

# Wirespace

Generated by Doxygen 1.8.11



# Contents

<b>1</b>	<b>Namespace Index</b>	<b>1</b>
1.1	Packages . . . . .	1
<b>2</b>	<b>Hierarchical Index</b>	<b>3</b>
2.1	Class Hierarchy . . . . .	3
<b>3</b>	<b>Class Index</b>	<b>5</b>
3.1	Class List . . . . .	5
<b>4</b>	<b>File Index</b>	<b>7</b>
4.1	File List . . . . .	7
<b>5</b>	<b>Namespace Documentation</b>	<b>9</b>
5.1	share Namespace Reference . . . . .	9
5.2	share.admin Namespace Reference . . . . .	9
5.3	share.apps Namespace Reference . . . . .	9
5.4	share.middleware Namespace Reference . . . . .	10
5.4.1	Variable Documentation . . . . .	10
5.4.1.1	CHECK_LIST . . . . .	10
5.4.1.2	POST_IGNORE_LIST . . . . .	10
5.4.1.3	re_editor . . . . .	11
5.4.1.4	re_host . . . . .	11
5.4.1.5	re_key . . . . .	11
5.5	share.models Namespace Reference . . . . .	11
5.5.1	Function Documentation . . . . .	11

5.5.1.1	<code>gen_key(length=8)</code>	11
5.5.1.2	<code>gen_token(length=16)</code>	12
5.6	share.urls Namespace Reference	12
5.6.1	Variable Documentation	12
5.6.1.1	<code>urlpatterns</code>	12
5.7	share.views Namespace Reference	12
5.7.1	Function Documentation	13
5.7.1.1	<code>authenticate(request, k)</code>	13
5.7.1.2	<code>create_folder(request)</code>	13
5.7.1.3	<code>delete(request)</code>	14
5.7.1.4	<code>download_item(request)</code>	14
5.7.1.5	<code>editor(request)</code>	14
5.7.1.6	<code>editor_authenticate(request, k)</code>	15
5.7.1.7	<code>get_dir(dirpath)</code>	15
5.7.1.8	<code>get_file(filepath, mode)</code>	15
5.7.1.9	<code>home(request)</code>	16
5.7.1.10	<code>move(request)</code>	16
5.7.1.11	<code>open_item(request)</code>	16
5.7.1.12	<code>search(request)</code>	17
5.7.1.13	<code>upload(request)</code>	17
5.7.2	Variable Documentation	17
5.7.2.1	<code>CACHE_DIR</code>	17

<b>6</b>	<b>Class Documentation</b>	<b>19</b>
6.1	share.middleware.AuthenticateTokenMiddleware Class Reference	19
6.1.1	Detailed Description	19
6.1.2	Member Function Documentation	19
6.1.2.1	process_request(self, request)	19
6.2	share.middleware.ExpireKeyMiddleware Class Reference	20
6.2.1	Detailed Description	20
6.2.2	Member Function Documentation	20
6.2.2.1	process_request(self, request)	20
6.3	share.models.Key Class Reference	21
6.3.1	Detailed Description	22
6.3.2	Member Function Documentation	22
6.3.2.1	__str__(self)	22
6.3.2.2	clean(self)	22
6.3.2.3	link(self)	22
6.3.2.4	save(self, args, kwargs)	23
6.3.2.5	space_available(self)	23
6.3.2.6	time_slot(self)	23
6.3.3	Member Data Documentation	23
6.3.3.1	created_on	23
6.3.3.2	email	24
6.3.3.3	expires_on	24
6.3.3.4	key	24
6.3.3.5	path_shared	24
6.3.3.6	permission	24
6.3.3.7	shared_to	24
6.3.3.8	space_allotted	24
6.4	share.admin.KeyAdmin Class Reference	25
6.4.1	Detailed Description	25
6.4.2	Member Function Documentation	25

6.4.2.1	<code>get_readonly_fields(self, request, obj=None)</code>	25
6.4.3	Member Data Documentation	26
6.4.3.1	<code>fields</code>	26
6.4.3.2	<code>formfield_overrides</code>	26
6.4.3.3	<code>list_display</code>	26
6.5	<code>share.apps.ShareConfig</code> Class Reference	26
6.5.1	Detailed Description	27
6.5.2	Member Data Documentation	27
6.5.2.1	<code>name</code>	27
6.6	<code>share.models.Token</code> Class Reference	27
6.6.1	Detailed Description	27
6.6.2	Member Function Documentation	27
6.6.2.1	<code>__str__(self)</code>	27
6.6.2.2	<code>save(self, args, kwargs)</code>	28
6.6.3	Member Data Documentation	28
6.6.3.1	<code>IP</code>	28
6.6.3.2	<code>link</code>	28
6.6.3.3	<code>token</code>	28
6.7	<code>share.admin.TokenAdmin</code> Class Reference	29
6.7.1	Detailed Description	29
6.7.2	Member Data Documentation	29
6.7.2.1	<code>fields</code>	29
6.7.2.2	<code>list_display</code>	29
6.7.2.3	<code>readonly_fields</code>	29
<b>7</b>	<b>File Documentation</b>	<b>31</b>
7.1	<code>__init__.py</code> File Reference	31
7.2	<code>admin.py</code> File Reference	31
7.2.1	Detailed Description	31
7.3	<code>apps.py</code> File Reference	31
7.3.1	Detailed Description	32
7.4	<code>middleware.py</code> File Reference	32
7.4.1	Detailed Description	32
7.5	<code>models.py</code> File Reference	33
7.5.1	Detailed Description	33
7.6	<code>urls.py</code> File Reference	33
7.6.1	Detailed Description	33
7.7	<code>views.py</code> File Reference	34
7.7.1	Detailed Description	34

# Chapter 1

## Namespace Index

### 1.1 Packages

Here are the packages with brief descriptions (if available):

<a href="#">share</a>	9
<a href="#">share.admin</a>	9
<a href="#">share.apps</a>	9
<a href="#">share.middleware</a>	10
<a href="#">share.models</a>	11
<a href="#">share.urls</a>	12
<a href="#">share.views</a>	12





## Chapter 2

# Hierarchical Index

### 2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Model	
share.models.Key . . . . .	21
share.models.Token . . . . .	27
ModelAdmin	
share.admin.KeyAdmin . . . . .	25
share.admin.TokenAdmin . . . . .	29
AppConfig	
share.apps.ShareConfig . . . . .	26
MiddlewareMixin	
share.middleware.AuthenticateTokenMiddleware . . . . .	19
share.middleware.ExpireKeyMiddleware . . . . .	20



## Chapter 3

# Class Index

### 3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

<a href="#">share.middleware.AuthenticateTokenMiddleware</a>	
Middleware class to handle token authentication . . . . .	19
<a href="#">share.middleware.ExpireKeyMiddleware</a>	
Middleware class to handle expiration of keys . . . . .	20
<a href="#">share.models.Key</a>	
Class to store all the information about the shared space . . . . .	21
<a href="#">share.admin.KeyAdmin</a>	
Class that handles how the Key section would look on the admin page . . . . .	25
<a href="#">share.apps.ShareConfig</a>	
Class to manage app configuration . . . . .	26
<a href="#">share.models.Token</a>	
Class representing tokens for one-time-authentication using key . . . . .	27
<a href="#">share.admin.TokenAdmin</a>	
Class that handles how the Token section would look on the admin page . . . . .	29



## Chapter 4

# File Index

### 4.1 File List

Here is a list of all files with brief descriptions:

<a href="#">__init__.py</a>	.....	31
<a href="#">admin.py</a>	This file defines how the admin page should look like	31
<a href="#">apps.py</a>	This file configures the app	31
<a href="#">middleware.py</a>	This file contains the description middleware used to authenticate token and expire keys	32
<a href="#">models.py</a>	This file contains the description of the Key and Token classes, which are used for authentication purposes in the project	33
<a href="#">urls.py</a>	This file contains the description and resolution of all urls required for the project	33
<a href="#">views.py</a>	This file contains the definitions of all the functions required by the project	34



## Chapter 5

# Namespace Documentation

### 5.1 share Namespace Reference

#### Namespaces

- [admin](#)
- [apps](#)
- [middleware](#)
- [models](#)
- [urls](#)
- [views](#)

### 5.2 share.admin Namespace Reference

#### Classes

- class [KeyAdmin](#)  
*Class that handles how the Key section would look on the admin page.*
- class [TokenAdmin](#)  
*Class that handles how the Token section would look on the admin page.*

### 5.3 share.apps Namespace Reference

#### Classes

- class [ShareConfig](#)  
*Class to manage app configuration.*

## 5.4 share.middleware Namespace Reference

### Classes

- class [AuthenticateTokenMiddleware](#)  
*Middleware class to handle token authentication.*
- class [ExpireKeyMiddleware](#)  
*Middleware class to handle expiration of keys.*

### Variables

- list [CHECK\\_LIST](#)  
*List of all paths for which the request has to be validated.*
- list [POST\\_IGNORE\\_LIST](#)  
*List of paths for which the POST requests have to be ignored during validation.*
- [re\\_host](#) = `re.compile('/host[/]??.*')`  
*Regex for host/.*
- [re\\_editor](#) = `re.compile('/editor[/]??.*')`  
*Regex for editor/.*
- [re\\_key](#) = `re.compile('/[0-9a-f]{16}[/]?.$')`  
*Regex to match authentication keys.*

### 5.4.1 Variable Documentation

#### 5.4.1.1 list share.middleware.CHECK\_LIST

##### Initial value:

```

1 = [
2     '/share/',
3     '/share/open/',
4     '/share/upload/',
5     '/share/uploadFolder/',
6     '/share/download/',
7     '/share/delete/',
8     '/share/create_folder/',
9     '/share/search/',
10    '/share/move/',
11 ]

```

List of all paths for which the request has to be validated.

#### 5.4.1.2 list share.middleware.POST\_IGNORE\_LIST

##### Initial value:

```

1 = [
2     '/share/',
3 ]

```

List of paths for which the POST requests have to be ignored during validation.



5.4.1.3 `share.middleware.re_editor = re.compile('/editor[/]?.*')`

Regex for editor/.

5.4.1.4 `share.middleware.re_host = re.compile('/host[/]?.*')`

Regex for host/.

5.4.1.5 `share.middleware.re_key = re.compile('/[0-9a-f]{16}[/]?$')`

Regex to match authentication keys.

## 5.5 share.models Namespace Reference

### Classes

- class [Key](#)  
*Class to store all the information about the shared space.*
- class [Token](#)  
*Class representing tokens for one-time-authentication using key.*

### Functions

- def [gen\\_key](#) (length=8)  
*Function to generate a random hex-string of given length.*
- def [gen\\_token](#) (length=16)  
*Function to generate a unique token of specified length.*

### 5.5.1 Function Documentation

5.5.1.1 `def share.models.gen_key ( length = 8 )`

Function to generate a random hex-string of given length.

This function keeps on generating a new string until it finds one that does not exist in the database.

#### Parameters

<i>length</i>	The length of the hexstring to be generated with default as 8
---------------	---

#### Returns

A random, unique, hex-string of specified length

### 5.5.1.2 `def share.models.gen_token ( length = 16 )`

Function to generate a unique token of specified length.

#### Parameters

<code>length</code>	The length of the token to be generated with default as 16
---------------------	--

#### Returns

A string representing the unique, hexadecimal token generated

## 5.6 `share.urls` Namespace Reference

### Variables

- list [urlpatterns](#)

*List that contains matching regex for urls and corresponding view functions to be invoked.*

### 5.6.1 Variable Documentation

#### 5.6.1.1 list `share.urls.urlpatterns`

#### Initial value:

```
1 = [
2     url(r'^$', views.home, name='home'),
3     url(r'^open/$', views.open_item, name='open'),
4     url(r'^download/$', views.download_item, name='download'),
5     url(r'^search/$', views.search, name='search'),
6     url(r'^upload/$', views.upload, name='upload'),
7     url(r'^create_folder/$', views.create_folder, name='create_folder'),
8     url(r'^delete/$', views.delete, name='delete'),
9     url(r'^move/$', views.move, name='move'),
10 ]
```

List that contains matching regex for urls and corresponding view functions to be invoked.

## 5.7 `share.views` Namespace Reference

### Functions

- def [authenticate](#) (request, k)  
*View to handle one-time authentication for the current session.*
- def [editor\\_authenticate](#) (request, k)  
*View to handle authentication for the file editor.*
- def [editor](#) (request)  
*View for handling the save, download, upload and editing features of the editor.*
- def [home](#) (request)

- View for opening the homepage.*

  - def `get_file` (filepath, mode)

*Function that downloads/opens the required file as per the request.*
- def `get_dir` (dirpath)

*Function to download the specified directory.*
- def `open_item` (request)

*View to handle opening of the selected directory/file.*
- def `download_item` (request)

*View to download all/selected content of the current directory.*
- def `upload` (request)

*View to upload a file or folder from the client.*
- def `search` (request)

*View to search the current directory recursively for a file or folder.*
- def `delete` (request)

*View to handle deletion of a file or folder on the server via a request from the client.*
- def `create_folder` (request)

*View to create a new folder with a specified name.*
- def `move` (request)

*A generic function for moving a file/directory from one place to another (can also be used for renaming)*

## Variables

- string `CACHE_DIR` = '/tmp/wirespace/cache'

*Used for storing generated .zip files.*

### 5.7.1 Function Documentation

#### 5.7.1.1 `def share.views.authenticate ( request, k )`

View to handle one-time authentication for the current session.

Checks if the correct key has been provided and then creates a token which expires after 60 minutes.

##### Parameters

<i>request</i>	Instance of HttpRequest containing required meta-data
<i>k</i>	The key passed by the client

##### Returns

Depending on the success of the authentication, an error message is displayed or the page is redirected to share/

#### 5.7.1.2 `def share.views.create_folder ( request )`

View to create a new folder with a specified name.

If the folder does not exist previously, a new folder is created with the required name (The functionality is similar to `mkdir -p`). Also, entering incorrect folder names will not do anything.

**Parameters**

<i>request</i>	POST request containing the name of the folder to be created and its address
----------------	--

**Returns**

A JsonResponse object denoting success or failure of the action

**5.7.1.3 def share.views.delete ( *request* )**

View to handle deletion of a file or folder on the server via a request from the client.

If the client has write privileges, it checks if the target is a file or folder and then deletes it PERMANENTLY using respective python functions.

**Parameters**

<i>request</i>	POST request containing the address of the target to be deleted
----------------	---

**Returns**

A success or error message as a JsonResponse object

**5.7.1.4 def share.views.download\_item ( *request* )**

View to download all/selected content of the current directory.

If the directory contains just one item, the request is forwarded to the appropriate functions(*get\_dir* or *get\_file*). Otherwise, it creates a .zip file of the contents of the directory. Note: Hidden files are not sent via this method.

**Parameters**

<i>request</i>	POST request containing the target list.
----------------	--

**Returns**

A StreamingHttpResponse object containing a zip file or a single file depending on the request

**5.7.1.5 def share.views.editor ( *request* )**

View for handling the save, download, upload and editing features of the editor.

Validates token and then performs different actions depending on the mode. These include serving file for editing, sending list of editable files, updating the edited file on the host's machine and destroying the associated token.

## Parameters

<i>request</i>	Instance of HttpRequest containing required meta-data
----------------	---

## Returns

A JsonResponse object containing a success or error message and relevant data

#### 5.7.1.6 def share.views.editor\_authenticate ( *request*, *k* )

View to handle authentication for the file editor.

If the user has write permission and a correct key has been provided, the client is provided a unique token and a list of editable files.

## Parameters

<i>request</i>	Instance of HttpRequest containing required meta-data
<i>k</i>	The key passed by the client

## Returns

A JsonResponse object containing an error message, or a unique token and a list of files and directories for editing

#### 5.7.1.7 def share.views.get\_dir ( *dirpath* )

Function to download the specified directory.

Compresses the directory into a zip file which is stored in *CACHE\_DIR*, and returns a StreamingHttpResponse object

## Parameters

<i>dirpath</i>	the full path of the directory to be accessed
----------------	---

## Returns

A StreamingHttpResponse if no error occurred, and a JsonResponse object otherwise

#### 5.7.1.8 def share.views.get\_file ( *filepath*, *mode* )

Function that downloads/opens the required file as per the request.

Guesses the file type using mimetypes and then sets the 'Content-disposition' according to the request and sends back the response. If at any time, any error occurs, an error message is displayed.

**Parameters**

<i>filepath</i>	The full path of the file to be accessed
<i>mode</i>	Specifies whether the file has to be downloaded or opened in the browser

**Returns**

A StreamingHttpResponse object if no error occurred, or a JsonResponse object otherwise

**5.7.1.9 def share.views.home ( request )**

View for opening the homepage.

(/share/)

**Parameters**

<i>request</i>	Instance of HttpRequest containing required meta-data
----------------	---

**5.7.1.10 def share.views.move ( request )**

A generic function for moving a file/directory from one place to another (can also be used for renaming)

If the client has write permission and the destination does not already exist, the files/folders are moved to the appropriate place. Otherwise, an error message is returned.

**Parameters**

<i>request</i>	POST request containing the source and target addresses
----------------	---

**Returns**

A message signifying whether the move was successful or not as a JsonResponse object.

**5.7.1.11 def share.views.open\_item ( request )**

View to handle opening of the selected directory/file.

The code checks if the target is a directory or a file. If it is a file, it redirects to the *get\_file* function; otherwise it creates a dictionary of a list of contents in the directory and sends back the data as a JsonResponse object

**Parameters**

<i>request</i>	POST request containing the address of the target to be opened
----------------	--

**Returns**

A JsonResponse containing a list of files and folders present in the directory

**5.7.1.12** `def share.views.search ( request )`

View to search the current directory recursively for a file or folder.

Iterates through each file and directory recursively and checks if they contain the required substring. All hits (including hidden files) are returned as a JsonResponse object

**Parameters**

<i>request</i>	POST request containing the address of the directory to be searched and the search query
----------------	--

**Returns**

A JsonResponse object containing a list of all files and directories having the query in their name

**5.7.1.13** `def share.views.upload ( request )`

View to upload a file or folder from the client.

Checks if sufficient storage space is present and whether the client has editing rights. If the target path exists, the file is directly placed at the specified target. Otherwise, the target is first created and then the file is placed in it.

**Parameters**

<i>request</i>	POST request containing files with their addresses
----------------	--

**Returns**

A JsonResponse object containing a success or error message.

**5.7.2 Variable Documentation****5.7.2.1** `string share.views.CACHE_DIR = '/tmp/wirespace/cache'`

Used for storing generated .zip files.





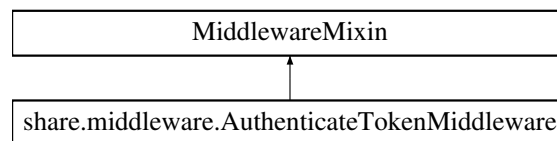
## Chapter 6

# Class Documentation

### 6.1 share.middleware.AuthenticateTokenMiddleware Class Reference

Middleware class to handle token authentication.

Inheritance diagram for share.middleware.AuthenticateTokenMiddleware:



#### Public Member Functions

- `def process_request (self, request)`  
*Function to check whether the request contains a valid token or not.*

#### 6.1.1 Detailed Description

Middleware class to handle token authentication.

#### 6.1.2 Member Function Documentation

6.1.2.1 `def share.middleware.AuthenticateTokenMiddleware.process_request ( self, request )`

Function to check whether the request contains a valid token or not.

Only those requests which are specified in `CHECK_LIST` are validated.

##### Parameters

<i>self</i>	An instance of <a href="#">AuthenticateTokenMiddleware</a> class
<i>request</i>	An HttpRequest object containing required metadata

**Returns**

None if no error occurs, a JsonResponse describing the error otherwise

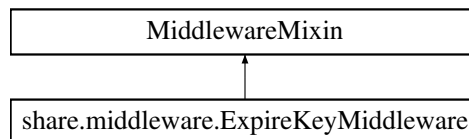
The documentation for this class was generated from the following file:

- [middleware.py](#)

## 6.2 share.middleware.ExpireKeyMiddleware Class Reference

Middleware class to handle expiration of keys.

Inheritance diagram for share.middleware.ExpireKeyMiddleware:

**Public Member Functions**

- def [process\\_request](#) (self, request)  
*Function to check whether the key associated with the token in the request is still valid or not.*

### 6.2.1 Detailed Description

Middleware class to handle expiration of keys.

### 6.2.2 Member Function Documentation

#### 6.2.2.1 def share.middleware.ExpireKeyMiddleware.process\_request ( self, request )

Function to check whether the key associated with the token in the request is still valid or not.

If the key is found to be expired, it is deleted alongwith all the associated tokens and session objects.

**Parameters**

<i>self</i>	An instance of <a href="#">ExpireKeyMiddleware</a> class
<i>request</i>	An HttpRequest object containing required metadata

**Returns**

None if no error occurs, a JsonResponse describing the error otherwise

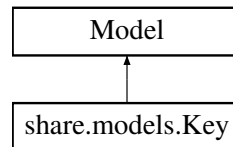
The documentation for this class was generated from the following file:

- [middleware.py](#)

## 6.3 share.models.Key Class Reference

Class to store all the information about the shared space.

Inheritance diagram for share.models.Key:



### Public Member Functions

- `def __str__(self)`  
*Function to generate the string representation of an instance.*
- `def time_slot(self)`  
*Function to generate a string representation of the time interval within which the key is active.*
- `def space_available(self)`  
*Function to display the space available for use.*
- `def link(self)`  
*Function to generate the shareable link.*
- `def clean(self)`  
*Function to validate the [Key](#) instance before it is saved It raises a `ValidationError` if some error in the to-be-created instance is detected.*
- `def save(self, args, kwargs)`  
*Function that overrides the default save function It fills optional, blank fields with default values before the instance is saved.*

### Static Public Attributes

- `key = models.CharField(max_length=8,default=gen\_key,editable=False, primary_key=True,help_text="This value is temporary. Use the final value after saving.")`  
*Stores the unique key associated with each instance that is provided to the client.*
- `permission = models.CharField(max_length=1,choices=((('r','Read-only'),('w','Read-and-Write'))),default='r')`  
*The permission that the host gives to the client.*
- `shared_to = models.CharField(max_length=30,default="Anonymous")`  
*Name of the client to which the [Key](#) is shared.*
- `email = models.EmailField(max_length=254,help_text="E-mail of the person with whom the space is shared",null=True,blank=True)`  
*An optional field to store the email address of the client for sending notifications.*
- `space_allotted = models.BigIntegerField(help_text="Space to be shared, in BYTES",default=4096)`  
*The additional space provided by the host to the client apart from the already existing space in the specified path\_↔ shared.*
- `path_shared = models.TextField(default=os.path.expanduser("~/Desktop"),max_length=100)`  
*The shared path/directory associated with this instance.*
- `created_on = models.DateTimeField(auto_now_add=True)`  
*The timestamp when this instance was created.*
- `expires_on = models.DateTimeField(default=None)`  
*The date and time upto which the host wants to share his space.*

### 6.3.1 Detailed Description

Class to store all the information about the shared space.

It saves these details to the database and helps in their retrieval upon clients' requests.

### 6.3.2 Member Function Documentation

#### 6.3.2.1 `def share.models.Key.__str__( self )`

Function to generate the string representation of an instance.

##### Parameters

<i>self</i>	An instance of <a href="#">Key</a> class that needs to be represented
-------------	---

##### Returns

A string representation of *self*

#### 6.3.2.2 `def share.models.Key.clean ( self )`

Function to validate the [Key](#) instance before it is saved It raises a `ValidationError` if some error in the to-be-created instance is detected.

##### Parameters

<i>self</i>	An instance of <a href="#">Key</a> class
-------------	--

#### 6.3.2.3 `def share.models.Key.link ( self )`

Function to generate the shareable link.

It concatenates the unique key associated with the instance with the host's IP.

##### Parameters

<i>self</i>	An instance of <a href="#">Key</a> class
-------------	--

##### Returns

The shareable link to be shared with the client

#### 6.3.2.4 def share.models.Key.save ( self, args, kwargs )

Function that overrides the default save function It fills optional, blank fields with default values before the instance is saved.

It also adds the current space occupied by the *path\_shared* directory to the *space\_allotted* variable to account for the total space shared.

##### Parameters

<i>self</i>	The instance of <a href="#">Key</a> class
<i>*args</i>	Non-keyworded argument list
<i>**kwargs</i>	Keyworded argument list

#### 6.3.2.5 def share.models.Key.space\_available ( self )

Function to display the space available for use.

##### Parameters

<i>self</i>	An instance of <a href="#">Key</a> class
-------------	--

##### Returns

String representation of the space available for usage by the client in human-readable form

#### 6.3.2.6 def share.models.Key.time\_slot ( self )

Function to generate a string representation of the time interval within which the key is active.

##### Parameters

<i>self</i>	An instance of <a href="#">Key</a> class
-------------	--

##### Returns

A string representation of the time-interval for the specified instance

### 6.3.3 Member Data Documentation

#### 6.3.3.1 share.models.Key.created\_on = models.DateTimeField(auto\_now\_add=True) [static]

The timestamp when this instance was created.

Gets filled automatically during time of creation and cannot be altered.

```
6.3.3.2 share.models.Key.email = models.EmailField(max_length=254,help_text="E-mail of the person with whom the space is
shared",null=True,blank=True) [static]
```

An optional field to store the email address of the client for sending notifications.

```
6.3.3.3 share.models.Key.expires_on = models.DateTimeField(default=None) [static]
```

The date and time upto which the host wants to share his space.

```
6.3.3.4 share.models.Key.key = models.CharField(max_length=8,default=gen_key,editable=False,
primary_key=True,help_text="This value is temporary. Use the final value after saving.") [static]
```

Stores the unique key associated with each instance that is provided to the client.

```
6.3.3.5 share.models.Key.path_shared = models.TextField(default=os.path.expanduser("~/Desktop"),max_length=100)
[static]
```

The shared path/directory associated with this instance.

```
6.3.3.6 share.models.Key.permission = models.CharField(max_length=1,choices= (('r','Read-only'),('w','Read-and-
Write')),default='r') [static]
```

The permission that the host gives to the client.

Can be one of 'read' or 'read-and-write'

```
6.3.3.7 share.models.Key.shared_to = models.CharField(max_length=30,default="Anonymous") [static]
```

Name of the client to which the [Key](#) is shared.

```
6.3.3.8 share.models.Key.space_allotted = models.BigIntegerField(help_text="Space to be shared, in BYTES",default=4096)
[static]
```

The additional space provided by the host to the client apart from the already existing space in the specified *path*↔*\_shared*.

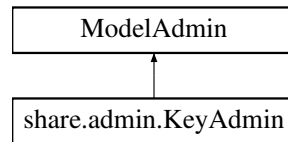
The documentation for this class was generated from the following file:

- [models.py](#)

## 6.4 share.admin.KeyAdmin Class Reference

Class that handles how the Key section would look on the admin page.

Inheritance diagram for share.admin.KeyAdmin:



### Public Member Functions

- def [get\\_readonly\\_fields](#) (self, request, obj=None)  
*Overridden function to specify which fields are read-only.*

### Static Public Attributes

- list [fields](#) = ['key','created\_on','expires\_on','path\_shared','permission','space\_allotted','shared\_to','email']  
*The fields to be included.*
- tuple [list\\_display](#) = ('link','shared\_to','path\_shared','time\_slot','space\_available','permission')  
*The fields to be displayed as columns in the tabular form.*
- dictionary [formfield\\_overrides](#)  
*Defines overriding widgets for specified fields.*

### 6.4.1 Detailed Description

Class that handles how the Key section would look on the admin page.

### 6.4.2 Member Function Documentation

#### 6.4.2.1 def share.admin.KeyAdmin.get\_readonly\_fields ( self, request, obj=None )

Overridden function to specify which fields are read-only.

It converts the 'space\_allotted' field to a read-only field once the Key object has been created.

#### Parameters

<i>self</i>	A <a href="#">KeyAdmin</a> instance
<i>request</i>	An HttpRequest containing required metadata
<i>obj</i>	The Key object associated with the request

**Returns**

A list of read-only fields depending on the context

**6.4.3 Member Data Documentation**

**6.4.3.1** list `share.admin.KeyAdmin.fields` = ['key','created\_on','expires\_on','path\_shared','permission','space\_allotted','shared\_to','email'] `[static]`

The fields to be included.

**6.4.3.2** dictionary `share.admin.KeyAdmin.formfield_overrides` `[static]`

**Initial value:**

```
1 = {
2     models.TextField: {
3         'widget': Textarea(
4             attrs={'rows': 1,
5                   'cols': 50,
6                   })
7     }
```

Defines overriding widgets for specified fields.

**6.4.3.3** tuple `share.admin.KeyAdmin.list_display` = ('link','shared\_to','path\_shared','time\_slot','space\_available','permission') `[static]`

The fields to be displayed as columns in the tabular form.

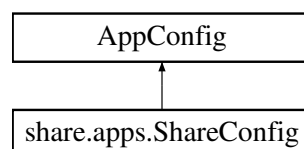
The documentation for this class was generated from the following file:

- [admin.py](#)

**6.5 share.apps.ShareConfig Class Reference**

Class to manage app configuration.

Inheritance diagram for `share.apps.ShareConfig`:

**Static Public Attributes**

- string `name` = 'share'



### 6.5.1 Detailed Description

Class to manage app configuration.

### 6.5.2 Member Data Documentation

6.5.2.1 `string share.apps.ShareConfig.name = 'share' [static]`

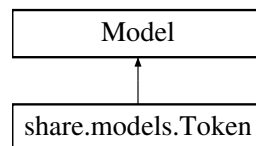
The documentation for this class was generated from the following file:

- [apps.py](#)

## 6.6 share.models.Token Class Reference

Class representing tokens for one-time-authentication using key.

Inheritance diagram for share.models.Token:



### Public Member Functions

- `def __str__(self)`  
Function to generate string representation of a [Token](#) instance.
- `def save(self, args, kwargs)`  
Function that overrides the default save function.

### Static Public Attributes

- `link = models.ForeignKey(Key, on_delete=models.CASCADE, default=None)`  
Stores the [Key](#) instance associated with it.
- `token = models.CharField(max_length=16, default=gen_token, editable=False, primary_key=True)`  
The unique, auto-generated token assigned to a client on providing a valid key.
- `IP = models.CharField(max_length=15, default=None)`  
Stores the IP address of the client, if detected, for future reference.

### 6.6.1 Detailed Description

Class representing tokens for one-time-authentication using key.

Client data such as the associated key and IP address is stored in its instances.

### 6.6.2 Member Function Documentation

6.6.2.1 `def share.models.Token.__str__( self )`

Function to generate string representation of a [Token](#) instance.

## Parameters

<i>self</i>	A <a href="#">Token</a> instance
-------------	----------------------------------

## Returns

The *token* attribute of the instance as a string

#### 6.6.2.2 `def share.models.Token.save ( self, args, kwargs )`

Function that overrides the default save function.

It first validates the fields, not saving the instance if any error is found. On successful validation, it saves the instance by calling the super [save\(\)](#) function

## Parameters

<i>self</i>	A <a href="#">Token</a> instance
<i>*args</i>	Non-keyworded arguments
<i>**kwargs</i>	Keyworded arguments

### 6.6.3 Member Data Documentation

#### 6.6.3.1 `share.models.Token.IP = models.CharField(max_length=15,default=None)` `[static]`

Stores the IP address of the client, if detected, for future reference.

#### 6.6.3.2 `share.models.Token.link = models.ForeignKey(Key,on_delete=models.CASCADE,default=None)` `[static]`

Stores the [Key](#) instance associated with it.

#### 6.6.3.3 `share.models.Token.token = models.CharField(max_length=16,default=gen_token,editable=False,primary_key=True)` `[static]`

The unique, auto-generated token assigned to a client on providing a valid key.

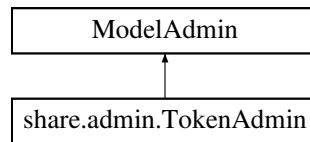
The documentation for this class was generated from the following file:

- [models.py](#)

## 6.7 share.admin.TokenAdmin Class Reference

Class that handles how the Token section would look on the admin page.

Inheritance diagram for share.admin.TokenAdmin:



### Static Public Attributes

- tuple `readonly_fields` = ('link','token','IP')  
*List of all read-only fields.*
- list `fields` = ['link','token','IP']  
*List of all fields to be included.*
- tuple `list_display` = ('token','link')  
*List of fields to be displayed as columns in the tabular form.*

#### 6.7.1 Detailed Description

Class that handles how the Token section would look on the admin page.

#### 6.7.2 Member Data Documentation

**6.7.2.1** list `share.admin.TokenAdmin.fields` = ['link','token','IP'] `[static]`

List of all fields to be included.

**6.7.2.2** tuple `share.admin.TokenAdmin.list_display` = ('token','link') `[static]`

List of fields to be displayed as columns in the tabular form.

**6.7.2.3** tuple `share.admin.TokenAdmin.readonly_fields` = ('link','token','IP') `[static]`

List of all read-only fields.

The documentation for this class was generated from the following file:

- [admin.py](#)



## Chapter 7

# File Documentation

### 7.1 `__init__.py` File Reference

#### Namespaces

- [share](#)

### 7.2 `admin.py` File Reference

This file defines how the admin page should look like.

#### Classes

- class [share.admin.KeyAdmin](#)  
*Class that handles how the Key section would look on the admin page.*
- class [share.admin.TokenAdmin](#)  
*Class that handles how the Token section would look on the admin page.*

#### Namespaces

- [share.admin](#)

#### 7.2.1 Detailed Description

This file defines how the admin page should look like.

### 7.3 `apps.py` File Reference

This file configures the app.

## Classes

- class [share.apps.ShareConfig](#)  
*Class to manage app configuration.*

## Namespaces

- [share.apps](#)

### 7.3.1 Detailed Description

This file configures the app.

## 7.4 middleware.py File Reference

This file contains the description middleware used to authenticate token and expire keys.

## Classes

- class [share.middleware.AuthenticateTokenMiddleware](#)  
*Middleware class to handle token authentication.*
- class [share.middleware.ExpireKeyMiddleware](#)  
*Middleware class to handle expiration of keys.*

## Namespaces

- [share.middleware](#)

## Variables

- list [share.middleware.CHECK\\_LIST](#)  
*List of all paths for which the request has to be validated.*
- list [share.middleware.POST\\_IGNORE\\_LIST](#)  
*List of paths for which the POST requests have to be ignored during validation.*
- [share.middleware.re\\_host](#) = `re.compile('/host[/]?.*')`  
*Regex for host/.*
- [share.middleware.re\\_editor](#) = `re.compile('/editor[/]?.*')`  
*Regex for editor/.*
- [share.middleware.re\\_key](#) = `re.compile('[0-9a-f]{16}[/?$')`  
*Regex to match authentication keys.*

### 7.4.1 Detailed Description

This file contains the description middleware used to authenticate token and expire keys.

## 7.5 models.py File Reference

This file contains the description of the Key and Token classes, which are used for authentication purposes in the project.

### Classes

- class [share.models.Key](#)  
*Class to store all the information about the shared space.*
- class [share.models.Token](#)  
*Class representing tokens for one-time-authentication using key.*

### Namespaces

- [share.models](#)

### Functions

- def [share.models.gen\\_key](#) (length=8)  
*Function to generate a random hex-string of given length.*
- def [share.models.gen\\_token](#) (length=16)  
*Function to generate a unique token of specified length.*

#### 7.5.1 Detailed Description

This file contains the description of the Key and Token classes, which are used for authentication purposes in the project.

## 7.6 urls.py File Reference

This file contains the description and resolution of all urls required for the project.

### Namespaces

- [share.urls](#)

### Variables

- list [share.urls.urlpatterns](#)  
*List that contains matching regex for urls and corresponding view functions to be invoked.*

#### 7.6.1 Detailed Description

This file contains the description and resolution of all urls required for the project.

## 7.7 views.py File Reference

This file contains the definitions of all the functions required by the project.

### Namespaces

- [share.views](#)

### Functions

- def [share.views.authenticate](#) (request, k)  
*View to handle one-time authentication for the current session.*
- def [share.views.editor\\_authenticate](#) (request, k)  
*View to handle authentication for the file editor.*
- def [share.views.editor](#) (request)  
*View for handling the save, download, upload and editing features of the editor.*
- def [share.views.home](#) (request)  
*View for opening the homepage.*
- def [share.views.get\\_file](#) (filepath, mode)  
*Function that downloads/opens the required file as per the request.*
- def [share.views.get\\_dir](#) (dirpath)  
*Function to download the specified directory.*
- def [share.views.open\\_item](#) (request)  
*View to handle opening of the selected directory/file.*
- def [share.views.download\\_item](#) (request)  
*View to download all/selected content of the current directory.*
- def [share.views.upload](#) (request)  
*View to upload a file or folder from the client.*
- def [share.views.search](#) (request)  
*View to search the current directory recursively for a file or folder.*
- def [share.views.delete](#) (request)  
*View to handle deletion of a file or folder on the server via a request from the client.*
- def [share.views.create\\_folder](#) (request)  
*View to create a new folder with a specified name.*
- def [share.views.move](#) (request)  
*A generic function for moving a file/directory from one place to another (can also be used for renaming)*

### Variables

- string [share.views.CACHE\\_DIR](#) = '/tmp/wirespace/cache'  
*Used for storing generated .zip files.*

#### 7.7.1 Detailed Description

This file contains the definitions of all the functions required by the project.