*name*)

Remove a share.

**Parameters** *name* (*str*) – The name of the share to remove.

**Return type** None

**run\_dev\_server** ()

Start a tiny local server for this configuration.

Such a server can be used for trying, development, testing, and so on, but is not recommended for real usage.

It will automatically find a free port and will return a control object that contains the full url, and more.

**Return type** *lawwenda.devserver.\_DevServerInfo*

```
class lawwenda.Share (path, *, configuration, name, title, readonly=True, hide_by_patterns=(),
                    hide_by_tags=(), include_by_patterns=None, include_by_tags=None, ex-
                    clude_by_patterns=(), exclude_by_tags=(), exclude_hidden=False, pass-
                    word_script=None, password_salt=None, active_until_timestamp=None)
```

Bases: object

A directory path together with some parameters (e.g. for access control) for sharing via Lawwenda. Read the documentation for more about shares.

*This class is not intended to be instantiated directly. You will get instances by some other api methods.*

**Parameters**

- **path**(*str*) –
- **configuration**(*Configuration*) –
- **name**(*str*) –
- **title**(*str*) –
- **readonly**(*bool*) –
- **hide\_by\_patterns**(*Iterable[str]*) –
- **hide\_by\_tags**(*Iterable[str]*) –
- **include\_by\_patterns**(*Optional[Iterable[str]]*) –
- **include\_by\_tags**(*Optional[Iterable[str]]*) –
- **exclude\_by\_patterns**(*Iterable[str]*) –
- **exclude\_by\_tags**(*Iterable[str]*) –
- **exclude\_hidden**(*bool*) –
- **password\_script**(*Optional[str]*) –
- **password\_salt**(*Optional[str]*) –
- **active\_until\_timestamp**(*Optional[float]*) –

**\_set\_cache\_tag**(*cachetag*)

Parameters **cachetag**(*object*) –

Return type *None*

**\_to\_dict**()

**property active\_until**

The expiration time of this share, or *None* for infinite.

Return type *t.Optional[datetime.datetime]*

Return type *t.Optional[datetime.datetime]*

Return type *t.Optional[datetime.datetime]*

Return type *t.Optional[datetime.datetime]*

**property active\_until\_timestamp**

Same as *active\_until*, but as Unix timestamp.

Return type *t.Optional[float]*

Return type *t.Optional[float]*

Return type *t.Optional[float]*

Return type *t.Optional[float]*

**property cache\_tag**

Return type *object*

Return type *object*

Return type *object*

Return type *object*

**property configuration**

The configuration that contains this share.

**Return type** *Configuration*

**Return type** *Configuration*

**Return type** *Configuration*

**Return type** *Configuration*

**property exclude\_by\_patterns**

A list of regular expressions of paths for excluding.

A file or directory will be excluded if its path matches at least one of them. Those paths are always relative to *path*, always start with a '/', but never end with a one (unless it is the root path).

Exclusions are enforced on backend side and not just a presentation aspect. There is no way for a client to work around that (unless there is a software bug).

**Return type** *t.Iterable[str]*

**Return type** *t.Iterable[str]*

**Return type** *t.Iterable[str]*

**Return type** *t.Iterable[str]*

**property exclude\_by\_tags**

A list of tags for excluding files and directories.

Exclusions are enforced on backend side and not just a presentation aspect. There is no way for a client to work around that (unless there is a software bug).

**Return type** *t.Iterable[str]*

**Return type** *t.Iterable[str]*

**Return type** *t.Iterable[str]*

**Return type** *t.Iterable[str]*

**property exclude\_hidden**

If to consider 'hidden' flags of files or directories as exclusions.

Exclusions are enforced on backend side and not just a presentation aspect. There is no way for a client to work around that (unless there is a software bug).

**Return type** *bool*

**Return type** *bool*

**Return type** *bool*

**Return type** *bool*

**property hide\_by\_patterns**

A list of regular expressions of paths for hiding.

A file or directory will be hidden if its path matches at least one of them. Those paths are always relative to *path*, always start with a '/', but never end with a one (unless it is the root path).

Note that hiding is not a security feature unless *exclude\_hidden* is set.

**Return type** *t.Iterable[str]*

**Return type** *t.Iterable[str]*

**Return type** `t.Iterable[str]`

**Return type** `t.Iterable[str]`

**property `hide_by_tags`**

A list of tags for hiding files and directories.

A file or directory will be hidden if it is tagged with at least one of them.

Note that hiding is not a security feature unless `exclude_hidden` is set.

**Return type** `t.Iterable[str]`

**Return type** `t.Iterable[str]`

**Return type** `t.Iterable[str]`

**Return type** `t.Iterable[str]`

**property `include_by_patterns`**

A list of regular expressions of paths for including explicitly.

Those paths are always relative to `path`, always start with a `'`, but never end with a one (unless it is the root path).

If this is specified, the share will switch from blacklist to whitelist. Everything that is not considered as included is implicitly considered as excluded.

**Return type** `t.Optional[t.Iterable[str]]`

**Return type** `t.Optional[t.Iterable[str]]`

**Return type** `t.Optional[t.Iterable[str]]`

**Return type** `t.Optional[t.Iterable[str]]`

**property `include_by_tags`**

A list of tags for including files and directories.

If this is specified, the share will switch from blacklist to whitelist. Everything that is not considered as included is implicitly considered as excluded.

**Return type** `t.Optional[t.Iterable[str]]`

**Return type** `t.Optional[t.Iterable[str]]`

**Return type** `t.Optional[t.Iterable[str]]`

**Return type** `t.Optional[t.Iterable[str]]`

**property `is_active`**

If this share is currently active (e.g. not yet expired; see `active_until`).

**Return type** `bool`

**Return type** `bool`

**Return type** `bool`

**Return type** `bool`

**property `name`**

The share name.

This usually makes the last part of the url to this share. Is unique in the containing `configuration`.

**Return type** `str`

**Return type** `str`

**Return type** str

**Return type** str

**property password\_salt**

The hash salt of the password for this share, if password protected.

See also [password\\_script](#).

**Return type** t.Optional[str]

**Return type** t.Optional[str]

**Return type** t.Optional[str]

**Return type** t.Optional[str]

**property password\_script**

The script hash of the password for this share.

Empty or *None* for disabled password protection. See also [password\\_salt](#).

**Return type** t.Optional[str]

**Return type** t.Optional[str]

**Return type** t.Optional[str]

**Return type** t.Optional[str]

**property path**

The path of the share's root directory.

**Return type** str

**Return type** str

**Return type** str

**Return type** str

**property readonly**

If this share is restricted to only read actions (no removal, copying, uploading, editing, ... of the files and directories in [path](#)).

**Return type** bool

**Return type** bool

**Return type** bool

**Return type** bool

**property title**

The share title.

This is an arbitrary text shown in the window title. Should not contain line breaks and should be short.

**Return type** str

**Return type** str

**Return type** str

**Return type** str



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