RADOSGW – RADOS REST GATEWAY

SYNOPSIS

radosgw

DESCRIPTION

radosgw is an HTTP REST gateway for the RADOS object store, a part of the Ceph distributed storage system. It is implemented as a FastCGI module using libfcgi, and can be used in conjunction with any FastCGI capable web server.

OPTIONS

-c `ceph.conf`, **--conf**=`ceph.conf`
Use `ceph.conf` configuration file instead of the default `/etc/ceph/ceph.conf` to determine monitor addresses during startup.

-m `monaddress[:port]`
Connect to specified monitor (instead of looking through `ceph.conf`).

-i `ID`, **--id** `ID`
Set the ID portion of name for radosgw

-n `TYPE.ID`, **--name** `TYPE.ID`
Set the rados user name for the gateway (eg. client.radosgw.gateway)

--cluster `NAME`
Set the cluster name (default: ceph)

-d
Run in foreground, log to stderr

-f
Run in foreground, log to usual location

--rgw-socket-path=`path`
Specify a unix domain socket path.

--rgw-region=`region`
The region where radosgw runs

--rgw-zone=`zone`
The zone where radosgw runs

CONFIGURATION

Earlier RADOS Gateway had to be configured with Apache and `mod_fastcgi`. Now, `mod_proxy_fcgi` module is used instead of `mod_fastcgi`. `mod_proxy_fcgi` works differently than a traditional FastCGI module. This module requires the service of `mod_proxy` which provides support for the FastCGI protocol. So, to be able to handle FastCGI protocol, both `mod_proxy` and `mod_proxy_fcgi` have to be present in the server. Unlike `mod_fastcgi`, `mod_proxy_fcgi` cannot start the application process. Some platforms have `fcgistarter` for that purpose. However, external launching of application or process management may be available in the FastCGI application framework in use.

Apache can be configured in a way that enables `mod_proxy_fcgi` to be used with localhost tcp or through unix domain socket. `mod_proxy_fcgi` that doesn't support unix domain socket such as the ones in Apache 2.2 and earlier versions of Apache 2.4, needs to be configured for use with localhost tcp. Later versions of Apache like Apache 2.4.9 or later support unix domain socket and as such they allow for the configuration with unix domain socket instead of localhost tcp.

The following steps show the configuration in Ceph's configuration file i.e, `/etc/ceph/ceph.conf` and the gateway

configuration file i.e, `/etc/httpd/conf.d/rgw.conf` (RPM-based distros) or `/etc/apache2/conf-available/rgw.conf` (Debian-based distros) with localhost tcp and through unix domain socket:

1. For distros with Apache 2.2 and early versions of Apache 2.4 that use localhost TCP and do not support Unix Domain Socket, append the following contents to `/etc/ceph/ceph.conf`:

```
[client.radosgw.gateway]
host = {hostname}
keyring = /etc/ceph/ceph.client.radosgw.keyring
rgw socket path = ""
log file = /var/log/ceph/client.radosgw.gateway.log
rgw frontends = fastcgi socket_port=9000 socket_host=0.0.0.0
rgw print continue = false
```

2. Add the following content in the gateway configuration file:

   For Debian/Ubuntu add in `/etc/apache2/conf-available/rgw.conf`:

```
<VirtualHost *:80>
ServerName localhost
DocumentRoot /var/www/html

ErrorLog /var/log/apache2/rgw_error.log
CustomLog /var/log/apache2/rgw_access.log combined

# LogLevel debug

RewriteEngine On

RewriteRule .* - [E=HTTP_AUTHORIZATION:%{HTTP:Authorization},L]

SetEnv proxy-nokeepalive 1

ProxyPass / fcgi://localhost:9000/

</VirtualHost>
```

   For CentOS/RHEL add in `/etc/httpd/conf.d/rgw.conf`:

```
<VirtualHost *:80>
ServerName localhost
DocumentRoot /var/www/html

ErrorLog /var/log/httpd/rgw_error.log
CustomLog /var/log/httpd/rgw_access.log combined

# LogLevel debug

RewriteEngine On

RewriteRule .* - [E=HTTP_AUTHORIZATION:%{HTTP:Authorization},L]

SetEnv proxy-nokeepalive 1

ProxyPass / fcgi://localhost:9000/

</VirtualHost>
```

3. For distros with Apache 2.4.9 or later that support Unix Domain Socket, append the following configuration to `/etc/ceph/ceph.conf`:

```
[client.radosgw.gateway]
host = {hostname}
keyring = /etc/ceph/ceph.client.radosgw.keyring
rgw socket path = /var/run/ceph/ceph.radosgw.gateway.fastcgi.sock
log file = /var/log/ceph/client.radosgw.gateway.log
rgw print continue = false
```

4. Add the following content in the gateway configuration file:

   For CentOS/RHEL add in `/etc/httpd/conf.d/rgw.conf`:

   ```
   <VirtualHost *:80>
   ServerName localhost
   DocumentRoot /var/www/html

   ErrorLog /var/log/httpd/rgw_error.log
   CustomLog /var/log/httpd/rgw_access.log combined

   # LogLevel debug

   RewriteEngine On

   RewriteRule .* - [E=HTTP_AUTHORIZATION:%{HTTP:Authorization},L]

   SetEnv proxy-nokeepalive 1

   ProxyPass / unix:///var/run/ceph/ceph.radosgw.gateway.fastcgi.sock|fcgi://localhost:9000/

   </VirtualHost>
   ```

   Please note, Apache `2.4.7` does not have Unix Domain Socket support in it and as such it has to be configured with localhost tcp. The Unix Domain Socket support is available in Apache `2.4.9` and later versions.

5. Generate a key for radosgw to use for authentication with the cluster.

   ```
   ceph-authtool -C -n client.radosgw.gateway --gen-key /etc/ceph/keyring.radosgw.gateway
   ceph-authtool -n client.radosgw.gateway --cap mon 'allow rw' --cap osd 'allow rwx' /etc/c
   ```

6. Add the key to the auth entries.

   ```
   ceph auth add client.radosgw.gateway --in-file=keyring.radosgw.gateway
   ```

7. Start Apache and radosgw.

   Debian/Ubuntu:

   ```
   sudo /etc/init.d/apache2 start
   sudo /etc/init.d/radosgw start
   ```

   CentOS/RHEL:

   ```
   sudo apachectl start
   sudo /etc/init.d/ceph-radosgw start
   ```

USAGE LOGGING

radosgw maintains an asynchronous usage log. It accumulates statistics about user operations and flushes it periodically. The logs can be accessed and managed through **radosgw-admin**.

The information that is being logged contains total data transfer, total operations, and total successful operations. The data is being accounted in an hourly resolution under the bucket owner, unless the operation was done on the service (e.g., when listing a bucket) in which case it is accounted under the operating user.

Following is an example configuration:

```
[client.radosgw.gateway]
    rgw enable usage log = true
    rgw usage log tick interval = 30
```

```
    rgw usage log flush threshold = 1024
    rgw usage max shards = 32
    rgw usage max user shards = 1
```

The total number of shards determines how many total objects hold the usage log information. The per-user number of shards specify how many objects hold usage information for a single user. The tick interval configures the number of seconds between log flushes, and the flush threshold specify how many entries can be kept before resorting to synchronous flush.

AVAILABILITY

radosgw is part of Ceph, a massively scalable, open-source, distributed storage system. Please refer to the Ceph documentation at http://ceph.com/docs for more information.

SEE ALSO

ceph(8) radosgw-admin(8)