**sizelimit: keystone.middleware:RequestBodySizeLimiter.factory**

Description: Limits the size of an incoming request

Parameters: request

Returns: application

Method:

1. If request.content\_length > CONF**.**max\_request\_body\_size then it raises an exception called exception.RequestTooLarge.

2. If req.content\_length is None and req.is\_body\_readable then it limits the size of an incoming request.

**url\_normalize: keystone.middleware:NormalizingFilter.factory**

Description: Middleware filter to handle URL normalization

Parameters: request

Returns: Makes changes to request**.**environ['PATH\_INFO'] if required.

Method:

1. Removes a trailing slash from the given path, if any.

Code Snippet:

**if** (len(request**.**environ['PATH\_INFO']) **>** 1 **and**

request**.**environ['PATH\_INFO'][**-**1] **==** '/'):

request**.**environ['PATH\_INFO'] **=** request**.**environ['PATH\_INFO'][:**-**1]

2. Rewrites path to root if no path is given.

Code Snippet:

**elif** **not** request**.**environ['PATH\_INFO']:

request**.**environ['PATH\_INFO'] **=** '/'

**build\_auth\_context: keystone.middleware:AuthContextMiddleware.factory**

Description: Build the authentication context from the request auth token.

Parameters: request

Returns: Token Auth Context

Exception: Exception.Unauthorized

Method:

1. Gets the token\_id from token\_id **=** request**.**headers**.**get(AUTH\_TOKEN\_HEADER).

1.1 If the token\_id is admin\_token does not process further and returns as admin\_token is handled by class **AdminTokenAuthMiddleware**.

2. Else, gets token reference using token api, token\_ref **=** self**.**token\_api**.**get\_token(token\_id)

3. If you are using the Revoke extension with backend other than KVS then validate token.

Code Snippet

**if** **not** CONF**.**token**.**revoke\_by\_id:

self**.**token\_api**.**token\_provider\_api**.**validate\_token(

context['token\_id'])

4. Validates token\_bind; wsgi**.**validate\_token\_bind(context, token\_ref)

**admin\_token\_auth: keystone.middleware:AdminTokenAuthMiddleware.factory**

Description: A trivial filter that checks for a pre-defined admin token. Sets 'is\_admin' to true in the context, expected to be checked by methods that are admin-only.

Parameters: request

Returns:

Method:

1. Get the token from the AUTH\_TOKEN\_HEADER;

token = request**.**headers**.**get(AUTH\_TOKEN\_HEADER)

2. Gets the context from the request environment;

context **=** request**.**environ**.**get(CONTEXT\_ENV, {})

3. If token is admin\_token then set CONTEXT\_ENV as context['is\_admin']

Code Snippet

context['is\_admin'] **=** (token **==** CONF**.**admin\_token)

request**.**environ[CONTEXT\_ENV] **=** context

**ec2\_extension\_v3: keystone.contrib.ec2:Ec2ExtensionV3.factory**

Description: This service provides Ec2 token validation and CRUD for services configured with theEc2\_token middleware.

Parameters: mapper

Returns:

Method:

1. Gets an instance of the ec2 controller; ec2\_controller **=** controllers**.**Ec2ControllerV3()

2. Provides Validation and CRUD operations.

(Validation) Code Snippet:

mapper**.**connect(

'/ec2tokens',

controller**=**ec2\_controller,

action**=**'authenticate',

conditions**=**dict(method**=**['POST']))

(CRUD) Code Snippet:

mapper**.**connect(

'/users/{user\_id}/credentials/OS-EC2',

controller**=**ec2\_controller,

action**=**'ec2\_create\_credential',

conditions**=**dict(method**=**['POST']))

**s3\_extension: keystone.contrib.s3:S3Extension.factory**

Description: This service provides S3 token validation for services configured with the

s3\_token middleware to authorize S3 requests.

Parameters: mapper

Returns:

Method:

1. Gets an instance of the ec2 controller; ec2\_controller **=** controllers**.**Ec2ControllerV3()

2. Provides Validation operations.

mapper**.**connect('/s3tokens',

controller**=**controller,

action**=**'authenticate',

conditions**=**dict(method**=**['POST']))

**simple\_cert\_extension: keystone.contrib.simple\_cert:SimpleCertExtension.factory**

Description:

Parameters:

Returns:

Method:

**service\_v3: keystone.service:v3\_app\_factory**

Description:

Parameters:

Returns:

Method: